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EDITED BY

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Original Articles.

CHRONIC CATARRHAL INFLAMMATION OF THE MIDDLE EAR.[1]

BY ALBERT H. BUCK, M.D.,

NEW YORK.

GENTLEMEN: Chronic catarrhal inflammation of the middle ear is a trite theme, and one that I have great hesitation in writing upon, for fear that when I have said all that I may have to say, you will accuse me of wasting your time with matters already perfectly familiar to you. I certainly cannot hope to throw any new light on this old subject; but, while making this confession, I am disposed to look upon the merchant's practice of periodically taking account of stock as one that we medical men may sometimes adopt to advantage. I propose, therefore, to-night to take some account of our stock of knowledge in regard to this exceedingly common aural affection, in the hope that I may succeed, here and there, in drawing your attention to points about which you have perhaps forgotten, or the value of which you may have underrated. The stand-point from which I shall judge the value or lack of value of these points will necessarily be that of my daily experience in practice. Therefore, in what I may commend and in what I may condemn, you will know that I am simply expressing personal views, which may or may not be in accord with those which are commonly accepted. I have neither the time nor the taste to wade through all the literature of the subject and present to you an impartial, and, therefore, almost necessarily colorless, *résumé* of the views held by different authorities in regard to the etiology, pathology, and therapeutics of chronic catarrhal inflammation of the middle ear. The teachings of these men have, at some time or other, exerted their legitimate influence in building up and modifying my own views. Hence, in large measure, I am justified in speaking, as I have already done, of *our* stock of knowledge. Let us overhaul this stock and see what our possessions are to-day, and how they compare with what we possessed a few years ago.

First, with regard to the nature and characteristics of the affection. What are our conceptions to-day in regard to it, and are they any more clearly defined than they were fifteen years ago? Are we still obliged to apply the expression "chronic catarrhal inflammation of the middle ear" to pathological processes and conditions many of which are doubtless of an entirely different nature? Has a further acquaintance with the course of the disease enabled us to predict, any more accurately than before, what is likely, in any given case, to be the issue as regards both the hearing power and the persistence of some of the concomitant subjective symptoms? These questions, I fear, cannot be answered any more precisely to-day than they could fifteen years ago. Local conditions or lesions of the middle ear, entirely independent of anything worthy the name of catarrhal disease, are doubtless at times still mistaken by all of us for the latter affection. And how could it be otherwise? Are we likely ever to discover means for rendering an intact drum membrane so transparent that we may interpret correctly pathological lesions of the middle ear, which now are known to us only through post-mortem studies? And, again, if it were even possible to temporarily remove the drum membrane, should we be able to obtain a view of those vital parts of the auditory mechanism which lie outside of the range of vision of a person looking into the external auditory canal from without? I think not; and yet, despite all the difficulties which beset the study of this class of diseases, I believe that those who are reasonably familiar with affections of the ear do not often mistake other pathological middle-ear conditions or processes for that which is now under consideration.

I shall not attempt to paint the picture of a disease one of the chief characteristics of which is its almost entire lack of salient features. You are all thoroughly familiar with its symptomatology, and I may, therefore, dismiss this part of the subject from further consideration. Our conceptions of the pathology of the disease are also probably the same. There is one respect, however, in which I am disposed to believe that the views held to-day are appreciably in advance of those held twenty years ago. I refer to the relative importance assigned to the two seats of the catarrhal disease, viz., the Eustachian tube and middle ear on the one hand, and the vault of the pharynx on the other. At the earlier date almost the entire force of our therapeutic energies was concentrated upon the Eustachian tube and middle ear, while the vastly larger tract of mucous membrane at the vault of the pharynx received comparatively little attention. And yet, even among the earlier authorities, there were some—Von Troeltsch, for example—who laid stress upon this point. Nevertheless, I believe that I am correct in the statement that it was not a general belief. At the present time there are few, I imagine, who do not look upon the pharyngeal centre of the disease as by far the more important of the two, and that unless we can successfully treat the larger area it is comparatively useless to bring therapeutic agents to bear upon the smaller one. Personally, I am disposed to state the case even more strongly. I believe that in a very large proportion of the cases treatment directed to the vault of the pharynx is all that is required in the way of local interference; or, to put the statement in somewhat different terms, that the application of remedies to the vault of the pharynx *alone* will, in a large proportion of cases, effect a greater amount of improvement in the condition of the middle ear and Eustachian tube than can be effected by applications made directly to these parts.

We come, next, to the consideration of the causes of this disease. How stands our knowledge with regard to these? Have we made any progress during recent years in fathoming this mystery? So far as the intrinsic causes are concerned, we still possess only very few, and these often contradictory, facts. In some cases the tendency to catarrhal inflammation of the pharyngeal and neighboring mucous membranes appears to have been handed down from parents to children, and we speak of the disease as having been inherited. Just as often, however, do we fail to trace the origin of the disease to any such influence. If our knowledge of the direct causes, however, is no more precise now than it was years ago, we have, I believe, gained clearer conceptions of the factors which promote a continuance and an undue activity of the catarrhal process. Not only do we appreciate thoroughly how cold may disturb the delicate balance maintained between the functional activity of the skin and the state

[1] Read before the Ophthalmological and Otological Section of the Academy of Medicine, December 20, 1886.

of the blood-vessels and glandular structures of the pharyngeal mucous membrane, but we have learned that a similar interdependence exists between the condition of the latter region and the activity of the metabolic processes (those of assimilation and destructive metamorphosis). In other words, we have learned, in recent years, to recognize the gouty or lithæmic throat as a well-defined type of catarrhal disease. The importance of this discovery will appear when we take up the question of therapeutics for consideration.

To the clinical observations and therapeutic studies of the past ten years we owe the very valuable discovery that obstruction of one nasal passage — when associated, as it sometimes, or, perhaps, often is, with hypertrophy of the mucous membrane of the vault of the pharynx in the median line — produces very much the same mechanical effects upon the drum cavity of the corresponding side, and upon its contents, as does an obstructed Eustachian tube. The mechanism of the action, however, is different. Each act of swallowing means the exhaustion of the air in the vault of the pharynx. In a normal condition of the nasal passages air enters freely through these to fill the vacuum created by the swallowing. The aërostatic conditions in the drum-cavity are therefore very little, or not at all, disturbed by this act. But let the nasal and naso-pharyngeal obstructions occupy such positions that air cannot instantly rush in from the nasal cavities to fill the vacuum referred to, a suction force will immediately be exerted upon the air contained in the tympanic system of cavities. The result is of a twofold character: there will be, for a short time, greatly diminished atmospheric pressure upon the mucous membrane of the middle ear on the one hand, and greatly increased atmospheric pressure upon the outer surface of the membrana tympani on the other. Imagine this state of things to be repeated scores of times every day, and it will be an easy matter to understand how injurious the effects may be upon the apparatus of hearing.

Among the minor exciting causes, the influence of which in aggravating and perpetuating the catarrhal activity is better understood to-day than it was in former years, may be mentioned tobacco-smoking. The habitual practice of forcing the smoke from the mouth into the naso-pharyngeal cavity and thence out through the nasal passages, is highly conducive to the maintenance of a congested and swollen naso-pharyngeal mucous membrane. It is not improbable that the smoke of burning paper, as where cigarettes are used, is more irritating to the parts than is that of the tobacco-plant alone. But even the mere smoking of a cigar or pipe in the ordinary manner aggravates the catarrhal irritation. The smoke is drawn into the cavity of the mouth, and is then almost immediately expelled. While it would seem as if this mode of using tobacco ought not to bring any of the smoke in contact with the pharyngeal and naso-pharyngeal mucous membrane, it is a well-established fact that the smoke does constantly come in contact with these parts and exerts upon them a drying, and therefore an irritating, effect.

Climatic influences have always been considered as active agents in promoting or restraining chronic catarrhal inflammation of the middle ear; but I am not aware that we have yet learned how to differentiate between the conditions of soil, atmosphere, rainfall, wind, etc., which promote the catarrhal activity and those which favor its subsidence. The prevailing belief that dampness of the soil and of the atmosphere, and also that high winds and dust favor catarrhal disease, is undoubtedly in the main correct; but we so often encounter exceptions to this rule that we are obliged to confess that our knowledge is not yet equal to the task of defining the climatic conditions that favor catarrh.

In former years it was a very common practice to use both woollen and fur wraps about the throat during the winter season. This practice has now very greatly diminished, and I am disposed to believe that the diminution may in large measure be ascribed to the protests of sensible medical men. However appropriate such wraps may be in more northerly latitudes, it is very certain that in a climate like that of New York, woollen mufflers and fur collars are harmful rather than beneficial; they play an active part in promoting catarrhal affections of the throat and nose.

There is still another way in which the catarrhal tendency of certain individuals is kept active during the cold season. I refer to the peculiarly American craze for fresh air under any and all circumstances. Sometimes the fault lies with the sufferer himself or herself, and manifests itself in the adoption of the habit of always sleeping in a room with an open window. Sometimes, however, the sufferer is perfectly innocent, but falls a victim to the selfishness of one of those fresh-air fiends who make our railway cars, our club-rooms, and other places of public assembling, nurseries of pneumonia, bronchitis, and countless minor ailments.

Finally, there is another exciting cause, which I believe is much more common than it is generally supposed to be. I refer to the irritating effects of retained and inspissated secretion in the crypts of the tonsils. In former years I saw but few of these cases, as it was not my habit to explore these cavities unless I saw actual evidence, in the shape of a whitish spot, showing that there was such an accumulation in the crypt. In recent years I have adopted the rule of exploring the half-dozen or more crypts in each tonsil whenever I find them appreciably enlarged, and especially if they show decided evidences of congestion. A slender ring-shaped curette of steel, with nicely rounded edges, answers the purpose of an exploring and evacuating instrument admirably. The improvement which follows the removal of these foul-smelling cheesy masses, and the washing out of the cavities with a moderately strong mixture of Listerine[1] and water (1 to 3 or 4) is generally very pronounced.

We come now to the consideration of the treatment of the disease. As you are well aware, a large proportion of the cases which come under our observation may be classed as incurable. My impression is that they are incurable, as a general thing, because the catarrhal changes have reached the last stage, that of contraction and atrophy of the previously swollen mucous membrane. It is safe to assume that, as a result of these changes, there is diminished mobility of the joints of the ossicles, and particularly of the stapedio-vestibular joint or of the membrane which holds the stirrup firmly in the oval window. But in a good many cases which seek aid from the physician the disease is still in the stage of congestion, hypertrophy and hypersecretion, and under these circumstances we may reasonably expect to obtain beneficial results from the adoption of suitable therapeutic measures. The first thing to be done, in every case, is to examine carefully into the antecedent history and habits of life. By such an examination we shall often be able to determine whether we are dealing with a catarrh which is aggravated by tobacco-smoking; or with one which is kept unnecessarily active by exposure of the uncovered head to slight draughts of cold air during sleep; or, finally, with one which owes its chief activity to a lithæmic diathesis. In the case of the smoker it may not be necessary to interdict the practice altogether; an indulgence in a single cigar, or at most two, during the twenty-four hours, will often be found permissible. On the other hand, the practice of sleeping, in cold weather, with the window of the room partially opened, should be abandoned. I have known a distressing tinnitus aurium to disappear soon after the sufferer had abandoned this practice; and at a later date, when the same person again allowed the window to remain open a distance of a few inches, at night, the tinnitus at once reappeared, to disappear again when the practice was for the second time abandoned.

[1] Listerine is a manufactured fluid preparation containing, among other ingredients, thymol.

A chronic naso-pharyngeal catarrh, in a person suffering from lithæmia, is an exceedingly stubborn affection to treat. Local applications alone seem to make very little impression upon the swollen mucous membrane. In former years, before I appreciated how important a part this lithæmic condition played in the causation, or at least aggravation of these chronic catarrhs, I used to wonder at the insignificance of the results obtained by my systematic paintings of the pharynx with nitrate of silver solutions. At the present time I can see how irrational such treatment was. It dealt with a mere surface manifestation of the disease, while ignoring the chief underlying cause.

The proper way of managing these cases is to aim first at securing the complete elimination from the circulation, and from the tissues generally, of the offending materials. Inquire minutely into the patient's daily life, as regards the amount of physical exercise which he is in the habit of taking, and also as regards his diet (both food and drink). Almost invariably it will be found that the patient takes far less exercise, especially outdoor exercise, than is essential to the proper elimination of the waste materials of the body. Insist upon it—in the case of a full-grown man—that he shall get, on an average, not less than four miles of walking daily, or the equivalent of this in some other form of open-air exercise. In the matter of diet, he should be urged to leave off coffee, pastry, and all alcoholic drinks—or else to add an extra mile or two of walking as an offset to these indulgences. A warm bath every night, followed by brisk rubbing with a coarse towel, will stimulate the skin to perform its emunctory functions with increased vigor. Every morning, or every other morning, on rising, and at least half an hour before breakfast time, he should take a heaping teaspoonful of Rochelle salts dissolved in a tumblerful of water. This will serve the double purpose of facilitating elimination by way of the kidneys, and of stimulating the bowels to greater activity. A glass or two of Vichy water, taken during the course of the day, between meals, will serve as an additional aid in facilitating the process of elimination.

There are not a few patients, generally men of portly habit and well-to-do in the world, who seem to lack the energy necessary for the faithful carrying out of these instructions in regard to exercise, etc. They are so stereotyped in their daily business habits that they resent any advice that calls for the slightest disturbance of these habits. Such patients often find it easier to give up their business altogether for two or three months; and when this is the case I urge them to go abroad, and spend a month or six weeks at Carlsbad, Aachen, Baden-Baden, or at any other well-organized bathing establishment, where the systematized drinking of the waters, under competent medical guidance, together with a simple diet, regular hours of retiring, and quiet outdoor life, exerts a markedly beneficial effect upon the lithæmic condition in general, and upon the local pharyngeal condition in particular. It seems strange that in our own country we should still lack similarly well-organized bathing establishments. There certainly is no lack of suitable medicinal springs, but, unless I am inadequately informed on the subject, there is not a single bathing institution in the country where we can send a patient with the same degree of confidence as we can to Carlsbad, Aachen, or a dozen other places that I might name.

In a few cases, as, for example, those of women with uterine affections, and of men with rheumatic or gouty affections of the lower limbs, we cannot secure the desired amount of voluntary physical exercise, and we are consequently compelled to fall back upon the less valuable methods of passive exercise—massage, the so-called parlor gymnastics, etc. While these means are not so effective as good outdoor exercise (walking, riding, rowing, tennis, etc.), they can nevertheless be relied upon, if carried out faithfully and intelligently, to accomplish the same results in the course of a longer period of time.

Finally, we come to the consideration of the local treatment of the disease. As I stated in an earlier part of this paper, the chief object aimed at, from fifteen to twenty years ago, was to bring remedies to bear directly upon the tympanic cavity proper. The lesions affecting the apparatus of hearing are, it was argued, chiefly located in this cavity, and the inference was therefore drawn that the remedies which are suitable for the relief of these lesions should be brought to bear directly upon them. From this idea developed the practice of forcing remedial vapors, sprays, and fluids into the middle ear through the assistance of the Eustachian catheter. While this method of treating the tympanic cavity was very generally employed by aural surgeons throughout the world up to about ten years ago—and is, so far as I can learn, still universally employed throughout continental Europe—in our own country it is used rather as a collateral aid; the doctrine being generally accepted that the main seat of the disease is located in the naso-pharyngeal cavity, and that our *chief* therapeutic efforts must be directed to this region if we wish to obtain a full measure of success. When we come, however, to compare the different procedures which the various authorities recommend as best suited for the attainment of the end desired, we find that there is a very wide divergence of opinions in regard to what are the best means of effecting a cure. Of all the different methods of applying remedies to this region, the favorite one at the present time, and for a long time past, is that by means of finely subdivided sprays. The use of the posterior nares syringe comes next, I think, in popularity. Curved instruments, armed with cotton which is to be saturated with the remedy selected, are, I suspect, not so generally preferred as are the other two methods; and yet my own judgment, based entirely on personal experience, promptly gives the preference—so far as both safety and efficiency are concerned—to the latter method. As I cannot claim that I obtain better results from treatment than do my colleagues who use the other methods of applying remedies to this region, it seems plain that there is no such thing as *the best* method. The old saying, "All roads lead to Rome," does not need to be greatly modified in order to make it apply to the subject in hand. There are certainly very many ways of making effective remedial applications to the vault of the pharynx.

The same diversity of opinions which exists in regard to methods is encountered when we come to consider the question of remedies. Nitrate of silver, tincture of iodine, tannin, alum, chloride of iron, carbolic acid, and a series of less important drugs, all possess strong advocates. Nitrate of silver and tincture of iodine are unquestionably the most efficient remedies known, in respect to their power to diminish undue vascularity, infiltration, and hypersecretion of a highly glandular mucous membrane. They are, however, difficult remedies to manage. Like a two-edged sword, they sometimes cut both ways—toward remedying the disease and toward aggravating it. This peculiarty of nitrate of silver, in particular, has led some excellent authorities to pronounce judgment in strong terms against the employment of this drug in the treatment of naso-pharyngeal catarrh. Such anathemas remind me of those which were pronounced, not many years ago, against the use of probes, steel hooks, forceps, etc., in the external auditory canal and cavity of the tympanum. Those who do not possess manual skill, and who are too lazy or too heedless to give careful thought to the different steps of any therapeutic procedure which they may adopt, should carefully abstain from the use of any instrument or drug that calls for both manual skill and judgment in its management. The mere fact, however, that a very valuable drug or remedial procedure is dangerous or inefficient when handled carelessly or without knowledge, should not warrant us in condemning it. We should rather aim at studying more thoroughly the conditions under which it may be used both safely and effectively.

I should only weary you, were I to enter into a detailed account of the different ways of using nitrate of silver or tincture of iodine both safely and efficiently, and I shall therefore pass on at once to the consideration of other matters.[1]

Hitherto, in discussing the question of treatment, I have referred only to those measures which are intended to relieve a diseased condition of the mucous membrane. Although these measures are of paramount importance, we cannot ignore the fact that we have also to deal with the mechanical effects resulting from this diseased condition. These effects are: First, increased atmospheric pressure upon the outer surface of the drum membrane, from obstruction of the Eustachian tube; and, second, the tendency of all fibrous tissues to contract or retract after long-continued inflammation. The tendons of the tensor tympani and stapedius muscles and the fibrous tissues of the ligamentum annulare (in the oval window), and probably, also, of the membrana tympani secundaria (in the round window), are the more important tissues which may undergo this change—a change disastrous to the function of hearing. As regards our ability to combat directly the two different conditions enumerated above, we stand to-day precisely where we stood twenty or more years ago. Inflations of the tube and middle ear constitute, practically, our only remedy for the relief of these conditions.

A word or two with regard to the home use of nasal sprays, and I will bring this unduly long paper to a close. Some months ago, at the suggestion of my friend Dr. Delavan, of this city, I instructed one of my patients—who has been for years a sufferer from chronic nasopharyngeal catarrh, accompanied by very distressing tinnitus which interfered seriously with sleep—to employ, several times daily, a nasal spray of one part of Listerine in three of water. The experiment proved quite successful, the relief of the tinnitus being very marked. I have, since that time, had occasion to recommend the same plan of procedure to several other patients, and the results obtained justify me in saying that it is at least worthy of being fairly tried in our treatment of this exceedingly rebellious form of disease. My impression is that the rapid decomposition which takes place in the nasal mucus that tarries in the various recesses of the vault of the pharynx, and in the adjoining nasal passages, lends to this secretion an irritating property, and that the Listerine spray, when used somewhat frequently, is competent to render it bland and unirritating. Valuable as this procedure may prove as an aid to the more fundamental methods already referred to, I do not anticipate that it will ever render these unnecessary.

Within the narrow limits of a single paper it is not possible to do justice to all the important questions which arise in connection with the topic which I have chosen. I have, therefore, made no attempt to cover the ground thoroughly, but have contented myself with discussing briefly such parts of the subject as I thought might prove of interest to you. In this way it happens that not a few points, some of them even of the highest importance, have not even been mentioned by me.

Tin Oleate for the Nails.—Thomas H. Irquhart writes to the *Therapeutic Gazette*: "I used the tin oleate some months ago on my finger-nails, which commenced to split and break soon after I left the army, the result of scurvy contracted in the military service. I anointed the nails every day with the oleate, and at night applied it on a narrow flannel bandage. In about two months all the nails were sound and tough. I applied the oleate to the nails of a young lady friend with like success. It is also a beautiful polish for the nails."

[1] Those who may not be familiar with these methods will find the matter discussed somewhat fully in my work on Diagnosis and Treatment of Ear Diseases, and under the heading "Ear: General Therapeutics," in the Reference Handbook of the Medical Sciences.

THE INFLUENCE OF MATERNAL IMPRESSIONS IN THE ETIOLOGY OF CONGENITAL DEFORMITIES.[1]

By THOMAS L. STEDMAN, M.D.,

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Mr. Chairman and Members of the Orthopædic Section: It is with some misgivings that I have ventured to present this subject for your consideration this evening, for it is one that is generally classed with old wives' fables and popular superstitions, and regarded as unworthy of even passing attention from scientific physicians of the present sceptical age. However, I think you will all be ready to admit that our knowledge of the etiology of congenital deformities is as yet so rudimentary that we can ill afford to despise any effort made to solve the mystery, and it behooves us to examine, with at least respectful consideration, any theory, however contrary to our preconceived notions, which bears upon it the stamp of even slight plausibility. And I hope, as far as is possible in a brief paper, to demonstrate to you this evening that there are certain elements of plausibility in the assumption that the development of the fœtus in utero may be influenced for weal or for woe by the mental processes of the mother.

My attention was first directed to this subject when I was a student of medicine in Philadelphia in 1874. The late Professor Ellerslie Wallace, of the Jefferson Medical College, who was a firm disbeliever in the influence of maternal impressions, but who was a man who never shrank from facts which seemingly argued in the face of his theories, exhibited to the class the dead body of a full-term infant which had been born a few hours before. The mother, when nearly at the end of her term, had been very severely scalded on the arms and portions of the body by the upsetting of a kettle of boiling water. She was taken to the hospital, and very soon after admission gave birth to a dead child. This child was marked on various parts of the arms and body with peculiar livid patches, situated beneath the integument, the skin itself being unabraded and normal in appearance. We did not see the mother, but Dr. Wallace assured us that he had examined both very carefully, and that the patches on the child corresponded exactly in outline and situation to the scalds upon the mother. This case impressed me most forcibly at the time. The lecturer called it a very remarkable coincidence, but it seemed to me then, and does still, that it required greater credulity to look upon the occurrence as a coincidence than it did to regard it as the result of some as yet unrecognized natural law; and I thought the wiser course would be to endeavor to discover this law and to trace its operations than to dismiss the case as a medical curiosity.

My purpose this evening, therefore, is to present to you certain facts, or alleged coincidences, either gleaned from medical literature or which have come under my own observation, which have led me to believe that the popular notion that the development of the fœtus is influenced by maternal impressions is one which contains at least a germ of truth, and which, therefore, is not unworthy of study by scientific men.

In the case to which I have just referred the markings upon the child could not, it is true, be attributed to mental impressions, for they corresponded to actual lesions upon the body of the mother. But if physical injuries, received toward the end of pregnancy, can be so rapidly photographed upon the body of the unborn child (for, as I remember the case, less than twenty-four hours had elapsed between the scalding of the mother and the birth of her infant), why might not mental injuries, continuing through weeks or even months, likewise impress their image upon the plastic frame of the fœtus? We

[1] A paper read before the Orthopædic Section of the New York Academy of Medicine, December 17, 1886.

are ready to admit the influence of the mind upon the body of the same individual, and have even classed by themselves the deformities and other physical ailments of hysteria; hypnotism and mental suggestion are beginning to assume an important place in the therapeutics, not only of mind diseases and various neuroses, but even of what we are wont to consider physical maladies. We cannot deny that diseases of the mother can be transmitted to the child in her womb; and we note the similarity in form, feature, and mental characteristics between parent and offspring; why, then, is it *à priori* so absurd to ascribe certain physical defects in the child to morbid mental impressions on the part of the mother?

"Probability," says Butler, "is the guide of life," and it is only by considering the weight of probability on one side or the other of a question that we are able to come to any definite or satisfactory conclusions. At first sight, I admit, it seems highly improbable that abnormalities in the growth or development of the fœtus can be caused by purely mental processes, apart from any actual disease on the part of the mother; and one single occurrence or a dozen occurrences, apparently establishing a relation of this sort of cause and effect, should have little weight in upsetting this antecedent improbability. But when facts of this nature can be counted, not singly or by dozens, but by scores and hundreds, we are forced to believe that possibly they are not mere coincidences, but may be expressions of an etiological law. I venture to assert that there is hardly a physician, of even a few years' experience, who has not met with some instances of this sort; they are for the most part regarded as rather strange coincidences, and are perhaps only mentioned in casual conversation among the other curious experiences of a doctor's life; but if one could collect the aggregate experience of the profession in such matters, it would, I doubt not, serve to convince even the most sceptical that, explain it how he might, maternal impressions do sometimes influence the physical development of the fœtus. In the very hasty glance which I have been able to make through a portion of the more recent periodical literature, I have read accounts of nearly two hundred more or less striking instances of this nature, and they are unquestionally but a small part of the supposed coincidences which have been met with, but which were not deemed worthy of record. I shall not inflict upon you the recital of all these cases, but will beg your indulgence for a very few moments while I relate three or four to serve as samples of the rest.

A lady brought her baby, aged a few months, to me for treatment. The child, perfectly healthy and well formed in every other respect, had a very pronounced talipes equino-varus of the left side. The mother said that, very early in her pregnancy, her husband was brought home one day, having fallen and broken his ankle. As she saw him brought into the house, his shoe and stocking having been cut off, she noticed the foot turned to the inner side. It naturally startled her considerably, and for months she dwelt on the occurrence, having the picture of the displaced foot always in her mind.

Mr. Crickmay has related in the *British Medical Journal*, May 29, 1886, that a man came to him, holding up his right arm, the hand of which had been obliquely severed by the knife of a chaff-cutter, leaving only a small portion of the thumb. A woman about two months advanced in pregnancy heard next day the details of this accident. She felt very sorry for the man's misfortune and experienced great distress when repeating an account of the occurrence to some friends. In due course of time this woman was delivered of a male child whose arm was without a hand, the stump, however, bearing the rudiment of a thumb. In the same journal, under date of September 1, 1877, Dr. Augustus Hess tells of a young married lady, in France, who lived in constant fear that her husband, who was a man of obstinate will, would fulfil a threat which he had made to chop off the thumb of his left hand in order to avoid military service in case he was conscripted. While this fear still preyed on her mind she became pregnant and gave birth to a child, who was well formed in every respect except that the thumb of the left hand was missing.

The following case, from the same paper, of the issue of November 3, 1877, is very striking by reason of the peculiar nature of the deformity. Dr. Jasper Cargill writes: "A lady in the early stage of pregnancy sent for me one morning to see her little boy, aged three years, in consequence of a puppy having bitten the glans penis. There was some swelling of the parts, which bent the penis in such a manner as to cause the child to micturate backward between the thighs. The mother was very much alarmed at the time. I attended this lady in her confinement. Two days afterward I was requested by the nurse to examine the baby (a boy), because the penis was found to be deformed. The glans was quite round and bent, and the meatus looked backward, precisely resembling the little boy's penis which had been bitten by the puppy."

M. Jules Guérin related to the French Academy of Medicine a rather curious case, in which the causation of the deformity might perhaps be referred to heredity, but which, I think, is rather an illustration of the influence of maternal impressions. Indeed, I am not sure that many, if not most, of the odd deformities which we sometimes see running in families may not be more justly attributed to the influence of maternal impressions than to heredity. I anticipate here the objection which has been raised by many, that deformities occurring in the lower animals are not infrequently transmitted to their offspring. But I fail to see the force of this argument, for why cannot a cat or a cow have mental impressions? Sir John Lubbock has given us many examples of an instinct—if you wish to call it by that name—in animals which is apparently of a higher order than the intelligence exhibited by some of our fellow-creatures. But you say, perhaps, that animals are not so observant as to notice deformities in their fellows. They are, however, observant enough to recognize each other, and to distinguish between friends and strangers. Even the ants in a densely populated hill can tell at once a member of their community from a stranger. If animals can do this they must be able to recognize differences in form and figure (I do not forget that the sense of smell is also an important aid); and why should they not therefore be cognizant of deformities in themselves and others?

A remarkable instance tending to prove the influence of maternal impressions in the lower animals is cited by Spitzka, in his work on insanity. "At the meeting of the Zoological Society of London, held February 24, 1863, Dr. C. E. Gray, the curator of the British Museum, presented the body of a chicken whose beak and feet closely resembled those of a parrot. The sender of the specimen reported that several such instances had occurred in his poultry-yard, and he attributed the monstrosities to the fact that one of the hens had been frightened by a parrot, which was kept in a cage in the same yard, and which had the habit, when the hens approached its cage for food, of screeching violently at them."

But to return to the case cited by M. Guérin, and which I find related in the *Gazzetta degli Ospitali* of February 21, 1886. He presented to the Academy a women and her three children, each of whom had a deformity of both hands consisting of an angular deviation of the index-fingers, the second phalanx forming a right angle with the axis of the first. The mother of this woman had the same malformation, and the woman herself at each pregnancy was greatly worried by the fear that her child would be similarly deformed.[1]

[1] Dr. J. G. Peters has called my attention to two cases of double monstrosity, related by Mr. F. Le Gros Clark in the St. Thomas Hospital Reports. The mother, in each instance, was, at about the time she became pregnant, very strongly and disagreeably impressed by representations of the "double-headed nightingale," who was then on exhibition. The fœtus, in each case, was double as to its upper portion and resembled the monstrosity which was the cause of the maternal impression.]

I feel some hesitation in speaking of congenital nævi and erectile tumors, the so-called mother's marks, for these have been made the special object of ridicule by those who believe the mother is an impassive agent in the production of her offspring—a sort of creative automaton. But the occurrence of birthmarks is, I maintain, often attributable to maternal impressions, although, of course, I do not pretend to say that every spot or blemish on the skin of an infant, any more than every congenital deformity, is due to this one cause. I will instance but one case of this nature, which is related by M. de Saint-Germain, who himself is an opponent of this theory, in his "Chirurgie Orthopédique." While he was in charge of the maternity service at the Hôpital Cochin, a woman was admitted who was in great distress, saying that she was to give birth to a squirrel. She related that toward the end of her fourth month, while she was passing a bird-fancier's, a squirrel leaped from its cage onto her shoulders, giving her a great fright. She was delivered at term of a fine child, who presented along the spinal column, from the seventh cervical vertebra to the coccyx, about forty long red hairs, like those on the back of a squirrel. Those hairs were not permanent, but fell off at the end of a certain time.

A case in which there was congenital absence of hair is narrated by Dr. William T. Taylor in the *Philadelphia Medical Times* of November 15, 1876: "A medical man told me that one of his children had a bald spot on its head, which his wife says arose from the circumstance that, in the early months of her pregnancy, she was frequently looking at the shining bald head of her father-in-law, with an unaccountable delight."

Several cases of birthmarks, possibly due to maternal impressions, are related by Tuke in his work on the "Influence of the Mind upon the Body."

Dr. F. K. Bailey related a case, somewhat similar to that mentioned in the beginning of this article, in the *Medical and Surgical Reporter* of May 31, 1873. A lady who was pregnant came under his care for severe neuralgia. A blister was applied near the trochanter major. On the birth of the child there was plainly seen a brownish spot, exactly corresponding in shape and locality with the blister which had been formed on the mother's thigh. The child lived thirty days, and the discolored spot remained distinctly visible during this time.

I may anticipate here two objections which are frequently raised by disbelievers in the theory which we are discussing. I think it is Darwin, in his work on "Plants and Animals under Domestication," who relates that Hunter made a practice of asking every woman, before her delivery, whether she had any reason to suppose that her child would be deformed or marked in any way. He made inquiries in about two thousand cases, and in no case did the deformity in the child correspond to the mother's fears. In the *American Journal of Insanity* for January, 1870, Dr. Fisher states that he made such inquiries in every case occurring in his practice during a period of twenty years, and though many women expressed their fears, and even described the malformation which they anticipated that their children would bear, he met with but two cases of congenital deformity; and even in these cases there was no apparent correspondence between the malformation and the mother's apprehension.

This is, I admit, strong negative evidence, but negative evidence carries less weight than does positive testimony; and two hundred cases in which the malformation of the infant corresponded to the fears of the mother, expressed before the birth of her child, should, I think, be held to argue more strongly in favor of this theory than two thousand cases in which no such correspondence existed could argue against it.

The second objection is one that has been raised by some German investigators, who examined into a number of alleged instances of maternal impressions, testing them by the known facts of embryology. They found in many cases that the arrest of development must have occurred at a time long before that at which the mental shock was received, and thus proved that such malformations could not have been caused by the fright of the mother. But, while I recognize the force of this argument in certain cases, I cannot see that it disproves the theory. It is not contended that every congenital malformation is the direct result of a maternal impression, any more than it is that every thought or idea originating in the mind of a pregnant woman must of necessity have its influence upon the development of the child in utero. The cases to which I refer especially this evening are not those of arrested development from a sudden shock, but rather of perverted development resulting from a fixed and long-continued mental impression. That the relation of cause and effect can be disproved in a certain series of cases is not sufficient to warrant us in rejecting presumptive evidence in favor of this relation in other cases.

Let us suppose that a child is known to have been exposed to the contagion of measles, and that this child goes home and is seized at once with a disease presenting all the symptoms of this same malady. We would say that the child could not have acquired the disease from this known exposure, because there was no appreciable period of incubation, but we would not be warranted in assuming that measles is not contagious. We could only say that there must have been some previous exposure. And so it is in the cases quoted by the German observers; the malformations in these instances could not have been caused by the known maternal impressions, but they were to be referred to some other cause acting at an earlier period. This simile is, perhaps, not very apt, but it will serve, I think, to explain my meaning.

It is not my purpose this evening to discuss at length, even were I able to do so, the manner in which the mental action of the mother influences the growth and development of the child. We know as yet too little of normal embryology and fœtal growth to discuss satisfactorily the pathological side of reproduction, and my object has been rather to suggest to you the possible importance of one factor in the etiology of congenital deformities, reserving the consideration of its *modus faciendi* for another occasion. I cannot, however, pass this subject by entirely, for a rational explanation of a seemingly remarkable occurrence goes more than halfway toward removing the difficulties which we experience in accepting it.

Brodhurst says that congenital deformities are due to arrest of development, to increased development, or to muscular spasm in the fœtus. This would answer, perhaps, as an explanation of the occurrence of deformities strictly so called, although I think he might better have substituted the term perverted development, which would include certain cases in which there is neither an arrest nor an increase. But in order to more easily explain the subject we must go beyond the title of this paper, and include under the term deformities all congenital deviations from the normal, whether mental or physical. This is the more necessary since we are dealing with a something which, whatever may be its subsequent phases, originates in the cerebral cells of the mother; and we may, therefore, not unreasonably expect, from a study of nervous aberrations of congenital origin, to derive some assistance toward a better comprehension of the malformations of the body.

Congenital idiocy is acknowledged by many authorities to be very frequently a result of violent temporary emotion, or of a more prolonged but less vivid mental disturbance, such as grief or anxiety, on the part of the mother during her pregnancy. But idiocy is almost always accompanied by asymmetry of cerebral development, cranial malformation, or even club-foot or other gross deformities. Now, if idiocy may be caused by psychical troubles of the mother, why may not also the malformations which accompany, or may even be the direct occasion of, the mental disturbance be fairly attributable to the same influence?

Chorea may, in very rare instances, be congenital. Putzel has collected eight cases reported by various observers, in four of which the probable exciting cause was mentioned. "In Mayo's case the mother had been extremely nervous for a period of two months after a disgusting object had been thrown upon her bosom (while she was four months advanced in pregnancy). In Richter's two cases, the mothers had been very much frightened shortly before confinement. Spamer mentions, with regard to his case, that the mother had been very nervous and depressed, during the entire period of pregnancy, on account of the death of one of her children."

Dr. E. H. Addenbrooke relates the following instance of congenital facial paralysis caused by maternal impressions (*British Medical Journal*, May 13, 1871). "A few weeks since, while attending Miss B——, I noticed that her mother suffered from paralysis of the muscles of the left side of the face. Mrs. B—— informed me that the affection was congenital, and gave me the following history: Her mother and her mother's sister (both of them pregnant) were staying with Mrs. B——'s grandmother, nursing her in her last illness. One night, as they were both assisting her to the night-stool, the old lady was suddenly seized with hemiplegia, the facial paralysis being specially noticed by them. Both daughters were confined three or four months afterward, and each of the children suffered from congenital facial paralysis of the left side. Mrs. B—— tells me that she has often seen her cousin, and that she is afflicted in precisely the same way as herself. The two mothers often used to lament together over their children's deformity."

A classical instance of a mental peculiarity apparently traceable to maternal influences is that of King James I. Sir Kenelm Digby[1] relates that the king had a great dread of a drawn sword, and attributes it to the fright which Queen Mary received while pregnant, when she witnessed the murder of Rizzio. When Sir Kenelm was knighted by James, the latter, he says, could not look at the sword, and "he had almost thrust the point into my eye, had not the Duke of Buckingham guided his hand aright." Another case somewhat similar to this is narrated by Dr. E. Seguin in the *Philadelphia Medical Times* of December 23, 1876.

The following instance of eclampsia from maternal impressions, related by Dr. Bailey in the *Medical and Surgical Reporter* of May 31, 1873, is suggestive. A pregnant woman nursed her son, seven years old, through an attack of cerebro-spinal meningitis. The convulsive seizures were frequent and severe. Her infant, when born, was well developed in every way, but had spasms every time his bowels moved; the face would become livid, the head was thrown back, and episthotonus was marked, the eclamptic attacks resembling precisely those from which his brother had suffered. The affection disappeared in about a year.

It is a recognized fact that convulsions in nursing infants may be produced by mental excitement of the mother or nurse. Now, if a mental disturbance on the part of the mother may so affect her milk as to make it poisonous to the child, it does not seem unreasonable to suppose that the blood of the pregnant woman may, in like manner, become changed so as to act injuriously upon the fœtus. It makes no difference, in the first case, whether the milk becomes simply indigestible and thus excites eclampsia reflexly, or whether it contains some poisonous principle which enters the blood and acts directly upon the nervous centres. Its composition is changed, and changed as a consequence of the undue cerebral activity of the mother. The mental impressions of the pregnant woman act, I believe, in a similar way upon the fœtus. The blood of the mother is altered, or receives upon it some impression, the nature of which we have at present no way of determining, and perhaps may never learn, but which induces like changes in the blood of the embryo; and this in turn acts upon the nerve-centres, and thence upon some special organ or part of the fœtal body to which the mind of the mother was specially directed. I do not refer now to those cases in which some sudden and momentary mental shock causes the death of the child, arrests its development, or induces abortion; but to the less coarse changes, resulting from continued mental concentration, and which are manifested by some localized mental or physical defect of the infant. The gross derangements of the embryo may, indeed, be produced in the same way through the placental circulation, but they are less evidently the result of a special mental process on the part of the mother.

Dalton says in his "Human Physiology": "There is little room for doubt that various deformities and deficiencies of the fœtus, conformably to the popular belief, originate, in certain cases, from nervous impressions experienced by the mother. The mode in which these effects may be produced is readily understood from the anatomy and functions of the placenta. It is well known how easily nervous impressions will disturb the circulation of the brain, the face, or the lungs; and the uterine circulation is quite as readily influenced by similar causes, as shown in cases of amenorrhœa and menorrhagia. If a nervous shock may excite premature contraction in the muscular fibres of the pregnant uterus and produce abortion, it is undoubtedly capable of disturbing the circulation of the blood in the same organ. But the fœtal circulation is dependent, to a great extent, on the maternal. The two sets of vessels are united in the placenta, and as the fœtal blood has much the same relation to the maternal that the blood in the pulmonary capillaries has to the air in the pulmonary air-cells, it must be liable to derangement from similar causes. And, lastly, as the nutrition of the fœtus is provided for wholly by the placenta, it will suffer from any disturbance of the placental circulation. These effects may be manifested either in the general atrophy and death of the fœtus, or in the imperfect development of particular parts; just as in the adult a morbid action may operate upon the entire system, or may show itself in some one organ, which is more particularly sensitive to its influence."

The following case, related by Dr. Robert B. Carter in his work on the "Pathology and Treatment of Hysteria," is an illustration of how a mental impression can occasion a local lesion. "A lady who was watching her little child at play, saw a heavy window-sash fall upon his hand, cutting off three of his fingers, and she was so much overcome by fright and distress as to be unable to render him any assistance. A surgeon was speedily obtained, who, having dressed the wounds, turned himself to the mother, whom he found seated, moaning and complaining of pain in the hand. On examination three fingers, corresponding to those injured in the child, were discovered to be swollen and inflamed, although they had ailed nothing prior to the accident. In four-and-twenty hours incisions were made into them and pus was evacuated; sloughs were afterward discharged, and the wounds ultimately healed."

We know that there is a more intimate connection between the embryo and its mother than is evidenced by the anatomical relations which we are able to trace. It is the common experience of stock-raisers and dog-fanciers that a female which has had young by a male of another race will never breed true again. Any young which she may subsequently have will betray some characteristics of the male parent of the first progeny.[1] Thus the fœtus impresses upon its mother some indelible change, primarily in the blood and then probably in the nerve-cells. But if the fœtus can thus influence the nerve-cells of the mother, it is reasonable, especially in the light of the facts

[1] A late Discourse made in a Solemne Assembly of Nobles and Learned Men at Montpellier, in France. Rendered faithfully out of French into English by R. White. London, 1658.

[1] A number of instances of this sort, occurring in the human species as well as in the lower animals, are related in a recent interesting work by Dr. Alexander Harvey, entitled, On the Fœtus in Utero, as Inoculating the Maternal with the Peculiarities of the Paternal Organism.

which we see repeated around us, to conclude that the nerve-cells of the mother can influence the growth and development, mental or physical, of the embryo.

Of course, I do not pretend to maintain that maternal impressions are the cause of all congenital deformities, or even of many: indeed, I believe that very few of the malformations seen in the new-born child are so produced. And it is fortunate that it is so, for were every pregnant woman who has received a strong mental shock, or whose thoughts have run in one particular channel for any length of time, to give birth to a deformed child, humanity would present a sad spectacle indeed. But I do believe, and I think my belief rests upon a strong foundation of facts, that the mental impressions of the mother oftentimes react, for good or for bad, upon the growing form of the child in her womb. A violent nervous shock is liable to cause the death or arrest of development of the embryo; a less severe, but more prolonged, mental impression may occasion a perversion of development. In the first case, if the child live, it will be a monstrosity; in the second case, it will be simply deformed in some part, and the peculiar nature of the deformity, or the part affected, will be determined by the nature of the mental process on the part of the mother. The concentration of her thoughts upon some particular anatomical portion may cause that portion of the child to assume the shape corresponding to the appearance that exists in the mother's mind. In the first case, the blood is so altered as to be actually poisonous to the growing embryo. In the second case, it is the medium for transmitting nervous actions from the mother to the child; and that child's nervous system is then placed in a condition similar to that of an hysterical woman, in whom a particular part of the body may become deformed or the seat of inflammatory changes from purely nervous causes.

102 East Fifty-seventh Street.

REPORT OF A CASE OF TYPHOID FEVER IN WHICH ANTIFEBRIN WAS USED SUCCESSFULLY AS AN ANTIPYRETIC AGENT.

By GEORGE R. ELLIOTT, M.D.,

NEW YORK.

The patient had well-marked typhoid fever. Antifebrin was the successful antipyretic agent employed after other antipyretic means had failed. The effect of this drug was so wonderful that I feel no apology is necessary for briefly reporting its use in the following case:

Mr. C. J. Bishop, aged twenty-one, an actor of prominence, arrived from San Francisco during the last week of October complaining of anorexia, malaise, headache, and febrile symptoms, which moderately large doses of quinine had failed to relieve. I was asked to assume charge of this patient by Dr. J. H. Douglas, and saw Mr. Bishop for the first time on the morning of October 31, 1886. In the father of the patient, Dr. C. B. Bishop, I found a medical gentleman of unusual skill and acquirements, and so endeared to his son that no symptom was overlooked and every detail in treatment was rigidly carried out. The drinking of well-water in Southern California was the probable etiological factor in the production of the disease.

As near as we could estimate, it was the seventh day of the disease. The thermometer registered 104⅖° in the mouth at 5.30 P.M.; pulse 104, with a fairly good tension. The abdominal symptoms were negative, excepting enlargement of the spleen. There was moderately profuse bronchitis. Having had malarial attacks previously, it was a question whether or not malarial miasm was complicating the present difficulty.

He was moderately purged with triturated calomel and ordered to have thirty grains of quinine during the night in divided doses of fifteen grains each, and diet to be liquid in character. With the following day came only marked cinchonism as a result of the thirty grains of quinine. The temperature showed a morning remission of 1° F. He had during the night six liquid stools of a greenish black color. By evening the temperature had again reached 104⅘°. Cold sponging was frequently resorted to, much to the comfort of the patient. The quinine was repeated at night, and again only cinchonism manifested itself as a result. The thermometer showed no morning remission. The following night we decided to give forty grains of quinine in divided doses of twenty grains each; only one dose was given, as depression of the heart's action, accompanied by dyspnœa, followed its administration. The temperature remained the same. I was satisfied that we had excluded a possible malarial element and were dealing with an unquestionable case of typhoid fever. By this time the typhoid symptoms were quite well marked. The temperature was characteristic; the stools were frequent and of a typhoid character; there was moderate tympanitis; an enlarged spleen; well-defined bronchitis; a tremulous tongue, and "facies" unmistakable. The eruption, which was absent at the time, occurred later. The further use of quinine was abandoned, for in our experience, as an antipyretic agent in typhoid fever it is useless. I have repeatedly employed it in a large number of cases of typhoid fever in hospital practice with the prime object in view of testing its efficacy as an antipyretic agent, and can positively state that in no single instance have I ever seen it reduce temperature. In all cases when it did so act, an unmistakable malarial element has been proven to exist. From this time on for several days we resorted mainly to the use of cold to partially control the temperature.

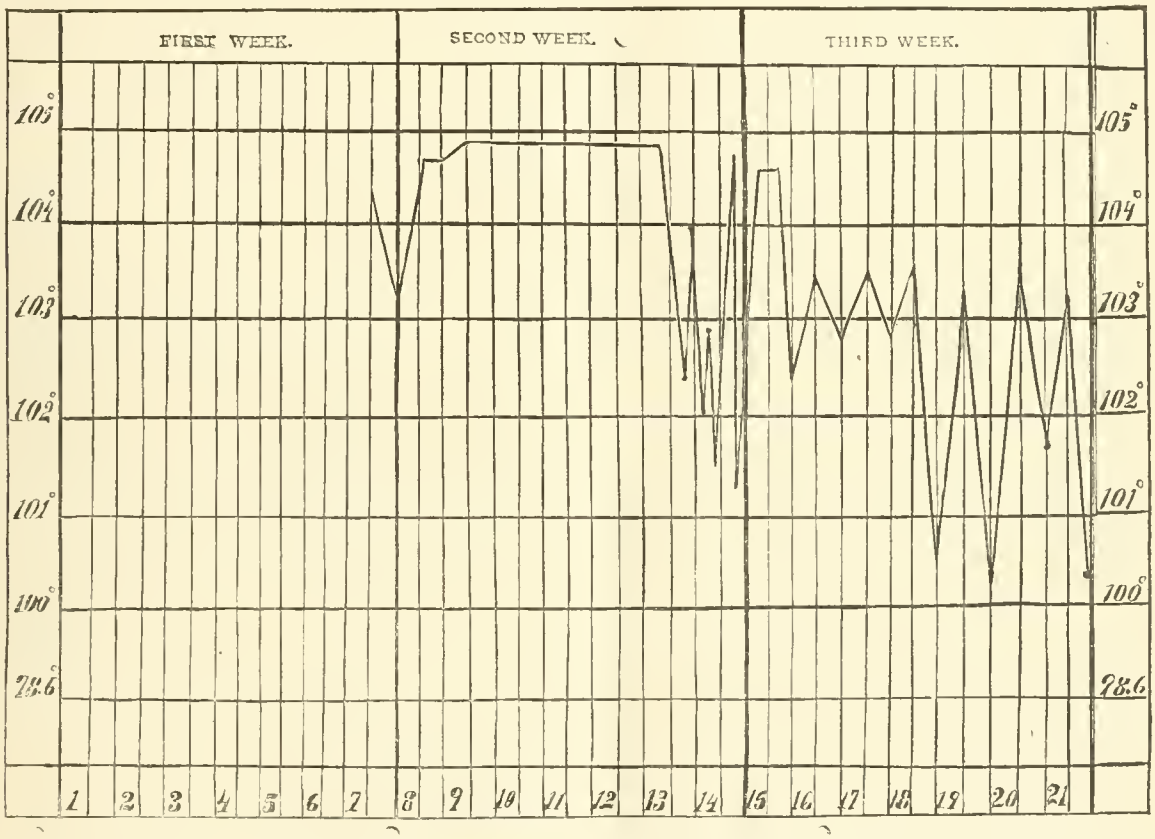
The latter had become the continuous temperature of the second week (104⅘°), but without any morning remission. The patient began to show the result of this high temperature by delirium, and marked subsultus tendinum. It was evident that unless the temperature could be controlled the prognosis was rendered correspondingly more grave. We decided to try the efficacy of antifebrin, a new remedy which had been discovered in Germany, and for which much was claimed as an antipyretic agent. It was especially claimed that it had no depressing effect upon the heart, herein a superiority over antipyrin, and, unlike that drug, surrounded by no mystery, and its chemical composition barred by no seal from the knowledge of the profession.

The attention of the profession was first called to antifebrin by Drs. A. Cahn and P. Hepp, assistants at Kussmaul's clinic, in Strassburg, in an article which appeared in the *Centralblatt für Klinische Medicin*, No. 33, of August 14, 1886. Antifebrin is chemically designated as an acetanilid, and has the formula $C_6H_5NHC_2H_3O$. It is a clear, white, crystalline substance, odorless, nearly insoluble in cold water, slightly soluble in warm water, and freely soluble in alcohol and alcoholic solutions. Drs. Cahn and Hepp report, as a result of their experimentation, that relatively large doses can be given to animals without producing any poisonous effects, and that the normal temperature is not affected by its use. They used it in twenty-four cases where high temperature predominated, including typhoid fever, erysipelas, rheumatism, and septicæmia, and report that in every instance they were successful in reducing the temperature without any disagreeable effects following. In no case was it found necessary to give more than thirty grains during twenty-four hours.

Hand-in-hand with the temperature fall was noticed a *diminished frequency* of the pulse-rate, accompanied by increased arterial tension, the latter founded upon carefully taken sphygmographic tracings. No nausea, vomiting, or diarrhœa followed the use of the drug. It is interesting to know how the drug acts. The antipyretics heretofore known are either phenols (carbolic acid, salicylic acid, etc.), or they are bases, and belong to the chinolin

series (chinin, thallin, etc.), while here for the first time we are dealing with an indifferent substance which in composition is widely separated from the others. For further information the reader is referred to the original article. I obtained some antifebrin from Fraser & Co., 208 Fifth Avenue, and ordered four grains to be administered at 4 P.M., 7 P.M., and 10 P.M., respectively, in the evening of November 5th, the twelfth day of the disease, with the following result: The temperature at the time of giving the first dose was 104⅘°, pulse 115. Half an hour after administering the second dose the patient began to perspire profusely, and at eight o'clock *the temperature had fallen to* 102½°. The pulse had not varied in frequency, but its tension had slightly increased. The reduction of the temperature was attended by an amelioration of the symptoms. The mind became clear and the patient conversed rationally. At ten o'clock the temperature had reached 104°, and another dose of four grains was given, with a repetition of what followed the second dose, viz., the temperature falling to 102°, accompanied by profuse perspiration, subsidence of the delirium, and a return to consciousness. Twice now had we administered antifebrin to our delirious patient, a delirium which quinine had seemed to deepen, and as many times we were met with a rapid return to consciousness. After this the temperature was not allowed to go above 103°, and the mind remained clear.

On November 10th, the seventeenth day of the disease, there seemed to be a morning remission, and antifebrin was discontinued. I may state here that at no time had we found it necessary to give more than twenty grains during twenty-four hours. Stimulants were used sparingly, the character of the pulse, which was dicrotic, being made our guide for their use. With the morning of November 11th came again a morning remission. The case seemed now to be progressing favorably through the close of the third week, and we congratulated ourselves upon having warded off one of the worst elements of typhoid fever, high temperature, and its retinue of complications. The first sound of the heart was good.



companied by copious perspiration, and no perceptible bad effect upon the heart. The temperature began to rise again at midnight, and at 3.30 A.M. had reached 103⅘°. Four grains of antifebrin were given, and exactly at the end of thirty minutes there was profuse perspiration, accompanied by a fall of temperature which at 5.30 A.M. *was only* 101⅘°. At 3.15 P.M. the temperature was 104⅗°, pulse 115; and another dose of antifebrin was given. Mark again the result: At 4.30 the temperature was 101⅖°, pulse 95, with tension improved; by midnight temperature was 104⅖°, pulse 120. Wishing to exclude a possible coincidence in the reduction of temperature and the administration of the antifebrin, we resolved again to try quinine in large doses and gave fifteen grains, repeating same in four hours. No effect upon the fever followed its use. The mind, which had been clear as a result of keeping the temperature low, again became clouded, accompanied by low muttering delirium, subsultus tendinum, and an evident deepening of all the typhoid symptoms. Antifebrin was now given, and in two hours the temperature had dropped to 101⅕°, Everything progressed favorably up to the afternoon of the 14th, when, after a stool, our patient was seized with violent abdominal cramps, followed by profound collapse, out of which it was impossible to rally him, and he died during the afternoon of the following day. The collapse appeared to be due to intestinal perforation.

The reader will, doubtless, ask himself what we asked ourselves—was this collapse in any way traceable to the action of the drug? Let us see. Five days had elapsed between the discontinuance of the antifebrin (no further indication for its use seeming necessary) and the fatal collapse. During this time convalescence appeared unquestionably to be establishing itself. Dr. Bishop, who had watched his son so faithfully, who had noted and carefully recorded every change in the pulse, temperature, mind, etc., while sorely grieved at the death of his son, agreed fully with Dr. Douglas and myself that the action of the antifebrin had been simply wonderful, and that no possible relationship could be established between its use and the fatal result. We had reduced a fever which had been continuous for one week, and, as

the record shows, would have remained continuous for nearly one week longer. This had been accomplished without any apparent depression, and our patient carried along with a clear mind. Had we not bridged a dangerous period?

During the course of the disease there were two complications, to which I will merely allude: 1. A bronchitis so profuse that at times it threatened to seriously affect the progress of the disease, and from time to time moderate counter-irritation was resorted to, and internally small doses of carbonate of ammonia were given. 2. An intestinal hemorrhage the seventeenth day of the disease, the patient passing about one ounce of arterial blood. This hemorrhage was controlled and did not recur. These complications, together with a continuous high temperature during the second and third weeks, which showed *no tendency to a morning remission*, indicate the malignant nature of the poison with which we were dealing. I have purposely deferred entering more into detail, such as giving the character of the pulse and respiration from day to day, number of stools, etc., confining myself principally to the character of the fever and the effect of the antipyretic agent employed. I have endeavored to give a truthful description of the same without exaggerating a single incident, and I feel assured that Dr. Bishop and Dr. Douglas will corroborate the statements I have made.

The effect we met with is doubtless too flattering to expect in all cases where antifebrin is used. Its value and place in our materia medica will soon be determined and its level reached. If in it we find, as it promises, a safe and certain antipyretic, we can say indeed with the ones who originally called the attention of the profession to it, "*Ein glücklicher Zufall hat uns ein Präparat in die Hand gespielt, an dem wir ausgezeichnete antipyretische Wirkungen entdeckten.*"

"GRASS STAGGERS."—Dr. J. W. Carhart, of Lampasas, Tex., writes: "I notice, under the above caption, an item in THE MEDICAL RECORD, of October 23, 1886, referring to an article in the *Cornhill Magazine* on cowboys in Texas, in which there is a statement with reference to the poisonous effects of what is known in Northwest Texas as the loco weed. Having spent a year and a half in that portion of Texas lying between the Indian Territory and New Mexico, and known as the Panhandle, I am familiar with the weed so well described in the *Cornhill Magazine*, and with its effects on horses. Cattle occasionally eat it, but are rarely affected by it. I never knew mules to suffer from it, but cow-ponies are destroyed by it every year in that country by the thousand from eating the weed. When they have once acquired a taste for it, they will leave fresh, green grass to hunt and eat the loco weed. They break down very rapidly under its effects. They at first fall away in flesh, the hair assumes a dead and dirty appearance. They soon become weak and staggering, and if they continue to eat it they become, in cow-boy parlance, 'plumb fools.' They are often perfectly crazy. A gentle tap of the hand on the top of the head of a 'locoed' horse will cause him to stagger, rear, and fall backward. Vision is impaired, and there is an evident loss of muscular coordination. The Indians say that the effect of the weed is due to an insect infesting it. But I have examined specimens under a powerful glass, and found no insect. I made a decoction of the plant and drank it without apparent effect. I gave the decoction to 'locoed' horses and it had a beneficial effect, on the principle, I suppose, of *similia similibus curantur*, but could not keep them sufficiently long under observation to prove a cure. There can be no doubt about the abundance of the weed in certain regions of the West, or of its effects. The ergot of smutty corn produces blind staggers in horses, from the constricting effect on the blood vessels of the brain. The objective symptoms of loco-poisoning are similar."

A CASE OF MIXED ROUND- AND SPINDLE-CELLED SARCOMA OF RETRO-PERITONEAL GLANDS, CORDA EQUINA, NERVE-ROOTS, DURA OF SPINE AND BRAIN, PONS, MEDULLA AND CORPORA STRIATA.[1]

BY RICHARD VAN SANTVOORD, M.D.,

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K. B——, a woman aged thirty-four, was admitted to the Randall's Island Hospital, September 8, 1886. She was apathetic and not able to give a very good account of her previous history or present sufferings. It was learned, however, that she had suffered from pain in her right lower extremity. On admission she complained of intense pain in the left lower extremity. She was unable to define its character, nor did it seem to follow any definite nerve-distribution. The left leg was slightly smaller than the right, the thigh being one inch less in circumference. No anæsthesia was present. Reflexes, electrical reactions, and strength were not tested. The patient could, however, move her legs. She complained also of abdominal pain. A firm, large mass, whose outlines could not be very accurately defined, was found, presenting a little above and to the right of the umbilicus and separated by a line of resonance from the liver. It was more or less distinct according as the intestines were less or more distended. The patient failed rapidly. Four days before death she became unable to use her legs and could not pass her urine. Her mental apathy had become so great that no tests of sensibility could be relied on. Death resulted apparently from the pressure effects of the abdominal tumor, nineteen days after admission. The autopsy showed moderately-firm, wart-like growths on the inner surface of the cerebral dura, one about the size of a large pea in the right anterior fossa, two smaller ones on the under surface of the tentorium at each outer angle, and one about the size of a large pea over the body of the sphenoid, obviously compressing the pons. The cerebral arachnoid showed slight chronic thickening. In each lenticular nucleus was a small growth, the size of a medium-sized pea, that in the right being surrounded by a small area of softening. There were two growths, about the size of large pin-heads, on the anterior surface of the pons, under the pia. A similar growth existed on the surface of one of the anterior pyramids of the medulla. A small growth, the size of a buckshot, was found on the surface of the cerebellum. It was apparently a fragment of one of the tumors of the tentorium which had become adherent to the pia and been cut off in removing the brain. The roots of several of the cervical nerves, and, more prominently, some in the dorsal part of the cord, were involved in yellowish-gray infiltration from their points of egress from the dura to where they had been cut off. In the corda equina of the left side, within the dura, the nerves were involved in a firm, irregular mass about the size of a plum pit. A smaller mass similarly involved some of the nerves on the right side. At point of egress from the dura these nerves were thickened and yellowish on section. The left sciatic was removed from its point of egress from the sacral foramina to the knee. The induration extended to the junction of the roots, but could not be detected lower down. A pea-sized outgrowth projected from the dura over the middle of the anterior surface of the cord. The pia of the cord showed recent fibrinous exudation. Opposite the outgrowth from the dura the cord was very soft. The greater part of the cord below and for some distance above this point was also abnormally soft. A wedge-shaped section sawed from the lumbar vertebræ, and the opened spinal canal, were examined in vain for evidences of morbid growth. The posterior surface of the sacral canal looked slightly eroded and was coated with fibrinous material. The lungs

[1] Read before the Section in Neurology of the Academy of Medicine, November 12, 1886.

were œdematous and slightly adherent. The heart was small and brownish; slight atheroma of aorta. Two or three small yellow nodules were found in the liver. On the under surface of the right lobe was a yellowish mass, size of a walnut, filled with yellow pasty matter, containing hydatid hooklets and convoluted cyst-walls. A large mass, size of a cocoanut, was found behind the peritoneum, extending a little more to the right than to the left of the median line. Its anterior fifth was a cyst, with irregular walls, containing clear yellowish fluid and translucent yellowish coagula. The body of the tumor was made up of firm whitish tissue.

The kidneys and intestines presented no noteworthy lesions.

The microscope showed that the retro-peritoneal tumor consisted of lymphoid and spindle-cells, with an intermixture of large round cells. It also included some fat which was infiltrated with lymphoid cells. A nerve-root with adjacent dura showed infiltration with round cells in the dura and irregularly through the nerve-root, but most marked at its periphery. A few spindle-cells were also seen, and some irregular dilatation of the vessels. One of the tumors of the dura was found to be made up almost entirely of lymphoid cells, the spindle- and large round-cell element being very slight.

This case seemed to me worthy of presentation on account of the large number, and very unusual distribution, of the neoplasms. The primary growth was probably the retro-peritoneal, judging from its size. According to Virchow, primary retro-peritoneal sarcoma is usually single, its injurious effects being produced only by pressure. Sarcomata of the dura are, according to the same authority, usually single, though occasionally two or more are found. They are usually spindle-celled.

Under the head of neuroma Virchow describes several cases in which there have been multiple tumors of nerve-roots, and as several of these were old, imperfectly reported cases, it seems possible that they may have been sarcomata. I have failed to find any undoubted case of multiple sarcomata of the nerve-roots. In *Brain*, for January, 1886, Dr. S. Harris reports a case of spindle-celled sarcoma of the corda equina, substance of the cord and medulla, with secondary growths in the pleuræ and pericardium. In multiplicity of growths this case is the nearest approach to my own that I have found, it being apparently true, as a general rule, that sarcomata of the nervous system are single.

The marked pain with atrophy in the left leg, together with a new-growth in the abdomen, lead me to suppose that the case was one of so-called paraplegia dolorosa, caused by pressure from new-growth in the vertebræ. As such pressure frequently results from neoplasms narrowing the vertebral foramina, a complete examination calls for the entire removal of the vertebræ, a procedure which, for prudential reasons, I did not care to undertake in this case. The tumors in the corda equina, however, seemed to account for the symptoms complained of, and the absence of disease in the vertebral bodies and surface of the spinal canal seemed sufficient to exclude disease of the bone.

Although sarcomata of the vertebræ occur, and may give rise to pressure upon the cord or nerves, yet they seem to be quite rare. Dr. Marcoe, however, in his work on diseases of the bones, records a case of spinal paralysis caused by pressure from a "spindle-celled fibroid" growing from a transverse process of one of the cervical vertebræ, which was cured by operation. Dr. Frank Ferguson mentioned to me a case which he had recently seen, in which a sarcomatous growth from the body of a vertebra had caused pressure on the cord, the case clinically having been regarded as depending on some lesion situated in the cord itself.

Judging from a somewhat imperfect review of the literature of the subject, it would seem, however, to be true that lesions of the spinal cord were more often, in the case of sarcomata, caused by tumors of the cord itself or its membranes than by outgrowths from the vertebræ, the reverse being true of sarcomata.

20 East 125th Street.

NOTES ON A CASE OF PERIPACHYMENINGITIS SPINALIS.

By WILLARD H. MORSE, M.D.,

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Peripachymeningitis spinalis is a disease of rare and serious occurrence. In looking diligently into the bibliography of the subject, I find but eight cases of this malady on record in either America or Europe. Of these eight cases, John Simon reported one, in 1855, in the "Transactions of the London Pathological Society" for that year; Traube reported two, in 1863, before the Medical Society of Berlin; Professor Mannkopf, in the following year, wrote of another case in the *Berliner Medicinische Wochenschrift;* Mueller, in 1868, gave an elaborate description of a case in a work which he issued at Königsberg, entitled "Ueber Peripachymeningitis Spinalis;" the *Klinik der Rueckenmarkskrankheiten* for July, 1876 (if I mistake not), contained a dissertation on a case, which, though from the pen of the elder Leyden, is very fragmentary and incomplete; the same authority, however, in the *Berliner Klinische Woehenschrift* for December 17, 1877, reports his second case, and in his paper makes further reference to the first; and, lastly, Dr. L. Putzel, of New York, reports a case in The Medical Record for January 26, 1878.

In taking these cases in review, I find some very interesting details. That reported by John Simon followed a spinal fracture, and among the several autopsical appearances revealed by the scalpel of that eminent observer were two abscesses at points outside of the spinal canal, and connecting with it through the intervertebral foramina, a fact held in proof that the abscess formations, occurring prior to the perimeningeal inflammation, were causative of it, and stood revealed in the presence of a deposit of pus along the whole length of the cord beneath the dura mater. Mannkopf's case had to do with a similar expression of etiology, though instead of abscesses the primary lesion was a deep-seated inflammation in the tracheal muscles, extending thence backward into the connective tissue between the dura mater and the first two dorsal vertebræ, where, on the left side, posteriorly, a tumor pressed upon the spinal cord, upon which it exerted no abnormal effect other than that caused by the item of pressure. Mueller's case was also one of extraneous origin, the primary seat of inflammation having been a subpleural sarcoma, from which the morbid action passed outward through an intervertebral foramen into the perimeningeal connective tissue. Of Leyden's two cases the first was manifestly due to an abscess near the left anterior superior spinous process of the ilium, and the second was brought about by an injury to the spine and left shoulder, eventuating in paraplegia and death. The post-mortem in the latter case showed a thick mass of exudation, compressing the cord to such an extent as to cause myelitis, extending from the third to the tenth dorsal vertebra, and entirely surrounding the dura mater. Dr. Putzel's patient dated his malady from a deep abscess of the neck, and after an experience of paralysis, hyperæsthesia, and abscesses, finally entirely recovered. These six cases were all secondary to inflammation outside of the spinal canal; but in Traube's cases there was in both instances that which evidently pointed to the primary development of the meningeal affection. In these cases the distinguished German pathologist noted the development of many minute abscesses in the deep spinal muscles some time subsequent to the pronounced primary development of the meningeal affection. To which of these categories belongs the case which I have to report is, to my mind, somewhat uncertain.

The patient was, at the time when he first came under my observation, a young man with a history that told emphatically of an hereditary and an acquired tendency to nervous diseases. Both of his grandfathers had died of apoplexy, one grandmother had been a long-time sufferer from melancholia, his mother was a paralytic, and during the time that he was under my care his father died of an apoplectic seizure. From infancy a weakly boy, he was possessed of a brilliant intellect, and at nineteen graduated from college. Six weeks later his physicians took him from his books and sent him to the Adirondacks, advising him that in their opinion a summer's vacation was needed to rid him of frequent attacks of headache, which they feared might terminate in an accession of his unfortunate grandmother's mental malady.

While in the woods he was exposed to a cold rain, and some nine hours after this exposure he began to suffer from a severe pain in his neck, on the right side. This soon extended into the upper dorsal regions. Upon his return from the woods his attendant put him under treatment for "torticollis." Failing of relief he came to me, when, upon examination, a swelling was found on the neck, on the right side. A diagnosis of deep-seated abscess of the neck was made, and decided febrile action was soon noticed. For three weeks he suffered from severe pain in the affected part, and at the end of the fourth week he suddenly became almost completely paralyzed on the corresponding side of the body. For nine days succeeding there was no change, but at the end of that time formication and tingling ensued, and under treatment by local faradization the condition of paralysis gradually gave way, disappearing almost entirely in the January following, fully five months after the initial treatment. Meanwhile the swelling in the neck had become reduced to a small indurated mass, but slightly sensitive to pressure. Before spring even this was overcome, and the paralysis having passed, the patient made a complete recovery. To my certain knowledge he was in a state of perfect health for three years following, having no return of the symptoms, and expressing himself as being in better health than ever before. Entering the bar, he became known as a rising lawyer. Marrying, he became the father of a promising son.

At the end of last October he presented himself for treatment for a series of cerebral and spinal symptoms, notably headache, vertigo, and insomnia, together with great muscular weakness of the back. It was the first trace of ill-health that he had had for thirty-four months, and, so far as could be ascertained, it was not referable to any apparent cause, unless something in the way of an abuse of alcohol had to do with it. These symptoms continued, without febrile motion, paralysis, or convulsions, and pointed, though imperfectly, to either cerebritis or meningitis. On the fifth day an attack of prolonged somnolency occurred, and as soon as this was in some degree obviated the patient began to complain of a feeling in the dorsal region which he characterized as "the pricking of many needles." An examination revealed several (eleven) swellings in various places in the right rhomboideus, which were hard, circumscribed, and immovable, but exquisitely tender to the touch. One of these, of a particularly painful character, was situated just at the level of the second dorsal vertebra, and as the patient complained of it more especially, it was opened, and discharged a small amount of dark, offensive pus. The next day two of the other abscesses were opened, one of these discharging a small piece of bone. Immediately upon this occurrence a convulsion took place, continuing forty seconds. Subsidence of movement and general relaxation ensued, a lateral jactitation of the head began, and three further convulsions followed. After the third of these the patient became quiet and unconscious. A condition of coma was the instant sequel, and after continuing ten hours there was a slight spasm, and death took place, the pulse having suffered no variation at any time in the final sixty hours of life.

Autopsy, forty-eight hours after death. Body extremely emaciated and exsanguinated, though a considerable thickness of fat still remained over the abdominal walls. On dividing the skin and subcutaneous fat over the spinous processes of the dorsal vertebræ, and especially on lifting the muscles from the sides of these processes, a sinus was discovered extending upward from one of the opened abscesses five and one-half inches along the course of the spinal column. In the neighboring deep muscles there were many minute abscess formations, but no other sinus than the one indicated. Surrounding the dura mater there was a mass about three and two-thirds millimetres in thickness, extending from the point of the opening of the sinus to the tenth dorsal vertebra. The color, appearance, and general condition of the dura mater, the pia mater, and the cord were perfectly normal, except that the latter exhibited evidences of having undergone compression, but not to such an extent as to indicate even a commencing condition of myelitis. Between the muscles and large nerve-trunks the loose tissue showed an acute inflammatory process.

That this case evidenced peripachymeningitis spinalis rather than simple spinal meningitis had been shown during life from the conspicuous absence of some of the leading symptoms of the last-named disease, notably cephalalgia, spinal rigidity, and reflex excitability. The autopsy sustained this view.

The facts in the case which are of an especial interest relate to the course of the disease, and in such relation mark it as rare. Although impossible to determine the precise etiological connection between the two trains of circumstances, it is quite evident that in the first instance the meningeal inflammation and consequent spinal hemiplegia were secondary to the action of muscular in flammation, and that in the second instance this was precisely reversed. The inflammation in the external tissues was an incident that antedated the spinal affection; but the discharge of a piece of bone from the fistula, that was discovered post mortem, is in the way of evidence, in connection with other clinical events, to point to an origin of apparently primary spinal affection. This, however, is not positively certain.

The Question of Priority in Circumcision under Cocaine.—Dr. W. C. Fisher, of Galveston, Texas, writes: "Dr. B. F. Kingsley, of San Antonio, Tex., refers, in a recent number of The Medical Record, to a case reported some time since by Dr. E. R. Palmer, and says that he operated on November 29, 1885, and makes the claim to priority in the use of cocaine in circumcision. I have no desire whatever to take the wind out of the doctor's sails, but if he will refer to the November number of the *Texas Courier-Record*, page 98, he will find an article entitled, 'A Few Clinical Observations on the Use of Cocaine in Circumcision and Ablation of the Toe-Nail.' By reference to my notes I find that the cases reported were operated on on the following dates: First, April 3, 1885; second, May 18, 1885; third, May 25, 1885; fourth, July 20, 1885; fifth, July 20, 1885; sixth, July 23, 1885; seventh, August 3, 1885. Since the report of these cases I have performed a good many more circumcisions under cocaine, and generally with good results. Intead of a rubber bandage, I find that a simple rubber band, such as we use around a pocket-book, answers every purpose. I do not claim that I was the first to use cocaine in circumcision, for I believe two other gentlemen used it once or twice before I did."

An Easy Labor.—Dr. S. C. Bridgwater, of Dixon Springs, Tenn., writes that not long ago a negro woman was walking along one of the streets of that town, when suddenly labor pains began, and before she could get out of town she gave birth to a large, healthy child. She picked up the baby, and carried it in her apron about half a mile to her home. She had no medical attendance during or after the labor, and both mother and child did well.

Progress of Medical Science.

Mammary Abscess.—Dr. Bumm has recently made suppurative inflammation of the mammary glands the subject of special inquiry, and has published his views in No. 282 of *Volkmann's Sammlung Klinischer Vorträge*. A good *résumé* of these views is found in an editorial article in the *Philadelphia Medical Times* of October 16, 1886. Dr. Bumm points out the fact that the frequency of the mammary abscess is so much greater during the periods of functional activity of the glands, that it may be practically regarded as a disease of lactation. He refers cases of this affection, as it occurs in lying-in and nursing women, and occasionally also during pregnancy, to two groups, differing in causation as well as in their course and termination: 1, Simple parenchymatous (non-infectious), and 2, phlegmonous (infectious) mastitis. 1. Simple or non-infectious mastitis is due to the accumulation and retention of the newly formed secretion, and differs in degree only from that physiological fulness and tension which are felt in the breasts upon the second or third day after parturition. The mammæ, being but poorly supplied with intrinsic contractile elements, and wholly lacking the influence of extrinsic muscles, are less favorably arranged than the other glands of the body for the discharge of their secretions. They are dependent upon the aid of the suckling or, in its absence, of the breast-pump. If this aid be deficient, the retention which follows may cause local and general disturbances that are, especially in women of irritable, nervous organization, of some moment. The temperature may reach 102.8° to 104° F.; the breast is full, hard, and painful; red streaks extending in the direction of the axilla may indicate inflammation of the lymphatics. But the tendency after massage and suction is to dispersion and resolution, and only exceptionally is there necessity for evacuation by an incision through the skin. Even then the discharge is not pus, but milk in process of inspissation and disintegration of the globules, and, with the rare exceptions, it is free from bacteria. Here we have the familiar "weed" of the old nurses. 2. But in phlegmonous or infective mastitis we have a very different and much more troublesome affection to deal with. The line of separation between the two conditions is sharply defined. In fact, they have nothing in common, except the same anatomical seat, nor can there be any question as to the development of the graver out of the milder malady. Phlegmonous mastitis occurs more than twice as frequently in primiparæ as in multiparæ; much more frequently in women who are nursing than in those who are not. It begins, in by far the greater number of cases, in the course of the first month after accouchement; lesions of the nipple usually precede it; and, finally, a part only of the breast is commonly implicated at first, and that part is usually the undermost, or the under and outer part. Errors in diet, colds, worry, mechanical irritation, are, singly or together, quite incapable of causing this form of inflammation. It is due to the presence of specific pyogenic microbes. These cocci are found, sometimes arranged in clusters (staphylococci), sometimes in chains (streptococci), and are to be distinguished from other microbes of similar form by the peculiar appearance of their pure culture and by their active growth, while the energy with which they take up and retain aniline dyes renders their study in the tissues comparatively easy. The distribution of these organisms is so wide and abundant that their contact with the nipples is almost unavoidable. Any want of the most thorough cleanliness, any abrasion, maceration, or loss of epithelium, opens the way for the infection of the deeper structures of the breasts. And it is here that the long-recognized relation between lesions of the nipple and phlegmon of the breast finds its explanation. The disproportionate frequency of the latter affection in primiparæ is also made clear when we consider their greater obvious liability to nipple-lesions. The invasion may be subcutaneous, and, by way of the lymph-vessels, deeply into the interstitial connective tissue of the gland, or much more commonly it is by way of the milk-ducts directly into the parenchyma. Infection once set up, milk-retention, by widening the ways of access to the deeper parts, favors the extension of the pyogenic inflammation. The positive knowledge of the etiology and true pathology of phlegmonous mastitis gained by bacteriological studies has less bearing perhaps upon the treatment, which must still be conducted in accordance with accepted surgical procedures, than upon prophylaxis. The hardening of the surface of the nipples by daily bathing with cold water and gentle frictions during the later months of pregnancy, and their systematic bathing after nursing, long advised by cautious midwives, have now more than a mere empirical basis. To avoid all maceration, and guard them by vaseline or oil, while yet sound, and to heal without delay each fissure or abrasion so soon as it appears, are measures no longer to be lightly neglected. "Sore" or "cracked" nipples are troublesome enough in themselves: in the light of their relation to "gathered breast" they acquire a new and serious importance.

An Overdose of Cocaine.—Grave symptoms due to acute intoxication from the hypodermatic use of cocaine have not hitherto been frequently observed. Dr. Ramsden places on record, in the *Australian Medical Gazette*, the following case: B. C—— had been suffering from neuralgia caused by a defective tooth. It was decided to extract the offending tooth. This was found to be impracticable and an injection of cocaine (ten per cent. solution) was then given. The patient found immediate relief, lasting a number of hours. Dr. Ramsden then continues as follows: "Next day, the pain being very severe, he sent to his chemist for a similar solution, and had three minims injected, but without the desired effect; he returned it to the chemist and asked him "to make it stronger," which he did, making it twenty per cent. He brought this to me, but omitted to tell me that the solution was double the strength of that which I had used. He told me that three minims had not given him the relief that he had experienced from mine; I therefore gave him four minims of what I believed to be a ten per cent. solution, and within five minutes he became restless and inclined to vomit; he then began to feel a sensation of pins and needles in the left hand and arm, which rapidly extended to the right side. This was speedily followed by contraction and rigidlty of the fingers, arms, and legs; there was also a tendency to opisthotonus. His pulse became extremely rapid and feeble, his face livid, and the muscles of his mouth and cheeks strongly contracted. His respirations were short and convulsive, his feet and hands very shortly became cold, and a profuse perspiration broke out on his head and face. I first gave him half a tumbler of brandy, followed at short intervals by drachm doses of spiritus ammoniæ aromatici, and applied strong mustard over the cardiac region, and used friction to the upper and lower extremities; at the same time I let him inhale a few drops of chloroform to try and check the spasmodic contractions. After continuing these remedies for nearly an hour the pulse began to improve, the color to return to the face, and the rigidity of the muscles lessened, but returned again immediately I stopped the friction. At the end of two hours he improved more rapidly, but felt somewhat drowsy, and it was not until about four or five hours that all the symptoms had subsided. On questioning him afterward regarding his sensations, he told me that although he was unable to speak coherently he knew all that was passing, and it was not until he felt the abdominal muscles becoming rigid that he felt anxious, for then he thought he was dying, and a sensation of suffocation came over him."

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ARSENIC IN SKIN DISEASES.

IN July last the editor of the *Journal of Cutaneous and Venereal Diseases*, through the pages of his own and other medical journals, requested information from physicians in relation to the general practice of employing arsenic in skin diseases, its superior value to other remedies in this class of affections, its ill effects, the preparations of the drug preferred, the doses employed, etc.

In response to these inquiries about seventy communications were received. The information contained in many of them was so meagre and indefinite as to be practically valueless. Many of the correspondents were non-committal, or expressed themselves in such general terms that their real opinions upon the points specified were largely conjectural. An analysis of the letters in which the answers were for the most part categorical, and contained definitely expressed views, based upon personal experience, shows the following result :

In answer to the question, "Are you in the habit of employing arsenic *generally* in the treatment of diseases of the skin?" in over sixty per cent. the answer was "Yes," in some cases qualified by the terms "largely," "continuously," "almost exclusively," in "all scaly diseases," etc. In two or three cases it was emphasized, one correspondent declaring that he used arsenic in all cutaneous diseases non-syphilitic in origin ; another, still more enthusiastic, proclaims that his practice is to give arsenic "*not only generally*," "*but invariably in every case.*" Only ten correspondents give an unqualified "*No*" to the question. A number state that they formerly used it extensively, but now have little faith in it.

From the answers to the second question, "In what forms of skin disease have you found arsenic of superior value to other remedies?" it would appear that the superior virtues of this drug shine forth most brilliantly in a large range of skin affections. The diseases enumerated are alopecia simplex, alopecia areata, acne, atrophy of nails, erythema, eczema papulosum and squamosum, psoriasis, pityriasis capitis, crusta lactea, lichen agrius, lichen ruber, urticaria acute and chronic, furuncolous, herpes zoster, pemphigus, purpura, vitiligo, strophulus, prurigo, impetigo, herpes, scabies, ambustio, gelatio, various syphilodermata, and certain other diseases not recognized in the nomenclature adopted by the New York Dermatological Society. Others, instead of particularizing diseases, extol its superior value in "all scaly diseases," "in all chronic cutaneous troubles ;" another "in anæmias and morbid conditions of the cutaneous glands ;" still another, in all cases where there is exudation, with infiltration into the cutis vera. The homœopathic proclivities of one correspondent are disclosed in the statement that "arsenic is of superior value in all diseases indicated by the similarity of the symptoms." One correspondent somewhat scornfully repudiates the idea of a comparative estimate of the value of arsenic with other drugs. He says: "I cannot compare it with other drugs, as I never use anything but arsenic."

The third question, "What ill effects, if any, have you observed from its use?" is passed over in silence by many of the correspondents. Eighteen declare they have seen none; nineteen have observed nausea, stomachal and conjunctival troubles. Many testify that arsenic frequently aggravates cutaneous inflammation.

One correspondent states that of 197 cases treated by arsenic, there was a rebellious eruption in ten per cent. ; in twenty per cent. it produced puffiness of the face and a dryness of the fauces. In one case it produced urticaria; in another erythema; in three it aggravated eczema.

To the fourth question, "What preparation of the drug do you prefer, and in what doses do you employ it?" the answers would indicate that there is a pretty general uniformity of practice in the employment of Fowler's solution—dose, one to twenty drachms three times a day. Some prefer Donovan's solution (same doses), arseniate of sodium; others arsenious acid, one-sixtieth to one-sixth grain, iodide of arsenic, bromide of arsenic, etc.

As an illustration of the variety of preparations open to the choice of the ambitious arsenicalist, I quote here the arsenical armamentarium of one correspondent : "The preparations I use are arseniate of potash, arseniate of soda, arseniate of ammonia, arseniate of quinine, Fowler's solution, Donovan's solution, De Valangin's solution, iodide of arsenic," etc.

In submitting an analysis of these communications, which embody for the most part the results of the experience of general practitioners, we are aware that there may be a question as to their practical utility. There are many circumstances, unnecessary to detail here, which detract from their positive value as a contribution to our knowledge of the subject. They certainly seem to sustain the proposition enunciated by Dr. Fox, that it is the practice of many physicians to give arsenic in nearly any case of skin disease, the truth of which assumption was challenged by some of the members of the Dermatological society at the informal discussion at its June meeting. They also establish the fact that many physicians, who formerly employed arsenic generally or indiscriminately in skin diseases, have lost faith in the drug, and now employ it only in a limited range of diseases. From this it may not be unfair to draw the conclusion that, in proportion to the widening of our knowledge and the broadening of our experience, the use of arsenic is restricted in the treatment of skin diseases.

Another point of interest is the fact that the incidental effects of the drug upon the skin occur in a notable proportion of all cases in which it is used. Quite a number of correspondents refer to its effect of increasing

cutaneous inflammation, and the production of various forms of eruptive disturbance.

The experience of Dr. Faithful, of Australia, upon this point may be quoted entire. He observed intense itching all over the body, coming on principally when the patients get into bed, with dryness of the skin and furfuraceous desquamation. In one case, herpes preputialis, which always made its appearance after giving arsenic for a few days, minim doses of Fowler's solution or liq. arsenici hydrochlorici (Br. Ph.) producing it almost as rapidly as five-minim doses given three times a day. In another case a papular eruption about the face attended with a decided amount of pruritus. The papules varied in size from a pin-point to that of a No. 4 shot, were discrete, and were more or less scaly upon the summit. The eruption disappeared after a few days upon the discontinuance of the drug, and was followed by furfuraceous desquamation of the parts affected.

PNEUMONIA AND PNEUMOCOCCI.

The science of bacteriology is yet in its infancy, and though enthusiasts are not wanting who claim that specific microbes have been discovered for nearly every disease; from cholera to bromidrosis, it can hardly be said that the specificity of any micro-organism, with the possible exception of the tubercle bacillus, has been established with absolute certainty. Some investigator will find a certain species of microbe in every case of a certain disease, and may even be able to produce apparently the same disease by inoculations of pure cultures of this microbe. He then proclaims to the world that he has discovered the specific micro-organism of this disease, and perhaps busies himself in a search after some substance which will kill the micro-organism without at the same time destroying its host. But soon another investigator appears who has found some other microbe in the same disease, and is equally certain that this is the true microbe of the disease, and that the other investigator was mistaken.

Even the pneumococcus of Friedlander, if we may trust some recent experiments of Drs. Palamidessi and Modigliano, reported in the *Rivista Internazionale di Medicina e Chirurgia* for November, 1886, is not constant in its relations of cause or accompaniment of pneumonia. These investigators have examined the sputa and the pulmonary tissue in numerous cases of pneumonia occurring in Pisa during the winter of 1885–86, and have found a micro-organism, it is true, but not the so-called pneumococcus. The microbe found by them differed in all its characteristics from the pneumococcus described by Friedlander, yet in experiments upon animals with pure cultures they were able to excite a disease possessing all the pathological appearances of pneumonia. There was always a fibrinous exudation at the seat of the injection, and the tissues, when examined later, showed an abundant infiltration with the identical micro-organisms.

They conclude, as a result of these experiments, that:

1. There may be cases of pleurisy and of pneumonia in which the diplococcus described by Friedlander is absent.

2. These cases of pleurisy and pneumonia are produced by another variety of micrococcus.

3. This micrococcus differs wholly from those forms hitherto found in these diseases.

It would therefore seem that Friedlander was mistaken, or Palamidessi and Modigliano were mistaken; or that there are varieties of pneumonia which cannot be distinguished from each other clinically; or, finally, that the specific microbe of pneumonia, if any exist, has not yet been discovered. But perhaps it is the safest to assume that bacteriology has not yet attained the level of a certain science.

THE SIGNIFICANCE OF ABSENCE OF HYDROCHLORIC ACID IN THE DIAGNOSIS OF GASTRIC DISORDERS.

Of late years several writers, chiefly in Germany, have called attention to the frequent absence of free hydrochloric acid in the contents of the stomach in carcinoma of that organ, and some have even maintained that such absence is pathognomonic of that affection. Van den Velden was among the first to note this sign, and he was also inclined to attribute to it greater diagnostic significance than were later workers in the same field. He believed that it was symptomatic not only of cancer of the stomach but of cancer in general, and asserted that it was possible to determine whether any given tumor were benign or not by the presence or absence of free hydrochloric acid in the gastric secretions. Schiller, Seemann, Kredel, Riegel, Hübner, and others have come to the same conclusions as regards carcinoma of the stomach, though their researches have shown that the absence of free hydrochloric acid is by no means constant in cancer of other organs, and, indeed, Hübner ventured in one case of cancer of the peritoneum to exclude disease of the stomach, because he found hydrochloric acid present in the contents of that organ. Riegel also asserts that the presence of this acid is sufficient evidence of the non-existence of carcinoma of the stomach, and that if, on repeated examinations, its absence is definitely determined the diagnosis of cancer may be made with safety.

These results, however, are by no means confirmed by other observers. Ewald found hydrochloric acid in the contents of the stomach, in 13 out of 23 cases of cancer of this organ, though in a later series of 7 cases he found free acid present only once, and that in a doubtful case. Golding Bird found a large amount in the fluid vomited in a case of scirrhus of the pylorus, although later in the disease the acid nearly disappeared.

Dr. Luigi Sansoni has recently made a number of observations in this direction (*Rivista Clinica*, No. 10, 1886), the results of which are not devoid of interest. He examined the contents of the stomach in four cases of cancer at different periods, before and after the ingestion of food, and was unable at any time to find any traces of free hydrochloric acid. He made in all 86 analyses of the gastric secretions in 35 individuals, and noticed the curious fact that in men hydrochloric acid was always present, except in those suffering from carcinoma, while in women it was frequently absent. Of 61 analyses made in 27 women, hydrochloric acid was absent fifty times. Of these analyses, the larger number

(36) were in hysterical women, and only once was free acid found, and then only in very small quantity. He thought that this absence might justly be attributed to nervous disturbances, and instanced in support of this view the alterations in other secretions, such as the sweat, urine, saliva, etc., as often observed in hysterical women. The absence of free acid in other, non-hysterical, women might be attributed to the sedentary lives which they lead. By reason of the small amount of exercise which they take, the food remains longer in the stomach, and the albuminous solutions, peptones, etc., seize upon the acid, so that it is no longer free and fails to give the characteristic reactions.

As a result of his observations the author concludes that a chemical analysis of the contents of the stomach is often of great value in the diagnosis of gastric disorders, and that, while the absence of free hydrochloric acid is by no means pathognomonic of carcinoma of the stomach, still less of cancer of other organs, it is, nevertheless, taken in connection with other symptoms, a sign of much importance and one which goes far to establish the diagnosis of cancer in doubtful cases.

FATTY HEART.

Probably no disease sounds by name to the laity more terrible than fatty heart. That it is a well-recognized clinical condition, no one doubts. That physicians use the expression somewhat carelessly, is none the less true. It is possible for a person to have a fatty condition of the cardiac muscle and yet completely recover, as far as we can judge from his subsequent history. The expression —fatty heart—is one which should not be used carelessly by medical attendants. Often patients get wrong and distorted ideas of their own maladies, and are thrown into a condition of despair and anxiety, from which they might easily have been free.

In a recent issue of the *Edinburgh Medical Review*, Dr. Milner Fothergill makes a sensible protest against the indiscriminate use of the term under discussion, and shows conclusively how a process, generally pathological, may be, under certain conditions, almost normal, and far from conveying an inference of permanent structural damage. In the uterus of the puerperal woman the process of fatty degeneration is the one by which the organ is restored to its normal state. After a continued fever the heart itself shows evidence of fatty changes, but they are only temporary. With the return of health these cardiac changes disappear, and the normal tonicity of the organ is restored. So also in anæmia, similar changes result. The heart-walls are weakened and the valvular orifices relaxed. There results a temporary incompetence at the valves, and another cause of murmurs is added to that of the watery condition of the blood. A proper course of tonic treatment removes all this. Repeated hemorrhages induce the same condition, which is produced also artificially in animals by repeated venesection.

All these facts go to show that the condition of fatty heart is not necessarily an incurable or positively dangerous one. This latter element must be determined by the causative factors. Patients are told they have fatty heart, and this statement they often regard as their death-warrant. They live, however, to disprove the prognosis of their advisers. If there are other signs of cardiac trouble—changes in vessel-walls, evidences of imperfect circulatory changes, and so on—then the prognosis is grave indeed. But we should not apply the term "fatty heart" indiscriminately, with its general clinical significance, to all those conditions where there may be but slight cardiac changes.

THE HISTORY OF MASSAGE.

A recent work has for its title the "History of Massage." Its author is Dr. Hünerfauth, of Homberg. Its salient features have been rendered accessible to English readers by a contribution to the *Nineteenth Century* from the pen of a woman—Lady John Manners. We learn that the word "massage" comes from a Greek word, meaning to rub, or more directly from an Arabic term "mass," that is, to press softly. There is trustworthy evidence to show that the process was known to the ancients, and was practised by them as a therapeutic measure. It has long formed a part of the hygienic gymnastics of the natives of India. "Before the Indians begin their exercises, they cower on the earth and by turns rub each other with the mud from the delta of the Ganges when they can obtain it. All the muscles of their bodies are pressed and kneaded. When Indians are unwell, they frequently employ a cure called 'chamboning;' the whole of the patient's body is gently kneaded, beginning with the upper extremities, and descending to the feet."

Records of travellers show that it is practised in nearly all the islands of the Indian and Pacific Oceans. At the Sandwich Islands it is known as Lomi-Lomi, and the operators are usually old women. A massage treatment is the highest honor a host can extend to his guest, or receive from him. It is sometimes the custom for the natives, when greatly fatigued, to lie flat on the ground and allow little children with feet bared to walk over their backs.

In the older classical nations, where bodily perfection was such a high aim, the application of the principles of massage was made the chief feature in all physical exercises. Passing through the history of the earlier centuries of the present era, we find that in 1708 Hoffman laid the foundations of the present gymnastic exercises of the German schools. Half a century later Tronchin, at Paris, made a great reputation by his prescribing massage exercises. About 1805 Peter Ling established in Sweden the basis of the present Swedish "movement cures," which constitute one of the most popular forms of massage. Various mechanical appliances are used in the latter system. These appliances our author, Dr. Hünerfauth, regards as injurious because too violent.

But it is only of late years that this new-old remedy has been reduced to a system. Now its benefits are universally acknowledged. Its limitations are fully recognized. Lady Manners, in her interesting article, makes the pertinent suggestion that the practice of massage would afford an outlet for many unemployed women. It is true that the general principles of the practice are included in our training-school courses. But many women might become successful manipulators

who would not be qualified for professional nursing. In these days, when so much is being said and written about employment for women, the suggestion is certainly worthy of remembrance. Physical strength is a first requisite, and hence the number of applicants for this new service would limit itself. The establishment of an institution for the systematic treatment of massage might not be a bad idea.

A SURGEON'S SUICIDE AND THE DOSE OF COCAINE.

NOTHING more tragic, and yet interesting in its details, has occurred in the medical world of late than the suicide of Professor Kolomnin. We have already referred to the main facts, but the whole sad history has been recently laid before the St. Petersburg Society of Medical Practitioners, by Professor Botkin, a personal friend of the deceased. It seems that a young woman, aged twenty-three, was sent to Professor Kolomnin, and found to have a large ulcer of the rectum, which was diagnosticated to be of tuberculous nature. He decided to scrape and cauterize the lesion, and to use cocaine anæsthesia during the operation. The details are given by Professor Botkin as follows:

"In order to produce anæsthesia he had fifty grammes of a five per cent. solution of hydrochlorate of cocaine prepared; of this thirty grammes were brought into use, containing exactly twenty-four Russian grains of the salt, or twenty-three English grains [the Russian grain is exactly one-sixteenth of a gramme], six grains being injected at a time into the rectum. After the third of these injections it was found on examination that the part was still sensitive. A speculum was then introduced, the ulcer dabbed with a dry sponge, and then the fourth injection given, making twenty-four grains in all. After this the parts were tolerably anæsthetic. The ulcer was scraped, and a tampon saturated with oil inserted. The pulse was then accelerated. During the operation the patient groaned, so that even the twenty-four grains had not produced complete anæsthesia.

"After the operation Sergei Petrovich (Kolomnin) went round his ward, and in three-quarters of an hour a message was sent to him that the patient was very low. He found the pulse very weak, the face and hands cyanotic, and the respiration labored. He considered that she was in a toxic state, and used every means to bring her round, Professor Sushchinski being also invited to a consultation. Faradization, artificial respiration, hypodermatic injection of ether, administration of ammonia, tracheotomy for the inhalation of oxygen, stimulating and nutrient enemata—all were tried, but without success. Sergei Petrovich (Kolomnin) had no doubt that death was due to cocaine. To what extent was he to be blamed for introducing so large a dose as twenty-four grains into the body? Some time before the operation he asked Professor Sushchinski about the dose of cocaine, and he told him that he considered two grains as the maximum. He, however, collected a number of special papers on the subject in which some thirty cases of cocaine anæsthesia were reported where from six to eighty, and even ninety, grains had been administered. Most of them were cases of lithotripsy. Of course he knew that the bladder, when healthy, cannot absorb such a quantity of cocaine, but some cases of diseased bladder were mentioned where there must have been absorption. Finally, Dieulafoy had performed an operation similar to Kolomnin's, introducing into the rectum forty-eight grains all at once, with complete success, and this served as a guide. He, however, observed additional precautions, employing only half the quantity, and introducing it in divided doses. How far was he to blame? He certainly put too much faith in Dieulafoy's case, but anyone else might have done the same. . . . It is difficult to account for the French surgeon's success. It is indeed possible that, as his operation was performed at a time when cocaine was dearer than gold itself, being two shillings a grain, it may have been adulterated, and therefore the proper effect was not produced. At all events, whatever blame is due to Sergei Petrovich is greatly lessened by the records in medical literature. He himself, besides, said that he was not to blame regarding the operation, but only with reference to his therapeutics. 'I blame myself,' he said, 'most of all for making an incorrect diagnosis; the diagnosis of tubercle was not confirmed. I ought not to have operated at all, and the patient would have been still living. In spite of my not being to blame, I cannot help feeling at times that I killed her.'"

Professor Botkin thinks that Kolomnin was not in his right mind when he killed himself. He had always been a very reserved man, having no intimates, and confining himself entirely to his scientific work. This characteristic was increasing yearly. He was very strict, both with others and himself; very sensitive, no doubt morbidly so.

His use of so large an amount of cocaine was, no doubt, an error of judgment, and his attempt to use cocaine in an operation about the rectum and anus, a locality so difficult to make anæsthetic, was, no doubt, another mistake.

The experience, though so sad, may not be without its lesson. Are there not other surgeons who could report very serious if not fatal results from the injudiciously or ignorantly using too large a dose of cocaine?

BERI-BERI IN NEW YORK.

SEVERAL cases of beri-beri have been observed recently in New York. They were brought to the city on a vessel from San Francisco, nearly all the crew being attacked with the disease, and several dying. Most of the survivors were in a crippled state, and three were taken to Bellevue Hospital, where two died. Unfortunately the disease was not recognized at first, and no examination of the nerves, or the blood, and no culture-experiments were made.

Beri-beri shows itself in a dry, a wet, and mixed forms, and is sometimes acute, but oftener subacute or chronic in its course.

The cases recently brought to the city were of the wet form and chronic in character.

Drs. Cornelissen and Sugenoya, the one a Danish, the other a Japanese physician, living in Java, have shown that the micro-organism which causes beri-beri is very

similar to the anthrax bacillus. It is colored with fuchsin or gentian violet, and easily seen. It is found in the blood, muscles, nerves, and serous fluids.

THE DEATH OF THE LATE GENERAL LOGAN.

The case of the late General Logan appears to be one of those rare ones in which acute rheumatism causes a rapid and fatal issue. On December 12th Dr. J. H. Baxter, of Washington, D. C., was called to see him, and found him suffering from acute rheumatism, involving the right wrist. He improved until the 17th, when he had a relapse, the hips, ankles, feet, and both wrists becoming involved. Brain symptoms also appeared at this time. Though there was some temporary improvement on the 21st and 22d, the symptoms on the whole became gradually more severe, the intervals of full consciousness shorter, until early on the morning of December 26th, when he became comatose. He died twelve hours later.

The cerebral symptoms were those of congestion of the brain.

Acute rheumatism is so rarely a cause of death that some complication is expected, and almost always found, in fatal cases. When death does occur it is, as a rule, with cerebral symptoms, as was the case with Senator Logan. Such symptoms are much more liable to develop in persons whose nervous system has been subjected to tremendous strains, as well as to the toxic effects of narcotics and stimulants.

No doubt the exhausting political and literary labors of the deceased had made it possible for the rheumatic poison to attack and paralyze his nervous centres, thus bringing to a fatal issue a disease that in ninety-seven per cent. of cases is perfectly free from danger to life.

MEDICAL SECTS AND CLINICAL INSTRUCTION IN PUBLIC HOSPITALS.

An interesting article with the foregoing title appeared in a recent number of the *Boston Medical and Surgical Journal*. The homœopathists of that city petitioned the managers of the City Hospital for equal privileges in that institution with the regulars. The trustees considered the request with great fairness, and deliberated long and carefully before making an answer. Circulars were sent out to all institutions where physicians and surgeons of both schools were supposed to be on the attending staff, to learn the practical workings of this arrangement in other places. This dual arrangement was found to exist in only two institutions, so far as answers were received. And in these two instances it was by no means satisfactory. Thereupon the trustees replied to the petitioners that the granting of the request would necessitate radical changes in the management of the hospital.

Three possible plans suggested themselves. Homœopathic practitioners might be added to the attending staff with a full share in all the latter's rights and privileges. Certain wards in the present buildings might be placed under the control of the petitioners, or new wards might be constructed for them. The trustees were not empowered to make such a radical change in management, as the adoption of these latter plans would necessitate. The petitioners were, therefore, courteously referred to the proper authorities, namely the city council.

In regard to clinical instruction, it was decided that the attending surgeons might operate before the students in the amphitheatre on certain days, and that all physicians and all matriculants of one year's standing, at a legally established medical college, might be admitted. This rule was held to apply to female students. The operator might, if he chose, request the withdrawal of students of either sex in certain cases requiring exposure. No male visiting students were to be allowed to witness any operations on female patients requiring exposure of the genitalia. Students, not exceeding twenty in number, might accompany a member of the staff in his daily rounds.

These resolutions are sensible and discreet. Here, in New York, however, the matter seems to have settled itself in substantially the same way without the formality of trustees' decision. We may be pardoned for saying that our own hospitals are more freely thrown open to students and practitioners than seems to be the case in our sister city. Certainly more freedom is allowed the recent graduates, who generally compose the resident staff. Anyone who wishes to attend surgical clinics is not required to show a certificate of matriculation or of professional standing. We have never heard of any abuse of these privileges. In regard to operations on the female genitals, we are even more liberal than our neighbors, for students are regularly admitted by sections to the operative clinics at the Woman's Hospital, and other institutions as well, and everything is conducted with the utmost decorum. This whole subject bears directly, we think, upon the much-discussed question of higher medical education. This is to be brought about, not only by requiring a higher grade of scholarship, but also by giving students greater practical advantages. We are happy to observe that the position from our hospitals in this respect is such a liberal one.

PEPTONURIA.

The term peptonuria has not yet gained a place in text-books, and its clinical significance or practical importance has not yet been satisfactorily defined. Clinicians and urinologists, however, are steadily accumulating data regarding the subject, and it will not be long before dogmatic teachers will have to introduce it into their courses. Frerichs in 1851, and Mahle in 1852, first noticed that peptone, or, as the latter then called it, albuminon, is not infrequently found in the urine. Frerichs found it in a case of acute yellow atrophy of the liver; later Gerhardt and Schultzen and Ries found it in acute phosphorous poisoning, and in other conditions attended with acute destruction of the liver. Hoffmeister in 1879 showed that peptonuria occurs in other diseases, and especially in acute suppurative processes. Basing his reasoning on Hoffmeister's observations, Von Jaksch diagnosticated a rupture of the sac and suppuration in a case of ovarian tumor.

Fenomenon found peptone in the urine in cases of excessive formation of young cells along the genito-urinary tract.

Maixner, Bouchard, and Sée have found peptone in the urine in various gastro-intestinal disorders; *e.g.*, can-

cer, catarrh of the stomach and intestines, gastro-ectasis; also in typhoid fever, and in tuberculous and waxy degenerations of the intestines.

Wassermann and Hoffmeister have shown that peptonuria may occur, not only in acute phlegmasia, but in those cases in which there is a profuse serous exudation, as in acute pleurisy and pericarditis.

Jaksch found peptone in the urine in three out of seven cases of scurvy. Peptonuria occurs sometimes in cases of pernicious anæmia. It occurs not only in acute yellow atrophy of the liver, but in one-third of the cases of fatty enlargement of that organ. Senator and Petri say that there is always some peptone in albuminous urine. Poehl, however, denies this, and says that it is only found when albuminous urine is acid. The facts appear to be that in the severe albuminuria of nephritis there is no true peptonuria, but that it may occur in unlike types of albuminuria, and is then due to a transformation of the albumen (Bouchard). In other words, peptonuria accompanying albuminuria has no significance. In dilation of the stomach peptonuria has been observed in sixteen per cent. of (371) cases.

Peptone is a hydrated albumen, which normally, in passing from the gastro-intestinal tract, is mostly dehydrated, becoming the serum and albumen of the blood. Some of it appears to be taken up by the white blood-cells; and when these are multiplied or broken up, as in acute suppurative processes, or scorbutic and septic affections, the peptone is discharged, and passes away by the kidneys. In gastro-intestinal maladies, it is possible that the peptone is not all dehydrated in its passage into the blood, and hence peptone reaches that fluid and circulates with it.

Peptonuria is thus classed by Bouchard as gastro-enterogenous, hepatogenous, hæmatogenous, and phlegmasic. Looked at from another point of view (Ultzmann), it may be said to be present in three conditions: one a general one, including scurvy, typhoid, diphtheria, tertiary syphilis, pernicious anaemia, small-pox, cerebro-spinal fever, phosphorous poisoning, in which it seems to be connected with a general disorganization of leucocytes; the second, a local condition, including pleurisy, croupous pneumonia, pericarditis, acute inflammatory rheumatism, in which it is connected with absorption of exudates rich in leucocytes; the third, also a local condition, including gastro-intestinal diseases associated with imperfect absorption and dehydration of peptone.

It also occurs from local causes in nephritis and genito-urinary catarrh.

Peptonuria does not occur in large amount in the urine. The best of ordinary tests is, perhaps, prussic acid with heat and cold. Prussic acid precipitates peptones; but the fluid if heated clears up, and then is clouded with peptone again on immersion of the test-tube in cold water.

FREE DISPENSARY FOR DISEASES OF THE LITTLE TOE.

The Hospital publishes the full account of how a young medical man, rather anxious for something to do, and Mr. Jeremy Diddler, who is a sort of professional hospital organizer, devised a scheme for establishing "a dispensary for diseases of the little toe." The circular which Mr. Diddler concocts is such an excellent travesty on the current methods of "booming" a new charity that we publish it in full.

FREE DISPENSARY FOR DISEASES OF THE LITTLE TOE.

—— Street, —— Square.

In the year of 1883, 30,807 persons died of diseases of the little toe. This number (which includes cases of gangrene, pyæmia, phlebitis, and bunion) is exclusive of the very numerous deaths from wasting diseases and cancer of the digit. (See *Registrar-General's Report.*)

According to the above extract, diseases of the little toe have occasioned more deaths in England than diseases of any other organ, and a comparison of the returns for 1883 with those of the previous years shows that these diseases are increasing in a ratio greatly out of proportion to the increasing population.

Deaths from Diseases of the Little Toe.

Year.		Year.		Year.	
1874.....	13,846	1877.....	17,908	1880.....	21,915
1875.....	15,401	1878.....	19,634	1881.....	30,940
1876	15,009	1879.....	20,879	1882.....	24,802

1883.....30,807

Besides the above number of fatal cases, there is a still greater number of diseases of the little toe not terminating in death, but which give rise to extreme suffering and misery, especially among the poorer classes. *This is the only institution specially devoted to the treatment of diseases of the little toe*, and the fact that in less than two years upward of 10,560 patients (from all parts of England) have been relieved, proves that it is a necessity. The employment of the newly invented instrument (the little-toe scalpel) is a special feature in the institution, and by the aid of this instrument morbid conditions of the digit can be fully exposed and adequately treated. Further aid is required to meet the urgent demands caused by the daily increasing number of out-patients. It is likewise essential that a ward should be speedily opened for the reception of the more acute cases. *At least £1,000 is required to establish a ward containing six beds.* For this purpose the committee have determined to open a new subscription list. Those who desire to assist in this particular way will please notify that their subscriptions or donations are to go to the "ward fund." The benevolent are respectfully informed that the very existence of the institution will be jeopardized unless the funds are considerably augmented.

JEREMIAH DIDDLER, Secretary.

News of the Week.

THE PARIS ACADEMY OF MEDICINE ON THE ADULERATION OF WINE.—After a long and laborious discussion, the Académie de Médecine has finally delivered itself of something definite upon the above subject. Advising from a hygienic point of view, the academy declares: 1. That the *vinage* or alcoholization of wine by pure alcohol to the extent of two degrees may be permitted, but beyond this it should be absolutely forbidden. 2. The addition of alcohol is not only dangerous by its quantity and by the bad quality which is often used, but also because it leads to the practice of "watering," which is at the same time a fraud and an adulteration. 3. The so-called "higher" alcohols considerably increase the dangers of brandies and liqueurs, and it is reasonable to require that the spirits used for the fabrication of these products should be absolutely pure. 4. The academy calls the attention of the authorities to the necessity of restricting the number of retail drink-shops, and of putting into force the laws for the repression of drunkenness. It would appear that the addition of two degrees of alcohol is necessary for the preservation of certain wines of low strength.

DR. J. H. DOUGLAS has gone South for his health, and will spend his leisure in writing up the medical history of General Grant's case.

Singular Mortality among Miss Hoyt's Medical Experts in the Famous Jesse Hoyt Will Case.—Since Miss Mary Hoyt commenced the contest, in 1883, against the probate of her father's will, five of her medical experts have been placed *hors de combat* by death, and one by insanity. Dr. J. C. Hennan was the first to die; Dr. Frank Hamilton died last August; Dr. T. A. McBride died at sea the first of last September; and Dr. James A. Milne, of Oswego, died recently from an accident. Dr. Tausky has been an inmate of an insane asylum for about two years. The medical witnesses and experts on the side of the executors are all alive.

Mr. T. Bird.—We have received a note from our friend, Dr. J. A. Irwin, protesting against the paragraph in our recent issue referring to Mr. Bird. There was no intention on our part of casting any aspersions upon Mr. Bird, but we merely gave his professional titles and standing as a matter of news.

A Bill to Extirpate Contagious Diseases.—A bill has been introduced into the Senate and House, authorizing the appointment of a commission of three persons, to be charged with the duty of extirpating contagious diseases of animals in this country.

Suicide and Plumbing.—A citizen in St. Louis committed suicide because compelled by the city health department to make proper connections from his house with the sewer.

The Lady Medical seems to run to Nihilism in Russia, as she does to homœopathy in this country. A report says that eighteen female medical students have been expelled from St. Petersburg for taking part in a meeting which had been forbidden by the police. The female medical school has long been considered a nursery of Nihilists, and attempts have been made to close it altogether.

No Limit to the Students of Medicine.—The Vienna professorial body having been asked by the Minister of Education whether it would not be well to place a limit on the number of students of medicine received, has unanimously pronounced against the adoption of any rule of this kind.

Ophthalmoscopy will be Made more Easy, according to M. Giraud-Teulon, when the direct illumination of the fundus by an electric light fixed in the body of the mirror is used instead of reflected light. Dr. Teulon has devised an instrument for the purpose.

The Suprapubic Operation for Stone is the popular one in Europe now.

Abscess of the Brain from Tympanic Suppuration correctly Diagnosticated, Localized, and Successfully Operated Upon.—The first case of this kind on record has recently been reported by Dr. W. R. Gowers and Mr. Arthur E. Barker, in the *British Medical Journal* of December 11th.

Dr. William C. Wile, of Newtown, Conn., editor of the *New England Medical Monthly*, has been elected lecturer on nervous diseases and electro-therapeutics in the faculty of the Medico-Chirurgical College of Philadelphia.

Fernandez on a New Anti-rabies Inoculation.—Dr. Fernandez, of Barcelona, claims to have discovered a new vaccine to preserve men and animals from the contagion of rabies. He has collected a great number of observations, showing that dogs bitten accidentally by vipers are never affected by rabies, either spontaneously or when bitten by affected animals. He has made certain direct experiments, inoculating dogs with a small quantity of the viper's poison. After inoculation the animals were ill for four or five days, with symptoms of slight fever, prostration, and more or less profound somnolence. He maintains that the animals thus operated on are protected from rabies, and that neither when inoculated with the saliva, nor when bitten by affected animals, do they contract the disease.

Preventive Inoculation against Phthisis.—M. Vittorio Cavagius has reported to the Académie des Sciences, November 29th, that a two per cent. solution of carbolic acid destroys the infective power of tuberculous virus, that a weaker solution (1.25 per cent.) enfeebles or attenuates it. By inoculation of rabbits and guinea-pigs first with inert tuberculous matter, then with attenuated, he found that they were not made tuberculous even when pure tuberculous matter was injected.

Deaths from Phthisis.—Dr. Thomas J. Mays, from a study of the vital statistics of several large cities, finds that on the whole the deaths from consumption are less now than formerly, and that the present ratio does not differ greatly in the eastern cities in question. Thus, for Boston it is 15.50 per cent. of the total mortality; in New York (in 1875), 14.09; in Philadelphia, 14.00, in Providence, R. I., 15.43, and in Baltimore, 15.55. In 1885 the ratio was 14.5. Dr. Mays makes a plea for the establishment of a special hospital for consumptives.

Cyanates and Uræmia.—Dr. Walter S. Haines, of Chicago, takes exception to the theory of Dr. Peters concerning the production of uræmic convulsions. The theory is based, he says, upon the misconception that cyanates and cyanides are similar in their physiological action, whereas they are widely separated in this as they are in their chemical and physical properties. He quotes Rabuteau ("Eléments de Toxicologie et de Médecine Légale," p. 77), who concludes, as the results of his own experiments with cyanates: 1. That these salts are not dangerous, at least in the doses in which they were given. 2. That they do not remain unchanged in the organism, but are transformed into carbonates, so that the urine becomes alkaline when they are administered to dogs by the stomach in doses of upward of twenty-three grains. Injected into the veins of a dog, fifteen grains of pure cyanate of sodium produced no effect on the health of the animal. "As the cyanates, therefore, appear to be quite inert, their production and retention in the system could not in the slightest degree explain uræmia and uræmic convulsions, and consequently Dr. Peters' theory, I fear, must fall to the ground along with most, if not all, of the other explanations that have been advanced to account for this condition."

Dr. Josef Moeller, of Vienna, has been appointed by the Emperor professor of pharmacology in the University of Innsbruck.

Reports of Societies.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, December 6, 1886.

JOHN A. WYETH, M.D., PRESIDENT, IN THE CHAIR.

MALFORMATION OF THE HEART—RUDIMENTARY LUNG.

DR. FRANK FERGUSON, from the Committee on Microscopy, submitted the following report on specimens presented by Dr. J. Lewis Smith, November 10, 1886:

"The material consists of the heart and lungs, a portion of the œsophagus, and trachea.

"The trachea, which appears a trifle small, terminates in a right and left bronchus. The left bronchus, whose size corresponds with the size of the trachea, leads into the left lung. The left lung is greatly distended with blood and air. It measures from apex to base three and one-fourth inches.

"From hilum to free border it measures two and one-half inches. The right bronchus at its origin is the same size as the left, but it soon terminates in a number of very small bronchial tubes which lead into a rudimentary lung, which measures three-fourths of an inch in length, from hilum to free border one-half inch, and is one-eighth of an inch in thickness.

"The œsophagus passes down in its normal relation to the trachea, and is closely related to, and covers in the right lung posteriorly. Anteriorly the right lung is adherent to the pericardium, and covered in by the wall of the right auricle between the ascending and descending venæ cavæ.

"Air has entered into the rudimentary lung, and it is well supplied with blood-vessels.

"Its alveolar walls are thick, and composed of yellow elastic and white fibrous tissue, with numerous spindle-form cells.

"The vascular supply of the rudimentary lung is not traced.

"The heart has one auricle and two ventricles. The right ventricle, with a very thin wall, has a capacity of one-half drachm. A well-developed pulmonary artery extends from it, and enters by one large single branch into the hilum of the right lung. The pulmonary valve is normal in location and structure.

"The right ventricle communicates with the left by an opening, which is not valvular in character, one-eighth of an inch in diameter, and one-half inch below the pulmonary valve. The left ventricle has a capacity of about five drachms. The aorta, arising from the ventricle in the usual location, is moderately dilated. The aortic valve is normal in location and in structure, with a capacity to admit a cylinder one-quarter of an inch in diameter.

"The ductus arteriosus is open, and admits a probe one-sixteenth of an inch in diameter.

"The mitral valve admits a cylinder one-half inch in diameter. It is composed of one continuous curtain of fibrous tissue, from the free edge of which very numerous tendinous cords extend to the fleshy columns of the wall of the left ventricle. The left ventricular wall is considerably hypertrophied.

"The auricle has a capacity of one and one-half ounce.

"There is no attempt at the formation of a septum. The left auricular appendix extends forward in the normal location, and measures one and one-quarter inch in length and one-quarter of an inch in diameter.

"The right auricular appendix is enormously distended, and filled with a firm, dark blood-clot. It is egg-shaped, one and one-half inch in length and one inch in its greatest diameter. The wall of the auricle, everywhere, is thin.

"The pulmonary veins of the left lung converge to form one vein, which empties into the auricle.

"Under the microscope the fibres of the muscular wall of both the ventricles and auricle are seen normal in appearance."

FIBROMA OF THE LOWER JAW.

Dr. Ferguson also reported on the specimen presented, November 24, 1886, by Dr. Wesley M. Carpenter, in behalf of a candidate.

"The tumor is continuous with the periosteum of the jaw-bone anteriorly. There is considerable bone-destruction on either side of the symphysis. The incisors are crowded to either side. Tumor is labulated. It measures antero-posteriorly one and one-half inch; laterally, one and one-quarter; and vertically, three-quarters of an inch.

"Histologically it is a pure fibroma."

DR. T. MITCHELL PRUDDEN presented a beautiful specimen, consisting of the

ARTERIES OF THE ENTIRE BRAIN,

obtained by maceration and washing. Nearly all the arteries had been affected by chronic endarteritis, and the same lesion was present in the aorta. The heart, kidneys, liver, and lungs were normal.

Dr. Prudden also presented sets of cultivations which illustrated

THE BACILLI OF TYPHOID FEVER.

The *first* consisted of plate and tube cultivations from the fæces of a patient, thirty years of age, in the third week of the fever. The characteristic growth, however, can be best seen upon potato, where the bacilli form an almost invisible film.

The *second* were tube cultivations from the spleen of a typhoid-fever patient.

The *third* were tubes containing bacilli from specimens obtained in Koch's laboratory.

From a diagnostic point of view cultivations of this kind had considerable value; they were often successful, though not always, and it was not difficult to accomplish.

PAROVARIAN FIBRO-SARCOMA.

DR. E. M. CUSHIER presented a specimen with the following history: The tumor was removed four weeks ago, and presented some interesting and unusual features. The patient was thirty-seven years of age, had been married nine years, but had never been pregnant. Her general health was excellent until September, 1885, when she lifted a heavy weight. This effort strained her and gave rise to considerable pain, which passed away within two weeks, and she noticed then, for the first time, that there was a tumor in her abdomen. It grew quite rapidly, and in the following January she was so much distended that she could not get about. During January and February she was very feeble and extremely uncomfortable, but in March her size began to diminish, and this continued in April, and to such an extent that for three or four months she was so comfortable that she thought she was entirely rid of her abdominal tumor. When, however, Dr. Cushier saw the patient in November, the abdomen was very much distended, and presented the appearances of encysted dropsy. Nothing was felt except this fluctuating tumor. The diagnosis was possible ovarian cyst, probable parovarian cyst, because of the sudden disappearance at one time of the tumor.

The operation was performed on November 2, 1886. As soon as the peritoneum was divided, one of the cysts ruptured, and another ruptured almost as soon as it was touched, and the fluid presented the appearance commonly seen in the fluid of parovarian cysts. There was a pedicular attachment to the broad ligament. All the adhesions could be easily separated, except one, that necessitated the removal of a portion of the omentum. A portion of the ovary was left in the stump of the pedicle. The pedicle was so long that it allowed the tumor to go high

up in the abdomen, and it was found to contain a number of tubes, four of which had been opened, and all terminated by a blind extremity within the growth; they admitted an ordinary probe. They were regarded as enormously hypertrophied Wolffian ducts, which would make the tumor parovarian. Histologically it was a fibro-sarcoma, spindle-celled.

The pedicle was ligated with silk and dropped. The patient made a good recovery.

Dr. Putnam-Jacobi said that she examined the tumor with Dr. Cushier, and reached the conclusion that had been expressed concerning the tubes in the pedicle representing the remains of Rosenmüller's body, although she had not read of a case in which such hypertrophy had existed. She also referred to cases, reported by Dr. Goodell, in which abdominal cysts had ruptured and the patients recovered temporarily, and then they reappeared.

Dr. Ira. J. Van Gieson presented several excellent

STAINED SECTIONS OF THE SPINAL CORD

(stained according to Weigert's method) which showed some of the less frequent lesions, as solitary tubercle, acute polio-myelitis, etc.

Dr. Robert Newman presented a

TUMOR REMOVED FROM THE ROOF OF THE MOUTH

of a woman fifty-one years old. It had grown gradually during the last twenty years; more rapidly during the last five months. It was so hard that he was unable to remove it with Jarvis' snare, and used an écraseur. By the aid of cocaine the operation was painless, and there were no unpleasant after-effects. Only last week he had a case in which injection of twenty-five minims of a four per cent. solution of cocaine into the bladder was suddenly followed by an intense pain in the left temple, extending around the top of the head, with a feeling as if the whole top of the head had been blown off; the pain had lasted for ten days, with exacerbations.

The wound healed kindly in the present case, and was covered with mucous membrane. The specimen was referred to the Committee on Microscopy.

The Society then went into executive session.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN SURGERY.

Stated Meeting, December 13, 1886.

Stephen Smith, M.D., Chairman; A. B. Judson, M.D., Secretary.

REMOVAL OF THE APPENDIX VERMIFORMIS BY ABDOMINAL SECTION.

Dr. J. D. Bryant reported a case of abdominal section for perforation of the appendix vermiformis. The patient was a man forty-five years old. Death occurred from exhaustion twelve hours after the operation. The patient was seen by Dr. Bryant about sixty hours after the first symptom, which was a slight diarrhœa. This was followed by pain, constipation, tympanites, nausea, and occasional vomiting. The pain was always in the epigastric region, and had been relieved at first by a cathartic. The vomited matter had not been characteristic.

The abdominal walls were found fully distended, without localized tenderness. The hepatic dulness was normal. There were no intestinal sounds or appreciable vermicular movements. Palpation and rectal exploration failed to assist in making a diagnosis. The temperature was 102° F., the pulse 108. It was clear that there was more or less general peritonitis, the result of either obstruction or perforation. The operation was performed with such antiseptic precautions as the circumstances allowed. No obstruction was found. The intestines and the caput coli were extremely distended. These parts, together with the sigmoid flexure, which extended across to the right iliac fossa, where the signs of inflammation were more intense than elsewhere, were deeply congested. Three perforations were found at the base of the appendix vermiformis, which was two and one half inches long, covered entirely with peritoneum, darkly congested, standing nearly erect between the intestinal folds, and presenting somewhat the outline of a small distended leech. It was tied at its base, below the perforations, and removed with the scissors. The abdominal wound was closed and dressed antiseptically, and a drainage-tube was inserted.

Dr. Jacobi referred to the redundancy of the sigmoid flexure in this case. It was a projection into adult life of a condition invariably found in the new-born. The moderate degree of the pain, its location, and its temporary cessation, rendered it not surprising that the diagnosis had not been made by the attending physician for a day or two.

Dr. Stephen Smith said that in his experience with such cases the pain had been, as a rule, relieved temporarily by a cathartic.

Dr. Bryant said that he had found great difficulty in keeping the intestines in place during the operation; a difficulty which, in another case, he would be prepared to lessen by releasing the gas with a trocar, closing the small intestinal wound with a suture.

CHRONIC HYDROCEPHALUS TREATED WITH INJECTIONS OF MORTON'S FLUID.

Dr. Robert T. Morris reported a case of hydrocephalus which was benefited by repeated aspiration and injection of iodine. The disease was of four months' duration. in a girl aged ten months, when he drew two and a half ounces of fluid from the left side of the anterior fontanelle, repeating the operation twice at weekly intervals, and then injecting half a drachm of Morton's fluid. Treatment was thus continued, with slight variations, for seven weeks, with manifest improvement, shown in the deportment of the child and in the arrest of the arachnoid dropsy. When twenty-two months old, however, the child suddenly died with rapidly recurring convulsions.

GALL-STONES ENCYSTED IN THE ABDOMINAL CAVITY—LAPAROTOMY—RECOVERY.

Dr. Morris also reported a case in which he had removed a tumor, supposed before the operation to be of pelvic origin, but which proved to be a fibrinous mass attached to the abdominal wall, and containing a collection of gall-stones, the sequel of attacks of hepatic colic thirteen years before. For several years there had been no indications of hepatic derangement. The patient was a woman, fifty-two years of age, who for a year had suffered repeated attacks of circumscribed peritonitis.

On examination the left ovary and tube, and the uterus, were found to be normal, but the right ovary and tube could not be found. There was a tumor in the middle line of the abdominal wall, with a fistula of three weeks' duration, discharging pus and a clear viscid fluid, about three inches below the navel. A probe would not follow the fistula. The tumor was immovable in the anterior abdominal wall, irregular in outline, painless on pressure, and not causing pain except during an attack of peritonitis.

The abdomen was opened in the middle line, and the right ovary and tube were found enveloped in a fibrinous deposit and drawn upward, but apparently in no way connected with the tumor. Exploration through the enlarged incision showed that the tumor had no close connection except with the abdominal wall and the intestines, which latter were firmly attached as a result of peritonitis. An incision showed the tumor to be a peculiar fibrous mass, honey-combed with little pockets containing brownish pus. It was decided to ablate the tumor; and a portion of the abdominal wall, three by two and

one-half inches, including the mass, was removed, an hour being occupied in dissecting away matted intestines and separating matted loops from each other. The last cut, at the upper end of the mass, opened a cavity in which were found six gall-stones; two of them each an inch in diameter, a third the size of a chestnut, and three not larger than kernels of corn. There was neither pus nor bile in this cavity. The little finger, following the line of a small closed canal along the site of the obliterated gall bladder and cystic duct, entered the common duct. On its withdrawal a flow of bile soiled the peritoneum in the vicinity. The margins of the canal were dissected up and sutured to the skin.

The wound, extending from the sternum to the pubes, was closed with difficulty. The skin and subcutaneous fat could be united, but the muscular margins remained three inches apart at one point. The most elaborate antiseptic rules were observed at every stage of the operation and dressing. There was very little shock. Primary union took place. The patient sat up in bed eleven days after the operation, and seventeen days later walked a quarter of a mile to the office of her physician. There is now, six months after the operation, apparently no danger from hernia and the patient is well, although a small opening still allows a scanty passage of bile to the skin.

The Section then adjourned.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE CONTROVERSY ON LAPAROTOMY—SANITARY REGISTRATION OF DWELLINGS—THE LATE DR. NORMAN CHEVERS—A TIMID PATIENT—A NEW JOURNAL.

LONDON, December 14, 1886.

THE fierceness of the controversy which has been aroused in connection with the Liverpool Hospital for Women will probably be considerably quenched, now that the report of the Committee of Investigation has been published. Great interest has centred round the subject in London as well as in Liverpool. Candid readers of the report must confess, not only that the hospital is decidedly, though not severely, condemned, but that on the evidence brought before them the committee could have come to no other conclusion. They say that, in their opinion, "Sufficient care and discrimination have not been exercised in the selection of cases for operation, and that in many instances the gravity of the symptoms was not such as to have justified an abdominal section of any kind." They point out that the mortality after operations at the hospital for the removal of the uterine appendages has been between eight and nine per cent., and that, if the operation is performed for comparatively trivial affections, such a mortality constitutes a serious objection to the operation. That it has been, in their opinion, so performed is evidenced by the fact that they point out that one of the staff (Dr. Imlach) performed it eighty-five times during the year, whereas his two colleagues only performed it twenty-one times between them. They record their conviction that in some cases loss of sexual feelings and also loss of physical energy have followed the operation. In twelve per cent. of the cases hernia has followed. As a means of treating pelvic hæmatocele, the operation is unreservedly condemned. The committee conclude by recommending: (1) More frequent consultations among members of the staff; (2) that more information be given to patients before operating on them; (3) that patients be retained for a longer period in the hospital after operation, in view of the large number of cases of hernia occurring, and also because many patients discharged as cured had been obliged to remain in bed at their own homes for considerable periods; and (4) that in future only diseases of the female genito-urinary organs should be treated in the hospital, such operations as those for rupture, cancer of the breast, removal of the spleen, and opening the bowels for rectal cancer, being relegated to a general hospital.

At a recent meeting of the Society of Medical Officers of Health a discussion took place on the question of the sanitary registration of dwellings. Mr. Mark Judge, a well-known architect, read a paper on the subject in which he very carefully and fully treated it. Mr. Judge is of opinion that every house should be carefully inspected, and that if its sanitary arrangements are defective they should be rectified. A bill on the subject is shortly to be presented to Parliament, though whether it will pass is more than doubtful. Anything to curtail the liberty of the subject is extremely obnoxious to the average Englishman, as witness the opposition to *compulsory* vaccination, even among educated persons who know its value. Even Mr. Ernest Hart, when a candidate to represent an East End constituency in Parliament, intimated that he would vote for the abolition of *compulsory* vaccination. The views advocated by Mr. Judge are therefore not likely to become law without a struggle.

The death of Dr. Norman Chevers is announced. Dr. Chevers was a distinguished Indian medical officer, and was for many years Professor of Medicine at the Calcutta Medical College. He retired from the Indian medical service in 1876, and for a few years filled the post of warden to the London Hospital Medical College. His contributions to literature have been numerous. Of these, perhaps the most noteworthy and important was his "Manual of Medical Jurisprudence for India," for which he received a valuable prize a few years ago.

Probably some of your readers are familiar with the story of the ancient spinster who, on asking a rising laryngologist how far he could see, was considerably discomposed by his prompt reply, "Far enough, madam, to see that you are sitting on a cane-bottomed chair." A companion story to the above was told to me a few days since, and, as it has the advantage of being true, I will give it for the amusement of your readers. In the out-patient department of one of the largest metropolitan hospitals a boy was recently being ophthalmoscopically examined. One of the by-standers observed him to be trembling from head to foot, and, when it came to his turn to have a look at the fundus, asked the boy kindly what ailed him. "Oh, sir," said the boy, "I'm afraid to think anything." "Well," said his examiner, "I don't see much brains. I don't think you could think much if you tried to," a rejoinder which apparently consoled the boy not a little.

The mention of laryngology reminds me that a new venture in journalism is just announced. It is to be entitled *The Journal of Laryngology and Rhinology*. Dr. Morell Mackenzie is to be the editor, and he is to be assisted by thirteen *collaborateurs*, among whom, however, I notice the names of only two Englishmen, both young men who are just beginning the study of the subject, and who joined the staff of the Throat Hospital after the disruption of its experienced staff last spring.

OUR PARIS LETTER.

(From our Special Correspondent.)

INTELLECTUAL DIFFERENCES IN SAME ETHICAL GROUP—THE HEALTH OF PARIS FOR 1885—THE EXISTENCE OF MAN IN EUROPE AT THE TERTIARY PERIOD—ANTIFEBRINE—SELF-IMPOSED STARVATION.

PARIS, December 10, 1886.

IN a paper on the intellectual differences in the same ethnical group, read by Dr. Fauvelle at the last meeting of the Association Française for the Advancement of Science, the author reminded the audience that the in-

telligence is the manifestation of nervous influx into the gray cortical layers of the brain, manifestation especially characterized by memory and the will. He gave a succinct description of the structure of the cerebral centre. He then divided the intellectual differences into *subjective*—that is to say, depending on the organization itself—and *objective*, resulting from the influence of media, and particularly from education and instruction. After having enumerated these differences, Dr. Fauvelle sought to explain how, in the midst of so many variations, the human cerebral type not only maintains itself, but progresses in a continued manner. He finds the explanation in that in every society the rôle of individuals changes at each generation, and that thus all the variations, all progress, of the cerebral organ are propagated and generalized by heredity. He then concludes that, as democracy prevents the formation of castes, and consequently the maintenance of the same functions in the same families, it is the social form the most hygienic for the intellectual centre. The idea is rather far-fetched, and must be accepted with some reserve.

M. Bertillon, Director of the Statistical Department at the Prefecture of the Seine, lately published a statistical report on the health of Paris for 1885, in which the author draws a comparison between the capital and some of the chief provincial towns. According to the report, Marseilles is the most unhealthy. For instance, typhoid fever is fatal in London and Berlin to 17 inhabitants in 100,000, 14 at Vienna, 19 at Brussels, 63 at Paris; whereas at Marseilles it carries off 149 per 100,000. Small-pox is also more prevalent at Marseilles than at any other city, the deaths having numbered 91 for 100,000 inhabitants. At Paris there were only 12 deaths, and at Berlin 5, for the same proportion. In the Prussian capital vaccination is compulsory; but while it is favored in this respect, it is less so for other affections. For instance, there were 140 deaths from croup for 100.000 inhabitants, while Paris counted only 80, and Marseilles 98. In London the figure for 1885 was 22 deaths from croup for 100,000 inhabitants. Scarlet fever appears to spare Paris more than any other capital. In this city there were 7 victims to the disease for 100,000 inhabitants, but in London there were 17, 31 at Berlin, 10 at Vienna, 28 at Brussels. Among the French cities Marseilles heads the list for insalubrity, for scarlet fever there were 23 deaths for 100,000 inhabitants. M. Bertillon also gave a report of the funerals that took place in 1885. At Paris, for 100 funerals, 28 were purely civil—that is, without any religious ceremony—and the proportion was greater among the poorer classes than among the rich and well-to-do. As regards criminality, or moral hygiene, as it is termed, there were 41,152 individuals arrested in Paris, of whom 35.078 were men and 6,074 women. Among the men were counted 2,469 foreigners. About a third of the arrests among the men (13,549) were for vagabondage or for mendicity. Of the number of males arrested for vagabondage or other causes, 3,218 were under twenty-five years of age.

At a recent meeting of the Academy of Sciences, M. de Quatrefages, the celebrated ethnologist, read a paper in which he endeavored to prove the incontestable existence of man in Europe at the tertiary period. He observed that the extension of man of the quaternary period in all the regions, and up to Patagonia, suffices to render evident his existence anteriorly. The author adds that if tertiary man (the cannstadt race) is indiscutable in Europe, nothing till now indicates his existence in America. He concludes with the belief that the primary cradle of humanity was the extreme north of Asia.

Antifebrine, the chemical name of which is acetanilide, has recently been introduced into therapeutics as a febrifuge. It is a crystallized substance, whitish, little soluble in water, but easily so in alcohol. It has scarcely any appreciable taste. Dr. Dujardin-Beaumetz, who reported on this new medicament at a recent meeting of the Société de Thérapeutique of Paris, represented it as an antithermic in doses of from twenty-five to fifty centigrammes; it lowers the temperature and provokes abundant perspiration. In larger doses, like carbolic acid, it determines cyanosis. In phthisical subjects it has not produced any favorable results. The members present almost unanimously condemned antifebrine as a dangerous antipyretic, and preferred having recourse to antipyrine, which, at least, does not offer any danger, provided it is not administered in excessive doses.

I have just seen Merlatti, one of the Italians in Paris who are passing through the ordeal of self-imposed starvation. From what I had read in the public press, I had expected to find a man in bed in a semi-cadaverous condition; but to my surprise, I saw a young man a little over twenty, moving about with as much agility as would have a man of his age under ordinary circumstances. He was being photographed in various postures, which is in itself a very fatiguing undertaking. During my visit I cannot say that I was favorably impressed with the genuineness of the experiment; for although the man was certainly emaciated, he was not so to the extent that one would have expected on this his forty-fifth day of fasting, as he is supposed to live on nothing but cold water. His weight, according to the report of the doctor in attendance, is forty-four kilogrammes five hundred grammes, his original weight having been six kilogrammes two hundred grammes. He is not being watched so closely as he used to be, as since the thirtieth day of his fasting, when he was advised to discontinue the ordeal, owing to alarming symptoms having set in, he is, according to his express wish and on his own responsibility, allowed to complete the fifty days agreed upon. As for Succi, the other Italian, who has reached the tenth day of fasting, he is doing well, and even appears to be fattening on his starvation—which he attributes to the peculiar virtues of the liquor that he pretends to have discovered, and which he takes. This liquor is said to have the property, not only of assuaging the pangs of hunger, but of preventing the too rapid waste of the tissues of the economy.

Owing to the retirement of Professors Gavarret, Hardy, and Sappey, Professor Potain succeeds to the chair of clinical medicine at the Charity Hospital; Professor Peter takes M. Potain's place at the Necker Hospital. The chair of anatomy and that of medical pathology are vacant. The former is likely to be filled by Dr. Farabeuf, and the latter by Dr. Dieulafoy. The chair of medical physics is virtually filled up by Dr. Gariel, who has been acting for Professor Gavarret for some time.

An international exhibition of hygienic apparatus is to be opened at Lyons on the 15th inst., and will be continued to February 7, 1887.

NOTES OF A VISIT TO PASTEUR'S LABORATORY.

To the Editor of The Medical Record.

Sir: This morning I had the pleasure of visiting the institute where at present Professor Pasteur practises the inoculations for the prevention of hydrophobia in persons bitten by animals suffering with rabies. The modest building containing the various rooms is a low, one-storied structure, temporary in character, and is situated in the court-yard of one of the schools and laboratories for physical research, No. 14 Rue Vaquelin (the school or Latin quarter), an elevated portion of the city on the south side of the Seine, not far from the Panthéon. The rooms include registering, waiting, operating, a small surgery, and a private apartment for M. Pasteur. Visitors are requested (by a printed notice) to procure introductions and cards of admission through their respective ministers or consular officers—if foreigners—but admittance is not denied to medical men sending their cards, and the stranger will meet M. Pasteur and his assistants

and be shown every courtesy and attention. Upon this morning I saw the patients come into the inoculating-room in batches of about fifteen. Led or moved up to the principal assistant, they were singly and quickly treated to the hypodermatic injection of the all-important protective fluid with a simple plunge of the charged instrument, usually into the lumbar region or loins. There was no delay, the patients being prepared and with the clothing removed at the part indicated. They were operated upon in rapid succession, the syringe being charged freshly each time by the assistant whose duty it is to prepare and conserve the inoculating material. The syringe is apparently the ordinary glass and white-metal instrument, and it is introduced in an oblique direction nearly up to the cylinder, and then rather quickly discharged. The patients come and go, for the most part, quite unconcerned. The new patients, naturally, are in some trepidation, while the children commonly set up a howl and struggle somewhat. The parents usually accompany children—the mother often holding her child—friends or relatives are with the adults, and in many cases the local physicians are in attendance. M. Pasteur stands near by, seeing all things done, and constantly speaks cheering words, or soothingly pats a child. Great attention is given to the eliciting of accurate information and details regarding each case, and official documents from physicians, veterinary surgeons, and from those in authority whence patients come, are always required. All possible sources of error are carefully inquired into, and the truth in each case is sought for in a most systematic and painstaking manner.

Besides the people necessary for registering and attending to minor details about the establishment, M. Pasteur had on this occasion four assistants: two attending to the giving of the injections, the same one always using the instrument; one fluid conserver, who charged the instrument (plunging the needle into the cup containing it through a cover of filtering-paper); and one who examined patients—their wounds, condition of health, etc.

On this morning there were treated eighty patients, ten being present for the first time. They were from all countries and of all conditions of life: the gentleman, the laborer, soldiers, sailors, peasants, some colored people, and men, women, and children. There were a few instances of two and three members of the same family. The inoculations, so far as I could learn, produce no points of irritation, and they are almost without exception made into the region of the loins.

It is a most impressive and wonderful scene, for one cannot but reflect upon the doubts and opposing views still coming from many able men, and upon the possibilities of disaster yet before many of these unfortunate people, in view of the frequent long period of latency of the disease; and there rises up in the mind some of the results predicted by M. Pasteur's opponents, that these inoculations *produce* rabies in subjects otherwise free of the terrible virus. The spectacle is in these respects extraordinary, for there undoubtedly still exists a doubt as to the utility of these inoculations, and in some minds a belief that people are perishing from them. Exaggerated reports regarding the fate of some of the patients are frequently met with in some of the French medical journals, but they are nearly always unfounded.

Up to August 1, 1886, the number of patients (Frenchmen) subjected to prophylactic treatment was 1,500, of whom only 10 died. At least eighty per cent. of these cases received bites from undoubtedly rabid animals; so that 973 individuals were bitten. It is computed that 155 of this number would have died if they had been left to themselves, and yet there had been but ten deaths. Dr. Chautemps hence claims that M. Pasteur had saved the lives of 145 of his countrymen.[1]

From what has gone before, and from M. Pasteur's labors and statistics, assuming that the margin of error in his great work is small, and this it seems must be admitted, there is hardly room for doubt that a great number of people are being saved from a horrible death, and that the mortality of those bitten—authenticated cases—has been most remarkably diminished. Therefore, for the present, the evidence is accumulating in favor of M. Pasteur, and we must believe in the practical life-saving value of his discovery.

In the court of the École Normale, in the Rue d'Ulm, No. 46, there is a series of ground-floor buildings, the rooms of which are given up to another part of the work—experimental physiological work, inoculation of rabbits, glass-working in tubes, bulbs, etc.; there are also cases containing monkeys, rabbits, and chemical apparatus. I here witnessed dissections of the spinal cord and the trepanning of rabbits in connection with the inoculations. The operator in trepanning the skull first places the animal prone on a stout piece of board—somewhat longer and wider than itself—ties its legs with cords passing through holes near the edges, and places a cover of filtering paper saturated with chloroform over the nose and head. In a few moments the animal is anæsthetized; he then clips off the hair from the vertex with curved scissors, makes an incision one and one-half inch long, and readily exposes the bone directly at the crucial ridge. He then inserts a pair of spring retractors to keep the wound well open, and while an assistant steadies the head by the hands on the animal's nose and occiput, he applies the trephine, and with a few turns the guard flange of the instrument has come down on the surface of the external table, and the little circlet of bone (three-sixteenths of an inch in diameter) is readily removed with a small hook. The virus to be injected is then sent under the edge of, and away from, the opening into the brain, superficially, and just under the meninges, with a well-curved fine hypodermic needle. If there is any detritus or blood, it is mopped up with a little filtering paper moistened with an aseptic lotion. Two stitches bring the wound together, it is again mopped with the aseptic lotion, and the operation is completed—the animal regaining consciousness as it is being replaced in the basket. There is no brutality, the animal is not conscious of any pain, and the operation is completed in from three to five minutes. The rabbit furnishing the material had been dissected and the cord exposed but a short time before, and the work had been most beautifully done.

SOME RECENT OPPONENTS OF M. PASTEUR.

Within a few months M. von Frische, of Vienna, working under the auspices of a society of ladies of that city, has published his investigations on the value of the anti-rabic inoculations of M. Pasteur, and, as far as they go, they seem to be more or less contradictory to those of Pasteur. Upon this M. Drasche, Professor of the Faculty at Vienna, discusses unfavorably the work of Von Frische, in that it compares poorly with M. Pasteur's work in method, delicacy, and materials; that the number treated (eleven) was small on which to base such conclusions; and that the virus used was not sufficiently attenuated, in all probability. In other words, Professor Drasche refuses to believe that the work of Frische has any value concerning the question of the preventive treatment of hydrophobia by anti-rabic inoculation, and that he has not exactly followed the procedures of M. Pasteur.

The results published concerning the mortality among the patients of the Pasteur Institute at Odessa are reported as being "most deplorable."

In the *Revue Scientifique* for August 21, 1886, there is mentioned a Polish physician, le Docteur Prince Ignace Jagell, who since 1858 has been searching for means to combat hydrophobia. He refuses to admit that sufficient preventive virtue can follow from virus obtained from so inoffensive an animal as the rabbit (after M. Pasteur's method). He thinks that bites from rabid animals through the clothing are always incapable of transmit-

[1] Lecture at Sorbonne, October 10, 1886.

ting the virus, and he maintains that the deaths among M. Pasteur's patients are always from among those bitten in parts unprotected—true cases of hydrophobia from the bites of rabid animals. He also declares that he has treated eighty-eight cases of bites from rabid wolves and dogs, and all have been cured by the infusion of the bark of *Spirea filipenda;* twenty-six of these cases having been found in the first stage of hydrophobia when treatment was commenced.

The same remedy is also mentioned in recent numbers of German medical journals.

REMARKS IN CONCLUSION.

There are at present competent commissions laboriously attending all the steps in the Paris laboratory with a view to prove or disprove, as far as possible, the value or utility of anti-rabic inoculations for the prevention of hydrophobia. There is required only a proper interval of time for this, as the solution of all momentous questions have necessitated. In the meantime the works and speculations of single investigators elsewhere can amount to but very little. The final seal of approval or disapproval will be given at Paris and Berlin, for in no other countries does the state aid as much, nor are the laboratories so complete. In both France and Germany the government in all ways directly fosters and aids in the solution of such great public questions. Opposition and unfavorable criticism exist in all countries, much of it in exaggerated phraseology; and if one read or saw nothing else—much less, had no personal observation of affairs at the Paris laboratory—it is conceivable that from opposition it would be but a step to calling for violent interference with M. Pasteur. There is, however, incontestable truth in the science of preventive medicine, and more or less in M. Pasteur's theory of combating disease in man and animals, much as it may be obscured by the clouds and mists induced by the present defective methods of investigation. Long before Jenner, the Orientals and Chinese practised inoculations for the prevention and amelioration of disease, and now, in this nineteenth century, why not M. Pasteur with the attenuated anti-rabic germ, and a Koch with an equally disarmed bacillus?

In this direction medical science is now steadily advancing, clearing away the *doctrinaires* and mounting upon the higher plane of ascertained facts and truths of modern experimental research, yet continually being tested in the fires of adverse criticism. It is now the brain working more with the eye and hand, where formerly hair-splitting theorizing in the sea of clinical observations absorbed all the faculties of the leading men.

It is not disputed that putrefaction, fermentation, and the causes of other low forms of life are now well known, and that these but precede the more important and deeper studies known under the general term bacteriology. It is not necessary to mention here the list of disorders and diseases, local and general, occurring in the animal kingdom and in man, influenced and caused by bacteria wherein opposing argument has in great part ceased.

Aseptic surgery cannot be denied its superiority, whether it consists in absolute purity of surroundings and other natural means of attenuation and dispersion of germs, or in the paraphernalia of its strictest exponent; and it has not been my fortune to see elsewhere such general success with operations as I had the pleasure of witnessing recently in Paris, at the Hospital Tenon, under Dr. Championnière, and in Edinburgh under Dr. Cheyne. Recent surgery is eliminating the former well-known mortality from joint-operations, laparotomy in its general sense, and trepanning the skull, whilst diagnostic incisions are now recognized legitimate procedures.

The history of life and of disease in all nature is being accurately revealed in all its possible bearings, and the lessons of that knowledge are being utilized for the conservation of human existence. Applying to organic beings in apparent health attenuated virus, or disease-germs modified by culture, by inoculation or by any means whatsoever, to procure a protective influence, is a result arrived at by the present studies of M. Pasteur and men like him. Similar conclusions follow observations upon the well-known protective effects of acclimation, workmen in sewers inspiring polluted air constantly, etc.

In conclusion, it will not be out of place to mention here a very recent and most remarkable advance made in the power of the microscope, effected in Germany, with the support of the government. It consists in an improved lens, composed of a newly discovered quality of glass of great hardness, permanency, and freedom from color, and cut according to a new system of curvatures. At a late meeting of the Royal Society it was asserted that the general power of microscopes would be increased thirty per cent., consisting chiefly in greater achromatism of the objective.

CHARLES A. SIEGFRIED,
Surgeon, United States Navy.

SOME POINTS CONCERNING INTUBATION OF THE LARYNX.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Will you kindly allow me a communication, in order that, through your columns, I may answer the many questions which come to me through the mail regarding intubation of the larynx.

My paper before the Academy of Medicine was written for the audience, and not for print. I see, since its publication, how incomplete it was when it came to be read outside of New York.

I will try and answer the questions that have been written me, and anticipate one or two.

First, the tubes known as O'Dwyer's tubes for intubation of the larynx for the relief of laryngeal stenosis are, with latest modifications, made by and for sale by George Tiemann & Co., New York City. These tubes, five in number, are of different sizes, appropriate for children from infancy to twelve years of age. The remaining instruments of the set are inserting-instrument or handle, extractor, mouth-gag, and gauge. The price for the complete set is $35.

As to indications for operation. First, be sure of the diagnosis. Is the dyspnœa due to laryngeal stenosis? I have been called several times to insert the tube where the dyspnœa was marked, and yet not of laryngeal origin, and a tube would afford no relief.

To determine this point the chest must be examined. If the thorax expands and contracts freely, and air enters all parts of the lungs freely, the dyspnœa is not due to laryngeal obstruction. Recessions and diminished vesicular murmur over the lower posterior portions of the lungs argues that it is of laryngeal origin.

When shall the tube be inserted? When the laryngeal obstruction has advanced to such a degree that air no longer enters freely all parts of the lungs. Wait for cyanosis? By no means. Neither wait for this "danger-signal," nor till the patient is exhausted from labored respiration and restlessness and sleeplessness, nor till the lungs are injured from collapse and congestion. Ordinarily the course is as follows: Croupy cough, then croupy respiration, restlessness, and recessions, cyanosis. As soon as the entering air ceases to give low-pitched vesicular murmur, which in a child with accelerated respiration should be very distinct, it is time to insert the tube.

It is my experience that a narrowed larynx causes an increase in the frequency of respirations, and on inserting the tube and relieving this condition the respirations, at once become slower. They may fall from thirty-six to twenty-two immediately.

Each instrument-case should contain braided silk of such size as to run freely through the eyelet of the tube.

If the silk is twisted instead of braided it may fray out and become jammed in the eyelet. This should be cut eighteen or twenty-four inches long, passed through the eye to the middle of its length, and the two ends brought together. Some tie the two free ends together, but that is not necessary. When the obturator is pushed into the tube the thread should be made to lie in the groove of the obturator. When properly placed the thread is of service in wedging the tube upon the obturator, maintaining it in position.

When should the thread be removed? I remove it as soon as the child inspires once and shows the tube to be in position, and before removing the gag. It can do no harm to wait longer, but the thread may become entangled and drag out the tube. Waiting necessitates putting in the gag again, and this time the child will object. In withdrawing the thread pass the left index-finger into the larynx upon the head of the tube, and hold it from coming out, while with the other hand grasp one of the free ends of thread and so pull it away. Having removed the thread, as a last assurance press the head of the tube well down into the box of the larynx, and when all is done remove the gag. The shorter the time the jaws are pressed widely apart the less the exhaustion. From the time the child is in position and the gag well placed, the remaining manipulations need require no more than fifteen to twenty seconds.

Some of my correspondents have used chloroform, both in inserting and extracting. With the tendency to heart failure in diphtheria, I could not but feel this to be very hazardous and would by no means recommend it.

The position of the child as recommended in the paper cannot be too strongly urged. The tube and the handle when ready for insertion are at right angles to each other. So, too, the axis of the trachea and of the mouth should be at right angles. The child should be placed "as though it hung from the top of its head." The nurse should sit in a straight-backed, steady chair, hold herself straight upright, and grasp the child by the elbows, while she restrains the child's feet between her knees. In addition to this, an assistant should stand behind the nurse, place a hand on each side of the child's head and face, and hold it firmly. He cannot in the same grasp include the gag and hold it secure.

The modified mouth-gag of Dr. Denhard seems to me to be an improvement on that of Dr. O'Dwyer. The child by raising his shoulder may displace the latter, and to meet that difficulty Dr. Denhard has carried the levers straight back toward the ear instead of allowing the downward direction of the original gag.

The modified gag is made by Tiemann & Co., and must be specially mentioned, if desired, when ordering sets of instruments.

What medicine is to be given after the tube is in? Answer: Milk and whiskey. I have occasionally found my tubes well corroded when enthusiasts in bichloride treatment and advocates of iron have been hard to manage. Any rectal medication is without objection, and quinine suppositories are much used by Dr. O'Dwyer.

One correspondent states that he received a set of tubes, and before he could practise on a cadaver had a call to a croup case, and succeeded without difficulty in inserting the tube.

Yours truly,

W. P. NORTHRUP, M.D.

57 EAST SEVENTY-NINTH STREET, NEW YORK,
December 25, 1886.

URETHAN FOR THE INSANE.—Dr. Sighicelli has found urethan of service in certain forms of insanity, especially in mania. He ascertained also that while in most forms of mental trouble no additional effect was caused by an enlarged dose, in mania the intensity and duration of the sleep increased with the increase of dose. In dementia, idiotcy, hysteria, and epilepsy, the drug was of less service.

Army News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from December 19 to December 24, 1886.

FORWOOD, W. H., Major and Surgeon. Granted leave of absence for one month. S. O. 129, Department of Dakota, December 16, 1886.

LAUDERDALE, J. V., Captain and Assistant Surgeon. Ordered from Fort Concho to Fort Clark, Tex. S. O. 174, Department of Texas, December 16, 1886.

EVERTS, EDWARD, First Lieutenant and Assistant Surgeon. Ordered from Fort Grant to Fort Apache. S. O. 136, Department of Arizona, December 16, 1886.

MASON, CHARLES F., First Lieutenant and Assistant Surgeon. Ordered from Fort Huachuca to Fort McDowell. S. O. 136, Department of Arizona, December 16, 1886.

BANISTER, W. B., First Lieutenant and Assistant Surgeon. Ordered from Fort Wingate to Fort Lowell. S. O. 136, Department of Arizona, December 16, 1886.

DIETZ, W. D., First Lieutenant and Assistant Surgeon. Ordered from Fort Stanton to Fort Bayard. S. O. 136, Department of Arizona, December 16, 1886.

POLHEMUS, A. S., First Lieutenant and Assistant Surgeon. Ordered for duty as Post Surgeon at Fort Gaston, Cal., relieving. S. O. 123, Department of California, December 13, 1886.

RAYMOND, H. I., First Lieutenant and Assistant Surgeon. Ordered for duty at Angel Island, Cal. S. O. 123, Department of California, December 13, 1886.

ANDERSON, C. L. G., First Lieutenant and Assistant Surgeon. Assigned, temporarily, to duty at Whipple Barracks, Ariz. S. O. 132, Department of Arizona, December 7, 1886.

Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending December 25, 1886:

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	13	3
Scarlet fever	34	7
Cerebro-spinal meningitis	5	2
Measles	497	58
Diphtheria	123	47
Small-pox	0	0
Yellow fever	0	0

VERY EARLY VOTING.—Our fiery friend Daniel, in his *Texas Medical Journal*, shifts the heavy political responsibility of the following quotation on the *Nashville Journal of Medicine*, "For voting of infants, one grain of calomel to one ounce of lime-water; to this add one pint of pure water, and give a teaspoonful of the mixture every ten minutes."

THE LAY PRESS AND QUESTIONS OF PUBLIC HEALTH.—The *Sanitary Engineer*, speaking of the relation of the daily papers to the accomplishment of sanitary improvements, points out that progress in the improvement of health, the diminution of sickness, and the lengthening of life depends in part on the increase of human knowledge of the laws of physics, chemistry, and

biology, and in part on the diffusion among the people of the practical deductions from this knowledge. Sanitary legislation and improvements for any given community must be regulated very largely by the opinion of the majority of the taxpayers and voters in that community as to the necessity for them, and hence, to obtain action for securing a purer water-supply or a better system of sewage disposal, it is not sufficient that a few skilled engineers and physicians are satisfied of the need of the improvement, and of its practicability at a reasonable expense, but the people, from whose hands the funds are to come, must also be "educated up" to the requirements of the situation. This is, of course, a legitimate and an important mission for the public press. That it is often most worthily discharged is thankfully admitted. But that this responsibility is also liable to abuse is well pointed out by our contemporary. "The chief defect of newspaper sanitary literature, taken as a whole," it says, "is its tendency to exaggeration and sensationalism, and its liability to be dictated or inspired by a desire for an advertisement. The man who is interested in a patent filter is ready to furnish a column or two on the impurities of the water-supply, with, it may be, a few choice engravings representing strange forms which he tells the shuddering public are entomostraca, desmids, etc. He is careful not to explain that these organisms live in pure water—in fact, that they cannot live in water that is very impure. The man with a patent trap wants to arouse the people to a sense of the dangers of sewer-gas; the dairyman wants to explain the poisonous properties of oleomargarine; the man who failed to get the appointment of health inspector wants to show up the negligence of the health department, and each and all of them do the best they can to get some newspaper to publish their philanthropic essays. To those who know how much of this sort of matter is floating round in manuscript form in our large cities the wonder is, not that our newspapers should publish so much rubbish in the way of sanitary letters, etc., but that they should publish so little as they do, and when alarming stories alleging a dangerous condition of the Croton water appear in our daily papers it is safe to assume that the editor has been deceived, or the business department have inserted the matter as 'a reading notice' at so much a line."—*The Boston Medical and Surgical Journal*, October 7, 1886.

"Bumm on a Diplococcus" is the title of one of the papers contained in the report of the Würzburg Medical Society for 1885. The author, Dr. Bumm, found the diplococcus in the pus of a mammary abscess.

To Inspire Confidence.—A dentist in Mexico had a patient who was timid about having a tooth extracted. To show him that the operation amounted to nothing, the dentist called the boy who wielded the mallet and, telling him to open his mouth a minute, pulled at one of his teeth. The patient was not reassured, and the dentist lost his small boy.

Ether Spray in the Pains of Locomotor Ataxia.—Dr. Raison states that he has succeeded in completely controlling the pains of locomotor ataxia by means of ether spray directed against the most sensitive point and carried a short distance upward along the course of the nerve-trunk supplying the part. The application should be carried to the point of congelation of the skin, and its good effects are increased by at the same time directing a current of air from a bellows upon the parts to which the ether spray is applied.—*Journal de Médecine et de Chirurgie Pratiques.*

The Cosmetic Effect of Small-pox.—Dr. A. S. Deane, writing in the "Chinese Customs Medical Reports," says that when he was physician to a large fever hospital in Ireland, a young girl was admitted in the vesicular stage of semi-confluent variola. He was experimenting at the time on the various methods proposed for preventing pitting. The plan adopted in this particular instance was to cover the face with a paste of whiting mixed with carbolized oil, while the patient's hands were confined in a sort of strait-jacket. The result was eminently satisfactory. No scar remained anywhere, except on the point of the chin, where the friction of the bed-clothes continually rubbed away the application. Previous to her illness the girl's appearance was homely in the extreme, but she was discharged in possession of a dimple on her chin which lent her a bewitching air whenever she laughed, and from that time out she carefully cultivated a cheerful expression of countenance.

The Poor of New York.—The registration bureau of the Charity Organization Society records a list of 71,332 different families, or a total population of 285,000 individuals, involved in mendicancy or dependence.

Chian Turpentine in Cancer.—Dr. John Clay reports three more cases of cancer cured by Chian turpentine. Dr. G. W. F. Bury reports also a very striking case with a similar result. On the other hand, Dr. William Dale says that the drug was tried in the cancer wards of the Middlesex and of the W. Norfolk and Lynn Hospitals without result.

The Treatment of Asthma by Large Doses of Tincture of Lobelia is recommended by Dr. Nunes (*Bull. Gen. de Ther.*), who attributes failures with that drug to its use in too small amounts. Dr. N. gives ʒ ss. to ʒ j., combined with benzoate of ammonia. The following cases are alluded to in Nunes' communication: A man, fifty-six years of age, was suffering for a year from strong dyspnœa and coughing, interfering with his sleep. On auscultation whistling and bellows-sounds were heard. Heart and blood-vessels were normal. Nunes prescribed: ℞. Tinct. lobeliæ, f ʒ iv.; ammon. benz., ʒ iiss.; aquæ dest., f ʒ vii. M. S.—A tablespoonful every two hours. Later the quantity of lobelia was doubled. The patient recovered completely. A man twenty-four years of age suffered for three years from dyspnœa and cough. The vascular system was normal, but the liver was enlarged. The latter condition was removed by giving the patient: ℞. Calomel, gr. viii.; pulv. rad. rhei., sacchar., āā gr. vii.; S.—Take before retiring. Later the following was prescribed: ℞. Tinct. lobeliæ, f ʒ v.; ammon. benz., ʒ iii.; aquæ dest., f ʒ vii. M. S.—Tablespoonful every two hours. After three days, cough and dyspnœa had decreased. Nunes then ordered: ℞. Terpine, gtt. 15; mixt. gumm., f ʒ vii. S.—Tablespoonful hourly. As the condition of the patient grew worse, Nunes resorted to the dose of 1 f ʒ of lobelia in 7 f ʒ of water, as given to the first patient, whereupon the patient recovered. In two other cases, Nunes obtained the same favorable results by equally large doses of the tincture of lobelia.

An Irish Health Resort.—Surgeon-General Gordon writes in the *Medical Press* calling attention to Lisdoonvarna, in County Clare, Ireland, as a health resort. He says it is delightfully situated on high land exposed directly to the winds from the Atlantic Ocean. The wells are sulphurous and chalybeate, and the waters enjoy a high reputation in the neighborhood in the treatment of eczema and psoriasis, chronic rheumatism and gout, scrofula, chlorosis, and certain forms of dyspepsia.

Microbes in Urinary Calculi.—At the Paris Biological Society, M. Galippe stated that he had examined arthrophytes removed from a knee, and had observed microbes in them the same as he had detected in calculi removed from the bladder; he had isolated them and cultivated them. This investigator is therefore confirmed in his belief that the crystallizations found in the human economy develop through the agency of microbes.—*New Orleans Medical and Surgical Journal.*

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Original Articles.

THE CURE OF POTT'S DISEASE WITH RECESSION OF THE DEFORMITY.[1]

BY HENRY LING TAYLOR, M.D.,

NEW YORK.

A PROFOUND change in the prognosis of vertebral caries has been witnessed within a generation. In spite of the intelligent labors of Pott and his successors, the malady which bears his name was regarded, thirty years ago, as one of the most unpromising, if not hopeless, with which the surgeon had to deal.

It was thought to be the expression of a constitutional taint so vicious that its victims could scarcely hope to escape contractions, abscesses, paralysis, visceral degenerations, or general marasmus. A fatal issue was not believed to be doubtful for very many, while the unfortunate survivors would be obliged to carry through life the hideous mark of their disease. This unfavorable view was justified in the main by the natural history of the affection, and these unfortunates can still be observed in various stages of disintegration wherever they do not have the benefit of modern methods of treatment. The few cases of spontaneous cure with moderate deformity, especially when the disease is located in the lumbar region, and the more numerous examples of restoration to fair health after long-continued disease, and in spite of great deformity, emphasize these statements rather than impeach them.

The mechanical conditions presented by the locally softened or disintegrated column furnish a plain indication which has been generally recognized and acted upon by orthopædists. Modern methods of providing local rest and protection without confinement meet this indication more or less perfectly, and have considerably modified the prognosis. The more adequate of these methods, efficiently used, have proved so successful that we now regularly expect, with faithful home care and co-operation, and barring accidents, to check and heal the caries in all but the last stages, and to restore the patient to health and usefulness. Even in long-standing and complicated cases, often satisfactory, and sometimes brilliant results can be obtained. There are, indeed, very few cases where correct mechanical methods and painstaking attention will not effect a complete cure, and such exceptions will be found only, I believe, in the last stages of the disease or in constitutions vastly more depraved than those of our average subjects.

Admitting that the main object of treatment, the cure of the disease, can, with favoring conditions, usually be attained, how does the case stand with regard to the deformity, a question scarcely second in importance in the mind of the patient and his friends.

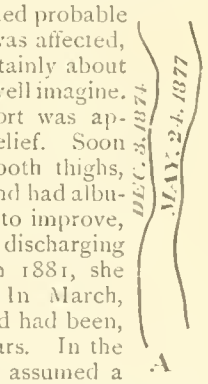
It is fortunate that the protective means employed to arrest the morbid process tends not only to prevent increase of deformity by checking the disintegration in the acute stages of the disease, and the yielding and compression of the new tissues which inevitably occur where protection is too soon discontinued, but that it can also be so used as to cause positive amelioration of the deformity in many cases, and absolute recession in a few. It can be made to develop whatever capacity of straightening there is in the compromised column.

The average ultimate result in Dr. C. Fayette Taylor's private practice, using his antero-posterior leverage supporting and protecting apparatus thoroughly and for a sufficient length of time, has been, under favoring conditions of attendance and home attention, the definitive arrest of the deformity at or near the point it had reached before such protection was furnished. A moderate amount of immediate straightening is not uncommon at the beginning of treatment, and this gain can frequently be maintained where home attention to the details of treatment is satisfactory. Compensatory curves above and below the seat of disease can often be modified by adaptations and adjustments of the pressure and leverage of the apparatus, and the figure may sometimes be notably improved in this way, even in apparently desperate cases.

There remains, however, a small class of cases where the deformity increases in spite of good care, and a larger class where, owing to too infrequent visits, which preclude those progressive and delicate modifications of detail which the varying indications of the disease demand, and which are so essential to proper support and to the best results, or to the lack of patient, intelligent, and painstaking home attention, there will be gradual, and, it may be, extensive increase of deformity.

It should be said, however, that owing to differences in constitution, or in the grade of the morbid process, many cases will do well under more or less unfavorable conditions. Such results may be thankfully accepted, but they cannot be counted on. It is also true that in cases of extraordinary severity in depraved constitutions the deformity can sometimes be arrested by exceptional attention and care, even where a fatal result cannot ultimately be averted.

This is shown in the case of a little girl who came to Dr. C. Fayette Taylor in December, 1874. She was then six years of age, and she had been taken ill four and a half years previously. During this time she had had severe gastralgia; an abscess had appeared in her right side four years before, and it was discharging at the time of examination. The patient's family history was bad. When first seen she was weak, pale, and emaciated; she suffered severely from gastric pains; she had been bedridden eight months, and there had been at times partial paralysis of the rectum and bladder; there was bilateral psoas and hamstring contraction, so that the heels touched the buttocks, and there were two marked projections, one from the fourth to seventh dorsal, and the other from the tenth dorsal to the second lumbar vertebra. It seemed probable that the entire spine below the neck was affected, and that suppuration was active—certainly about as unfavorable a subject as one could well imagine. The antero-posterior leverage support was applied at once with very marked relief. Soon after psoas abscesses appeared on both thighs, and the patient became anasarcous and had albuminous urine. She afterward began to improve, the abscesses alternately closing and discharging a little, until in 1878, and again in 1881, she walked for a time with crutches. In March, 1881, she was looking fat and well, and had been, for her, in excellent health for two years. In the spring of 1882, however, the patient assumed a waxy pallor, and was evidently failing rapidly. She died of exhaustion while in the country the following



[1] Read at the meeting of the Section on Orthopædic Surgery of the New York Academy of Medicine, held November 19, 1886.

July, undoubtedly with waxy viscera. The figures (A)[1] show the contour of the back before protective treatment was begun, December 3, 1874, and again on May 24, 1877.

It will be observed that in spite of the active and extensive suppuration going on, and the many unfavorable features of the case, no increase of deformity took place; on the contrary, both projections diminished considerably. To those who believe that the recumbent position will prevent deformity, I would state that this child sat up, crawled about the floor, and was taken out of doors before the last pattern was taken. There was no increase of deformity after this up to the time of her death.

Besides illustrating the fact that deformity may be arrested or prevented in a fatal case, we may infer from the one just cited that the progress of the curvature is not an accurate index, in all cases, of the state of the disease. We may see the disease getting better, or even well, while the deformity steadily increases: and we sometimes see the deformity arrested or reduced while the patient is really on the whole growing worse.

These statements regarding the prognosis of Pott's disease and its attendant deformity under mechanical treatment are the result of a study of these cases in the practice of Dr. C. Fayette Taylor and myself, and the cases cited, and to be cited, were treated according to the methods and principles advocated by him.

To sum up, our experience as to the deformity warrants us in expecting, on the average, to arrest its progress.

Before proceeding to the main object of this paper, the relation and discussion of certain exceptionally favorable, almost paradoxical, results, which have been observed and recorded from time to time in our practice, it seems necessary to say a few words regarding spinal mobility in Pott's disease. This is a large subject, worthy of separate and exhaustive treatment. I can only briefly indicate a few points.

In the irritative stages of the disease there is reflex muscular rigidity and consequent impairment of motion in the spinal column. When caries and ulceration take place the disks are compressed, and some of them disappear completely or in part, thus in addition organically limiting motion. True bony anchylosis is a much later and rarer event in Pott's disease, as well as in other joint diseases, than has usually been assumed to be the case. This is well shown by a study of the dorsal contours of a series of cases in all stages before and during suspension, such as will be found in Professor L. A. Sayre's report on the treatment of Pott's disease by suspension and the plaster bandage ("Transactions, American Medical Association," 1876), and in the work entitled "Spinal Disease and Spinal Curvature," published in 1877. It will be seen that the weight of the body during suspension produces a straightening that cannot well be wholly attributed to compensatory curves, and that presupposes motion through the diseased area in many even of the greatly deformed and long-standing cases, such as used always to be called anchylosed, and still are by many surgeons. Similar results can be seen after a voluntary effort to straighten, of which I show an example in these photographs.[2] In this instance the greatly deformed subject was able, while seated, to add voluntarily about an inch and a half to his height by simply making an effort to straighten up. Careful examinations by means of lead tracings taken under different conditions show motion in most of these old, so-called anchylosed cases, which is not easily explained by compensating curves. We have a large series of such tracings. It is easily seen that the spine straightens considerably, especially in acute cases, when the patient is placed on his face on a flat couch. I show two patterns (B) of a recent case, taken before treatment was begun, the one after the child had lain on his face for about an hour, the other a few days later,[1] when the child was sitting up. A larger part of the change is above and below the affected vertebræ. The patterns of another case (II.) before treatment show motion at the point of disease. We usually find the spine mobile to some degree in old as well as recent cases, and many patients are cured with motion through the affected vertebræ. I have a considerable amount of evidence in support of these assertions in my possession, but have not space to submit it here, nor do I wish at this time to discuss the questions raised by the foregoing statements. I merely deduce two propositions that have a more immediate bearing on our present study.

B

1. The position of the patient is of considerable importance where patterns of the back are taken for record and comparison.

2. Many years must be allowed to elapse before ultimate results as to deformity can be studied and recorded, since in the absence of anchylosis, even if caries is cured, the new tissues may yield and a gradual bending take place.

This latter proposition has unfortunately been verified several times in our practice, when patients insisted on discontinuing support too early, not being able to comprehend its necessity in the absence of symptoms. A gradual and considerable increase of the projection resulted in several instances, sometimes without any recurrence of other local or constitutional symptoms.

I wish to call attention in connection with the cases of recession of deformity, which I will now proceed to relate, to the length of time many of them were under observation, and especially to the length of time which had, in several instances, elapsed between the date of discontinuance of treatment and the last examination.

The patterns were taken by means of a flexible lead strip, which, after being accurately fitted to the back, was traced on card-board and the tracing cut out. Great pains were always taken to have them accurate, the pasteboard pattern always being applied to the back to see that it actually did fit before it was accepted. As the patient is never allowed to sit or stand without the apparatus, while there is any disease, the first patterns are always taken with the patient in the prone position on a hard, even couch. After the cure the pattern is sometimes taken with the patient sitting, so that the conditions of posture are those least favorable to improvement in outline.

Case I.—The patient, a young girl, was first seen in December, 1864, and was then about thirteen years of age. She was bedridden and had been given up to die by her physicians and friends; there were abscesses either side of the lumbar vertebræ, and over the crest of the ilium, discharging pus and pieces of bone. The application of protective apparatus was followed by prompt relief of symptoms, and the disappearance of the deformity in the dorso-lumbar region, which was considerable, as shown by the pattern.

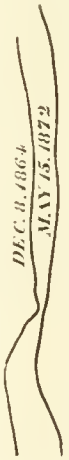


Fig. 1.

An outline taken in May, 1872, five and a half years after the beginning of protective treatment, showed a mere trace of the deformity. The patient was then in rugged health and actively devoted to society, horseback-riding, etc., without fatigue: in fact, she felt so well that she had not reported with sufficient frequency at the office. In 1877 she still wore the apparatus as a protection, and an abscess on the left side, above the crest of the ilium, was still discharging. This patient married and had one child. I have recently heard through a relative that she continued in fair health until about a year ago; since that time she has been seriously ill, and a few days ago I heard of her death, but I have not been able to learn the particulars.

[1] The patient faces to the left in all these profiles.
[2] Shown at the meeting of the Section.

[1] The date of the pattern taken sitting should read October 21st.

Case II.—A delicate girl, aged eighteen, subject to headaches, applied for treatment in January, 1865. She had complained of pains in the stomach for several years, and had a knuckle in the lumbar region of the spine. This patient wore the spinal apparatus and progressed favorably. All the symptoms and the deformity disappeared. The apparatus was removed in 1871, and the patient soon after married. She was seen by me in March, 1886, having been in perfect health since her discharge, and was an unusually strong, in fact robust, woman, and had, clothed, no trace of the disease or deformity. She has five healthy children. Her patterns, taken in 1877, six years after discarding the support, show flexibility of the spinal column, and no deformity. (See Fig. 2.)

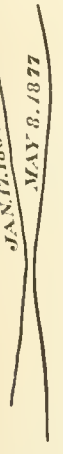


Fig. 2.

Case III.—This patient came in January, 1865, aged three years and nine months. The disease had existed eighteen months, and was located at the eleventh dorsal to the second lumbar vertebra. When presented he could hardly walk. There was immediate and great improvement following the application of the apparatus, the patient walking erect with ease, and considerable recession of the projection soon followed. He continued very comfortable until October, 1865, when abscesses appeared on both sides and in the left groin, followed by extensive sloughing and penetration of the peritoneal cavity. During the following winter the patient's condition was bad, but in July, 1868, he had improved very much, the abscesses had contracted and discharged less, the appetite was good, and his prospects of recovery were considered encouraging. During this time the curvature had markedly diminished, and it continued to straighten until the last pattern was taken, December 7, 1868 (Fig. 3); but there was evidence of the disease appearing three vertebræ higher up. There is no record after this, and I do not know the ultimate result.

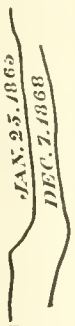


Fig. 3.

Case IV.—The patient, a delicate boy, five and a half years old, came, April 8, 1869, with slight prominence of the lumbar vertebræ, and a bad tilt to the left. He had fallen down-stairs in the August before, and the shoulders began to be elevated soon after. The mother had noticed the spinal curvature only five weeks. The patient had complained of being hurt on coughing, and had pains in the chest and abdomen at times; he breathed badly and was easily tired. A spinal apparatus was applied April 10, 1869, and the patient did well. In 1873 his health was excellent, though he still leaned to one side. In August, 1876, the patient reported in excellent health. He was nearly thirteen years of age, fifty-eight and a half inches tall, and had not worn the brace for several years. The patterns (Fig. 4) show that the slight deformity had disappeared.

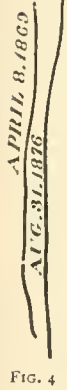


Fig. 4

Case V.—A little Cuban girl, of three and a half years, with disease of the lumbar vertebræ—probably of traumatic origin—psoas contraction, gastralgia, and an abscess to the left of the projection, was brought, unable to walk, February 26, 1870. The projection was first noticed by the mother three months previously; there was no phthisis in the family. Protective treatment was begun at once. December 24, 1870, an abscess was opened on the right side. On June 21, 1871, the abscesses were closed, the psoas contraction had disappeared, and her health was good. In spite of an attack of intermittent fever, contracted on Long Island in 1872, the patient seemed to be (March, 1874) in perfect health, and there had been no symptoms of vertebral inflammation for over a year. The patterns show marked straightening, at the point of disease, from June, 1871, to May, 1873. The pattern taken in 1873 fitted exactly in December, 1876; the one taken March, 1877, showed considerable further improvement. In February, 1878, the patient seemed cured, and was well formed and developed, but it was deemed advisable to continue the use of the apparatus and increase the pressure, as a slight lateral deviation of the spinal column, which had always been present, seemed more marked. The pattern taken in December, 1879, showed a further slight improvement in the deformity (Fig. 5). On May 12, 1880, the patient was thirteen and a half years old, fifty-seven and a quarter inches tall, and in remarkably good health. This patient's mother wrote recently that her daughter was in perfect health.

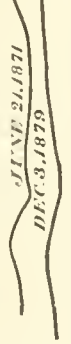


Fig. 5.

Case VI.—A girl, eight years of age, a native of Cuba, came in August, 1872. The relatives were healthy, and there was stated to be no phthisis in the family. A mild attack of measles had occurred two years previously. In May, 1871, while in excellent health, the patient was taken with a severe paroxysm of pain in the right side, accompanied by very difficult respiration. These attacks began without apparent cause, and continued at intervals until the August following, when they disappeared after electrical treatment. Since then the paroxysms had ceased, but pain in the side was provoked, whenever the patient received a sudden jar, up to the date of examination. At about the same time a peculiar gait (shrugged shoulders and contracted chest) was noticed, which has continued. In the spring of 1872 the patient had a severe fall over the balusters, and at that time the projection of the back was first noticed. At the date of examination the patient's health was beginning to fail, there was slight left psoas contraction, and pain in the side. The contour of the back is shown in the pattern (Fig. 6). The spinal apparatus was applied August 12, 1872. The patient was relieved of pain in the side after the first night. In spite of too irregular attendance (the patient being in a convent), and an attack of diphtheritis, with partial paralysis of the left forearm and the muscles of deglutition, in the spring of 1873, the patient did well. On April 22, 1873, hard pads (horn) were substituted for the soft ones on the apparatus. On October 6, 1873, Dr. C. Fayette Taylor predicted recession of deformity, and modified the apparatus so that there was more pressure on the lower part of the projection. In October, 1873, the patient complained of pain on the inside of right thigh. Slight psoas contraction was discovered, and the probability of abscess recognized. On November 25, 1875, very marked diminution of the projection was noted. The patient's health was excellent. The alarm excited two years before by the psoas contraction has procured greater care on the part of the mother. September, 1876, health excellent; contour of back perfect. Apparatus removed in April, 1877. This patient was seen several times in the spring of 1883. She was of the ordinary stature, and her figure and health were perfect.

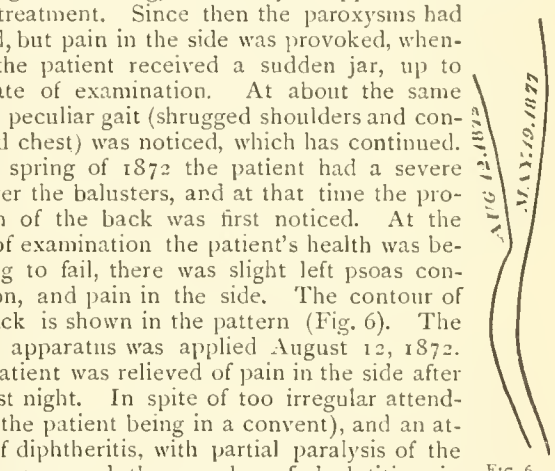


Fig. 6.

Case VII.—A boy, five and a half years of age, came June, 1873. Examination showed a considerable kyphos in the mid-dorsal region of the spine, seen in the tracing (Fig. 7). Two years before he had had a fall, striking on the buttocks; a knuckle was noticed a year previous to coming. His general health was delicate; he had had suppuration of the cervical glands at seven or eight months of age, and had been troubled with imperfect digestion. He suffered no pain, except at times in the stomach, after a passage from the bowels. No apparent abscess and no paralysis. Slight right psoas contraction. Family history good, so far as ascertained. The patient walked at twenty-two months. Protective treatment was begun at once, and was kept up until 1878—five years. The

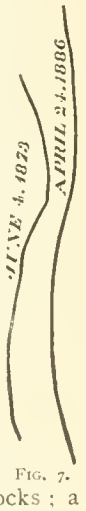


Fig. 7.

deformity, which had been considerable, completely disappeared during the first year of treatment, and never recurred. This patient has been seen frequently since his discharge, and maintains perfect health; there is no deformity, and but a slight stiffness at the previously diseased focus. In April, 1886, this patient was eighteen years old, and had not worn any apparatus or received any treatment whatever for the back for eight years; his figure and health were perfect. Chest: expiration, thirty-three inches; inspiration, thirty-six inches. Height, seventy inches in stocking feet; and weight, one hundred and forty-three pounds. The spine was normal and flexible. The patient could bend easily forward, and to both sides, some stiffness at the old focus being the only remaining trace of his disease.

Case VIII.—A little girl, five years old, came in March, 1875, with disease of the tenth to twelfth dorsal vertebræ. Pain in the sides and stomach were noticed in October, and the projection, in the December preceding. She had had a wheezing respiration, and had been sickly for three years; she had previously been very healthy. She still suffered at the time of application from gastric pain, and there was a right psoas contraction. The apparatus with hard-rubber pad-plates was applied in March, 1875. The patient did well; the acute symptoms were promptly relieved, and the deformity, after increasing some, diminished a good deal. All treatment was discontinued in December, 1884, the patient having been well for some time, but wearing the apparatus to prevent yielding of new cicatricial tissues. The patterns (Fig. 8) show the course of the deformity. The last one was taken in May, 1884. I have heard that this patient has remained well, but have not had an opportunity to examine her recently.

Fig. 8.

Case IX.—The following case illustrates not only very remarkable rectification of deformity, but restoration to health in a case where the constitutional symptoms were so severe as to make it seem almost hopeless. The little boy, six years of age, was brought with disease of the lower lumbar vertebræ, and very considerable angular deformity, in March, 1884. The parents dated his trouble from the previous July. In December an abscess broke in the left groin, which was still discharging freely at the time of the examination. The patient was of waxy hue and cadaverous appearance; he could neither stand nor walk; ate very little; right psoas contraction; skin dotted with pustules; pain at sides, and at times could not be stirred. The patient lay in bed with the limbs flexed, not attempting to move, and hardly able to speak—the sickest-looking child, but one, I ever saw. The spinal apparatus was applied April 8, 1884. The patient's temperature was taken frequently, and he was found to have a fever, running up to one hundred and two degrees in the afternoon. After the apparatus was well fitted this disappeared, and the patient seemed much brighter. At the end of a month he was taken home, and returned in June in a poor condition. He was very weak, and there was a fluctuating swelling over the right side of the sacrum, and extending over the right ilium, and up into the lumbar region. This was incised, and much thick pus evacuated. After this, another incision was made higher up, and a spontaneous opening appeared still higher. The three openings soon coalesced, leaving a large granulating aperture. All this time the patient was doing well, and the deformity was beginning to recede rapidly. He began to walk the last of July, 1884, four months after beginning treatment. After returning from the mountains, in September, he weighed forty pounds. He walked easily and stood upright. He was also able to lie flat on his face, which he never could do before, only slight contraction of the right psoas remaining. The patient continued to improve in every way, recovering good color and appetite, and becoming quite active. The parents discontinued treatment, contrary to advice, in 1885. When last seen, in May, 1885, the abscess in the groin was still discharging moderately, and the one behind only a very little from a small opening. The patterns show the change in the deformity (Fig. 9).

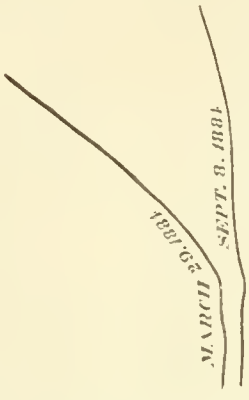


Fig. 9.

The foregoing nine cases have been selected from our notes solely with reference to the study of the decrease of deformity which they have exhibited, and which has been carefully recorded by means of their patterns. They do not comprise all, even of the marked examples, as I have not made a systematic search through our records, but have merely taken such cases as I knew of or chanced to find, and have omitted several good examples because the history or patterns were wanting. I have personally seen and studied, according to my opportunity, seven cases of the nine. They are certainly exceptional, and not ordinary results.

Their histories show that most of them suffered from advanced disease of severe grade before they had mechanical treatment, and in several the deformity was very considerable, representing a good deal of tissue-destruction. Suppuration, appearing externally, and psoas contractions were the rule. The disease was located, in all but one or two cases,[1] below the middle of the back. Positive progressive straightening at the kyphos is not doubtful in most of the cases, and in numbers it has been proved to be permanent, and not temporary. Whatever the explanation of these facts, this straightening is something more than the rounding off of sharp projections, which usually occurs when a vertebral caries is healing. Secondary or compensatory curves are seen in some of these cases, but are not competent to cause the change at the focus of disease.

I think that these cases furnish strong evidence, if such were needed, that Dr. Taylor's spinal apparatus is capable of relieving the diseased bodies of the vertebræ of pressure, as it is inconceivable that the gelatinous new tissues of healing should wedge apart the bodies of the affected vertebræ, and thus straighten out the projection. The distances between the spines was marked off on several occasions in cases of total recession, and seemed to show that there had been longitudinal condensation, which implies a sliding upon each other of the articular facets. So that these patients, even when the deformity has totally disappeared, have probably slightly shortened backbones.

I had the opportunity, last spring, of assisting at the autopsy of a patient of Dr. Seguin and myself, who died from a cancer of the spinal column, apparently originating in the body of the first lumbar vertebra, which had almost entirely disappeared. There must have been a longitudinal condensation in the spinal column of at least half an inch, and probably more; but there was no knuckle or kyphos of the lumbar spine, though there was rigidity and the normal lumbar curve was obliterated.

In concluding I would express the hope that the discussion may clear up many points in regard to recession in Pott's disease, which I am conscious of having imperfectly presented, and especially that it may show us how this desirable result may be more frequently attained.

201 West Fifty-fourth Street.

Druggists.—A druggist is not inappropriately termed the pill-ar of society.—*Exchange.*

[1] Since writing this paper I have found another good case of recession in the mid-dorsal region.

DO ANTIPYRETICS AS AT PRESENT EMPLOYED MODIFY THE DURATION OR MORTALITY OF TYPHOID FEVER?[1]

By S. BARUCH, M.D.,

PHYSICIAN TO THE NEW YORK JUVENILE ASYLUM.

If we appreciate the enormous mortality of typhoid fever, as gathered from the reports of our city Board of Health, we must acknowledge that this disease is a scourge in New York City. Through the kindness of Dr. Nagle I am in possession of the statistics of cases and deaths reported during the past ten years—from 1876 to 1885 inclusive. These offer the following startling figures: 7,712 cases and 3,184 deaths, or an average of 41.28 per cent. of mortality. And during the present autumnal season, viz., from September 1 to December 16, 1886, the cases reported are 527; the deaths, 183; showing the enormous mortality of 34.68 per cent. These being stern facts, is it not high time that the profession should awaken to the magnitude of the question propounded for discussion to-night: "Do the antipyretics as at present employed modify the duration or mortality of typhoid fever?"

Referring to the statistics obtained from Dr. Nagle, it would appear that many of us are at this very time daily confronted with the burning question of treatment. It will therefore be of immense value to ourselves, and more especially to the large number of those who are to-night languishing with this slow, insidious, and treacherous disease, if we can contribute something to their relief and ultimate recovery, by our discussion of this subject of antipyretics.

Let us approach it, therefore, with a full sense of our responsibilities and a correct appreciation of its solemn magnitude.

In response to your request, Mr. Chairman, I will briefly outline my personal experience regarding this vital question, referring at the same time to what I regard as the ideal antipyretic therapeutics of the present time. This succinct clinical statement of my position will, I trust, introduce the subject.

Unfortunately for the calling to which we have devoted our lives, our therapeutic problems can never be demonstrated with that mathematical precision which true science demands. The premises of the problems presented to us for solution are, as we all know but too well, so unreliable, variable, and occult, that, after all, we are relegated to an enlightened empiricism in our therapeutics of disease. Even in typhoid fever, a disease which is so prevalent as to be constantly under observation in all parts of the world, under all conditions of temperature, climate, age, habit, and environment, the treatment has not yet reached a satisfactorily settled position in the minds of the profession.

The first improvement in typhoid-fever management resulted from the idea that it is a self-limited disease, with a tendency to prostrate the vital powers. This idea came during what I term the renaissance period of medicine, that period which was signalized by the abandonment of violent efforts to throttle disease by active medicinal incursions upon the system, and by the substituting in their stead a wise observation of the conservative tendencies of the natural powers as exemplified in the development and maintenance of the human body in health and disease. In following the guidance of nature the expectant method of treatment was developed, with the result that the mortality was at once reduced.

But as in the treatment of other acute diseases various remedies still remained in vogue whose mildness did not forbid their application, and whose action was in the direction of a favorable influence upon the comfort and well-being of the patient, and thus aided in the maintenance of his vital powers, so was developed a treatment of typhoid fever whose aim it is to improve upon the purely expectant plan. Extremes of the latter have come to be viewed with as much suspicion as extremes of the former active medication. The sins of omission in the one are as reprehensible as the sins of commission in the other. Why is this question of antipyretics before us to-night? My answer is that the extremists of this new, active therapeusis have brought this valuable method into disrepute, so that even in Germany, the nursery of active antipyresis, the profession has called a halt, and is pausing ere it continues to rush headlong in the wake of Brandt's extreme cold-water or Liebermeister's quinine treatment. A recent cartoon, evidently drawn by one of Berlin's medical artists, ridicules the extremely expectant and antipyretic wings of the profession, and, as the well-conceived work of the humorous pencil usually does, brings the idea home to the observer. He represents two patients lying ill of typhoid in a hospital. One of these is surrounded by a number of physicians, who, with anxiety depicted on their countenances, are introducing thermometers into the mouth, axilla, and rectum, while near by stands the hydropathic paraphernalia, Brandt, and Liebermeister. The other patient is calmly lying upon his couch, while upon a distant cot sit the expectant doctors, with legs crossed, puffing cigarettes, and complacently watching with serene countenance the progress of the sufferers. Let us avoid both extremes. It has been carefully noted, and evidence continues to accumulate to establish *as a fact*, that in typhoid fever there are several indications to fulfil. Old Professor Schoenlein used to say there is an indicatio causalis, an indicatio morbi, and an indicatio symptomalis to guide the physician in the treatment of all diseases. If we could remove the indicatio causalis and neutralize the etiological factor of typhoid fever, we would accomplish a truly scientific feat. But although we are not without hope in this direction, the day still seems far off ere such a consummation will be reached. All that we may do, therefore, lies in the direction of the indicatio morbi et symptomalis.

The elements of danger which threaten our patient have been well ascertained to be: First, hyperpyrexia, which jeopardizes the heart-muscle and induces great depreciation of the entire muscular system by the excessive oxidation, to which it is partly due. Second, failure of the vital power through the enfeebled condition of the digestive and nutritive processes. Third, the immediate and remote results of the local gland-lesions.

I hold that the physician who clearly recognizes and has steadily in his mind's eye these ever-present dangers, and who endeavors to arm himself with means to avert and neutralize them, will attain to the most successful results in his treatment.

I hold that the first and most threatening of all perils in typhoid fever is heart-failure. So long as the cardiac sounds are clear, the impulse at the apex distinct, and the pulse-wave resisting, so long, we all know, there is a good prospect for our case.

Let the temperature be what it may, with a good heart we expect to carry our patient through safely. A good heart is to the physician in typhoid fever what a stanch ship is to the mariner in a storm. Let us, then, do all we may to preserve the integrity of that organ, upon which so much depends. I say to *preserve its integrity* advisedly, for while we may not need the strong heart during the first days of the fever, the day will come when we will call upon Hercules to help us, and woe betide our patient if we *then* call in vain, if we *then* discover too late that the golden moments for storing up reserve forces in the heart have slipped from our grasp. The first weeks offer an opportunity for providing against the day of need, which will almost surely come in all cases in which a high temperature has prevailed.

I hold that we possess, in a judicious selection and application of the antipyretics at present employed, a therapeutic resource which preserves the heart and muscular

[1] Read before the Section in Practice of Medicine of the New York Academy of Medicine, December 21, 1886.

system for the struggle which will be thrust upon the patient. Some hold to the view that stimulants administered in the beginning of the fever process tend to conserve cardiac energy; but this idea has been proven erroneous. Stimulants afford a spur to the heart when already enfeebled and laboring under stress of typhoid fever. They are as valuable at this time as they are injurious in the early days of most cases.

We know, however, that a continuous high temperature imperils the heart, and disables it from coping with coming emergencies. By reducing this temperature to a reasonable limit, the danger is diminished. A temperature of 102° or 103° F. is not fraught with danger; on the contrary, the fever process is a conservative effort of nature, it should not be violently interrupted. But when the temperature rises to 104° and over, and so continues for many hours without falling below 103°, at last there is danger to the heart. It must be reduced at once. If this rule be applied in the early days of the case, I have no doubt that the course of the disease will be favorably modified.

I do not favor very cold baths nor large doses of antipyrin (these being our safest antipyretics at present). Just enough antipyresis to bring the temperature for five to seven hours below the danger point, is urgently demanded. It is an error of frequent commission to regard a temperature below 103° as dangerous and to intercede for its reduction. All that is necessary is to *curb the pyretic tendency* and leave the rest to that good old handmaiden of the doctor, the *vis medicatrix naturæ*. Not many years ago, when high temperatures were first ascertained to endanger the heart, all considerable elevations were regarded askance, and then a false idea became prevalent, resulting in the present depreciation of antipyretics. To stem the tide which is now running in the opposite and surely dangerous direction, I beg to raise a voice of warning to-night. There is need for a pause of reflection. Many friends whom I meet in consultation or discussion are becoming sceptical regarding the benefits of antipyretic remedies. Some have been too enthusiastic on the subject, and are now in the stage of depression; others delight in a therapeutic nihilism and are happy to say: "I told you so, it is useless to administer medicines in typhoid fever; it is a self-limited disease, let it take its course; examine for the bacilli, cultivate them with diligence; then be sure to make the post-mortem, and you will find the diagnosis confirmed." This is true science, they say! But what good does this scientific method afford to the patient. He wants to be cured, he does not want the bacilli cultivated, but his vitality maintained, his temperature reduced, his sleep secured, and his ulcers healed. And this brings me to another view of this question.

Experience teaches that in the treatment of all diseases of any duration, it is of immense importance to bend every effort to secure for the patient as nearly a normal condition as is possible. In other words, the more comfortable we can make him, the more sleep we secure for him, the more naturally his secretions are maintained, the more surely is he to recover. Now, we have in the graduated Ziemssen bath and in the more recently introduced antipyrin, safe and certain measures to reduce the high temperature, which not only jeopardizes that fountain-head of all his strength—the heart—but which also renders him thirsty, wakeful, restless, and altogether miserable. We reduce a temperature of 105°, by moderate doses of antipyrin and cold sponging, to 102°, the patient perspires, the pulse softens, the tongue becomes moist, the kidneys act better, and altogether our patient expresses himself as more comfortable. Is this not an important factor in carrying the case to a successful issue?

From what I have briefly said it will be gathered that while I do not believe that the duration of typhoid fever can, to any great extent, be shortened, nor relapses or complications avoided by the use of antipyretics, I do believe that its course may be decidedly modified and the mortality reduced. Careful study of this subject during the past ten years, and comparisons with my results during the preceding fifteen years, have left this impression on my mind, until it has become a fixed conviction. To cite statistics from my own observation would accomplish but little, for it requires a very large number of cases to reach a conclusion upon this point.

We must therefore come back to an empirical knowledge, deduced from repeated and careful observation of cases in their various phases.

A few words more on the subject of "antipyretics as at present employed," and I have done. This should be an important element of our discussion to-night. The idea that the secondary effect of antipyretics is depressing to the heart, has been urged as a serious objection to their employment. This is true of large doses of these remedies, as it is true of inappropriate doses of all valuable remedial measures. The sudden submergence of a typhoid patient with a temperature of 104° into a bath of 60°, several times a day, according to Brandt, may not weaken a German soldier, but it is not so well adapted to an American constitution, if we may judge from our own hospital reports. At any rate, this heroic treatment has not found favor in our hospitals.

We have come to recognize the fact that a rapid and sudden reduction of temperature, from 104° to 99°, is not necessary at all, even if it be not a dangerous measure. All that is required is to bring the temperature down below the danger-point, and keep it there for four to six hours out of the twenty-four. This may be accomplished by cold sponging and cold wet compresses over the larger part of the anterior portion of the body, without disturbing the patient very much. Indeed, these are so grateful to him that he rarely objects to them. By this means the temperature may be almost invariably brought down one or two degrees, and held at this point for a few hours. If it be necessary, however, to make a more rapid impression in cases of very high temperatures, the graduated Ziemssen bath may be resorted to with advantage.

To a patient with a temperature of 105°, water at 95° will feel rather cool, and afford sufficient shock to the nervous centres to arouse them. The extremities are kept out of the water as much as possible, and chafed if cool; ice-water is added near the neck of the patient, and by rapid stirring the temperature of the bath is reduced to 80°. The pulse is watched, and a thermometer in the mouth will indicate when a reduction to 101° has been attained. The patient is now wrapped in a linen sheet, his extremities enveloped in flannel, and a wet compress laid upon his abdomen. The result will be an almost certain reduction of temperature for several hours. If the nervous centres are overcome, and stupor is present, a more sudden cold immersion will be of great value, and often accomplish more than the mere reduction of temperature or stimulants can do.

In a large proportion of cases, however, the bath is not required, especially as we now have in antipyrin a safe, reliable, and rapid antipyretic. It is my practice now to prefer antipyrin to the bath, unless there be considerable disturbance of the nervous system, with sleeplessness and delirium.

And here again it should be urged that the heroic doses prescribed by the gentlemen who introduced antipyrin are entirely unnecessary. Doses of thirty grains repeated hourly until the temperature be reduced to 100°, I have never resorted to. Hence I have never seen cases of collapse. A dose of twenty to twenty-five grains for an adult, repeated in an hour if the temperature has not begun its downward course, will accomplish all we require for the safety and well-being of our patient. Bring the temperature to 101° or 102° for four or five hours, and the pernicious effect of a continuous hyperpyrexia on the heart will be stayed. The later stages of the disease will afford valuable evidence of this antipyretic

effect, inasmuch as the heart will respond to stimulants when it begins to flag, during the third or fourth week.

A recent case, in which I had the pleasure of being associated with our chairman, demonstrated this effect of antipyrin. A boy, seven years of age, came under my care during the second week of typhoid, with temperatures ranging daily to 104°, which were reduced by five- and seven-grain doses of antipyrin. He passed favorably through the fourth week; temperature became normal and remained so three days. Peritonitis now ensued, during which five grains of morphia in the course of twenty-four hours were administered hypodermatically, without the slightest effect upon the agonizing pain. Morphia was stopped, and one-fourth grain calomel administered, and two drachms of mercurial ointment rubbed into the arms and thighs. The bowels moved, distention subsided, pain was subdued, patient fell asleep, and the temperature became normal. Two days were passed in comfort and hope, but now the evacuations pointed to deep ulcerations with hemorrhage. Various remedies and articles of diet were tried, until barley-water alone was given, when the mucous and bloody stools ceased at once. Now the temperature rose suddenly, with chattering of teeth, to 105°, and fluctuated to 106° constantly. A severe chill occurred on the day previous to his death, which was due, I believe, to hepatic abscess. Even in this depressed state, three-grain doses of antipyrin reduced the temperature two degrees, and the pulse became more full during the lowered temperature period. The chief point I desire to emphasize is the fact that during all these trials, lasting two and a half months, the pulse often failed, and even became so rapid as not to be counted; but stimulants always brought it up, making it slower and steady, so that, even twelve hours before his death, the pulse was steady and not very compressible at 150.

This case clearly demonstrated the saving effect of temperature reduction in the early stages, and the advantages gained in emergencies which may follow from a well-preserved heart; while at the same time it points to the fact that antipyrin does not prevent complications or sequelæ.

To summarize, then, I would say that a proper use of antipyretics modifies the course of typhoid fever and diminishes the mortality, because it diminishes the chief danger—heart-failure—and because it enables us to render the patient more comfortable, and therefore more quiet and tractable.

43 East Fifty-ninth Street.

Paris Hospitals a Century Ago.—The celebrated Hôtel Dieu, in Paris, only about one hundred years ago presented many features consistent neither with humanity nor the most rudimentary hygiene, as we understand the subject. A humane law forbade the hospital to turn away any patient seeking admission; but the law, apparently, did not insist upon the provision of the necessary space. The whole establishment covered only about three acres, and within this area there were crowded at one time over five thousand sick and injured people. It was computed that, without allowing anything for staircases, passages, and offices of various kinds, there must have been a sick person in every floor-space of thirty feet, right throughout the hospital—every floor-space seven feet and a half long and four feet wide, that is to say. A large proportion of the beds were intended to hold four people, and into these six patients were frequently crowded. It is said to have been no unusual thing for two or three small-pox patients to have been huddled into a single bed, and as many as four women in childbirth were thus laid side by side. Indeed, if some accounts may be relied upon, things were at times far worse than this. The hospital seems to have been adapted only for times of normal public health. Any outbreak of epidemic disease crowded the place to a frightful extent.—*The Hospital.*

THE TREATMENT OF HERNIA BY SUBCUTANEOUS INJECTION.[1]

By W. B. De Garmo, M.D.,

instructor in the treatment of hernia at the new york polyclinic.

It has been said that our present method of treating hernia by subcutaneous injection is old; that it had been thoroughly tried, found wanting, and discarded years ago.

Before considering the results of the method as now used, I shall attempt to prove, by the literature of the subject, that this criticism is unjust, and not founded upon fact.

The history of subcutaneous injection begins with Velpeau, who in 1840 published[2] what he termed a new operation for the cure of hernia.

It was performed by making an incision with a bistoury through the integument and subcutaneous fascia to the hernial sac.

The sac was then opened just enough to admit the nozzle of a syringe, and from one-half to one drachm of tincture of iodine was injected.

This was done with the view of exciting an inflammation which should obliterate the hernial sac in the same manner that hydrocele is sometimes cured.

At about this time Dr. Pancoast was experimenting in the same field, and in his "Operative Surgery"[3] published in 1844, he claims to have used his operation for eight years, and with considerable success.

He passed a small trocar *into* the hernial sac, and with the sharp point of the instrument scarified its inner surface.

The trocar was then withdrawn from its cannula, and half a drachm of tincture of iodine, or an equal quantity of the tincture of cantharides, was injected.

The year previous to the publication of Dr. Pancoast's work, Heaton had published an article in the Boston *Medical and Surgical Journal*,[4] in which he claimed a new method of treating hernia.

After some commonplace remarks he says: "In order to excite the necessary irritation in the parts immediately concerned, I inject, with a very delicate instrument invented for the purpose, an exciting fluid."

He does not state what the fluid was, nor does he describe the instrument used further than stated in the paragraph cited.

In later numbers of the same journal,[5] from 1843 to 1847, he gives reports of cases cured, as he claims, but fails to make known the details of his operation.

At this period Heaton, deservedly, had some bitter opponents; but even those who denounced him in the strongest terms admitted that he was curing some of his cases of hernia, while most other operators were meeting with almost constant failure.

In 1850 Dr. H. G. Bigelow[6] advocated the treatment of hernia by injection of iodine into the hernial sac. Careful review of his writings at this time leaves little doubt that he thought that Heaton was doing the same operation.

One year later Dr. J. Watson[7] speaks with indignation of the man in Boston who had not made known his method, but admits that one of his own patients had been cured by him.

Dr. Watson determined upon doing what he believed to be essentially the same operation, although he deemed it safer to cut down to the sac than to attempt to reach it with a trocar.

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[1] Read before the Medical Society of the County of New York, December 27, 1886.

[2] Nouveau procédé opératoire pour la cure des hernies, Gaz. des Hôp., Paris, 1840.

[3] A Treatise on Operative Surgery, p. 282. Philadelphia, 1844.

[4] George Heaton: New Treatment of Hernia, Boston Medical and Surgical Journal, vol. xxviii., February, 1843.

[5] Ibid., vols. xxix., xxx., xxxi., xxxiii., xxxvii.

[6] Inguinal Hernia treated by Injection, Boston Medical and Surgical Journal, vol. xliii., 1850.

[7] J. Watson, M.D.: The Radical Cure of Hernia by Injection of Tincture of Iodine, New York Medical Times, vol. i., p. 326.

Accordingly he opened up the parts and injected tincture of cantharides into the hernial sac. His patient was not cured, but some improvement was claimed.

In 1852 a committee appointed by the American Medical Association to inquire into the best methods then in use for the treatment of hernia reported as follows :[1]

"I. That there is no surgical operation at present known which can be relied upon with confidence to produce in all instances, or even a large proportion of cases, a radical cure of reducible hernia.

"II. That they regard the operation by injection by the subcutaneous method as the safest and best. This will probably in some cases produce a permanent cure, and in many others will afford great relief.

"III. That compression, when properly employed, is, in the present state of our knowledge, the most likely means of effecting a radical cure in the greatest number of cases."

This committee called upon Heaton to disclose his method, but failed to obtain any information from him.

In 1854 P. Ricord[2] devised a long trocar especially designed for injecting the *interior* of the hernial sac. The following year Nélaton[3] published what he termed his modification of Lecocq's trocar for the same purpose.

This brief review completes the literature of the subject until as recent a date as 1877, nothing of consequence having been written between 1855 and that date.

A most careful study of the subject proves that all modifications of the operation were directed toward the destruction of the hernial sac, and that all instruments devised only sought to aid in accomplishing this end. The substances introduced—cantharides and iodine—were those calculated to produce an inflammatory action. This error of considering that to the presence of the hernial sac in, and protruding through, the inguinal canal, is *wholly* due the recurrence of the hernia, is one that has repeated itself age after age.

Early in the present century Sir Astley Cooper and William Lawrence, doubtless the most eminent authorities on hernia who have ever lived, demonstrated that the destruction of the sac was not absolutely essential to the cure of the hernia. Notwithstanding this fact nearly every operator has seemed to be thoroughly impressed with the idea that no cure could result unless this end was attained. It is quite certain that those writers already cited in connection with the early history of subcutaneous injection had that object, and apparently none other, in view. In 1877 a new era was opened in the subcutaneous treatment of hernia by the publishing of the methods which Heaton had been using from 1843 up to that date. It was shown that the operation was founded upon principles entirely at variance with those which had been indorsed by Velpeau, Pancoast, Ricord, Watson, and others.

He made no attempt to destroy the hernial sac, his fluid was not one intended to produce an inflammatory action; in fact, against the latter condition he carefully guarded. The whole intent of the operation was to so fortify the fibrous and connective tissue surrounding the canal that a protrusion would not occur. Had it not been for the death of both Dr. Heaton and the able editor of his book, Dr. J. H. Davenport, within a few months after the issue of their work, doubtless much additional light would have been thrown upon this operation.

As it was, however, it was left in the hands of the profession, complete as regards the method of operating, but lacking in many of those practical points which an almost life-long experience could have furnished. As a matter of fact the Heaton method stands alone. It differs in every detail from previous methods of subcutaneous treatment. The fluid used acts primarily as a strong astringent, and secondarily as a mild but persistent irritant. This action is upon the muscular and tendinous structures of which the canal is formed, and upon the connective tissue which binds its various layers together.

Wood, in speaking of the inguinal canal, says :[1] "It is closed in a valvular way by the close apposition and areolar connection of the deep and superficial walls or boundaries. This adhesion by connective tissue is torn or stretched in the formation of a hernia, . . . and it is one of the most important objects of a radical cure of hernia to restore this adhesion and reinstate the valvular action of the walls of the canal, if possible." To accomplish this Mr. Wood has for many years advocated his method, which he calls subcutaneous, of bringing the walls of the canal into apposition by loops of copper wire introduced through a small aperture in the scrotum. Mr. Spanton[2] has attempted to obtain the same result by the use of what he calls his corkscrew instrument, this also being called a subcutaneous method. The result in both of these operations, however, depends upon an inflammatory action which may at any time exceed its intended limits, to the very great risk of the patient's life.

That the necessary restorative process can be established, and a favorable result obtained in many instances by the white oak-bark injections, I have had sufficient evidence to convince me, and that this is accomplished without risk to the patient is equally certain.

Seven years ago[3] I made a plea for the fair trial of this operation, which at that time, and for reasons then stated, was being neglected by the profession.

In my indorsement of the method I was at that time almost alone; but since then the medical journals bear testimony of its indorsement by Powell,[4] Phillips,[5] Heath,[6] Bull,[7] Hand,[8] Gay,[9] Bennett,[10] A. M. Vance,[11] and many others.

Eminent surgeons, who were its opponents, are now teaching it in their clinics, and are strong in their approval of the method.

That frequent failures have occurred is beyond question.

To throw light upon the cause of some of these failures, and call attention to some of the errors which have led to them, is one of the objects of this paper.

After nearly ten years' experience with this operation we certainly ought to be able to assign it to its true place among our aids in the treatment of hernia.

Too much was expected of this operation by many of those who have undertaken to use it, and this was in a great measure due to the manner in which Heaton placed it before the profession.

It was quite natural that, with his cases in a private hospital, under his immediate control, and with an experience extending over many years, he should meet with greater success than could the general operator.

He makes no allowance for this in his writings, and for this reason alone some physicians have been disappointed in the results which they have expected to obtain.

Then, again, it has been put to unfair tests, as in the following instance, which occurred in one of our leading hospitals. The injection was made in a proper manner

[1] Transactions of the American Medical Association, May, 1852.

[2] Nouveau procédé d'injection pour la cure radicale des hernies, Union Médicale, vol. viii., Paris, 1854.

[3] Modifications Apportées au Trocart pour son Emploi à la cure radicale des Hernies par les Injections Iodées, Gaz. des Hôp., vol. xxxviii., Paris, 1855.

[1] John Wood, F.R.S., F.R.C.S.: Lectures on Hernia and its Radical Cure. London, 1886.

[2] W. D. Spanton: Immediate Cure of Inguinal Hernia by a New Instrument, Brit. Med. J., 1879, vol. ii., p. 323.

[3] W. E. De Garmo, M.D.: The Heatonian Operation for the Cure of Hernia, THE MED. RECORD, February 7, 1880.

[4] F. D. Powell, M.D.: Heatonian Operation, Gaillard's M. J., vol. xxix., p. 551.

[5] W. H. Phillips, M.D.: Hernia, Toledo M. and S. J., vol. iv., p. 201.

[6] W. H. Heath, M.D., U. S. Marine Hosp.: The Heatonian Method for the Radical Cure of Hernia, Buffalo M. and S. J., vol. xx., p. 405.

[7] W. T. Bull, M.D.: Radical Cure of Hernia by Heaton Operation, THE MED. REC., vol. xxii., p. 541.

[8] D. W. Hand, M.D.: Radical Cure of Hernia. Heaton Operation. Trans. Minn. Med. Soc., vol. xiv., p. 101.

[9] G. W. Gay, M.D.: Heaton Operation for the Radical Cure of Hernia, Boston M. and S. J., vol. cvi., p. 25.

[10] E. J. Bennett, M.D.: Radical Cure by Heaton Plan. Weekly M. Rev., vol. viii., p. 493.

[11] A. M. Vance, M.D.: Two Cases of Heaton Operation. Louisville Med. News, vol. xvii., p. 321.

we will assume, and the patient kept in bed for about one week. At the end of this time the man was placed upon his feet and requested to cough and strain, in other words, to force his hernia down if he could. It is needless to say that the patient's efforts were attended by success, and the operation was credited with failure. I speak advisedly when I say that there is *no* operation for the relief of hernia, at present known, which would stand this test. It is irrational to suppose that pathological changes which have been months, or even years, in developing, can be removed radically within a few days by a process which is so mild in character as the one under consideration.

Another error has been in operating upon old scrotal hernias, where the hernial sac and surrounding tissues are thickened and changed in character, anticipating a radical cure by a single injection. We must either modify the operation by repeated injections and longer confinement to bed, or exclude such cases altogether. It must be borne in mind that in these old neglected cases we have not only the dilated, shortened canal and thickened sac, which are predisposing causes to the recurrence of the hernia, but we have a funnel-shaped opening into the upper part of the canal from the abdominal cavity. This peritoneal depression, or pocket over the site of the internal ring, is persistent, owing to the slowness with which the neck of the hernial sac is obliterated, and during this time thorough and constant protection must be afforded by mechanical support. That the neck of an old hernial sac may become obliterated is shown by the fact that hydrocele not uncommonly occurs within the sac itself, and that even though it become larger than the hernial protrusion which originally occupied it, the fluid cannot be returned to the abdominal cavity.

This has occurred twice in my own practice following the cure of the hernia by injection, and I have seen another case following the cure of a femoral hernia. Oblique inguinal hernia of recent date, where few pathological changes have taken place, is, of course, the most readily cured by this method.

Those children who do not obtain a cure by means of a truss during the first year of treatment, are frequently cured without difficulty by the aid of the injection. That many errors have been committed in the performance of this operation I have had abundant evidence. Perhaps the most frequent error has been in making the puncture through the scrotal tissues instead of directly through the integument over the external ring.

There are two reasons why this should not be done, the first of which is that swelling of the scrotum and testicle is quite likely to occur, to the discomfort of the patient and the risk of a successful result. This is probably caused by the fluid following the needle as it is withdrawn, an inflammatory action being much more readily set up in the scrotal tissues than in those about the canal.

Another reason why this method of introducing the instrument should be avoided is, that when the hernial sac is of large size and is adherent, the injection is more likely to be deposited in its interior than outside of it.

I agree with Heaton that this accident will not be attended by any bad results, nor will much, if any, good follow, as the action of the irritant must be upon the canal and not to any extent upon the sac. In invaginating the scrotum the adherent sac is also invaginated upon the finger, and when the puncture is made it is through the fundus of the sac as well as through the scrotal tissues.

Heaton's instructions on this point were clear, and, as a rule, should be followed. He says:[1] "Invaginate the right forefinger in the scrotum and find the external abdominal ring, then with the left forefinger press perpendicularly upon the integument directly over this ring, and use sufficient force to, if possible, press the integument with the finger directly into the ring. The left forefinger being at or in the ring, the spermatic cord and the sac, if in the way, are to be pushed to one side so that nothing may remain between the external pillar of the ring and the finger, except the integument and subjacent superficial fascia."

The instrument is then passed quickly into the canal. With the exception of one or two details I have followed the method described. Respecting the disposition of the cord and sac during the insertion of the needle I differ with Heaton.

As will be remembered, the spermatic cord lies in a groove in that part of Poupart's ligament which forms the external pillar of the ring. In order to enter the canal without injury to the cord, the latter must be lifted out of this groove to give room for the needle. I have found it more convenient to hold the sac and cord to the outer side instead of toward the median line. The beak of the instrument then passes between the finger and the internal pillar of the ring, the sack and cord being between the finger and external pillar.

One other precaution has, I think, saved me considerable trouble. After making the injection, on withdrawing the needle, and some moments after, I make firm pressure over the external ring. The object of this is to prevent the return of the fluid in the track of the needle, and to retain it entirely within the canal, until it becomes distributed upon the tissues inside of the ring.

Other operators have complained of small abscesses following the operation, and as this has never occurred in a single instance in my own practice, I can only attribute it to the precaution named. Some operators in this country and England have thought best to lay the parts open and smear the structures with the Heaton fluid. This seems to me an unnecessary and unadvisable proceeding, adding to the risks of the operation with no advantage gained. If there is any merit in it, let us use it without adding the dangers of a cutting operation. So far, in the hundreds of injections made, no death, nor even serious complication, has been met with; while, according to reliable authorities, a mortality list of seven per cent. or more follows the open operations at present in use.

C. B. Keetley,[1] an eminent English writer, in a valuable paper upon this subject, speaking of the dangers of the cutting operations as at present practised, says: "Many operators of limited experience can still show a virgin record; but I believe that twelve per cent. would not be an exaggerated estimate of the deaths directly due to the open operation for the radical cure of hernia." According to the results of his study of statistics, which appear to have been carefully and impartially made, there is a mortality risk of only 2.5 per cent. to those afflicted by inguinal hernia who rely exclusively upon mechanical support. If the conclusions arrived at be true, then, in subjecting these cases to operation by the open method, we are adding nearly ten per cent. to the mortality risks of the patient. With the oak-bark injections a better record can be shown. No additional risk is incurred, a certain amount of benefit is sure to ensue, and, if the operation is properly done, followed by judicious after-treatment, the percentage of absolute cures will equal those following any operation at present known

In operating I have usually used the hernial syringe bearing my name, a description of which was given in THE MEDICAL RECORD of February 7, 1880. It has since that time been somewhat modified and improved, and has, in the hands of other surgeons as well as my own, proven satisfactory. Its main peculiarity lies in the fact that its cutting point is protected after entering the external ring, and that in the form of a blunt probe it can be carried higher up the canal than one would care to introduce a sharp-pointed instrument.

[1] G. Heaton, M.D.: The Cure of Rupture, p. 40. 1877.

[1] C. B. Keetley, F.R.C.S.: On the Comparative Dangers of leaving a Hernia to the Protection of a Truss and of Attempting its Radical cure; and on the Indication of Preferring one Mode of Operating to another, according to the Case, Brit. Med. Jour., 1885, vol. ii., p. 1054, London.

In this operation I believe that the subsequent management of the case is fully as important as the manner in which the injection is made. The restorative process begins with the introduction of the irritant, but it is by no means completed when the patient is allowed to resume his active duties. The obliteration of the neck of the hernial sac, which remains unreduced in most cases, is a slow process, and until this is at least partially accomplished, to remove the support is only to invite a return of hernia. On the other hand, too strong pressure must be avoided, as tending to weaken the tissues which it is our aim to strengthen.

During the confinement to bed, which should be at least five to seven days, and, as previously stated, a much longer period in extreme cases, I have usually used the bandage described by Heaton. In some cases, however, I have found it inefficient ,and have resorted to a truss which I devised especially for night use. This consists of a metallic spring across the front of the abdomen, to which such pads as may seem best suited to the case are attached. The spring terminates over the front of each hip, and is held in place by a webbing band around the back.

After the operation I apply this truss and put a light bandage over it. This combination is more secure than the bandage alone, and can be worn subsequently instead of a regular truss.

In a paper which I read before the Surgical Section of the Academy of Medicine last March,[1] I called attention to a modification of Heaton's operation which I believe to be important. I refer to the repeated injection of small quantities of the Heaton fluid without confinement to bed. This method is, of course, only adapted to those cases which can be fully controlled by means of the truss, and it is more especially in connection with skilled mechanical treatment of hernia that it will prove valuable. The patient is first supplied with a truss which can at all times be relied upon to retain the hernia. An injection of from five to ten drops of the Heaton fluid is then made in the usual manner, the truss carefully reapplied, and the patient allowed to go about his ordinary duties.

In some cases detention from business on the following day may be best, owing to the soreness of the parts; usually, however, even this is not necessary. One man, whom I cured by five injections, was a laborer in a foundry, and did not lose an hour from his work. These injections should be made at intervals of about two weeks, and at least four or five different times. The quantity of fluid used must be regulated, to quite an extent, by the amount of soreness established upon the first injection. It should not be repeated while any great amount of tenderness remains. I have found many patients willing to submit to this plan of treatment who could not give the necessary time from business to have the regular Heaton operation done, and I have also found the results even better than I had anticipated.

After an experience of seven years in the use of the Heaton operation, during which time I have used it upon over one hundred cases, I feel justified in claiming for it:

First, Freedom from danger.

Second, That about forty-five per cent. of all cases can be cured by it, and in selected cases an average of seventy-five per cent. can be obtained.

Third, That many extreme cases, uncontrollable by means of a truss, can be brought under control by its aid.

Fourth, That it is followed by improvement in almost every instance.

Fifth, That children who have not been cured by mechanical means can in almost every case be cured by this operation.

69 Madison Avenue.

[1] W. B. De Garmo, M.D.: The Palliative or Mechanical Treatment of Hernia; with a Brief Report on Repeated Injections of Oak-bark, without Confinement to Bed, The Medical Record, April 3, 1886.

THE THERAPEUTICS OF MINERAL WATERS.[1]

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In what I have to say I shall speak first of the general question of the value of mineral waters as a means of cure, and second, of the ailments that are fitted for treatment at special springs.

1. The allied subjects of mineral waters and of climate, in spite of their close therapeutic association, have received very unequal attention at the hands of the profession in this country. The curative values of climate have been fully and ably discussed. More than one member of this Academy has made important contributions to our knowledge of the subject; the names of Clark, Metcalfe, Barker, Loomis, among others, are inseparably associated with the best that is known and practised in that important branch of medicine that deals with the choice of climates for invalids. The study of this branch of the subject was a study which could not well be avoided; it was, indeed, in a measure forced upon us by the defects of our American climate, which have made it necessary for us to understand other climates than our own. And aside from the strictly therapeutic questions involved, our increasing habit of European travel gives new importance to the question whither to direct both the healthy and the invalid. Those who seek their health abroad are outnumbered by those who seek to preserve it.

The importance of climatic studies, in a word, is well understood among us. For large classes of invalids it cannot be denied that the United States furnish a very inferior article of climate. Whether as tourists or health-seekers, the public has long been in search of better climates than our own; and it is not necessary to make any plea for the study of climato-therapeutics.

But has equal attention been given to the allied subject—one that is of equal importance to the invalid and to the profession—the subject of curative mineral waters? No; a like degree of attention has not been given, though the profession and the public are indebted to more than one among the names that I have mentioned for valuable studies and advice upon this matter. But if we examine our balneological literature as a whole, we shall find it conspicuous, if I may say so, only by its minitude. It is extremely deficient. The foreign literature of the subject is extensive and systematic; but against the learned treatises of Trousseau, Braun, Durand-Fardel, Rotureau, Hellft-Thilenius, Leichtenstein, we shall find but little to put in evidence, in the way of practical manuals at least, except the useful monogram of Dr. George E. Walton on the "Mineral Waters of the United States and Canada." And, to say nothing of systematic treatises, the French and German physicians have produced a multitude of monographs upon special waters—monographs that are often works of great original research and value. The accessible data of the subject are so abundant that the "embarrassment of riches," as the French say, is their chief inconvenience. It will require no long survey of the literature of the spring-cure in all its forms—whether by baths, drinking, or regimen—to show that our French, German, and Italian colleagues have accorded to this important subject, which they call balneo-therapy, a prominence which neither in theory nor in practice has it yet received among us.

But it must be admitted that in therapeutics the amount of attention given to a subject is not always, even in expert or professional hands, the strict measure of its real importance. Is the vogue of mineral springs abroad merely a vogue, a fashion, and nothing more? Which view is the more nearly correct—the foreign view, that mineral springs afford a real and important resource in the treatment of chronic disease, the view that is, I may

[1] An address delivered before the New York Academy of Medicine, December 21, 1866.

say, almost universally held by the profession abroad; or the view which we still hear expressed at home, though less frequently by physicians than by laymen, that mineral springs are greatly overrated as a means of cure?

The claim of mineral waters to a real or serious value in our therapeutic armamentarium is an occasionally contested claim. It is still met, even by some members of the medical profession, with a more or less enlightened scepticism. A healthy scepticism is, indeed, the legitimate mental attitude of the physician; to him, in therapeutics, the injunction to "prove all things" comes with especial meaning and seriousness. Of all men the physician should be the last one to believe too readily. And I confess myself to be by temperament one of the most sceptical as regards the matter of fashionable provings in remedies. For this reason, my own belief in mineral waters, after many doubtings, may perhaps have some interest as a case of genuine conversion. Considerable observation and study of these remedies, at home and abroad, have convinced me of their value in properly chosen cases; so fully, indeed, have they convinced me, that I sometimes incline to think that when St. Paul, after saying "Prove all things," added, "Hold fast that which is good," the apostle might have had certain mineral springs in view.

The common argument against mineral waters is familiar, namely, that the curative effects observed to follow their use are due to change of climate and to regimen, and not to the waters themselves. Even if this were a sufficient explanation, it would not lessen the value of spring treatment as a total effect. No fact of observation is more familiar than that thousands of chronic invalids who go to the springs come away cured. Such a patient may call it the waters or the regimen, but he will say, with the patient at the Pool of Siloam, "One thing I know—that whereas I was blind, now I see." The change of outward environment is certainly an important part of the cure, but it is by no means all. A large proportion of the waters used are actively medicinal. The arsenical waters of La Bourboule, for instance, the bitter Hunyadi Janos, some of the stronger of the Saratoga waters, can only be taken with advantage, or indeed with safety, in small doses. Nearly all of the calcic waters and many of the saline are most imperatively purgative. For better or for worse, they are at least active medicines. It is they primarily that produce the physiologic effects that are noted; it is idle to ascribe laxative results to landscapes, or a liver-cure to a new social environment. A changed dietary may, indeed, have its effect, but it is not the sound of cowbells or the sight of glaciers that produce fluid stools. It is the waters, not the skies, that make the treatment in places like La Bourboule, Carlsbad, Vichy, Royat. Travel and change do much, but not all; *Cœlum, non cœcum, mutant, qui trans mare currunt.* The physiological effects—tonic, alterative, reconstituant, or depressing—are facts which neither physician nor patient will question. The various waters which produce them make up the therapeutic gamut from which the physician seeks to combine the harmony of health.

The range of the effects of mineral waters is a wide one. Referring them as medicines to the excellent classification of our colleague, Dr. Wm. H. Thompson, they come, for the most part, under the class of Disease-medicines, or medicines for diseases or morbid conditions, rather than Symptom-medicines. Under the former general class they occur either in the division of Restorative medicines, containing the ingredients of the system or substances analogous to those ingredients, as many of the alkaline, iron, and other tonic waters; or in the division of Specifics, or disease-medicines unnatural to the system, as the so-called "alterative" mineral waters, of which the arsenical waters of La Bourboule are a type. But some of the most important of the mineral waters are found under the second main class—that of Symptom-medicines—and under the second division of that class—that of Eliminative or Glandular medicines. To this class belong most of the many cathartic and diuretic waters. Under each of these classes there is no doubt that very many excellent waters are available for the cure of disease, especially among the alkaline waters, which contain the elements of the serum of the blood, and some of these waters in the accurate proportions given in the blood.

It is true that the vogue of remedies is not in itself a proof of their value, if we take into account only a comparatively brief experience. But in this case there can be small question of mere vogue or fashion; it is a question of over two thousand years of use and frequentation. Many of the French, German, Italian, and Spanish springs that are the most highly prized to-day were frequented and highly prized by the Romans, and some of them by the native tribes that preceded the Romans, as in the case of some of the springs of Auvergne. During that great calamity to civilization, the downfall of the Roman Empire, the mineral springs of Europe were, for the most part, forgotten, and their splendid establishments fell into ruin. Throughout Southern and Western Europe their remains are still to be found in many places; and in some spots, as at Plombières, they will show you what they claim to be the plumbing of the fifth century, constructed, I dare say, upon principles now quite antiquated. But from the time of Hippocrates to our own, no other class of remedies has better held the confidence of physicians and of the public than those which we are now considering. Fashion has undoubtedly played her part in the case of individual springs; some that were once famous are now abandoned, or nearly so—a thing that has happened more than once in England, where, more than in other European countries, the aristocracy sets the fashion. But this fate has very seldom befallen springs of really positive medicinal quality. The great springs of the Roman time are great springs to-day, and a multitude of newer waters have been added to the long list of "cures," as the Germans, with cheerful and not ill-founded confidence, are in the habit of calling mineral springs in general. It will be enough, perhaps, to remark that in France alone the number of separate springs that have establishments is about two hundred, France possessing more known springs and more establishments than any other country, though unfortunately they are less known outside of France than they should be. In Germany the number of springs and of establishments is not very far behind. And at all the principal resorts, both at home and abroad, the number of patients steadily increases from year to year.

2. And now let us ask, to what classes of disease is treatment by mineral waters adapted? Whether at home or, preferably, at the spring itself, with the adjuvant influences of changed climate, regimen, scenery, and surroundings generally, who are the sufferers that may expect relief or cure from mineral waters?

3. The converse question, and a very distinct one, is equally important: To what particular spring, in the particular case, shall the physician send his patient?

Experience gives full answers to each of these inquiries. To one of them the answer will be anticipated. Treatment by mineral waters is adapted to chronic diseases only; but to all, or nearly all, such diseases as have any quality of curability about them. Ailments that have proved reluctant to other forms of treatment, however long their standing, often find relief or cure at the rightly chosen spring.

And what are the chronic diseases that are not incurable? The list is a very long one, too long to be recited here. From it we must exclude, of course, malignant diseases, and in their advanced stages phthisis, Bright's disease, and diabetes. Much the greater part of the chronic diseases that remain are adapted to spring treatment; this, in a word, is suitable to nearly all chronic invalids who belong to the curable class—a class which our friends, the surgeons, sometimes claim as forming the distinctive and appointed province of surgical as distin-

guished from medical art. Let me recall here a reminiscence of James Syme, the famous Scotch surgeon, at whose clinic, at the royal infirmary in Edinburgh, I found myself, fresh from hospital and naval service, one morning a good many years ago. After the last patient had been dismissed, and I had been duly introduced to Mr. Syme, he said, "You have very learned medical men in New York, and skilful surgeons. Pray tell me how you discriminate medical cases from surgical cases over there?" To this question I gave the best answer I could, the staff assistants listening with curious interest to the stranger. "Very good," cried Mr. Syme, when I had done, "very good indeed; but now let me tell you how we distinguish medical and surgical cases here in Edinburgh. Any case that admits of either relief or cure we call a surgical case. All cases that admit neither of relief nor cure we call medical cases." This was a surgeon's definition. If we should adopt Syme's distinction, we should send nothing but surgical cases to Saratoga, Carlsbad, Vichy, Royat, and Ems. But, in point of fact, I have sent more medical than surgical cases to springs at home and abroad.

There are enough cases that are intractable to home treatment, and that are still not incurable, to make it well worth our while to classify them, if not to enumerate them at length. In the table of contents that is prefixed to his learned treatise on balneotherapy, Helfft gives four closely printed pages of the names of ailments that he describes as suitable to treatment by mineral waters. The simpler their classification the better.

My own classification is made entirely for working convenience. It is as follows: I divide the diseases that are amenable to treatment at mineral springs into—1, diseases of the digestive organs; 2, diseases of the nervous system; 3, diseases of the respiratory tract; 4, diseases of the uterine system; 5, diseases of the urinary system; 6, skin diseases; 7, general diseases or diatheses. Under each of these heads I will indicate (*a*) the main ailments which are amenable to the mineral-water treatment, and (*b*) some of the particular springs at which the ailments in question should be treated.

1. Diseases of the digestive organs. This is much the most numerous class of all the diseases that we find at the springs. Indeed, it is probably quite as numerous as all the rest put together. At Saratoga, at Vichy, at Carlsbad, at all the more fashionable spas of both hemispheres, the majority of the patients are sufferers from some form or other of digestive derangement, and these derangements are usually, in the case of the European patient, the result of overeating and overdrinking; and often, if not usually, of hasty as well as of excessive eating in the case of the American. The specific diseases chiefly treated are dyspepsias, catarrh of the stomach and of the intestinal canal, enlarged liver, fatty liver, gall-stones, ulcer of the stomach, and enlargement of the spleen.

For the treatment of this wide range of complaints, a great number of mineral springs present themselves; and among them choice must be made—1, according to the type of the disease; 2, according to the need of the individual case. For acid dyspepsias the typical waters are Vichy, Carlsbad, Ems; and at home, those of Saratoga, the Capon, and the Buffalo Lithia Springs. For atonic dyspepsias the patient must preferably employ one of the saline waters, as Salins, or Salins-Moutiers, in France, Kissingen in Germany, the Hathorn or Ballston Springs at home. Stubborn dyspepsias of whatever type that have gone on into gastric catarrh, properly so called, with inveterate gastric lesions, require the glauber-salt waters, as Carlsbad and its congeners—Marienbad, and Tarasp in the Grisons.

2. Next come diseases of the nervous system, as chorea, epilepsy, hypochondria, hysteria, chronic myelitis, paralysis in some but not in very many cases, and many cases of so-called general nervousness and neuralgias. Hypochondriac and hysteric patients often receive the greatest benefit at a well-chosen spring, the entire change of environment, spiritual and physical, seldom failing to produce prompt and often radical benefit.

The number of the springs that are adapted to the treatment of nervous diseases is even more numerous than that of the varieties of the diseases themselves. Royat, Néris, Bagnères de Bigorre, Guillon-les-Bains, in France; Teplitz, in Bohemia; Wildbad and Schlangenbad, in Germany—these are waters that will certainly minister, at least, to a mind diseased, when they do not absolutely heal it. Shakespeare knew nothing, so we must presume, of mineral waters, for he makes no reference to them in the whole range of his writings—the writings that reflect so much of the knowledge of his time. But Shakespeare, happily for us, was the healthiest of men and of poets. Had he known gastric catarrh, for instance, he would surely have gone to some neighboring mineral spring—not to Leamington, the nearest spring, for Leamington was not known until the end of the eighteenth century; but Buxton and Bath, to which latter place Queen Elizabeth resorted, were already popular; and if Shakespeare had gone to either spring, he would have written the "Dyspeptic's Complaint," instead of the "Sonnets."

3. Diseases of the respiratory tract, especially chronic laryngitis, bronchial asthma, the earlier stages of phthisis, and that ill-omened distemper post-nasal catarrh—the national disease, and one which has brought reproach upon our national manners—come next in order. Let me say, in passing, that while the world has reproached us with expectoration, its blame as against the national manners is quite unjust. The blame lies with our climate and our dirty city streets. These cause catarrh, in greater or less degree, in probably forty per cent. of individuals who are over twenty-five years old. It is in no mere unscrupulousness of expectoration, as foreigners assume, that the real cause of this evil exists. For post-nasal catarrh the patient should go to Aix or Mont-Dore; but energetic local treatment in addition is sometimes needed.

The treatment of laryngeal and of pharyngeal troubles has been much attended to of late years at the Continental spas. Aix, Ems, Royat, and the leading springs of Auvergne and of the Pyrenees are the chief places of resort. In Auvergne, and also in the Vosges, I found in the summer of 1885 extremely complete and elaborate appliances in use for the local exhibition of mineral waters, by spraying or pulverization, in the treatment of various diseases of the respiratory passages—a form of treatment that has been introduced of late at some of our home springs, though in but few as yet. There is no doubt of the efficacy of this mode of treatment in many cases. For laryngitis, or "clergyman's sore throat," I choose among the sulphur waters rich in sodium, or the alkaline, with chloride of sodium. Eaux Bonnes, Ems, Obersalzbrunnen, Neuenahr, Selters, Sharon Springs are typical and excellent waters of these kinds.

For beginning phthisis in nervous and sanguine temperaments, treatment at Mont-Dore, at Ems, at Salzbrunnen, at our own Red Sulphur Springs in Virginia, is to be preferred. In the phthisis of scrofulous temperaments the springs of La Bourboule are especially useful. For torpid scrofula, Salins, Kreuznach, Ischl, Kosen, Bourbonne-les-Bains, Rockbridge Alum, Greenbrier Springs are indicated; and any of our stronger saline waters at home. For irritable or "erethic" scrofula, La Bourboule, St. Nectaire, and other springs of Auvergne.

4. Diseases of the uterine system. Among these may be named uterine catarrh, amenorrhœa, dysmenorrhœa, and metritis; these are all suitable for treatment at mineral springs, and they are all relieved or cured, and sometimes with them the resulting sterility at a properly chosen station. In Austria, the springs of Franzensbad are famous for the cure of this class of ailments; in France, Bourbon-Lancy, Plombières; in Germany, Pyrmont, Elster, Schlangenbad, and the Bubenquelle at Ems; of our own waters, Capon Springs and the Buffalo

Lithia No. 2, among other tonic waters, are excellent. For cases of obstinate morning-sickness the waters of the Irondale Springs have been prescribed with good results.

5. Diseases of the urinary system form an important branch of the treatment by mineral waters. Chronic catarrh and rheumatic affections of the bladder, urinary calculus, and sometimes Bright's disease in its early stages, are amenable to this treatment. In uric-acid or red gravel, the most frequent form, and in oxalic gravel, as Trousseau has pointed out, the alkaline waters should be chosen: Vichy, Carlsbad, Ems, Neuenahr, Buffalo Lithia, Capon Springs, Gettysburg "Catalysine." For alkaline gravel I prescribe the calcic waters. Clysmic is one of the best, and it is also a very pleasant table-water.

6. For skin diseases the sulphur and arsenical springs offer a vast field of choice, according to the character of the case. But here we come upon debatable ground; some authorities, like Braun and Hebra, among others, contending that skin diseases do not yield to the treatment by mineral waters. But therapeutic art is nothing if not practical, and experience shows us that a great number of patients come every season to the springs with chronic dartrous diseases who go away from the springs relieved or cured. If they are not cured by the springs, they are certainly cured at the springs, and the exact nature of the distinction is one in which the patient at least will not take much interest.

7. General diseases or diatheses, as chronic gout or rheumatism, scrofula, anæmia, obesity, are often cured at a well-chosen spring.

The anæmia of the scrofulous diathesis is to be treated at a saline water, as at Salins, or Salins-Mouthier in the east of France, or at the Hathorn Spring of Saratoga. The anæmia of exhaustion requires, on the contrary, the effect of an iron water; it will best be treated at such a place as Bussang in the Vosges—a spot so beautiful and quiet as almost to make one desire a sufficient degree of anæmia for himself and his friends as to justify one in taking up his abode for a time among those enchanting hills.

For constitutional anæmia the reconstructive and tonic waters are needed, in conjunction with such diet as will restore the lacking elements of the blood. Beef-peptonoids for the anæmia of dyspepsia; gluten bread and whole-wheat bread for that of diabetes; cod-liver oil and milk for that of the phthisical diathesis, are indicated. The springs of Auvergne, and of Salins, Luxeuil, and Bussang, in France; Franzensbad, in Austria, and the Columbian Spring at Saratoga will bring relief or cure when used with these adjuvants. When chlorosis accompanies constitutional anæmia, the contrasted influences of Alpine resorts and sea-bathing are alike useful.

Such, briefly, are the main classes of disease which we may rationally hope to relieve, and sometimes to cure, at the rightly chosen spring. It is not possible, in the brief time at my disposal, to indicate much more than the general types of ailments, the general classes of springs at which a cure may be sought. Still less can I enlarge in this place upon another order of conditions which, as I have said already, and wish to say once more, are scarcely less important to the cure than the right choice of the mineral waters themselves. I mean the external or the extra-medicinal conditions of the place, as hamlet, village, town, or city; the nationality and the social condition of the people whom the visitor will meet; the advantages of scenery and attractive environs; the *personnel* of the guests and of the physicians; and, not least of all, the kind of hotels, boarding-houses, and furnished rooms which he will find. Most of these conditions, though I have called them extra-medicinal, are very directly related to the cure of the invalid; and most of them can only be well understood by personal acquaintance with the places in question. I do not underrate the purely medicinal side of the question; it is all-important; and yet no part of my own studies in mineral waters has been better repaid than the visits that I have made to many of the leading springs. In a word, it is not enough to say to the patient, This is a good mineral water; it is not enough, even, to say, This is a water that is suited to your case. The physician must be able to say also: Not only the waters, but also the climate, the country, the people, the local treatment, the hotels and boarding-houses, the ways of living, the place as an entirety, are suited to your particular case. When the physician can know these things the cure of his patient is not far away. And he can know all of these things only by personal inspection. All of these collateral points should be, as far as possible, familiar to the consulting physician on whom the grave responsibility devolves of sending the patient far away from home, and who clearly recognizes that the waters are by no means all in themselves; that these complicated and delicate remedies depend for their success, in no small degree, upon the right selection of the conditions under which they are used.

To recapitulate: Three different things must be clearly known, in respect to each patient, before he is sent to a mineral spring. What are these three things? They are, first, the patient's disease; second, the mineral water that is medicinally adapted to the treatment of that disease; and, third, the hygienic, social, personal, and living or commissariat conditions of the place to which the patient is going.

I have one remark to add. I think that treatment by mineral waters, both at home and abroad, is destined to increase greatly within a few years from now; and I believe that that increase is to take on a sort of reciprocity or international character as our own excellent native waters become better known abroad. They will become better known as our establishments are developed and made more attractive; when that is done—when we come to have more of such admirably appointed establishments as the Sanitarium at Dansville, N. Y., for instance—I look for European invalids to frequent our waters as we have learned to frequent those on the other side of the Atlantic; with the illustration of Saratoga in view, it is not necessary to say how attractive an American watering-place may be made. The only lack at Saratoga is the willingness to submit to scientific treatment. A number of other domestic springs, especially in the Eastern States and in Virginia, have received all of the outward development and perfecting that are required to make them charming places of resort. But for the greater part of our springs much remains to be done. Much remains to be done not only in the way of outward perfecting, in the construction of hotels and establishments, but in equipping them as true places of healing, and in making them regarded as a serious means of cure. They are so regarded abroad, and with reason, as I have tried to show. They are less so regarded with us, and more regarded as places of recreation; and this is an unfortunate, because an insufficient, view of their values. Mineral springs are most potent, if delicate, remedies; and the danger is that their real therapeutic value may be overlooked by the public if it is not sufficiently insisted upon by the profession, and that they may lose the vogue that they deserve—a thing that has already happened to at least one very deserving spring in this part of this State.

The fitting development of our excellent but still undeveloped springs presents, in my opinion, a field both to professional and to business enterprise that is second to none. Virginia, for instance, is but one among several States in which there are excellent springs that have in past times been popular, and may be made popular again, but which through mismanagement of one kind or another have now lost their vogue; and this decline, I would say in passing, has generally been due in part to a very easily avoidable cause, which I have not yet mentioned. It has not been due to any demerit, real or fancied, in the waters themselves; it has not been due to insuffi-

cient skill in the attending physicians, though, as I have said, we do not as a community give such high medicinal rank to spring treatment as it undoubtedly deserves. No; it is a more trivial cause than either of these, and yet one that is quite sufficient to disperse the stoutest-hearted colony of settlers, especially if those sojourners be dyspeptics—and that cause is bad cooking. A poor *cuisine* will put to flight the most courageous invalid. A good *cuisine* must go with a good spring, or success will not attend the management. One great secret of the popularity of the French springs is the attention given to this important point. Even at the newest establishments, as at Martigny and Bussang, an exquisitely appointed *cuisine* has appeared from the first, and dining-saloons have risen from the ground like the dinner-tables of Beckford or of the late King Ludwig of Bavaria. These things, in connection with a competent medical direction, and a serious medical and hygienic treatment, have not yet reached that satisfactory development at our springs that they have found in the older countries of Europe. But this development will come in time, and foreigners will then seek American mineral springs for the same reason that we shall long continue to seek the springs of Europe, for the conjoined and manifold benefits of a completely changed environment.

The domestic use of mineral waters is an important subject for the many persons who cannot leave their homes for treatment at the springs. I have discussed it in a paper to appear elsewhere, and I will not here enter upon it at length. It is enough to say that such domestic use is often very helpful to the invalid. The home use of mineral waters will seldom, indeed, adequately replace the trip to a mineral spring; the reasons for this I have already pointed out, in the different circumstances of life at a spa, in the relief from home anxieties, and in the almost invariably stricter medical supervision abroad than at home. All these postulates of spring life must make it the preferable means of treatment. Yet for many the home use of a rightly prescribed water is a valuable cure. And not only are the natural mineral waters valuable when taken at home, but some of the artificial waters also, as Schultz's and the various hygeia waters, which are the best among many. All these offer an undoubted resource.

One caution, finally, is to be borne in mind by the patient. Mineral waters, though delicate, are powerful remedies. They are not to be taken at the patient's choice or whim any more than other medicaments. That they are often self-prescribed is a main cause of their slow recognition by our public. The American tourist likes to prescribe for himself; he likes to choose his own spring when he will and where he will; he insists on eating, drinking, exercising, amusing himself, or abstaining from all of these things, as he alone may elect. I need hardly say that the latter state of that invalid is apt to be sevenfold worse than the first.

It is the physician's duty to check this undue liberty. Rightly chosen, rightly prescribed, and under the right conditions, the mineral springs of our own country, intrinsically as good as any of those of Europe, are among our most valuable remedies in chronic cases. After other remedies have failed they will often bring relief or cure. Let us claim for them and restore to them their true value.

THE LATE PROFESSOR POST.—Dr. S. Haynes writes that in the winter of 1852–53 he witnessed the reduction of a dislocation of the cervical vertebræ by Dr. A. C. Post. The man was placed on the operating-table, and by means of extension and counter-extension, with a little manipulation, the dislocation was readily reduced. He adds that Dr. Post was known as a stanch temperance advocate, and says that it was currently reported among the students at that time that he had voted against the granting of diplomas to fifty students at the previous session on account of their intemperance.

Clinical Department.

REMOVAL OF THE UTERINE APPENDAGES.

DR. WM. B. BLACKSTONE, of Hebron, Ind., reports the following cases: "1. Mrs. E. J. W——, aged twenty-nine, and married nine years, has had two children and one miscarriage, the latter occurring in September, 1882. Since that time she has had constant backache, painful micturition, headache, loss of appetite, constipation, and a peculiar throbbing, boring, burning pain in the right iliac region, and on the right side of the uterus a constant, dull, heavy ache. The menstrual periods occur regularly, but are attended with a profuse flow, great pain, and considerable elevation of temperature. They last from six to eleven days, and during the past year there has been a yellowish discharge, of an offensive odor, from the vagina. The uterus is congested, retroflexed, and slightly enlarged, any attempt at replacement causing intense pain. The right ovary is enlarged, exquisitely sensitive, and prolapsed into the retro-uterine cul-de-sac. After six months of persevering treatment, without relief, an operation was proposed—the dangers and the probable benefit being fully explained to the patient—and was consented to. The operation was performed on May 19, 1886, both tubes and ovaries being removed without much difficulty. There were no adhesions of any consequence on the left side, but on the right side there were broad and firm, but non-vascular, bands connecting the tube with the uterus and ovary. The cavity was thoroughly cleansed with warm water, the wound closed with silver and catgut sutures, and the usual dressings applied. The patient made an excellent recovery. The inner portion of each ovary was occupied by a large cyst containing a dark fluid, and the outer portion was marked by several nodular projections, consisting of dense fibrous tissue. Both tubes were tortuous, enormously distended, and filled with a greenish fluid, seen, under the microscope, to contain pus-cells.

"2. Mrs. L. McA——, aged thirty-seven, has had nine children and three miscarriages. She has constant backache, a dragging sensation in the pelvis and thighs, and a heavy, boring pain in the iliac region on either side of the uterus. Before each menstrual period there is a discharge of pus from the vagina, after which there is some alleviation of the symptoms. The periods occur every three weeks, and each one is ushered in with a chill, followed by a fever of several days' duration. The flow continues about ten days and is very copious. There is a bilateral laceration of the cervix extending back to the vaginal vault. The endometrium is studded with a fungous growth. The uterus is large, sensitive, and bound by strong adhesions posteriorly. The appendages on either side are thickened and sensitive. The patient is anæmic, and has been bed-ridden for the past eight months. The operation was performed on June 29, 1886. Before the administration of the anæsthetic, cocaine hydrochlorate was given by the mouth to prevent nausea. The operation consumed one hour and thirty minutes, being prolonged by reason of the extensive adhesions which bound down the ovaries and tubes, making their removal extremely tedious and difficult. The omentum was adherent to the anterior surface of the uterus, but the two were easily separated. The uterus was, however, firmly bound down by other adhesions and could not be raised. The left tube and ovary were first removed. The right tube and ovary were buried in a mass of adhesions. After these were broken up, the organs were raised and ligated off, but the stump was so rotten that the ligatures cut through, and each artery had to be caught and tied separately. The wound was closed by silver and catgut sutures. In three weeks after the operation the patient was sitting up. The right ovary was enlarged and its surface was marked

with cicatrices and numerous small cysts. On section its interior was found to consist of one large cyst filled with a thick, gummy, translucent material. The tube was large, folded on itself, adherent everywhere to the ovary, and contained pus. The left ovary was small, but was found to contain a cyst filled with the same material as the right. The tube was large, distorted, and bound down to the ovary. Both tubes were soft and friable. It is now six months after the operations, and both women are rugged, robust, and in perfect health." Dr. Blackstone concludes: "That the operation is a justifiable one in all intractable cases of this kind there is, to my mind, no doubt. And in the future, I am inclined to think, it will be performed oftener than it now is; for in it is offered the only means of cure to a very large class of unfortunate women."

Progress of Medical Science.

The Surgical Relations of the Ileo-cæcal Region.—Under this title Dr. J. McF. Gaston, of Atlanta, Ga. (*The Journal of the American Medical Association*, October 9, 1886), considers the frequent derangements of the ileo-cæcal region. As a result of his investigations he formulates the following conclusions: "First, certain modifications are corrected spontaneously, or by the process of resolution under treatment. Second, in the earlier stage of ileo-cæcal disorder, medicinal or mechanical measures are advantageous. Third, extra-peritoneal punctures and incisions are beneficial in cæcal inflammation, with or without fæcal abscess. Fourth, disorders involving the peritoneum, when not promptly relieved by general treatment, warrant exploratory opening of the abdomen. Fifth, impediments of the intestinal canal, or morbid accumulations in the abdominal cavity, accompanied by meteorism, call for immediate surgical interference, with laparotomy. Sixth, in case of simple stenosis or malignant growths involving the ileo-cæcal connections, ileo-colostomy is indicated. Seventh, gangrenous portions of the intestinal canal necessitate resection, and either direct restoration by suturing the ends or the formation temporarily of an artificial anus. Eighth, operative measures in ileo-cæcal derangements should not be delayed until the physical powers have become prostrated, but resorted to while there is capacity for reaction of the vital forces.

Abdominal Pregnancy Terminating by Ulceration into the Rectum—Recovery.—Dr. Browne reports this remarkable case in *The Lancet*, October 2, 1886: "E. J——, aged forty. Has had ten children, the youngest being five years old. Has not had any miscarriages, and gives no history of previous disorders in the organs of gestation. She had last menstruated in November, 1884 (seventeen months previously). She believes herself to have been in her usual good health, and does not remember to have had any fright about that time. In the course of a month or so she began to suffer from metrorrhagia, which continued, and led her to seek advice. On examination, a tumor was found upon the left side of the abdomen. From its position and feeling it was diagnosed as ovarian, and it was also suggested to the patient that she was pregnant. The metrorrhagia continued, more or less, until in September, 1885, or at what would be about the full period of pregnancy, a pseudo-labor took place, and an effort at lactation appeared in the breasts. About this time the patient began to notice that the tumor seemed smaller. She complained of loss of appetite, general ill-health, and pain and irregularity in the action of the bowels. This state of things continued until April last, or seven months after the pseudo-labor, when she was taken with violent forcing pains in the body and lower bowel, and offensive diarrhœa, in the course of which some fœtal bones were passed. Examination of the rectum disclosed the presence of the remainder of the fœtus. A hand was introduced into the bowel, the fœtal head crushed as far as possible with the fingers, and its fragments and other bones removed. The diarrhœa, and the occasional passage of a remaining bone, continued for a few days, gradually became less offensive, and then ceased. Within a fortnight the patient was able to leave her bed, and has since made an uninterrupted recovery. From the frontal bones removed entire, each measuring an inch and a half by an inch and three-fourths, and from the other cranial bones fitted together, the bi-parietal diameter was computed to be three inches. All the bones had the normal amount of ossification of a full-time fœtus. Points of interest in this case are: 1. The difficulty of diagnosis, though, looking back now, nothing can be clearer than the sequence of events. 2. The maturity and perfect formation at which the fœtus arrived. 3. The means taken by nature to remedy her error, and which resulted in perfect recovery."

Cold Applications to the Præcordia in Fever.—Dr. Grigorovih has studied the effects produced by applying cold over the region of the heart in typhoid fever. His observations were made on uncomplicated cases of the disease. Respiration, at first, became somewhat quickened, and was rendered irregular by reflex action; subsequently it became slower. At the end of the application of the ice, and the next morning, it was deeper and more regular, but somewhat slower than before the ice was applied.

The general conclusions regarding the effect of applying cold to the region of the heart are as follows (*The Therapeutic Gazette*, ~~October 15, 1886~~):

1. The cold undoubtedly reaches the heart itself, and thus produces an effect upon its action.

2. This effect is particularly noticeable when the cardiac beats are increased in frequency in consequence of a high temperature quickly attained, and where a certain degree of sensitiveness to a high temperature exists.

3. The effect of cold is not marked at the end of a prolonged attack of fever, pathological changes having by that time probably become established in the cardiac muscle.

4. The local application of cold is only capable of protecting the heart-muscle from the effects of a high temperature when it is applied assiduously from the commencement of the disease.

5. Under its influence the action of the heart improves, the number of beats diminishes, while their force and amplitude increase.

6. Cold applied to the region of the heart diminishes the gravity of the typhoid condition and favorably influences the respiration.

7. With regard to the effect of cold applied to the region of the heart on the course of the general temperature, the author cannot at present express a decided opinion, as he did not investigate the question: but in the results which he obtained indications may be found of the possibility of its causing some diminution of the temperature.

Why do not all Myopes Squint Outward?—Dr. F. Stilling answers this question as follows: 1. Some myopes squint inward because their position of rest is convergence, and there may be insufficiency of the external recti besides. 2. The position of rest of many myopes is convergence. If this be only slight, only relative divergent squint can possibly develop. The same holds good for parallelism as position of rest. 3. Even if all circumstances are favorable for outward squint, it will not develop if the individual cannot learn to relax one internal rectus muscle in order to give the eyeball a chance to assume its position of rest. 4. The majority of myopes do not squint because they have acquired the faculty of shifting the range of relative accommodation in the interest of binocular fixation so that the synergistic efforts of accommodation are reduced to a minimum. —*American Lancet.*

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A QUESTION OF COMPENSATION FOR EXPERT TESTIMONY.

WE have to thank several correspondents for calling our attention to what we cannot but regard as a legal outrage, which has been perpetrated against a prominent physician living in Southwestern Ohio. The facts of the case are as follows: Dr. F. H. Darby, President of the Miami Valley Medical Association, living in Morrow, a town not far from Cincinnati, was summoned to Lebanon as a witness in a wife-murder trial. Being put upon the stand, he made the statement that he would testify to all matters of facts within his knowledge, but would refuse to give expert testimony unless he were assured a certain fee. The judge informed him that the fee could not be allowed, and that, according to a recent decision of the Supreme Court of one of the States, physicians could be compelled to give expert testimony without extra compensation. The examination then went on, the witness answering readily all questions put to him concerning facts within his own knowledge, until the prosecuting attorney asked him to "state whether, in wounds like this, there would be immediate gaping, or would the lips of the wound for a time remain in contact or nearly so?" This question Dr. Darby refused to answer unless he were guaranteed a fee of $25 for expert testimony; and, as he persisted in his refusal, he was committed to jail to be confined until he was ready to purge himself of the contempt of court. The witness spent two nights in jail, still refusing to recede from the position he had taken; and whether he has even yet been liberated we are unable to say. He is determined, however, not to yield, and will carry the case up to the Supreme Court, if necessary, in order to see whether justice can be guilty of such injustice.

We do not know what State it is in which the Supreme Court has handed down the decision that professional men may be compelled to give expert testimony, but we do know that other decisions have been made which affirm directly the opposite. Tidy says, in his "Legal Medicine," that no witness can be compelled to give his *opinions* in the witness-box, and no one is bound to accept a subpœna merely to state opinions. The witness that can speak to any actual fact connected with a case must attend the trial if he be required to do so, but the expert, however wide his experience, cannot be forced to give the court the value of his general or special knowledge. This, of course, refers only to English law, and the law in this country is not necessarily the same. Mr. Henry A. Riley, a well-known writer on subjects pertaining to legal medicine, is the author of an article on the Law of Expert Evidence in the "Reference Handbook of the Medical Sciences." In this article he says that, while an ordinary witness may be compelled to testify to facts within his knowledge which may be important to the just decision of the case, experts are in a very different position. "It has been fully settled," he says, "that expert witnesses are not obliged to give testimony against their will in cases where they are subpœnaed. They would probably be guilty of contempt of court if they did not obey the subpœna, but they cannot be compelled to testify as to their opinions upon assumed facts if they do not desire to. The payment of a proper fee may be made a condition precedent to testifying. If, however, an expert witness begins to give testimony without raising the point of a failure to compensate him, he cannot stop of his own motion. He is obliged to continue his testimony until his examination is concluded."

We all know that law and equity are not synonymous terms, but it is certainly not justice to compel a man to give for nothing what he has spent so much time, money, and labor to acquire. If a physician has no right of possession in the special knowledge which has cost him so much to gain, then let us be consistent and divide up all property. Physicians, in common with other good citizens, submit willingly and uncomplainingly to the law, and cheerfully make every sacrifice to perform their duty as witnesses to facts which may be of service in furthering the ends of justice. But there is a limit to even such services. It is the common belief that judges and lawyers are necessary to the proper meting out of justice to evil-doers, but they are not on that account compelled to give their services without remuneration, and there is no justice nor reason in forcing physicians to do so. The State has attorneys whom it pays well to prosecute offenders against its laws, and it should pay the expert witness, if it calls upon him, for the knowledge which he has acquired, and which is as much his own property as are the clothes he has on his back.

We are so accustomed to see the long-suffering members of our profession imposed upon in many ways, and robbed of the fruits of their experience and study, that we have grown somewhat callous. But it is time that we began to assert our rights, and we are glad that Dr. Darby has had the courage to resist the imposition which it was attempted to practise upon him. He deserves the thanks of the profession for the stand that he has taken, and we hope he will be successful in establishing firmly the principle that a physician's knowledge is his own property, which cannot be taken from him without adequate compensation.

LATENT MICROBISM.

WE have had occasion to notice recently in these columns several cases of scarlatina in which there was so little apparent chance of contagion as to suggest the possibility of spontaneous origin. It is true that all diseases of this nature must have had an origin at some

time, but so must all forms of animal and vegetable life have had, at some period in the world's history, a beginning. The experiments of Tyndal and others have, however, shown that spontaneous generation cannot or. at

in the University of Wooster, Cleveland, O., has resigned his position as one of the Secretaries of the Section on Dermatology and Syphilis.

Dr. George Bronson Farnam died at his home, in New Haven, Conn., on December 23d. He was a graduate from the Yale Medical School.

A Doctor's Suicide from Loss of Practice.—Dr.

the body, as in the skin or serous membranes, the connective tissue, etc., which may remain inactive, giving rise to no symptoms whatever for months and years. Finally some disturbing cause, very slight it may be in itself, starts up these latent microbes to renewed activity; they increase rapidly in number, and wander forth from their resting-place to infect the system and set going the morbid processes of disease.

This theory serves well to harmonize the doctrine of contagion with the cases of seeming spontaneity of origin of diseased processes which are met with from time to time. It supposes, of course, that there has been contagion at some time; but it may have been years before the disease makes its appearance, and so the affection seems to be developed spontaneously. But there are two objections, at least, to M. Verneuil's theory. The first is that it assumes that micro-organisms are certainly the cause, and not possibly the accompaniment, of morbid action. The second is that it is founded on pure speculation, and is as yet unsupported by any facts whatever.

A SURE CURE FOR DIPHTHERIA AGAIN.

We feel that perhaps an apology is due our readers for bringing to their notice another of the many methods of treating diphtheria, which are always said to be so successful in the hands of their advocates, but which, for some reason or another, often fail to yield satisfactory results when employed by others. But the therapeutic nihilists must not be allowed to have the ascendency always; and, indeed, some of the methods recommended in recent years, though not specifics, have proved to be very serviceable, and it is not impossible that others may yet be proposed which may be found to be of even greater value. It is, therefore, worth while to consider any new plan of treatment that may be brought forward, or to note any remarkable series of successes which have followed the employment of old methods.

Dr. A. Brondel writes, in the *Bulletin Général de Thérapeutique* of November 15, 1886, concerning the treatment of diphtheria by benzoate of sodium, and asserts that of two hundred consecutive cases he has not lost a single one. He admits the possibility of a mistaken diagnosis in some instances, but even excluding fifty per cent. on this account he still has one hundred cases without a death. His method is as follows: Every hour the patient takes a tablespoonful of a solution of benzoate of sodium, fifteen grains to the ounce, and at the same time one sixth of a grain of sulphide of calcium in syrup or granule. In addition to this, the throat is thoroughly sprayed every half-hour with a ten per cent. solution of benzoate of sodium. This is done religiously at the regular intervals, day and night, but no other local treatment is employed; no attempt is made to dislodge the false membrane, and no pencilling nor painting of the fauces is resorted to. Tonics are given and antipyretics are used when occasion calls for them. The nourishment consists of beef-juice, tender rare meat, milk, etc., but bread and all other articles which may cause irritation of the throat are forbidden. The sick-room is kept filled with steam from a vessel containing carbolic acid, turpentine, and oil of eucalyptus in water.

The employment of benzoate of sodium is not a new method in the treatment of diphtheria; for it has been tried, and is recommended highly by Letzerich, Kien, Ferréol, and others. But this, of course, speaks so much the more strongly in favor of the remedy; and as Dr. Brondel's results were better than those obtained by others using the same drug, it is to be presumed that his method of employing it is the best.

THE ETHICS OF ADVERTISING.

A correspondent from Kansas City informs us that he has read in the daily papers an account of another wonderful operation performed by a member of the staff of one of the teaching institutions in this city. Having seen similar reports of operations by the same individual, he very naturally inquires if it is necessary to belong to that particular body of instructors in order to be allowed to advertise. In the West, he says, they are more refined and cultured in their methods than they are here. Physicians there bring themselves before the public in many ways, it is true, but in a manner more pleasing to their wished-for patrons. They pose as founders of societies of microscopy and art, are prominent in religious circles, and are foremost in all public enterprises and philanthropic schemes of every kind and sort.

This is all very true, and our correspondent is right in claiming that the Western methods are more refined and more in keeping with the requirements of the Code. But he fails to recognize the broad distinction between local and national advertising. The man who works what the wicked call the Sunday-school racket has only a limited sphere of usefulness. He may be called on to treat the clergyman of the parish gratuitously, and through him may get a few fees out of the members of the congregation. But the man who reports his marvellous operations, or who announces himself as delivering a course of lectures, in the papers throughout the country has a more lofty ambition. He desires to relieve the sufferings of his fellow-men everywhere, and not merely those residing within the limits of a narrow section. That our Western brethren are beginning to grasp this idea is evidenced by some startling tales in the papers of a dead person brought to life by a Chicago physician. That is more than the professor, with all his operations, has ever done.

But, as we have said before, the fact that an enterprising reporter writes up an account of an operation for his paper does not necessarily imply that it was done with the consent, or at the request of, the operator. It is only when the offence is flagrant, and is repeated time and again, that it is fair to throw the odium upon the surgeon. A little charity in our criticisms of our professional brethren is never out of place.

THE INDICATIONS FOR THE USE OF ALCOHOL IN ACUTE DISEASES.

It is getting to be a quite well-established canon of medicine that most healthy men are better without alcohol taken in any form or at any time. We are inclined to add that Americans do not bear it so well as Europeans. That it can be dispensed with altogether in medicine, however, is a thing not to be admitted, and medical opinion almost unanimously supports this view. But no doubt alcohol is often used more promiscuously than it should be, especially in hospitals, and the observations and conclusions of Dr. Collie regarding the indications for its use (*The Practitioner*, vol. xxxvii., No. 5) deserve close attention. Dr. Collie admits that alcohol is not required in the mildest cases of fevers, nor in the severe if the patient be taking a sufficiency of food, nor generally in young adults of the well-to-do classes. These are great admissions for Dr. Collie to make; but in opposite circumstances he maintains it is more or less necessary, and we advise our readers to consider his opinions. Briefly, in the chief fevers, to which his authority applies, they are as follows: In *typhus*, alcohol is rarely required for children or adults under thirty; but after this age it is necessary, and often in considerable quantities. It may be dispensed with early in convalescence, as solid food can be taken as soon as the temperature falls. In *scarlet fever*, alcohol is not required, as a rule, at any period of the disease. But in very poor children, in early convalescence, with abscesses or brawny neck, alcohol, in the form of port wine, is indicated. He considers port, say four to eight ounces, good for children of the age of from four to six. For procuring sleep it is better than opium. In enteric fever the chief value of alcohol is during convalescence, where solid food cannot safely be taken for from ten to fourteen days from the return to normal temperatures. Alcohol is contraindicated in cases of hemorrhage unless collapse has resulted. Burgundies and champagne, of well-approved brands, are, he thinks, the best forms.

THE IMMEDIATE CURE OF WHOOPING-COUGH.

Our Scandinavian brethren have been showing considerable activity of late in the line of therapeutics. We reported the results obtained in the treatment of tubercular meningitis by iodoform. Now we find one Dr. Mohn, who claims to have an immediate cure for whooping-cough (*Norsk Magazin for Laegevidenskaben*, November, 1886; *Rev. Internat. des Sc. Méd.*, November, 1886). Dr. Mohn writes that, about six years ago, his three-year-old daughter was attacked with scarlet fever, followed by whooping-cough. At the end of five weeks, when the scarlet fever had run its course, Dr. Mohn fumigated the clothes and apartment with sulphurous acid. The child's attacks of coughing ceased from that day.

Four years later he was called to see a child of three years who was suffering from pertussis to a dangerous degree. Three brothers and sisters were affected also, but not seriously. Dr. Mohn burned his sulphur, and the next day all four patients were cured!

Other cases are cited. An infant of five months, who had had the disease for five weeks; a boy of four years, who had suffered from it for fifteen days, were cured as "by enchantment." Six other cases are reported, all treated with equally brilliant success.

The method is as follows:

Dr. Mohn reported his method to the Medical Society of Christiania, and it was favorably commented upon. It is, at any rate, a new idea, and perhaps a good one, to disinfect a sick-chamber during the course of the infectious disease.

SMALL FEES AND GREAT DOCTORS.

A young physician, practising in this city, writes: "Is there no help for the pitifully small fee which we doctors, in all but the central parts of this city, get? I started in practice here over a year ago, locating in the neighborhood of a large apartment and tenement-house district. I had spent a good many years and a large sum of money on my medical education, having not only passed through a hospital course, but taken special studies abroad. I began practice by charging $2 for visits, but soon found it would not do at all. I was told that Dr. ——, a professor in one of our leading medical schools, only charged $1; so did other old, well-known physicians practising in the neighborhood. It seems to me that long years of experience and study ought to make a physician's advice worth more than it is estimated at by certain active and venerable doctors in this vicinity.

We often are in receipt of complaints of the above kind, and are generally willing to concede that there is some justice in them. It is too often the case that, as physicians grow older they cannot see the wisdom and justice of selling their services at a higher value, thus diminishing, perhaps, the amount of their work, but in reality doing a better kind. We happen to be able to say with positiveness, that the "Professor" alluded to by our correspondent, at an age when he should be resting or consulting, allows himself to be worked to the last point of weariness by the same kind of practice as that with which he began his professional career.

The Emigrants' Hospital.—At a meeting of the Commissioners of Emigration last week, the Ward's Island Committee presented a long report, reviewing the investigation in October into the charges made against the physicians at Ward's Island, regarding the dissection of bodies and appropriation of specimens, and exonerated the physicians. The committee, however, thought the interests and efficiency of the medical department would be increased by the appointment of a pathologist whose duty it should be to supervise all autopsies in the department, no autopsies to be performed by persons not members of the medical staff. Dr. John S. Thatcher was appointed.

News of the Week.

Dr. William T. Corlett, Professor of Dermatology in the University of Wooster, Cleveland, O., has resigned his position as one of the Secretaries of the Section on Dermatology and Syphilis.

Dr. George Bronson Farnam died at his home, in New Haven, Conn., on December 23d. He was a graduate from the Yale Medical School.

A Doctor's Suicide from Loss of Practice.—Dr. Henry Andrews, a graduate of Long Island College Hospital, and a resident of Brooklyn, shot and killed himself, on December 25th. He was an unmarried man about forty-seven years old. It is stated that despondency from failure to secure practice was a cause of the suicide.

The American Rhinological Association would be pleased to have authors send any monographs, papers, or books, treating of any disease pertaining to the nose, throat, or ears, to the librarian, Dr. N. R. Gordon, Springfield, Ill. The acknowledgment will be made by the Association.

The Suicide of Professor Kolomnine. — The *Semaine Médicale* gives some particulars of the accident which led to the suicide of Professor Kolomnine. The professor had decided to perform an operation for the removal of tubercle from the rectum of a female patient, and inquired of his colleague, M. Louschinsky, what dose of cocaine he might administer. The answer was that the maximum was two grains. Upon consulting special treatises, however, M. Kolomnine found that thirty cases of anæsthesia were recorded in which the quantity given had varied between six and ninety-six grains. In a similar operation to that he proposed to perform, a French surgeon had given forty-eight grains. In consequence of these references it was decided to employ twenty-four grains, which were introduced into the rectum by instalments. About half an hour after the operation the first symptoms of poisoning appeared, and notwithstanding the administration of nitrite of amyl, hypodermatic injections of ether, oxygen and artificial respiration, etc., the patient succumbed.

The Centennial of the College of Physicians of Philadelphia.—The commemorative exercises of the one hundredth anniversary of the College of Physicians were begun, Monday evening last, with an address by the President, Dr. S. Weir Mitchell, in Association Hall, in the presence of many of the prominent physicians of the city. Dr. Mitchell, in opening his address, spoke of the institution as the oldest medical society, not a State organization, in America. He gave an account of those who formed the college in the latter part of 1786, and who met first, January 2, 1887, speaking of the life and character of Benjamin Rush, John Redman, Samuel Powell Griffits, and Caspar Wistar, Jr. He reviewed the services rendered by the college and by the fellows in forwarding both professional and public interests. At the close of the address a reception was given in the college building, which was largely attended. A special meeting was held at noon on Tuesday, for conferring the honors of Associate Fellowship. An address was delivered by Professor Alfred Stellé, after which the President conferred the honor of Associate Fellowships upon nine gentlemen. Professor J. M. DaCosta welcomed the new Associate Fellows on behalf of the college. In the evening there was a banquet in the Union League, Dr. S. Weir Mitchell presiding. Over one hundred guests were present. Toasts were responded to by Dr. C. R. Agnew, Dr. T. G. Thomas, Dr. William Pepper, Dr. John Ashhurst, Professor Theophilus Parvir, and Dr. John S. Billings.

A Cablegram states that Drs. Martin and Veil have been chosen as Vice-Presidents of the Gynecological Section of the coming Medical Congress at Washington.

The Hospital Sunday Fund, up to date of writing, had reached the amount of $24,843.19, with prospects of a total exceeding that of previous years. The "banner" church, we believe, is the Broadway Tabernacle, whose collection amounted to $3,420.08.

Northwestern Medical and Surgical Society.—At the annual meeting of the Northwestern Medical and Surgical Society the following officers were elected: President, Dr. A. R. Robinson; Vice-President, Dr. R. C. M. Page; Secretary and Treasurer, Dr. E. S. Peck.

A Dangerous Dose.—Our attention is called to a typographical error in the article on "Arsenic in Skin Diseases," page 14, in which the dose of Fowler's solution is named as one to twenty drachms thrice daily. It should of course be minims.

The Wealth of Families.—The physician is paid well, or otherwise, in accordance with the supply of money in the families among which he practises. There are about eleven million heads of families in this country. Estimating their incomes on the same basis as that of English tax returns, there are only about one hundred thousand families having an annual income reaching $2,000, and only about thirty-five thousand having an income equalling or exceeding $5,000. Out of fifty-five millions of population, forty-five millions earn $15 a week or less.

Guy's Hospital in Need.—Perhaps the worst sign of the agricultural depression in England yet recorded, is that Guy's Hospital is asking the public for subscriptions. "Guy's" has hitherto been a very proud hospital, and has kept house magnificently, in the interest of the suffering poor, on an income of over £41,000 a year, derived from estates in land. But the annual yield of these estates has been diminishing steadily since 1879, until, at the present time of asking, it has come so low as £26,000, with every prospect of further decrease. The total of 650 beds of the old prosperous times has been reduced to 500, and then to 400, and it is believed that the worst has yet to come. At one time, when money meant money, and land was land, Guy's lived in great charitable state on its fortune of £220,000 from Mr. Alderman Guy, and its £180,000 added by Mr. William Hunt, a century later, to make the round £400,000, and never asked the public for a penny.

Light on the Pineal Gland.—Some recent observations of Mr. Baldwin Spencer seem to show that the pineal gland is homological with the vertex eye of lacertilians.

THE MEDICAL ASPECT OF THE COLIN CAMPBELL CASE.—Sheared of its disgusting and prurient details, the Colin Campbell case brings up some very interesting pathological and medico-legal points, particularly with reference to the relation of old chronic gonorrhœa to endometritis and salpingitis. The *Medical Press and Circular* gives the following account of the matter: "Before marriage the husband had been suffering from perineal abscess, the sequel of gonorrhœa contracted some few years previously, for which abscess he had undergone one or two surgical operations—namely, perineal section into the urethra. Marriage took place before the parts were restored to health, but it was previously agreed that separate beds should be occupied for two months or so, in order to permit of recovery. The contention of the wife was that, although he had been operated upon and was not as yet recovered at the time of marriage, yet she had no idea he was suffering from any disorder of the genitals, but had thought it was something of the nature of piles. Communications had been made to her by medical men, but she asserted that this was thus understood by her. However, after some time, permission was given to commence intercourse; but as the husband was again laid up, it had to be discontinued, and further operations became necessary. Intercourse was occasionally resumed, but ultimately the wife's health was affected, and it was found she was suffering from irritation of the vagina and vulva, with uterine leucorrhœa. Local applications were made to the vagina and cervix uteri, but without much benefit. Dr. Braxton Hicks was called in after an attack of very severe pain on one side of the pelvis, who found there a cellulitic effusion; after a few weeks this subsided, but still the uterine catarrh remained, with much irritation of the vagina. As the canal had been well medicated without benefit, the os was dilated. It was evident that the uterine cavity was larger than normal. A silver tube was passed, through which the interior of the uterus was painted over by a brush charged with iodized phenol. This cured the complaint. However, upon overtures being made by the husband for renewal of cohabitation, she begged him to refrain in future, he being still uncured, and to occupy a separate bed. He said if this was to be the case he would leave her; but she rejoined that, if so, she must make clear the reason. Hence this action for separation. And the question asked the Court was whether, under these circumstances, it was obligatory on a wife to permit cohabitation; and, if not, then an order in her favor was requested. Evidence having been taken on the above-mentioned facts, the question put by the Court to many witnesses was, whether the endometritis and other symptoms from which the wife suffered were likely to result from coitus where purulent secretion found its way into the urethra. It was then stated by several medical men that, although there were many causes which produce like symptoms, it was a result quite to be expected under the circumstances. The result of the evidence on his part was to confirm the cause and circumstances of his illness and severe operations, as above described, and the jury (special), after a brief consultation, found that the husband had been 'guilty of cruelty,' which was the legal form of the plaint, and the Court decreed a judicial separation. An appeal was granted. The husband argued the case in person, but the upper Court confirmed the decree of the Court below. No similar case had been in the Divorce Court before, and in any way the decision in its principle was important. It would be difficult to say when the specific contagium of gonorrhœa ceased to infect specifically. In this case a purulent secretion would find its way from the fistula along with the semen, and this would most likely produce irritation of the membrane lining the genital track, with not impossibly salpingitis, cellulitis, etc."

APPOINTMENTS AT OUR CITY LUNATIC ASYLUMS.—The Commissioners of Charities and Correction have appointed Dr. E. C. Dent Medical Superintendent of the Lunatic Asylum on Blackwell's Island, and Dr. A. Trautman Medical Superintendent of the New York City Insane Asylum on Ward's Island. Dr. Dent has filled the place ever since the resignation of Dr. Franklin, to whom he was first assistant, and Dr. Trautman was first assistant to Dr. Macdonald, who has been made General Superintendent.

THE SUIT AGAINST DR. ALFRED S. PURDY AND SON, brought by a patient who had been removed by the Board of Health to the Small-pox Hospital, was, as is generally known, appealed. The Superior Court, General Term, has decided that the complaint should have been dismissed, as there was a reasonable doubt as to the character of her disease in the beginning, and as it was the duty of the physicians to report the case to the health officers, who then assumed the responsibility of taking her to the hospital. We are glad to chronicle this just conclusion of a matter which has been to the last degree vexatious and oppressive to the physicians concerned. The formal decision of the Court, that the responsibility for sending patients to the hospitals for infectious diseases rests with the Board of Health, will be a source of satisfaction to the profession and of safety to the public.

A CHEMICO-PHYSIOLOGICAL INQUIRY.—Two correspondents from Aurora, Neb., write: "Can we have a physiological action of any drug without a chemical action?" Certainly not. All vital phenomena are the expressions of molecular changes in the cells, and such molecular change is "chemical action."

THE LATE DR. FRANCIS M. PURROY.—*Whereas*, It has pleased Almighty God to remove by death one of our number, Francis M. Purroy, M.D.;

Resolved, That the members of the Board of Surgeons of the Police Department of the City of New York hereby express their sincere sorrow for the loss of Dr. Purroy. He was genial in his manner, kind and considerate toward all with whom he came in contact. This Board feels that in his early death it has lost a much respected and most valuable member;

Resolved, That this Board most respectfully tender to the family of Dr. Purroy this expression of their profound sympathy;

Resolved, That a copy of these resolutions be sent to the family of the deceased, and that they be furnished to the medical journals of this city for publication.

CHARLES PHELPS, M.D., *President*.
JOHN H. NESBITT, M.D., *Secretary*.

Reports of Societies.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN PRACTICE AND PATHOLOGY.

Stated Meeting, December 21, 1886.

ALFRED L. LOOMIS, M.D., LL.D., CHAIRMAN.

DR. T. MUNSON COAN read a paper (see p. 38) on

THE THERAPEUTICS OF MINERAL WATERS.

DR. W. H. THOMSON opened the discussion, and said that this was one of the most important subjects in therapeutics. There was one important part of it to which Dr. Coan had not alluded, and that was the contraindication to the use of mineral waters. On account of the fact that these waters increase the interchange of elements and the waste of the body, they were, *ipso facto*, contraindicated in all diseases attended by loss of weight. He would hesitate decidedly before recommending mineral waters to phthisical patients, or to patients who, suffering from nervous affections, were losing weight. With the single exception of diabetes he would not recommend their internal use in any case in which the patient was losing ground in either nervous or muscular power.

There was one significant fact concerning the saline mineral waters of the world, and it was that their constitution was an almost exact reproduction of the watery part of the human blood. Dr. Thomson then compared the Geyser water of Saratoga with pure blood; also Kissingen and others. Patients, while taking these waters, take an excess of the most natural ingredients, and in about the same proportion in which they are found in the blood, hence the action of the system in dealing with this excess is that of a body overfed with a certain kind of food, and in the stimulation of those functions we are to find their therapeutic results.

With regard to classification of diseases in which they may properly be used, he thought that, almost without exception, they could be grouped under the head of disorders of the abdominal circulation. Gastritis, catarrh of the stomach, hemorrhoids, gout, rheumatism, and skin affections in adults dependent upon these diseases, occur in patients with delayed and deficient circulation through the portal system.

In the treatment of diseases of the bronchial, laryngeal, and nasal passages, on the other hand, the use of pure salt was the most efficacious. This group constituted an exception to what he had said concerning the portal circulation, but the use should be in the way of topical applications of pure salt in solution. Nothing was more efficacious for catarrhal affections of the nasal mucous membrane than common salt.

Dr. Thomson had not seen a case of functional nervous disease that had been benefited by the use of mineral waters, and would not recommend them in this class of diseases, unless they had some alliance with gout or rheumatism. In this respect, therefore, he disagreed with the author of the paper as well as with many European physicians.

DR. JOHN C. PETERS had not had very much faith in the efficacy of mineral waters. The simple Hygeia Water was merely aërated distilled water, and contained no mineral ingredients. Yet those who had not compared it with ordinary drinking-water would be very much surprised at the difference. Many dyspeptic patients, especially those who cannot eat fruits and vegetables, can, by the use of this water, escape diarrhœa and increase their diet.

The quantity of soda in the water of the Ems was about one grain to the ounce, but he thought that almost as much benefit could be obtained by the use of waters to which this quantity of soda had been added. Mention was made in a similar way of several other springs. At some of these watering-places the directions given by physicians as to diet were ridiculous and absurd to the last degree.

The Kansas Hot Springs were almost pure water. At Sharon and Richfield hot bran baths have been extensively used. With reference to the purgative waters he thought that about the same results could be obtained by the addition of the same proportion of saline matter to common water, aërated water especially, as could be obtained by the use of Hunyadi and others. What he objected to most was the sending of patients who were unable to bear the expense away to mineral springs with the expectation that they are to receive a special benefit from this mode of treatment.

DR. H. PINKNEY said, concerning Sharon Springs, that he had not seen a single bran bath there, but that they were using the sulphur waters in the usual variety of ways.

DR. PETERS remarked that the bran bath was given at Sharon ten or fifteen years ago, and that certainly it was still used at Richfield.

DR. COAN said that the Hygeia Water was now being prepared so that it was considerably more than simple aërated water. With reference to the use of mineral waters in wasting affections, he had become convinced that they were useful as tonics. In several cases in which there was great loss of flesh, and in which it was still continuing, the gain had been so rapid while using the waters that the effect was unmistakable. He fully believed that the saline waters are tonics. He did not believe that everything could be cured by this class of agents, but believed that more patients could be benefited by them than had perhaps been generally supposed.

DO ANTIPYRETICS AS AT PRESENT EMPLOYED MODIFY THE DURATION OR THE MORTALITY OF TYPHOID FEVER.

DR. S. BARUCH opened the discussion (see p. 33), and was followed by DR. F. P. KINNICUTT, who said that his experience was very much in accord with that of the author of the paper, and therefore he would call attention to only one point. The percentage of relapses during the present outbreak of typhoid fever had been largely in excess of that reported in previous outbreaks in this country, and the question naturally suggested itself whether or not the very generous use of recently discovered antipyretics might be regarded as exercising any influence in increasing this percentage, and therefore, probably, the percentage of mortality.

This was a difficult question to answer, but the same question, it seemed, has been raised elsewhere, as Liebermeister had showed that the percentage of relapses before the use of the cold-water method was nine per cent., while after its introduction it was a little more than ten per cent. Even this difference might be lessened when it was considered that the cases in which relapses occur are very likely to terminate fatally.

During the last three months there had been in the New York Hospital 27 relapses in 40 cases of typhoid fever; and in St. Luke's Hospital out of 18 cases there had been 6 relapses. This percentage is much larger than that recorded abroad. Yet deductions from statistics Dr. Kinnicutt regarded as wholly valueless in determining the influence of antipyretic treatment on the occurrence of relapses. If they positively increase the percentage of relapses, it would not be unreasonable to infer that they interfered with the natural processes of the disease and the expulsion of the poison from the organism.

In 3 of the 6 cases in St. Luke's Hospital in which relapse occurred no antipyretics had been given during the initial attack.

DR. W. H. THOMPSON added the statistics taken from the records of the Roosevelt Hospital for the months of September, October, and November. During these three months 24 cases were admitted.

Of these, relapses occurred in 6, and none of the patients had taken any antipyretic.

Of the 24 cases 6 had antipyretic treatment and 18 did not; but none of the 6 were put upon the antipyretic treatment until the temperature rose above 104° F.

Of the 18 cases only 1 patient died, and he was admitted in convulsions and with symptoms of meningitis.

Two of those treated with antipyretics died; total, 3 of the 24 cases.

The unfavorable symptoms which followed the use of antifebrin in two cases—prostration with profuse sweating, etc.—led him to forbid its use in other cases.

From his experience in the use of antipyrin and the graduated cold bath, he preferred the latter, removing the patient as soon as his temperature approached 102° F., expecting that it would fall considerably after removal from the water.

Dr. Andrew H. Smith mentioned twelve cases that had been admitted to the Presbyterian Hospital since the first of September. In all these cases, when the temperature rose above 103° F., either antipyrin or antifebrin had been administered; they had not been so well pleased with the latter as with the former. There had occurred neither death nor relapse in these cases.

His own feeling was very much like that expressed by Dr. Baruch, that the moderate use of antipyretics in typhoid fever was calculated to tide the patient over a point of danger; but when used recklessly these remedies, competent to do good, may do a great deal of harm.

It had seemed to him that we do not see such cases of typhoid fever as occurred twenty years ago, with black, dry, fissured tongue; sordes upon the teeth; delirium, etc. To what this was due he was not wholly prepared to say.

Dr. Wesley M. Carpenter recalled something of his experience in the treatment of typhoid fever as it occurred in an elevated rural region before the advent of the more modern antipyretic epoch. The treatment was expectant, not quite so thoroughly so as represented by the cartoon referred to by Dr. Baruch, but consisted in the administration of such antifebrile remedies as were in rather common use, as aconite, sal prunella, soda, and ipecac, remedies found in the saddle-bags of the country practitioner, together with fresh air, a reasonable quantity of fluid nourishment, and sponging with cold or cool water, derived from springs or wells, sometimes acidulated and sometimes mildly alkaline. Frequently the patients were visited for days with the administration of only a very small quantity of medicine, never waking them to take it if they were sleeping quietly. Then came stimulants as they were required, and complications were met according to indications. Under such care the rate of mortality was not over ten per cent., and the recoveries included a few cases of hemorrhage from the bowels—all in which the complication occurred. Relapses were almost unknown.

As suggested by Dr. Kinnicutt, it was difficult to obtain the data upon which to base an intelligent answer to the question before the Section, yet he had an impression that the judicious use of antipyretics would be conservative and beneficial, although from his study and hospital observations he did not feel certain that it could be said positively what was meant by the expression "as they are at present used." He had seen patients to whom quinine in thirty-grain doses every hour for three hours had been given, and the temperature fell two or three degrees, but the same amount of decline occurred at the same time in the day without the quinine, so it became a very serious question whether, in those cases, notwithstanding they were brought forward as illustrations of the antipyretic action of the drug, the rather reckless use of antipyretics, mentioned by Dr. Smith, might not have jeopardized the patient's life, although recovery took place.

With regard to heart-failure and degeneration of the muscular fibres of the heart, he had had opportunity, in connection with the pathological department of Bellevue Hospital, to examine microscopically the cardiac muscle in a sufficient number of cases to make it quite evident that it did not occur, at least in the cases that terminated fatally in that hospital, with the frequency one might be led to expect from reading the writings of German observers.

Dr. John C. Peters thought that the internal use of acids had been too much neglected in the treatment of typhoid fever. He believed in the bacterial origin of the disease, and as all the discharges were alkaline they furnished the most favorable fluid for their growth. The use of acids, therefore, was curative. They prevented not only diarrhœa, but hemorrhage, and they could be given by both the mouth and the rectum, varying from muriatic to nitric and sulphuric, as the case might require.

The Chairman said he had brought this question before the Section because it had seemed to him that the time had come for the profession in this city to stop and think as to what they were doing, as it had become the custom, or certainly was a practice too frequently indulged in, to attempt, at all hazards, to reduce a temperature of 102° or 103°—surely 104° F.—by the use of antipyretics; and if one does not accomplish the end, to resort to another.

He had had the feeling for the last two years that we were doing harm by our heroic measures for the reduction of temperature in the treatment of disease. He did not believe that it was possible for any measure which had the power to reduce the bodily temperature rapidly from 106° F. to 100° F. to be used to this extent without danger. He was not certain, for he had been in the line of observation similar to that mentioned by Dr. Carpenter, that failure of the heart is due to parenchymatous degeneration, of which we had at times heard so much, and it had seemed to him to be due to failure in nervous supply as much as to the muscular changes.

One, in speaking to a question of this kind, should speak very carefully, for the reason that we had sprung from the expectant to the heroic plan of treatment; and from the line almost like that to which Dr. Carpenter had referred, we had gone to another extreme perhaps, without questioning whether or not we are doing harm.

While statistics are very uncertain, we gain from cases impressions which go with us in practice. At Bellevue Hospital, from September 1st to October 10th, there were treated in his wards seven cases of typhoid fever, by the use of internal antipyretics as well as external. Of these four of the patients died. From October 10th to December 1st, eleven cases had been treated by the use only of the cold coil to the abdomen when the temperature reached 104° F., and there were two deaths.

In the cases reported by Dr. Thomson antipyretics were used only in the severe cases; and it would not be fair to say that the patients, in the fatal cases, were killed by them, for probably they would have died without regard to treatment. To answer the question, an equal number of average cases must be treated with and without antipyretics. At one time he became convinced that the alcohol treatment was bad in typhus fever, and he became so convinced because he did not give alcohol in bad cases.

A typhoid-fever patient may have a temperature as high as 106° F., and if it does not last but a few hours it is not specially harmful; it is the long-continued high temperature that does harm. When the temperature is 103° F., and lower, most of the day, only a part of the day up to 105° or 106° F., it did not seem to him that such extraordinary efforts as had been sometimes made should be put forth to reduce it. He did not wish to commit himself on the question under discussion, nor did he regard it as wise for any man to do so in the present state of our knowledge. At the same time, he believed that it was well to discuss the subject and endeavor to ascertain whether or not the antipyretic

treatment of typhoid fever had not been carried on a little too strongly.

Dr. A. H. Smith thought if it could be proved that the internal use of antipyretics in any way checked the production of any morbid material to the presence of which high temperature is due, then, by the administration of such drugs, we were striking directly at the root of the evil.

Dr. Kinnicutt remarked that it was somewhat suggestive that all our most powerful antipyretics were taken for the class of antiseptics.

Dr. Thomson said that, on the other hand, experience at Roosevelt Hospital had shown that the temperature in all the fatal cases might not reach 104° F. This was the experience in 1884, when there were nine fatal cases in the months of August and September, and it showed that mortality did not depend exclusively on temperature.

With regard to the internal administration of antipyretics, his objection was that all of them, thus far, had been derived from the phenic-acid series, every one of which was a cardiac depressant. Quinine belongs to the same group.

Dr. Baruch said that in opening the discussion he had offered his personal views, derived from a general impression, regarding the influence of antipyretics on the mortality of typhoid fever. He was, however, glad that he could cite Gutmann's views in support of his own. Recently Ebstein had reported 337 cases treated without antipyretics, and had found that the duration of treatment was 49.4 days, while the average of 846 cases treated in the Berlin City Hospital, Moabit, with antipyretics was 39.4 days, making a difference of ten days in favor of the antipyretic method so far as duration of the disease was concerned. These were the only statistics that had come under his observation. Gutmann refers to the difficulty of obtaining accurate information regarding the effect of antipyretic treatment on the mortality of typhoid fever on account of the variations in the type of the disease; but he is satisfied that the mortality, which before the introduction of antipyretics was averaged by Griesinger as about twenty per cent., had been greatly reduced. The mortality of the 846 cases in the City Hospital, Moabit, averaged in nine years about thirteen per cent. Liebermeister, in his latest work in "Ziemssen's Cyclopædia," just published, says that the mortality has been reduced fifty per cent. since the advent of the antipyretic method.

After nominating Dr. E. Darwin Hudson, Jr., for chairman, and Dr. R. C. M. Page for secretary, the Section adjourned.

SECTION IN OBSTETRICS.

Stated Meeting, December 23, 1886.

Alexander S. Hunter, M.D., Chairman.

Dr. E. L. Partridge read a paper on

THE USE OF ANÆSTHETICS IN LABOR,

based chiefly upon personal experience. Shall an anæsthetic be used in labor? If so, under what circumstances, and what agent should be employed? He believed that one should almost invariably be used where an operation was to be performed, and it might be used with propriety in a great many natural labors. He would not use it in the first stage, except in so-called forced labor, or labor hurried by artificial means, as Barnes' dilators, etc. He would avoid the use of an anæsthetic in the early part of the second stage, because it does, to some degree, modify uterine action. He would wait for the suggestion of the patient before using an anæsthetic to relieve the pain. If he had no particular reason for using it, he would never urge its use. It is not necessary to produce full anæsthesia in order to lessen the woman's sufferings, and it is only as the child is about to be born that he carries the anæsthesia to the extent of rendering the mother unconscious. If the woman be phlegmatic, or is one who has herself under control, he would not employ an anæsthetic in normal labor. During obstetric operations an anæsthetic should always be employed. Except in placenta prævia and prolapse of the funis, he would use an anæsthetic in version.

After speaking of some of the objections that had been urged against the use of anæsthetics in labor, as its immorality, the liability of performing operations in a bungling manner, etc., the speaker said he could conceive that the liability to the occurrence of post-partum hemorrhage would be a little increased, while the liability to the occurrence of puerperal fever would not be increased, unless violence be used during the operation. Subinvolution and chronic uterine disease might possibly be a little more likely to occur after the use of an anæsthetic.

With regard to the kind of anæsthetic to be used, theoretically, he was unable to see how *cocaine* could do any good, and he had failed to obtain any benefit from its use practically. He would never use *chloroform* in general surgery, and would have but little sympathy for the surgeon who should lose a patient from this anæsthetic. In obstetrics, however, he uses chloroform usually; at the same time remembering that its use is attended with a certain degree of danger. Women have died from the effects of chloroform during labor, but in almost all such cases it has been administered carelessly.

He then gave the differences in the conditions of the surgical patient and a woman in labor, and then spoke of the advantages of chloroform over ether.

In the administration of chloroform he never uses a cone, but simply a folded handkerchief upon which has been put a few drops of the anæsthetic, and it is then held from an inch to an inch and a half from the nose. A crumpled handkerchief in the bottom of a whiskey glass or small tumbler makes a very convenient apparatus.

He would not feel that it was safe to give chloroform to a woman who was already considerably under the influence of chloral. An objection to chloral in the first stage of labor was that the accoucheur must wait until its influence had passed off, and thus it might interfere with the use of chloroform in the second stage.

He believed it to be proper to combine nitrite of amyl with chloroform (the former being an antidote to poisoning by the latter), in the proportion of ten drops to the ounce.

He would never administer any anæsthetic without the consent of some other person than the woman who was in labor.

Dr. Malcolm McLean was ready to indorse Dr. Partridge's views almost entirely. He does not employ any anæsthetic in obstetric practice except chloroform. He uses it in normal labor, when the head begins to distend the soft parts, and had found that it not only allayed pain, but stopped the violent expulsive efforts which might produce lacerations.

Dr. Paul F. Mundé uses chloroform. He does not think it necessary in normal labor to put the woman into the condition of entire unconsciousness, except, perhaps, for two or three minutes when the head presses the hardest, and is passing over the perineum. He does not believe in the use of chloral. One very important point was, never to raise the woman up until she had fully recovered from the influence of the chloroform.

Dr. H. T. Hanks uses chloroform. He avoids any anæsthetic in the first stage of labor. He does not give chloroform simply because the woman desires it. He has used paraldehyde with good effect. He would use chloroform where all other means had failed to produce dilatation; frequently, for purposes of diagnosis, especially in primiparæ with slowly progressing labor and unduly sensitive soft parts; also when the head is passing the perineum; and where the forceps must be used, or a surgical operation or version is to be performed. He uses ether in preference to chloroform when he expects

to keep the woman under the influence of the anæsthetic more than one hour, and also in very anæmic patients.

Dr. W. R. Gillette uses chloroform. He regards the management of the first stage as more important than that of the second. He uses chloroform in all cases of delayed first stage, for its effect in overcoming muscular obstruction before the second stage begins. He gives chloroform, therefore, in the first stage, and assists it by manual dilatation, and by so doing he was confident that he had shortened the labor and also diminished the number of forceps cases. Nor was he afraid to administer it to the surgical degree. In its use, however, the obstetrician must be guided by the peculiarities of each individual case. In the latter part of the second stage he always gives it to the production of the surgical degree of anæsthesia. His method is to use a crumpled handkerchief in the bottom of a whiskey-glass which does not fit over the patient's face tightly, and which can be easily turned bottom side up upon the pillow or a plate, and thus prevent the escape of chloroform that sometimes produces such disagreeable sensations upon the attendants. He is guided solely by the respiration in its administration. He had never seen any danger from post-partum hemorrhage on account of the use of chloroform. Nor did he think that it made very much difference whether chloroform or ether was used in obstetric practice. Our Boston friends use ether. He would use an anæsthetic in all operative cases and would leave the case, under those circumstances, if neither the patient nor the friends would submit to its administration.

Dr. S. T. Hubbard had not been in the habit of giving chloroform as often as some had in obstetric practice. This question came up for discussion in the Academy about thirty years ago, when it was learned that several had never given it, while others had given it to the surgical degree, and some gave it in every case of labor. Among the old doctors the practice, before the days of chloroform, was to bleed and give an anodyne in delayed labor, and it was very good practice. Nowadays, if his patients want chloroform he gives it to them in the second stage of labor, while the head is pressing upon the perineum; if they do not say anything about it, he does not; and some women refuse to take it, saying that they wish to know it when they have a baby. It is important, however, in many cases, to give it, and he thought that the indications had been fairly pointed out in Dr. Partridge's paper. He thought there was some danger of post-partum hemorrhage due to the anæsthetic, and he thought, also, that the woman, as a rule, did not recover so well after the use of an anæsthetic as when labor was completed without it. Early in labor he preferred to give his patient an anodyne; possibly bleed her. At all events, the success in obstetric practice was about as good among the old doctors who practised that method as it had been at any time.

Dr. H. J. Garrigues makes use of chloral, with but few exceptions, in every case of labor. When the os does not dilate well, and there is considerable pain, he gives it at intervals of half an hour until the patient sleeps. Sometimes he uses, under the same circumstances, morphia or opium. He never uses chloroform in the first stage of labor, and far less nowadays in the second stage than formerly, and he would be glad if he could do without it; many women did not ask for it and he did not look for indications in order to propose it. It protracted labor and was of considerable danger with reference to post-partum hemorrhage.

As soon as he has to perform a considerable operation, as the use of the forceps, etc., he uses ether, unless there are contra-indications.

There are two very important

CONTRA-INDICATIONS TO THE USE OF ETHER

—namely—(1) The slightest quantity of albumen in the urine, and (2) the presence of any affection of the lungs.

Dr. R. A. Murray uses chloroform, and believed that it was of the very greatest service in the first stage of labor. If the first stage was properly managed, the second stage would go along all right. There were many conditions in which only a slight degree of anæsthesia was required to relax and improve the condition of the soft parts. In the cases in which there was a straight sacrum and an undilated os, and the pressure upon the nerves was great and attended with cramps in the legs, the administration of chloroform was beneficial.

He had not seen any bad effect produced by chloroform with regard to post-partum hemorrhage, but thought that a great many children were lost when it was carried to the surgical degree. When heart disease was present, ether was preferable to chloroform, because it stimulates the heart. Chloroform should absolutely be withheld in cases of placenta prævia, but ether can be used with advantage.

Dr. H. C. Coe rejected cocaine entirely in obstetric practice. With reference to heart disease as a complication of labor, it was more frequent than might be supposed, as he had found mentioned five hundred cases by French writers, and in a great many of these death occurred. Charpentier leaves the question undecided whether or not anæsthetics should be given under such circumstances. Dr. Coe would hesitate very much before using anæsthetics in cases where the complication was present. He did not think that the respiration could with safety be the only guide concerning danger while the anæsthetic was being used, but believed that the pulse as well should be closely watched. He had used the A.C.E. mixture in a large number of cases in Vienna without any deleterious results.

Dr. John C. Peters had used ether mostly, and began its use back in the "roaring forties." When he uses chloroform he does not put the patient fully under its influence, except for the use of the forceps or an operation of equal severity.

Dr. Partridge thought that it was important not to lift the patient up after an anæsthetic, as referred to by Dr. Mundé. He agreed that the first stage of labor should be properly managed, as it might be too prolonged, etc., but thought it did not necessarily follow that chloroform was the agent to be employed. It was a matter of individual experience whether chloroform or some other agent should be used. He preferred an anodyne, as morphine or chloral, for the reason that he did not like to commence chloroform early, as when begun early it was impossible to discontinue it.

After the nomination of Dr. E. L. Partridge for chairman and Dr. L. Emmett Holt for secretary the Section adjourned.

A New Hospital in Detroit.—The *Medical Age* indulges in a little smile at the expense of some physicians of Detroit who exerted themselves to persuade the public that there was need of a new hospital. Their efforts succeeded beyond their expectations, for the land for a site has been donated and two gentlemen have contributed $100,000 each toward the erection of the structure. Thus far the philanthropic physicians were doubtless well satisfied with the results of their efforts in behalf of the sick poor, and were glad to think that they had been instrumental in the foundation of a great, though not much needed, charity. The only thing to mar their joy, however, is the fact that the new hospital is to be placed exclusively in charge of the homœopathic practitioners of that city.

Nitrite of Amyl as an Antidote to Opium.—A case is reported in *L'Union Médicale* of a person who took two ounces of laudanum, and showed every symptom of opium poisoning—coma, small pulse, feeble and infrequent respiration (six to the minute), coldness, and cyanosis. Belladonna proved useless, while inhalations of nitrite of amyl were followed by immediate improvement, and the patient ultimately recovered.

Correspondence.

WILL THE PRESENT LEGISLATURE CODIFY THE LAWS REGULATING MEDICAL PRACTICE IN THE STATE OF NEW YORK.

To the Editor of The Medical Record.

Sir: It is worth while at this moment to call the attention of medical men in this State to what improvements in the laws regulating the practice of their profession they may obtain, by concerted action, from the Legislature about to convene.

Many physicians think that the defeat of every bill introduced of late years to create a State board of medical examiners signifies an unwillingness of legislators to improve the sadly confused laws now in force. On the other hand, not a few legislators have come to believe that it is not possible for doctors to agree on any point; and when asked to introduce a medical bill they begin with one accord to make excuses, on the ground that their time would be consumed in fruitless discussions.

A clear understanding of the facts in the premises will show that there is here misunderstanding on both sides, and that a law can be enacted which will purge the statute-book of its present confusion, greatly improve the state of medical legislation, and meet with the approbation of all reputable men and practitioners of medicine, except those who honestly believe that all health-laws and laws regulating trades and professions are wrong in principle.

Permit me, therefore, to point out:

First, why the bills to create a State examining board have failed to become law; while their discussion has made many legislators think it impossible to frame any bill on which practitioners of medicine will agree; and

Second, the points upon which agreement is possible, and legislation, therefore, obtainable; together with the advantages to be hoped from such legislation.

In the first place, then, why have the bills creating a board of medical examiners failed to become law?

In the session of 1885 there were three bills introduced creating a board, or boards, of this kind. One was introduced at the instance of the Medical Society of the State of New York. It provided for a board of nine members, of whom six were to be chosen from that society's nominations. A second bill, favored by the homœopaths, provided for the organization of several distinct boards. A third, commonly known as the Heath Bill, because introduced by Mr. Heath, of the Assembly, provided for a single board, made up of three regular physicians, three homœopaths, and three eclectics. The partisans of any one of these bills opposed the others. The Medical Association opposed them all. The committee-rooms became like "the ringing plains of windy Troy." The clashing interests were irreconcileable. Compromises were proposed and rejected. Legislators were button-holed and snowed under with letters pointing out, not the merits of any one of the bills, but the demerits of two; to them there appeared to be a consensus of opinion that all were bad, and no counterbalancing testimony to the excellence of any one. It is needless to detail the arguments of the various friends and opponents of these measures; suffice it to say that the homœopaths and eclectics contended that the board created by the bill of the Medical Society of the State would be a Moses' rod to eat them up. The society's committee maintained their right to a numerical ratio of representation, and claimed that with several boards the standard of license would be that set by the poorest. The law-makers refused to enact any of the bills.

In 1886 about the same ground was ploughed over. But during that session a bill to repeal the law of 1880 and restore the law of 1844, which our Supreme Court dubbed the triumph of quackery, was easily defeated, showing that the temper of the Legislature was not in favor of licensing ignorance to prey on the community.

So much for the disagreements; *all on the point of organizing the licensing board.*

Second, in all the bills above referred to there were provisions looking to the regulation of unlicensed practice, and constituting a great and important part of each; these provisions were substantially the same, and almost *ipsissimis verbis* in each bill. Toward the close of the session of 1885, when all the bills to create examining boards were dead, I drafted a new bill [1] embodying the points of agreement of all the others. It passed the Assembly with about three dissenting votes. In the Senate it was on its passage when the chairman of the Judiciary Committee, misunderstanding a phrase as to the burden of proof, and not having read the bill, objected to the present consideration when it was called. There were but two or three days of the session left; the objection was fatal, and the bill died for lack of opportunity to be discussed on its merits.

Last year, after the death of the examiners' bills, and of course at the close of the session, a similar bill [2] was again introduced. Dr. Paine, chairman of the Homœopathic State Society's Legislative Committee, after careful examination of its provisions, supported it; the counsel of the Eclectic College and Society in this city appeared before the committee, but did not oppose it. In the Senate it passed. In the Assembly it failed to reach a vote before adjournment.

At the recent meeting of the Homœopathic State Society they instructed their Legislative Committee to oppose all bills to create a single board of examiners, to favor making the regents' examinations compulsory, and to favor a bill substantially the same as Senate Bill 485 of last year, of which their committee say in a printed statement for distribution among their county societies: "Its essential provisions being in the main founded on correct principles, few members of the profession of either school will interpose any objections thereto; on the contrary, will, so far as may be in their power, endeavor to promote its passage."

It is scarcely prophesying to say that this bill, made up of provisions from the bill introduced by the Medical Society of the State, commended by the Homœopathic State Medical Society, tacitly assented to by the eclectics' representative in open committee, and passed by the Assembly of 1885 and by the Senate of 1886, will become a law if proper action is taken in its behalf.[3]

It only remains, now, to examine in what that bill differs from the law of 1880, which, in spite of all that has been said to the contrary, has proved to be the best law of the kind yet passed in this State, and to point out why its enactment is desirable. For this purpose the deadly parallel column may be used, but with no intent to disparage the law of 1880, which itself has been, as already said, a step in advance of what legislation preceded it.

Provisions of Chapter 513, Laws 1880, as Amended by Chapter 411, Laws 1884.	Provisions of Senate Bill 485 (Assembly 903), Session of 1886.
Section 1. A person shall not practise unless twenty-one years of age and authorized so to do, either before the passage of the act, by the laws in force at the time of his authorization, or after its passage, by Chapter 746, Laws 1872, or Chapter 513, Laws 1880.	Sections 1 and 2 repeat the provisions of the Revised Statutes and Laws of 1880 making a diploma after three years' study a prerequisite of license. They effect no substantial change in the purpose of the law, and preserve existing rights.
Section 2 requires registration of all practitioners (and was intended to make false affidavits by unqualified persons a perjury, but	Sections 3, 4, and 5 provide for registration, and prescribe certain formalities to correct the evils of reckless registration by county

[1] Assembly No. 820, introduced by Mr. Van Duzer, April 22, 1885. Senate No. 419, introduced by Mr. Robb, April 24, 1885.

[2] Assembly No. 903, introduced by Dr. Craft, April 7, 1886. Senate No. 485, introduced by Mr. Connelly, April 7, 1886.

[3] I am purposely guarded in my expressions as to the eclectics: for, while I did not understand their only representative before the committee to oppose the bill, to parts of which he expressly assented, it is still true that their State society joined in the clairvoyants' attempt to repeal the law of 1880, less stringent than the proposed measure, and circulated a memorial for that purpose.

fails to do so by reason of its phraseology).

Section 3 makes it a misdemeanor to practise without authority, or for one possessed of authority not to register, or to practise under a diploma "unlawfully obtained" (a vague phrase).

Section 4 permits a person from without the State, with a diploma from an incorporated university, medical college, or medical school, to practise after indorsement of the diploma by an incorporated medical college or medical school of the State and registration; provided (by amendment of 1884) that this section shall not apply to physicians of bordering States, whose practice extends over our border, so long as they do not open offices in this State.

Section 5 makes the degree of M.D. lawfully conferred by an incorporated medical college or university of this State a license after registration.

Section 6 exempts commissioned officers of the United States Army, Navy, and Marine Hospital Service, and persons in practice ten years who were matriculated in medical colleges of the State at the passage of the act and graduated within two years thereafter.

Section 7 repeals all inconsistent acts and parts of acts.

clerks of invalid diplomas or their indorsement by colleges.

Sections 6 and 7 define "practice of medicine," and make it a penal offence for one to practise after conviction of felony, or without authority or registration, or under authority illegally obtained; make the purchase, sale, fabrication, and imitation of diplomas, or obtaining diplomas by misrepresentations of fact or swearing falsely to any affidavit required by the act, or practising under an alias, or falsely personating a practitioner, illegal; and enact the rule as to burden of proof as laid down by the courts.

Section 8 gives to incorporated societies a civil action for a penalty against irregular practitioners, forbids them to bring actions to recover fees, and allows anyone who has paid them fees to recover twice the amount paid and a penalty.

Section 9 exempts from the purview of the act United States medical officers and members of hospital staffs in actual service; also dentists exclusively practising dentistry; and qualified practitioners of other States, whose practice extends over the New York border, but who have not offices in this State; and persons duly qualified in one county, attending occasional isolated cases in another, but not regularly practising therein.

Section 10 specifically repeals all acts in *pars materia*.

Schedules A, B, C, and D prescribe forms of affidavit, indorsement, and certificate of registration.

It will be seen from the foregoing that except for the specification of new offences the two acts cover the same ground; but the greater detail of the proposed bill may be best inferred from the statement that it, with its schedules, covers thirteen pages, whereas the act of 1880 would cover about two. In the case of The People vs. Kahn the court held that under existing statutes a diploma from the president of a college faculty was not invalid in the meaning of the statute, even if the signature on it had been forged or fraudulenly obtained by him. As the law stands, the purchase, sale, and counterfeiting of diplomas either constitute no offence or are illegal only when shown to be part of the false pretences by which money has been fraudulently obtained. Men convicted of criminal malpractice come out of the penitentiary and openly advertise their criminal business in the columns of the daily press. Dead men are personated by the purchasers of their diplomas. False swearing in registration by unlawful practitioners does not constitute perjury. The proposed bill essays to perfect the criminal law in these regards, and by giving a civil action to afford the prosecution an opportunity in certain cases of foreigners with forged papers to issue a commission to foreign countries; a thing they cannot do in a criminal proceeding.

It is safe to say that no reputable man will care to oppose vigorously a bill punishing offences all of a fraudulent character.

In the next place, the bill provides one simple statute in place of several of doubtful validity, and codifies the laws.

Finally, by enacting all that the various parties in interest can agree upon, it leaves a fair field and a clear-cut issue for future legislation as to the standard of medical education. The friends of central boards argue forcibly that the diploma, as a standard, has only the value given it by the poorest "diploma-mill" conferring or indorsing it. The friends of a central board argue in like manner against many boards. Colleges stand up for what they claim are their vested rights. Regular physicians demand to be represented in a single board according to their numerical preponderance over those who designate their practice by special names, or else oppose any legal recognition of the fact that there can be "schools" in medicine. Homœopaths and eclectics claim that a single board means their extinction as distinct bodies of practitioners.

An issue so many-sided as this needs to be made clear and precise, and freed from all merely collateral discussion. The quicker this is done the sooner it will be settled. But meantime it seems a pity to sacrifice the bird in the hand by striving to catch the bird in a particularly thorny bush; especially when it seems so easy to tie the former securely and then to explore the bramble-bush with all the joy of a pachyderm.

I am, Sir, your Obedient Servant,

W. A. PURRINGTON.

63 WALL STREET, December 24, 1886.

THE END OF A CURIOUS MALPRACTICE SUIT.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I have just had the pleasure of a verdict in my favor in a malpractice suit for $10,000, and thinking that the case, which was somewhat unusual, might be of general interest I send you a brief history of the case and trial.

In April, 1884, I was called upon to treat Mrs. Thomas Bermingham. I found her suffering from hip disease in the second stage. I placed the patient at rest, with weight-and-pulley extension. The family were very poor, and unable at any time to purchase a portable apparatus. In October, 1884, I made an exploratory incision through the skin and superficial fascia on the anterior surface of the thigh, some four inches below Poupart's ligament, upon a little swelling like the small end of an egg. Not reaching anything I went no deeper. At the same time, while the patient was under ether, I made passive motion of the thigh to see whether the anchylosis was osseous or fibrous; it proved to be fibrous, and the adhesions were somewhat broken up. The patient did well, and within three weeks walked, without my knowledge, about three miles. I withdrew from the case late in October. The patient was not under any treatment till March, 1885, when the attending physician discovered that the thigh was twenty-four inches in circumference, when fourteen or sixteen would have been normal. He secured a portable apparatus, and expected, as he testified, recovery.

I saw her in March, 1886, and found her apparently dying, emaciated, suffering extreme pain; her thigh thirty-four inches in circumference, purple, coursed over with veins, and ready to bleed at touch almost.

She died March 10, 1886, and the femur was found of normal size; the head necrosed and entirely separated from the shaft, and not a drop of pus present. (There never had been an abscess.)

The attending physician, Dr. Beckett, testified that my incision must have been two and a half inches long and two or three inches deep, and that the tumor of the leg was a multiple fatty tumor, due to the incision. I proved by physicians who saw the tumor, and by others who testified to its character from description, that the tumor was a sarcoma, and was the cause of her death. The jury were out five minutes.

R. M. STONE, M.D.

OMAHA, NEB., December 20, 1886.

SALICYLIC ACID IN JAUNDICE.—Bartholow says that when the cause of jaundice has been removed salicylic acid will remove the bile-pigment from the blood more promptly than any other drug.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from December 25 to December 31, 1886.

KOERPER, EGAN A., Major and Surgeon. Granted leave of absence for two months, to take effect about January 1, 1887. S. O. 297, A. G. O., December 27, 1886.

PHILLIPS, JOHN L., First Lieutenant and Assistant Surgeon. Granted one month extension of his leave of absence. S. O. 297, A. G. O., December 27, 1886.

Official List of Changes in the Medical Corps of the United States Navy for the week ending January 1, 1887.

ANDERSON, F., Passed Assistant Surgeon, to U. S. S. Thetis.

AUZAL, E. W., Assistant Surgeon. Detached from R. S. Independence, and ordered to Coast Survey Steamer McArthur.

GREEN, E. H., Passed Assistant Surgeon. Detached from Naval Laboratory for temporary duty on R. S. Independence.

GATEWOOD, J. D., Passed Assistant Surgeon, to Naval Academy, January 5, 1887.

Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau. Health Department, for the week ending January 1, 1887:

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	18	7
Scarlet fever	30	3
Cerebro-spinal meningitis	4	4
Measles	468	63
Diphtheria	104	40
Small-pox	0	0
Yellow fever	0	0

SURGICAL ANTISEPSIS IN THE BULGARIAN WAR.—In one of the last numbers of the *Archives de Médecine Militaire*, M. Audet gives a brief surgical history of the Serbo-Bulgarian War. Of three thousand wounded men carried to Belgrade Maydl reported fifty-one deaths, twenty-two of which were due to tetanus, leaving a direct surgical mortality of less than one per cent. Iodoform dressings were used, and there was not a single case of erysipelas, notwithstanding that the sanitary and moral surroundings of the wounded were very bad. Of two hundred wounded, Schmidt reported three deaths only; there were four cases of traumatic erysipelas, but none of gangrene or of pyæmia. Dressings of iodoform and corrosive sublimate were used. At Sophia the wounded were received in a pronounced septic condition, but the same favorable results were obtained by antisepsis. Notwithstanding the lack of care on the battlefield, of one hundred and thirty-six cases of injuries, many of which were wounds of bones or articulations, reported by Dr. Blum, there was no case of pyæmia or erysipelas. Iodoform gauze was used in these cases. Similar favorable results were reported by other surgeons in the field, and a comparison of these statistics with those of like injuries a few years ago leaves little room to doubt the value of antisepsis and cleanliness in the treatment of wounds.

OUR FOREIGN-BORN CRIMINALS.—Over one-half (fifty-two per cent.) of the criminals of this State are foreign-born; nearly one-third are Irish and one-tenth are German.

A MEDICAL SCHOOL IN FORMOSA.—Dr. Wykeham Myers, of Takau, in the Island of Formosa, has begun a work which promises to be of extended usefulness. It is the establishment of a school for the education of natives in medicine and surgery. The curriculum is a full one, and the standard of efficiency, as shown by the questions set and answered, is evidently high.

NAILERS' CONSUMPTION AND THE TUBERCLE BACILLUS.—Dr. James E. Reeves, of Wheeling, W. Va., has observed in exceptional cases only the bacillus tuberculosis in the sputum of what is called nailers' consumption. The pulmonary diseases so frequently observed in persons engaged in the nail mills are seldom tuberculous. The same may be said of the coal miners.—*Progress.*

A SIGN OF DEATH.—Among the means of determining between actual and apparent death, M. Peyraud regards cauterization of the skin by Vienna paste as one of the most certain. In the living subject the eschar formed will be of a reddish black or brownish color, while in the cadaver it is yellow and transparent. If the eschar is formed slowly and is of a yellow color, the subject is dead, but if it is red, brown, or black it may be assumed that life is not yet extinct.

THE TITLE OF DOCTOR was invented in the twelfth century, at the first establishment of the universities. William Gordenia was the first person upon whom the title of Doctor of Medicine was bestowed. He received it from the college at Asti, in 1329.—*N. Y. Med. Times.*

THE INTERNATIONAL CONGRESS AND THE PREVENTION OF TROUBLE IN THE FUTURE.—In a notice of the organization of the International Congress, in *L'Union Médicale*, M. L. H. Petit says that it cannot be denied that the profession in this country is very imperfectly represented in the list of officers, and expresses a natural regret that such is the case. The great advantage of medical reunions of this nature, he writes, is that they bring together men who are for the greater part known to each other only by their writings. And if the Americans best known abroad are not to be present, the main object of the congress will not have been accomplished. Without doubt the pleasures of the voyage, of the various excursions, and of visits to the large cities in the neighborhood of Washington will suffice to draw many Europeans across the Atlantic, but, he asks, will the picturesque side cause the scientific side to be forgotten? The remedy for such unfortunate family quarrels which the writer suggests is, that the organization of future congresses be intrusted to a permanent committee composed of men of every country. The members of this committee should be elected at the final session of one congress, and should be retired only after the committee on organization of the succeeding congress should have been definitely constituted. In other words, the affairs of the International Congress should be controlled by the members of the congress, and not by a local organization which may or may not represent truly the medical profession of one country. M. Petit suggested this plan at Copenhagen, and signifies his intention of introducing the measure again at Washington in 1887.

A PECULIAR METHOD OF GYNECOLOGICAL EXAMINATION.—Omaha seems to have a gynecologist whose methods are decidedly unique. He has a large, unwashed old dress of his wife's in his office, and all patients are directed to remove every article of clothing and then to don this dress preparatory to ascending the table. While on the table no effort to prevent exposure is made. All his patients are compelled to receive local uterine treatment daily and straight through the menstrual period as well.

Perhaps he is a Fraud.—A recent cable letter to one of the daily papers says that Dr. Succi, who has been amusing a credulous public by exhibiting himself in a fasting condition, is reported to be an impostor rather than foolish. A buxom young woman, the mother of a fine boy, is in attendance upon the faster, and it is asserted that she divides the secretion of her lacteal glands with great impartiality between the scientist and the infant.

Voudooed Pillow.—A writer in the *New Orleans Picayune* tells how he met a colored woman who attributed her husband's illness to his sleeping on a "voudooed pillow." She felt the pillow and discovered the "voudoo," which felt hard. The pillow was carried to the river, cut open, and the feathers cast into the water over the left shoulder. If they assumed the shapes of animals as they floated away, the sick man would get well. In a subsequent interview this sable lady informed the writer that the feathers floated off as dogs, cats, etc., and her husband was well.—*The Lancet-Clinic.*

A Strange Meeting.—Not long ago a gentleman was run over in the street, in London, by a cab, and was carried into one of the hospitals and put to bed. Shortly afterward one of the house-surgeons went to attend to the case and found that it was his own brother.

Plain Wall-paper for the Sick-room.—In a recent lecture on nursing, Miss Kelman illustrated the need of having the walls of hospitals of a quiet and unobtrusive color, by telling an anecdote of a patient—an old gentleman—who was heard continually muttering, "Fourteen up, thirty-five across." This fact arrested the attention of the doctor and nurses, who examined the room, and ultimately found that the pattern of the paper was divided into squares of fourteen up and thirty-five across. When the old gentleman fell asleep, he was quietly removed to another room, where, the wall-paper being of a neutral tint, he quickly recovered.—*The Hospital.*

The Third Scourge of Humanity is what Erlenmeyer calls cocaine, alcohol and morphine being the other two.

Galazima is the name of a new milk-preparation of the nature of kumyss and kephir. It is prepared by mixing four grams of good grain-yeast in a little water, and adding this and ten grams of cane-sugar to a litre of milk, hermetically sealing the bottle, and then shaking the mixture. At the end of twenty-four hours the galazima is ready. It is described as a pleasant and nutritious beverage, containing one per cent. of alcohol, and heavily charged with carbonic acid gas.

Treatment of Obesity.—Professor Albert Robin, from a long discussion and study of the subject, concludes that, in cases of obesity, if there be a small excretion of urea, fluids should be freely administered; but if there be an excess of urea secretion, fluids are to be avoided.

The Guild of St. Luke.—A correspondent writes that this organization is not a Catholic society, as would seem to be implied by the statement of its object. It is an association formed of medical men, clergymen, and artists, members of the Protestant Episcopal Church, who pledge themselves to uphold the doctrines of Christianity and to promote the spread of the faith by prayer and the force of personal example.

An Enterprising Quack.—A story is going the round of the papers to the effect that a quack in St. Louis guarantees to cure almost any disease for a good round sum, which must always be paid in advance. Of course he often fails, and then the patient wants his money back. The "doctor" employs a lawyer for just such emergencies, and pays him $5,000 a year salary. The lawyer is so skilful in pacifying angry patients and compromising with implacable ones that the "doctor" is able to make about $8,000 a year above all expenses.

A Specialist on Specialism.—Those of us entering practice twenty years ago found men plying medicine as a trade, regarding patients as the physician's private property, not to be trespassed upon by strangers, often controlling such patients by appeals to their ignorance, fears, and prejudices, and substituting in their own persons an acquaintance with the weaker side of human nature, useful for financial purposes, for an exact scientific acquaintance with disease, to be used for the benefit of their race. The specialist was the pioneer into this latter realm, and, like all such, was, too frequently, a martyr to his cause. But he represented that majority which consists of one with truth upon his side, and, like all other such majorities in the history of the world, he has finally won his way to victory. The "elaborate division of labor" is "as useful and successful in a learned profession as it is in the mechanic arts," for the whole matter is a relative question of height of standard. General medicine itself is too often only special attention to such diseases as may prove rapidly fatal; and neglect, or often worse than neglect, of all other maladies. It is itself merely an abnormal, ill-defined specialism, substituting multa for multum, and, like the young cuckoo, insisting upon the sole control of its illegally held habitation. Specialism substitutes quality for quantity, which substitution is the distinguishing mark of the civilized man from the savage; nay more, the essential criterion of advancement in civilization itself.—Dr. Edward Wigglesworth, *Trans. of Amer. Dermatological Association, Presidential Address.*

Disinfection of Cabs.—The St. Giles Board of Works, in London, have announced that hackney carriages which have been used for the conveyance of persons suffering from infectious disease will be disinfected by the board free of charge, and that the driver may be supplied with a certificate of such disinfection by applying to the medical officer of health.

Females and Women.—Dr. Williamson protests, in the *British Medical Journal*, against the common employment of the word female when woman is meant, and calls the editor to task for publishing a paper on "Some Functional Disorders of Females." He regards that subject as one covering altogether too much ground to be discussed in a short paper, and thinks it would have been better if the writer had called his paper one on disorders of women. Seeing the title, he says he read the article, expecting to find it a study in comparative physiology.

The Death-rate in St. Petersburg is said to exceed the birth-rate by nearly one hundred a month. The city is growing, nevertheless, by reason of the constant flow toward it of the country population. The excess of deaths over births is owing partly to the presence in the city of large numbers of soldiers whose wives and families have been left at home.

Contraindication to the Use of Paraldehyde.—Sommer concludes that paraldehyde ought not to be given to patients presenting atheromatous defects, and should not be employed in connection with alcoholic liquids. Eickholdt holds that the presence of vaso-paralytic symptoms precludes the employment of paraldehyde.

An Oleomargarine Bill in Denmark.—The Minister of the Interior in Denmark has found it necessary to lay a bill before the Folkething regulating the trade in artificial butter. If his bill be carried, dealers will be compelled to pack such "butter" in cases marked "margarine." As no mention is made of any provision in the bill compelling the retailer to state to his customers that he is selling butter, it is to be feared that consumers will not benefit to any great degree.

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PERIPHERAL NEURITIS AND THE PAINFUL PARALYSES OF EARLY LIFE.[1]

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PROFESSOR OF DISEASES OF CHILDREN AT THE WOMAN'S MEDICAL COLLEGE OF THE NEW YORK INFIRMARY, LECTURER AT THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

THE scarcity of autopsies in comparison to the frequency of paralysis in early life has rendered this affection difficult to study accurately. A careful observation of symptoms, interpreted by our increased knowledge of the anatomy and physiology of the central and peripheral nervous system, is, therefore, very essential in the study of the disease. There have come under my observation certain cases that have puzzled me in endeavoring to fit them in with the usual classification of the text-books. There has been an atrophic form of paralysis, that in inception, development, and result has differed from the spinal paralyses with which I have been familiar. The essential paralysis of Rilliet and Barthez, assuming an absence of structural lesion, and the myogenic theory of Bouchut, have, on the strength of microscopic examinations, given place to the idea of the spinal source of the trouble. When we consider, however, that most autopsies have been made years after the inception of the trouble, when death has taken place from some other cause, and that there have been relatively few autopsies made in proportion to the number and variety of the paralyses, there seems rather a slender basis for the theory of an exclusively spinal paralysis in childhood. In most of the examinations that have been recorded, investigation of the spinal cord only seems to have been made, and not of the peripheric nerves. In the complete table of autopsies collected by Dr. M. P. Jacobi, in "Pepper's System of Medicine," Laborde's case is mentioned, in which an infant of two years, who had been paralyzed over a year, was found to have sclerosis of the antero-lateral columns with normal ganglion-cells and a sciatic neuritis. There is also one case cited where a microscopic examination, made by so competent an histologist as Robin, discovered no lesion of the cord. Such a case as this would certainly show that, although in the majority of cases paralysis may be spinal, it is not always or necessarily so. Indeed the opinion of Leyden, quoted by Dr. Jacobi, that various lesions or morbid processes may underlie the same clinical history, is pertinent in this connection. Three different lesions were found in four autopsies of cases that presented all the clinical history of acute anterior polio-myelitis. Leyden also called attention to the fact that the peripheric nerves have not been studied so thoroughly as the spinal cord. Mr. R. Barwell, in the London *Lancet*, 1872, claimed that infantile paralysis was purely peripheral, involving the ultimate fibrillæ of distribution of the nerves among the muscular elements. According to this author the essential condition consists probably of some subtile derangement in relationship between the ultimate muscular and terminal nerve-fibres, either from an inflammatory or from some chemical or nutrient change. Any degeneration in motor nerve-cells and nerve-fibres that may occur is secondary to the paralysis. While this theory contains a plausible, and possibly a true, explanation of a certain number of cases, it certainly can be ruled out at the present time as a generalization intended to cover all cases. Leyden, in the *Zeitschrift für Klin. Med.*, 1880, advances a more rational explanation, when he considers that in atrophic paralysis there may be a coexistence of neuritis with a spinal-cord lesion, and that instead of such forms of paralysis always originating in the spinal cord, they may have their beginning in any part of the motor apparatus, thence spreading to other parts, or remaining limited to the part first affected. This author does not attempt to deny the common conception of anterior polio-myelitis, but simply insists on the frequent coexistence of neuritis, thus affording a varying point of departure for the morbid process. He claims that where complete recovery takes place, the morbid process has always remained peripheric. Leyden's theory has appeared to the author of this paper to afford a satisfactory explanation of certain cases that have been observed clinically. It is true no autopsies are to be recorded, as such cases have always recovered. In two instances Leyden found the sciatic nerve affected, in one case by an interstitial neuritis, and in another by partial atrophy. Oppenheim has reported a case in which spinal cord lesions and multiple neuritis coexisted in the same individual.[1] In the usual absence of autopsies, particularly in cases that completely recover, from what we now know of the symptomatology and behavior of spinal and peripheral lesions, we are more justified by the clinical evidence in regarding certain cases of paralysis in children as due, at least primarily, to peripheral neuritis than to polio-myelitis.

James B——, aged five and a half years. Father has had rheumatism, but otherwise healthy. The mother died of consumption. The boy has been healthy. His illness began with pains in both ankles and the dorsum of the feet. He would cry when his shoes and stockings were put on. This was followed by a gradual loss of power in both feet and legs. In two weeks the paralysis was pretty complete. After the trouble in the legs had lasted a week, the left wrist began to drop, and four days later the right wrist was affected in like manner. The paralysis became complete in a few days. I saw the boy after he had been ill a little over three weeks, when he had complete drop-foot and wrist-drop. Both parts were likewise extremely painful to the touch. The pain was much aggravated by attempting to extend the feet or move the hands, which actions caused sharp cries. The pain in the legs was most severe along the course of the anterior tibial nerve, and did not appear to extend much above the knee. He was utterly unable to stand, and the effort caused great pain. The paralysis of the extensor muscles of the hands and fingers was likewise complete, as they hung perfectly helpless, unable to grasp a single object. There was some atrophy of the parts. A slow improvement began, and in a week or so the boy could take hold of objects and make some effort to walk, although the latter caused pain. In five weeks after the time I first saw him he could walk fairly well. Pleased at the improvement, his father took him a long walk upon a certain day, with the idea of strengthening his weak limbs. The next morning he cried with pain when he attempted to put on his stockings. He was likewise seized with vomiting, fever, and a recurrence of the

[1] Read before the New York Neurological Society, January 4, 1887.

[1] Zeitschrift für Klin. Med., vol. xi.

paralysis in the legs, which were painful upon handling. The arms and hands remained the same. Two nights after this he was again taken with vomiting, followed by pains in the arms. The following day, when I saw him, the pains in the arms extended above the elbows, and the drop-wrist was once more complete. Temperature, 99°. He had refused food for two days. I saw him two days later, when he was worse. The child was complaining constantly of pains in the arms and legs, crying out if they were touched. He had vomited all food, but wished to drink constantly. Pulse, 120, and weak; temperature, 98½°. He appeared to doze most of the time, waking up with cries, and presented a pitiable picture of helplessness and misery. There soon began, however, a slow improvement, and in a few weeks he could begin to use his limbs again. I watched the case with interest until leaving town, when the boy was in fair condition. Upon my return I could not find him, so that I cannot report whether he had any further relapses. If so, I think his father would have brought him back to me, as he was very faithful in his attendance. Lead-poisoning was excluded by the absence of lead in the urine and the lack of symptoms. During the treatment he was given ergot, the bromide and iodide of potassium, salicylic acid, and quinine, at various times. The combination of the bromide and iodide of potassium appeared to do more good than the other remedies.

Louisa B——, aged three years. Family history as follows: Father has had nasal catarrh and eczema. He has one cousin that is an idiot, and two that are deaf and dumb. The mother considers herself healthy, but has had one still birth and two miscarriages, one occurring at four months and one at two months. Louisa has never been a healthy child, although there is no distinct account of illness until she was sixteen months old, when she had bronchitis and a sore throat, that was probably diphtheritic, judging from her mother's description. This left her in a delicate condition. When two and a half years old she had an attack of measles, followed by sore eyes. About fifteen days after recovery from the measles she was taken with fever, complained of pains in the legs, and lost power in them. The paresis was very gradual in its onset, not being complete for over two weeks. She would first attempt to walk by steadying herself between chairs, and when the ability to do this was lost, she tried to creep, with the toes turning in. The paralysis of the legs was followed by atrophy. The mother says it pained considerably to touch her anywhere from the hips down. This condition remained for six months, when I saw her in the beginning of August, 1885. Two weeks previously, the child had been taken to Rockaway and given a partial bath, which was followed by pains and paralysis developing rather suddenly in the hands and arms. At the time I examined her there was marked wrist-drop and loss of power in the forearms. The child was badly nourished and fretful. Whenever her arms or legs were touched she would cry with pain. This crying was not aggravated by any distrust of strangers, as it occurred the same when her mother handled the parts. It was impossible to sharply localize this pain on account of the distress produced by the examination and the extreme peevishness of the child. It appeared to be greatest, however, in the hands and feet. There was a loss of faradic reaction in all the muscles of the leg below the knee, and in the extensor muscles of the arm, likewise a reaction of degeneration to the galvanic current. R. Ant. Tib., ACC at 14 cells, CCC at 21 cells; L. Ant. Tib., ACC at 15 cells, CCC at 22 cells; R. Peronei, ACC at 26 cells; Post. Tib., no reaction; R. Extensors of fingers, ACC at 11 cells; CCC at 13 cells; L. Extensors of fingers, ACC at 11 cells; CCC at 13 cells; Flexors of fingers, CCC > ACC. The patella tendon reflex was normal on both sides. The legs were atrophied, likewise the muscles on the back of the arm. The child was not able to stand, crying bitterly when the legs were touched to the floor. She was put on tonics and the iodides, and given applications of electricity. There was a slow improvement, and in several weeks she could use the legs some, and grasp objects with the hands. The general condition also improved. The appearance of the case bore a resemblance to lead palsy, but corroborative symptoms were absent, and an examination of the urine showed no lead. To my surprise, the case went on to a slow but complete recovery. I doubt if treatment had much to do with this result, as she was brought very irregularly to the clinic, and only had electricity a few times. She remained in the same environment during all her illness.

In the following case there appeared to me to be some neuritis present, in addition to a spinal paralysis. J. C——, aged three years, was taken sick suddenly at night with fever, vomiting, and loss of power in both legs and arms. He cried a good deal with pain. He afterward lay quietly when left alone, but if the extremities were touched would utter cries of suffering. There was hyperæsthesia in all parts of the body. Improvement was slow, beginning in the arms. For the first few weeks he was perfectly helpless, being unable to turn in bed without aid. In about six week he sat up in bed, and after this recovery was rapid. Within three months he was quite well. Pain upon touch was the most prominent symptom in addition to the paralysis.

In the above-mentioned cases there was no evidence of spinal meningitis to account for the continuous pain. I could not thoroughly satisfy myself as to the underlying cause of the trouble. The first case had a strongly rheumatic look to me. His father has been subject to this disease, and I think there was an element of it in his case. Salicylic acid did not afford any relief to the paralysis. Dr. Shrady tells me he has lately seen in consultation a girl, four and a half years old, who was attacked five months ago with symptoms regarded by the attending physician as rheumatic. There was severe pain in both lower extremities, but worse in the right. She was in bed for two days with fever, and on attempting to get up the right leg gave way, and she fell to the floor. The pain ceased at the end of ten days, but the paralysis continued, although it is now improving. There has been atrophy and a loss of faradic reaction. There has likewise been a long patch of anæsthesia on the outer part of the right leg.

In the boy's case, while the symptoms showed a multiple neuritis, there may have likewise been some involvement of the spinal cord. Gowers, in discussing "migrating neuritis," states that it may reach the spinal cord and there produce various disturbances, the inflammation either spreading in the tissue outside the dura mater, or extending to the cord, causing subacute or chronic myelitis, with or without meningitis. He thinks the paralyses that occur secondarily to some visceral diseases, as those of the bladder, and commonly regarded as reflex paralysis, are probably produced through the agency of an ascending neuritis.

Malarial poisoning appears able to produce a more or less severe form of multiple neuritis, with resultant paralysis. Gowers reports two cases of paraplegia that were apparently due to malarial neuritis, both being developed in well-known fever districts. Dr. Holt has allowed me to report the following case that came under his observation: A boy, aged thirteen, was first seen November 15th, being taken with chilly sensations, followed by fever, on the 12th. On the 13th he seemed better. On the 14th he got up with severe pains in the left thigh and milder pains in the right thigh. When seen at the dispensary he had a well-marked limp, favoring the right side, and this thigh was extremely hyperæsthetic, particularly along the sciatic nerve. There was likewise tenderness along the left sciatic nerve. Temperature, 99½°. The pain and lameness disappeared in a few days under antimalarial treatment. The case was seen by Dr. Starr, who regarded the trouble as peripheral and of the nature of neuritis, perhaps in a congestive stage.

Probably the trouble would have been of longer duration if the source of irritation had not been recognized, and removed by appropriate treatment. Nothnagel makes the differential distinction between simple neuralgia and neuritis to be the painful points in the former case, and continuous pain in the latter over the course of the nerve.

There are a number of cases of painful paralysis, coming on with malarial fever, that are recorded in the history books of the Hospital for Crippled and Ruptured in this city. With the permission of the hospital I report here two of these cases, as interesting in this connection, although, of course, not venturing an opinion as to the true nature of the trouble. Henry S——, aged five and one-half years. Family history good. They live in a very malarious spot. After suffering for several days with malarial symptoms, one morning he was unable to get up. The limbs were painful; he would cry if they were handled, and could not use them. There was a high fever every night. The child lay on his back, with the lower limbs and feet extended. Complete recovery took place in a month under quinine.

Agnes W——, aged nine, lived at Ravenswood. She had malarial fever, during which she complained of pains in the ankles. After being in bed a week, it was found that her feet were weak and she was unable to stand. About the same time there was paresis of the hands, which were partly dropped. The duration of the paralysis was four and a half months. A gradual recovery is now taking place.

It has seemed to me that cases of paralysis in children, in which pain is a prominent and persistent symptom, where the loss of power has perhaps been gradual and ascending, and where there has been slow but complete recovery, without deformity, after a long interval of time, a careful investigation will generally reveal a peripheral lesion as the cause of the trouble. A possible explanation of pain is that it is due to a marked general congestion of the gray matter of the spinal cord, this congestion taking place in the area of a definite artery. Adamkiewicz has shown in his plates that the anterior spinal artery supplies not only the anterior portion but the whole of the gray matter, principally, with blood, and the presence of pain in certain cases may simply be a question of degree as to the extent of congestion. But the cases that I have reported, and others like them, present no other symptoms showing irritation in the deeper part of the cord. A general congestion or myelitis should cause bladder symptoms, bed-sores, and other disturbances. The continuance and severity of the pain itself do not appear to point to a central cause. Some excellent authorities have considered that unless children with spinal paralysis are speedily cured, perfect recovery will never take place. Leyden appears to consider that if atrophic paralysis eventuates in recovery, the case was multiple neuritis and not polio-myelitis. He considers that regeneration of the ganglionic cells of the cord has not been demonstrated in the same manner as of the peripheric nerves. Gowers states that it is remarkable, in multiple neuritis, how much improvement may take place even after the paralysis has been considerable for a year. The same author, in his recent work, considers there is no doubt that many subacute and chronic cases, which have been described as atrophic spinal paralysis, are peripheral, not central, in their nature, and are cases of multiple neuritis. He considers that the distinction rests on the symmetrical localization of the neuritic palsy, while that of polio-myelitis is characteristically random in distribution; on the persistence and severity of the neuritic pains; on the tenderness of the inflamed nerve-trunks; and on the anæsthesia in the area of their distribution, a symptom never present in polio-myelitis. Paralysis of physiologically related muscles has been regarded as rather pathognomonic of polio-myelitis, but Professor M. Bernhardt states that Eisenlohr has shown that in disease of the peripheral nerve-tracts, functionally related nerve-fibres may be affected, while adjacent fibres remain healthy.[1] The following points may be considered in making a diagnosis:

Peripheral Neuritis.	Polio-myelitis.
Disease usually begins slowly.	Suddenly.
Paralysis progressive. Involves different members, generally in the nature of an ascending palsy.	Paralysis regressive. Involves at the start all the members affected, some parts quickly recovering.
Pain is usually continuous, especially marked upon handling, and involves certain nerves.	Usually no pain. May be general hyperæsthesia at the beginning.
Perfect recovery may take place after the paralysis and atrophy have lasted a long time.	No recovery after the disease has lasted a short time.

This scheme is provisional and not altogether satisfactory, yet it affords points that, taken collectively, will often make a diagnosis possible. It certainly seems desirable to make the effort, when we consider the statement of Gowers that, until recently, all cases of multiple neuritis were looked upon as spinal. I presented before this Society, on a previous occasion, two children, aged five and seven years, who had repeated attacks of paralysis followed by partial recovery. The first seizures were accompanied by pains and soreness of the limbs. The true nature of the trouble was for some time overlooked, but finally lead-poisoning was found to be the cause of the paralysis. I considered the lesion produced by the lead was confined to the spinal cord, but, with later knowledge on the subject, I am inclined to think that the lesion was largely peripheral. The fact that the later attacks were not accompanied by sensory symptoms does not militate strongly against this view. Schultze has reported a case of lead paralysis in which the radial nerves, below the point where the branch to the supinator muscle is given off, were inflamed, the sensory branches of the nerves being slightly, if at all, involved. The spinal cord was normal.[2] Oppenheim has likewise reported a case where microscopical examination revealed inflammation of the peripheral nerves, together with a lesion in the spinal cord.[3] I think that lead may be not seldom at the bottom of obscure paralyses of children, and where recovery takes place after a long interval of time the lesion must be largely peripheral.

It is impossible in the present state of knowledge to accurately define all the causes that can involve the peripheral nerves in children, with resultant pain and paralysis. Cold usually attacks by preference the peripheric system of nerves. The loss of power sometimes following rheumatism is also probably of this nature. Erb states that rheumatic paralysis may arise in all parts of the nerves and in all nerve regions, but, perhaps, attacks the peripheric nerves most frequently. Any morbid blood condition appears able to induce a peripheral paralysis in early life. The group of diseases that Soltmann includes under his hæmatogenous paralysis includes all such conditions.[4] The paralyses following acute infectious diseases, especially diphtheria, are now known to be largely peripheric. Traumatic causes may be present at any period of life.

The object of this paper is intended to be suggestive, not dogmatic. The writer has gladly availed himself of recent studies in peripheral neuritis, as appearing to throw light upon some of the paralyses of children that have caused much perplexity. Assuredly the great differences in the clinical behavior of paralysis in early life, in duration and curability, must admit of different anatomical and pathological explanations.

A New Hospital for Contagious Diseases, having a capacity of four hundred and forty-eight beds, is about to be erected in Milan. In addition to the main building there are to be separate pavilions for small-pox, diphtheria, and typhus fever.

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[1] Zeitschrift für Klin. Med., vol. xi. [2] Archiv für Psych., vol. xvi. [3] Ibid.
[4] Gerhardt's Handbuch der Kinderkrankheiten, vol. v.

BOVINE TUBERCULOSIS: ITS COMMUNICATION BY INGESTION, INHALATION, AND HEREDITARY TRANSMISSION; ALSO ITS DANGERS TO THE PUBLIC HEALTH.[1]

By M. D. BLAINE, M.D.,

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In comparing the opinions of our most able writers and experimenters upon this subject, we find a great want of unanimity regarding the question: Is consumption or tuberculosis inherited or acquired, or is it both inherited and acquired?

The general practitioner, in studying this disease, forms his opinions, in most cases, from circumstantial evidence, derived from daily observations of his patient. Oftentimes he feels that many important facts could be obtained if experiments were permissible upon the human subject. His moral convictions restrain him, however, and in order to study the disease thus experimentally he is compelled to resort to the lower animals. The objection is made by some, that whatever the results obtained by experiments on animals, it does not necessarily follow that like results would be produced in the human being. When we consider the fact that the animal possesses nearly the same organs as mankind, which are similar in their anatomical construction, and are governed by the same physiological laws, and that like pathological conditions arise under similar circumstances, why then, if tubercle be found in a new-born calf, should we doubt the possibility of its production in a human subject under like conditions?

As my remarks are confined to the bovine species, I shall take it for granted that the same results may be obtained in the human family.

According to Fleming, the disease is met with whereever cattle are kept in a state of domesticity. It is seen in Russia, Sweden and Norway, Denmark, Germany, Holland, France, Spain, Portugal, Austria, Hungary, Greece, Italy, Algeria, Australia, New Zealand, the Northern United States, Canada, and Mexico. In the latter place, he states that thirty-four per cent. of the animals killed for food are found affected, consequently causing much loss. In all those countries where the animals are stall-fed we find the disease more prevalent. In France and Germany, for instance, the disease has gained such boundless limits that the governments have found it necessary to establish abattoirs. They have also placed the dairies under the inspection of competent veterinarians, in order to protect the public health, which otherwise would have been endangered; and to-day we find that in nearly every country where the disease exists to any extent, they have established the same protection as France and Germany.

I will here give an abstract from Fleming, in which he states, according to the excellent abstracts prepared by Goring on the sanitary condition of animals in Bavaria, that there were in that country in 1877 and 1878, respectively, 4,976 and 5,052 cattle affected with this disease, or in 1877 1.62 per cent., and in 1878 1.61 per cent. In 1,000 bulls, 5.84 were tuberculous; in 1,000 bullocks, 1.39; in 1,000 cows, 2.50; in 1,000 heifers, 0.35; in 1,000 calves, 0.09.

In 1877, of 4,976 cattle recognized as tuberculous, 64, or 1.31 per cent., were less than a year old; 328, or 10.81 per cent., were from one to three years old; 1,846, or 37.80 per cent., were from three to six years old; and 2,445, or 50.07 per cent., were more than six years old.

In 1878, the 5,052 tuberculous cattle were apportioned as follows: 65, or 1.3 per cent., were less than a year old; 551, or 10.2 per cent., from one to three years; 1,730, or 34.5 per cent., from three to six years; 2,360, or 46.5 per cent., more than six years. For 336 animals the age was not noted.

Goring, in publishing this abstract, remarks that the veterinary surgeons are not always informed as to the existence of the disease, and that the numbers given above must be considerably below the actual amount in any case.

Adam, in investigating the list of animals killed in the abattoir of Augsburg, arrived at the following results: In 1879, of 10,988 cattle slaughtered, 321, or 2.92 per cent., were tuberculous; in 1880, of 11,688 slaughtered, 262, or 2.24 per cent.; in 1881, of 12,500 slaughtered, 247, or 2.00 per cent.

According to Drexler, of 55,882 cattle slaughtered at Munich in 1875, 704, or 1.25 per cent., were affected with tuberculosis in a very evident manner. Trapp reports that among 11,079 cattle killed in the Strasburg abattoir in 1880, 220, or 1.9 per cent., were tuberculous (this number did not include those slightly affected). For the same year Mandel found 174, or 3.4 per cent., among 5,105 cattle slaughtered in the Mulhouse abattoir; and in 1879 Strobl and Magin recorded 1,125, or 2.5 per cent., of 44,699 slaughtered at Munich.

As regards the ages of the animals, the 1,125 were classed as follows: Cattle under one year, 2, or 0.2 per cent.; from one to three years, 81, or 7.1 per cent.; from three to six years, 378, or 33.5 per cent.; over six years, 664, or 59.2 per cent.

The 1,125 tuberculous cattle may also be apportioned in the following order: 218, or 1.13 per cent., of 19,284 bullocks slaughtered; 558, or 5.30 per cent., of 15,789 cows; 40, or 0.68 per cent., of 5,823 bulls; 28, or 0.73 per cent., of 3,803 heifers; 1, or 0.0006 per cent., of 149,971 calves.

From these figures it results that: About two per cent. of the cattle sent to the abattoirs of these different towns are affected with tuberculosis; the proportion of male to female animals so affected is as one to three; the greatest number of animals are over six years of age; after these, the greater number is from three to six years; very young animals are almost exempt from tuberculosis.

Thus I might continue to quote statistics for hours, but in the end they only tend to establish the necessity of having abattoirs in every country where the disease exists in any degree.

In this country we have no abattoirs, neither have we any compiled statistics relative to the frequency of the disease. The only authentic report that I have been able to find is that made by Professor Law, of Cornell University, and this report refers to a locality and not to the general prevalence of the disease. In his report to the Department of Agriculture, of the contagious diseases of our domestic animals, he says that "twenty, thirty, and even fifty per cent. of certain herds, that supply New York City with milk, are affected with this disease. In some country districts can be shown large herds with ninety per cent. subjects of tuberculosis."

During the past two and one-half years I have examined over four thousand head of animals in different sections of this State, and I find that the disease is more prevalent than is generally known. The majority of animals that I have examined were milch-cows, and I found twenty-one per cent. manifesting symptoms of the disease; but perhaps not over four per cent. of them manifested pulmonary lesions. I have visited some herds where at least fifty per cent. could be shown to be tuberculous. The disease seems to be much more prevalent in some localities than in others. For instance, in low, wet, and marshy districts it is very common; also in places where animals are poorly fed and kept in close confinement, and in poorly ventilated stables.

I visited your stock-yards during the month of July last; also examined a number of herds about your city and Brooklyn. The morning I visited the stock-yards at 159th Street, in company with Mr. Romane, one of your meat inspectors, I saw thirteen cows that were offered for sale, three of which were badly diseased, and one of the three was a cow thirteen years old, and mani-

[1] Read before the Section on Hygiene and Public Health, New York Academy of Medicine.

fested pulmonary lesion. I acquainted Mr. Romane of the fact, and when he consulted the manager of the yard in regard to the cattle, he said that they had been sold to parties in Jersey City for milkers. I visited herds that furnished milk for the city of Brooklyn, and I did not fail to find tuberculous animals in every herd that I visited, and in some herds to a great degree. But I was astonished in not finding more disease than I did, as the manner in which the animals were being cared for was not only unhygienic, but cruel, especially in winter, as several herdsmen informed me that their animals were tied in those small barns in the fall, and were not taken out in the open air until spring time.

Occasionally we read in our daily papers of sudden outbreaks of the disease in different parts of our country, where whole herds are destroyed, as was the case at the Willard Asylum, Willard, N. Y.; the asylum sustaining a loss of nearly two hundred head. I believe, if all the reports throughout our country could be gathered together, we would find that the disease has already developed to an alarming degree.

I now wish to call your attention to certain clinical observations that were made by myself of the herds at the Willard Asylum, extending over a period of two and one-half years. During the fall of 1883 tuberculosis broke out in an acute form in the asylum herd, which consisted of about one hundred head of milch-cows and forty head of young stock, most of which were of Holstein blood, and with the exception of a few head, all were in excellent condition and thought to be in perfect health. During the summer months, however, a number of the cows were noticed coughing, which attracted some attention, but nothing of a serious nature was suspected until late in the fall, when those that had been noticed coughing began to emaciate, presenting in general a very bad appearance; the hair seemed dead, having lost its gloss, standing erect, cleaving from the skin. Their eyes were sunken and presented a heavy appearance. The animals did not move about, and usually lingered behind on going to and from pasture, and if hurried, they seemed exhausted from want of breath. My attention was called to them, and on examination I found in several cases an entire absence of respiratory murmur over the greater portion of either lung, and where the respiratory murmur was perceptible I detected moist râles, and in places the râles had assumed a resonant character, which indicated consolidation. A severe diarrhœa had now developed, which was very offensive, and the milk-supply had gradually lessened for several months. Finally, it was thought best to kill one of the feebler ones, and ascertain the true nature of the disease.

Case I. The animal chosen for examination was eight years old, of Holstein blood, and one year previously would have weighed 1,200 pounds. On post-mortem, the animal was found highly tuberculous, and there seemed to be no organ in the body free from the disease. The lungs were voluminous and double their normal weight. They were completely adherent on either side, and the left lung on section seemed to be one mass of tubercular deposit. Small vomica had formed in some places, in other places the deposit was calcified, and in still others, cheesy. The bronchial glands were three to four times their normal size and degenerated. Numerous tubercles the size of hazel-nuts and smaller, were found upon either surface of the diaphragm, and the liver was found at least three times its normal size and contained large masses that would equal in weight several pounds. On cross-section it revealed large cavities filled with a muco-purulent mass. The bowels were covered with tubercles, and in a state of subacute inflammation. All of the abdominal organs were more or less affected, also the milk-bag, which contained several large deposits, some of which were calcified, and others softened and in a semi-purulent state. All of the glands throughout the body were enlarged, and in places degenerated.

Case II. was that of a Holstein six years old, much emaciated, and suffering from a chronic diarrhœa. No respiratory murmur was heard over the right side of chest-wall except at the apex. General enlargement of the superficial lymphatic glands, also of the sub-maxillary and thyroid. Post-mortem examination: Lungs completely adherent on either side, and differing in no respect from those in Case No. I. The lungs, with the heart and deposit intact, were removed and weighed, which weight equalled thirty-nine and one-half pounds. Deducting the weight of the normal lung and heart intact, we find about twenty-four pounds of tubercular deposit. The liver was double its normal size, and on section large quantities of muco-purulent fluid escaped; the mesenteric-glands were degenerated, and the bowels were completely studded with tubercles about the size of peas. The milk-bag contained one large deposit between its two lobes which was calcified. The finding of these two animals so badly diseased, there being others that were failing and manifesting similar symptoms, naturally created a great amount of anxiety on the part of the medical superintendent, Dr. Chapin, who requested that I make an examination of the whole herd. On making such examination, twenty-four were found manifesting symptoms of the disease, besides several that were considered questionable. Finding so many diseased, they being the property of the State, it was thought best to seek advice from one of our State veterinarians, as to what means were best to adopt. Professor Law, of Cornell University, was sent for. After making careful examinations of the herd, he reported that twenty-six were diseased, and that he considered several suspicious, as they manifested some symptoms of the disease, although he was unable to detect anything abnormal on auscultation. He advised the killing of all those that were diseased, the isolation of those that were considered doubtful, and a thorough disinfection of the stables. Having in the herd a full-blooded Holstein bull, it was considered quite essential to know if he was affected, although he had not manifested any symptoms of the disease. Upon careful examination nothing abnormal was detected. Professor Law's examinations were made March 22, 1884.

Many of the diseased animals remained in the herd for several weeks, when the herd was again examined by myself. I found that those that only a few weeks previous were considered doubtful, had now developed positive symptoms of the disease, and still others were found that seemed quite suspicious. The bull, at this time, appeared to be failing in flesh, but manifested no positive symptoms.

On May 22d and 23d, twenty-eight of the most advanced cases were killed. On examination all were found affected, but not all to the same degree. The organs principally affected were the serous membranes, the lungs, liver, bowels, and the milk-bag in many cases. A number of them were affected to an equally great degree as the two cases I have already reported. Examination was again made of the herd on June 10th, and others were found manifesting the usual symptoms; the bull was again examined and it was very apparent that he was affected, although he had not manifested any cough, but he was rapidly losing flesh. He was then weighed, and was found to weigh 2,456 pounds. He was again weighed on July 10th, and his weight was then 2,290 pounds; and as at this time it was very evident that he also was affected, it was decided to kill him. On post-mortem we found a large deposit in the central portion of the left lung, and numerous small tubercles upon the left pleura. The bronchial glands were greatly enlarged, and on cross-section were found calcified. There were many tubercles upon the peritoneum and bowels. The liver in this case seemed free from disease. Upon the glans penis were several small tubercles, and in one place it appeared as though several had coalesced and had broken down, leaving a cicatrix. Had this been ulcerated, one might have thought it a soft chancre.

Leaving the herd at present, I wish to call your atten-

tion to the calves that were born during the winter and spring of 1883–84. Writers tell us that it is not an unusual occurrence for animals well advanced in tuberculosis to abort. This seems to be true, as such was the case in this herd. I observed that eight calves were prematurely born, two of which required assistance at birth, as the mothers were much exhausted. One of the two that were removed was in about the eighth month of gestation. This fœtus on examination was found saturated with tubercles, some of which were as large as peas, and on drawing a knife across them they were found calcified. Tubercles were found in the liver, bowels, diaphragm, and chest-wall; there being none observed upon the lungs. The mother of this calf was killed some weeks afterward, and was found highly tuberculous, the disease being well advanced to the third stage, or stage of suppuration.

No. 2 was from a diseased mother, also in about the eighth month of gestation. On examination I found the liver, diaphragm, and bowels quite thickly studded, but the tubercles were much smaller than in the preceding case. Of the other six prematurely born, I was able to examine only two of them, as the other four had been destroyed before I was acquainted of the fact. One of the two, however, that I did examine, was found to have a tuberculous liver.

During the winters and springs of 1883–84 and 1884–85 fifty-three calves were born to the herd, and each one was examined with reference to the disease. Twenty-nine of the number were found tuberculous in some of the viscera. The greater number of the calves were killed within five weeks after birth, and the whole number before the expiration of four months. I will only call your attention to the most interesting cases. One calf killed at the age of five weeks was found highly tuberculous. The liver was double the normal size and covered with tubercles. On cross-section it was found to contain a large vomica, filled with at least one pint of fluid of a muco-purulent character. Tubercles were also found upon the pleural surface of the left lung; also an extensive deposit in the apex of the same lung. The mesenteric glands were enlarged and cheesy. The bowels were thickly studded and in a state of subacute inflammation. This calf had suffered from a severe diarrhœa for several days, and had failed considerably in flesh.

The mother of this calf was killed shortly afterward, and was found badly diseased. Among the organs affected was the milk-bag, which contained a large tuberculous abscess. In this case does it seem possible for the disease to have been acquired wholly after birth? To my mind it does not seem possible that the disease could have developed with sufficient rapidity to have produced an abscess of the liver in such a limited time. However, I am of the opinion that the intestinal lesions were produced, to a great extent, from the milk of its mother, as undoubtedly the milk must have contained elements of the disease.

In another calf, seven weeks old, the left lung was adherent to the chest-wall at the apex, where there was a large tubercular deposit. Also there were many small tubercles upon the lungs and in other places. The liver and bowels contained many tubercles the size of peas, and on cross-section were found in a state of cheesy degeneration. In the remaining cases the lesions were not as marked, but the disease was none the less apparent.

You have now the history of the herd up to June, 1884, and we find that nearly one-half of the herd of milch-cows has been disposed of, all that were supposed to be diseased having been killed. The remainder of the herd were observed from time to time, and examinations repeated every twenty to thirty days; and upon each examination new cases were discovered, which were immediately removed from the herd, as it was thought they could be fattened and made use of.

The sorting out and feeding continued for several months, and at the time of killing many had not gained at all, while others had taken on considerable flesh; but upon killing only five were found fit for use, and four of these were slightly diseased in some of the viscera.

During the spring of 1885 a number of young heifers, which had been kept upon another portion of the farm, were with calf by the bull killed in June previously. Before putting them with the old herd they were examined, and many of them were found diseased. It was deemed advisable to kill them. The calves of these heifers were all diseased, the disease in one calf being traced directly to the bull, as the mother was found unquestionably healthy. The remainder of the young herd which had been exposed to the disease were put with the remaining portion of the milch-cows, and the combined herds now numbered about forty head. The examinations were still continued from time to time, during the summer and fall of 1885, and occasionally one was found manifesting the usual symptoms of the disease. This procedure was continued until the spring of 1886, when it was thought advisable to feed the remainder of the herd. During the past summer, all were killed except ten, which have been killed during the past month, and in nearly every case disease could be found in some of the viscera, and some badly diseased, as I will show you from specimens that I have here. The specimen that I wish to show you is a very interesting one, inasmuch as it shows that one is not able, at all times, to tell whether or not the animal is diseased. You will observe that the disease, in this case, is confined wholly to the bronchial glands, there being no other organs affected—that is, as far as I have been able to determine. Auscultation of the lungs in this case revealed nothing abnormal, and the superficial lymphatic glands were not enlarged, and the animal had not manifested a cough. The bronchial gland, in a healthy cow, is about four or five inches long, about one inch wide, and one-half inch in thickness. Here we have a specimen, removed from a Holstein cow nine years old, in which we find the gland is about ten to twelve inches in length and nearly six inches in thickness. This, on section, we shall find in some places calcified, and in others cheesy. I also have other specimens here, removed from another case, in which no disease could be found except in the glands, and these without apparent enlargement.

During the winter of 1883 the asylum purchased a full-blooded, registered, Holstein bull-calf, from one of the leading breeding firms of this country. This bull was kept from the herd until old enough for breeding purposes, and then only came in contact with the herd as occasion required. This animal thrived until April last, when I noticed that he began to manifest symptoms of the disease. He was examined at frequent intervals during the summer, and each examination confirmed the previous diagnosis. He was killed on November 16th, last. Previous to being killed he weighed nearly two thousand pounds. On post-mortem I found the left submaxillary gland enlarged and suppurating, the thyroid gland enlarged and calcified, and several deposits in the left lung about the size of walnuts; also tubercles upon the peritoneum and bowels. The liver, in this case, was free from disease. The glands and portions of the lungs I have here for your inspection.

The only possible objection that could be raised regarding the care of these animals was that of ventilation. The stables were kept scrupulously clean, being washed out daily, and there were no cesspools about the barns or yards. The barns are situated upon a side-hill, thus affording the best possible drainage.

Their food was of the best of hay, corn fodder, bran, and vegetables. In the spring of 1884 all of the animals were removed from the barns and put in pasture, and open sheds built for their protection.

During the following winter the animals were con-

fined in the barns only during the time of feeding and milking, they being out during the day and protected at night by sheds open on one side.

Also in the breeding of this herd of stock there was the greatest amount of vigilance exercised in order to avoid inbreeding. Frequent changes were made in the bulls; new cows were bought from time to time of the farmers throughout the country, and these crossed with the Holstein bulls, and at the time of the outbreak of the disease about one-third were animals that had been purchased. In my mind it does not seem possible that the disease, or dyscrasia, had been inherited in all cases. Therefore, if the disease was not inherited in all cases, it must necessarily have been acquired; and if acquired, through what channels did the disease enter the animals' system?

There appear to be only two channels in which it could have entered, the one by inhalation, the other by ingestion. In order to prove that the disease is communicated by inhalation, we have to resort to experiments, but by ingestion we have many striking examples in which it is plainly shown that the disease is acquired by the use of milk and meat of tuberculous animals. In proof that the disease may be acquired by the ingestion of tuberculous substances, allow me to call your attention to the asylum herd of swine, which numbered nearly three hundred head. These animals were kept in different yards. In one the breeding sows; in another, the half-grown pigs, and in the third yard, which was adjoining the slaughter-house, were kept the large hogs which were being fattened. The hogs in this latter pen had access to the offal from the slaughter-house, where a number of tuberculous cows had been killed. Later in the fall a number of the large fat hogs died suddenly in full strength, and on post-mortem were found highly tuberculous. The disease, however, did not present the same pathological conditions as in the cows. The disease seemed more especially confined to the abdominal viscera and the glandular system, the lungs being rarely affected. In those cases that died suddenly I found a tubercular peritonitis, to which was attributed the cause of death. During the killing season many were found diseased, there being large metastatic abscesses in different portions of the body, but more especially in the side; and in the sows the rudiments of the milk-bag were often the seat of abscess. Also the joints were frequently affected, many of the hogs, both large and small, became lame. During the winter a number of them became partially paralyzed in their hind parts. The paralysis progressed, and finally they were unable to use their hind limbs at all, and for several days three of them moved about, walking upon their fore limbs and dragging their hind parts. Still they were fat and seemed to eat equally as well as the others. Finally they were killed, and on post-mortem the bodies of the vertebræ in different portions of the column were found to have undergone caseous transformation. The cord at these points was softened, and in some cases completely obliterated.

There were three sows in this yard that proved to be with pig. They were taken out and put with others in another yard. One of these sows, shortly after pigging, became paralyzed similarly to those that I have already alluded to. In about three months her young pigs became hollow-backed; they walked about with their bellies touching the ground. Finally they were killed. All were found diseased, and the bodies of the vertebræ very incompletely formed. The other two sows became paralyzed and were killed before pigging, but unfortunately an autopsy was not held.

After the killing of all the swine that had access to the offal, and disinfecting the yards, we have since had no more disease in the herd.

In searching the literature on the feeding of tuberculous substances and meats of tuberculous animals, we find that the disease is often transmitted by the use of such products. We find in the work by Herr A. Lydtin, G. Fleming, and M. Van Hertsen the following:

Animals experimented upon.	Affirmative. Per cent.	Negative. Per cent.	Doubtful. Per cent.
1 horse	0.0	100.0	0.0
5 calves	100.0	0.0	0.0
35 sheep	51.4	42.9	5.7
13 goats	84.6	15.4	0.0
60 pigs	65.0	18.3	16.6
17 rabbits	31.2	66.5	2.3
20 dogs	25.0	75.0	0.0
9 cats	55.5	44.4	0.0
6 guinea-pigs	83.3	16.6	0.0
2 pigeons	0.0	100.0	0.0

Of 322 alimentation experiments 259 were made with uncooked food; and of these the affirmative results were 47.7 per cent., the negative results 48.9 per cent., and the doubtful results 3.3 per cent. In 62 experiments aliment was employed which had been cooked for ten or fifteen minutes, and the following were the results: 35.5 per cent. affirmative, 64.5 per cent. negative, and 1 per cent. doubtful.

Classification of these experiments according to the alimentary substances employed gives the following results:

	Affirmative. Per cent.	Negative. Per cent.	Doubtful. Per cent.
117 animals fed with tuberculous matter from heifer	61.5	34.2	4.3
46 fed with the raw flesh of tuberculous cows	13.1	86.9	0.0
91 fed with milk from tuberculous cows	30.7	59.3	1.0
1 fed with milk from tuberculous rabbits	100.0	0.0	0.0
25 fed with tuberculous matter from human beings	36.0	64.0	0.0
33 fed with tuberculous matter from a pig	53.0	47.0	0.0
2 fed with tuberculous matter from a sheep	100.0	0.0	0.0
2 fed with tuberculous matter from a rabbit	50.0	50.0	0.0
3 fed with tuberculous matter from monkeys	100.0	0.0	0.0
5 fed with tuberculous matter from birds	100.0	0.0	0.0

In reviewing these experiments and well-established clinical facts Johne arrives at the following conclusions:

1. The transmission of tuberculosis may be effected from animal to animal, and from man to animals, by the ingestion of tuberculous matters; but this mode of transmission is much more uncertain than that by inoculation.

2. The matters which most certainly transmit tuberculosis by gastro-intestinal ingestion are those obtained from the lungs, the pleura, and the lymphatic glands; the milk of tuberculous animals, with regard to its more or less certain action as contagious matter, coming next to these. Infection takes place less readily with tuberculous matter obtained from mankind than with that from animals.

3. Infection takes place less readily by the ingestion of flesh than by means of substances mentioned in 2; and yet it was employed successfully in seventy-six of the cases shown in the above table.

4. Calves, sheep, goats, and pigs present, as has been already mentioned, and as has been so well shown by Bollinger, the greatest receptivity for tubercular contagium. With regard to the supposed immunity of carnivora, it is not so definite as some authorities believe.

Among experiments which especially merit our attention we mention those made by Gerlach. Of 46 different animals submitted to experiment and fed with uncooked tuberculous substances 35 were infected; of 35 animals fed with uncooked flesh from tuberculous cows 8 contracted tuberculosis; and of 15 fed on cooked tuberculous matter 10 became diseased.

Besides the experiments of Gerlach we may cite those made by Bollinger. The learned experimentalist employed the milk of tuberculous cows, which he gave to pigs, and the conclusions to which his experiments led him, in the presence of pathological preparations de-

rived from them, was that "the prolonged consumption of the milk of tuberculous cows produces miliary tuberculosis in the pig."

I fed thirteen rabbits with uncooked tubercular matter, and at the expiration of fifty-four days found all the rabbits diseased, and to a great degree; the bowels being the principal seat of the affection.

Much has been written during the past few years in regard to the dangers that are attendant upon the use of the milk of tuberculous cows, and many experiments have been performed with a view of determining if such milk is truly infectious. There are many experiments recorded that positively prove that the milk of tuberculous animals will convey the disease to young animals when fed upon it for any great length of time.

The following is from Billings' work on relation of animal diseases to the public health, in which he states that the following were experiments performed by Gerlach, and that the experiments were performed with the utmost care:

"Having a cow afflicted with tuberculosis that still gave milk, it was resolved to use the same to test the question 'whether the milk from such a cow was capable of producing a similar disease in young animals when fed upon it.'

"The cow was seven or eight years old, much emaciated, respiration difficult, and had a rough, weak cough; vesicular respiration perceptible over all parts of the thorax which enclose the lungs, but numerous, unnatural, especially dry, râles were perceptible. In no place was the concussion deadened. No fever. Appetite good. Daily milk quantum, 1,500 grammes. After the lapse of three months the cow was killed. The emaciated condition had gradually increased, and the milk-secretion likewise decreased; in the first month the yield of milk decreased 600 grammes; in the second, 500 grammes, and during the last eight days the secretion ceased entirely, although the animal received all the nourishment she could consume.

"*Autopsy:* The inner thoracic walls, the diaphragm, and the mediastinum were covered with numerous tubercles of variable dimensions; the pulmonary pleura, or covering of the lungs, was far less complicated. The lungs were voluminous and double their normal weight. Nodules and tubercles were distinctly perceptible on palpation. The bronchial lymph-glands were hypertrophied—enlarged—hard and nodulated. Cross-sections of the pulmonary tissues revealed the presence of numerous tubercles and tuberculous devastations; large and small cavities filled with muco-purulent mass, others with caseous material; numerous miliary tubercles were dispersed over the pulmonary tissue.

"With the milk from this cow were fed two calves, two pigs, one sheep, and two rabbits. The first calf died from an accidentally acquired disease.

"Calf No. 2.—A healthy, well-nourished calf, eight days old, was fed with milk from the above-mentioned cow for a period extending over one and two-thirds month; at first it received 1,000, and later 300, grammes of milk daily, an average of about 600 per day; in fifty days the whole quantity of milk consumed amounted to from thirty to thirty-two kilogrammes. Aside from this the calf received other milk; later, diluted milk and oatmeal. Neither phenomena indicated the presence of disease, nor were disturbances of nutritive functions observable. The calf was killed one hundred days from the time that the experimental feeding began, and fifty days after the feeding with milk from the tuberculous cow had ceased.

"*Autopsy:* The pleura of the sharp edges of the right lung was covered with delicate red, filamentous excrescences, which extended as a fringe about a centimetre beyond the edge of the lung. Here and there this neoplastic production formed a connecting membrane in which were to be seen miliary tubercles, as refracting points. The costal pleura, the inner lining of the ribs, was also irregularly covered with a membrane of similar character. In the lungs were to be seen tubercles, otherwise the parenchyma was normal; immediately under the pleura were four small and six miliary tubercles, and more were to be seen in the loose interlobular tissue. The smaller tubercles were more transparent, and had a grayish color, having a firm organic character; in the centre of one of the larger ones was to be seen caseous material. The bronchial lymph-glands were much enlarged; inwardly disturbed by many purulent and caseous centres; here and there lime-salts were perceptible; the tubercle centres extending prominently above the cut surface of the gland. The mesenteric and other glands presented a similar character.

"The microscopical examinations of the tubercles gave the same characteristics as those of man."

"These and more recent experiments prove that the milk from cows affected with tuberculosis is not only harmful, but that it also contains elements of a specifically dangerous character; it is capable of generating elements of a similar character; it, therefore, bears the character termed infectious."

There are many other experiments that are recorded, which tend to show that the milk of such animals is exceedingly dangerous, but I think that it will not be necessary to give you more of them, as they all result in about the same conclusion.

I fed six rabbits with the milk from a tuberculous cow for ten days, and at the expiration of sixty days from the time the feeding was begun no disease was found, but upon killing the cow from which the milk was obtained, I found no lesions in the milk-bag, but extensive deposits in the lungs. I was then led to believe that it was necessary to have a tubercular lesion of the milk-bag or along the lacteal track, thereby allowing the germs to enter into the milk flow. We find that many experiments have been performed with like negative results, consequently many experimenters are disinclined to believe that there is any danger in the consumption of such milk. I observed that in the latter stages of the disease the milk is greatly reduced in its fat elements; the specific gravity in many cases reaching as high as 110 to 115, and the milk bluish and watery in appearance. This fact alone would be evidence sufficient to condemn its use, especially in our children and babes.

It is generally conceded that if tuberculous meats and milk are well cooked previous to usage, there is much less liability of their producing harmful effects.

This calls to my mind a new preparation that has just been introduced into the market, called "Bovinine," the manufacturers of which call special attention to the fact that the blood and the meat of which this preparation is made is rendered into a liquid state without the application of heat. I do not wish to make any reflection upon this preparation, but it does seem as if the greatest amount of care should be exercised in the selection of animals for such purposes.

It is claimed by many that the inhalation of non-tubercular substances, as well as the inhalation of tubercular matter, will produce tuberculosis. In the latter case I can conceive that if tuberculosis is a germ-disease, it can be readily produced by placing the living germ upon fertile soil. In this case it would be in accordance with the laws of reproduction. But when we employ such substances as lamp-black, coal dust, etc., what can be the result other than a local inflammation? I will admit that these substances may become encysted, but I am yet to be convinced that a specific disease may be produced by the inhalation of a non-specific substance.

According to "Sattler-Gunther and Harms, who tried the experiment of causing rabbits to inhale the air expired by tuberculous cows, the results were negative. Later Tappeiner and Lippl added to the air inhaled particles of tuberculous sputa. In all these experiments the animals experimented upon (dogs) developed nodules in the lungs only in some cases, in others in several organs at the same time." In looking over the various experi-

ments we find that wherever tubercular matter has been used for inhalation, the disease is usually produced.

I experimented upon seven rabbits in the following manner, putting them into a tight-woven sack and holding the free end over the nostrils of a consumptive cow. This experiment was repeated seven times, at intervals of five days each. Each time, on taking the rabbits out of the sack, they seemed much exhausted. Forty-five days from the last inhalation they were examined, but all appeared healthy. As such experiments have invariably failed to produce the disease, I am convinced that the germ is not given off in the expired air.

I also performed a very interesting experiment in the following manner: Taking some fresh tubercular matter, rendering it into a solution by adding warm water, I applied several drops of the solution to the mucous membrane of the nostrils of seven rabbits, being careful to hold the rabbit's head up so as to allow the fluid to gravitate and reach the bronchi, if possible. I also tried the same experiment with seven other rabbits, but using fresh sputa from one of my patients in the wards of the asylum. Thirty-seven days after I killed those that had been subjected to the human sputa, and found evidence of the disease in four cases, but to a greater degree in some than in others.

No. 1. Left lung, the lower two-thirds solid in deposit, and a large deposit in the central portion of the right lung. Upon the left side lung adhered to chest-wall, and numerous miliary tubercles upon the pleural surface of both lungs, and several tubercles on the liver, three of which were as large as peas.

No. 2. Left lung contained quite an extensive deposit in the central portion. Several small tubercles upon the liver and bowels. In the other two there were miliary tubercles upon the pleural surface of both lungs, with small deposits in the lower lobe of the left lung of each. The other three were found manifesting no lesion of disease.

The seven that had been subjected to the application of the bovine tuberculous matter were examined upon the thirty-eighth day after the application.

No. 1. Left lung contained an extensive deposit in the central portion, and a small deposit in the lower lobe of the right lung. Numerous miliary tubercles upon the liver and bowels.

No. 2. Deposit in the central portion of the right lung; several tubercles upon the bowels, none being observed upon the liver.

No. 3. No deposit in either lung, but two quite large tubercles upon the diaphragm, and several upon the liver and bowels.

No. 4. Right lung, lower half filled with small miliary tubercles. Other organs appearing normal.

Nos. 5, 6, and 7 manifested no pulmonary lesions. The liver contained several small granulations, but I was not positive as to their being tubercular. The pathological appearances in each class were very similar, and one could not have told but that the lesions had all been produced from the same substance. The sputa and tubercular matters employed in each case were fresh, and only one application was made.

Before giving you the ætological conclusion to this paper, let us consider the sanitary measures that are being exercised in this country, especially in our large cities.

In your city, I am informed that you have about forty-five slaughter-houses, ten large markets, and about two thousand two hundred shops, and that there are about twenty-five thousand head of cows that furnish milk to your city. In July, when I visited your city, I was informed that you had one meat inspector and three milk inspectors, and that no animals were examined previous to being killed. May I ask how much consumed in this city receives inspection? Another important question is: What per cent. of the milk consumed is inspected, and what value can there be attached to the inspection of milk after it has left the hands of the producer, other than to guard against adulterations? I contend that the proper place for the inspection of milk is at the producers' stables, and that the animals from which the milk is obtained should be inspected. I do not believe that too much stress can be put upon this point. On the one hand, if we buy milk that has been adulterated or watered we are swindled. On the other, if we buy milk unadulterated, but from an infectious source, it is our health that is in danger. Now, if there are 25,000 head of cattle that furnish milk to your city, and if two per cent. of that number produce infectious milk, you can imagine the dangers to which your people are subjected.

From my observations of tuberculosis I have formed the following ætological conclusions:

1. In the bovine species, the disease is inherited either from male or female.

2. Tuberculosis is acquired by the inhalation of tuberculous substances.

3. Tuberculosis is acquired by the ingestion of milk of tuberculous cows, when the disease has reached the stage of suppuration, or when there is a tuberculous affection of the milk-bag.

4. The disease may also be acquired by the ingestion of the flesh of tuberculous animals.

THE INFLATED RING IN THE TREATMENT OF ECTROPION WITH CATARRH OF THE CERVIX, STUBBORN RETROFLEXIONS OF THE UTERUS, AND PROLAPSE OF THE OVARIES AND TUBES.

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PROLAPSED OVARIES.

PROLAPSED and hyperæmic ovaries require, in the order of their importance, first, support; second, the prolonged hot douche; and third, possibly, counter-irritation and galvanism. My previous method of obtaining support had been by cotton pads carried up behind the cervix, with the patient in the Sims position. These pads required renewal at least every other day. They were not apt to retain their position longer, and if kept in place longer would become foul. When the pad was removed the vagina required washing out, and it followed that the patient had to make the journey to her doctor's office without her support, or it had to be applied at her own home. Further, when the best had been done the use of the hot douche was still seriously interfered with. It could be given only every other day, when the pad was removed; so that in many cases it was found desirable that the patient with this condition should remain in bed for a number of weeks, in order that she might have the benefit of the frequent douche without suffering from the absence of her pad. The treatment, then, resolved itself into a programme of from four to six weeks in bed, followed by pads to be frequently renewed, preferably at the patient's house; and it resulted that only hospital paupers or the very rich could be successfully treated for this distressing disease. It will not, perhaps, be considered superfluous if I detail a few cases in which rest was impossible, and in which the inflated ring has given relief after other methods at my command had been ineffectually used.

CASE I. was twenty-four years of age, married four years, one child three years previously, no pregnancy since. She came to the infirmary clinic in November, 1885, complaining of constant aching in both inguinal regions. Each step aggravated her distress, and intercourse caused agonizing pain. Dysmenorrhœa was present, the flow lasting for six or seven days and recurring at intervals of not more than two weeks. This patient had been under treatment during the greater

part of the three years, and she had had several consultations over her case. One physician had advised the removal of her ovaries, and another, equally distinguished, had recommended letting them alone, telling her to have patience, that at the age of fifty or thereabouts her pains would be spontaneously relieved. Excluding the chances of oöphorectomy, her case was a sad one. The woman was extremely melancholy, and in relating these circumstances, naively added, "I shall be relieved when I am fifty, but I am now only twenty-five years old." Examination showed the cervix fissured upon the left side, lips everted, cervical catarrh, retroflexion of the uterus, and prolapsus of both ovaries, which were exquisitely sensitive; also a prolapsed and swollen left tube. This patient was treated with the posterior pad, applied twice a week, and in December she reported that she no longer had pain upon intercourse; that she was comfortable so long as the pad was in position; but that when it was out all of her pains would return. Upon examination the ovaries were found still very low, but not so sensitive as upon the first occasion.

In spite of douches and local medication, however, the hyperæmia and catarrh of the cervix continued. At this date an air-pessary was inserted. The patient removed it twice a day for a long hot douche and left it out altogether at night. After wearing it for a couple of weeks the eversion of the lips was found reduced and the discharge had ceased. In February menstruation had become regular. It lasted but three days and was without pain. The patient felt perfectly well, unless she attempted to run the sewing-machine, when some of her old symptoms would return. In March, examination showed the ovaries beyond reach. The tube was still discernible, but there was no discharge, and the pelvic sensitiveness was gone. June 1st, trachelorrhaphy was performed. The cervix was anæmic from the pressure of the ring, and the bleeding was slight. Good union was obtained, and at the date of writing, October 1st, the patient still feels perfectly sound. She remains sterile, but menstruates normally, and examination shows the fundus still forward, and the ovaries above the brim. She has worn no support since the operation, a period of four months. This result is exceptionally good, probably for the reason that the woman was young and that the dislocation had not existed longer than three years.

Case II. occurred in private practice. She was forty-two years of age, had had three children, the last seven years previously. This patient menstruated regularly, the flow lasting one week, and she felt better when menstruating than at other times. Half-way between the periods she had great distress—suffering with sick headaches, transient blindness, and spots before the eyes. She had constantly a profuse leucorrhœal discharge and inguinal pain. She had the ovarian cast of countenance, and was extremely depressed and melancholy. Although surrounded by friends, she would shut herself away and cry by the hour, without attempting to define the cause. She often contemplated self-destruction, being haunted by the fear of a suicidal act. This patient stated that her symptoms dated from the birth of her first child, but that, from the establishment of puberty until becoming pregnant, she had always been "unwell," that she had always worn a napkin, and that the flow was often so profuse as to soak through her clothing and to stain the chair upon which she sat. She was married at sixteen, and her first child was born twelve years later. Whatever construction be put upon the history of these hemorrhages, it is evident that she was not well during the period; while after the birth of this child she was almost constantly under a doctor's care. Examination showed a slight rupture of the perineum, fissured and everted cervix, cervical catarrh, retroverted uterus, and both ovaries sensitive, enlarged, and prolapsed. This patient lived out of town, and could not have been treated by pads. The ovaries could be readily replaced, and November 21, 1885, an air-ring was inserted, to be removed at night for the hot douche, and to be returned in the morning. In December she no longer had constant pain. She had menstruated without the usual aching in the thighs, and with but two days of headache, during which no nausea was felt. By examination the fundus was found forward and the ovaries just at the brim, but not in a position to be compressed. In January she had no pain, and the ovaries were beyond reach. The air-ring was then exchanged for one of Meiggs' elastic pessaries, as recommended by Dr. Thomas, and as a more elegant instrument, and one probably more acceptable to the patient. At the end of two weeks, however, she returned in great distress, deeply despondent, with headaches re-established, and all of her old sickening pains. Examination showed a full return of the retroversion and prolapse. The air-ring was returned January 24th. February 2d, the pelvic distress had been relieved but the headache continued. In March she again felt well, having menstruated without any cerebral disturbance. In this case, also, the eversion of the cervix was reduced, so that the gaping os had given place to a smaller lengthened cervix, with a vertical division of its lips. The discharge also had ceased. The summer was passed at the seaside, and with the help of a well-fitting pessary she was perfectly comfortable and cheerful, and gained fifteen pounds during the period. Since her return she has *cleaned house*, however, and between the stretching implied by this exercise and a pessary which does not fit very well, she has had a return of pelvic distress, but no constitutional disturbances comparable with her former symptoms.

PROLAPSED AND SWOLLEN TUBES.

Case III. was an old case of retroflexion treated at the infirmary clinic. She was previously sterile, but had conceived while wearing a hard-rubber ring. Following her confinement, she had suffered from endometrial catarrh and was using the hot douche for this condition, one day, when she was suddenly seized with cramps, and during that night had a good deal of pelvic pain. On examination the left tube was found behind the uterus; swollen, the fimbriæ rounded, tense, and very sensitive. From the history it was supposed that the nozzle of the syringe had been placed against the cervix, and that the uterus, and possibly the tube, had been thus injected. The hard pessary was removed and an air-ring inserted; the patient continued her hot injections twice a day, discomfort was relieved, and in the course of a month she was again wearing her hard ring with ease. This was an acute condition and may prove nothing, except that acute conditions resolve more rapidly than chronic conditions do. Support of some kind, however, seemed necessary. The hard ring was not to be thought of, and even the violence of pushing up a pad was to be avoided. Without a support she would have had a persistently retroflexed uterus blocking up the pelvis, and interfering with circulation. Resolution could scarcely have occurred so rapidly, and with so little suffering, under these circumstances.

Case IV. was treated at the Demilt clinic. She was thirty years of age, a widow, one child thirteen years previously. Menstruation was scanty, lasting three days without pain. For four years she had had constant distress in the inguinal regions, which was even worse on lying down, but no constitutional symptoms were complained of. On examination the uterus was found in position and movable, but behind the uterus was what my clinical assistant called a nest of objects. Sometimes the tenderness would allow only the general fulness to be recognized, but at other times both tubes could be distinctly traced up to their respective horns. They were about as large around as the little finger, and at their extremities very sensitive. The ovaries did not appear to be implicated. This patient was under observation, at irregular intervals, during a year. The posterior pad was used, but the great sensitiveness would not allow it to be

effectively applied, and her employment of the douche was probably very irregular. No improvement occurred, and in August of the present year an air-ring was inserted. The patient then remained away six weeks, but finally returned for the reinflation of the ring. She stated that it had given complete relief, and added incidentally, that when first worn it had caused a profuse discharge, with a good deal of vulvar and vaginal irritation, but that this had ceased at the end of a few days. Examination, then made, showed but one tube where two had before been clearly made out. Apparently one had emptied itself at the time of its first elevation. The use of the pessary is continued, the patient presenting herself at the clinic only when inflation is required.

RETROFLECTIONS.

Two other cases may be mentioned. Both were cases of retroflexion which had defied our resources. For the sake of identification, the first of these may be called :

Case V.—She was twenty-seven years of age, married about a year, menstruation regular during this time. She came to the Demilt Dispensary for sterility with retroflexion, which was relieved by a Thomas pessary. She became pregnant while wearing this ring, but aborted at the end of the third month. After this abortion the uterus remained heavy, and it was found impossible to properly support it with any of the retroversion-rings. Upon every occasion the body would fall back over the posterior bar, and a series of dents were being worn in the wall of the uterus as the different pessaries were tried. An air-ring was introduced, and pregnancy shortly followed. The use of the ring was continued until the pregnancy had safely passed the fourth month and the danger of retroflexion was at an end.

Case VI. was probably a congenital retroflexion, as the uterus was simply doubled up. It had been under observation at the Demilt clinic for a year, and it never had been possible properly to support it with a ring. Its posterior wall showed the same series of dents, but more marked than in the other case. Dysmenorrhœa had always existed. June 14th, an air-ring was inserted. On the 17th the patient reported that she had been more comfortable with it than with any previous support; and July 16th, she reported that she had menstruated with but little pain; that she had not needed to go to bed, as was generally the case. Examination showed that the body was supported in a position at a right angle with the neck, this position being maintained after the removal of the ring; in every way a better showing than had been previously obtained.

Incidental results.—There have been several incidental results connected with the wearing of this ring that will also, perhaps, repay consideration. The first of these has been the disappearance of cervical catarrh. In Case I. the cure of the catarrh occupied about two weeks. This result has been fairly uniform. In another case, to test the effect of the ring, no other application was made. This case may be called Case VII. of this paper. There was a deep fissure with a tender cicatrix running down the posterior vaginal wall. There was sacral pain and an abundant leucorrhœal discharge. The eversion was very marked, and the eroded lips bled at a touch. This patient was at the time also suffering from pulmonary phthisis. She was overworked, and in an extremely emaciated and cachectic condition. At first each introduction and withdrawal of the ring brought blood, but at the end of two weeks, in spite of her general ill-health, the erosions were found healed, the eversion reduced, and the discharge no longer noticeable. With the stretching of the cicatrix the backache also had disappeared.

This reduction of the eversion and loss of the catarrh seems due to a moulding of the cervix to fit the aperture of the ring, when the everted parts take their normal position and the fissure the form of a vertical cleft. The ring then acts as a splint in holding these parts in position, and by actual compression, perhaps, produces the cure, acting with the beneficence of the bandage in the varicose ulcer in other parts. Its effect in controlling menorrhagia has suggested, further, some compression of the uterine artery. Shortening of the periods has occurred in a number of cases in which it was worn. Case I., finally thinking that she did not menstruate freely enough, would remove the ring in order to encourage the flow. It might be surmised that the cervix was occluded by it so as to prevent exit; but this was evidently not the case, as there was no pain connected with these periods.

A second incidental result has been the relief of symptoms in the cases of prolapsed ovaries. The women remain sterile. There is no reason to suppose that the ovaries have been restored to a healthy condition, and yet, both in the cases here reported and in other cases, the local pain, the deranged menstruation, the psychic difficulties, the disorders of the accommodation, and the headaches have disappeared. Apparently the symptoms were not due to the disease *per se*, but to the compression of this diseased part.

A third incidental result has been a discharge, apparently from the tube, noticed in a number of cases.

For some time it has appeared to me that if these tubes be sufficiently cleared, they may completely empty themselves through the uterus. Not long ago a posterior pad was applied in a young woman, having a large, low-lying tube. She returned with the complaint that, during the twenty-four hours following the application of the pad, she had had a profuse greenish discharge, which was excessively irritating, and examination showed the vulva and vagina in a highly congested and angry state. Another case once volunteered the remark that she always had a greenish discharge following the application of the pad. The pad was lubricated with vaseline in all of these cases. Glycerine never was used. The discharge never has been bland in my experience. It always excoriates, and is, perhaps, a sufficient explanation of the pelvic peritonitis which accompanies tubal affections.

A fourth peculiarity of the result of this ring has been that the flexions overcome by its use do not immediately return. It has then a curative tendency in these conditions. This is a remarkable fact for association with a pessary. The popular idea has been that a pessary, once worn, must always be worn; that is, that if it be removed, the displacement will return in an aggravated form; that its use tends to weaken rather than to strengthen the defective part. If we except the immediate reduction of retroflexions following childbirth, which are, as a rule, easily curable, this opinion is indorsed by my own experience. Retroflexions supported on the usual pessary tend to return upon its removal, and to be thus ultimately aggravated rather than improved. The opposite has occurred in cases wearing the inflated ring. A friend with a large gynecological experience spontaneously made to me this same remark. Said she: "A case of retroflexion and prolapsed ovaries upon which I have used this ring is now going without any support, and the uterus retains its position." For some reason, the broad ligaments regain a degree of elasticity and muscular tone. Possibly the removal of the ring at night has something to do with this result, for we know that while the too heavily weighted muscle contracts badly, it functions better if allowed to do some work than if not doing any at all. It is possible, then, that by our method of application we get not only the necessary rest, but also the necessary stimulus to good muscular tone.

Conservative gynecology.—Without touching upon the question of operation, there will remain many cases of catarrh of the tubes, to whom suitable support offers temporary relief by protecting the sensitive fimbriæ from compression, and also possibly the chance of a spontaneous cure by drainage. Of course this can only take place where proximal occlusion has not occurred. Apparently, however, proximal occlusion is not common in these cases, as a classic sign of salpingitis is an intermittent dis-

charge of pus. Failing the indications for operations, then, we need not abandon these tubes, but elevate them, and thus give relief, perhaps, and this chance of spontaneous cure.

The writer would like to protest, too, against leaving prolapsed ovaries alone, in the hope that the atrophy of the menopause will solve the problem which they present. It has seemed to her that cases of ovarian disease, cystic and other degenerations, occur more commonly where there has been a history pointing to a long-standing ovarian prolapse. Preventive gynecology merits attention. A better care of the woman after childbirth is required. Prolapsed ovaries are largely associated with retroflexion, subinvolution, a fissured cervix, and cervical catarrh. By examining the woman six weeks after her confinement this retroflexion can be easily relieved, and possibly prolapse of the ovaries prevented. Also, early operation upon the fissured cervix itself merits attention. If this repair can be safely done at the time of the confinement, all conservative considerations urge that it should be then done; as it will remove an absorbing surface during the puerperal period, as well as the lymphangitis and all its train of subsequent results.

Further, the young girl might be allowed to develop her broad ligaments so that her uterus will not wobble about so loosely. All of us have met cases where, with the perineum torn to the sphincter, the uterus remained in a firmly upright position; and the writer has previously referred to the fact that circus-riders apparently do not suffer from these displacements where their training has been commenced in early youth. Yet these women bear children, continuing their performances through the seventh month of pregnancy, and recommencing them shortly after their confinement has taken place.

How the conventionally restricted girl can obtain this development is, however, too large a problem for the writer of this paper.

The inflated ring.—In all of the cases detailed the simple ring without the tube attachment was used. These rings, as perhaps all know, have a lump of wax upon the inner surface of the rubber at a given point. Through this wax a hypodermatic needle may be plunged without injuring the usefulness of the ring, and by means of the needle the ring may be inflated, or air can be withdrawn. When the needle is removed the wax is to be gently compressed. In all of the cases here given there was a firm anterior vaginal wall, while the posterior vault was, as a rule, prolapsed. It was therefore found desirable to remove a little of the air from the fully inflated ring previous to its insertion, as this would allow its closer approximation to the parts. The anterior wall then would indent the anterior bar, while the posterior bar would spontaneously rise and buoy out the cul-de-sac posteriorly and upon the sides, the position when the patient stood being oblique, approaching the vertical in direction. The fully inflated ring will cause a feeling of weight in the perineum and irritability of the bladder, symptoms never complained of where a little of the air has been removed. In fact, it seems doubtful whether I could have obtained the advantages I have had from this ring had full inflation been insisted upon.

Another precaution has been, as already explained, the frequent removal of the ring. In cases where the patient has no pain when recumbent, it has been left out at night. It is then immersed in a solution of soda bicarb. or some disinfecting solution. The vagina escapes erosion by these intervals of rest, and the instrument does not become foul as when longer retained. As there is no danger of improper insertion, the woman removes and inserts it herself. All of our patients have been married women. Unmarried women would probably not be able to manage it; still, when but partially inflated, the ring may be folded into a spindle-shaped mass which enters the vagina without great difficulty. When inserted the patient assumes the knee-elbow position, when it rises spontaneously to its proper place. The ring requires reinflation every one to two weeks, and renewal every one to three months.

It has been objected that this is an exceptionally disagreeable ring to introduce and wear. Perhaps it is, but the patients for whom it was prescribed had been such sufferers that this objection became shadow-like and faded away in their presence. It is objected, that it erodes the vagina and takes on a fetid smell. As has been already remarked, this does not occur where it is removed at night and cleansed as directed. It is also said to distend the vagina and to destroy its elasticity. It has not, however, seemed to me more destructive than the prolonged use of pads.

The effect upon the cervix has suggested that this ring might produce atrophy if worn too long. This will probably have to be guarded against. While the external circumference of rings varies, the hole in the middle is about the same for all. As the cervix moulds itself to fit the hole, it follows that this uniformity is objectionable. A larger hole is desirable in some cases. Instrument makers tell us, however, that this modification cannot be lightly undertaken, as, from the intricacies of their manufacture, new models would be required which could only be introduced at a considerable expense.

The prolonged hot douche.—The hot *douche* forms an important part of the treatment in these cases. Some remarks have been recently published regarding the position to be taken by the woman when she must manage her *douche* alone. It has been found that she will not effect an injection of satisfactory duration when lying, and an injection when sitting over a bidet has been suggested. But a large proportion of the patients whom I treat do not have a bidet, and it has been my custom to have them place the hot water in their *pot de chambre*, to sit upon this vessel at a distance of about two feet from the wall, and then to tip themselves and the vessel so that their back rests against the wall. In all cases the Davidson syringe is preferred; and except where the leucorrhœa is a prominent feature, the same water is continuously used, the woman having at her side a pitcher of hot water with which to replenish it as it becomes cool. The patient then uses the *douche* ten minutes by the clock. The continuous use of the same water was adopted because it requires but one receptacle, while it insures the prolonging of the *douche* for the time indicated. As noted by a number of the correspondents referred to, this result cannot be obtained where the woman must rise to replenish the water in the midst of the *douche;* while it has been found that compliance with the smallest of the details here given can be obtained even among the most stupid of our tenement-house population. The position is, of course, not so desirable as the reclining position, but it is, perhaps, the best which can be devised for these people.

To RECAPITULATE.—The old inflated ring may be made useful: first, as a substitute for cotton pads in the treatment of prolapsed ovaries and tubes; second, to support the retroflexed fundus where it cannot be effectually lifted by other means; and third, for its decidedly beneficial influence upon cervical catarrh.

In the latter condition it reduces the hyperæmia by direct compression, or by direct compression aided by pressure upon the uterine artery. Pressure upon the uterine artery is suggested by the fact that the application of the ring as here suggested diminishes also the uterine flow. The peculiarities of application referred to are that the ring should not be tensely inflated, and that it should be used in cases having a firm anterior vaginal wall. As a preparation for trachelorrhaphy it cannot be too enthusiastically admired.

The results obtained by this ring in retroflexions contrast favorably with those of other rings, in that they tend to be permanent. It is, therefore, curative in its action, an admirable quality, even if true only in a slight degree.

As a support for ovaries and tubes, there is no instrument with which to compare it. Even though the superiority of the cotton pad be retained, where the patient must leave home, or for any reason cannot have her physician's constant attendance, this ring can be confidently used.

Other cases might have been detailed, but to avoid tediousness we have only given a number sufficient to show typical results.

For the detection of prolapsed or diseased ovaries and tubes, the Simms position is preferred, and examination with the patient upon the left side has been advantageously supplemented by examination with the patient upon the right side in some cases. In this position the prolapsed tube is not an indefinite mass, but can be recognized as in continuity with the uterus and traced up to its respective horn.

The preventive treatment of ovaries and tubes is in its infancy. Probably in a few years the measures here suggested will seem crudely ineffectual. Better means of combating the incipient stages of diseases in these organs must mark the course of gynecological progress in the future.

Clinical Department.

THE PREVENTIVE TREATMENT OF PUERPERAL ECLAMPSIA.

Dr. J. G. Palmer, of Oak Bowery, Ala., sends a communication upon the prevention of this most dreaded complication of pregnancy. Eclampsia he regards as essentially connected with uræmic poisoning, associated with, or dependent upon, albuminuria. He is inclined to believe that carbonate of ammonia is the real factor in producing eclampsia, associated with other pathological conditions of the nervous system so often manifested during pregnancy. He does not regard the albuminuria as due to inflammatory lesions of the kidney, but believes it is the result of mechanical causes, produced by pressure of the gravid uterus upon the kidneys, resulting in congestion of the renal vessels. The excrementitious products are retained, and urea is absorbed into the system and is converted through the action of some as yet unknown ferment into carbonate of ammonia. The writer believes that the convulsions may always be prevented, if the patient is seen in time, and he says that he has never yet seen a woman suffer from eclampsia who had consulted him for relief of the symptoms preceding puerperal convulsions. He reports the following cases:

"Case I.—In February, 1885, I was called to see Mrs. W——, aged thirty-six, the mother of eight children. I found her nearly blind, complaining that cobwebs were before her eyes, and screaming with the pain in her head. The face, hands, and lower extremities were very œdematous, and the patient had passed very little urine in the past thirty-six hours. The urine was loaded with albumen. I gave her twenty grains each of chloral hydrate and bromide of potassium, and ordered ten drops, gradually increased to twenty drops, of spirits of chloroform three times a day. I also ordered ten drops of tincture of digitalis to be taken before meals, and cascara cordial for the bowels. The next day I found the patient free from pain, with good vision, and the urine had increased in amount. In ten days the œdema had disappeared, and the urine contained hardly a trace of albumen. The woman was delivered at term of a living child, and had no symptoms whatever of her former trouble.

"Case II.—Mrs. D—— consulted me when she was eight and a half months advanced in pregnancy, complaining of dizziness, cephalalgia, obscure vision, and diplopia. The urine was scanty and albuminous, and the feet, legs, hands, and face were œdematous. I put her on ten drops of chloroform three times a day, and ordered ten drops of tincture of digitalis and twenty of fluid extract of buchu, to be taken before meals. I also advised her to take out-door exercise, to eat sparingly, and at short intervals, and to drink plenty of sweet milk. In one week the œdema was gone, there was but little albumen in the urine, the appetite was normal, and the bowels were acting regularly. The patient was delivered at term of a living male child, and had a very easy labor.

"Case III.—Mrs. G—— wrote me concerning some strange symptoms she was having. She was eight and a half months advanced in her first pregnancy, and her troubles were somewhat similar to those narrated above. As she was living at a distance, I could not examine her urine, but believed her to be suffering from uræmic poisoning, and sent her prescriptions for the chloroform and digitalis, telling her to keep her bowels acting freely. Relief followed immediately, and the patient was delivered at full term of a living child, and had no signs of eclampsia.

"I could relate the histories of several other cases of a similar nature, but these are sufficient to demonstrate the efficacy of the treatment. I am indebted to Dr. Griggs, of West Point, Ga., for suggesting the use of chloroform in these cases of uræmic poisoning if we may call it by that name. I shall not attempt to say how it acts, unless it be by preventing the decomposition of urea and the consequent formation of carbonate of ammonia, or by rendering the constituents of the urine more soluble and thus favoring their elimination through the ordinary channels. It perhaps has a sedative effect upon the nervous system, thus allaying much of the abnormal excitability. Although we must regard it as an empirical remedy, I can say that it has never failed in my hands, and others who have used it have met with equally favorable results. The use of digitalis in such cases is an original idea. I believe it is of great service as a diuretic, causing the excrementitious material to pass off with the urine, thus ridding the system of much that might be productive of evil. It is also of service as a heart tonic, assisting an already overworked and hypertrophied heart in the performance of its functions. I am not much of a believer in the cumulative action of digitalis, but I always try to use a reliable preparation. I can heartily recommend this mode of treatment to the profession, and I think it is of much greater value than is the use of veratrum, morphine, and calomel. The lancet should be used freely in cases of plethora or where much congestion is present, cases which are by no means rare."

THE TREATMENT OF WOUNDS OF THE BLADDER.

Dr. John Homans, Surgeon to the Massachusetts General Hospital, Boston, Mass., writes: "As bearing on the subject of the suprapubic operation for stone, which is being revived at this time, I may say that I have twice cut open the bladder during an ovariotomy. The first time was in my seventy-second case (one of dermoid tumor). The incision in the bladder was carefully sewed up with a continuous suture of silk, care being taken not to include the mucous membrane in the stitch. The bladder was closed tight, and a Sims catheter was kept in the urethra. The catheter was removed on the tenth day. The temperature was never above ninety-nine degrees, and there have never been any vesical symptoms at that time nor since. The second time was in my two hundred and tenth case—one of double papillomatous ovaries, the patient having been tapped eighteen times in five years for the removal of ascitic fluid. The wound of the bladder was more extensive than in the first case, and required twelve interrupted sutures of silk, in which the peritoneal and

muscular coats alone were included. A catheter was kept in the bladder seven days. After that time the urine passed naturally. In neither of these cases was the bladder drained through the abdominal wound. If the catheter in the urethra will drain the bladder, it would seem unnecessary to have another exit in the roof of the bladder. It would be well, however, to leave a drainage-tube in the integuments over the sewn-up bladder in case there should be any leakage."

THE USE OF COCAINE IN CORYZA.

Dr. Amory Chapin, of this city, writes: "I desire to attest to the beneficial results of cocaine in acute coryza. I have used the cocaine solution on a number of patients with throat and nose disease, who have been and are subject to 'cold in the head,' and have prescribed for their own use the four per cent. solution of cocaine whenever they were troubled with the disagreeable affliction, and it has been almost universally successful, often aborting the disease. I have found the combination of 'Dobell's Solution' with the cocaine work better even than the cocaine alone. I advise the use of the combination solution in an atomizer (hand bulb), and recommend that the solution be warmed to an agreeable temperature before being used in spraying the nares."

SUCCESSFUL PASSAGE OF A SAFETY-PIN THROUGH THE INTESTINES.

Dr. John C. Owens, of Plainfield, Ill., writes that, having just read an article in The Record, from the pen of Dr. Reed, on the subject of foreign bodies in the intestines, there is recalled to his mind the case of an eighteen months old child whom he was called to see some two years since. The little patient had not been well for some time; would seem to suffer pain at times, but as the source of the trouble could not be detected, the mother thought she might be mistaken. "The child grew worse, and I was sent for. On reaching the house, which was several miles in the country, I was informed that the child, a short time before my arrival, had cried out with pain while having a movement from the bowels. On examining the passage, great was the surprise of the mother to find a safety-pin about one inch in length, opened. Just when it had been swallowed was not known, but the mother thought a month or six weeks before, as the child had not seemed well during that time. No unpleasant symptoms followed the passage of the pin. To me it seems a remarkable case, from the fact that the child must have removed the pin from its clothing and swallowed it; and one could hardly imagine that a triangular object of that size, with a sharp point, could make its way through the intestinal tract of so small a child without lodging at some point, or causing more serious symptoms."

INTUBATION OF THE LARYNX.

Dr. D. A. K. Steele, of Chicago, calls attention to an error in the article by Dr. Northrup, on Laryngeal Diphtheria, which appeared in The Record of December 11th. The author made the assertion that there was no danger of the tube slipping down into the trachea, and said that such an accident had never been reported. Dr. Steele writes:

"I question the correctness of this statement, and am surprised that the pathologist of the New York Foundling Asylum should make it. Dr. Northrup seems to be perfectly familiar with the statistics of laryngeal tubage; as he condenses, classifies, and compares the reports of one hundred and sixty-five cases, yet singularly overlooks the occurrence of the accidental slipping of a tube into the trachea, reported by Professor Waxham as having occurred in his second case, and which was fully reported to the Chicago Medical Society, October 5, 1885, and published with other cases in the *Chicago Medical Journal and Examiner* for November, 1885. I call attention to this, as I believe it was the first recorded instance of the accident, and happened before the modifications of O'Dwyer's tubes by enlarging the shoulder and thickening the middle third of the tube. With the improved tubes, this accident would be much less likely to occur."

Progress of Medical Science.

Natural History of Tuberculosis and the Bacillar Theory.—Dr. R. B. Davy, of Cincinnati, has lately read two papers before the medical societies of that city, in which he thinks he has shown the infectious theory of tuberculosis to be supported in every respect by the natural history of the disease. He does not lay particular stress on the "bacillus tuberculosis," and speaks of the poison more as "tubercular virus;" but insists that, like all other organisms, it is a creature of heat and moisture. From the fact that its appearance and extension are only noticed to occur in confined spaces, and its disappearance most favored in unconfined spaces, he concludes that the danger of infection depends more upon quantity than quality of poison. After extensively discussing the natural history and climatic treatment of the disease, he comes to the following conclusions: 1. That tubercular phthisis occurs most frequently and most fatally in warm or hot regions, characterized by a non-porous soil, and the ordinary accompaniment of excessive humidity of atmosphere. 2. That it depends upon a specific organism, which can be made to produce the disease by inoculation. 3. That the key to the introduction and development of this organism in the system is ordinarily some form of irritation. 4. That the disease is plainly curable in all its forms except the acute, and even this may not always be fatal. 5. That to the predisposed it is communicable by infection through the medium of a polluted atmosphere. 6. That the infection depends upon quantity rather than quality of virus. 7. That on the open sea, where every condition favoring the development of tuberculosis is present, except the presence of tubercular spores, the disease speedily disappears. 8. That the nearest approach to perfect immunity from tuberculosis is to be found on high mountains, where, on account of extreme rarefaction and accompanying dryness of the air, the tubercular organism cannot exist.

Increased Means of Isolation Necessary in Checking the Prevalence of Scarlet Fever.—Dr. William Squire, in a paper published in the *British Medical Journal*, October 30, 1886, emphasizes the necessity of strict attention to isolation as a means of reducing the frequency of scarlet fever, especially in the larger cities. He says that diseases propagated by personal infection, such as scarlet fever and small-pox, have shown no diminution under extensive sanitary works, but require measures of isolation for their control; they are not checked by the great improvements in drainage and water supply that have proved so efficacious against the prevalence of diarrhœal diseases, and especially in diminishing the amount of enteric fever. He shows that the better classes can be generally isolated sufficiently at their own homes. But for the poorer people institutional facilities are necessary. He concludes by maintaining that in scarlet fever isolation is our only means of guarding against infection; we cannot provide for ourselves or others the immunity against this disease that vaccination affords against small-pox. No modified form of scarlet fever will insure against its recurrence in a more severe form. Were we to inoculate from a mild case of the disease, it is likely we should set up a severe, and it might be a malignant or fatal, form of the disease; however mild a form might result, others would be in danger of

being infected from it, and every case risks the well-known after-complications. The milder epidemics, conveyed through the medium of milk from the cow, would continue to spread and give rise to serious effects, if not so narrowly watched and exterminated. The modified disease lately discovered in the cow, though it produced but slight illness in some cases, did not do so in all. It is not an unusual thing to see scarlet fever happen twice, as it were: a child has sore throat and very little rash, or none, yet the illness is followed by desquamation, and it may be with other marked characteristic after-effects; a year or two after, this child is exposed to scarlet fever and has well-marked rash, a short illness, and no desquamation. Reinfection from scarlet fever has recently occurred, to my knowledge, in a child four weeks after a first typical attack; the second attack being the more severe and both followed by desquamation. If the unmodified virus does not confer immunity from a future attack, it is not likely that a modified virus will do so. How are we to protect by inoculation in a disease not clearly self-protective? The only answer here, as in diphtheria, is by preventing the intercommunication of the sick with the healthy.

The Alleged Curability of Tubercular Meningitis by Iodoform Inunctions.—Apropos of this subject Dr. Oxley, a correspondent of *The Lancet*, calls attention to the following points: Tubercular meningitis can only be diagnosed with certainty by post-mortem examination, therefore we must take with great caution any statement of a cure having taken place. It is simulated by typhoid, so as to be with great difficulty distinguished from it. The same may be said of suppurative pericarditis. Tubercular meningitis is an affection of the brain depending upon general acute miliary tuberculosis, and is usually accompanied by a deposit of nodules in and upon the lungs, pleuræ, liver, spleen, and kidney. Tubercular meningitis cannot be considered as a disease *per se*, although, owing to the fact that effusion into the ventricles of the brain, when excessive, produces death rapidly, it is convenient to consider separately this phase of tuberculosis. The effusion into the ventricles is caused by occlusion of the vessels by nodular growths of tubercle in their walls. If the iodoform rubbed into the scalp cured tubercular meningitis, then it must cure general miliary tuberculosis, as the head-affection is only one of the expressions of this general disease, which it modifies so as to make it hardly recognizable. Thus, in a case of tuberculosis complicated with meningitis and effusion into the ventricles, we have the temperature never above 100°; pulse from 80 to 100 up to the day of death, when it becomes rapid—156 or more; whereas in the acute tuberculosis, uncomplicated with effusion, we have a pulse of from 152 to 190, and a temperature of from 103° to 104.5°. In the first case, with meningitis, death takes place in from seven to fourteen days, and the patient is insensible most of the time; in the second, with the same general disease, minus the effusion, we have death occurring at the end of from fifteen to thirty days, and the patient is often sensible to the very last.

Tuberculosis and Scrofula.—About two years ago, as the result of some observations of his own, Dr. Arloing found that both the guinea-pig and the rabbit were affected by the inoculation of pulmonary tuberculosis, while glandular scrofula did not cause any visceral lesions in the latter animal. He did not, on this account, feel justified in believing the two affections to be absolutely distinct, but, at the same time, he was forced to the conclusion that if they had a common origin, its activity was markedly attenuated in scrofula. With this idea, he has since applied himself to find out whether it was possible to augment the virulence of scrofula to such an extent as to enable it to affect either animal indifferently. The guinea-pig is extremely susceptible to both tuberculosis and scrofula, and the latter invades its economy with such ease, and assumes such a malignant character, that it occurred to him that, by inoculating it through several generations in the guinea-pig, he might be able to increase its activity enough to overcome the resistance offered to its invasion in the organism of the rabbit. The experiment, however, showed that this was not the case. Among the bone and joint affections of human beings, known as localized tuberculosis and surgical tuberculosis, some are beyond the reach of art, while others are improved, if not cured, by surgical intervention; the latter are scrofulous lesions, the former tubercular, though of a milder form than that occurring in the lungs and serous membranes. Now, if rabbits and guinea-pigs be inoculated simultaneously with material drawn from lesions of this kind, it sometimes happens that the guinea-pigs develop the characteristic lesions of miliary tuberculosis, while the rabbits escape with a little localized suppuration, or a formation of fine granulations in the subcutaneous connective tissue, just as in the case of inoculation with scrofulous matter. But if other rabbits be inoculated with the tuberculosis thus developed in the guinea-pig, they almost invariably contract well-marked pulmonary tuberculosis. The organism of the guinea-pig is thus capable of augmenting the intensity of feeble tubercular virus, but is unable to do this for the virus of glandular scrofula. Dr. Arloing is of opinion that this curious disparity merits attention, more especially as the present tendency is to group scrofulous and tubercular manifestations under the same head, whereas there are undoubtedly very material differences between them—enough, indeed, to render further evidence of the identity of the virus in the two affections necessary before their common origin can be accepted.

Double Dislocation of the Jaw from Vomiting.—Dr. Elmer E. Curtis, of Rochester, N. Y., writes as follows in the *Medical Press of Western New York* for October, 1886: "On August 1, 1886, I was called to see Miss K——, whom I found suffering from gastro-enteritis of two weeks' standing. I found her much weakened and emaciated; prescribed for her, and in the evening was informed that she felt much better. On the following morning she felt so much improved that she, contrary to my instructions, indulged in a glass of beer, which produced a violent paroxysm of vomiting. I was summoned in great haste and informed that *Mary* (my patient) *had vomited her jaw out.* I found, to my great surprise, that she had produced double dislocation of the jaw, which I reduced with some difficulty. I report this occurrence because it seems to me to possess unusual interest, both in the manner of its production and from the fact that both sides were dislocated instead of but one, as is generally the case."

Granuloma Fungoides.—An account of a case of this rare affection has been published by Drs. Carl Hochsinger and Eduard Schiff, of Vienna. The disease began, in 1877, as a chronic eczema of the back, which gradually spread over the body. In 1883 the head was attacked, and soon became the seat of characteristic ulcerating nodules. The patient, a female, died in November, 1885. The authors describe the histology of the affection as a nodular formation of granulation-tissue replacing the normal structures of the cutis and the papillary body. A delicate reticulum supports the round cells, and in no part are any giant cells detected. The transition to healthy skin is gradual. The new-growth is not very vascular, and as it spreads it rapidly destroys the cutaneous capillaries. Described previously under such names as *lymphadenie cutanée*, *sarcomatosis generalis*, its alliance with specific inflammatory formations has been proved by the discovery of micro-organisms in the tissue. Rindfleisch gave it the name of *Mycosis fungoides*. Hochsinger and Schiff, in the present case, ascertained the presence of streptococci in the vessels, leading to the obliteration of the latter. They instituted a series of culture-experiments, which appear to prove that the micro-organism is distinct from the pyogenic forms.

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THE COMING TREATMENT FOR PHTHISIS.

THE treatment of phthisis by medicated gaseous enemata, devised by Dr. Bergeon, of Lyons, has recently received the attention and measured approbation of Dr. J. Henry Bennett, who gives a full account of it in the *British Medical Journal* of December 18, 1886. We have already explained the general principles of Bergeon's method. He found that carbonic acid gas introduced into the system by the veins of the intestines was harmless, painless, and without special medical effect: in other words, it was a practically inert gas. He then medicated this with sulphuretted hydrogen, and the medicated gas was injected per rectum. The sulphurous gas was eliminated by the lungs, causing remarkably beneficial effects.

Dr. Bennett says: "Dr. Bergeon claims marvellous therapeutic effects for this medication. He says that he has been applying it for the last two years to all the cases of chronic pulmonary and throat disease that have come under his observation; indeed, in more than two hundred cases, although the experiments were made at Lyons, where the climate is bad, the results have been successful to a degree that has surprised and astonished him. He says that, in early phthisis, even in acute general phthisis, a form of the disease nearly always rapidly fatal, in two or three weeks there is generally an arrest, and in a few months a cure. Even in advanced, incurable phthisis, great amelioration is obtained. The pulse is lowered, the temperature falls, the night-sweats cease, the appetite returns, the expectoration rapidly diminishes, losing its purulent character, and the cough becomes less harassing and frequent. The amelioration, he says, is also rapidly obtained in advanced laryngeal phthisis, when all local or constitutional treatment has failed to give ease, or to arrest the ulcerative process. Asthmatic attacks are relieved with more certainty than by any other means, including the hypodermatic injection of morphine.

"These are very marvellous statements; but, coming from a scientific man of mature age, occupying a prominent orthodox position in a great medical centre (Lyons), and brought forward as the result of several years of trial and observation, they must command attention and counter-trial. Certainly, to pass from eight to ten or twelve litres of medicated gases through the intimate structure of the lungs, several times in the twenty-four hours, is a tangible reality, and a new departure in thoracic therapeutics. The entire structure of the lung is certainly reached; both the healthy and the morbid tissues are thoroughly searched out and permeated."

Bergeon has communicated his views to the Paris Académie de Médecine, and his method has been tried "with unexpectedly favorable results" in the hospitals of Paris, and at Lyons.

The injections are made twice daily. At first only about one litre of gas is used; and this amount is steadily increased. Great attention to details is needed; the sulphur must be pure, and no atmospheric air must be admitted.

Dr. Bergeon's method is novel, and with so many strong endorsements it plainly deserves an extended trial. It is not one that can be widely used at present, owing to the care and time needed for its application.

SHOULD PREACHERS PAY?

UNDER the above heading, Dr. George R. West, in the *Atlanta Medical and Surgical Journal*, makes a vigorous protest against the custom of not charging any fee for professional services rendered to a minister of the Gospel or his family.

The arguments put forward are in the main sensible and sound, although the picture is not quite so dark as Dr. West paints it. He believes that, in the interests both of the clergyman and the physician, the custom should be abolished. By it the clergyman is put at a disadvantage, because he cannot always have his choice of medical attendants, but must take one out of his flock. Then, since he makes no payments in money, he must feel a delicacy in calling upon the physician to the extent which he would often, perhaps, desire.

According to Dr. West, if a clergyman sends for his physician "at an opportune time, or happens in his office when he is idle, he will receive prompt attention with great courtesy. If, however, he sends when that physician is tired, or if the weather happens to be disagreeable—it being cold, wet, or in the night-time—the physician will stay at home, when he finds who wants him. If it had not been for that abominable custom which would prevent him from charging for his services, he would have rendered them."

We can hardly believe that such things as this often happen. No honorable physician would do his duty any the less thoroughly because he received no money equivalent. If medical services can never be conscientiously dispensed except on a commercial basis, then medicine is only a trade, after all, and its dignity is gone.

Dr. West goes on to say: "Under the existing customs, if a preacher or his family is being attended by a doctor in whom they lose confidence, it is a very awkward thing to demand that the doctor cease his gratuitous visits, and then call in another. If it was a money transaction, it could be accomplished in a business way."

He also states that it is not for the interest of the physician to treat the minister without compensation, although the reasons put forth are hardly so convincing.

Perhaps it is a fact that preachers do, as a rule, pay more, indirectly, than other people for their medical services. In our opinion, the custom does its greatest harm to the clergy; and it is with them that reform ought to originate.

THE EARLY HISTORY OF INTUBATION OF THE LARYNX.

Intubation of the larynx was suggested thirty years ago, but it is still generally believed to be an American idea, and, if we mistake not, it was independently conceived by Dr. O'Dwyer, of this city. Its early history, however, is almost a tragic one, and is worth recalling.

On September 14, 1855, M. Bouchut, then a young hospital physician and professor-agregé, described a method of treating laryngeal stenosis by intubation, thus avoiding tracheotomy. A commission was appointed to investigate the subject, and Trousseau was made its secretary. He read his report two weeks later, and presented the following conclusions :

"Tubage" of the larynx in certain cases of acute laryngitis can by retarding asphyxia prove of curative value.

In certain chronic diseases of the larynx it will allow one to delay tracheotomy, and sometimes relieve or cure the patient.

In the treatment of croup it delays asphyxia, and allows a more easy introduction of air and agents capable of modifying the diphtheritic inflammation.

It can only very rarely supplant tracheotomy, which is the principal means of opposing croup when medical measures fail.

The last conclusion was practically an extinguishment of M. Bouchut's views and method; but it was most actively supported in the discussion which followed, and M. Bouchut was, it is said, most virulently and ungenerously attacked. The discussion finally became so warm that Trousseau went to the tribune; then, in the language of the *Gazette des Hôpitaux*, "it was no longer a discussion, it was an execution!"

M. Bouchut was attacked in his character, and in his honor, and his idea was actually hounded out of existence. The ingenious but unfortunate physician found all the official avenues to promotion barred against him. His career was in fact almost ruined. By force of character and perseverance, however, M. Bouchut has won a name in pædiatrics, and it must be a matter of no small satisfaction to see his idea now revived and warmly indorsed by many excellent authorities.

A WORD OR TWO ON WARM CLOTHING.

At a time when there is "a nipping and an eager air" the question how to keep warm presents itself in many urgent phases. In the matter of properly clothing the body, or, in other words, of conserving animal heat, the physician is consulted as much as upon any point within the range of hygienic requirements.

There is no doubt that wool stands at the head of the materials out of which clothing is made. Its virtues depend upon its being a poor conductor of heat; its porosity, allowing the passage of the exhalations from the skin; its power of absorbing moisture and giving it up slowly and gradually.

As a non-conductor of heat woollen materials have been shown by exact experiments to rank first, although with them must be placed certain furs and the down of birds. After these come silk and cotton, while linen ranks last.

The porosity of flannel as compared with that of other materials has also been determined by experiments showing the pressure required to force air through them Flannel is nearly twice as porous as linen, more than twice as porous as silk, and seventy times as porous as glove-leather. Both flannel and silk take up water slowly and give it up again slowly. Owing to the openness of the texture, and the hydroscopic power of the fibre, a considerable amount of water can be held in its meshes; more than twice as much, in fact, as can be taken up by cotton or linen. The slow evaporation of water from flannel as compared with linen is well known and often observed. Rags of linen, not flannel, dipped in water are used to cool the fevered brow or allay an inflammation. Linen imbibes moisture most quickly, cotton next, and wool last.

Woollen clothing is universally used by athletes during exercise. This is a good plan if, as is the rule, thin flannel is used. In very hot weather linen or cotton, however, is better during the exercise. After exercise the body continues to perspire, and the perspiration, becoming vaporized, cools and may chill the surface. If dry flannel is now put on, however, the vapor is condensed in its meshes, the latent heat restored, and an agreeable feeling of warmth results.

Woollen clothing is not so good as leather and fur for those exposed to cold winds. Our country readers in the North know well the comfort, and even necessity, of buckskin jackets and fur coats.

Woollen clothing promotes the activity of the skin; and it is much revered by the rheumatic, with good reason. Redness in flannel is supposed to give it additional virtues.

Red flannel is generally an irritating material, owing to its coarseness and sometimes to the dye. This more or less peppery quality furnishes the sole basis for its popularity.

The color of a fabric affect its properties as a material for clothing in two ways: the absorption of heat and of odors. Cloths absorb heat and odors in the following order: black stands first, then come blue, red, green, yellow, white.

The wearing of flannel is believed by some to lessen the risks of malaria. That it does do so, except in a very indirect way, is improbable, though Parkes is inclined to give some credence to Andrew Combe's opinion in favor of this view.

Many persons cannot wear pure wool next to the skin, owing to its slightly irritating properties. For these, silk is perhaps a tolerably good, though a most expensive, substitute. A combination of cotton with the wool can be all but too easily found, which sensitive skins can easily endure.

DISPENSARIES AND OUT-PATIENT DEPARTMENTS.

At the time when every new hospital begins to feel that it must have an out-patient department for the benefit of the sick poor and its annual report, the experiences recently furnished in London may be studied with profit. At a meeting held under the presidency of Sir Andrew Clark, to discuss the question of provident medical associations and the treatment of the sick poor, some very vigorous attacks were made upon the out-patient depart-

ments. Mr. Timothy Holmes said that it was in great measure to the abuse of these so-called charities that the provident dispensary system had failed to meet expectations.

A resolution was passed "that the attention of the governing bodies of hospitals, and other public authorities, be called to the necessity for some check on the indiscriminate provision of medical treatment at hospitals and dispensaries."

A second resolution was adopted, to the effect "that in the opinion of this meeting the future medical attendance on the poorer classes ought to be conducted on the principle of sick assurance."

DEMOCRACY AS A CAUSE OF FINANCIAL DEPRESSION AMONG PHYSICIANS.

In a series of seven articles, published in *The Provincial Medical Journal*, upon the causes of low fees, much stress is laid upon the fact that of late years persons from the very lowest strata of society had in increasing numbers entered the profession. This class was, as a universal rule, poor; starting in practice they were obliged from the beginning to earn enough to live on. The consequence was low fees. It is part of the glory of our country that persons of the humblest class have here the right and opportunity to rise to the highest positions.

But we can also recognize that this prevailing desire to rise often springs from discontent and laziness rather than honest ambition, and often leads to placing persons in positions which they signally fail to fill.

The ranks of the profession in this country are remarkably full of persons who started from the very bottom educationally, socially, and financially. It is greatly to the credit of the American character that it shows such power of cultivation and development, and that the American physician illustrates this better almost than any other class. There is a tremendous developing and educating power in medical work.

At the same time, our profession shows plainly to what an extent it is recruited from the very poor; and we can trace to this fact, especially in cities, much of the very small-fee system, and the consequent hard work and financial straits of the physician.

COUNT TOLSTOI ON PHYSICIANS.

Count Tolstoi may be a great novelist and a remarkable thinker, but if he never thought anything more original than the following, which is going the rounds of an admiring press, he should give up an unfruitful habit of systematic ratiocination. He says:

"This is where the strength of the physician lies, be he a quack, a homœopath, or an allopath. He supplies the perennial demand for comfort, the craving for sympathy that every human sufferer feels, and of which the germs exist in the child. See a baby that has given itself a blow; it runs to its mother or its nurse to be kissed and have 'the place' rubbed; and it actually suffers less for the pity and caress. Why? Because it feels that they are bigger and wiser than itself, and have it in their power to help it. So the doctors were of a certain use to Natacha when they assured her that she would be better after taking the pills and the powders from the shop in the Arbatskaia, which were put up in a neat little box, costing one ruble and seventy kopecks, and were to be dissolved in boiling water, and taken every two hours."

We do not know what was the matter with Natacha, but if it was constipation, or a real hard stomach-ache, for example, we would put blue pills and paregoric against a sense of the personal bigness of the doctor every time.

"Such gentle physic given in time had cured her" much more quickly than the most expansive sympathy. We are not disputing that there is much truth in Tolstoi's remarks, but so far as this is the case they are exceedingly trite and commonplace. It is just eighteen hundred years since Patronius Arbiter remarked:

"*Medicus nihil aliud est quam animi consolatio*" ("The doctor is nothing but a consoler of the mind"), which is exactly the point made, with much diffuseness, by the Russian count. Certainly his quoted passage, though having a fine literary quality, must be classed as a true *castana vesca*, and should only be quoted hereafter with this proper explanation of its ripe antiquity.

THE RELATION OF MUSCULAR ACTION TO ANIMAL HEAT.

This problem has always been one of the most interesting ones of physiology. It was long ago definitely settled that muscular action, with its attendant metabolic changes, was the great source of bodily heat. When a muscle contracts there is, to use the modern phrase, a decomposition of the explosive contractile substance. Part of the liberated energy is manifested as muscular movement, and the rest is changed into heat. The blood returning from the seat of activity is darker than that supplied thereto. It has become laden with carbon dioxide gas, which is one form of ash of the combustive process for which oxygen is the fuel.

Some interesting experiments on this point have recently been reported by M. Quinquad to the Biological Society of Paris. The muscles of a dog's leg were made to contract twice a second by means of an induced electric current of known strength. The contractions were kept up over a period of three-quarters of an hour. After the first five or six minutes the temperature of the animal invariably rose, the rapidity of increase varying in different species. Respiration was increased from twenty-two to over one hundred per minute, and became somewhat irregular. This irregularity continued after the passage of the current had ceased.

In the first experiment the rectal temperature before the stimulation was 102.6° F. The current was allowed to pass in all thirty-five minutes. After twenty minutes the temperature had risen to 105.8° F. Respiration was increased, and the animal panted as if he had been running a long distance. After fifteen minutes more the current was stopped, but the panting still continued. Two hours after the commencement of the experiment the animal died, with a temperature of 107.6° F. Another fact noted was the diminution in glucose in the blood from the side stimulated over that in the blood from the other side. In the former it was .70 gm., and in the

latter 1.20 gm. This is not, however, a new physiological observation.

The general conclusions which can be drawn from M Quinquad's observations are these: First, that local muscular action brought about by electrization can induce a general hyperpyrexia which may verge on danger; second, that in death resulting from electrization the overproduction of heat may be one element of fatality; and, thirdly, that after exposure to cold, with its attendant depression, the application of electricity is a means of restoring heat to the system by causing its internal production. We think that this last remark needs limitations. If a patient is in a state of great exhaustion from prolonged exposure it is doubtful whether the advantages of this method of treatment would counterbalance its disadvantages. However, it is a therapeutic procedure worth remembering.

MEASLES AND DIPHTHERIA IN NEW YORK CITY.

The epidemic of measles, and the somewhat unusual prevalence of diphtheria, in this city have frightened many nervous people to a quite unnecessary extent. The impression has been created that both measles and diphtheria are malignant. This idea, however, is an erroneous one, as the reports of the Board of Health show. The ratio of deaths in cases of measles is about the same as is usually reported. The same is true of diphtheria, of which the number of cases reported weekly is only in slight excess of what it was a year ago. Besides this, in the last two weeks the number of cases, both of measles and of diphtheria, has been decreasing. In the four weeks of December, 1885, there were 355 cases of diphtheria reported, with 157 deaths; in the corresponding weeks of last year there were 471 cases and 207 deaths, the mortality ratio being thus actually less than a year ago. In the three winter months of 1885–86 there were 134 cases of measles and 12 deaths. In December of 1886 there were reported 1,979 cases of measles and 232 deaths.

The Utility of the Medical Art.—"The best way to ascertain whether the art of medicine is worthy of the respect, the confidence, and the gratitude of mankind," writes Dr. H. W. Boone, in the "Report of the Hospital for Chinese," at Shanghai, "is to compare the present status of the medical sciences in the West with what China has to offer. Here we have a vast nation, numbering nearly one-fourth of the whole population of the habitable globe. She boasts of a civilization older than that of the most ancient nation of the West. She has a gigantic body of literature, her traditions extend to the dawn of the human race. What do we see? Her medical practitioners are steeped in ignorance and superstition; they know nothing of any one of the exact sciences; they have no accurate methods of diagnosis, and the remedies in use among them are puerile. Of surgery, they have none. The enormous mass of preventable or curable disease, of suffering, of agony, and death endured by this countless multitude every day and every year is the most powerful witness in the world to the utterly incalculable and overwhelming power for good that modern medicine and surgery have to offer."

News of the Week.

New York Pathological Society.—At the anniversary meeting held January 12, 1887, the following were elected officers for the ensuing year: T. Mitchell Prudden, President; W. P. Northrup, Vice-President; John H. Hinton, Treasurer; Wesley M. Carpenter, Secretary; John C. Peters, Editor; Drs. W. Mendelson, J. C. Peters, H. Marion Sims, L. E. Holt and W. H. Porter, Committee on Admission and Ethics; Drs. G. C. Freeborn and W. P. Northrup members of the Committee on Publication.

Dr. William Perry, of Exeter, N. H., died on January 11th in the ninety-eighth year of his age. He was the oldest graduate from Harvard College, having graduated in 1811, and was the sole survivor of the passengers on Fulton's first steamboat ride on the Hudson, eighty years ago.

Rheumatism, Rank, and Rotundity.—It has been suggested that rheumatism is the pathological appendage to American greatness. President Cleveland has it, Blaine has it, and Logan had it.

Dr. James E. Kelly, a Dublin physician of some political prominence, now on a visit to this city, was tendered a public dinner last Monday, by some of his political friends.

Pasteur's Latest and Worst Failure has just occurred, according to recent despatches. The patient, whose finger was nearly bitten off, was taken promptly to the Rue Vauquelin. At the end of twelve days, hydrophobia was manifest, ending under conditions to convince Professor Peters, who kindly reports the failure at once to his colleagues of the Académie de Médecine, that the malady was due to the operation.

Infectiousness of Tetanus.—Dr. Wing, a veterinary surgeon, treated a horse which died of lock-jaw. He unfortunately scratched his hand at the post-mortem. Tetanus developed, and he died of the disease. The *American Veterinary Review* thinks that the case was an illustration of Verneuil's view that equine tetanus may be conveyed to man.

Rough on Fevers.—This is the popular name suggested for antipyrin, antifebrin, and thallin.

Notes from St. Louis.—Dr. F. W. Wisseler, an old and well-known practitioner, failed to report a case of diphtheria, and has been proceeded against by the board of health.

A Blind Physician, Dr. Robertson, has been elected by the Conservatives to fill the vacancy in the Brighton (England) district. He had no opposition.

The Southwestern Medical Gazette is the title of a new medical monthly, published at Louisville, Ky., and edited by Dr. M. F. Coomes and Dr. J. B. Martin, with a long list of eminent collaborators. The *Gazette* shows evidence of good journalistic experience.

Dr. Fordyce Barker has been elected President of the Medical Board of the Woman's Hospital of the State of New York, in this city.

The Useless Dispensary.—Many of the friends of the Presbyterian Hospital consider the building of the new dispensary a useless bit of extravagance, and are withholding their subscriptions accordingly.

Gout Brought on by Starvation.—Mr. Jacques, the English fasting-man, has brought his experience to a close on the twentieth day of his fast. Curiously enough, says the *Hospital Gazette*, the eighteenth day of his fast was marked by a typical attack of the gout in one big toe. This is so contrary to the popular notion of the etiology of gout that it was received by the public with a certain amount of incredulity. The attack, however, caused nothing more than a little passing inconvenience, and at the close of the experiment he was in very good health and spirits. He weighed one hundred and sixteen pounds, as against one hundred and thirty-eight pounds at the beginning, and had thus lost twenty-two pounds in about the same number of days.

Does the Prescription belong to the Patient?—In answer to this question, as asked by a correspondent, we say: The prescription is the property of the patient, on the principle that what he pays for is his.

No Patent Medicines for Russians.—The Russian government has decided to prohibit the importation of patent medicines; the published list of prohibited articles contains eight hundred items.

Toys for Hospitals.—Seven years ago, the editor of *Truth* started an exhibition of toys, made by its readers, for distribution among the hospitals. At the last exhibition, over fifteen thousand toys were sent in for exhibition and distribution. The idea is a good one, and might well be carried out in this city, in connection with some of our charitable organizations. There are six or seven hospitals which treat or care for children exclusively, besides eight or more hospitals which have children's wards.

Another Medical Centenarian.—According to Spanish journals, there is at present in Logroño a medical man, Don Rosendo Recondo, still in considerable practice, and in the enjoyment of good health, who, if he lives till next February, will be one hundred years of age.

States' Rights and Hospital Internes.—A most extraordinary restriction has been established by the Legislature of Louisiana, according to *The Southwestern Medical Gazette*. The eminent body of local patriots in question voted $90,000 to Charity Hospital, "provided that only Louisianians should be permitted to compete for positions on the staff of the hospital!"

Electrolysis in Membranous Laryngitis.—Dr. F. E. Waxham, of Chicago, reports a case of membranous croup with very severe symptoms of laryngeal stenosis. An intubation tube was introduced, and made the negative electrode by connecting it with a platinum wire. A current of eight cells was passed. The symptoms improved, and the child recovered.

An Expensive Medical Attendant.—The New York correspondent of a Philadelphia paper tells the interesting story of a very wealthy lady of this city, well known in society, who is suffering from Bright's disease. She has engaged a medical man, who is most known, however, as a surgeon and a poet, to visit her twice daily for $50,000 a year. Doubtless, a person could be hired to have Bright's disease himself for that sum.

Dental Anæsthesia.—M. Georges Vian claims to have solved the problem of local anæsthesia in dentistry. After numerous trials of solutions of different strengths he has found that the soft parts about the maxillæ may be rendered completely insensible by the use of cocaine, associated with a two per cent. solution of carbolic acid. Five minutes before operating M. Vian dissolves five centigrammes (one grain) of hydrochlorate of cocaine in fifty centigrammes (ten drops) of the solution, and injects it into the gums, half-way between the neck and the extremity of the root of the tooth. Half of the solution is injected on the palatine and the remainder on the labial side, pressure being made by the finger, when the needle is withdrawn, to prevent the exit of the fluid. Anæsthesia is perfect in three minutes. The quantity of cocaine advised by M. Vian seems somewhat large, but it is said to have been so used in eighty-seven cases without causing any unpleasant symptoms."—*Paris Correspondent of Lancet.*

A Rare Form of Fracture.—At a meeting of the Academy of Medicine of Ireland, recently, Mr. E. H. Bennett exhibited a cast and specimens of a rather rare accident, viz., simultaneous fracture of both clavicles. There are only about eighteen examples known, and in eight cases only did union take place.

Hospital Superintendents Resigning.—Dr. W. N. Wishard has recently resigned his post of hospital superintendent of the Indianapolis City Hospital. Dr. A. J. Willard has recently resigned the superintendency of the Mary Fletcher Hospital, at Burlington.

In Boston they do not say stomach-ache, but "gastric neuralgia." But it gets there all the same.—*Life.*

The San Diego County Medical Society is the title of a new medical society recently organized in San Diego, Cal. All regular physicians residing within the county, and practising according to the recognized ethics of the profession, were cordially invited to unite with the society.

Hydatid Cyst in the Scrotum.—Dr. Philip E. Musket, of Sydney, New South Wales, sends us an account of a case in which a hydatid cyst was found in the scrotum. It formed a tumor about the size of a large emu egg. Dr. Musket believes this to be the first recorded case of a scrotal cyst from this cause. He adds: As to unique situations for hydatid disease in my own experience, I have found, after death, in Douglas' pouch a cyst the size of an orange in a young girl who died of cardiac trouble. Had opportunity permitted an examination during life, it would doubtless have given rise to some difficulty in diagnosis. I have also been present at an autopsy where a cyst was met with in the pericardial sac. While house surgeon at the Sydney Hospital I saw a cyst, the size of a hen's egg, situated over the left deltoid muscle, which was taken to be an ordinary fatty tumor till it was exposed by the scalpel.

Reports of Societies.

NEW YORK ACADEMY OF MEDICINE.

Annual Meeting, January 6, 1887.

ABRAHAM JACOBI, M.D., PRESIDENT, IN THE CHAIR.

THE ANNUAL REPORTS

Showed an increase of the General Permanent Fund, of the Library Fund, and of the Building Fund, besides creation of the Krackowizer Prize Fund, during the last year; also a notable prosperity in the library and in the scientific and general interests of the Academy.

OFFICERS FOR THE ENSUING TERMS

were elected as follows: *President*, Abraham Jacobi, M.D.; *Vice-President*, William H. Draper, M.D.; *Trustee*, Everett Herrick, M.D.; *Member of Committee on Admissions*, Henry E. Crampton, M.D.; *Member of Committee on Library*, F. P. Kinnicutt, M.D.

DR. L. EMMETT HOLT read a paper on

THE ANTISEPTIC TREATMENT OF SUMMER DIARRHŒA.

The speaker stated that he did not undervalue other methods of treatment than the use of drugs, such as careful feeding, change of air, etc., but the object of the paper was to discuss what additional measures were useful.

All the causes of summer diarrhœa—excessive heat, improper or artificial feeding, and bad hygienic surroundings—united to produce a dyspeptic condition, which was really at the bottom of nearly all of these cases. The age showed it could not be heat alone, for the disease was not frequent at the most tender age—under six months. Of 431 cases, only twelve per cent. were under six months, while fifty-nine per cent. were between six months and two years. The explanation was that under six months most of the children were fed at the breast. Improper and artificial feeding was quite as important as heat, as Hope had found in 591 fatal cases that only 28 had no food but the breast.

Heat depressed vital energy, increased decomposition in the streets and sewers, and thus vitiated the atmosphere; but, most of all, it produced in the food given to young children putrefactive changes before it was taken into the stomach.

This was especially likely to occur with milk. One instance was cited of every one of twenty-three healthy children being taken in one day with diarrhœa from bad milk.

Closely related to this subject were the poisons produced from food, or ptomaines. Brunton had stated that most of the alkaloids produced from the decomposition of albumen caused diarrhœa. It was believed that many of the nervous symptoms in summer diarrhœa had their explanation in the effects of these alkaloids. This was true especially where the discharges were abruptly arrested, either spontaneously or by opium. They were to be looked upon as a form of toxæmia.

The inflammatory changes found in the intestine were to be looked upon as a consequence of the diarrhœa rather than the cause of it. The most marked lesions were always found in the cæcum and sigmoid flexure, just where the irritating substances were longest detained in their passage.

Immense numbers of bacteria were found in the discharges, but no sufficient evidence had yet been adduced to establish the existence of a special microbe as a causative agent.

The indications for treatment were four: 1. To clear out the bowels. 2. To stop decomposition. 3. To restore healthy action in the alimentary tract. 4. To treat the consequential lesions.

It was proper to begin with a cathartic in all cases unless the stomach was very irritable. Castor-oil was by far the best. If much vomiting were present, a copious injection of water, enough to wash out the colon, should be given.

Many mild cases could be cured by the oil alone, provided suitable dietetic regulations afterward could be carried out. In severe ones it gave only temporary benefit.

For the second and third indications an antiseptic should be given and the diet carefully regulated. The best antiseptics were sodium salicylate and naphthalin. The former should be given in doses of one to three grains, according to the age of the child, every two hours, and the latter in about double the dose.

If vomiting were present, all food should be stopped for from twelve to twenty-four hours, and thirst quenched by thin barley-gruel or mineral waters—cold, and in small quantities.

Unless the child were upon the breast, in which case it should, of course, be kept there, it was better to *withhold milk entirely*. Wine-whey, animal broths, expressed beef-juice, or even raw beef, could be used and were usually sufficient.

To meet the fourth indication—*i.e.*, to treat the lesions—astringents by the mouth were useless, with the possible exception of bismuth. The diet should be as carefully looked to in chronic cases as in acute. The antiseptic should be continued, to check fermentation and decomposition in the intestine, and the large intestine should be washed out once a day with pure water or a weak antiseptic or astringent solution.

Attention was called to the fact that, except opium, nearly all the drugs which had held their place in the treatment of this disease were antiseptics of more or less power. Bismuth, calomel, the mineral acids, iron and silver salts were cited. Pure antiseptics had been used in the treatment of diarrhœal diseases since 1846. Creosote was first employed, and with great success both in England and in this country. Ten or fifteen years ago salicin was largely used, especially in the South, with uniformly good results, particularly in chronic cases. The use of salicylic acid and its salts, the bichloride of mercury, and naphthalin was also referred to. The last was of latest introduction and seemed likely to prove of very great value, perhaps the most valuable of all.

Notwithstanding the successful results obtained by antiseptics, the great majority of the text-books still advocated the old plan of the use of opium and astringents as fifty years ago. An inquiry into the public practice of this city showed that in fourteen institutions and dispensaries, where it was estimated that twenty-five thousand children were treated yearly for diarrhœal diseases, the main reliance was still upon opium, bismuth, chalk-mixture, and castor-oil.

The speaker had tabulated 300 cases of his own treated by such remedies. Of these, 50 per cent. were cured; 27 per cent. improved; 18 per cent. unimproved; and 7 per cent. died. During the past year he had treated 81 similar cases by an initial dose of castor-oil, followed by salicylate of sodium, these being the only drugs used. Of these, 84 per cent. were cured; 7 per cent. improved; 7 per cent. unimproved; 1.2 per cent. died. Forty-four cases were treated by naphthalin, usually preceded by the oil. Of these, 67 per cent. were cured; 15 per cent. improved; 13 per cent. unimproved; and 2 per cent. died. Resorcin was used in a similar manner in 27 cases. Of these, 55 per cent. were cured; 22 per cent. improved; 22 per cent. unimproved; and none died.

The duration of the disease in these cases before treatment was about the same in each class. The duration of treatment in the cured cases was much shorter by sodium salicylate than by the use of opium, astringents, etc. In cases of long standing the very great superiority of the salicylate and naphthalin was clearly shown. Resorcin was much inferior to the drugs just mentioned.

The following conclusions were drawn from the paper:

First.—Summer diarrhœa is not to be regarded as a disease depending upon a single morbific agent.

Second.—The remote causes are many—heat, improper and artificial feeding, bad hygiene, etc.

Third.—The immediate cause is the putrefactive changes which take place in the stomach and bowels in food not digested, which changes often are begun outside the body.

Fourth.—These products may act as systemic poisons, or the particles may cause local irritation and inflammation of the intestine.

Fifth.—The routine use of opium and astringents is not only useless, but, especially at the outset, may do positive harm; since, by checking peristalsis, opium stops elimination and increases decomposition.

Sixth.—Evacuants are to be considered an essential part of the antiseptic treatment.

Seventh.—The salts of salicylic acid and naphthalin are the antiseptics which, thus far, seem to be best adapted to the treatment of diarrhœal diseases.

Dr. R. W. Wilcox spoke especially with reference to the use of naphthalin in diarrhœa in adults. Since reading Rossbach's paper in the *Berliner Klinische Wochenschrift*, in November, 1884, he had used naphthalin in thirty-two cases, nearly all being in adults. He had come to feel as much confidence in the use of this drug, under certain circumstances, as in the use of mercury or the iodides in syphilis or of quinine in intermittent fever. As mercury and quinine may fail to accomplish their work if used without observance of a few well-known precautions, so naphthalin may fail if improperly employed. The most frequent cause of failure has been the use of too small quantities, less than sixty grains daily being a needless waste of a very good medicine. He had given up to one hundred and twenty grains during the twenty-four hours in divided doses, usually in starch capsules with a small quantity of oil of bergamot to conceal the somewhat unpleasant odor. If the impurities of the drug are removed by washing with alcohol, no such untoward effects as have been occasionally reported in the journals will occur. Frequently during its administration the urine will assume a smoky color, resembling that of acute nephritis, but a careful examination will fail to detect either albumen or casts.

In chronic diarrhœas he had used naphthalin as the only drug in twenty-one cases. Nearly all degrees and varieties had been represented; some could be traced back to an acute process, others were the result of improper food or followed debilitating diseases.

He related one case: James D——, messenger, eighteen years of age, came to him, complaining of a diarrhœa of over two years' duration. Its commencement was in the second summer previous to his first visit. The assigned cause was overindulgence in unripe or spoiled fruit. The trouble had continued through the following winter, with intervals of cessation, and had been aggravated the following summer. Since summer his loss of flesh, previously considerable, had increased, his tongue was heavily coated, the appetite poor; his discharges were five to six daily, unformed, varying much in amount, sometimes watery, very foul-smelling, much gas, no tenesmus, no blood; pain at times, but no fever. Although he was in a deplorable condition, and so long as his work remained severe and his food unsuitable recovery seemed impossible, by the use of sixty grains of naphthalin daily the number of movements were reduced, within a week, to two daily, and, for the first time, became formed and devoid of odor. About six months afterward he reported that after three weeks he had discontinued his medicine, having had no further necessity for using it.

In *chronic dysentery* he had used naphthalin in seven cases, with excellent results. The most interesting case was that of James C——, sixty-six years of age, who contracted dysentery while serving in the Federal army in 1862–64. He had never been free from the disease except for a few weeks at intervals. He could remember no day during which he had not had more than one passage. He was emaciated, with sallow, dirty skin, marked tenesmus, abdomen painful on pressure, red tongue, pulse very feeble, no appetite. His stools averaged seven movements daily—slimy, blood-stained, of extremely foul odor. This man had ninety grains of napthalin daily, and at the end of a month he would have hardly been recognized as the same man. Four months after he reported himself so much improved that he considered himself a well man.

His experience in the diarrhœa of *typhoid fever* had been limited to two cases: Charles B——, 25 years of age, and John F——, 16 years of age, both of whom he saw for the first time in the third week, the diagnosis being thoroughly established. In both there was commencing tympanites; diarrhœa, to the extent of six to ten passages in the twenty-four hours. Naphthalin was administered up to sixty and ninety grains in the day, with the result of "stiffening up" the motions and reducing them to two daily. The odor of the stools, in both cases, was lost. In fact, he felt so confident that the intestinal canal and, consequently, the fæces were disinfected that he did not take any other precautions. He also directed attention to the antipyretic effect of this drug. In general, the use of antipyretics in typhoid fever he considers unsafe; but if the practitioner was thoroughly imbued with the idea that he must use an antipyretic, let him use naphthalin, which reduces temperature, indirectly, by disinfection of the intestine. Its safety compared favorably with that of antifebrin, thallin, antipyrin, etc. Whether typhoid fever had ever been absorbed by this or any other drug he did not pretend to say; but if it could be accomplished, in his opinion, naphthalin, by its vigorous action upon the contents of the alimentary canal, should tend to that result.

Of the use of naphthalin in acute intestinal catarrhs, and in the diarrhœas of children, he had had no experience. In the diarrhœa of chronic tuberculosis he had had no opportunities for experiment. In all his cases of diarrhœa evidences of tuberculosis in other organs were sought for, but were not found. He would emphasize the claims of naphthalin as *the* drug to use in all cases in which it was necessary to disinfect the alimentary canal, as in typhoid fever, intestinal catarrhs, and dysentery, because it seems to be, of all the drugs at our disposal, the most certain, and at the same time the one most free from danger.

Dr. Andrew H. Smith thought that the best method of treatment, in the cases considered by Dr. Holt, was by the administration of antiseptics. He believed that the success that attended the use of many domestic remedies depended upon their antiseptic properties, such as the different mints, etc. So far as his experience went, it was in exact accord with the views advanced by the author of the paper.

Dr. John C. Peters believed that he was among the first to call summer diarrhœa a hot-filth disease, and he regarded Dr. Holt's views concerning the use of antiseptics as correct. Bacteria will live in tincture of opium and in calomel, but are killed by acids, and the mints are among the best remedies at our disposal.

Dr. Van Santvoord had had considerable experience in the treatment of summer diarrhœa occurring in children in Randall's Island Hospital, and it coincided with Dr. Holt's. This diarrhœa should be considered as primarily an indigestion, and the subsequent changes depend upon fermentative processes, and the indications seem to be plain. With regard to the use of opium, he restricted it to the cases in which the passages were watery and frequent, and he gave it hypodermically in the form of a solution of morphine guarded by atropia; about $\frac{1}{250}$ of a grain of sulphate of atropia to five minims of United States Pharmacopœia solution of morphia (gr. j. to $\frac{\text{ʒ}}{}$ j. of water). Bismuth he regarded as an antiseptic, and had been accustomed to give a dose of it after each feeding. He had a general impression favorable to flushing the entire colon with an astringent solution containing an alkali. He thought that the addition of

a small quantity of salt to an astringent injection would contribute toward its reaching a larger surface than it would otherwise do.

The President remarked concerning bismuth that he regarded it as an antifermentative, a view that he had held for many years. Dr. Holt had only incidentally mentioned dietetic treatment, but at the same time had been emphatic in what he had said, and with him the President agreed. Milk should be avoided. It was impossible, in his opinion, to relieve a severe attack of summer diarrhœa without stopping the feeding of milk for a few days, perhaps a week or more. Raw white of egg mixed with barley-water had served him best as a substitute. Raw beef should be avoided because of its liability to give to the child a tape-worm, and the beef tape-worm was the most difficult to remove. He had seen a few cases of diarrhœa in adults in which naphthalin did some good for some time and very speedily.

Dr. Geo. L. Peabody had come to look upon naphthalin as a very valuable addition to our means for treating a variety of intestinal complaints. Since the publication of Rossbach's paper he had been using it in the early cases of typhoid fever in the New York Hospital. He was very confident that he had seen several cases aborted by the use of naphthalin, given in quantity varying from sixty to eighty grains in twenty-four hours. He then gave, briefly, the history of two cases in which the patients, with well-marked symptoms of typhoid fever, were convalescent within fourteen days.

Dr. Carpenter referred to the antiseptic treatment of diarrhœa in adults—dysenteric cases from the army, tuberculous cases, etc.—by the administration of a domestic remedy—an acid in the form of what is commonly known as "old cider" or "hard cider," a glassful three times a day, and by the use of salicin, a remedy that had been employed many years for this purpose.

Dr. John C. Peters said that it was important to use pure water, and that distilled water would cure a great many cases of dyspepsia and diarrhœa without the aid of any other treatment.

Dr. Holt, in closing the discussion, remarked that Dr. Caldwell had used salicylic acid in the treatment of the diarrhœa of phthisis, with results far superior to those that had been obtained by the use of opium or astringents.

With regard to irrigation of the bowel, he regarded it as a very valuable accessory to the antiseptic method.

Dr. T. R. Varick's resignation was accepted, and on motion he was made a non-resident Fellow.

The Academy then adjourned.

Inhalations of Ether in Non-expansion of the Lungs.—Dr. John H. Jones (*New York Med. Journal*, August 21, 1886) recommends *the inhalation of ether in non-expansion of lung* due to adhesions of pleural surfaces, occurring after pleurisy with purulent effusion, in aponeurosis of children, and asphyxia neonatorum. After absorption or artificial evacuation we frequently find that a long-continued effusion in the pleural sac is followed by destructive changes in the corresponding lung. Many remedies have been tried with the object of expanding the air-vesicles and preventing the occurrence of carnification, but with unfavorable results. The most effectual treatment heretofore has been that of breathing compressed or rarefied air. But by far the best method in Dr. Jones' experience is inhalation of ether. He has used it on three patients with very flattering results, and can confidently recommend it to the profession as the best means of dilating the air-vesicles and restoring the lung to its natural state. If the adhesions have not been of too long standing, and are not very dense in structure, they will certainly yield, and, once overcome, will be permanently obliterated. The inhalation should be pushed to complete narcosis. The inhalation of ether is also recommended in the asphyxia of the new-born.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE OPERATIVE TREATMENT OF POPLITEAL ANEURISM—THE CAMPBELL DIVORCE CASE—MEDICAL LIBRARIES—THE HOSPITAL SUNDAY FUND AND THE FINANCIAL POSITION OF OUR HOSPITALS—THE BROWN LECTURES—EPILEPSY AND ITS METHOD OF PRODUCTION—SOME RECENT DEATHS—THE SOCIETY OF APOTHECARIES—CHRISTMAS AT THE HOSPITALS—TOYS FOR HOSPITAL CHILDREN.

London, December 21, 1886.

A great change in the operative treatment of popliteal aneurism seems indicated by a short discussion on the subject at a recent society meeting (Medical and Chirurgical Society). In a paper by Mr. Savory, on the effect upon the femoral artery of its ligature for the cure of popliteal aneurism, an analysis of twenty-six museum specimens was given. Seventeen of these were complete, and of these seventeen the artery was pervious throughout in thirteen cases, being closed only in four cases, and even in these the closure was only partial. Fifteen out of the seventeen were cured. In these the artery was pervious in eleven and partially closed in four. In two the operation had failed to cure, and the artery remained pervious in both. Mr. Savory gave details of two cases of his own. In one the femoral artery was tied in Scarpa's triangle. There was a slight return of pulsation on the third day. A year later the aneurism had returned. Rest and elastic bandages having been tried without benefit, the popliteal artery was tied in the upper part of the popliteal space and the operation was completely successful. In another case the artery was tied first in Scarpa's triangle, then in Hunter's canal, and finally in the upper part of the popliteal space. Mr. Savory said he should in future be disposed to adopt the latter operation in preference to ligature of the femoral. Mr. Hulke, Mr. John Wood, and Mr. Thomas Smith all concurred with Mr. Savory in this view, and their utterances will doubtless receive due consideration from British surgeons, representing as they do the opinions and practice at three metropolitan hospitals. Mr. Ballance remarked that in his experiments on the ligature of large arteries in their continuity in animals he had never found the artery obliterated for any distance beyond the ligature.

After a trial occupying eighteen days, and with adjournments spreading over a month, the Campbell divorce case terminated at a late hour last night. Into the general features of the case I will not enter. Suffice it to say that, on the one hand, Lord Colin Campbell (a younger son of the Duke of Argyll, and therefore a brother-in-law of the Princess Louise) sought a divorce from his wife on the ground of adultery with four co-respondents. These were respectively the Duke of Marlborough (who has been divorced by his own wife), a distinguished army officer (General Butler), Captain Shaw (of the Metropolitan Fire Brigade), and Mr. Tom Bird (a member of the medical profession). Lady Campbell brought a countercharge of adultery against her husband, and as by the English law adultery alone is not a sufficient plea when the wife is the petitioner, cruelty was also put forward on the ground of a verdict in a previous trial, in which the wife had (on that plea) obtained a judicial separation. I will not pollute your columns with the shameful particulars of the case, but there are a few points of medical interest. One is that the cruelty of which the wife complained, and on the ground of which she had obtained a judicial separation, consisted in the fact that her husband had imparted to her a venereal disease (gonorrhœa), which had produced a severe illness—endometritis and pelvic cellulitis ensuing. After infect-

ing her he persisted in continuing cohabitation, and, on her refusal, said he would leave her. She then said she must make clear the reason, and brought the suit for a judicial separation. I believe it is the first case on record of a judicial separation being granted for the special kind of cruelty in question, though most medical men could furnish examples of its perpetration. The verdict of the lower court was, however, confirmed by the Court of Appeal. Such being the case, the Judge in the present trial repeatedly told the counsel that he must tell the jury they could not go behind the former verdict. Another feature of medical interest was the defence set up by Lord Campbell to the charge of adultery against him. The only piece of evidence brought forward by him was that of two obstetric physicians, who had examined the girl accused and found her *virgo intacta*. This was an unusual defence to a charge of adultery, but one which evidently had great weight in spite of the doubt thrown on the medical evidence in cross-examination. Lord Campbell had the advantage of having among his counsel one (Mr. Finlay) who had been educated as a medical man, afterward leaving it for the law. An unpleasant feature of Mr. Finlay's concluding speech was the tone in which he spoke of Dr. Braxton Hicks, who, he said, had shown himself to be a thorough partisan of Lady Campbell's. I may just note that the result of the trial has been that all the charges have broken down, and that the parties therefore remain just where they were before—viz., judicially separated.

In the matter of medical libraries London is singularly ill-provided. A more or less complete library is, it is true, to be found in connection with each of the medical schools, but none of these even approach completeness in their contents. Their use is also restricted to the alumni and teachers attached to the schools. There are two or three very good medical and scientific subscription libraries at rates of subscription ranging from a guinea a year upward. The only example of a free, large, public library of medical literature is that of the College of Surgeons. This collection includes about forty thousand volumes. But these can only be perused at the library, the rules not allowing books to be taken home. This restriction places would-be readers at a great disadvantage, as Lincoln's Inn Fields, although in the very heart of legal haunts, lying as it does almost under the very shadows of the new Law Courts, is by no means of easy access from most parts of London. To dwellers at the West End, the library of the Royal Medical and Chirurgical Society offers many advantages. It is not free, as the privilege of borrowing books from it is restricted to town members of the society, who each pay three guineas a year and six guineas entrance fee. On the other hand, eight volumes at a time may be taken home for perusal. The library includes nearly as many volumes as that of the College of Surgeons, and as regards modern medical literature, is reputed the best in London. I must not omit to mention the library of the Obstetrical Society, which is a very good one of works on obstetrics. Its use is restricted to members of the Obstetrical Society. The College of Physicians also possesses a library, but it is very inferior to that of the College of Surgeons.

The sum raised this year by the Hospital Sunday Fund is £40,000, being £6,000 more than was raised in 1885. This is cheering, and looks as if hospitals were being more liberally supported by the public. Now for the other side of the medal. Guy's Hospital is one of the three largest metropolitan hospitals, but is richly endowed, its income formerly amounting to upward of forty thousand pounds a year. Thomas Guy, however, directed his trustees to invest the money in land, and the fall in value of land during recent years has taken £15,000 a year from the income of the hospital. Pay patients have been received to eke out the income, but this source of income has not produced sufficient to stop the leak. Being an endowed hospital it has few subscribers. The financial position of the institution is now so bad that it has been determined to make a special effort to raise a fund of £100,000 to keep it open. A public meeting for this object was held yesterday at the Mansion House and subscriptions to the amount of £17,000 announced. Other hospitals also lament the decadence of their funds.

London, December 28, 1886.

In Professor Horsley's recent "Brown Lectures," at the University of London, he has continued the consideration of the subjects taken up by him last year. The subject of epilepsy was discussed at some length in several lectures. Experimental research showed, he said, that epilepsy could originate from discharges in the motor cortex of the brain and from discharges in the bulbo-spinal centres. The disturbance might begin in any part of the encephalon, and, if in the perceptive centres, this would readily explain the affection of intelligence. A detailed account was given of the various investigations made to ascertain the existence of special convulsive centres either in the pons Varolii or in the medulla oblongata. The existence of these was considered as not proved. All the ascertained facts could be harmoniously interpreted otherwise. Professor Horsley said he believed that all the convulsive (tonic and clonic) phenomena could originate from the ordinary bulbo-spinal centres already existent for the purpose of carrying out normal mechanisms. Tonic or clonic spasm could be produced by any motor nerve centre, but the combination and sequence of tonic-clonic could originate only from the cerebral motor cortex. It was an interesting problem whether the clonic spasm of cortical epilepsy was the effect of cortical or bulbo-spinal discharges. The experiments of Nothnagel and Brown-Séquard (in which convulsions were set up by direct and reflex irritation respectively of the nerve-centres) were described and criticised. Dr. Hughlings Jackson's views of the representation of movements in the hemispheres were then considered and combated. Dr. Jackson had maintained that each hemisphere represented both sides of the body, and according to this theoretical view it would be possible to evoke convulsions of the whole of the body by stimulating one motor centre. But however probable these views might be theoretically they obtained no support from clinical or experimental evidence, which simply showed that one-half of the body was represented in the opposite hemisphere with but few exceptions. Professor Horsley then gave in detail certain experimental and clinical evidence which seemed to show conclusively that, as a rule, each hemisphere convulsed its own (the opposite) side of the body. In hemiplegia, if the motor cortex were completely cut off, the limbs remained permanently paralyzed. Then, again, in unilateral fits there was no necessary spread to the opposite side of the body. In one monkey with unilateral cortical fits induced by electricity, the muscles of the back and belly were convulsed only on the one side, showing that even such muscles as are supposed to act bilaterally, and to be closely united spinally, did not do so in cortical fits. The lecturer considered this a strong argument against Dr. Broadbent's explanation of the escape of certain groups of muscles in hemiplegia. He then gave an account of some experiments performed by himself. The conclusions all round, he said, were very emphatic that convulsions due to cortical discharge were evoked in various groups of muscles by nerve energy proceeding from that centre in each hemisphere which is in relation to each group of muscles, and that in generalized epileptic convulsions both cerebral hemispheres were involved.

Two well-known British—though not English—practitioners have just joined the majority. One of these was Dr. Ebenezer Watson, of Glasgow. He was surgeon to, and lecturer on, Clinical Surgery at the Glasgow Royal Infirmary. He made numerous contributions to medical literature, mainly on laryngeal surgery. The other was Dr. Lyons, of Dublin, formerly M.P. for that city. Dr.

Lyons was well known in Dublin, where he practised for many years as a physician. His published works and papers are numerous. The most important among these were his "Treatise on Fevers," and his "Report on the Pathology of the Diseases of the Army of the East." The latter was based upon his experience as Chief Pathological Commissioner to the army in the Crimea, and was issued as a blue-book by the government. Dr. Lauchlan Aitken has also recently died. Dr. Aitken for many years past has resided at Rome, where he practised as a British physician. Another death worth a passing word is that of Dr. Fergus. For thirty-seven years he occupied the responsible post of medical officer at one of our large public schools—Marlborough College. Dr. Fergus will be remembered as the first resident medical officer ever appointed to a public school, although now there is, I believe, no public school without its medical officer in residence. Since Dr. Fergus' appointment, in 1849, the duties of medical officers of schools have become much more arduous and extensive. With the advances in sanitary science they have been expected to assist in the prevention as well as in the cure of disease. It is not too much to say that many modern improvements in school hygiene are due to the efforts of their medical officers. An Association of Medical Officers of Schools was formed a few years since.

The request of the Apothecaries' Society for affiliation has been refused by the Universities of Oxford, Cambridge, and Manchester (Victoria University), and is still *sub judice* by those of London and Durham. Meanwhile the society have considerably strengthened their position by electing Mr. Brudenell Carter as their representative on the General Medical Council. Mr. Carter is Ophthalmic Surgeon to St. George's Hospital, and an able speaker and writer, having been, indeed, for many years a frequent contributor to the both medical and general press.

Christmas festivities at the hospitals are in full swing, though somewhat sadly marred by the numerous "accident cases" brought to the hospitals as the result of the severe storm two days ago. One of the most remarkable features of hospital Christmases within the last few years has been the distribution of toys on a gigantic scale to the sick children. This was started in 1879 by the editor of *Truth*, who asked his readers to send in toys for the children of the hospitals. This they did to the number of a thousand. This year more than fifteen thousand toys have been sent, nine thousand new sixpences, fourteen thousand crackers, and two thousand pots of jam. The proprietors of Willis Rooms lent their premises free of charge for the gratuitous exhibition of this enormous collection, which has since been dispersed among the sick children of the various hospitals, workhouses, and other institutions in the metropolis, and has, I trust, gladdened the holiday season for many a little sufferer.

OUR PARIS LETTER.

HYPNOTISM—PROFESSOR POTAIN—THE SUCCESSORS OF CORVISART—M. PETER AND THE MICROBISTS—THE THEORIES OF ANTI-PARASITIC TREATMENT.

PARIS, December 24, 1886.

HYPNOTISM, with its terrible consequences, is the order of the day, and is greatly occupying the public mind both in and out of the profession. It has been scientifically established that, by certain procedures, one can develop in some persons a state of artificial somnambulism, analogous to natural somnambulism, and that in this state they lose their will and their personality, become passive instruments in the hands of magnetizers, and are accessible to all sorts of hallucinations and of suggestions. This state is aggravated by the momentary loss of the memory. The subject does not retain the least recollection of what passed during hypnosis, and all cerebral spontaneity disappears to such an extent that the person would fatally execute all the orders that may be given him, their execution, however, not being immediate, and may be delayed several hours, several days, and even several weeks. The great danger that may result from such practices is that the repetition of these performances would provoke hysteria, and subsequently mental aberration, as has been already observed. Owing to the grave disorders that have been officially established, public exhibitions of hypnotism have been interdicted in Germany, Italy, and Austria, and so they ought to be everywhere else. In a moral point of view the practice of hypnotism is not the less to be deprecated, as instances have occurred in which the subjects have become the victims of the most odious attempts without being the least conscious of what had taken place. Moreover, public security would also be in danger if the practice of hypnotism be authorized for other than medical reasons. For instance, a person hypnotized may, without his knowledge, be robbed of all his fortune. He can be made to sign any written document, and it would be almost impossible to discover the fraud. The subject may also be made to receive "suggestions" which would push him to commit all sorts of offences and crimes—robberies, forgeries, incendiarisms, assassinations, poisoning. The hypnotized subjects may thus become the blind and unconscious instruments in the hands of the most dangerous malefactors. These reflections are to be found in a pamphlet just published, under the title of "Les Suggestions Hypnotiques," the author of which, M. Frederic Delacroi, a Judge at the Court of Assizes, at Besançon, from his position would be considered a great authority on the subject.

In taking possession of the Chair of Clinical Medicine of the Charity Hospital, in succession to Professor Hardy, Professor Potain delivered a most interesting discourse on the history of clinical medicine in France. But before broaching the subject he pronounced a very eulogistic compliment to his predecessor, and bore testimony to his reputation as a shrewd observer as well as to his powers of diagnosis and his success as a clinical teacher. The lecturer then took a retrospective view of French clinical medicine, and stated that it originated as a real science in that very hospital where he was then lecturing, La Charité, and was founded by the illustrious Corvisart, whose name is perpetuated not only in history, but also by a tablet in the amphitheatre of this hospital, to which he was attached for many years—from 1788 to 1809. M. Potain defined the term clinique as "the study of medicine at the bedside. It is even the base of medicine; it is the commencement as well as the end. But the teaching of medicine at the bedside of the patient could not be possible without a hospital. This is why clinical history is intimately connected with that of hospitals. Before the creation of these institutions, clinical teaching did not really exist." Many eminent men succeeded Corvisart at the Charity Hospital, and we have only to mention the names of Laënnec, Louis, Piorry, Bouillaud, to have an idea of the superiority of French clinical medicine.

Professor Peter, who succeeded Professor Potain at the Hôpital Necker, as Professor of Clinical Medicine, inaugurated his course by a lecture on "The Clinical Aspect of Contemporary Medical Doctrines." He began with Laënnec and his important discovery of "mediate auscultation." He then referred to the discovery, about the middle of the last century, of "mediate percussion," by Avenbrugger, of Vienna, but its establishment as a means of diagnosis is really due to Corvisart. Laënnec was considerably influenced by the teaching of Corvisart, and to him (Laënnec) must be attributed the credit of having introduced into contemporary medicine the scientific methods employed to this day as means of more precise diagnosis than have existed before. After having gone through the different phases of medicine to the present time, Professor Peter entered into his campaign against

the microbian theory, which is the latest innovation in the etiology of disease. M. Peter, true to his principles, endeavors by every possible means, and on every occasion that presents itself, to prove the falsity of the position taken up by microbists, not that he would ignore the existence of parasitic diseases, which, fortunately, are few in number, and are well known even without the aid of the microscope ; but what he does emphatically deny is the rôle of the microbes in certain diseases, for it is still a mooted question as to whether the microbes found in the organism are the cause or the consequence of the disease with which they are coincidently found connected. Consistent with their theory, the microbists have adopted a new line of therapeutics, but even if their deductions be correct their antiparasitic treatment must prove a failure, as it is simply impossible for any medicine, whatever be its degree of tenuity, to reach or affect the microbes in any way, much less to dislodge them from the position that they occupy.

To illustrate his meaning, M. Peter recalls that in cases of pneumonia, which is now considered by some to be a parasitic disease, injections into the lungs are advised, without considering how irrational such a medication would be ; for, hypothetically, the pneumococci being parasites, the parasites being essentially of a repullulating nature, it is sufficient that ten, two, or only one pneumococcus be not touched by the injection for the malady to persist by the repullulation of one or more surviving micrococci. Those who practise on this theory boast of the absence of accidents, but they forget that the powers of resistance in certain patients is greater than they imagine. Koch's theory of the parasitic treatment of cholera is equally untenable ; but remarking that his comma bacillus of cholera ceases to reproduce itself in a moist medium, he actually had the absurd idea of destroying the bacilli by thirst, and did not hesitate to advise the inhabitants of Marseilles, who were being decimated by cholera, to cease watering their streets. Other practitioners, again, to have the pendant to surgical antisepsy, have imagined *medical antisepsy*. Their idea may be generous, but it is purely chimerical, for surgical antisepsy reposes on this notion, that the wounded patient is healthy, but is the subject of a wound. In medicine disease already exists, and when the physician is called in, the organism is already infected, and if admitting it is by the microbe, the latter has already taken up its position. The *antirabic inoculations* are as severely handled by M. Peter, for he condemned them as being irrational in principle and inefficacious in reality, for after having been announced with éclat, they are known to have lamentably failed, even in the hands of the discoverer of the method. In conclusion, M. Peter advised his hearers not to attach much importance to these questions —which are more calculated to divert the physician from his real position—but to attend exclusively to *the history of patients*, for the physician has not to do with maladies but with sick people ; that is to say, of individualities reacting, as well as they can, against morbid accidents. This is what he terms true clinical medicine.

OUR VIENNA LETTER.

(From our Special Correspondent.)

MEETING OF THE IMPERIAL ROYAL SOCIETY OF PHYSICIANS—A CASE OF ACTINOMYCOSIS—TERATOMA OF THE KIDNEY—ERYSIPELAS AND INFLAMMATION.

VIENNA, December 12, 1886.

AT a recent meeting of the Imperial Royal Society of Physicians of Vienna, Dr. Hochenegz, assistant to Professor Albert, demonstrated a very interesting case of primary abdominal actinomycosis, which was in treatment at the surgical clinic of Professor Albert, in the General Hospital. The patient, aged forty-three years, sustained, some time ago, a lesion on the hypogastric region by a heavy hammer, which fell on the side of his body. After the lapse of fourteen days he recovered, but after nine months noticed a swelling in the inferior abdominal region, and was not able to work. Examination showed a sinus in the umbilical region, which was secreting pus, in which the characteristic grains of the actinomyces fungus could be discovered. This sinus had been first noticed three days before the patient was admitted into the hospital. The patient was losing flesh constantly. No swelling was to be seen on the neck ; the condition of the thoracic viscera seemed to be normal, and the expectoration contained none of the fungus in question. A large, distinctly limited tumor, quite immovable on its base, was present on the abdomen ; the skin over the swelling was not adherent. The region, upward of the prostate, offered a great diffuse resistance to the touch. The fæces and urine were normal. Dr. Hochenegz remarked that the above-mentioned lesion might have given origin to an adhesive peritonitis, and this to the formation of a solid callosity, into which the actinomyces fungus took its way out of the intestine. He, furthermore, added that, taking into consideration the good results obtained by operation in such cases, as for instance, in the cases reported by Esmarch, it would be tried at Professor Albert's clinic, either to remove the whole tumor, or the morbid parts, by means of the sharp spoon.

Professor Coskor remarked, on this occasion, that he had seen two cases of actinomycosis of the funiculus spermaticus in animals, and that six other cases belonging to this class were on record. At the same meeting Dr. Foltanek showed an interesting specimen taken from a child, aged eleven months, which represented a teratoma of the kidney. The latter was but slightly changed by this formation. The teratoma presented a great number of cysts, with serous, purulent, and hemorrhagic contents, respectively, which were lined with cylindrical epithelium. The child had died of an intercurrent disease—lobular pneumonia. A clinical diagnosis of sarcoma of the kidney had been made.

On two subsequent meetings of the same Society, Dr. Hajek read a paper on the relation between erysipelas and inflammation. I wish to refer to you this paper at some length, as I think that it will be of interest for the readers of THE MEDICAL RECORD.

Dr. Hajek said that he had undertaken the researches in question in order to determine whether the streptococcus of erysipelas differed morphologically, pathogenically, and in its mode of growth, from the streptococcus pyogenes ; whether, as to pathology, each of these two species was pathogenic in its proper way, viz., whether the first produced only erysipelas, the latter only phlegmons. He first combated the statements of Resenbach and Hoffer as to the differences of these cocci respecting their form and cultures, and said that the slight differences in the aspect and the quickness of growth were of no importance. The different cultures of these microorganisms did not show any striking differences, but, nevertheless, they were not at all to be looked upon as identical forms. This became evident from the experiments upon animals which the speaker had performed for the purpose of determining the pathogenic influence of the cocci in question. He, for this purpose, inoculated two series of rabbits with the cultures of the streptococcus of erysipelas and the streptococcus of phlegmon, respectively, after the cutaneous and subcutaneous method, and found some differences in both instances. In the cases of inoculation with the streptococcus of erysipelas, he, for the greater part, observed a wandering redness with swelling of very slight degree. In a small number of these cases there presented itself, after inoculation, an inflammatory nodule, which either underwent resorption or suppuration. An intense swelling, together with the wandering redness, was but seldom observed. As to the streptococcus pyogenes, the greatest number of the rabbits thus inoculated showed an intense swelling with suppuration ; the latter was present when the inflammatory process had reached its highest degree. An intense

swelling without suppuration was rare. There was never present a wandering redness without swelling, which was observed in most cases of erysipelas; only the most severe cases of erysipelas resembled the usual forms of phlegmon.

Dr. Hajek, therefore, and probably correctly, concluded that the cocci in question were of a different nature. But it was not the difference of the pathogenic behavior of these two species of streptococcus to which he attributed the greatest importance. The reason for which he felt justified in stating that there was an absolute difference between the coccus of erysipelas and that of inflammation was the result of his histological researches. The histological changes in erysipelas first manifested themselves in an inflammation of the lymph-vessels, later on in an inflammation of the interstices of the connective tissue, and only in the most intense cases the tissue around the lymph-vessels is concerned too. As to the cocci of erysipelas, they were to be met with only in the lymph-vessels, and at the most to a very slight extent, also, in the interstices of the connective tissue. The living tissue formed, in general, no particularly favorable soil for the development of the streptococcus of erysipelas. Moreover, the behavior of the latter, in the progress of the morbid process, was a passive one, as it was to be found only where it was transported by the lymph-current. The behavior of the streptococcus pyogenes to the living tissue was, however, quite different. Here, the lymph-vessels and the interstices of connective tissue were filled with close colonies of cocci, the cellular infiltration either being absent, or developed to only a very slight degree. Moreover, the streptococcus pyogenes formed close chains everywhere in the cutis, penetrated it in all directions, and perforated even the walls of the blood-vessels. Hence the streptococcus pyogenes had the disposition to represent itself in the living tissue in the form of colonies. Dr. Hajek remarked that the difference of the behavior of these cocci in the living tissue was a marked one; for, even in the most intense cases of erysipelas, the cocci were always to be found only in a proportionately small number, and this only in the lymph-vessels.

Dr. Hajek added that in future, in cases of complications of erysipelas with other affections, it will not be permitted to consider the second disease which complicates the case of erysipelas as dependent on this, but that it will be necessary to prove that the second affection was, indeed, produced by the streptococcus of erysipelas. He, for instance, succeeded in doing so in a case in which pleurisy formed the complication of erysipelas, as the streptococcus which was found in the pleuritic exudation, inoculated on five rabbits, produced only the typical complex of symptoms of erysipelas. In a second case, however, in which pneumonia was the complication of the disease in question, no such etiological connection could be discovered between the two affections, as there was found in the infiltrated lung only the "diplococcus pneumoniæ," and no streptococcus.

THE COUNTRY DOCTOR AND HARD THINKING.

To the Editor of The Medical Record.

Sir: Accept my thanks for the kind words in behalf of "the country doctor" in your issue of December 18th. Your paper every week reaches the homes of many of these quiet and, in many instances, obscure gentlemen; and while they read, study, and—permit me to suggest—*think* over the matter in its columns, as a rule they are too tired, fatigued, and exhausted to contribute the results of their observation and experience.

In addition to the infinite perplexities of practice, you gentlemen who dwell together in great cities know little of our every-day "transportation problems." We exhaust much brain-tissue in *thinking* about how to reach our patients. Long and dreary rides, by day and night, summer's heat and winter's cold, sand and mud, wind and rain, is our common lot. This, however, is sometimes varied in a way to make city doctors think!

I was called to visit a man ten miles from home. I had to cross a river; there was neither bridge nor ferry. But this is no great matter to country doctors. I thought of a waterman, hunted him up, tried to hire him to row me across. He significantly pointed to a "storm" about to break, and was astonished that a man of my "learning" should attempt to cross.

Watching this "storm" for several miles of my ride afforded abundant "thought." The little speck afar off on the horizon was an "element" of trouble. Many calls had to be made, miles had to be ridden, three good horses for changing at intervals, no dinner, and a very late supper, I *thought*, would get me through the day, barring accidents. On my early ride before seeing my first patient for that "big day," the accidents struck, the storm and the boatman struck. Having given some "thought" to boats in my rural life, I took the oars, and with the boatman's "For God's sake, doctor, don't go! my boat can't live in such a storm," I went with difficulty, saw the patient with double pneumonia, returned in safety. The boatman declined pay for the use of his boat, saying, "a doctor who risked so much for a patient could not pay him for a boat."

Again, I borrowed an "electric battery" from a brother physician about twenty miles off by the road, and promised to return it on a certain day. Rain, hail, and snow all combined to prevent its prompt return. Several miles of riding, and fifteen miles of skating over untried ice, got the battery home and enabled me to visit my patients for that day.

Servant announced my three riding-horses had "distemper." My list showed several important cases for the day. Ground covered six or eight inches with ice, snow, and slush. I *thought* about sixteen miles of walking would pull me through the day, and it did; also *thought* what a good time the famous specialists in the big cities must have in their warm and dry offices; this weighed upon my brain, as my feet grew heavy from fatigue and wet boots.

Having just dined, being very tired, and having nothing to do, I determined to rest for a day. Two urgent calls came. I drove to see one, had to cut a very nervous lady, which detained me; could see the other before dark, which was important, provided I could cross the river. Driving rapidly to the river, the boat was there, but at the bottom; *thinking* about "dry docks," "marine railways," and other luxuries common in great cities, a piece of rope, a stake, and two round fence-logs, with the help of a "small boy," got the boat on shore, turned her over to get rid of the water, launched her, crossed the river, walked two or more miles, saw my patient, got home after dark, and after supper I was called out again.

From hot weather, and being run down from overwork, I went to the city to consult a specialist. He told me, what was to be expected, no royal road to health—doctors, like their horses, should rest when weary. In my rural simplicity I *thought* he had received a circular of some new elixir (indorsed, according to the code, old or new, I cared not which, with a thousand good names), a teaspoonful of which would heal my ills. He treated me, "a country doctor," as I would treat a horse, or ox, or ass. He told me to *rest* when I was *tired*. This was Monday, and I determined to rest the next week. But I had an unusually hard week's work. Things culminated Saturday. I was very busy all day and went to bed exhausted about twelve o'clock, and was called up about one. Nothing but the results of a free fight: case one, cut hand, plastered it; case two, triceps gashed with a knife, sewed it up; case three, throat cut, sewed it up—wanted to consult on this case, no doctor near and no time to hunt for one; all well in two days, however.

Went to bed to get some rest, Sunday, 3.30 P.M., after my usual morning work. *Thinking* of many accidents possible to my surgical cases of the preceding night. At 4 P.M. called up, urgent message, accident at a hotel five miles away on the bay. Here was need for again thinking. Three cases (two of them serious) on hand, in addition to an already full list, mentally and physically exhausted neither time to eat nor sleep, no professional brother to help me. Dressing quickly, I mounted my "colt;" the groom said something about "on grass." You city doctors, with well-trained and oat-fed horses, may not know what the import of this brief sentence was? Fond of horses from youth up, every mile of my ride was painful; I was anxious to go fast, so was the colt. The day was hot, and "on grass" meant the loss of the colt if he was allowed to go fast. Got to the hotel—patient not seriously hurt—in fifty-five minutes after I was called.

Reached home, colt "tired in front," self too exhausted for another ten-mile ride; had to go back to the same place to see another case. A storm was impending; I immediately *thought* of a large sailboat, and three sailors to man her, and rode my tired beast to the place. Got the boat and men, who wanted to see the "fun," as they expressed it. The storm broke, the "fun" came, the boat went. Emerson tells of "the joys of eventful life" in a few minutes! We "scudded" several miles, made a good landing, I saw my patient, and returned home.

There are many thousand "country doctors" working out daily just such exasperating troubles. They risk limb, health, and life coming and going, and are equal, as a rule, to every emergency. Minds and bodies are constantly trained and developed. Julian with his fourteen hundred ships on wheels, Napoleon with his six hundred vessels, De Lesseps and Eads, all had men with whom they could consult and advise when in distress over transportation problems, and somebody paid the bills. The men of whom I write, in their loneliness and desolation, solve such problems themselves, and if they err in the instant thought; pay the penalty with their lives. Thinking is the country doctor's "hobby," and when at times he can't ride his horse, he always rides his hobby. Day and night he thinks, the "muddy boots" he wears do not cloud his brain, any more than the polished boots of city doctors brighten theirs. RUSTICUS.

[Well done, Rusticus. The man who braves so much to see his patients generally does something for them when he gets there.—ED.]

Army News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from January 2 to January 8, 1887.

RAYMOND, H. I., First Lieutenant and Assistant Surgeon. Ordered for duty at Presidio of San Francisco, Cal. S. O. 127, Department of California, December 29, 1886.

IVES, F. J., First Lieutenant and Assistant Surgeon. Granted one month's leave of absence, with permission to apply for twenty-three days' extension. S. O. 1, Department of the Platte, January 3, 1887.

THE INTERNATIONAL HOMŒOPATHIC MEDICAL CONGRESS, which was to have been held this year at Brussels, has been postponed to the year 1889, and will then meet in Paris. The reason of the postponement seems to have been that a fair attendance of members could not be secured and not enough papers were promised. The Belgian homœopaths do not regard this failure as a sign that their exclusive system is losing its adherents, but throw all the blame on their English brethren, whom they regard as traitors to the cause.

Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending January 8, 1887:

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	12	6
Scarlet fever	44	9
Cerebro-spinal meningitis	5	5
Measles	497	65
Diphtheria	152	52
Small-pox	0	0
Yellow fever	0	0

A CASE OF LONG TOLERANCE.—A writer in the *Quarterly Journal of Inebriety*, for October, 1886, reports the case of a merchant, forty-two years of age, in active life, who had been a paroxysmal inebriate for ten years. When the drink paroxysm came on he acted so wildly that both his moneyed interests and that of his friends suffered greatly. It was found that moderate narcotism from chloral and morphia kept him in bed and cut short the paroxysm. It was customary to get a two-ounce mixture of chloral, morphia, and bromide, giving the officinal dose until he became stupid or sleepy. On this occasion the usual bottle was procured, and given in regular doses every ten minutes, without any results; a second was given, then a third one, after which the patient went to sleep. His son, returning a few hours after, noticing the heavy, unnatural sleep, sent for assistance, and the physician who came found that the patient had taken in three hours about nine grains of morphia, three hundred and twenty grains of chloral, and over an ounce of bromide of sodium. Four hours had passed since the last dose had been taken, and, excepting a heavy stupor and general pallor, no alarming symptoms were present. It was decided to pursue an expectant plan, and watch the case rather than attempt any active antidotal treatment. For the next ten hours he remained in a general stupor, from which he could be easily roused, and was rational, but quickly relapsed into a quiet, heavy slumber. This stupor continued for four days, gradually growing less, with longer waking periods. Then he rode out, but was drowsy and heavy for a week more. The drink paroxysm had passed, and he returned to his usual work and health, not conscious of any unusual drug-taking. This person was a delicate, nervous man, apparently very sensitive to all the surroundings, and with no indications of any peculiar organization or debility.

IDIOSYNCRASY AS REGARDS TANNIC ACID.—Dr. J. M. Williamson relates, in the *Practitioner*, a curious case of idiosyncrasy with respect to tannic acid. The patient suffered from severe dyspnœa whenever the drug was exhibited. The writer thinks that in an anæmic subject, as was his patient, the process of converting tannic acid into gallic acid may be in some way retarded.

GIVING MEDICINES IN CAPSULES.—In the *Southern Practitioner* for September a very practical fact is mentioned concerning capsules as vehicles for unpleasant medicines. When any form of alcohol is taken with them they are rendered insoluble. Tannic acid also precipitates the gelatine covering and renders it insoluble. When the stomach is inflamed and irritable, following excess in the use of spirits, medicines should not be given in capsules. Neither chloral nor morphia should ever be given in this form to inebriates; it is useless.

A DIFFERENCE.—The difference between a hill and a pill is that one is hard to get up and the other hard to get down.—*Ex.*

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Original Articles.

THE CURABILITY OF CANCER BY OPERATION.[1]

BY GEORGE F. SHRADY, M.D.,

NEW YORK.

THE question whether or not cancer is curable by operation is one of the greatest interest to the practitioner who may be brought face to face with the answer to it. Every one who is affected with the disease is nerved with a desperate hope that an affirmative decision may be reached. The popular mind is educated to the belief that a positive diagnosis is synonymous with certain death sooner or later. Unfortunately the fears in the latter direction are quite well grounded by examples of recurrence of the disease, which are relatively frequent and correspondingly impressive. The burden of inspiring hope too often rests mainly on the consultant. With a view of aiding each other in arriving at conclusions in given cases it behooves us occasionally to compare notes and exchange experiences. We may not be able to tell other than the old story, but we may perchance point it with a new moral.

In the attempt to discuss in a general way the advisability of operation for the cure of cancer, we shall find it of the first importance to review such facts as may bear upon a local or constitutional origin of the disease. The proper conclusions from one standpoint or the other are obviously of the greatest moment in recommending any radical line of treatment.

In the way of outlining the argument in favor of the curability of cancer by operation, I shall endeavor to prove that the disease has a local origin, and is therefore removable, and that the constitution becomes affected only secondarily by a more or less wide-spread dissemination of original cancer-germs.

If with microscope in hand we should be prepared to anticipate the first departure of a given tissue from a healthy standard to a cancerous disposition, we should find at one point merely an abnormal and atypical cell-proliferation. The cells become closely packed together into irregular alveolar spaces in a stroma of more or less developed connective tissue. So much may serve as a condensed description of the well-recognized anatomical characters of carcinoma.

It may be noted here as a significant fact that such growths are rarely if ever multiple in character. The histogenetic rule is for the disease to commence at one point, and thence spread, at first along lymphatics, into the neighboring glands, and afterward, through the medium of the blood-vessels, into more remote parts.

The growth is governed by laws of its own, follows a regular course, and, as a rule, propagates its particular kind of cell to secondarily infected parts. It having once made a start it is easy to trace the effects of the progressive march of the disease. Even when disseminated into distant parts there is no proof against the working of the law of transmission of proliferating cells from the original growth. We know that these cells are the cause of infection, and that when once formed they have an inherent property of multiplying themselves in the tissues in which they find a lodgement.

Why they are formed, and why they act thus, no one knows. The study of the phenomena is, however, the most fascinating one in the whole range of pathology, and has naturally interested the brightest minds, and been productive of the most ingenious theories. A reference to the most generally accepted one, that of Cohnheim, relating to the embryonal origin of cancer, will perhaps aid us in accounting for the primarily local character of the disease. That observer maintains that certain embryonic cells from the epiblast remain latent in the tissues of the body until some conditions of irritation or other local change provoke them to activity and growth. In the absence of a better explanation, this, it seems to me, is the most plausible that can be offered, inasmuch as the growth of cancer has such a striking resemblance to the methods of primary cell-development in the embryo.

According to Mr. Savory, the lower the grade of embryonic tissue, the greater its reproductive power and the more enduring is its vital force. Certain it is that the cancer-cell is of this type, and has a remarkable inherent power of multiplying itself as such. Furthermore, beyond this early stage the typical cancer-cell never goes. He believes that what is wanting is to be found in the nature and vital attributes of the formless protoplasm out of which the cells are produced.

Mr. Hubert Snow puts it in another way.[1] He says: "The phenomena of malignancy results from conditions which irritate normal protoplasm, which cause it to proliferate abnormally, and to assume a quasi-independent parasitic vitality. These conditions may be mechanical, but in a much larger proportion they are neurotic." All of which may be interpreted to mean that the nature of cancer is to be cancerous.

Mr. Savory's view regarding low-grade cells and proportionate proliferating power makes plausible the reason why the congenital tumors as such do not, as a rule, become malignant, as the higher and more varied the development of a growth the less its inherent vitality.

We might go on with this part of the subject indefinitely, but to no better purpose than of coming to our present standpoint in the acknowledgment of the principle of malignancy locally manifested in a definite and well-recognized manner.

In spite of all the theories of cell-origin, vital law, and actual being, we still mutely stand upon the barren edge of fact, and look upon the mysteries of creation around and about us in impotent wonder. Formative protoplasm, after all, means nothing but a name. It comes as it goes. We theorize in a circle. From the how to the what of the unknowable is sharply drawn the dead line of human thought. Beyond it is an emptiness of understanding and a despair of argument. But whatever may be considered to be the origin of cancer, the first manifestation of its presence to the microscope is the atypical cell-growth, confined to a particular locality, and spreading thus in a regular and progressive way to tissues in the immediate neighborhood. This is an anatomical fact, whatever way we may explain it. Nothing more than mere theory has been brought forward in the attempt to controvert it, and we must accept the microscopical demonstrations accordingly.

[1] Read before the Practitioners' Society of New York, January 7, 1887.

[1] Lancet, October 23, 1886.

If we study the clinical aspects of carcinoma we must confess that the weight of the argument is also on the side of the local origin of the disease.

We have seen that cancer begins as an isolated growth in a particular tissue, and progresses thence by a transfer of its proliferating cells into neighboring parts. But there is something in the predisposition of certain organs to be attacked which we likewise do not yet understand. Cancer is mostly a disease of local degeneration, and most frequently attacks organs—for instance, the breast and uterus—while they are undergoing retrograde metamorphosis. But this will not explain all the cases, as cancer sometimes occurs in these organs before such changes have taken place, and while they are in an active state of evolution. We may, for the sake of the argument, allow that in some persons the degenerative changes necessary for cancerous invasion take place earlier than in others. But it would hardly be fair in this respect to compare the organs of a youth with those of a septuagenarian. Still, there is a great preponderance in favor of the original proposition. At all events, the predisposition appears to be purely local in character.

Then we are told by Virchow and others that the determining cause is irritation. This does not cover as much of explanation as we might wish for in a perfectly tenable theory. It is, doubtless, one of the factors, but not always the main one. What woman has not received a bruise of the breast? how many of them are free from lacerations of the cervix uteri? how large a number of men irritate their lips with clay-pipe stems, or have their tongues scraping against decayed teeth? And yet a comparatively small number of these have cancer. There must be something besides mere irritation to cause a face-wart in one case to stand its ground against the constant knicking and scraping of the razor, and in another case, without apparent cause, to degenerate into an epithelioma, or an adenoma—in one instance to be carried a lifetime, and in another to take on without warning the irregular cell-growth of malignancy. Paget refers to three examples of scirrhus of the breast which occurred apart from, and independently of, chronic mammary tumors situated in the same organs, and I have seen the same thing in a case of chronic mammary abscess.

There would be some comfort in being able to explain, on the hypothesis of local origin, how and why certain organs are attacked, to the exclusion of others apparently similarly exposed, but we must, obviously, for the present be content with the mere knowledge of the fact.

A strong argument in favor of a local origin is this very circumstance that certain organs are always attacked, to the exclusion of others. We have the uterus and breast in the female, while in the opposite sex we have the skin and digestive organs principally attacked. On the other hand, the spinal cord, tendons, tonsils, pharynx, liver, lungs, and prostate gland are rarely involved primarily.

Again, we notice that one organ becomes diseased, and its companion escapes. Organs also of the same structure—for instance, the parotid and submaxillary glands—are not similarly affected; the first is, as a rule, attacked primarily, the latter secondarily.

We can, perhaps, account for this condition of things by assuming that those organs most liable to malignant disease are those in which the embryonic protoplasm, in greater or less quantity, is deposited. If we go thus far we can conclude that cancer should not occur primarily in any organ in which this formative material does not already exist. But, of course, regarding this point we can demonstrate nothing.

The more we study the question of the origin of cancer the more we must take into account complex exciting causes, such as mental influences, reflex disturbances, and the milder forms of derangement that are manifested during the too rapid growth or too rapid degeneration of an organ. But we still have to account for the apparent immunity of the other important organs under all the foregoing conditions.

Interesting as is this part of our study we must pass on to consider other points in favor of local origin. Let us cursorily review some clinical phenomena. These may be stated dogmatically for the sake of brevity.

The clinical facts of cancer cannot be explained by regarding it as an affection of the blood, either primarily or secondarily. The general system is never affected in any recognizable way before the local disease has shown itself. The cancer may spread, but always from a given root. The blood is doubtless the fertilizing fluid, but nothing more.

The disease prefers to extend into adjacent tissue rather than to another similar organ. Take, for example, the history of cancer of the breast.

The disease manifests different degrees of malignancy in different situations. Scirrhus of the breast behaves differently from epithelioma of the lip.

Hereditary influences cannot militate against this doctrine of local origin; if so, they should be more frequently met with than in the proportion of one to six. Besides, is it not possible to inherit local as well as constitutional tendencies? Examples of such are too numerous to mention.

While speaking of heredity it is well to bear in mind that it is an exception for more than one member of a family to become the victim of cancer.

While this is a comforting outlook in one direction, it is far from it in another. If heredity has so little influence, the inference is that other causes, of which we are still in ignorance, operate indiscriminately upon all the human family. In fact, statistics have shown that no one can be sure to escape cancer until he has passed the age for its occurrence, and when his vital machinery is actually worn out. In other words, he can never positively be considered fortunate in respect to cancer until he is dead.

The tendency to recur can be based as much on the local as the constitutional theory. Recurrence presupposes origin. The origin is always local, and the recurrence, whenever the attempt has been made to prove it, has been found due to a systematic and progressive distribution of cell-growth into adjacent parts. The occurrence of cachexia or constitutional disturbance is explainable on a similar supposition. The constitutional infection may be said to be due to a multiplication in different organs of the original growth. The cachexia is evidently caused by the involvement of one or more vital organs.

Finally, what is certainly an unanswerable argument in favor of local origin is the cure of the disease by the removal of the local growth. Conversely, because the disease has a local habitation, operative procedure is advisable. It is with the view of establishing such a principle of treatment in all possible cases that this paper was principally written.

It has not been my purpose to give other than a summary of facts which have been accumulated by personal experience, and as the result of the study of a large number of statistics collected from various sources. Whether the conclusions are legitimate or not, the points thus presented may be of some interest to others, who, like myself, may need some data on which to found an opinion upon cases as they ordinarily present themselves for advice.

The statistics regarding the results of operations have never been collected on a sufficiently large scale.

This has yet to be done before the question as to the advisability of operation in the general run of cases can be definitely settled. No attempt in a paper of this length can be made to give more than an outline of studies in this direction. Such will, perhaps, serve our purpose in presenting a better ratio of recoveries after the use of the knife than is usually believed to be possible.

In estimating the value of operations for cancer, we must take into account the average duration of the disease in a particular organ and when left to itself. Paget, in 139 cases of scirrhus of the breast, gives the duration of life in 75 cases not operated upon as forty-eight months, while in the remaining 64, which had one or more operations, the life-average was over fifty-two months. Sibley, in 84 cases, makes the averages thirty-two months in cases not operated upon and fifty-two months when excision was practised. Baker counts forty-three months against fifty-five months. The longest duration of life in cases not operated upon was twelve years; in those operated upon a little beyond eighteen years. Satterthwaite [1] shows, by his statistics, that operations lengthen life to the extent of more than eleven months on an average. His figures are 35.7 months without operation against 46.8 months with operation.

S. W. Gross credits the prolongation of life in favor of operations one year. The same observer, in an analysis of 524 operations, says there were living and well three years after the last excision of the growths 1 in 9.19; and ten years after, 1 in 5.7. Recurrence was prevented in 32.30 out of every 100 cases.[2]

Dr. Willard Parker believed in the benefit of operations in selected cases In a paper read before the Medical Journal Association in September, 1873,[3] he reports 14 cases of cure by excision, the patients being in good health at the end of periods varying from three to twenty-seven years.

Nussbaum, of Munich, is of the same opinion, and affirms [4] that those patients operated upon live decidedly longer than those who have not submitted to such treatment.

Dr. Oldekop [5] publishes an extended report of 229 cases of excision treated in Esmarch's clinic, with 23 recoveries. The average duration of life in cases operated upon was 45.1 months, against 22.6 months when the disease took its ordinary course.

From an examination of the records of the Vienna Pathological Institute, Drs. Török and Wittelshöfer [6] are enabled to say that of 184 autopsies on cancerous papatients operated upon, only 105 had metastatic deposits, and of 182 without operation only 40 were free from secondary carcinoma.

Statistics might be multiplied to prove the chances of radical cure in cases which have been treated by the knife, and of the certainty of prolonging life by excision of cancerous growths. In fact, even better results are noted in other forms of cancer, as, for instance, epithelioma of the lip, of which nearly one-half the patients are cured. We have, however, collected our figures mainly from cases of cancer of the breast, as they are the most common of all malignant growths, and may serve as the type of the others. What is true of a part may be equally so of the whole.

We might multiply cases to prove the utility of operation, even on the basis of the severe test of Paget, an entire immunity from the disease for ten years and over. I can recall two such in my own experience, one being alive and well when last heard from—thirteen years after an operation—and the other dying of apoplexy eleven years and three months after the last operation. In the latter case three operations were performed, at varying periods, for the removal of recurrent growths.

Dr. Weir [7] reports a case in which the right breast was amputated by Dr. James R. Wood in 1856. In 1867 Dr. Post amputated the left breast; in 1873 Dr. Weir removed a recurrent growth from the right side, and again in 1877 and 1880, the patient finally dying of the disease in 1881. This covers a period of twenty-five years.

[1] Reference Handbook of the Medical Sciences, vol. i., p. 781.
[2] MEDICAL RECORD, vol. xxi., p. 100.
[3] MEDICAL RECORD, vol. viii., p. 435.
[4] Allg. Med. Centr. Ztg., 1875.
[5] Langenbeck's Archiv, vol. xxiv.
[6] Archiv fur Klinische Chirurg., vol. xxxiv., 1880.
[7] MEDICAL RECORD, vol. xxi., p. 100.

Dr. Austin Flint, in a discussion on the subject before the New York Academy of Medicine, referred to a case operated on by Dr. Frank H. Hamilton which survived the operation twenty years, and that of another patient, also treated by Dr. Hamilton, who was living ten years after the extirpation of a cancerous breast.

Dr. Daniel Lewis also related to me a case which, if I recollect right, survived an operation ten years.

Dr. C. Deadrick,[1] of Knoxville, Tenn., reports a case which also proves in a striking manner the value of repeated operations for recurrent growths. A lady, aged fifty-eight, was first operated upon in May, 1878, for a cancer of the breast and axilla, of two years' duration; again in July and August, 1878, and in May, 1879; she remained well until August, 1886, when she died of marasmus. The patient was free from the disease over seven years, and her life was certainly prolonged for that period

The question of figures is not always of the first importance in estimating the value of any particular treatment, or of forming opinions as to results in individual cases. Many other circumstances have also to be taken into consideration. In estimating the relative importance of these, the general impression of the study of all points involved must be taken into account. As a contribution in such a direction, the opinions herein expressed are duly offered.

Every surgeon meets with such cases of cure by the knife, and I am convinced that if he could follow up the subsequent history of his hospital and private patients he could add greatly to his favorable statistics. It matters not if the disease does recur, it can prove scarcely more than that the growth was not thoroughly extirpated in the first place. This may be no fault of the operator, but may be due oftener to the aggressive infiltrating tendency of the disease. Cancer has no cyst wall; all the surrounding tissues are open to invasion, and oftentimes we find cell-growth remote from the original focus, and in such apparently healthy tissue that the microscope is alone able to decide the point. We often see this in cases of mammary carcinoma, especially in adipose subjects.

This, pathologically speaking, has a very important bearing upon the extent of the field of operation in given cases. I am firmly convinced that operations, as a rule, are not radical enough to insure a complete and thorough removal of the disease. The surgeon, being first sure of his diagnosis, should never undertake an operation unless he is also reasonably certain of the limits of the disease and is confident of his ability to cope with every emergency that may arise. There should be no doubts in his mind that every vestige of the disease has been removed. The size of the wound and the number of vessels involved are secondary considerations. For instance, it is not enough to remove a breast, but it is also necessary to carefully dissect the axilla for diseased glands, removing the latter even from the sheaths of the larger vessels. This is the only way to be on the safe side against recurrence. It goes without the saying, also, that the earlier an operation is performed the better the chance of thoroughly extirpating the disease. The operation is less formidable, the wound is smaller, and the shock is less. In doubtful cases I am inclined to give the patient the benefit of an operation, explorative at least, rather than trust to the chances of the disease spreading beyond the reach of the knife.

The time of the performance of an operation is of the greatest importance. One reason why operations so often fail is that the cases requiring them come to the surgeon too late. Statistics show that the patients operated on early always do the best and are least liable to recurrence of the disease. This fact cannot be too forcibly emphasized.

Again, it is better that we run a chance of recurrence than that we take the other alternative of allowing the

[1] MEDICAL RECORD, vol. xxx., p. 345.

disease to get beyond us and kill the patient, for recurrence generally means slower growth and less pain.

But even taking everything into consideration, and allowing that the odds are against us, we should not be discouraged in giving our patients their only chance. Practically, the operation comes to that. Otherwise our patients must voluntarily resign themselves to the inevitable.

But even if the rule of recurrence obtains, there are so many examples of final cure after repeated operations that the faith in the knife should not be too easily shaken. It is sometimes a question which should wear out the sooner, the blade or the disease. There are instances of cure after five, six, and seven operations. If need be, we should say "seventy times seven," rather than grow weary in well-doing.

I am also led to believe that a new encouragement is open for surgeons in the different methods of operating at present as compared with those of former days. We can perchance commence to build fresh statistics with better results in clean and rapidly healing wounds, and in the elimination of many of the old-fashioned elements of wound treatment, which of themselves either militated against recovery or directly invited recurrence. The time may yet come when we shall ultimately make as brilliant a record for the operative treatment of cancer as for other similar procedures which heretofore were considered to be impossibilities. At least we must be encouraged to try to the bitter end, and this may perhaps be the new moral to the old story.

If any practitioner needs any special urging in this direction, let him contrast his experience in those cases which are operated upon with those which are not. In the former, there is at least relief from mental anxiety, from pain and other suffering, and life, which before was a burden, is made a happiness. In the latter, the inevitable issue is awaited with the grimness of despair—the patient undergoing tortures of mind and body too horrible to contemplate—the sole relief being in that hopeless slavery to opiates which drops its chains only at the portal of the grave.

In summarizing our conclusions the following propositions are offered:

1. Cancer is essentially a local disease, and can be cured by operation in spite of recurrence.
2. Operation, when it does not cure, prolongs life and diminishes the total amount of suffering.
3. Operations should be repeated as often as there is any chance of entirely removing recurrent growths.
4. The earlier and the more thoroughly the operation is performed the better.
5. The disease, when it recurs, is generally of a milder type than that of the original growth, less painful and less exhausting.
6. Antiseptic surgery makes more radical operations possible, with better ultimate results, than formerly obtained.

247 Lexington Avenue, New York.

A Dangerous Operation—for the Doctor.—Dr. Souchon (*Texas Medical Journal*) related a case of abscess of the axilla which was incised while the patient was only partially under the influence of the chloroform As the knife penetrated the flesh, the patient sprang to his feet, rushed at the case of instruments, which was near by, and had half opened a drawer and was about seizing an instrument, when one of the students bravely caught him. He very soon quieted down. The next day he said that he had just come from a grinding on a sugar plantation where a number of Chinese were employed; that he was always quarrelling with them, and that, as he was going under chloroform, the students around him became gradually transformed, in his mind, into Chinese; and that as the knife penetrated him, though he felt no pain, he was satisfied it was one of the Chinamen who had stabbed him. Hence the rush he made to what he thought was his armory, for a weapon to defend himself.

ON A SATISFACTORY METHOD OF EARLY DIAGNOSING AN INTRA-PERITONEAL RUPTURE OF THE BLADDER.[1]

By ROBERT F. WEIR, M.D.,

SURGEON TO THE NEW YORK HOSPITAL; PROFESSOR OF CLINICAL SURGERY, COLLEGE OF PHYSICIANS AND SURGEONS.

The following case is of interest, as it demonstrates very happily the availability of a recent surgical device in the solution, in certain injuries, of the existence or non-existence of a rupture of the bladder.

Joseph K——, a young man, aged eighteen, was brought into my wards, at the New York Hospital, December 18, 1886, having been crushed by a very heavy packing-box falling off a cart upon him, while helping in the process of unloading. The weight came upon the lower part of the abdomen and upon the right thigh. He was seen by me some six hours after the accident. He had passed in the meanwhile four ounces of slightly bloody urine. He complained of tenderness over the pubis, and there was above this bone an area of dulness reaching upward a distance of over an inch and a half. The belly-walls were rigid, and slight tympanites was observed. Inability to raise the right thigh was also present, and movements imparted to the limb gave rise occasionally to crepitus. No shortening on measurement, however, was detected, and no fracture in the femur was made out. By examination per rectum a swelling over the middle of the ascending ramus of ischium was found, and pressure over the trochanter developed the existence of a fracture at the site of this tumefaction. He passed urine on being requested, and with but moderate pain. Nearly four ounces were evacuated, and it was distinctly bloody. On introducing a silver catheter it passed in up to the eyes, and drew off no additional fluid; but it gave a roughened sensation when about half withdrawn, and on reaching the anterior portion of the bladder about a teaspoonful of still more deeply tinged urine flowed out. He was not suffering at all from shock.

The question arose naturally as to whether a rupture of the bladder had not taken place. From the supra-pubic dulness it was inferred that if such had occurred it was probably extra-peritoneal. This point was then determined by the insertion of an aspirator needle, which evacuated a couple of drachms of fluid dark blood and its point impinged readily on the fractured bone.

The decision as to whether an intra-peritoneal rupture was present, was a more difficult one to arrive at. This could be accomplished expectantly by waiting for further symptoms; but, obviously, the earlier surgical help could be rendered in such conditions the better the chance of recovery to the patient. Only two procedures seemed available therefore, viz., digital exploration by a perineal incision,[2] or by opening into the abdominal cavity. Rather than resort to either of these I thought of using the test of distention of the bladder, as has been employed in the recently improved supra-pubic opening of the bladder for calculus, tumors, etc.

Accordingly, two hours later, the abdominal tenderness having increased, the patient was etherized and a rubber catheter first inserted into the bladder, and then Peterson's rubber-bag [3] passed into the rectum and distended with seven and a half ounces of warm water. After this had been done, and after the line of supra-pubic flatness, now slightly augumented, had been outlined by a colored pencil, seven and a half ounces of a carbolic-acid solution—one to one hundred—were slowly introduced into the bladder. When six ounces had been passed in, the contour of the bladder could be felt above the line of blood extravasation, and the additional quantity of fluid served only to make this more positive, especially so

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[1] Read at a meeting of the Practitioners' Society, held January 7, 1887.

[2] See an article on Rupture of the Bladder treated successfully by Perineal and Hypogastric Incision and Drainage, Medical Record, March 29, 1884.

[3] The bag had been encircled by a netting of silk to prevent over-distention, as suggested by me in a recent paper on supra-pubic cystotomy, Medica News, December 4, 1886.

on the lateral aspect of the distended viscus. The injected fluid was then allowed to flow from the bladder and measured, and found to correspond with the quantity forced in. The demonstration was perfect, not only as to the possibility of an intra-parietal, but also, from the non-increase in the line of dulness over the pubis, as to an extra-peritoneal laceration, and the rectal bag was thereupon also emptied and withdrawn, and the patient saved from any surgical interference of a more heroic character. A body bandage was applied, and in the course of forty-eight hours all traces of blood, even microscopically, disappeared from the urine. The source of the blood was evidently from the contusion to the lower part or to the neck of the bladder, by the inwardly projecting fragments of the fractured bones, which could be felt to tilt markedly toward that organ on strong manipulation of thigh.

In carrying out this test it will be observed that the precautions of not distending too much either the rectum or bladder were carefully observed. Such are necessary, as has been shown by me in some remarks lately published on this subject,[1] in which five cases of rupture of the bladder by surgical distention are reported. To obviate this risk a rectal dilator, which can only be distended to a circumference of seven and a half or eight inches should be used, and not more than seven to eight ounces of antiseptic fluid passed into the bladder. Should more vesical distention be required, any augmentation of the injection must be made very slowly and cautiously.

The brilliant results obtained by Sir William MacCormac in two intra-peritoneal ruptures of the bladder, by laparotomy and suture of the laceration, published in the *Lancet* of December 11, 1886, conclude with the advice that in cases of doubt an exploratory incision into the abdomen would be justifiable to secure the accuracy of diagnosis and promptness of action desirable in these important cases. It is believed, therefore, that this simpler method may prove of decided advantage in the uncertainties that so often attend vesical ruptures.

IS DIVISION OF THE MEATUS URINARIUS A SIMPLE MATTER TO THE PATIENT?

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As this question is an important one, and has claimed the attention of many eminent surgeons, I do not think any apology is necessary for again bringing it to the notice of the profession, particularly when we take into consideration the fact that there seems to have been with some men, of late years, a perfect craze for doing this operation (?), and seemingly in many cases without any well-defined idea of what is to be accomplished thereby.

It is evident to anyone at the first glance that, in a given case of stricture of the urethra requiring division or divulsion, it may be necessary, in order to introduce an instrument for either purpose larger than the calibre of the canal at the meatus, to enlarge the orifice in some way, and there can be no doubt that there are quite a number of cases where such a procedure is justifiable. Again, in some cases of obstinate discharge from the urethra due to gonorrhœa, where the meatus is contracted or congenitally small, it may be good treatment to enlarge it. I think I have seen good results from such operations. But to my mind the meatus is cut far oftener, and to a much greater extent, than there is any occasion for, and as a result of this there is, I believe (and I propose to try to demonstrate it), a gradual loss of elasticity of the urethra, loss of sexual desire, and also loss of contractile power of the bladder—atony, which there should be an attempt to obviate, whenever it is possible, by restoring the meatus to its normal dimensions.

As one's ideas are so often apparently misconstrued, I wish, if possible, to make myself fairly understood at the outset. I do *not* say there are no cases requiring division of the meatus, nor do I affirm that all cases of loss of sexual power are due to a slit meatus, nor that it is possible to properly repair every injured meatus, nor that all meatus should be repaired. I *do* protest against the routine practice of enlarging the meatus, and I *do* say that, the operation having been done, I am led to believe that, generally, a certain loss of function will follow, unless the orifice be early narrowed down to its normal size, which loss of function I think may in many cases be partially restored by repairing the injury done the meatus, even at a late date.

Considering the matter in detail we may speak of the male urethra as an elastic tube with a lining of mucous membrane, and an outer coat of erectile and muscular tissues. It is not necessary here to enter more minutely into its anatomy. It is the outlet to the bladder, and its functions are to transmit the urine and semen. In the normal state its calibre varies; it is narrowest at the *meatus*, then dilates into the fossa navicularis, behind which it is again somewhat contracted, and again it dilates at the bulb to become in turn much narrower immediately behind this point where it passes through the triangular ligament, when once more it enlarges as it passes through the prostate forming the sinus pocularis. Behind each contraction it will be seen there is a dilatation, and these several variations in the diameter of the canal serve an important purpose.

In the act of urination the bladder contracts, the sphincter relaxes, the urine is driven along the normal urethra, meeting with only slight obstruction at each point of narrowing and filling each enlargement of the canal, till the meatus is reached, where the size of the current is so narrowed that the volume of fluid is obstructed and dammed back in sufficient quantity to forcibly distend the whole elastic tube, while, the pressure of the contracting bladder continuing, the urine escapes in a smooth and continuous stream. When the bladder has contracted down to its utmost, then the accelerator urinæ and other accessory perineal muscles may be called into play, by the voluntary contraction of which the greater part of the urine that remains can be quickly and forcibly expelled; or the urethra, being allowed to contract on its contents more slowly after the sphincter is closed, forces out the last few drops. There is no dribbling, because there is not from the commencement of the act to its completion any intermission in the expulsive force, unless it be due to the voluntary contraction of the compressor, or "cut-off" muscles; for though the bladder ceases to act before the urine has all escaped from the urethra the latter organ continues to do so, with much less power of course, but with sufficient to expel its contents in a continuous if less forcible stream. The narrow meatus, like the nozzle of a hose, not only increases the pressure from within and causes an acceleration of the current, but it prevents the immediate withdrawal of the expulsive force when the bladder-pressure ceases. The function of the meatus is therefore apparent, and so also, it seems to me, is that of the several normal contractions and dilatations within the canal itself, which I believe act mainly in preventing the detrusor muscle, when the vesical sphincter is relaxed, from too suddenly and forcibly filling the whole urethra, at a gush, as it were. In other words, they serve to lessen the shock and prevent pathological changes therefrom. The urethra was intended to last a man his lifetime, and nature has therefore done her best to protect it from injury and preserve it to him intact.

Now, supposing the meatus to be divided to the extent only of making it correspond in diameter to that of the spongy portion of the canal immediately behind the fossa navicularis, what is the result? Instead of

[1] Loc. cit. supra.

obstructing and narrowing the outflowing stream and thus insuring smoothness with increased force of propulsion, it allows of the escape of the urine readily, in a stream the diameter of which corresponds to that of the now narrowest (membranous) part of the urethra, and with the propulsive force greatly diminished. There is no resisting force to speak of opposed to the contracting bladder, certainly none worth taking into account, anterior to the triangular ligament, and consequently no considerable distention of the tube with subsequent contraction, no exercise of the organ, as its muscular elements lose their tone for want of proper use. At first, when urination is finished so far as the bladder is concerned, the elasticity of the canal may probably be sufficient to expel all the urine therein contained at once, but in time its contractility is lost to a great extent, and the moment the bladder ceases to exert its force a few drops of urine dribble away from the incomplete contraction of the accelerator muscles, and then, after an interval, probably after the penis is replaced, a few drops more trickle away from the contraction of the spongy urethra itself. And it is not the urethra alone that suffers, but the muscular coat of the bladder also, not being called upon to act with its accustomed vigor, loses in turn its tone—degenerates, to a certain degree, like any other muscle imperfectly or only passively exercised.

If a still greater division of the meatus have been practised the orifice of the urethra is converted into a funnel-shaped opening, there is now no resistance here to the escaping stream of urine, and the condition of affairs already mentioned occurs sooner and is more marked.

The fact must not be lost sight of that the accelerator urinæ, transversus perinei, levator ani, and probably even the erector penis, all being generally instinctively and almost involuntarily called into play at the end of the normal act of urination, to quicken the process, are, when the meatus is divided, less and less used and these muscles also degenerate, or at least lose tone. As a consequence of this, during the sexual act erection is incomplete and short-lived, and intercourse is unsatisfactory. There is also a loss of sexual desire as well as of virility, partially owing to the causes already mentioned, and, in a measure, due to the fact that the mucous membrane of the lips of the incised meatus, being exposed, loses its exquisite sensitiveness; besides, the frænum generally being injured, it no longer tightly closes and pulls down the lips of the meatus, thereby elevating the corona of the glans and causing both these parts to come in closer contact with the vaginal walls during coition.

Many men in the prime of life and apparently full of vigor have come to me with enlarged meatus and the mournful tale that they were losing their manhood. They could no longer satisfactorily perform the sexual act; perfect erections were impossible; they had no control over the discharge of semen, which generally occurred prematurely; they experienced no orgasm and they had, so to speak, lost all sexual desire. Most of these men had been guilty, no doubt, of excesses in eating, in drinking, and in venery; but thousands of others, with meatus intact, have abused themselves in every way to as great an extent, and yet they retain their sexual vigor. In some of these cases the condition of affairs may have been caused by the passage of sounds of large size, but many had never had an instrument used on them a dozen times, and in several the meatus had been cut because it was thought to be abnormally small, to hasten the cure of an obstinate clap.

What goes further than all theoretical reasoning to prove the force of my argument is the fact that I have narrowed the enlarged meatus in five cases, with the result of restoring the functions of the organs concerned in urination and copulation to almost the normal degree, and this after other methods of treatment had failed. In every one of these cases the act of urination was faulty; there was no force to the stream, nor could it be directed into a vessel or urinal without wetting the immediate surroundings, unless the lips of the orifice were pinched between the fingers. No effort on the part of the patients could hasten the flow unless the meatus were artificially narrowed, and there was always dribbling. But these were all selected cases. Only two had stricture; one at the region of the bulb, admitting No. 24 F.; the other at three and a half inches, admitting No. 26 F. In each the stricture was divided and six months afterward the meatus restored to what was considered to be about its normal size. Sound No. 27 F. can now (four months after narrowing the meatus) be passed readily on both patients.

The operation, if it may be dignified by such a title, is simple enough, but care and judgment are required in paring the edges and in passing the suture or sutures. I have generally introduced a sound a couple of numbers smaller than I had intended the meatus should admit when the wound had healed, and then pressing the lips together over this, have formed an idea of where I was to cut and where the sutures were to be introduced. The sutures may often with advantage be introduced first; one has generally been sufficient, a piece of court-plaster being carefully applied and held in position till it firmly adhered, after the suture was tied. It depends a great deal upon the extent of the enlargement as to how the operation for closing this should be done. If a considerable portion of the glans, as well as the meatus, have been divided (as I have often seen), then, after the opposed surfaces have been denuded the sutures should, I think, be passed as in the operation for closing a ruptured perineum. I have not operated on such a case. In using but a single suture I introduce the needle on one side at a point on a level with what constitutes the superior angle of the newly made wound when the raw surfaces are pressed together, and bring it out at a corresponding point on the other side; then I introduce it again a trifle above the lower angle of the wound, and carry it back through both lips and tie. I use a very fine needle and thread, the latter simply waxed. A bit of lint or cotton is left between the lips of the meatus, so that they cannot become glued together and force the urine between the cut surfaces at the first effort at micturition. Of course the patient is made to urinate just before the operation is commenced.

Now, if the results herein detailed *do* follow, and are caused by the division of the meatus, when are we justified in enlarging it? In my judgment, if a stricture be recent and amenable to treatment by dilatation at all, it is sufficient, unless the meatus be abnormally small, to dilate it (the stricture) to the extent of passing the largest sound that the meatus will admit. Of course a strictured meatus, or a congenitally small meatus, must be cut. To my mind there is no use in dilating a constricted urethra farther than can be done by stretching the meatus a number or two; if this will not suffice, division or divulsion is required; for if contraction again occurs sufficient to give rise to symptoms after such treatment, it would have done so more speedily and more surely had the dilatation been carried to a greater extent. The idea of overdistending strictures means so often irritation or inflammation that I cannot believe in it.

If a stricture be resilient or irritable, or if it has been often inflamed, there is no use in irritating it still more by the frequent passage of large sounds. It had better not be treated at all instrumentally, unless it be so narrow as to threaten or give rise to considerable trouble, until the operation of division or divulsion is practised; and after such an operation a sound of 24 to 26 F. will generally be found large enough to pass, even though the stricture have been divided up to 30 or 32 F.; for our object now is simply to separate the cut surfaces or torn tissues, and not to stretch or irritate them. In every case where the meatus has been enlarged, it should be restored again to as near its normal size as is possible within a reasonable period of time, unless there be some well-defined reason

why it should remain enlarged. It is an easy matter to again divide it if there should arise any occasion for doing so.

As to enlarging the meatus when but seemingly small in cases of obstinate clap, I can only say that while I have several times done this with great apparent benefit to the patient, in so far as speedily stopping the discharge and relieving the other symptoms, yet, on the other hand, I have seen dozens of cases, where the orifice was equally contracted congenitally, get perfectly well during an ordinary course of treatment, without any complications or sequelæ. Most certainly, in these cases, if the meatus have been cut, it should be afterward restored to the normal.

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FERMENTATION AS A PRACTICAL QUALITATIVE AND QUANTITATIVE TEST FOR SUGAR IN THE URINE.

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In an article, "Die Gaehrungsprobe zum qualitativen Nachweis von Zucker im Harn," which appeared in Virchow's *Archiv* (Bd. 102, 1885), I showed that the fermentation test enables us to recognize one-tenth per cent. of sugar in the urine; and further that, by first boiling the urine, even one-twentieth per cent. might be recognized. Now, inasmuch as fermentation is not only the most exact, but also the *only* test for sugar in the urine, the desire of bringing it more into practical use seems to be justifiable. The object of this paper will be to simplify, as much as possible, the method of making the test, and to increase the value of it by enabling us to ascertain at the same time the approximate quantity of sugar.

Before proceeding with the proposed theme, I will give a literal translation of the method of carrying out the fermentation test, as it appeared in my original article:[1]

"The test apparatus for this purpose is a fermentation-tube, and the most convenient form is that which is described by Salkowski and Leube.[2] It is made of glass, and consists essentially of four parts: (*a*) a spherical reservoir, open at both ends; (*b*) a cylindrical tube, closed at its upper end; (*c*) a somewhat narrower tube, bent so as to connect (*a*) and (*b*); (*d*) a stand to support the other parts. A small piece (one gramme) of fresh commercial compressed yeast is thoroughly shaken in a test-tube with about ten cubic centimetres of the fluid to be examined, and the spherical reservoir is filled with the resulting mixture. By inclining the apparatus, the mixture easily finds its way through the connecting-tube into the cylinder, completely driving out and replacing the contained air. Owing to the atmospheric pressure exerted on the reservoir end of the connecting-tube, the fluid does not flow back, but remains in the cylinder and tube. A little mercury is now poured into the reservoir; it sinks into the connecting-tube, forcing the fluid which was in the latter back into the reservoir. The cylinder is now filled with the fluid to be tested, and is shut off from the air by means of the mercury. It is evident that if alcohol fermentation sets in, carbonic acid gas will be evolved, and, displacing the fluid in the upper part of the cylinder, will force it back into the reservoir. The apparatus is left undisturbed at a temperature of about 30 to 33° C. (86 to 92° F.) for twenty to twenty-four hours. The changed level of the fluid in the cylinder shows that the reaction has taken place. The upper part of the cylinder is filled with carbonic acid gas. To carry out the test as suggested by Salkowski-Leube, three of these fermentation-tubes are necessary. Of these, A[3] is filled with the mixture of yeast and normal urine, free from sugar; B with the mixture of yeast and the suspected fluid, and C with a mixture of yeast and a urine to which sugar has been added artificially. (C is used simply to test the efficacy of the yeast.) Now, should the fluid have been forced out of the upper part of the cylindrical tube B, and its place taken by gas while in A, there is only a small bubble at the summit of the tube; then B contains sugar. If this is not the case, *i.e.*, if B contains merely a gas bubble similar to the one in A, while C, on the other hand, is partly filled with gas, then, obviously, B contains no sugar.

Being familiar with this method of carrying out the fermentation test, let us examine the first point of our theme, which has for its object the simplification of the method. In the above description it was said that, after having filled the fermentation-tube with urine and yeast, mercury must be added—in this way the cylindrical part of the tube is separated from the reservoir and the air. Moreover, the test is made at a temperature of 30 to 33° C., because this degree of heat affords the best conditions for fermentation. The necessity of a defined temperature and the addition of mercury are two conditions which, though they may be easily carried out in a laboratory, cause, nevertheless, some difficulties to a practical physician. Accordingly I considered the following two questions: 1. Is the defined temperature (30 to 33° C.), which is the most applicable for the fermentation process, absolutely necessary, *i.e.*, would not the ordinary temperature of the room give us a result sufficiently accurate? 2. Is a separation of the urine from the air absolutely necessary, and if so, can we not separate them by something more convenient than mercury?

In order to ascertain whether the ordinary temperature of the room would be suitable for the test, I made the following two experiments:

Fermentation test at the ordinary temperature of the room.—1. April 23, 1886: A, urine, acid, 1.034, sugar; B, urine, acid, 1.020, sugar; C, urine, acid, 1.022, no sugar. After two hours: A, the cylindrical part of the tube empty; B, nine-tenths of the cylinder empty; C, a very small bubble at the summit of the tube. April 24, 1886: A, no fluid in the cylinder; B, fluid to the depth of about two lines in the cylinder; C, three small bubbles on the top of the tube.

2. May 8, 1886: A, urine, acid, 1.022, sugar; B, urine, acid, 1.024, sugar; C, urine, acid, 1.034, sugar; D, urine, acid, 1.010, no sugar; E, urine, acid, 1.020, no sugar; F, urine, acid, 1.024, no sugar. After one hour the sugar reaction in A, B, and C, is very apparent. May 9, 1886: A, seven-eighths of the cylinder empty; B, three-eighths of the cylinder empty; C, eight-ninths of the cylinder empty; D, E, and F, a small bubble on the top of the cylinder.

Both experiments clearly show that the alcoholic fermentation takes place even at the ordinary temperature of the room, and thus demonstrates, by the large amount of gas, the sugar reaction. Further, we see here also in the urines not containing sugar a small bubble at the summit of the tube, but this bubble is smaller than that produced at 92° F.

In a word the fermentation test can be used in the ordinary temperature of the room.[1]

To determine the second question, whether a separation of the test-fluid by mercury or another substance (as oil) is absolutely necessary or not, the following experiment was made:

May 9, 1886.—A, diabetic urine, acid, 1.034, plus mercury; B, diabetic urine, acid, 1.034, plus oil; C, diabetic, urine, acid, 1.034, without mercury and without oil; D, normal urine, acid, 1.018, plus mercury; E, normal urine-acid, 1.018, plus oil; F, normal urine, acid, 1.018, without mercury and without oil. After one hour: A, B, and C, plain sugar reaction. May 10, 1886.—A, B, and C,

[1] Virch. Arch., Bd. 102, p. 268–270.

[2] Salkowski and Leube: Die Lehre vom Harn, p. 223.

[3] The letters A, B, C, etc., signify the fermentation-tubes filled with the different fluids to be examined.

[1] I have made the fermentation test during summer and winter in my room: the temperature varied from 65 to 85° F.

the whole cylinder empty; D, E, and F, a bubble on the top of the cylinder.

Thus it clearly appears that the addition of mercury or oil has no influence on the reaction.

The above-mentioned experiments showed that the fermentation test could be used at the ordinary temperature of the room and without any addition of mercury or oil, but still it was a question whether the minuteness of the reaction had not been lessened in a high degree by this simplification.

Starting from this point of view, I took specimens of the urine of twelve healthy people and made with them all the fermentation test; to one of these specimens I added a little of a grape-sugar solution, so that the urine contained one-tenth per cent. of sugar; then this urine was also examined by the fermentation test:

June 4, 1886.—A, urine, acid, 1.020, no sugar; B, urine, acid, 1.016, no sugar; C, urine, acid, 1.024, no sugar; D, urine, acid, 1.022, no sugar; E, urine, acid, 1.020, no sugar; F, urine, acid, 1.024, no sugar; G, urine, acid, 1.022, no sugar; H, urine, acid, 1.026, no sugar; I, urine, acid, 1.026, no sugar; K, urine, acid, 1.026, no sugar; L, urine, acid, 1.025, no sugar; M, urine, acid, 1.018, no sugar; N = urine I, 10 cc. mingled with 0.2 cc. of a five per cent. grape-sugar solution, therefore the urine N had one-tenth per cent. of sugar (here the sugar could not be detected by Fehling's test). June 5, 1886.—A, B, C, D, E, H, I, L, and M, a small bubble (o o); F, = o; G and K, = o; N, = one-tenth cc., empty.

Thus we see by this experiment that the amount of gas at N (*i.e.*, in urine containing one-tenth per cent. of sugar) was much larger than in the other twelve normal specimens, and that it was in this way possible to recognize with accuracy the presence of sugar.

I intentionally took this large number of specimens of normal urine, because the size of the gas-bubble in normal urine varies in a certain degree,[1] and I thus learned that the quantity of gas produced in the cylinder by urine containing one-tenth per cent. of sugar is much larger than the largest gas-bubble in urine not containing sugar. Therefore it is evident that the delicacy of the fermentation test is not much lessened by the simplification; for even in a temperature of 92° F., and with mercury we are able to discover the presence of only one-tenth per cent. of sugar in a urine that has not been boiled.

As to the time elapsing before the beginning of fermentation, I could recognize the arising of the first gas-bubbles after fifteen to twenty-five minutes. Thus urine containing not too small an amount of sugar will show the reaction even at that early time.

As regards the number of the fermentation-tubes necessary for a test, it is sufficient to take two (instead of the three above mentioned): one (A) with normal urine, the other (B) with the suspected urine. Whether the yeast is good or not we can see by the developed bubble in A; for if the yeast be bad no bubble will be in A; and should the yeast contain sugar, then we should see in A a large displacement by gas.

All experiments I shall quote hereafter have been made in the ordinary temperature of the room and without the addition of mercury. I mention here this fact in order to avoid repetitions.

I shall now take up the second part of my theme, namely, how to ascertain the quantity of sugar by my fermentation test.

Two methods of ascertaining the quantity of sugar by fermentation have been used. One, called "chemical," consists in weighing a definite quantity of urine before and after fermentation; the difference of weight caused by the escaped carbonic acid gas gives the quantity of the changed sugar. The other, called "clinical," suggested by Roberts, consists in the difference of the specific gravity of the urine before and after the fermentation process.

In the following I shall try to make use of the carbonic acid gas space developed in the cylinder of the fermentation-tube to ascertain the proximate quantity of sugar in the urine, a method which has hitherto been used to detect merely the presence of sugar. Supposing I succeed in this point, then the fermentation test, as I make it, would gain much in value; for it would not only show the presence or absence of sugar in the urine, but it would also give an idea of the quantity of sugar present.

If the fermentation-tube were constructed in such a way that the whole quantity of carbonic acid gas, developed by the alcoholic fermentation of the urine containing sugar, would gather in the cylinder, then it would be easy to conclude from the development of the gas volume at a given temperature and degree of barometric pressure the exact quantity of sugar. But this is not the case, for as soon as some carbonic acid begins to gather on the top of the cylinder, a correspondiug quantity of fluid is pressed from the cylinder into the reservoir. The carbonic acid developed in the reservoir escapes from the surface of the fluid into the air. Thus the gas volume of the cylinder does not represent the whole quantity of gas generated, for it lacks the carbonic acid which is developed in the fluid driven into the reservoir. Although the gas volume of the fermentation-tube does not correspond to the whole quantity of evolved carbonic acid, it is nevertheless always larger or smaller, according to the greater or smaller quantity of sugar in the fluid.

It is probable that a fluid containing a certain quantity of sugar would evolve in the fermentation-tubes—as they are all of the same size—equal volumes of carbonic acid gas. If this be the case, then we could determine by experiment the gas volumes of fluids containing certain percentages of sugar, and from this would be able to conclude, from a certain developed gas volume in the cylinder, the quantity of sugar.

In order to be able to state easily the quantity of the gas volume in the tubes, I graduated the cylindrical part (containing six cubic centimetres) in cubic centimetres and fifths of a cubic centimetre. In this way the quantity of the gas volume can be read from the cylinder. The idea that one and the same sugar solution must reproduce in the tubes equal gas volumes has been verified by experiments. I found only small variations of two-fifths to three-fifths of a cubic centimetre, and they depend probably upon the differences in temperature and barometric pressure. In order to make the test not too complicated, I intentionally did not take the temperature nor the barometric pressure into consideration.

The following tables show the quantity of developed gas volumes in specimens of urine containing definite percentages of sugar. To determine these quantities several samples of normal urine were mixed with grape-sugar solutions, and the following experiments were then made:

1. May 29, 1886: A, normal urine, acid, 1.021; B, normal urine, acid, plus one-half per cent. of sugar; C, normal urine, acid, plus one-fourth per cent. of sugar; D, normal urine, acid, plus one-fourth per cent. of sugar. May 30th, 1886: A, a small bubble on the top of the cylinder; B, = $2\frac{2}{5}$ cc. gas; C, = $\frac{2}{5}$ cc. gas; D, = $\frac{3}{5}$ cc. gas.

2. May 31, 1886: A, normal urine, acid, 1.020; B, normal urine, acid, plus one per cent. of sugar; C, normal urine, acid, plus one-half per cent. of sugar; D, normal urine, acid, plus one-half per cent. of sugar; E, normal urine, acid, plus one-fourth per cent. of sugar. June 1, 1886: A, a small bubble on the top of the cylinder; B, = $5\frac{2}{5}$ cc. gas; C, = $2\frac{2}{5}$ cc. gas; D, = 2 cc. gas; E, = $\frac{2}{5}$ cc. gas; F, = $\frac{4}{5}$ cc. gas.

3. June 1, 1886: A, normal urine, acid, 1.022; B, normal urine, acid, plus one per cent. of sugar; C, normal urine, acid, plus three-fourths per cent. of sugar;

[1] These variations usually depend upon the degree of concentration of the urine by salts, as the bubble becomes larger in more concentrated urine.

D, normal urine, acid, plus one-half per cent. of sugar. June 2, 1886: A, a small bubble on the top of the cylinder; B, = 5⅘ cc. gas; C, = 3⅘ cc. gas; D, 2⅘ cc. gas.

4. June 2, 1886: A, normal urine, acid, 1.006; B, normal urine, acid, plus one per cent. of sugar; C, normal urine, acid, plus one-half per cent. of sugar; D, normal urine, acid, plus one-fourth per cent. of sugar. June 3, 1886: A, a small bubble on the top of the cylinder; B, =5⅘ cc. gas; C, = 2⅘ cc. gas; D, = ⅘ cc. gas.

5. June 24, 1886: A, normal urine, acid, 1.024; B, normal urine, acid, plus one per cent. of sugar; C, normal urine, acid, plus three-fourths per cent. of sugar; D, normal urine, acid, plus one-half per cent. of sugar; E, normal urine, acid, plus one-fourth per cent. of sugar; F, normal urine, acid, plus one-eighth per cent. of sugar. June 25, 1886: A, a small bubble = 0; B, = 5 cc. gas; C, = 4 cc. gas; D, = 2½ cc. gas; E, = ⅖ cc. gas; F, = 1/10 cc. gas.

6. October 21, 1886: A, normal urine, acid, 1.018; B, normal urine, acid, plus one-half per cent. of sugar; C, normal urine, acid, plus three-fourths per cent. of sugar. October 22, 1886: A, a small bubble on the top; B, = 2½ cc. gas; C, = 3⅗ cc. gas.

7. October 23, 1886: A, normal urine, acid, 1.020; B, normal urine, acid, plus one-half per cent. of sugar; C, normal urine, acid, plus three-fourths per cent. of sugar; D, normal urine, acid, plus one per cent. of sugar. October 24, 1886: A, a small bubble on the top of the cylinder; B, = 2½ cc. gas; C, = 3⅗ cc. gas; D, = 4⅖ cc. gas.

8. October 26, 1886: A, normal urine, acid, 1.020; B, normal urine, acid, plus one-fourth per cent. of sugar; C, normal urine, acid, plus one-half per cent. of sugar; D, normal urine, acid, plus three-fourths per cent. of sugar. October 27, 1886: A, a small bubble on the top; B, = 3/10 cc. gas; C, = 1 9/10 cc. gas; D, = 3⅘ cc. gas.

9. November 1, 1886: A, normal urine, acid, 1.022; B, normal urine, acid, plus one-fourth per cent. of sugar; C, normal urine, acid, plus one-half per cent. of sugar; D, normal urine, acid, plus three-fourths per cent. of sugar; E, normal urine, acid, plus three-fourths per cent. of sugar; F, normal urine, acid, plus one per cent. of sugar. November 2, 1886: A, a bubble on the top = 0; B, = ½ cc. gas; C, = 1⅗ cc. gas; D, = 3⅘ cc. gas; E, = 3⅗ cc. gas; F, = 5 cc. gas.

10. November 2, 1886: A, normal urine, acid, 1.018; B, normal urine, acid, plus one-fourth per cent. of sugar; C, normal urine, acid, plus one-half per cent. of sugar; D, normal urine, acid, plus one-half per cent. of sugar; E, normal urine, acid, plus three-fourths per cent. of sugar; F, normal urine, acid, plus one per cent. of sugar. November 3, 1886: A, a small bubble on the top; B, = ½ cc. gas; C, = 2½ cc. gas; D, = 2 cc. gas; E, = 3⅗ cc. gas; F, = 4⅗ cc. gas.

If we take the numbers found in every experiment, then we have:

For one per cent. of sugar the gas volume equals 5⅖, 5⅘, 5⅗, 5, 4⅘, 5, 4⅗ cc.

For three-fourths per cent. of sugar the gas volume equals 3⅖, 4, 3⅗, 3⅘, 3⅖, 3⅗, 3⅗, 3⅗ cc.

For one-half per cent. of sugar the gas volume equals 2⅖, 2⅘, 2, 2⅘, 2½, 2⅕, 2⅕, 1 9/10, 1⅗, 2⅕, 2 cc.

For one-fourth per cent. of sugar the gas volume equals ⅖, ⅗, ⅖, ⅘, ⅖, ⅖, 3/10, ⅕, ⅕ cc.

For one-eighth per cent. of sugar the gas volume equals 1/10 cc.

By this table it becomes evident that the numbers for the quantity of the gas volume in different samples of urine containing the same percentages of sugar are always approximately equal, and differ at the most by three-fifths cubic centimetres.

The average numbers quoted in the table are: One per cent. of sugar equals 5 cc. gas; three-fourths per cent. of sugar equals 3⅘ cc. gas; one-half per cent. of sugar equals 2 cc. gas; one-fourth per cent. of sugar equals ⅘ cc. gas; one-eighth per cent. of sugar equals 1/10 cc. gas.

I intentionally avoided ascertaining the quantity of the gas volumes in smaller proportions than in quarters (one, three-fourths, one-half, one fourth), in order that the differences of the gas volumes might be as great as possible, and that they could be easily distinguished from each other.

With one per cent. of sugar the gas volume is 5 cc.; thus the gas fills nearly the whole cylindrical part of the fermentation-tube. If the urine contain a little more than one per cent. of sugar, then the whole cylinder will be occupied by gas; the urine, pressed into the reservoir, will deliver all its carbonic acid into the air, and will give us in this way no means of ascertaining how much more than one per cent. of sugar it has contained. Therefore, if a sample of urine is given to us for examination, and we make the fermentation test in the *graduated* fermentation-tube, we shall be able to say on the following day, *i.e.*, after the fermentation has taken place, whether the urine contains sugar or not, and if sugar, then how much of it, whether one-eighth, one-fourth, one-half, three-fourths, one per cent., or more than one per cent.; but we shall not be able to say by the first test alone how much more than one per cent. of sugar the urine may contain.

In order to ascertain by this fermentation test approximately the quantity of sugar in urine containing more than one per cent. of sugar, it is necessary to dilute it with water.

Diabetic urine of a straw color, and with a specific gravity of 1.018 to 1.022 was usually diluted by me two times; of 1.022 to 1.028, five times; 1.028 to 1.038, ten times. The test is to be made with the diluted urine. After the reaction has been completed the gas volume of the fermentation-tube is read, and thus the quantity of sugar ascertained; in this way the original (not diluted) urine will contain, in proportion to the amount of dilution, two, five, or ten times more sugar than the diluted one.

As an example for the quantitative fermentation test the following experiment may be mentioned:

June 28, 1886: A, diabetic urine, 1.040, diluted ten times; B, diabetic urine, 1.038, diluted ten times; C, diabetic urine, 1.020, diluted two times; D, normal urine, 1.010. June 29, 1886: A, = 3½ cc.; B, = 2½ cc.; C, = 5 cc. gas; D, a small bubble on the top of the cylinder. Thus A has 3½ cc. gas = ¾ per cent. of sugar, the urine has been diluted ten times, therefore the original urine contains 7½ per cent. of sugar: B, = 2½ cc. = ½ per cent. × 10 = 5 per cent. of sugar; C, = 5 cc. = 1 per cent. × 2 = 2 per cent. of sugar; D, no sugar.

This method of ascertaining the quantity of sugar by fermentation I applied during several months in the examination of the urine of the diabetic patients of the German Hospital, and I was fully satisfied with the result. I also compared several times the results found by fermentation with the numbers given by the quantitative Fehling's solution test. As bearing on this point the following two experiments may be mentioned:

1. *Fermentation test.*—June 10, 1886: A, diabetic urine, 1.040, diluted ten times; B, diabetic urine, 1.026, diluted five times; C, diabetic urine, 1.020, diluted five times; D, normal urine. June 11, 1886: A, = 4½ cc. gas = over ¾ per cent. × 10 = more than 7½ per cent. of sugar; B, = 2 cc. gas = ½ per cent. × 5 = 2½ per cent. of sugar; C, = 1 cc. gas = over ¼ per cent. × 5 = more than 1¼ per cent. of sugar; D, no sugar.

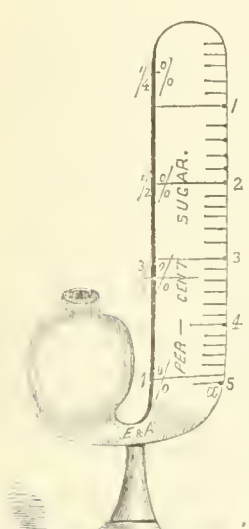
Fehling's test.—A, = 7½ per cent.; B, = 2 per cent.; C, = 2 per cent. of sugar; D, no sugar.

2. *Fermentation test.*—June 14, 1886: A, diabetic urine, 1.032, diluted ten times; B, diabetic urine, 1.038, diluted ten times; C, diabetic urine, 1.024, diluted five times; D, normal urine. June 15, 1886: A, = 2⅖ cc. gas = ½ per cent. × 10 = 5 per cent. of sugar; B, = 3⅗

cc. gas = $\frac{3}{4}$ per cent. × 10 = $7\frac{1}{2}$ per cent. of sugar; C, = $\frac{3}{5}$ cc. gas = $\frac{1}{4}$ per cent. × 5 = $1\frac{1}{4}$ per cent. of sugar; D, no sugar.

Fehling's test.—A, = 5 per cent.; B, = $6\frac{1}{2}$ per cent.; C, = $1\frac{3}{4}$ per cent. of sugar; D, no sugar.

If we now compare the results of the quantitative test by Fehling's solution with the results found by the fermentation test, we find that they are not always absolutely equal, although the difference is but slight. In this way it appears that the method of ascertaining the quantity of sugar by the gas volume in the fermentation tube gives true and approximately correct results.



The advantages of this mode of ascertaining the quantity of sugar consist in its being neither troublesome nor complicated, and it can also be employed by every physician. Urine containing albumen can be *directly* examined for sugar by the fermentation test;[1] it is not necessary to separate the albumen before applying the test, as in other methods. That is another point in favor of the fermentation test.

In order to make the quantitative determination of sugar yet easier, we have written on the cylinder figures showing the percentages of sugar. A fermentation-tube bearing this scale shows directly, by the level of the urine, the per cent. of sugar, and can be therefore called "Fermentation Saccharometer."[2]

From a study of the experiments detailed in this article we may formulate the following conclusions:

First.—The fermentation test can be made in the ordinary temperature of the room.

Second.—The addition of mercury is not necessary.

Third.—The volume of developed gas in the cylinder gives us an idea of the approximate quantity of the sugar present in the urine.

304 West Fifty-fifth Street.

Death of Dr. Margary.—On November 28th Dr. Fedele Margary died in Turin, after a long and painful illness, which he bore with unusual patience and courage, at the age of forty-nine years. He was one of the editors of the *Archivio di Ortopedia*, and was among the best known and most skilful of the orthopedic surgeons of Italy. He was one of the first Italian surgeons to practise osteotomy, and was a most ardent advocate of that method for the correction of deformities of the extremities. The last number of the journal above mentioned contained a most valuable statistical article by Dr. Margary on "Osteotomy, Osteoclasis, and Redressement Forcé." His loss will be felt, not only by his fellow-countrymen, but by general and orthopedic surgeons throughout the world.

Water and Obesity.—M. Callamand, in a critical review upon the rôle of water in nutrition, in the *Archives Générales de Médecine*, comes to the conclusion that water causes neither an increase of fat nor emaciation, and that it neither hastens nor retards nutritive changes. And he says that, in the treatment of obesity, all rules concerning the quantity of fluids to be taken are useless.

[1] I made the fermentation test several times in diabetic albuminuria, having reparated the albumen first by boiling and filtering, and also without any prepasation. In both cases the fermentation took place. The gas volumes were equal.

[2] Messrs. Eimer & Amend, 205–211 Third Avenue, New York, are the makers of this instrument, and the apparatus can be had there in correct form for seventy-five cents apiece. For the convenience of physicians a set, consisting of two fermentation saccharometers with a graduated test-tube, has been put up in pasteboard case, with directions, etc., for $1 50, complete.

Clinical Department.

NOTES OF SEVEN HUNDRED AND SIXTY-FIVE CASES OF LABOR.

Dr. L. N. Sharp, of Minneapolis, Minn., sends us the following interesting observations on 765 consecutive cases of childbirth occurring in his practice, as to the time of day at which labor terminated: Seventy of the women gave birth to children between the hours of midnight and 2 A.M.; 70 between 2 and 4 A.M.; 59 between 4 and 6 A.M.; 73 between 6 and 8 A.M.; 66 between 8 and 10 A.M.; 71 between 10 and 12 A.M.; 52 between noon and 2 P.M.; 47 between 2 and 4 P.M.; 63 between 4 and 6 P.M.; 61 between 6 and 8 P.M.; 71 between 8 and 10 P.M.; 61 between 10 and 12 P.M. Four hundred and nine of the cases occurred between midnight and noon, and 356 between noon and midnight.

These mothers gave birth to 778 children; 410 were males, and 368 females.

The deaths among the mothers were 9. Of these 6 died from puerperal peritonitis, 2 of convulsions, and 1 with placenta prævia. The deaths of peritonitis were not related to each other in the way of contagium. In the regular numbering of the cases they came as 39, 670, 703, 708, 726, 746.

In the cases of the deaths from puerperal convulsions, the first was in a primipara. The arm presented, and, after the delivery the convulsions continued up to the time of death, six hours later. In the second case it was the sixth child. The convulsions came on when the pains became severe, while the os was but little dilated. The placenta was attached, and had to be torn off. The convulsions continued, and the woman died two hours and fifteen minutes after the delivery of the child.

There was only one case of placenta prævia, and the mother died undelivered. She was not my patient, but I was called when her labor came on, and found her almost bloodless. The os was but little dilated, and I could only insert the end of the finger through it. The woman died in an hour after my arrival.

Among the number were 13 cases of twins. In 7 both children were males, in 5 both were females, and in 1 case a male and female. All of these children lived but three. In one case the child born first died before the other was born, and the second died before I left the house. In another case one child died the following day. Forceps were not used in any of these twin cases.

There were in all 22 still-born children. The cause of death in 9 of the cases was from the ill health of the mother; in some of these cases the child was dead before labor came on, and in some others the child had not vitality enough to survive the ordeal of birth. In one instance the cord came down and remained for six hours before the birth of the child, and the death was from pressure upon the cord. In 5 cases the head presented, but the children could not be resuscitated. In 5 cases the feet or breech presented; in 1 case an arm came down, and another was one of shoulder presentation.

In 4 cases only was turning resorted to; 1 case was an arm and another a shoulder presentation. In another the mother had convulsions, while in still another the head did not engage the superior strait in a proper manner.

The placenta was attached in 10 cases, and had to be torn loose. In all these cases the mother survived the labor, except in 1 case, when she died of puerperal convulsions.

The forceps were used in 26 cases; 2 of these died afterward of puerperal peritonitis; 24 mothers recovered.

Of the 778 children there were 747 head, 14 breech, 12 foot, 2 arm, 1 shoulder, and 2 face presentations.

There were 19 cases of post-partum hemorrhage, with 1 death. In these I have only counted those severe cases in which the mother became pulseless from loss of

blood, where the uterus did not contract, or concealed hemorrhage endangered the life.

Nine mothers had puerperal convulsions, and two of these died. In one case the convulsions preceded labor, and the mother died in an apoplectic condition. In another the eclampsia came on while labor was progressing and continued after the child was born, and the mother died suddenly two hours later. In the other cases the convulsions came on during labor, and in all, save one, continued for a few hours afterward, when the mother regained consciousness and all went well. In one case, with the last expulsive pain came a convulsion, the child was born, and no more trouble ensued.

There were two cases of phlegmasia alba dolens. One in the case of an arm presentation, where the child was turned, and the other followed excessive post-partum hemorrhage. Both cases recovered.

Inversion of the uterus occurred but once. The mother had a moderate labor with her first child. In a few minutes I made gentle traction on the cord, and the inverted uterus came out through the vulva. The placenta was firmly attached to the fundus. I peeled it off, and with my fingers against the fundus, carrying the hand in the vagina, I had the satisfaction of finding the uterus properly returned. The shock to the mother was but slight, and she recovered without an untoward symptom.

Craniotomy was performed twice. In both cases the child's head was large, and repeated efforts with forceps, in the hands of consultant as well as my own, failed to bring the child. One case was complicated with puerperal convulsions, and turning could not be accomplished. The mother died a few hours after the extraction of the child. In the other case the mother died of peritonitis, which rapidly followed the extraction of the infant.

In one case, in which both mother and child did well, no blood was lost during labor, and no lochial discharge followed.

In three cases the funis came down ahead of the child, and only one child of the three was saved. In one case the funis had been down six hours before I saw the case; the child was dead.

The cord was so short in one case that it broke during the birth of the child.

One seven-months child was born exactly nine months after a former labor. The child lived.

There was one case of hernia cerebri; the greater part of the brain-substance came through the posterior fontanelle into the sac. The child breathed for a few minutes after birth and died.

Two cases of hydrocephalus were met with. In both the head was punctured and the water let off, when the labor proceeded to termination. The mothers both made good recoveries.

Three cases presented deficient development: One a hare-lip; one in which the two parietal and the occipital bones were wanting; in the other the bones were absent from the arch, over the eyes, of the frontal bone to the commencement of the spinal cord. A part of the temporal bones and the bones at the base of the brain were present, as were also the bones of the face.

Of the 765 mothers, the fact may be mentioned that 19 were unmarried; they all made good recoveries.

In all these cases I do not know of a ruptured peritoneum or a ruptured os; yet the os might have been ruptured and escaped observation, but I never found it in any of the cases which came to me for gynecological treatment. I have never, in my obstetric cases, met with vesico-vaginal or recto-vaginal fistula. I always gave my cases all the time which appeared to me consistent with the physiological act, and only interfered when nature appeared to act tardily, or was insufficient to effect safe delivery.

In some cases I attended the same woman in as many as seven successive confinements, and found the time of day in the labor was different in every case; so also the character of the labor. Sometimes it would be speedily over in a woman who at another time would have a protracted labor. The presentation at one time would be no guidance for another subsequent presentation in the same woman. The time of rupture of the membranes was not the same in different confinements; neither, if the woman had a bad getting up at one time, could an inference be drawn that it would be the same at another time, if the health was generally good. Each individual case appeared to have its own characteristics, even in the same woman. And yet there is a sense in which each woman has her own type of delivery.

INFLUENCE OF POSITION ON THE PROGRESS OF LABOR.

Dr. S. Haynes, of Saranac, N. Y., writes: "On May 23, 1867, I was in attendance on Mrs. —— in her first labor. It was a tedious one, and had continued for many hours without making satisfactory progress. The thought occurred to me that perhaps the patient may have occupied a particular position for some time during her pregnancy; if so, that by her resuming that position now, the uterus, with the contained child, would assume its normal position. On making the inquiry I learned that for a long time she could rest or sleep only on her right side. The patient now took that position, when, happily, her labor took on a favorable turn and terminated in due time. The pronounced good results in this case following the assumption of that position which the patient had been compelled to occupy for a length of time during her pregnancy—when in the lying position—decided the writer to continue his observations on this point, in the future, and this he has now done for almost twenty years. According to this experience it has been ascertained that in many difficult or tardy labors the progress of the case is profoundly influenced by placing the woman in that position which she has been compelled to take for her own comfort during her term of pregnancy. But further, the writer has observed that in making an examination in the first stage of labor, in case the patient has been compelled to lie on the one side for a length of time before confinement, the os uteri may be reached much more readily on placing the patient in the position which she has previously occupied from choice or necessity."

TWO CASES OF POISONING FROM ANTIPYRINE AND NUX VOMICA.

Dr. R. B. Henderson, of Wilton, N. C., reports the following cases:

Case I.—A girl ten years of age was first seen on October 7th, and was found to be suffering from remittent malarial fever, having a temperature of 104° F. About three grains of antipyrine were given, and sulphate of quinine was ordered for the next day. On the 13th tincture of nux vomica was ordered to be given in three-drop doses three times a day. She was seen again two days later and was found to be doing well, although she had been restless at night. The temperature was 102° F. Thirty grains of antipyrine were ordered to be given in two doses at two hours' interval. A few hours later the uncle of the patient called and asked what had been left for the child to take. He was told what the drug was, and said: "Well, sir, it killed her in fifteen minutes." Dr. Henderson went with him and found his patient really dead. He was informed that the medicine had caused an intense burning in the throat and stomach, and that the patient had vomited a watery fluid, then fainted, and was dead. There were no convulsions nor anything to indicate that nux vomica had caused the death. The family said that the child had at times complained of palpitation of the heart, and they all thought she died from heart disease. This was also the conclusion of the writer, but it was modified considerably by the occurrence of a second similar case.

Case II.—A young lady living in the same neighborhood, and suffering from the same type of fever, was treated at first with quinine in doses of thirty grains a day. As this seemed to have no appreciable effect upon the temperature the writer gave her four grains of antipyrine and remained with her half an hour or more to see if any unfavorable symptoms developed; as none did he left six grains to be given in three doses at hourly intervals. No unpleasant effects followed. The next afternoon the fever was up again. Not having any antipyrine, Dr. Henderson increased the quinine ten grains for that day and left tincture of nux vomica, to be taken in five-drop doses three times a day. A few days later he called and found the temperature 104⅘° F. in spite of the fifty grains of quinine, so he concluded to try antipyrine, administered five grains (the patient had taken five drops of tincture of nux vomica an hour before) and awaited results. In five minutes she complained of a burning in her throat and stomach and then nausea, and vomited a watery fluid. After the vomiting she felt no better, but was sicker, and felt weak, and her pulse was feeble. The writer gave her ipecac and produced emesis, and then gave her whiskey and water freely, applied cold cloths to the back of her neck, gave half a teaspoonful of tincture of digitalis, and then more whiskey and water, keeping the patient in the sitting posture for a while. She asked to be laid down, and in about a minute the muscles of her neck began to stiffen, the fingers were drawn, and respiration was nearly suspended. She was immediately raised to the former position and fifteen or twenty grains of chloral hydrate were given, and the respirations being intermittent, artificial respiration was made for five or ten minutes, and then thirty minims of whiskey and ten minims of tincture of digitalis were given hypodermically. Finally ten minims of aromatic spirit of ammonia were injected, and the patient had no further bad symptoms. She was kept under the influence of chloral for the following twenty-four hours.

The patient said that she was perfectly conscious during the first part of the attack, but could not speak, and that she lost consciousness when the chloral was given, and did not know anything for several hours. Dr. Henderson concludes: "I submit this report, though imperfect, in the hope that someone will tell me what was the active principle in the two drugs to produce the condition that followed their administration so near together. Each patient had taken antipyrine without nux vomica, and nux vomica for several days without the antipyrine, and no bad effects followed. When they were taken within an hour of each other, however, death followed in one case and nearly did so in the other. I will state that I had been in the habit of treating cases of this nature with quinine in the morning and antipyrine in the evening, when the temperature was high, and had never heard any complaint from it, though I had given it in twenty cases before the first accident, and was highly pleased with the results. Since the last case reported I have not used it. I would like very much to use it, but shall wait until I can get some information as to its physiological action."

FOREIGN BODY IN THE INTESTINE.

Dr. Clarence King, of Machias, N. Y., writes: "I have noticed several letters in The Record relating cases of foreign bodies being swallowed by children. While attending my last course of lectures I boarded in a family where there was a little girl about nine or ten months old, who swallowed its mother's breast-pin. The pin was of gold, an inch and a half or two inches in length, and had several sharp edges and corners on it. Besides this the clasp was uncaught, thus increasing the liability of the pin to become lodged in the intestine. The child obtained the pin from its mother's clothes unknown to her, and it was only when the pin was missed that the suspicion arose as to what had become of it. The child suffered no inconvenience, except a coughing and crying fit at the time it was supposed that she swallowed it. Her father, who was a physician, gave her a full dose of castor-oil, yet it was not until two days afterward that the pin was passed per rectum. Besides this case several others have come to my knowledge in which coins, buttons, and other playthings have been swallowed, and I have never yet heard of any ill effects following. I have therefore concluded that this is not a very rare accident or one of great clinical importance. This last statement I would modify according to the article swallowed. Expectancy, or the administration of a light cathartic, seems to be all the treatment necessary."

Progress of Medical Science.

Overfilling and Dilatation of the Colon.—At a recent meeting of the Chicago Medical Society Dr. J. S. Jewell read a paper on this subject. He said that for the last ten years this subject had attracted more or less attention. During the last eight or ten years he had accumulated a list of over five hundred carefully studied cases, in which the condition named existed, and concerning which he gave his observations. His mode of investigating the cases in which the overfilling existed has been as follows: The patient is stripped so that the abdomen is bare, the abdominal walls being relaxed. Then he takes a plate of soft rubber, at least two inches in length by an inch and a half in breadth, and one-fourth of an inch in thickness, and a heavy steel hammer, quite as heavy as the ordinary surgical bone-hammer. With this the abdomen is carefully percussed over the track of the colon from its origin, tracing it up under the liver, across and down to the sigmoid flexure. Thus percussing over the track of the colon and carefully locating every mass of fæces (even in persons with fleshy abdominal walls), he has been able to get at its course and contents. Out of these five hundred cases, perhaps one hundred have said that they were as "regular as clockwork" in having movements from the bowels. But upon examination, in most such cases the colon was found to have variable quantities of fæcal material lying in it. The part of the colon most subject to dilatation is the sigmoid flexure and the descending colon. At the flexure of the colon, deep in the left hypochondriac region, almost as frequent as in any other part of the course of the colon, he had found it dilated and filled with fæcal matter. The next most common situation is the transverse colon; last of all the cæcum. The common way is to find masses of fæces lying in lumps here and there, not filling the entire intestine. In most cases investigated, the colon was dilated, apparently, in some part or other, all the way from two to three times its proper calibre. This class of patients are all liable to become "bilious," and are habitually taking cathartic pills, mineral waters, etc. In every or nearly all instances, Dr. Jewell could trace their "biliousness" to gradual filling up of the colon, and the disturbance produced from this cause in the digestive apparatus higher up. The change in the secretions of the mouth, the bad breath, the unhealthy odor of the skin produced by absorption of fetid substances from the rotting masses in the intestine, together with the coloring matter in the same, gives the skin of the patient a peculiar dirty, sallow color. One of the first things to occur in addition to the dilatation and weakening of the muscular coat of the colon by accumulation of material in it is irritation of portions of the mucous membranes where the fæcal masses lie, producing local catarrhs. This occurs with a frequency and to an extent that no one would suspect, unless they set the patient or nurse to carefully watching the stools. The next important factor in these cases is irritation of

the peripheral ends of the sensory nerves of the intestinal mucous membrane, irritated by contact with the fæcal masses. The nerves that return from the colon probably enter the spinal cord, at a level not lower than that of the tenth or eleventh dorsal vertebræ. Above the level named they probably enter the cord at various points higher up in the lower two-thirds of the dorsal cord, not to mention direct medulla connections, etc. Along these nerves are propagated the irritative impressions from the colon into the spinal cord or medulla, and thereby "switch" connections, outgoing or reflex impulses, are sent to other portions of the body, producing thus various forms of disorder to be referred to later. He believes that he has not found one case in twenty of ordinary melancholia that has not had its origin partly, or in some cases apparently entirely, in overfilling of the colon. Headache, and a great many transient disorders referred to the head, more frequently owe their origin to this source than he had ever supposed. Next is the influence upon the circulation in general, especially upon the heart's action, lowering its tension, and thus giving a feeble pulse. Dilatation of the colon often causes a sluggish capillary circulation, and this accounts for the frequency with which patients complain of cold extremities. Dr. Jewell has found patients who could not remember having had naturally warm feet for years, when upon removal of the masses in the colon the feet would become warm. In insomnia he has found the condition of the colon described to be a frequent cause, the colon being the seat of the original disorder. There is lowering of the vascular tension nearly always in these cases; hence the feeble nutrition and feeble circulation in the brain, not to mention other parts. The next most important result of dilatation and overfilling of the colon is the fact that these masses of retained fæcal substance in various ways poison the individual, by absorption of septic material. He has had three cases of epilepsy that he traced exclusively, as far as could be told by the results of treatment afterward, to disease in the left extremity of the colon caused by fæcal accumulations, and when the disorder was removed by proper means he was able to relieve the epilepsy. For the removal of these masses, as a rule, he does not use purgatives, but injections are given after the following plan: A large bag fountain-syringe, holding half a gallon, is adjusted at a convenient height from the floor, the patient lying down in the knee-chest position. The fluid should flow with considerable force until it makes its way past the upper sphincter, which is at a lower part of the sigmoid flexure; pass one quart to one-half gallon of water, according to the size of the colon, so as to fill the entire organ to the cæcum. In some instances he has been able to introduce as much as a gallon of water into the colon, the patient feeling no serious inconvenience from it, and a half-gallon is a common amount to introduce. The patient is then directed to lie down on the left side, and by a proper massage over the ascending colon the liquid is moved with the contents of the bowel toward the rectum. This should be done once or twice in the twenty-four hours until the colon is clear, and by this means it should be kept so. After this has been accomplished give the patient something that will act as a stimulant to the nervo-muscular coat of the colon. A good prescription for this purpose, he has found, should contain in pill or capsule form extract of cascara, a little belladonna, strychnia, hydrastis canadensis, and aloes. By care the colon can be kept clear, and the disorders of the stomach usually disappear, the secretions of the mouth are improved, the skin assumes a healthier color and loses the distinctly fæcal odor that it frequently has.—*The Medical Age*, October 11, 1886.

Spontaneous Shedding of Nails in Hysteria.—Dr. T. Falcone, of Naples, records a case of hysteria, prolonged and aggravated, in the course of which there was spontaneous shedding of the finger- and toe-nails. The patient was fifty years of age, and since 1870 had, after a mental shock, been subject to hemicrania and other nerve symptoms, including paraplegia, hyperæsthesia, globus, etc. She recovered, but after remaining well for six years, the symptoms returned on the occasion of her first visit to the grave of her son, whose death had in the first instance been the exciting cause of her attacks. The affection of the nails was preceded by tingling in the fingers and toes, especially the thumbs and great toes, followed by suppuration in the bed of the nail. It was noted that on the right thumb the new nail was formed directly from the bed of the nail by proliferation of epithelium, which assumed a horny character; but on all the other affected fingers and toes the repair took place in the usual way, viz., by growth from the matrix. The condition altogether was regarded as a dystrophic one, due to disordered nerve function.—*The Lancet*, October 30, 1886.

The Internal Treatment of Gonorrhœa.—At a late meeting of the Berlin Medical Society, Dr. Posner stated that, although what had been learned about the gonococcus was extremely interesting, it had not given us much that was practical so far as treatment was concerned. Local anti-bacterian treatment had not yet been followed by brilliant results, and to-day we treat gonorrhœa with the old remedies, and combat it especially with the various forms of injections. These injections are not valuable in that they destroy the gonococci, but because they cure the inflammation of the mucous membrane. Internal medicines act beneficially by passing off in the urine and cleaning out the urethra. Dr. Posner speaks highly of sandal-wood oil, which has such a reputation in France. He has used it much because he has become convinced that injections, although they work very well in some stages of gonorrhœa, still are not well borne by many patients and may, indeed, act injuriously. From the speaker's observations he believes that many gonorrhœas which would get well of themselves under suitable régime are often kept up artificially by injections. He had used the sandal-wood oil in fresh cases, and could state from his own observations that, under all circumstances, it was better borne than the other balsams, and that it exerted a better influence on the disease. In those complications of gonorrhœa in which we have to cease injections on account of epididymitis, cystitis, prostatitis, etc., this drug is greatly to be recommended. Dr. Posner had repeatedly seen cases of acute catarrh of the bladder, with bloody or turbid urine, improve and the urine become clear after a few doses of the sandal-wood oil. In old cases of cystitis and prostatitis it was also beneficial and always acted favorably on the tenesmus, and cleared up the urine. In chronic gonorrhœa, less stress was laid upon its beneficial action. The purity of the preparation was of great importance. The most elegant form to use was the French preparation which went under the name of "santal midi," put up in capsules which were easily taken and well borne. The patient took daily from ten to twelve of the capsules of five drops each. If the oil did not agree with the patient, a little hydrochloric acid might be added to the doses, and, to improve its taste, a few drops of oil of peppermint. Altogether, according to the speaker's idea, sandal-wood oil was the most efficacious internal remedy at our disposal.—*Deutsche Medizinal Zeitung.*

Cataleptic Sleep.—A case is related in *El Siglo Médico* of a recruit sent to Havana from the North of Spain. After having been in Cuba some months he began to suffer from homesickness and finally fell into a cataleptic sleep in which he remained for fourteen months, neither speaking nor moving. He was fed every six or eight hours with milk. He was at last aroused by hearing the music of a dance peculiar to his native place, and made a perfect recovery.

THE MEDICAL RECORD:

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THE PRESENT CONDITION OF THE MEDICAL PROBLEM.

THE numerous comments made on our recently published prospectus of the "Little-toe Dispensary" show that its satire was appreciated. Its statements served as apt illustrations of the existing state of affairs. Despite all that has been said concerning the abuse of medical charities, the work of making medical paupers goes steadily on, and even seems to be putting forth some new agencies of evil. An occasional warning voice is raised, but seemingly without avail. In these first few weeks of the present year of grace it is well for us to take an inventory and see how the public and the profession stand on this question. Party platforms are revised by political managers to suit the needs of varying campaigns. Are our old arguments still valid and forceful, or do they need revision?

If anyone wishes to reform an abuse, he must know no such word as discouragement. He must rely for his inspiration on the truth of his cause. The honesty of his motives will be impugned. He will be accused of posing for the sake of notoriety. The subject of axe-grinding becomes a prominent topic in the conversation of his critics. But the work of reform goes steadily on, and, if truth is evolved, the battle is finally won.

For the past two or three years THE RECORD has freely criticised the improper management of some of the medical charities of New York. It has not hesitated to speak plainly. The basis of all facts and figures published has been the annual reports of the institutions in question. No statement has been made which these authorities would not verify. A free discussion has followed concerning the evils complained of, and the remedies needed. Our columns have contained all shades of opinion from the various parties to the controversy. One public meeting has been held. A committee was appointed, consisting of representatives of the various institutions, to see what could be done. This committee has not, to our knowledge, made any public report.

The whole question may be summed up in these few words. With only two or three exceptions, no pains are taken to select the worthy and reject the unworthy applicants for medical charity. Ask any physician in New York, and he will admit the existence of this evil. We are not combating a shadow.

And yet, in the face of all this, we find the dollar-a-month system still in vogue at one institution, and the managers of another erecting a dispensary in the middle of a section of wealthy residents, and in a district already fully equipped to care for all the sick poor within its borders. Almost a public protest has gone up against this insult (for such it is) to those agencies in our midst which are trying to reduce our cumbrous system of medical charity to a state of simplicity and greater efficiency.

On the other hand, we note with pleasure the steadfastness of those institutions where the seed of reform has been planted. Already it has sprung up and borne some fruit. The profession has become aroused, and this is the first great result. It lies in its power to bring the institutions that so grossly err to terms. In spite of one or two discouraging features, we regard the outlook as on the whole hopeful.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

WE have received the "preliminary announcement of readers and papers," and it foreshadows one of the most successful meetings in the history of the Society. The list of those who have promised to contribute to the proceedings is made up of the names of representative men in the medical profession of this State, and their scientific contributions cannot be outranked in any medical society in this country.

Inasmuch as the announcement does not appear like a programme, with the order in which the papers will be read, we assume that this arrangement will constitute a part of the labor of the Business Committee. On that assumption we offer a suggestion, which we believe will promote the best interests of the Society, and it is that the contributions of the delegates and the permanent members should receive the preference in the order of the exercises. We have been led to make this remark by the fact that, at the last annual meeting, there was an undercurrent, mild, perhaps, of disapproval of the order which permitted the reading of a contribution in the first morning session, by a gentleman who had not even been made an invited guest. The paper was an excellent contribution, but the regulations and precedents were so warped by the order that it did not look well, to say the least. The experienced Business Committee of this year should be able to arrange this matter so that the rights of the delegates and the permanent members will be adequately protected.

SO-CALLED PURE VEGETABLE REMEDIES.

THERE is a curious superstition in the lay mind that all vegetable remedies are comparatively harmless, while mineral substances are much more injurious to the human economy. This superstition or prejudice in favor of the vegetable kingdom is always skilfully appealed to by the quack, whether he be only an "Indian doctor" or represent the supreme development of charlatanism in the person of a "professor" who gives free lectures to the public on nervous debility, suborning the daily press for his purposes. The prejudice, perhaps, originated some fifty years ago, when the public and the profession began to realize that there was too much giving of antimony and mercury. It always received moral support from the old women who only knew how to brew

herbs and feared what they did not understand. Besides, vegetable medication belongs to the childhood of the human race. The use of mineral drugs is the result of the acquirement of scientific knowledge and the general advance of civilization. It is no wonder, therefore, that it has been regarded with suspicion by the ignorant. But the fact is the prejudice is entirely without foundation. At the present time a list of the poisons used as drugs will show a great preponderance of the vegetable kingdom. We have, for example, such universally consumed substances as alcohol, tea, coffee, and tobacco. These "purely vegetable substances" alone do a hundredfold more to poison and deteriorate the human system than does the whole mineral pharmacopœia. But besides these we have opium, Indian hemp, and the whole seductive list of "purely vegetable" narcotics. By far the most powerful poisons to the system are of purely vegetable origin. Such, for example, is curarin, which produces its effects in doses of $\frac{1}{100000}$ of a grain; and strophanthin, of which a solution containing one part to ten million of water will kill the exposed heart of the frog. The most subtle and evasive of poisons is the active principle of the "purely vegetable" digitalis purpurea, while strychnia has probably poisoned more animals and human beings than any drug but arsenic.

Take it as a rule, therefore, the most violent poisons and the substances that produce the most deleterious effects on the human system are from the vegetable kingdom. The mineral drugs which may cause harm are few in number, and, if we except arsenic, are not especially violent poisons. There is a considerable amount of poisoning from lead, but not through its medicinal use, and the same may be said at the present time of mercury.

In fine, it is the purely vegetable drugs which are the most dangerous, because it is these which stimulate the brain or benumb the senses, induce morbid habits, and eventually establish physical degeneration.

We wish that the public could be made to understand this when it is confronted with alluring notices of the perfect safety and harmlessness of "purely vegetable" drugs.

CONTRIBUTIONS TO LONDON HOSPITALS.

New York considers itself a rich city and generous in its gifts to charitable objects, but it must be confessed that we are poor and provincial compared with what private citizens of England—chiefly London—have done for medical charities. In the past year about twenty-five persons have given donations or left legacies, mostly to London hospitals, to the amount of over two million dollars. One lady alone leaves, in default of her daughter having issue, $450,000 to twenty-odd medical charities in London. A gentleman named Walpole leaves $925,000 to be distributed among a dozen hospitals. A number of others leave sums ranging from $15,000 to $60,000. Yet the London medical press is constantly complaining of the poverty of the hospitals, and extraordinary efforts have of late been made to increase the regular annual contributions, in which the two millions referred to is not included. Is it not quite possible that this hospital work is being overdone? It has a pauperizing effect to eventually persuade well-to-do people to get their medical services free of charge.

THE TREATMENT OF PHTHISIS BY LARGE DOSES OF TANNIN.

The French are most prolific in devising new methods of treating phthisis. No sooner is the medicated gaseous enemata process well established in the hospitals than Drs. Arthaud and Raymond announce something still better, or at least simpler. They began by experimenting on rabbits, in order to find some substance which would render them non-susceptible to inoculations of tuberculous matter. They found tannin to produce some very remarkable results. The Paris correspondent of the *British Medical Journal* writes: "Six rabbits were treated for a month with doses of tannin, varying from fifty centigrammes to one gramme; after two successive inoculations, one with lung-tissue from a patient who had died of acute tuberculosis, the other with miliary tubercle from a hospital patient—no trace of infection was observed, while three other rabbits, to which tannin had not been given, succumbed in consequence of inoculations with the same material. These experiments suggested a mode of treatment which has been adopted with excellent results in over fifty cases. Tannin was given in doses of from two to four grammes a day, and the improvement was visible at the end of a fortnight, the patients had increased in weight, and no relapse occurred. In cases of acute tuberculosis, both in children and adults, it sometimes happens that the symptoms appear less favorable; but, at the end of a week or a fortnight, the patient's condition improves, even when fatal results have been feared. From these experiments the following conclusions may be drawn: (1) That tannin is preferable to sulphur of carbon or iodoform in the treatment of tuberculosis; (2) that animals submitted to this treatment for a month offer great resistance to the action of tubercular virus."

THE REPORT OF THE SURGEON-GENERAL OF THE UNITED STATES ARMY.

The Surgeon-General's report for the year ending June 30, 1886, is one deserving of special attention. The statistics showing the morbidity and mortality of the soldiers are, as usual, most complete, but, in addition, the Surgeon has added a number of scientific contributions from the members of the medical staff, thus giving to the volume an especial value.

The tables given show that the actual number of admissions to sick was 32,990, or 3,839 less than for the preceding year. Compared with the average rate for ten years preceding, the admissions were about one-fifth less. A greater proportion of invalids was furnished by troops under thirty-one years of age, while up to the age of twenty-five the rate proved so much above the mean for the whole army that the Surgeon-General states it may be fairly questioned whether the services rendered by these young men are equal to the cost of their maintenance. Men of Irish birth furnished the highest mortality rate, or 7.9 per 1,000; the English stood next, and the Germans third.

The two worst months of the year were August and January; the healthiest month was April; 184 surgical operations were performed during the year, 37 being consequent upon shot injuries.

The Museum received 436 new specimens during the year, and the total number is 9,583.

The Library received an addition of 10,708 books and pamphlets, making the total number 106,631. The third and last volume of the "Medical and Surgical History of the War" is now in the hands of the printer.

The scientific articles include eight contributions on various topics, and a series of fifteen reports upon aneurism, which, taken together, form an interesting contribution to the subject in question.

PASTEUR AGAIN.

The experiments of von Frich, of which we give an account elsewhere, are the most damaging arguments against Pasteur's preventive inoculations that have yet been brought forward. If, as now appears probable, the whole of Pasteur's claims are shown to be baseless, and all his inoculation work a mere conjuring with hypodermatic syringes and useless solutions, the collapse will be a tremendous one. Pasteur will have won a world-wide notoriety, secured honors, government appropriations, and thousands of dollars from private individuals, all through the glorification of a little operation which is futile, if not absolutely dangerous. Medical opinion upon Pasteur's work has uniformly been one of expectancy. From the very first it was recognized that his experiments were not demonstrative, nor his conclusions unassailable. The public, however, will be inclined to resent the whole affair as an imposition, if not downright quackery. This view will be natural, but at the same time unjust, for Professor Pasteur is beyond doubt sincere in his beliefs.

HYSTERIA AND THE TUBERCULAR DIATHESIS.

A theory has recently been put forward by Dr. Grosset (*Gazetta Medica di Torino*) to the effect that hysteria is frequently but a manifestation of the tubercular diathesis, which may or may not be accompanied by other more evident signs of this affection. A clinical demonstration of such an hypothesis is, of course, out of the question, but the author seeks to prove his theory by the facts obtained from a study of phthisical families. He says, for example, that he has observed families in which one child of tuberculous parents may die of pulmonary phthisis, another may have tubercular meningitis, while a third will perhaps give no evidences of any of the ordinary forms of the affection. But this third child, the author asserts, is only apparently free from the effects of this diathesis; he shows no tubercular trouble, but he is markedly neuropathic, and either becomes hysterical or falls a victim to mental disease. The same individual may also, in later life, acquire some form of tubercular disease. Another fact which Dr. Grosset has observed, and which he regards as confirmatory of his views, is that the children of this hysterical individual, in most cases, become phthisical or betray other evidences of the transmitted tubercular diathesis.

Tuberculosis, he says, is, like all diatheses, an essentially general and constitutional disease, and pulmonary phthisis is one, and only one, of its manifestations, just as neuroses in general, and hysteria in particular, may be another. The affection may declare itself at one time by cerebral symptoms, at another by pulmonary signs, but these various manifestations are expressions of one and the same condition, viz., tuberculosis. This alternation of symptoms between the nervous system and various organs is compared to that observed in other affections, such as typhoid fever, rheumatism, gout, etc.

The author is not very convincing in his arguments, but he may, nevertheless, be making advances in the right direction; and his efforts to solve the mystery of hysteria may give occasion to further investigations which will throw a brighter light on this now obscure subject of the etiology and pathology of hysteria.

THE MICROBE OF SMALL-POX.

Several observers during the past twenty years have reported that they found micro-organisms in the blood, tissues, and contents of the vesicles in small-pox, but their conclusions have not been entirely satisfactory, owing to faulty methods of research, as well as to the want of unanimity among them. Some of the more recent investigators, indeed, among whom are Klein, Strümpel, Cornil, and Babes, admit that their results are far from conclusive, and affirm that the specific microbe of variola has not yet been isolated.

The latest writer on this subject, however, Dr. A. Marotta, claims to have found the micro-organism which has hitherto eluded the search of other investigators. He has made a series of careful experiments by cultures and inoculations, the report of which is published in the *Revista Clinica e Terapeutica* for November and December, 1886. He found constantly in the lymph of the variolous pustules a special form of microbe which he calls the micrococcus tetragonus. These micrococci are arranged in groups of four, and present somewhat the appearance of sarcinæ. They are readily cultivated in gelatine, agar-agar, coagulated blood-serum, and egg-albumen, but not on potatoes. The colonies are of a clear orange-yellow color, and of rather considerable thickness. Their growth is slow in gelatine, requiring about a month for the complete development, but is more rapid in blood-serum. The liquefaction of the culture medium also takes place slowly, and the reaction, after this has occurred, is intensely alkaline. The medium must be alkaline in order to permit of successful culture experiments.

Inoculation experiments were made upon calves, dogs, and guinea-pigs. Inoculation with the seventh generation of cultures in calves produced pustules identical with those of vaccinia, while the results in the case of dogs and guinea-pigs were negative. Injections into the subcutaneous tissues of these animals gave rise to no suppuration, whence the author concluded that the microbe had nothing in common with pyogenic micrococci.

Dr. Marotta's experiments seem to have been conducted carefully, and with all the precautions necessary to exclude error, and it is safe to conclude that in the cases seen by him there was present in the vesicles a micrococcus tetragonus, but whether he has discovered the specific microbe of variola is another question. Time and further experiments may possibly demonstrate the correctness of his belief.

News of the Week.

The Alumni Association of the Woman's Hospital of the State of New York.—This association held a very successful annual meeting at the Academy of Medicine on Wednesday last, at which several interesting papers were read. In the evening Dr. James B. Hunter gave a reception to the members at the University Club. There was a full attendance, and a very enjoyable evening. The association is a unique one of its kind, and its success is an example worthy of imitation.

The Medical Law of Indiana.—Indiana is a progressive State, and its physicians have of late years taken an active and effective interest in promoting the welfare of the body medical. A registration law has been secured, but, like most of such laws when first enacted, it has some serious defects. One of the most glaring of these is that of the clause which allows the county clerk to issue a license to practice to any physician who files an affidavit stating that he has graduated from a reputable medical college. The clerk is thus made judge of what are the reputable medical colleges in this and other countries. Manifestly he is very unlikely to be competent to decide upon such a point. A question of this character should rest either with a board of medical examiners or with the State Board of Health. Experience has shown that a very good estimate of the real character of our numerous medical institutions is usually made by bodies of this kind. The activity of the Illinois Board of Health, and the vigilant scrutiny of educational measures now kept up by medical journals, have made the task of weeding out the quack institutions comparatively easy.

The International Medical Congress.—The *Berliner Klinische Wochenschrift*, speaking editorially of the International Medical Congress, says that though the foreign guests may not see a complete representation of American medicine, and though the absence of many well-known American physicians may make of the meeting a kind of Rump Parliament, yet there will be many interesting sights and experiences which will amply repay the visitor.

The First Cæsarean Section performed in the West, if not in this country, was done by Dr. Richmond, of Indianapolis, by candle-light. So says Dr. W. H. Wishard.

A New Bacteriological Journal.—The interest in bacteriological studies has developed most rapidly since the admirable methods of research devised by Koch have been generally adopted, and have commenced to bear fruit. Bacteriological laboratories have been established, during the past two or three years, in the various countries of Europe and in America, and the recent literature of the subject is extensive and rapidly increasing. The fact that this literature is scattered through journals published in several different languages, and that many of these journals are scarcely known to the profession in this country, has made it a matter of difficulty to keep *au courant* with the progress of knowledge in this direction. In future the matter will be greatly simplified, for those who read the German, by the publication of a weekly periodical entitled *Centralblatt für Bacteriologie und Parasitenkunde*. The publisher is Gustav Fischer, of Jena, and the journal is under the editorial management of Dr. Oscar Uhlworm, of Cassel, assisted by Professor Leuckart, of Leipzig, and Dr. Loeffler, the distinguished bacteriologist, of Berlin. The editorial staff of the journal will include a large number of "*Mitarbeiters*," located in all of the countries of the world in which bacteriological studies are pursued. Dr. G. M. Sternberg has been requested to act as "co-laborer" in America, and will forward to the editors, for review, any papers which may be sent to him in which original experimental work of value is recorded. He requests that reprints may be sent to him in duplicate (address, Johns Hopkins University, Baltimore, Md.).

The First Course of the Middleton Goldsmith Lectures, under the auspices of the New York Pathological Society, will be delivered at the College of Physicians and Surgeons, corner Twenty-third Street and Fourth Avenue, by M. Allen Starr, M.D., Ph.D., Professor of Nervous Diseases, New York Polyclinic, on "Multiple Neuritis, and its Relations to Peripheral Neuroses." First lecture will be on Tuesday, January 25, 1887, 8 P.M., on the "History of Multiple Neuritis, the Pathology of the Disease, its Varieties and Etiology; Peripheral Neuroses traceable to Neuritis." Second lecture on Friday, January 28, 1887, 8 P.M., on "The Clinical Picture of Multiple Neuritis, Diagnosis of the Disease, Prognosis, and Treatment." Members of the profession cordially invited.

Cerebral Rheumatism and the Death of the late General Logan.—A correspondent, who signs himself "A Country Practitioner," writes as follows: "Will not your recent editorial upon 'The Death of the late General Logan' be calculated, on cursory reading, to form a false impression in the minds of the profession at large regarding the common complications and mortality of rheumatism? It is almost impossible to find it recorded that organic cerebral disease is secondary to acute articular rheumatism, even though it may be—the usual way of fatal termination being by: 1, Cardiac lesions; 2, kidney diseases; 3, hyperpyrexia. Ulcerative endocarditis, pericarditis, and nephritis, all are causes of delirium, stupor, coma, death, whether from an embolus, thrombus, pyæmic or uræmic poisoning, or simple exhaustion from elevated temperature. What I am contending for is the specific complication inducing congestion of the brain as one of its symptoms. It evidently was not congestion that killed General Logan, or paralysis from compression, but the complication behind your generalizing statement is what accomplished the fatal issue, and that is what we wish to know. We will not array our authorities *pro* and *con* the usual causes of death in this disease, but ask the physician lately in attendance to favor us with an elucidation."

The Hospital Saturday and Sunday Collection has reached the sum of $48,000, with the prospect of its amounting eventually to about $52,000.

The Weekly Medical Review.—Dr. Robert Lierking retires from the editorship of this able journal, and is succeeded by Dr. Benjamin J. Primm.

Professor E. L. Youmans, who died on January 19th, was well known as a writer on scientific subjects, the author of a work on chemistry, and the editor of the *Popular Science Monthly*. He did much to popularize scientific subjects, and was an ardent champion of the doctrines of Herbert Spencer.

Tobacco and the Centenarians.—Professor Humphrey's investigation of the physical condition and habits of centenarians shows that out of 15 males 7 smoked much, 1 smoked a little, and 7 did not smoke at all. Among 28 females, 4 smoked much, 1 a little, 1 moderately, and 22 none at all; two used snuff.

An Italian Hospital in New York.—Funds are being raised among the wealthy Italian residents of this city for the purpose of establishing a hospital for Italians.

A Remedy for Baldness is said by a correspondent of the *British Medical Journal* to be the daily use of the Granville *per cutem*.

Antifebrin in Epilepsy.—Antifebrin is being extensively used by Professor Dujardin-Beaumetz in epilepsy, on the ground that it is one of the most powerful moderators of the spinal centres. Lépine has used the same drug for the lightening of the pains of locomotor ataxia. The dose is from seven to eight grains.

Cremation in New York does not seem to have been flourishing to any great extent. There is a very fine crematory, but the New York Cremation Society has only contributed two of its members to the flames during the past year. This is not taking up the cause very warmly.

The Building of the College of Physicians and Surgeons, of this city, has been sold to an ice-cream firm, which will take possession next fall.

Prof. von Frich's Experiments with the Virus of Rabies.—The Paris correspondent of the *Lancet* writes: "The most important news of the week comes to us from Vienna, in the account of Prof. von Frich's experiments with the virus of rabies supplied to him for that purpose by M. Pasteur. M. von Frich finds: 1. That in animals which have died from rabies the virus exists in its most concentrated form in the central nervous system. 2. That small quantities of the cerebro-spinal substance of animals which have died from rabies, injected under the dura mater by trephining, are sure to be followed, after a latent period of from fourteen to twenty-one days, by the same disease, and this may be transmitted from these to other animals. 3. That the same disease, with the same symptoms and the same period of incubation, may be induced by intracranial inoculation with particles of medulla from human beings who have died of rabies, showing the identity in man and in the lower animals. 4. That infection is less sure by the subcutaneous method, and the period of incubation longer than with intracranial inoculation. 5. The length of the period of incubation depends upon the quantity of virus injected under the skin; the less the virus, the longer the incubation. 6. By the continuous intracranial transmission of the virus taken from the cerebro-spinal substance of rabbits, after a series of generations the period of incubation is shortened and its invasion is irregular. Later on the incubation still decreases, but the invasion becomes regular. 7. The *fixed virus* of an incubation period of seven days, which M. Pasteur obtains by inoculation from rabbit to rabbit through forty or fifty generations, exceeds in intensity the virus of *street rabies*, not only in that the invasion of the disease is earlier, but also because the animals die without exception as well after subcutaneous injection as with inoculation of the dura mater. 8. The fixed virus does not seem to acquire by further transmissions any noteworthy shortening of its period of incubation. Sometimes the disease begins after six days; but, on the other hand, it may extend to eight, ten, or even twelve days. An incubation period of from eight to twelve days, and consequently a virulence of the same intensity as that of the fixed virus, may also be obtained by the transmission of street rabies, and this sometimes at the second or third generation. 9. M. Pasteur's method of obtaining a fixed virus of seven days' incubation is, perhaps, not the only one, for the said virus may sometimes be obtained much earlier, independently of the transmissions, and this virus is constant in its effects and in its period of incubation. 10. The virulence of particles of medulla diminishes daily under desiccation at 20° Centigrade over caustic potash, and is entirely destroyed after from fourteen to sixteen days. 11. Animals which have been subjected to hypodermic injections of a series of virus attenuated by desiccation become refractory to the stronger virus by the previous inoculations with the weaker virus, if the stronger virus have not been used in too rapid succession. 12. Animals which have been inoculated hypodermically during ten days with virus of progressive virulence (medulla from ten days to one day) have not been refractory to infection with the fresh virus of street rabies, and have only exceptionally escaped after intracranial infection. 13. Rabbits and dogs inoculated by trephining with the virus of street rabies of sixteen days' incubation have always succumbed, notwithstanding the preventive treatment already described. 14. M. Pasteur attributed to the method of slow vaccinations the unsatisfactory results obtained previously by M. von Frich, and recommended a more intensive mode of treatment. The experiments carried out conformably to M. Pasteur's instructions have given no more favorable result; all the animals died of rabies. 15. The experiments have demonstrated a most important fact—that is, that in the rapid process the weaker preservative medullæ do not confer the same certainty of immunity from the effects of inoculation with the stronger medullæ. Of a series of dogs and rabbits inoculated as a control-experiment to that described in the preceding paragraph, and in which the rapid process was carried out without previous infection, most of the animals died of rabies. 16. Most of the animals which were submitted to the preventive treatment after subcutaneous inoculation with street rabies died of the disease even when the period of incubation was thirty-four days. These experiments show, says M. von Frich, that Pasteur's method of rendering animals refractory to rabies is not yet either sure or certain. There is not yet a sufficient scientific basis for the application in man of a preventive treatment after the bite of a rabid animal. It is, moreover, quite possible that the preventive treatment, at any rate the intensive method recently recommended by M. Pasteur, may itself transmit the disease.

Reviews and Notices.

A Reference Handbook of the Medical Sciences: Embracing the Entire Range of Scientific and Practical Medicine and Allied Science. By various writers. Illustrated by Chromolithographs and fine Wood Engravings. Edited by Albert H. Buck, M.D., New York City. Volume II. New York: William Wood & Co. 1886.

The second volume of this most complete encyclopædia of medical science embraces all the subjects occurring in alphabetical order from Catarrh to Eye, inclusive. The number of contributors to this one volume is one hundred and five, of whom thirty-four are from New York City, sixteen from Boston, seven from Cincinnati, six from Philadelphia, six from Washington, six from Baltimore, four from Montreal, three from St. Louis, three from New Orleans, three from Chicago, two from Atlanta, two from Albany, two from Brooklyn, and one each from Toronto; Auburn, N. Y.; Dayton, O.; Portland, Me.; Augusta, Ga.; Columbus, O.; Watertown, Mass.; Rochester, N. Y.; Buffalo; Charleston, S. C.; and Princeton, N. J. This is sufficient to demonstrate the truly national character of the work, and a glance at the list of names shows further that the writers of the different articles are for the most part men of more than a national reputation, and are acknowledged authorities in the various departments of medicine to which the subjects treated of by them belong.

The first article is one on Nasal Catarrh; then follow Catechu, Catoosa Springs, Caustics, Cauterets (a French mineral spring), Cauterization, Caxton Springs, Cedar Keys, Celandine, Cells, Disease of the Cellular Tissue, Cephalhæmatoma, etc. Opening the volume at random near the end, we find in regular order, Examination of Recruits, Medical Examiner (a State officer in Massachusetts, having somewhat similar functions to those of a coroner), Excelsior Springs, Neurotic Excoriations, Physical Exercise, Exophthalmic Goitre, Exostoses, Expectorants, Expectoration, Law of Expert Evidence, Principle of Extension as Employed in Surgery, Extra-Uterine Pregnancy, etc. The enumeration of these titles will suffice to show the varied character of the articles contained in the "Handbook." We find here subjects relating to medicine, surgery, obstetrics, legal medicine, health resorts, medicinal springs, materia medica, and, in fact, every branch of medical science. It is safe to say that the physician will find in this book all necessary information on any subject even remotely connected with his professional work, and what the "Encyclopædia Britannica" or Appleton's is to one in quest of information on general subjects, that will be the Reference Handbook to the physician seeking to refresh his memory or to gather new facts in his own particular field of study.

Some of the articles are veritable monographs on the subjects of which they treat, and indeed the only criticism which might be made is that they are too long. It is extremely difficult, it is true, to deal thoroughly with an important subject in a few columns or a few pages, but one does not turn to an encyclopædia with the expectation of finding there all the information that is contained in special treatises. Such a work is, or should be, a depository of facts or of the outlines of a subject, where one can find what is practically useful and no more, but which serves at the same time as a sort of index showing where the student may find, if time permits and inclination prompts, a more exhaustive presentation of the subject. It is fair to state, however, that this criticism applies to but few of the articles contained in this volume, and most of them exactly come up to our idea of what a work of this kind should be. The subject is presented briefly, but with all-sufficient thoroughness, and at the end of the article is a short bibliography containing all the latest and most important special treatises bearing on the matter under consideration. And even with the long articles we have no fault to find except on account of their length. They contain good, sound doctrine, and if one had the time at his disposal he could spend it to no better advantage than in studying them and making himself master of the subjects of which they treat.

We cannot close this brief notice without referring to the illustrations. There are over five hundred wood cuts in this volume, all of them clear and distinct. They are not thrown in hap-hazard, but have been judiciously selected, and do what illustrations, especially in medical works, do not always do—they really illustrate the text. The large majority are original, and bear about them a refreshing odor of newness. In addition to the wood-cuts, the volume contains six full-page chromolithographs, illustrating the tests for color-blindness, affections of the cornea, dactylitis syphilitica, the plant Cornus florida, Elephantiasis arabum, and the Eucalyptus globulus.

The work is to be completed in eight volumes. It is large octavo in size, beautifully printed on fine paper, and strongly bound. It is a work that commends itself alike to the busy practitioner whose time for study is limited, and to the young physician who, whatever he may himself think, is really fortunate in having many spare hours to devote to study and to a more thorough grounding of himself in the essentials of medical knowledge.

Des Cataractes et de Leurs Opérations. Conférences Cliniques, professées par le Dr. Galezowski, et recueillies par le Dr. Boucher, Médecin-major de 1re classe.—Cataracts and Cataract Operations. By Dr. Galezowski. Paris: A. Delahaye et E. Lecrosnier. 1886.

A series of five chemical lectures by Dr. Galezowski, in which the subject of the different forms of cataract, and of the operations for its cure, is treated in a lucid and instructive manner by this accomplished ophthalmologist.

The Laws of Generation, Sexuality, and Conception. By H. M. Gourrier, M.D. Translated and Edited, with an Introduction and Notes, by Franklin Duane Pierce, M.D. Union Springs, N.Y.: Hygeia Publishing Co. 1886.

In this book the author treats of the laws governing sex in generation, deriving his arguments from a study of reproduction in the lower animals as well as in man. He believes that the sex of the offspring is invariably that of the weaker parent.

The Principles and Practice of Medicine. By the late Charles Hilton Fagge, M.D., F.R.C.P., Physician to and Lecturer on Pathology at Guy's Hospital; Examiner in Medicine in the University of London; Senior Physician to the Evelina Hospital for Sick Children, etc. Including a Section on Cutaneous Diseases by P. H. Pye-Smith, M.D., F.R.C.S., Lecturer on Medicine at Guy's Hospital; Chapters on Cardiac Diseases, by Samuel Wilks, M.D., F.R.S., Physician to Guy's Hospital, and to the Royal Hospital for Children, London; and Complete Indexes, by Robert Edmund Carrington, M.D., Assistant Physician to Guy's Hospital, London. Vol. I. Philadelphia: P. Blakiston, Son & Co. 1886.

In the volume before us Dr. Fagge discusses, under the head of general morbid processes, subjects of such profound importance as contagion, fever, inflammation, tubercle, tumors, and syphilis. The specific diseases such as typhus, typhoid, scarlatina, variola, cholera, erysipelas, and diphtheria come next, and are followed by chapters on the diseases of the nervous system. Diseases of the respiratory system are then fully dealt with, asthma influenza, and whooping being arranged under the common heading of functional disorders of the respiratory organs. Of course this arrangement and classifi-

cation is open to criticism, but it should be borne in mind that at the time of the author's death his manuscript was incomplete as regards this very point. Moreover, no system of classification is perfect, and unless diseases are arranged alphabetically their grouping will always be more or less arbitrary, because reflecting the personal views of the author. If the second volume of this treatise fulfils the promise of excellence contained in the one before us, the entire work cannot fail to find favor with the profession both here and abroad.

La Goutte, sa Nature et son Traitement. Par le Dr. W. Ebstein, Professeur de Médecine et Directeur de la Clinique Médicale à l'Université de Gœttingue. Traduction du Dr. E. Chambard, Ancien Interne des Hôpitaux de Paris. Introduction du Professeur Charcot, Membre de l'Institut. · Ouvrage orné de 12 chromolithographies.—Gout, its Nature and Treatment. By Dr. W. Ebstein. Paris: J. Rothschild. 1887.

This is a French translation of Dr. Ebstein's well-known and justly prized work on the nature and treatment of gout. The author dwells principally upon the pathology and morbid anatomy of gout, though the symptomatology and treatment are by no means neglected. The theory of Ebstein concerning the local lesions of gout is, that there is first a limited necrosis of the tissues excited by the presence of acid urates, and later neutral urates are deposited at these points. The text is enriched with twelve finely executed chromolithographs. By reason of the excellent typographical execution, fine paper, and unusually substantial binding, the work before us might almost be called an *édition de luxe*.

The Curability of Insanity: A Series of Studies. By Pliny Earle, A.M., M.D., late Superintendent of the State Lunatic Hospital at Northampton, Mass. Philadelphia: J. B. Lippincott & Co., 1887. Pp. 232.

This volume is essentially the reprint of a series of papers the first of which appeared in 1876 and the last in 1885. These papers are unquestionably sound, exhibiting as they do, in the light of the best obtainable statistics, the entire subject of the curability of insanity. That the theme is important to the last degree in a country where mental disorders are ever on the increase requires no insistance. Even those who are not specially interested in psychological matters will derive much useful instruction from a perusal of this little volume.

The International Encyclopædia of Surgery: A Systematic Treatise on the Theory and Practice of Surgery by Authors of various Nations, edited by John Ashhurst, Jr., M.D., Professor of Clinical Surgery in the University of Pennsylvania. Illustrated with chromolithographs and wood-cuts. In six volumes. Vol. VI. Pp. 1272. New York: William Wood & Co. 1886.

The sixth and last volume of this great work fittingly brings to conclusion the most important surgical publication issued within the memory of the present generation of surgeons. It is not too much to say that the editor and his collaborators, both here and abroad, and that the publishers as well, have placed the profession under lasting obligations for the great care and fidelity with which they have executed their several tasks.

The present volume contains the concluding articles on the injuries and diseases of the various regions of the body, and also supplies numbers of articles necessarily omitted from previous volumes, owing to the inability of the writers to complete them in time for insertion in their appropriate places. The surgery of the alimentary canal is completed by articles on the œsophagus from the pen of Dr. J. Solis-Cohen, on intestinal obstruction by Dr. Ashhurst, and on injuries and diseases of the rectum by Dr. Allingham. Dr. Keyes contributes an elaborate article on urinary calculus, which is further supplemented by a brief special article on lithotrity from the pen of the veteran lithotritist of Montreal, Professor Hingston. Dr. Reginald Harrison discusses the surgery of the bladder and prostate, Professor Duplay, of Paris, that of the male urethra, and Mr. Royes Bell, of London, that of the male organs of generation.

The female generative apparatus is considered in three articles contributed by Drs. Parvin, R. P. Harris, and Charles C. Lee, who wrote respectively on injuries and diseases of the female genitals, Cæsarean section and allied operations, and uterine and ovarian tumors.

The remaining articles are on inflammatory affections of the bones, by Professor Ollier, of Lyons; structural diseases of the bones, by Professor Vincent, of Lyons; tumors of the bones, by Professor Poncet, also of Lyons; and a special contribution on orthopædic surgery, by Dr. F. R. Fisher, of London.

An appendix contains interesting and instructive articles on the construction and organization of hospitals, by Edward Cowles, of Somerville, Mass.; the preparations of military surgeons for field duties, including the modern system of ambulance service, by Dr. B. A. Clements, U.S.A., and a brief, yet sufficiently comprehensive, review of the history of surgery, by Dr. George J. Fisher, of Sing Sing, N. Y.

An excellent general index, prepared by Dr. H. R. Wharton, ends the volume.

A Handbook of Hygiene and Sanitary Science. By George Wilson, M.A., M.D., F.R.S.E. Sixth edition. 8vo, pp. 520. Philadelphia: Blakiston & Co. 1886.

Wilson's Handbook has achieved a decided success, and has for some time been recognized as a standard text-book. The present edition calls for no extended comment therefore, since its merits are acknowledged. The editor has added considerable material, however, and has made his book still more representative of the present state of sanitary science. The additions consist of a description of the several diseases which render the flesh of animals unfit for food, a completion of the chapter on water-analysis, a short section on sewage and effluents, a new chapter on soils and localities, a separate chapter on disinfection, besides correction and remodelling of other portions of the work.

A Treatise on Electrolysis and its Applications to Therapeutical and Surgical Treatment in Disease. By Robert Amory, A.M., M.D. (Harv.). New York: William Wood & Co. 1886. Wood's Library of Standard Medical Authors.

We welcome the publication of works tending to place the use of electricity in medicine upon a clearer and more scientific basis than that which it occupies at present. The very limited education in physics, which unfortunately too many practitioners have, as well as the progress of that science in late years, has tended to becloud the art of electro-therapeutics; and it remains, to a large extent, mere empiricism. Dr. Amory's book will be of service in giving physicians an opportunity to learn the latest views regarding many points in electro-physiology. His first chapter is devoted to a description of the nature of electrolysis, by which we understand is meant the chemical relations of electricity to the human body. The author then describes the batteries used, the laws of resistance and diffusion of electrical currents, and the methods of applying them to the body. With Chapter VI. begins the practical application of electrolysis in disease. The number of diseases for which electrochemical effects are used is now quite large. Dr. Amory describes the use of electricity in aneurisms, ulcers, tumors, Basedow's disease, hypertrichosis, urethral strictures, extra-uterine fœtation, etc. The book is illustrated with a considerable number of very excellent wood-cuts.

Reports of Societies.

THE PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, January 7, 1887.

GEORGE F. SHRADY, M.D., PRESIDENT, IN THE CHAIR.

FIBROUS ANCHYLOSIS AT THE SHOULDER-JOINT—RECOVERY.

DR. V. P. GIBNEY presented a man who, without known cause, began to suffer from pains in his left shoulder. At times previous to May, 1885, he had had what he regarded as rheumatic pains. During the summer of that year the pains about the shoulder were aggravated by such movements as abduction and extension. There was no pain when the limb was at rest. The rotation was about one-half the normal, and he could abduct the arm to an angle of 45° without tilting the scapula.

Early in September Dr. Gibney put the patient under the influence of ether, moved the joint in all directions freely, and determined to employ passive motion himself daily. He continued this until September 23d, when the result was so unsatisfactory that he repeated the *brisement force* about one month later. The after-treatment in this instance consisted of rest and the application of fomentations for about ten days, when he resorted to massage and the use of the Paquelin cautery. At the end of a week the suffering of the patient had been increased, and his shoulder was much stiffer than when treatment was begun. During the next three months he did nothing in the way of treatment, suffered little or no pain, and at the end of that time his arm was more useful, the arc of motion was increased, and there was neither atrophy nor shortening, nor infiltration. Now, nearly a year after the patient first came under Dr. Gibney's observation, the functions of the shoulder were perfect, and this result was not due to any particular mode of treatment. Whether the forced movements to which Dr. Gibney subjected the patient conduced to the good result, he was unable to say.

THE PRESIDENT then read a paper [see p. 85] entitled

THE CURABILITY OF CANCER BY OPERATION.

DR. J. D. BRYANT opened the discussion, and said that he had not studied directly concerning the length of time that had elapsed between the date of the operation and the date of recurrence. It had occurred to him, however, to reason upon the subject before the Society somewhat in the following manner: Cancer is either a constitutional disease or it depends upon a constitutional condition, or else it is a local disease depending very largely upon irritating causes. He had been accustomed to regard it very much as he had tuberculosis; not exactly a local, nor precisely a constitutional disease, but rather a disease that depends upon vulnerability of the tissues, one tissue being more vulnerable than another, the uterus or breast of one woman being more exposed than that of another, or responding to irritation more readily.

But whether local or constitutional, the only rational means of effecting the cure of cancer was by operative procedure. When considering the question of treatment the inquiry should arise: How does the disease cause death? It may do so directly by its extension, or by establishing a cachexia, or by absorption of poisonous material from the growth, or by the pain and depressing influence upon the patient's mind. This view of the case should teach the surgeon to operate early, and often. He had no question but that the best results would be obtained in cancer by operating before any of the surrounding tissues became involved—even the tissues lying in contact with the mass of disease.

Moreover, antiseptic surgery, which obviates the process of suppuration, will increase the favorable results.

But the answer to the question of operative procedure varies largely according to the part of the body in which the disease is situated. He could recall three cases of malignant disease of the parotid, in two of which he felt satisfied that the length of the patients' lives would have been increased had he avoided operating for its removal; in one case, however, he was sure that life was prolonged considerably. He also referred to a case of multiple sarcoma in Bellevue Hospital, where he removed seventeen nodular masses, and prolonged the patient's life.

He had had two cases of malignant disease of the lip, on which he operated, and the disease had not yet returned, though distant four and six years respectively from the date of the operation. On the other hand, he had in mind a case in which he cut the lip away freely, and a short time after the operation the malignant disease developed in the submaxillary gland, which he removed, and soon afterwards in the opposite gland, and after the removal of the last growth the return of the disease was very rapid.

But by operating early and often and under antiseptic precautions, he believed with Dr. Shrady that the percentage of recoveries for malignant disease could be increased, and also that life could be prolonged.

DR. C. C. LEE concurred in what Dr. Bryant had said, not having had the pleasure of listening to the paper of the evening; that is to say, resort should be had to excision in cases of malignant disease under ordinary conditions, and at as early a stage as possible. In cases of disseminated cancer, it always becomes a question whether or not all the disease can be removed. In cancer of the uterus or vagina, or both, he advised early operation, except when the neighboring lymphatic glands were involved.

DR. R. F. WEIR agreed with the opinion of many that cancer is a local disease, and he looked favorably upon the theory that it was of germ origin. Entertaining these views, he could but agree with Dr. Shrady and the gentlemen who had spoken that, to obtain the best results, resort must be had to early operation. Not only should surgeons perform operations early, but they should teach their patients that they should be operated on early.

The surgeon should operate not only early, but widely from the diseased part.

Since the advent of antiseptic surgery, which permitted the surgeon to operate much more thoroughly and extensively than before its coming, statistics, amounting in the aggregate to 700 breast cases, gave a recovery, lasting more than three years, in ten per cent.

It was the fact that the surgeon could operate widely from the diseased part that had made lip-operations so satisfactory, and in six hundred cases, recovery, lasting more than three years, took place in twenty-nine per cent.

Amputation of the penis for cancer had also given good results, and so had amputation of limbs for cancerous disease.

In these four classes of cases the best results had been obtained, and the great reason was because the operations had been performed wide of the disease. But on account of anatomical reasons, it is impossible to cut wide of the disease in cancer of the tongue, etc., and this fact is the most discouraging feature of such cases.

DR. W. T. BULL was quite in accord with what had been said concerning the necessity for early, as well as very radical, operations. He had been struck by the fact that in breast cases the patients come very late indeed for operation.

He believed that exploratory incision, especially in the early stage of breast tumors, deserved more general mention and adoption than it thus far had received. Probably, in nearly fifty out of sixty cases, the tumor ex-

ists a year before going to a surgeon for advice, and all this time the case is under the observation of the general practitioner, who hesitates to recommend an operation until sure of his diagnosis, and this lapse of time is to the patient's detriment.

Dr. Bull had adopted the exploratory incision in three cases, and it had been extremely satisfactory. If the diagnosis cannot be made with the unaided eye, the microscope can be used. In cases of suspicious ulcer of the tongue, and of disease of the uterus, the exploratory incision can be very readily practised, and very much precious time in the early stage of a malignant affection be saved.

As an illustration of radical operation for cancer, he mentioned a case in which he removed the entire uterus two and a half years ago, and there had not been any recurrence of the disease. He believed that similar radical operations were not resorted to with sufficient frequency by those who perform surgical operations.

He also thought that it was rather exceptional to remove the skin thoroughly enough, and examine the axilla with sufficient care, in breast cases. With regard to the axilla, an examination of it through the skin was entirely inadequate. In every case of cancerous disease of the breast the contents of the axilla should invariably be removed as a part of the operation, and all of the adjacent tissues examined in the most thorough and extensive manner.

Dr. Weir remarked that the operation should be particularly conducted to the examination and removal of the most distant glands.

Dr. Bull further remarked that he had, during the last three years, given arsenic to nearly every patient upon whom he had operated for cancer, but had not been able to discover that it produced any effect whatever on the disease.

Dr. W. M. Polk said, concerning the use of internal remedies, that his experience coincided with Dr. Bull's. He had used various substances extensively, but without any evidence that they were beneficial.

There was one point that he had noticed in connection with operative procedure ; that is, he had occasionally seen a case of cancer of the breast, in an elderly person, that was pursuing a slow course, had been in existence several years, and that without producing a very threatening effect upon the general health of the patient, but in which an operation had seemed to act as a stimulant, and immediately thereafter the disease had progressed rapidly to a fatal termination.

With regard to operation for cancer of the uterus, surgeons had been deterred from operating widely on account of the liability of encountering the ureters. He had operated in six cases, and had become satisfied that he would have done better had he gone further into the surrounding tissues than he did. In one case he demonstrated that he could have gone safely three-fourths of an inch upon each side further into the surrounding parts, and hereafter he should feel disposed to be somewhat bolder in this respect than he had been heretofore.

Dr. A. H. Smith had had the case of a woman, sixty or seventy years of age, under observation nearly three years, where the question of operation had been constantly pressing upon him. The disease in the breast had progressed exceedingly slow, and there apparently remained a chance of the patient getting a number of years of life. He thought it was probable that the result would have been different had the patient been operated upon. The disease began at about the age of sixty.

Dr. Bull said it was a generally recognized fact that scirrhus beginning at that time of life had better be let alone.

Dr. Samuel Sexton had, at one time, been specially interested in examining proofs of death in cases of life insurance, and had noticed that in nearly all cases of death from cancer there had been the history of one or more deaths from consumption in the family.

Dr. W. M. Carpenter spoke on invitation, and said that the case mentioned by Dr. Smith brought to his mind one that he saw with an eminent surgeon in London, who advised extirpation, and then turned and asked if that was not good surgery, and if it was not what New York surgeons would advise. The answer was that, to the best of his knowledge at that time, an operation would not be advised by most New York surgeons, and that it would not be regarded as good surgery to operate in such cases. The patient was a thin old woman, who had a flat tumor in one of her breasts that was not giving rise to any symptoms, and had progressed so slowly that several years had been consumed in reaching its present condition.

Dr. Carpenter also referred to a case which he saw in consultation, and assisted at the operation for removal of the cancerous breast July 29, 1876. The specimen was examined microscopically by Dr. Francis Delafield, who diagnosticated cancer beginning in the milk-ducts. The nodule was about an inch and a half in diameter, was painful and increasing in size, was not attached to the skin, and there were no enlarged glands, although at the operation several axillary glands were removed. The patient was about forty years old, and is still living, and in the enjoyment of her usual degree of health.

On the other hand, he saw in August last a patient, much enfeebled in health, about forty years of age, who had a lump in one of her breasts, about an inch in diameter, that had remained stationary for about two months. She was told not to give herself any anxiety concerning it ; but her friends were told to watch it with the utmost care. It was not attached to the skin ; there were no glandular enlargements that could be detected, and it had not been painful.. The patient was advised to let the nodule completely alone, and to make sure that it was not pressed upon by her clothes. At the end of three months the report was that it had disappeared entirely.

The occasional occurrence of such cases doubtless had contributed much toward causing patients to postpone seeking surgical advice, and also had deterred many surgeons from operating as early as they should have done.

He regarded it as safest for the patient, however, to advise the earliest possible and most thorough ablation of every breast that contained a suspicious new-growth, which began at an age under sixty years.

To illustrate the necessity of operating widely, he referred to a case in which he examined microscopically a breast that was removed by Dr. T. M. Markoe. A little oblong body at considerable distance from the breast was selected, with other portions, on the supposition that it was an enlarged lymphatic gland. On examination of the sections, however, it was found that it was only a lobule of fat, but in the meshes of it could be seen distinctly occasional cells that presented the same appearance as those found in the alveoli in the cancerous mass in the breast.

Dr. Shrady, in closing the discussion, said that the main object of his paper was to enforce the necessity of early operation in cancer, and to persuade general practitioners to consult surgeons in such cases early enough to give the patient the best possible chance to get cured. Of course, it should be taken for granted that he would operate, not only as early, but as widely as possible, and he would remove all adjacent glands, even though they might be apparently healthy. With reference to the dissemination of cancer, he was in the habit, several years ago, of taking sections from specimens presented at the New York Pathological Society, and examining them with the microscope, and often at the edges of the incision he had found cancer-cells in an active state of proliferation and nests that had been cut through. Of course the results after these operations could not be compared with what could now be obtained in the same class of cases.

He had not said anything concerning the use of caustics, because they are useful chiefly in cases of superficial cancer, and also because it was his purpose to speak of operative procedures chiefly. Similar remarks were applicable to the use of internal remedies. He had used arsenic, but without special benefit. The best effects after operations had been produced by giving tonics.

Dr. R. F. Weir then read a paper (see p. 88) on

A NEW METHOD FOR DETERMINING WHETHER OR NOT RUPTURE OF THE BLADDER HAS OCCURRED.

Dr. E. D. Hudson, Jr., presented

A VERY LARGE-SIZED GALL-STONE,

removed, post-mortem, by Dr. Satterthwaite from the jejunum of the late Dr. Darken, who died with well-marked, although at no time violent, symptoms of intestinal obstruction. His abdomen was not distended, nor was it tender on palpation. He had never had an attack of jaundice or biliary colic. The calculus was so large that it occluded the gut entirely. On examination of the gall-bladder it was evident from its thickened walls and pouch-like formation, and also the configuration of the calculus, that the stone had occupied this cavity, and that ulceration at the most dependent portion of the bladder had taken place, which allowed the large body to escape into the duodenum, from whence it passed onward and produced complete obstruction in the jejunum. The liver was apparently normal. Dr. Hudson thought this was an instance in which surgery might have saved the patient.

FATAL INTESTINAL OBSTRUCTION FROM A GALL-STONE.

Dr. W. T. Bull presented a similar specimen, which measured in its three diameters 7.84, 4.3, and 3.9 centimetres and weighed sixty grammes. It was composed of cholesterine and bile-pigment, with a thin crust of lime salts. No nucleus was seen, but the material was concentrically arranged. It was presented to him by Dr. Frank W. Murray, of New York, who saw the patient twenty-four hours before death. The patient, a man seventy-eight years of age, who died after six days' illness, characterized by constant vomiting of dark-green fluid without marked pain or abdominal swelling or tenderness. On the day before death Dr. Murray felt distinctly a freely movable tumor just below the umbilicus, but the general condition of the patient forbade an exploration. Twice during the illness the bowels responded to cathartics. The stone was found firmly impacted in the ileum about three feet from the ileo-cæcal valve. Ten years before death the patient was ill three weeks with vomiting, pain in the stomach and right side of the abdomen, and jaundice, and several similar but less severe attacks occurred subsequently.

The specimen was of interest on account of its size, and the fact that it formed a tumor appreciable to touch—a fact which has not been observed in other cases, according to Treves. Had it been discovered earlier it could have been removed by a simple operation, and the obstruction relieved. Only a hasty examination was possible, and the gall-bladder was not examined, but probably would have shown signs of the ulcerative process by which these stones usually escape into the duodenum.

In a recent article on the subject by Wising (referred to in the *Medical News*, October 9, 1886), the writer analyzes 51 cases, of which 38 ended fatally. In only 5 cases was a tumor perceptible. Laparotomy was performed in 4 cases with fatal result. In the same number of the journal Evans reports a case in which a calculus two and a half inches long was passed after inflating the bowel for twenty minutes.

Dr. Hudson mentioned a case in which there was a history of repeated attacks of hepatic colic, and Dr. Wylie made an exploratory incision, but no gall-stones were found. He also presented two specimens of what Murchison had named

PEPPERCORN GALL-STONES.

They were removed from the bodies of patients who died at the Colored Home, and no well-formed calculi were found other than these exceedingly small ones, of which there was a very large number. Murchison had suggested that these fine calculi probably came from the hepatic duct.

The Society then adjourned.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE HARVEIAN LECTURES ON CANCER OF THE UTERUS—THE TREATMENT OF MENTAL DISEASES—PARISH INFIRMARIES AS FIELDS OF CLINICAL STUDY—THE DEGREE QUESTION.

London, January 4, 1887.

Dr. John Williams, in his recent Harveian Lectures on "Cancer of the Uterus," ran counter to some commonly received doctrines. Dividing the uterus into three parts, viz.: (1) the vaginal portion, (2) the cervix proper, (3) the body and fundus, he premised that, by cancer of any one of these parts, he meant cancer originating in that part, and not cancer invading it from another source. Cancer of the vaginal portion was then considered in detail. Injury to the cervix has been by many considered as a frequent precursor of malignant disease in that part, and as disposing to it. Erosion, it has been thought, might, in subjects predisposed to malignant disease, eventually become cancerous in nature. The researches of Ruge and Veit have been regarded as confirming this conclusion. Dr. John Williams, however, maintained that there was no evidence that, so far as regarded cancer of the vaginal portion, laceration played any part in its causation. He had never found it to start from a a tear of the cervix. Neither did he think child-bearing had much to do with the disease. Out of eight cases five had had less than the average number of children, and in no one had labor been severe. In three cases the patients had had no children. He remarked that the cancerous portio vaginalis might be quite smooth and seem fairly healthy, with perhaps slight lividity of the surface. It might, on the other hand, be papillary, tuberculated, or granular. In three cases there was simply enlargement of the lips.

Why should not mental diseases be treated at our general hospitals? Such is the plea put forward by a well-known alienist, Dr. Rayner, in a recent number of *The Times*. Such a plan is doubtless beset with difficulties, but these are not insuperable, and the adoption of it would remove a blot from our present treatment of the insane. In many of our large public asylums, probably, much is done to ameliorate the condition of the patients, and a certain proportion of the inmates are, after a stay of varying length, discharged as cured. Can as much be said for our private asylums? The private asylum system offers no inducement whatever to the physician in charge to endeavor to effect cures. He is generally either the proprietor, or has at least a share in the institution. It is therefore to his pecuniary interest to receive as many patients as he can, and to keep them as long as he can. As a sagacious mental attendant remarked to me a month or two ago, the removal from a large asylum of a private patient, whose relatives are paying four or five hundred pounds a year for him, means the loss of a sum sufficient to pay the butcher's bill. Under such circumstances, he remarked, was it likely the doctor would lose a patient if he could help it? Obviously not. The private asylum system in England is virtually doomed. Although the abuses and

cruelties of a by-gone generation have been removed, and the proprietors and physicians of private asylums are mostly educated and humane men, still they can't be expected to take a keen interest in "treatment," which, if successful, will empty their establishments and deplete their pockets. It has been wisely said that all private asylums should be converted into public institutions, and a resident physician appointed to each at a liberal salary, fixed independently of the number of inmates. Then, and only then, can scientific treatment of the insane be expected on an adequate scale. A medical man who is also a part proprietor of the asylum can scarcely, however disinterested he may be, give the same time and attention to the subject as one in the position indicated.

Another subject which has again been to the fore, of late, is the utilization of the vast amount of clinical material at present running to waste in our workhouse infirmaries. This desirable result has been brought about in one of the metropolitan parish infirmaries. At the Paddington Infirmary, during the autumn months, the wards were thrown open to the students of St. Mary's Hospital, while the latter institution was temporarily closed for repairs. Some members of the hospital staff also attended at the infirmary to give clinical instruction. In most London parishes the infirmary is now a distinct building from the workhouse, and is in many cases an imposing edifice of brick and stone, rivalling in magnitude some of the large hospitals. With regard to the sanitary arrangements, those of the parish infirmaries are superior to many of those in hospitals, as the former buildings have in many cases the advantage of being modern and constructed in accordance with approved ideas of sanitation. It is easy to understand that in an infirmary containing from three to four hundred in-patients, much clinical material of value is to be found. But before this can be utilized, leave must be obtained from the "guardians of the poor." I know of at least one parochial infirmary, where the resident medical superintendent was anxious to utilize the clinical material at hand for teaching purposes, but the guardians ruthlessly put a stop to his plans.

The movement in favor of the two colleges obtaining powers to grant a degree, gathers head. At the adjourned meeting, at the College of Physicians, very decided progress was made, and a resolution, "that an application be made to the Crown by the Royal College of Physicians of London, and the Royal College of Surgeons of England, acting conjointly, for power to confer degrees in medicine and surgery," was carried without a dissentient. Professor Latham, of Cambridge, acknowledged his conversion to the scheme, among the supporters of which, at the recent meeting, were also to be found Dr. Priestley and Sir William Gull. The latter coolly proposed that the new degree should be called M.D. Lond., and that the graduates of the present university in London should rename their degree, M.D. Univ. Lond. We have heard of M.D. Albert University, and of M.D. Westminster, but to deliberately appropriate the title now given by another university is a piece of audacity worthy only of Sir William Gull.

INTUBATION OF THE LARYNX.

To the Editor of The Medical Record.

Sir: Dr. Northrup's article in The Medical Record of December 11, 1886, on "Laryngeal Diphtheria, Intubation," etc., contains statements that suggested the following questions, which the writer hopes may prove pertinent. They are asked in a genuine spirit of inquiry, and are not polemic, in so far as intention goes, at least.

Dr. Northrup, in his record of post-mortems, neglects, for the most part, to mention whether the subjects had died after intubation.

As his article stands, information on this point is apparently lacking—only mentioning the obductions of seven infants, on whom he himself had performed intubation.

Now, with intubation the average physician would naturally fear that aliment taken into the mouth and attempted to be swallowed, or the stomach's contents, through vomiting, would be in danger of gaining access, through the tube, to the middle and lower air-passages. In case this happened, what would be the result? Orth says, speaking of suppurative pneumonia: "The severest type of this inflammation is that produced by the aspiration of food, vomit, blood, etc.—the so-called 'schluck pneumonia,' *i.e.*, gulped or swallowed pneumonia. It is, in its nature, a catarrhal broncho-pneumonia; but the exciting cause may and does occasion a malignant or septic form of this disease. Yes, under certain conditions, it may become gangrene—gangrena diffusa. The presence of food in the bronchi one may easily recognize with the naked eye, or by the sour smell of vomit. A certain result is likewise given by a microscopic examination of the bronchial and alveolar contents" (Orth's Comp. der Path.-Anat., Diagnostic seite, 214). Had Dr. Northrup explained whether or not the conditions described above had been found, would it not have settled a very grave doubt in the minds of some of the gentlemen who read his article? Next, how do large plaques of exfoliated membrane escape through the tube? What does Dr. Northrup say of this? Scarcely anything. In one place, he speaks of a large membrane engaging the lower aperture of the tube, and the expiratory efforts causing it to be projected across the room. In another place, he says: "You may think best to remove the tube at some time, because the child *swallows badly*, or because it secretes an unusual amount of tenacious mucus, or because, for any reason, you desire to give it a good opportunity to use its larynx to give more explosive force to the cough. The chances are that as you remove it, there will follow a large piece of false membrane, or a quantity of mucus, and you will be pleased at your judgment in advising it." This is about all he does say on this point. The question still maintains, How can a mass of exfoliated membrane pass this artificial mediate that would possibly occlude the normal larynx itself? The following annulæ ○ ○ represent the normal calibre of the largest and smallest sizes, respectively 12 years to 1 year of O'Dwyer's tubes, a light glance at which must make one sceptical as to the possibility of a large exfoliated placque of pseudo-membrane gaining exit through even the larger, to say nothing of the smaller one. Dr. Northrup himself asserts that it takes more time and skill to remove the tube than it does to insert it. In case a blockage occurred, would not the patient's life be seriously threatened, before the tube could be removed, under the most favorable circumstances? And suppose there was no skilled one near to remove the tube?

Surely, none can say that tubage offers the certain exit of compromising materials that the tracheal section gives; and the technique of this operation has been improved to meet almost any emergency in this line. In regard to his statistics, there are 165 cases quoted as intubated—twenty-eight and one-half per cent. recovering.

No information is given in regard to the character of the respiratory ailment in the larger number of these cases. True, from the caption of his article, one may (*cum grano salis*) suppose they had laryngeal diphtheria, but the diversified character, both of his information and the general dissonance of opinion on the subject of diphtheria and membranous croup, makes the doubt of them all being bona fide cases of diphtheria a serious question. Admitting they were, still it would not immeasurably eclipse the results of tracheotomy. Henoch, out of 66 cases of laryngeal diphtheria, saved by tracheotomy 16—a per cent. of $24\frac{8}{33}$; and, he apologizes for the mortality by stating that they were hospital cases. As far as authenticity is concerned, comment is superfluous.

Dr. Northrup, in one section of his article, upon his

own authority, makes the statement "that there is never any ulceration of the cords; but slight ulceration may be produced by the head and lower end of the tube, when retained for a long time. *This can do no harm.* Koenig thinks it necessary to say considerable on the subject of these self-same ulcers that *can do no harm.* He says: "Little children are especially in danger from this so-called 'ulcus decubitus trachealis;' and since it happened to me that a child which had recovered from diphtheria died of a lethal hæmorrhage into the trachea from such an ulcer, since that, I say, I am always fearful of this complication. The most prominent symptoms of this trouble are the occurrence, in the later stages, of renewed small hæmorrhages, renewal of fever, and the acquirement of an unhealthy appearance in the tracheal wound." Again, he speaks of little tumors that appear on the mucous membrane of the larynx and trachea, following cannulization of the trachea. Of these, "they are small granulation tumors—true granuloma." Their history is still somewhat new, and their mention in literature is small. Koch has collected from literature 26 cases; outside of this, there might be mentioned a dozen observations. But if one should conclude that this number represents its real frequency, then one would certainly reckon widely too little.

We believe that there scarcely exists a surgeon, who has had many tracheotomies who has not had one or more such cases. Whether it was recognized or not, is another question. He further says that these tumors are likely to appear anywhere that the tube has exercised the least pressure, and calls attention to von Trendelenberg's observation of the tendency of the mucous membrane of the trachea and larynx to take on a granular inflammation, —particularly the membrane within the thyroid and cricoid cartilages. "These granulomes are of various forms and conditions, sometimes pedunculated in form of polypi; again, warty or velvety, and spread over much surface. They sometimes appear early in the case (five days, Körte), generally later, ten to fourteen days; and it seems that the longer the cannula remains, the greater is the disposition for their recurrence. Or they may not appear until long after the tracheal wound is healed, and produce a chronic 'status asphyxiosus.' Koenig lost a patient from this cause three years after it had recovered from a tracheotomy" (Koenig, "Spec. Chir.," s. 695 u. 699). True, the sophism may be produced that all of this comes of the tracheal tubage, and not of the laryngeal; but the gentleman *does mention* that ulceration *has occurred*, even in the small number of cases now on record. Mark the insidious dangers that Koenig attributes to these ulcers that "*can do no harm.*" Ditto, the tendency of the mucosa of larynx and trachea, by pressure of foreign bodies, to take on a granular degeneration process (von Trendelenberg). Also Dr. Northrup recommends the largest tube that can be conveniently inserted.

I will not allude to other pros and cons that would only be prolix and unique, but hasten to the doctor's question: "Now, does it leave the patient without any of the advantages offered by tracheotomy?" It is to be regretted that the doctor did not attempt to establish limitations for the measure, instead of factoring dogmas of inquiry. For a true friend to the operation can but see injury in a too enthusiastic advocacy of it. Physicians, with all degrees of ability, will rush in, believing and promising all, and, because it does not accomplish all, will not recognize or be grateful for the good it may do—they eventually becoming sceptical, even enemies of the measure.

In fact, from the commotion and favor it is occasioning, both among the laity and profession, you may have a repetition of some such inglorious failure as that which happened in the early history of the transfusion of blood. "For when blood was first transfused from animals, the enthusiasm of its reception was indescribable. The tuberculous should be immeasurably improved, the transfunded one would be given new life, and be converted to the bliss of health. In time of war, herds of sheep should follow the army for the certain weal of the wounded; but too soon came the truth, and the good with the bad went to the ground, in status exodus lethalis" (Albert R. von Mosetig-Moorhof).

Dr. Northrup's anatomy, pathology, technique, and clinical history are certainly excellent, and should deserve him a place in the history of the operation. "Do you, however, if you will be persuaded by me, pay little attention to Socrates, but much more to the truth—taking good care that in his zeal he does not deceive both himself and you, and, like a bee, depart, leaving his sting behind."

Closing, I modestly mention a few suggestions. Carl Hueter says it is much easier to reach the laryngeal orifice of young children than of older ones, by reason of the very short distance between the oral and laryngeal openings of the first. I think the tube might possibly be used, instead of von Trendelenberg's apparatus, in large operations in the upper air-passages, by connecting a soft-rubber tube above the shoulder of the incubating tube—the rubber tube extending out through the mouth, and to the end of which Trendelenberg's inhaler or Junker's apparatus might be attached, and against the possibility of blood entering the trachea between the tube and larynx a cotton tamponade could be placed, after the method of Czerny.

Another use which might be made of it would be that of a guide for the various trocar instruments, such as Hanke's, used for quick and bloodless tracheotomies, or paracentesis trachealis. It would probably do away with the two greatest dangers of that class of instruments—*i.e.*, the danger of the instrument gliding into the paratracheal region, or the greater one, of the point of the instrument by pressure approximating the anterior wall of the trachea to the posterior, thereby penetrating both, and wounding the œsophagus—an almost certain result in the tender, flexible tracheas of infants; also avoiding the danger of pushing before the instrument the loosened mucus or false membranes, and thus forming a valve that would obstruct the breathing. All this looks as if it might be prevented by passing the point of the instrument down on the intubator tube.

Respectfully submitted,

A. R. JENKINS, M.D.

HENDERSON, KY., December 22, 1886.

SOME FURTHER POINTS CONCERNING INTUBATION.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Please permit me, through the columns of THE RECORD, to suggest to those who are about to purchase an intubating apparatus, and others who have one and who have not had any practice with it, that the much-abused common yellow dog—young one—if good for nothing else, is an excellent subject to practice on. For several reasons which are very apparent, he makes a better subject that the cadaver. He will be all the more servicable if etherized. A block of wood will answer for a mouth-gag. Some practice upon either of the above subjects should be had before attempting intubation upon a child.

BUCHANAN KLOPHEL, M.D.

MEMPHIS, TENN.

CONGENITAL ABNORMAL ANUS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In THE MEDICAL RECORD of the 25th inst., p. 707, under the head, "A Curious Malformation of the Rectum," is a communication from Dr. Frederick T. Simpson, of Hartford, Conn., who writes: "A variety of malformation of the rectum, not described by Holmes, Gross, Erichsen, or other authors, so far as I have read, has recently come under my observation. It consisted in a prolongation of the rectum, beyond its usual termination at the anus, across the perineum to the posterior

border of the scrotum. It was attached by its upper surface to the median raphé, and presented a small orifice at its termination, through which meconium escaped in small quantities. by dint of considerable straining on the part of the child." The interesting case of Dr. Simpson, described above, is, however, neither unique nor rare, as I will proceed to show. It belongs to the fifth species of the congenital malformations of the rectum and anus, according to my classification of them. In my treatise on these congenital defects, published by Samuel S. & William Wood in 1860, p. 53, I define the fifth species as follows: "In this species the rectum terminates externally by an abnormal anus, located in some unnatural situation, as at some point in the sacral region, or the rectum is prolonged in the form of a fistulous sinus, or pipe-like passage, and terminates by an abnormal anus at the glans penis, the labia pudendi, or at different points in the perineum. The natural anus being absent, its functions are more or less imperfectly performed by the abnormal one."

I also, on page 200 of the same work, make the following remarks: "These adventitious canals of the rectum differ from the ordinary fistulous passages only by being more perfectly organized, and by being entirely free from induration. They remind me very much of the fistulous sinus which the rectum, in order to relieve itself, sometimes sends off from beyond a permanent stricture of that intestine when the contraction exists a few inches above the anus. They may be regarded in the character of supplementary conduits, and cannot be considered as either an arrest of development, or as an excess of development, but as a purely pathological formation."

The treatment of this species of malformation consists in either establishing an artificial anus, in the natural situation, or of enlarging the abnormal outlet, if sufficiently near the normal site of the anus. The treatment is simple enough, and most always attended with success, provided the other requisites of life are present.

I have recorded thirty-six cases of the fifth species, and those from among them which are similar to and most resemble the case of Dr. Simpson are the following:

Durr, a physician of Augsburg in 1668, relates the case of a male child brought to him, having an imperforate anus, in which the membrane that closed the anus was prolonged forward to the anterior part of the perineum, in which was a small opening through which the meconium was drained off. He incised this membrane up to the natural place of the anus, and ultimately completed the cure.

Dieffenbach, in 1845, observed this elongation of the rectum in two male children. In one the small opening was formed in the posterior part of the scrotum.

Friedberg, of Berlin, in 1852, reports an interesting case of a male child with an imperforate anus, with a small opening in the posterior wall of the scrotum, and through which a little meconium passed when the child made violent straining efforts. Mr. Holmes, one of Dr. Simpson's authors, in his valuable work on the "Surgical Treatment of the Diseases of Infancy and Childhood," p. 168, refers to my report of this very case of Friedberg. These cases will all be found reported in full in the sixth chapter of my treatise previously named.

A similar case to Dr. Simpson's was communicated to me in a letter in July, 1861, by Dr. R. G. Levis, Surgeon to the Philadelphia Hospital, on which he operated successfully.

Mr. Green, in the "Indian Annals of Medical Science," vol. v., reports the case of a male child, presenting an imperforate anus, with an abnormal opening in the perineum, just behind the scrotum.

Mr. Goyrand reports two interesting cases of this species in *Gazette Médicale de Paris*, tome xi., p. 510, 1856.

Mr. Curling names several cases of this species in his valuable article on "The Congenital Imperfections of the Rectum," in the "Medico-Chirurgical Transactions," vol. xxv., p. 271, London, 1860.

Mr. Cripps also reports cases of this species in an able production on "The Imperforate Rectum and Anus in Infants," in "Saint Bartholomew's Hospital Reports," vol. xviii., p. 65, London, 1882.

I will close by presenting the following summary, which will give the number of cases, and other particulars of this species, as recorded by me:

Cases, 36 (males, 14; females. 13; sex not given, 9); treated, 24; successful, 21; unsuccessful, 3; not treated, 12.

Yours, etc.,

WILLIAM BODENHAMER, M.D.

249 MADISON AVENUE, NEW YORK, December 30, 1886.

Army News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from January 9 to January 15, 1887.

BAILY, JOS. C., Lieutenant-Colonel and Assistant Medical Purveyor. Ordered from Department of the East to New York City, to take charge of the Medical Purveying Depôt in that city, relieving Captain Henry Johnson, Medical Storekeeper, from duty as acting Assistant Medical Purveyor. S. O. 9, A. G. O., January 12, 1887.

BROWN, HARVEY E., Major and Surgeon. Granted leave of absence for six months on surgeon's certificate of disability, with permission to leave the Division of the Missouri. S. O. 9, A. G. O., January 12, 1887.

CORSON, J. K., Captain and Assistant Surgeon. Ordered to Fort Cœur d'Alène, I. T. S. O. 227, Department of Colorado, December 31, 1886.

MUNN, C. E., Captain and Assistant Surgeon. Ordered to Fort Canby, W. T. S. O. 227, Department of Colorado, December 31, 1886.

BANISTER, J. M., First Lieutenant and Assistant Surgeon. Ordered to Fort Cœur d'Alène, I. T. S. O. 227, Department of Colorado, December 31, 1886.

BARNETT, RICHARDS, Captain and Assistant Surgeon. Leave of absence further extended six months on account of sickness. S. O. 9, A. G. O., January 12, 1887.

WILSON, GEO. F., First Lieutenant and Assistant Surgeon. Leave of absence extended twenty days. S. O. 9, A. G. O., January 12, 1887.

Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending January 15, 1887:

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	12	8
Scarlet fever	45	6
Cerebro-spinal meningitis	6	6
Measles	641	72
Diphtheria	111	41
Small-pox	5	0
Yellow fever	0	0

MEDICAL SOCIETY OF THE STATE OF NEW YORK.—The following are some of the papers to be read at the next annual meeting of the Society, to be held in Albany, February 1st, 2d, and 3d: "A Plea for the Intra-uterine Medication," by Paul F. Mundé, M.D., of New York; "Separation and Displacement of the Upper Epiphysis of the Humerus in a Child two weeks old, caused by Violence," by William C. Wey, M.D., of Elmira; "Par-

oxysmal Cardiac Dyspnœa," by A. L. Loomis, M.D., of New York; "The Radical Cure of Reducible and Irreducible Herniæ, touching on the Advantage of the High Removal of the Sac and the Wound being Dressed openly to Secure a firm compressive Cicatrix," by R. F. Weir, M.D., of New York (discussion to be opened by A. Vander Veer, M.D.); "Observations on Reflex Nervous Disturbances," by W. E. Ford, M.D., of Utica; "The Influence of Small Doses of Salts of Lime and Potash on Muscle, Cardiac and Skeletal," by Sidney Ringer, M.D., of London, honorary member of the Society; "Is the Danger of Post-partum Hemorrhage increased by the Use of Anæsthetics during Parturition?" and "Remarks on Antiseptic Midwifery," by Fordyce Barker, M.D., of New York; "Remarks on the Indiscriminate Use of Pessaries," by J. W. Whitbeck, M.D., of Rochester; "The Therapeutic Uses of Bismuth," by F. A. Castle, M.D., of New York; "Is Modern Midwifery Meddlesome?" by David Little, M.D., of Rochester; "Some Important Points in the Management of Deep Urethral Stricture," by F. N. Otis, M.D., of New York; "Necessity for Complete Removal of Uterine Appendages whenever Operation is Called for," by A. Vander Veer, M.D., of Albany (discussion by Mr. Lawson Tait, F.R.C.S., honorary member of the Society, of London; and by W. Gill Wylie, M.D.); "Treatment of Membranous Croup" and "Peritonitis of the Infant," by A. Jacobi, M.D., of New York; "The Clinical Significance of Cardiac Murmurs," by Wesley M. Carpenter, M.D., of New York (discussion to be opened by A. L. Loomis, M.D.); "On a Case of Dislocation of the Head of the Left Femur under the Pubic Arch," by J. S. Wight, M.D., of Brooklyn; "On the Supposed Virus of the Chancroid," by F. R. Sturgis, M.D., of New York (discussion to be opened by F. N. Otis, M.D.); "Correction of the Deformity termed Pug-nose by a Simple Operation," by John O. Roe, M.D., of Rochester; "Surgery of the Lungs," by Roswell Park, M.D., of Buffalo (discussion to be opened by R. F. Weir, M.D.); (Subject to be announced), by C. R. Agnew, M.D., of New York; "Cascara Sagrada," by A. Hutchins, M.D., of Brooklyn; "Intubation of the Larynx," by E. L. Partridge, M.D., of New York; "Demonstration on the Cadaver of the Method of Intubation of the Larynx," by J. O'Dwyer, M.D., of New York; "An Unusual Method of ridding the Male Bladder of Small Calculi—with Case," by A. Dann, M.D., of Rochester; "The Duty of the Medical Profession in Promoting Cremation," by Sir T. Spencer Wells (honorary member of the Society), of London (discussion to be opened by A. Jacobi, M.D.); "Diagnostic Areas of the Human Chest," by J. R. Leaming, M.D., of New York; (Subject to be announced), by Alfred Mercer, M.D., of Syracuse; "Tobacco Amblyopia," by H. Bendell, M.D., of Albany (discussion to be opened by D. B. St. John Roosa, M.D.); "Practical Observations on Abdominal Surgery," by W. Gill Wylie, M.D., of New York; "Irregularities of Septum Narium as an Etiological Factor in Nasal Catarrh," by F. W. Hinkel, M.D., of Buffalo; (Subject to be announced), by George H. Fox, M.D., of New York; "The Duration of the Syphilogenic Capacity in Relation to Marriage," by P. A. Morrow, M.D., of New York; "The Management of Certain Forms of Varo-equinus," by A. M. Phelps, M.D., of Chateaugay (discussion to be opened by V. P. Gibney, M.D.); "An Unusual Form of Diphtheritic Paralysis," by Laurence Johnson, M.D., of New York; "The Palliative Treatment of Cancer of the Uterus in its Later Stages," by A. F. Currier, M.D., of New York; "Perineorrhaphy," by W. W. Potter, M.D., of Buffalo; "Physiology of Menstruation," by Bache McE. Emmet, M.D., of New York; (Subject to be announced), by William Hailes, M.D., of Albany; "External Urethrotomy," by L. B. Bangs, M.D., of New York; "The Intoxicant Habit," by H. R. Hopkins, M.D., of Buffalo (discussion to be opened by William C. Wey, M.D.); "Transfusion of Saline and Saccharine Solutions in Cases of Extreme Exhaustion," by Joseph W. Howe, M.D., of New York; "Some Points of Medico-legal Interest in the Scientific Investigation of the Case of the People *vs.* Roxalana Druse, together with an Exhibition of Specimens representing the *Corpus Delicti*," by A. Walter Suiter, M.D., of Herkimer; "Questions in Nutrition," by E. V. Stoddard, M.D., of Rochester; "A Plea for a More Careful Investigation of the Urine in Infants and Young Children," by L. E. Holt, M.D., of New York; "Tests for an Antiseptic" and "Two Cases of Transplantation without Pedicle from Arm to Eyelid," by Lucien Howe, M.D., of Buffalo; "Report on Ninth and Tenth Series of One Hundred Consecutive Cataract Extractions performed according to Von Graefe's Method," by H. Knapp, M.D., of New York; "Details of Antiseptic Treatment in Emergencies and Private Practice, with Practical Demonstration of Methods," by A. G. Gerster, M.D., of New York; "The Relation of Laryngeal to Pulmonary Phthisis and the Importance of Local Treatment," by C. C. Rice, M.D., of New York; "The Obstetrical Experience of a Country Practitioner," by J. V. Kendall, M.D., of Baldwinsville; (Subject to be announced), by L. Duncan Bulkley, M.D., of New York; "A New Means of Treatment of Disease of the Frontal Sinus," by D. H. Goodwillie, M.D., of New York. The preceding list comprises all of the papers offered for the meeting up to January 7th. It is probable that other valuable articles will be presented. A resolution will be introduced at the opening session, limiting readers of papers to twenty minutes. When in excess of this time, articles should be read in abstract. Many readers fail to impress the Society, because they are unfamiliar with their manuscripts, or cannot be heard except by a few of the members present. The following gentlemen have been selected to act as the Business Committee of the Society: F. A. Castle, M.D., 55 East Fifty-second Street, New York; Laurence Johnson, M.D., 363 West Twenty-eighth Street, New York; Archibald Dann, M.D., Rochester. For information about the foregoing papers, or others not yet announced, address the Chairman of the Business Committee. All physicians wishing to attend the meeting of the New York State Medical Society, to be held at Albany, February 1st, 2d, and 3d, are informed that the New York Central Railroad Company have kindly consented to issue excursion tickets at the rate of a fare and a half, $4.65, the regular rate being $6.20. It is the intention of the majority of the delegation to go to Albany, January 31st, at 3.30 P.M. If a sufficient number can be obtained for that train a drawing-room car will be furnished for their exclusive use. Drawing-room fare, $1. All gentlemen who can arrange to go on that day and train are asked to notify the Secretary of the Delegation, Dr. Clarence C. Rice, 115 East Eighteenth Street, on or before January 25, 1887. Certificates for tickets can also be had by application to him.

War as a Therapeutic Agent.—Montaigne relates that Jason Phereus, being given up by his physicians for an abscess in his chest, and wishing to make an end of his life, threw himself headlong into a battle in the midst of his enemies. He received a wound through the body which emptied his abscess, so that it healed and he recovered.

The Best Way for the Doctor to Prove his Skill.—A writer in London *Truth* says: "A doctor may very easily make a fair reputation and a good deal of money without much knowledge of medicine; for this reason, that the science of medicine is a closed book to the vulgar. When a man dies, none of his friends (unless there chance to be a coroner's inquest) know in the least degree what killed him. And if you call in some great medical gun at the last moment, the great medical gun is sure (indeed, I believe by the etiquette of the profession he is bound) to tell you that your doctor has 'treated the case most judiciously.' On the other hand,

when a sick man gets well, no one knows what cured him, and the doctor—who was, perhaps, on the wrong track throughout—gets all the credit. Thus, the best—indeed, almost the only—way in which a doctor can convince his patients that he is wise and knowing in his profession, is by showing them that he is a clever and well-informed man out of his profession. Of his science as a doctor they are not in a position to judge; but if he talks sensibly about subjects which they do understand—stocks and shares, and pictures, and last night's debate in Parliament, and has fair luck with his cases—then his patients will trust and swear by him. I remember one very sad illustration of the injury which a doctor does himself who drops behind in his general information."

The Difference Between American and German Scientists' Meetings.—At the monthly meeting of the Society of Natural Sciences, held at the Buffalo Medical College Building recently, Dr. Julius Pohlman read a paper on the German Association of Naturalists and Physicians, to the meeting of which at Berlin he was sent by the American Association for the Advancement of Science, at its session in Buffalo last summer. "The two bodies," he says, "differ about as much as the average go-ahead American differs from the easy-going, conservative German, who fully believes in the philosophy of rest and recreation. While in the American Association success is estimated by the number of papers presented, the main point with the Germans is to have a good time, and scientific work is of secondary importance. The constitution of the German Association is a curiosity in its simplicity, and its eighteen paragraphs hardly fill one small octavo sheet; by-laws do not exist at all." The association has existed since 1822, and has held fifty-nine annual meetings, having been prevented five times from meeting by war or epidemic. The association devotes its time largely to medical research, and of the thirty sections which compose it, nineteen are for the advancement of different branches of medicine. Though the organization is of the loosest possible, there is no doubt of its permanency; its very age shows that of itself.

The Blood-Corpuscles and the Liver.—In health, as is now well known, the effete red corpuscles are broken down in the liver, a great diminution occurring in the number of corpuscles found in the portal vein—a diminution which, during active digestion, is often as great as from 1,000,000 to 2,000,000. The effete hæmoglobin thus brought to the liver is, under ordinary circumstances, converted into pigment and urea; and, as the recent experiments of Dr. Noel Paton show, any increase of hæmolytic action results in an increased formation of urea and an increased amount of pigment in the urine.—C. H. Ralfe, in *The Lancet.*

Endemic Idiopathic Bubo.—Dr. E. Mory, surgeon to the Dutch cruiser Atjeh, in Curaçoa, describes what he thinks to be a hitherto unrecognized morbid condition, which he calls "bubo-adenitis idiopathica endemica." He saw eighteen cases, all but one occurring in European new-comers, aged from eighteen to thirty-five. The disease developed itself, always rather acutely, in the course of three or four days, and consisted in the appearance of hard, painful, and very tender swelling of the inguinal lymphatic glands on one or both sides, the size of the tumor varying from that of a hen's egg to that of a man's fist. The swelling was accompanied by general malaise, slight fever (100° to 103° Fahr.), loss of appetite, and constipation. As a rule, the patients (sailors) remained disabled for about four weeks, then the swelling decreased, and pain was felt only after prolonged standing or walking. A complete resolution, however, was not observed in any of the patients up to the date of the article (for six months). Local therapeutic measures (iodine, mercurial ointment, iodoform, collodion, blisters, Goulard's water, cataplasms, massage, injection of a two per cent. solution of carbolic acid or ergotin) remained entirely useless. General means (salicyl, quinine, regulation of the bowels, absolute rest, light laxatives) only improved the constitutional state of the patients. Dr. Mory thinks that the disease in question is caused by an infection with the microbe of elephantiasis.—*British Medical Journal.*

The New Cure for Profanity.—A correspondent who is a "country doctor" has evidently been thinking a great deal upon the vaunted merits of anacardium, one of the homœopathic remedies for profanity. He calls attention to the fact that an item giving points in the use of this remedy appeared some time ago (September 4, 1885) in The Medical Record. The author of the original article, a contributor in a homœopathic journal, stated that one of the provings of anacardium was to induce profanity, but he recommended its use only in those cases in which the habit was a symptom of mental disease and not of loose morals. Anacardium, said this writer, cured a minister of the habit. Another remedy mentioned was nitric acid—we presume in very small quantities. We thus condense our correspondent's letter, and merely give his conclusions: "Most of my patients are attacked suddenly, and the paroxysms are very severe. The disease is apt to become chronic, however, if the cause is more or less persistent. An esteemed patient of mine drifted into this form by persisting in using a stylographic pen. I did not know of the new medicine at that time, and so had no opportunity of trying its continuous effect. Although this new remedy may be efficacious in mild cases, where the causes are trivial, in the severe paroxysms I can imagine it would be of small account. In the latter the case assumes that of a pronounced mental reflex, and, for the time being, appears to be incurable. The most marked example of suddenness of attack was in a clergyman who struck the bridge of his nose plump against the edge of a door in the dark room. He was for the time being entirely unconscious of his ejaculations. I have placed him under the remedy, and with a little care in avoiding the cause he has a promise of recovering his mental equilibrium. Another example of this paroxysmal mental reflex was in the person of a mild-mannered bank clerk who stubbed his toe during a moonlight stroll on an irregular plank-walk. This man refused to take the medicine until his toe felt better, so I had no opportunity for testing its merits. While it is always best to remove and prevent the cause of profanity, it is well to treat all patients who are predisposed to the disease by a continous course of medication up to the point of saturation. If this can be done it is not impossible, perhaps, for the patient to smile complacently when left by his train, or bless his stars when he slips on a banana peel."

Urticaria from Cow's Milk.—Dr. S. S. Cartwright writes that Dr. S. W. Reed, of Margaretville, N. Y., has a little patient, seven years old, in whom the use of cow's milk always produces an eruption of urticaria. Some four or five years ago he ordered milk for her, and, though told of the idiosyncrasy, insisted that she should take it. She did so, and was soon covered with an eruption of urticaria. A few days ago he ordered a poultice of bread and milk for a swelling on the child's neck, and in less than two hours an eruption of urticaria covered the neck and entire side of the face.

Musical Discrimination in a Dog.—Dr. W. H. Walshe says that he once saw a dog who invariably uttered a heart-rending howl when the note F sharp on the fifth line of the treble clef was struck on the piano. He had seen him rouse up out of apparent sleep at the sound. The animal proved, under repeated trials, perfectly indifferent to the semitone above and below that note, to its octaves, and, in fact, to all other notes.

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Original Articles.

THE VALUE OF QUININE AS AN ANTIPYRETIC IN PNEUMONIA.[1]

BY JOHN H. RIPLEY, M.D.,

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IN 1877, assisted by my lamented house-physician at St. Francis Hospital, the late Dr. Frank A. Langworthy, I made a number of experiments in order to test the value of quinine as a remedy in pneumonia, with especial reference to its alleged power to control the temperature. These experiments have since been added to, under my direction, by my successive house-physicians, Drs. C. M. Cauldwell, John Dorning, Frank E. Miller, M. L. Warrin, Arot Spence, and Horace B. Sweetser. This paper is based, principally, on forty-eight experiments, although a much larger number has been made; but, from various defects, the others have not been considered, though giving substantially the same results. The plan pursued was as follows: The drug was given as early as possible after the onset of the disease, and was tested in those cases only having a temperature of at least 103° F. The unmodified course of the disease was uniformly watched for several hours preceding the experiment. An effort was also made to obtain uncomplicated cases. The quinine, when administered by the mouth, was nearly always given in solution. The temperature was always taken in the rectum, the thermometer kept in the bowel three minutes for each record, and no change of thermometers allowed during any one experiment. No experiment lasted less than four hours, and a majority of them from six to twelve hours. In the earlier cases the temperature was taken every fifteen minutes; but as this proved to be a most laborious, as well as unnecessary, task, the intervals were subsequently prolonged so as to make the records half-hourly or hourly. The effects of the drug on the respiration and pulse were noted in about two-thirds of the cases, and certain other phenomena were also observed, to be referred to later on. The time of day of administration varied, but when a single dose only was given during twenty-four hours, the morning was generally selected, as it gave a longer period for observation; still, all parts of the day were represented. The patients were nearly all adult males, from nineteen to forty-five years of age. There was one child, a girl, five years of age, that took a number of large doses hypodermically. In 20 experiments a single dose of twenty grains of the sulphate in solution, by the mouth, was given; in 5, thirty grains; in 3, thirty grains daily in five-grain doses every two hours; in 2, thirty five grains in the same way; in 8, forty grains at a single dose, by the mouth; in 3, twenty grains hypodermically; in 3, fifteen grains hypodermically; in 3. ten grains hypodermically; and in 1, eight grains hypodermically. Results: In 1 case a reduction of temperature amounting to 4° took place after a dose of forty grains by the mouth, and in the child the temperature fell $3\frac{1}{2}$° five hours after a hypodermic injection of fifteen grains, this having been preceded by one of ten grains five hours before the second. There are 5 instances of a reduction of from $2\frac{1}{10}$° to $2\frac{1}{2}$°. There are 23 experiments showing a reduction of from 1° to $1\frac{4}{5}$°. There are 14 showing a reduction of less than 1°. There are 2 showing no reduction, and 2 with a slight elevation. The reduction here noted is the lowest point reached at any time during the observation. It was always of short duration, generally only a fraction of an hour.

There was no uniformity either in the time at which, after the drug was given, the temperature began to fall, or in the *duration* of the fall. In a large number of cases a slight lowering took place within fifteen minutes after giving the quinine, while in others it began in from half an hour to three hours. The time between the beginning of the fall and the commencement of the permanent rise was from two to ten hours—the longer duration was very exceptional. Neither was the statement of Jürgensen verified, that "the line of descent and subsequent elevation is very nearly straight." The temperature, even when taken every fifteen minutes, was found constantly varying, at one time a fraction of a degree lower, and then again higher, with, in a few cases, a lowering tendency.

The effect on the pulse and respiration, as to frequency, was neither consonant nor uniform; both were generally slowed, the pulse more often than the respiration—sometimes one was hurried and the other retarded. The impression made on the pulse and respiration was not a constant guide to that produced on the temperature.

Of the six instances mentioned above, in which the temperature was reduced over 2°, there was, pretty clearly, malarial poisoning in four, and in one the experiment was made on the seventh day of the disease, and the temperature never rose again after the recession, although no more quinine was given. Excluding these cases as not being fairly illustrative, the greatest reduction obtained was one and a fraction degree, except in a single instance. Practically, then, so far as we can judge from these experiments, the most that can be expected of from twenty to forty grains of quinine, administered daily to patients in the active stage of acute lobar pneumonia, is, that it will reduce the temperature between 1° and 2° F. in about half the cases, while in the other half the reduction will amount to less than 1°. When we add to this statement the fact that the lowest points reached are not even approximately held with certainty more than two to four hours, the results appear even less striking. It is not improbable, also, that in a number of instances the effect of the drug was apparent only, as such recessions of temperature occur, during the course of pneumonias, in the absence of all medical treatment.

That quinine is a feeble and uncertain antipyretic in pneumonia, is the conclusion arrived at from an analysis of the foregoing experiments. But this is not the only argument against its use. Contrasted with its inefficiency as an antifebrile are some marked deleterious effects on the digestive, circulatory, and nervous systems. When given by the stomach, even in moderate doses, if frequently repeated, it soon produces anorexia and nausea. In larger doses it not infrequently excites violent retching and vomiting, and prolonged intolerance of food and stimulants. Marked cardiac weakness, lasting several hours, and sometimes associated with dicrotic pulse, generally followed the maximum dose in these cases. Profuse, often cold, perspiration was another effect, taking place in from one to two hours after giving

[1] Read at the meeting of the New York Academy of Medicine, January 20, 1887.

the quinine. Epistaxis occurred in about twelve per cent. of the cases. Profound nervous depression, somnolence, delirium, muscular twitchings and tremblings, dilated pupils, and in two instances opisthotonos, were some of the results on the nervous system. In three cases the urine was examined both chemically and microscopically, before and after the ingestion of the larger dose of quinine. Chemically, albumen was much increased in quantity after the quinine in one case, and there also appeared in this specimen renal mucus and hyaline casts not present before.

These injurious effects of the drug more than counterbalance, in my opinion, whatever of good may be derived from its slight temporary reduction of fever. I cannot find in the history of these cases any evidence supporting the theory that it either shortens the course of the disease or lessens the mortality. Frank, uncomplicated cases have run the usual course in spite of it; while in other cases, portions of the affected lung hitherto unaffected, as also parts of the opposite sound lung, have become inflamed while the patient was under the full influence of it. I believe, also, that too much importance has, of late, been attached to the necessity of reducing temperatures, especially those of moderate degree. It is a matter of daily observation that patients with slowly resolving pneumonias, or with typhoid or typhus fever, bear such temperatures for weeks and still make good recoveries. Certainly, in the case of typhus and typhoid fevers, of which we have had, during the last few years, a very large number in the hospital, the mortality has been markedly less since we abandoned the former heroic measures for reducing temperature. Why should it be deemed necessary, then, in the case of ordinary pneumonia running a short course, to ply the patient with antipyretics?

That quinine given in pneumonia has any influence in arresting cell-migration may well be doubted. The crude experiments made on lower animals and reptiles seem to me to fall far short of a demonstration that the same effect will follow the introduction of the remedy into the system of man, by any of the ordinary methods of administration. In order to produce this inhibitory effect, Brunton says it would be necessary to give a full-grown man from forty-five to sixty grains. Of course this dose must be repeated every few hours, in order to continue our control over these little wanderers. It is unnecessary to say that this treatment could not be carried out. But leucocytes constitute only a small part of the exudates in pneumonia, and, granting that they all come by transudation, not much would be gained by their suppression. Much more would a remedy against them be indicated at a later stage in the disease, or even in a purulent bronchitis.

In conclusion, I believe that large doses of quinine should be abandoned in the treatment of pneumonia. If an antipyretic be indicated, we have in antipyrine, or even salicylate of soda, a remedy more certain, more powerful, and less injurious.

Forty-eight Experimental Cases of the Value of Quinine as an Antipyretic in Pneumonia.

No. of experiment.	Disease.	Temperature.	Amount, form, and method of giving drug.	Length of time observed.	Results on temperature.
1	Pneumonia, double	104 3/5 degrees	20 grains, in solution, per orem	4 1/2 hours	Greatest reduction, 1/5 degrees lower.
2	" "	104 2/5 "	20 " " "	7 3/4 "	" " 7/10 " "
3	" left	104 3/5 "	20 " " "	8 "	" " 1/2 " "
4	" "	104 1/2 "	20 " " "	11 "	" " 2 1/2 " "
5	" right	105 1/2 "	20 " " "	9 "	" " 1 " "
6	" "	106 3/5 "	30 " " "	7 "	" " 1 5/8 " "
7	" " pleuro-	103 1/2 "	30 " " "	10 "	" " 2 1/10 " "
8	" " "	102 3/5 "	30 " wafers "	10 "	" " 1/5 " "
9	" left	104 1/2 "	30 grains, daily (5 grains every two hours)	8 days	" " 1 " "
10	" right	104 1/2 "	30 " " " " "	3 "	No " 1 " higher.
11	" right pleuro-	104 1/2 "	30 " " " " "	4 "	Greatest " 1 1/2 " lower.
12	" " "	104 3/5 "	35 " " " " "	10 hours	No " 2/5 " higher.
13	" " "	104 2/5 "	20 grains, in solution, per orem	7 3/4 "	Greatest " 7/10 " lower.
14	" right	103 "	35 grains daily (5 grains every two hours)	3 days	" " 1 " daily.
15	" "	105 1/2 "	20 grains, in solution, per orem	9 3/4 hours	" " 1/2 " lower.
16	" "	106 1/2 "	30 " " "	7 "	" " 1 1/2 " "
17	" "	103 4/5 "	40 " " "	5 "	" " 2/5 " "
18	" "	103 2/5 "	20 " " "	4 "	" " 2 2/5 " "
19	" "	104 4/5 "	20 " " "	6 1/2 "	" " 1 4/5 " "
20	" "	104 "	20 " " "	6 "	" " 1 2/5 " "
21	" "	104 "	20 " " "	9 "	" " 1 " "
22	" double	104 4/5 "	20 " " "	4 "	" " 3 " "
23	" "	104 "	20 " " "	8 "	" " 1 4/5 " "
24	" "	100 4/5 "	20 " " "	6 "	" " 0 " "
25	" " pleuro-	104 3/5 "	40 " " "	9 "	" " 4/5 " "
26	" left "	106 "	40 " capsules, "	7 "	" " 4 " "
27	" " "	103 2/5 "	40 " " "	8 1/2 "	" " 2 2/5 " "
28	" "	104 3/5 "	20 " solution, "	7 "	" " 0 " "
29	" "	105 2/5 "	40 " " "	9 "	" " 1 4/5 " "
30	" " pleuro-	104 3/5 "	40 " " "	5 "	" " 2 1/5 " "
31	" double	105 "	40 " " "	9 "	" " 1 " "
32	" right	104 1/5 "	40 " " "	9 "	" " 3/5 " "
33	" left	104 "	30 " " "	8 "	" " 1 1/5 " "
34	" right pleuro-	104 3/5 "	20 " " "	6 1/2 "	" " 1 1/5 " "
35	" " "	103 1/5 "	20 " " "	8 "	" " 1 1/5 " "
36	" right	103 "	20 " " "	8 "	" " 1/5 " "
37	" double	104 1/5 "	20 grains hypodermically	7 "	" " 1 " "
38	" "	104 1/2 "	10 " "	5 "	" " 1 " "
39	" "	103 1/5 "	15 " "	7 "	" " 3 1/5 " "
40	" "	104 1/5 "	8 " "	7 "	" " 1 3/4 " "
41	" "	104 "	10 " "	7 "	" " 2 " "
42	" "	103 "	15 " "	13 "	" " 1 2/5 " "
43	" "	103 3/4 "	10 " "	9 "	" " 1/4 " "
44	" "	104 "	15 " "	12 "	" " 1 3/4 " "
45	" right	105 1/5 "	20 " "	4 "	" " 1/5 " "
46	" "	105 4/5 "	20 " "	6 "	" " 1 4/5 " "
47	" "	104 9/10 "	20 grains, in solution, per orem	10 1/2 "	" " 1 1/5 " "
48	" "	103 "	20 " " "	10 1/2 "	" " 1 " "

38 to 44 inclusive a child five years old.

Cocaine in Circumcision.—Dr. Charles Milne, of this city, seems, at present accounts, to have been the first to use cocaine in this operation, antedating the cases referred to in a recent issue of The Record. The case was one of hypospadias in a child two and a half months old, the operation being for the removal of the prepuce which was on the upper surface of the penis. An injection of eight minims of a four per cent. solution of cocaine was made into the prepuce, and the mass was removed without pain. The operation was performed on December 3, 1884, and was reported by Dr. W. O. Moore in a paper read before the New York County Medical Society on December 23d of the same year.

DEFORMITIES OF THE NASAL SEPTUM.

A New Operation for their Correction, with an Analysis of its Results in One Hundred and Sixty-six Cases, as Throwing New Light on the Pathology of Diseases of the Upper Air-tract and their Relation to the so-called Nasal Reflexes.[1]

By F. H. BOSWORTH, M.D.,

NEW YORK.

During the past two years I have operated upon a large number of cases of deformity of the nasal septum, in which the results of the operation have presented so many points of interest that I have felt myself justified in bringing them before you to-night, not only as demonstrating an unusually successful method of dealing with a very large proportion of cases of ordinary catarrhal disease of the nasal passages, but, which is of far greater interest, as throwing much light on the pathology and development of so-called "nasal catarrh," and its relation to diseases of the lower air-passages.

I purposely avoid repeating the very extensive observations which have been made by various writers, and the large statistics which have been compiled showing the frequency and character of septal deformities as the result of the study of skulls. From an ethnological point of view, possibly, they possess a certain amount of interest; from a clinical point of view I cannot but think the observations are deceptive, being made on the dry skull, in which the cartilages are entirely absent, and the vomer probably warped in the process of drying. Observations on the living subject and dead-house study certainly give us results of far greater accuracy. Classifications based on this method of study have been made by numerous and careful writers, which, in general, may be described as classifications based on the direction and extent of the deflected portion, as involving the cartilage alone, or the cartilage and vomer together, and as presenting ridges horizontal or vertical in direction. These observations, as made by Chassaignac,[2] Jurasz,[3] Lowenberg,[4] Jarvis,[5] John Mackenzie,[6] Gleitzmann,[7] and others, are undoubtedly correct. My own observations, however, lead me to think that there is a large number of cases of nasal obstruction due to deformities in the septum which cannot properly be classed as deflections. I would suggest, then, as covering the ground, a classification as follows: Deflection of the cartilaginous septum alone, in which we have the cartilage bent upon itself, as it were, and presenting a more or less obtuse angle in one or the other nostril, in which the projecting ridge in the majority of cases is vertical. Second, very rarely we have a deflection confined to the cartilage in which the projecting ridge approaches to the horizontal line. Third, perhaps the most frequent of the class of cases of genuine deflection is that in which the whole of the nasal septum, including both the cartilage and the bone, is bent to one or the other side, forming a ridge in which the projecting edge runs from before backward and upward. Fourth, still more rarely we find cases in which the cartilage is bent to one side, while the vomer is deflected to the opposite side, forming, as it were, a sigmoid flexure, producing obstruction in both sides. This classification is not a novel one, and in general is the one adopted by most writers. In addition, however, to these true deflections, we find a large number of cases which present a deformity of the nasal septum which cannot be called a deflection.

This deformity consists briefly of a prominent ridge running along the sutural lines, and which may be classed under three heads, in the order of their frequency, as follows: First, that in which the ridge is found along the line of junction between the vomer and the palatal process of the superior maxillary bone; second, that in which the ridge is found extending along the junction of the cartilage of the septum, and of the vomer, and ending abruptly at the junction of the upper border of the septal cartilage and the perpendicular plate of the ethmoid; third, that in which the ridge extends along the whole anterior edge of the vomer, including its union with the cartilaginous septum as well as the perpendicular plate of the ethmoid bone. This deformity is most frequently confined to one side, but may be developed on both sides of the same suture. It consists in a sharp-pointed spur or ridge, as it were, projecting on one side of the septum, with in no case a corresponding depression on the other. It is, therefore, not a deflection in any sense of the word. I know of no better way of explaining its existence than to regard it as a chronic arthritis, or, perhaps, a deforming arthritis as the result of an injury. The ordinary deflections of the septum we can easily understand as being the immediate result of traumatism; a blow on the nose producing a fracture of the cartilage, or of the vomer, and a permanent displacement, with or without acute symptoms. When we consider the prominence of the nose, and its liability to injury from any cause, we can easily understand how a deformity or a deflection of the septum would be one of the most frequent of occurrences, and I think it is far more frequent than is generally supposed. And, furthermore, without discussing the obscure and somewhat curious causes which have been assigned by various writers for the occurrence of these conditions, it is certainly a growing conviction in my mind that they are all, both deflections and deformities, due primarily to traumatic causes. Many instances, especially of deflection of the septum attended with gross deformity externally, are easily traceable to a specific injury, such as a fall or a blow. The large majority of the cases, however, I am convinced, are due to a mild traumatism, possibly of so slight a character as to be overlooked at the time, which has set up morbid changes which have developed marked symptoms at a later stage. This I regard as certainly the most rational method of explaining the deformities which I have described. Probably in a majority of the cases the injury has occurred during childhood, or even in infancy. Few babies when first learning to creep but have occasional tumbles, striking the nose. When we consider the character of its supports, it is difficult to see how these apparently trivial blows may not result in an arthritis, or even a deflection, which at the time gives rise to no symptoms whatever, but which in later years may develop very serious and very annoying symptoms. In a certain number of cases it would seem as if the two lamellæ which make up the vomer, as the result of a direct blow on the nose, were spread apart, sliding laterally, as it were, upon the junction with the superior maxillary, one lamella in one direction and the other in the opposite, forming thus a prominent spur in either side. Occasionally we see the lower edge of the vomer as a whole driven to one side, but far more frequently the two lamellæ separate in the manner described. That this sutural separation must result in a certain amount of arthritis is easily understood—this arthritis resulting in a thickening of the joint, and thus in a structural deformity. How this injury, occurring in infancy, may result in no untoward symptoms until ten, fifteen, or twenty years later I hope to make clear to you in the analysis of the cases presently to be given.

In the treatment of deformities of the nasal septum the object in view has been to restore normal nasal respiration. One of the earliest operations resorted to for this purpose was that of Blandin,[1] who made use of an instrument not unlike an ordinary shoe-punch, by which he removed small disks of the nasal septum at the projecting portion of the deflection, thus making an artificial per-

[1] Read before the New York Academy of Medicine, December 30, 1886.
[2] Bull. de la Soc. Chir., 1851–52. [3] Berlin. Klin. Woch., 1882, No. 4.
[4] Archives of Otology, March 1883.
[5] Trans. Am. Laryngological Assn., 1882, p. 69.
[6] Trans. Med. Soc. of Virginia, 1883. [7] Am. Jour. Med. Sci., July, 1883.

[1] Compend. de Chirurg. Prat., tom. iii.

foration of the septum. Now, in itself a perforation of the septum does not necessarily weaken the supports of the nose, nor give rise to any unpleasant symptoms; except that in a few cases which I have met—fortunately rare—the perforation gave rise to a whistle on inspiration. Unfortunately Blandin's operation, while relieving certain cases, was not capable of relieving the majority of them, while the extent of the deflection in many cases absolutely contra-indicated the removal of all of the offending tissue.

Probably a more rational operation was that of Adams,[1] which, in short, consisted in refracturing the septum by means of a broad, flat-bladed forceps, and afterward holding the fragments in position by the use of a screw clamp, which was worn in the nose, until the parts had become solidified. The difficulty about Adams' operation was twofold. In the first place, a broken septum has become so far thickened at the point of fracture that there is not room enough in the framework in which it stands to restore it to its original plane, and, furthermore, the point of fracture is the most difficult part of all the septum to break over, and even after extensive comminution prominences would still remain sufficient to impair the success of the operation. Moreover, the operation itself, as well as the subsequent treatment, were exceedingly painful.

I have performed Adams' operation in a number of cases, and while not a failure, in no instance was the result thoroughly satisfactory.

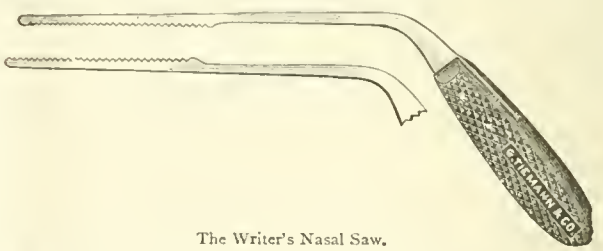
A still later operation was that suggested by Dr. A. J. Steele,[2] of St. Louis, who modified Blandin's punch in putting upon one of its blades a number of crossing knives in such a way that it would make stellate incisions through the septum, reducing the deflection part to a series of tongues or flaps, which could then be more easily brought into a vertical plane. Steele's operation was a great improvement on Adams' in that it substituted for irregular comminution definite and regular incisions. This operation again, however, is only adapted to a very limited number of cases, but is still valuable in those cases in which the deflection is confined entirely to the cartilaginous septum.

Dr. Ingalls,[3] of Chicago, has suggested a very ingenious little plastic operation on the septum, from which he reports most excellent results. His operation, in brief, consists in dissecting up the mucous membrane, cutting out a wedge-shaped piece of cartilage, and uniting the edges. Ingalls' operation first recognized the fact that there is redundancy of tissue in the deflected septum which will not admit of its being restored to the median line without first removing some of this redundancy.

Dr. Jarvis,[4] of New York, has also devised a method for operating on these cases, which consists in removing the offending tissue by means of the snare, transfixing-needle, and scissors, the details of which I need not describe. Dr. Jarvis secures most excellent results from his operation, as we can well understand from so skilful an operator. In my own hands, however, Jarvis' method has failed to secure that complete restoration of the nasal passages, necessary to a perfect result.

The rather novel and ingenious suggestion of Dr. John B. Roberts, of Philadelphia, of straightening and holding in position a deflected septum by the insertion of a pin, which is embedded within the cartilage in such a manner as to restore it to its normal plane, I have tried in a few cases. The operation is feasible only in cases of cartilaginous deflection, but in these is undoubtedly of much value.

These various operations have failed in my own hands to meet the requirements of the very large majority of my cases. Recognizing the fact that there was a redundancy of tissue in all cases, which must be gotten rid of, and that the object to be kept in view was to restore the nasal septum as nearly as possible to its original contour, I first tried paring away the projecting portion by means of a knife, as suggested by Chassaignac and Gross. I very soon, however, found that while my knife would easily go through cartilaginous tissue, it failed to make any impression upon bone, and, furthermore, that in the very large majority of cases the offending tissue was in part, or in whole, bony in character. I then resorted to several devices in the shape of cutting forceps and gouges, which I soon found were not only very painful, but exceedingly unsurgical; they failed to do the nicer work that was required. I finally concluded that the only instrument which could do the work was a saw. I procured one of Lent's subperiosteal saws, which, as you know, is a small, fine-bladed saw, mounted on a straight handle. This I found worked very well in a few cases where the projection presented at a prominent angle. In those cases, however, in which my saw was compelled to enter at a very sharp angle, the instrument failed to take hold. Furthermore, my hand obscured vision so far as to interfere with the operation. I then had a saw made with a thin blade, attached to a large handle at an angle of forty-five degrees. The saw was made with teeth set and crosscut, and on the ripsaw pattern, that is, with a forward trim to the teeth. This instrument did better work, but I still found difficulty in making it enter at a sharp angle. I then had the set removed from the teeth, still making the blade as thin as possible, and had the crosscut removed, the teeth being filed at right angles. I still met with difficulty in that the cutting had to be done with a single motion. I could not enter the saw, but could only cut with the motion of withdrawal. I finally gave the following directions to the instrument-maker: The blade to be as thin as possible, consistent with strength, an eight of an inch in width, five inches long, with a cutting edge of three inches, thirty teeth to the inch, each tooth an exact equilateral triangle, with no crosscut, and no set to the tooth; the handle being three inches long, attached at an angle of forty-five degrees. (See Figure.)



The Writer's Nasal Saw.

With this instrument I have now performed a series of operations, which I report to you to-night, with results so uniformly successful that I have felt myself justified in bringing it before you. The operation itself has been so successful that I feel convinced that it places in our hands a method of dealing with this troublesome condition which promises more uniformly good results than any other mode of procedure. But the results which I have obtained I think possess a far greater interest in that they throw a flood of light, it seems to me, not only on the pathology of intranasal disease, but also on the connection between diseases of the nose and the series of so-called nasal reflexes, such as asthma, deafness, cough, and other disorders. Before entering upon the report of my cases, I may say with regard to the operation itself that with the use of cocaine it is absolutely painless. I am disposed to think that we have been using cocaine in entirely too weak solutions. My own experience teaches me that a twenty per cent. solution is both more economical and more satisfactory in its action as an anæsthetic than the weaker solutions.

My mode of procedure has been as follows: First, with a Delano atomizer a twenty per cent. solution of cocaine is sprayed into the nostril, both on the obstructed and on the open side. At the end of two minutes a probe,

[1] British Med. Jour., October 2, 1875.
[2] Glasgow, Trans. Am. Laryngological Assn., 1881, p. 117.
[3] Trans. Am. Laryngological Assn., 1882, p. 61.
[4] Trans. Am. Laryngological Assn., 1882, p. 69.

wrapped with cotton, is dipped into the same solution and swept over the projecting portion of the septum, the membrane being by this time so nearly anæsthetized as to tolerate a thorough probing. The cotton pellet is used to bring the cocaine in more thorough contact with the septum, and also for more thorough exploration of the extent and character of the deviation. At the end of six minutes the parts are thoroughly anæsthetized. The saw is now introduced, and fixed in such a position that, in cutting, the whole of the projecting portion will be removed, the object being kept in view always to reduce the septum as far as possible to its normal outlines. In other words, it is to be sawed down as we saw a board out of a log. After the instrument has entered, the sawing is done with as rapid a motion as it is possible to give the hand, care being taken to make a straight cut without bending the instrument. In this way the saw is carried directly down through both bone and cartilage until it emerges at the lower edge. Occasionally I have used the reverse manipulation, and sawed from below upward, where the deflection was of such a character as to interfere with entering my instrument well above the point where the projection bent from the median line.

After cutting, the piece is generally easily removed by the forceps, or, if not thoroughly cut through, it can be removed by slipping the loop of the snare over it. The bleeding is profuse for two or three minutes, but in no case have I had any serious annoyance from hemorrhage. In two instances, I think, I have been compelled to plug, but in only two. Hemorrhage is arrested by clot, and I simply direct my patient not to expel the clot for three hours, when I think all danger of hemorrhage has ceased.

In regard to the operation, in only a single case of all the operations which I have performed have I cut through the septum, which illustrates the fact of its marked thickness at the point of fracture, and, furthermore, explains why Adams' operation for straightening is so often unsuccessful. I present here the pieces removed, which, as you see, although shrunken by alcohol, still show the character of the deformity as it existed, the relief that it must necessarily have given, and the cleanliness and surgical accuracy of the operations.

Objection has been made to these operations that they result in ulceration. Now I wish to say, in as positive a manner as possible, that in no case have I had any such result. The subsequent treatment is nothing. The healing process requires no attention. The parts heal up kindly, and, as a rule, with no unpleasant symptoms during the process. It has been charged that bad cicatrices result. Again, I say that I have seen no such result in any case. The mucous membrane reforms over the cut surface, and at the end of two months it would be difficult to recognize the fact that any cutting had been done. Too much importance cannot be laid on the necessity of a perfectly straight, smooth-cut surface. In one or two instances in operating I bent my saw, which is exceedingly flexible, in such a way as to make a hollow cut, sawing in a curve, as it were, leaving a depression on the surface of the septum. Whenever I have made such a mistake there has been exceedingly great annoyance from delayed healing, owing to the fact that mucus and bloody pus accumulated in the depression and formed crusts, and thus markedly interfered with the healing process. And herein, it seems to me, lies an objection to the rougher operation of the gouge and the forceps in removing these obstructions, as leaving an irregular surface for the lodgement of mucus and secretions. This, however, does not form ulceration. We meet with no ulcerations in the nasal cavity, except as the result of syphilis or some blood-poisoning. Delayed healing may occur, but not ulceration, after the operation; and delayed healing, I am positive, can only be the result of unskilful operating.

I will only add, with regard to the operation, that it should always be done, if possible, with the use of sunlight or some equally powerful illuminator.

The symptoms of a deformity of the septum, as will be seen later, are, I take it, the symptoms of the diseases to which it gives rise, viz., catarrhal inflammation, involving a greater or less extent of the upper air-passages. There is, however, one direct symptom which I regard as pathognomonic, and that is, an alternating stenosis of the nasal passages, by which the nasal obstruction sets in first on one side, then on the other.

This symptom is due to the marked weakness of the muscular coats of the blood-vessels, which is one of the earliest results of a nasal stenosis from a deformity of the septum, the diminished atmospheric pressure beyond the point of obstruction causing a chronic congestion, as will be seen farther on.

Recurring attacks of epistaxis, often excessive in character, are a frequent symptom, due to a slight erosion developing at the apex of the projection. These are far more frequent in slight deformities than in extensive ones, as the erosion, I deem it, is due to the ingoing current of inspired air, dust-laden as it often is, acting in a small way on the principle of the sand-blast. I might add that I have rarely seen a case of recurrent epistaxis in which the source of the hemorrhage could not be traced to an erosion at the apex of a deflected septum or in the concavity of the opposite side, where the erosion is due to the lodgement of incrustations.

The diagnosis should be a very simple matter in our day, when the cavity can be so thoroughly inspected after the reduction of venous congestion by the application of cocaine.

Any irregularity or projection in the vertical plane of the septum, of sufficient prominence to interfere even slightly with the free passage of air, must, I think, be regarded as an abnormality requiring correction.

A very distinguished authority on diseases of the throat has recently stated that "the appearance of the interior of the nose varies immensely in healthy persons." If by this is meant that the normal nasal cavity varies in appearance, I certainly take issue with the statement. A normal nasal cavity presents, in brief, a septum in the median line and in a vertical plane, each side of which presents a flat, smooth surface. This is flanked on either side by the turbinated bones, covered by a mucous membrane, in which a morbid condition should be recognized by the same tests by which we recognize morbid conditions of a mucous membrane in any other part of the body. Any departure from these conditions constitutes a morbid condition.

I have frequently heard the remark made by specialists that they have never seen a healthy nasal cavity. This seems to me a most lamentable confession. Healthy nasal passages are very common, and I have frequently had patients referred to me for examination whom I have sent away with the assurance that there was nothing for me to do. These were, of course, patients sent with reference to some supposed reflex disturbance.

During the past two years I have performed this operation on one hundred and sixty-six patients of whom I have kept records. This does not include a large number of cases operated upon casually, of which I have kept no records, and cases at my clinic at Bellevue, of which the records were imperfect. It includes only those cases which have been operated upon in my private practice, wherein the records were sufficiently accurate to warrant my making absolute statements in regard to them. These cases include all of those which have been recorded, without selection.

Its Relation to Hypertrophic Rhinitis.—Forty-five cases operated upon were for ordinary so-called naso-pharyngeal catarrh. I have never yet learned what was meant definitely by the term naso-pharyngeal catarrh. As far as I know, it had never been accurately located until the second volume of Mackenzie's work appeared, wherein it is described as catarrhal inflamma-

tion of the naso-pharynx, or vault of the pharynx. I seek in vain, however, in Mackenzie's chapter for light on the pathology of the disease—a foot-note under this heading refers to the article in his first volume on "Hypertrophic Granular Pharyngitis." On referring to this, however, I find nothing on the subject. This can only be explained by the fact that there are no pathological changes here to be described; the source of the trouble is in the nasal chamber.

Beverley Robinson is more frank, for while he has given us, in the second edition of his work on "Nasal Catarrh," undoubtedly the best *résumé* of the subject which has yet appeared, he plainly acknowledges his inability to offer any suggestion as to the pathology of this affection.

I think the general impression is, however, that it is a catarrhal inflammation involving the nasal cavity and the pharynx. My 45 cases, however, gave rise to a definite train of symptoms, much as follows: There was interference with normal nasal respiration, accumulation of mucus in the fauces, hawking and spitting, aggravated on waking in the morning, and special liability to colds in the head; in fact, the ordinary train of symptoms which we meet with in so-called nasal catarrh. The operation in these 45 cases resulted in cure in 32 cases and in relief in 13. In every case the operation was fully warranted, and in the least successful case I think I may say that the relief was very great. In a number of these cases there was, in addition to the operation, a considerable amount of treatment required, consisting mainly of cauterization of hypertrophied tissue on the turbinated bones; but in a majority there was a progressive improvement following the operation, by which, at the end of two or three months, the success of the operation was more noticeable than immediately after.

Now, it seems to me there is considerable to be learned from these cases. I believe that in everyone of them the primary source of the whole difficulty lay in the deflected septum producing nasal stenosis and subsequent hypertrophic changes in the nasal mucous membrane, these constituting all the pathological changes which the nasal mucous membrane had undergone.

Its method of development is simply as follows: During infancy or childhood an injury to the nose had resulted in deflection or deformity of the septum, interfering with normal nasal respiration. With each act of inspiration that portion of the nasal mucous membrane which lay immediately behind the point of obstruction became subjected to diminished atmospheric pressure. This diminished pressure, acting on the soft, spongy, vascular tissues covering the turbinated bones, resulted in a tendency to abnormal turgescence. This action, very slight in the first few years after the injury, gradually developed a permanent hyperæmia of the blood-vessels. Now, it is a noticeable fact that if the obstruction be comparatively slight, this turgescence is developed in the narrow passage. If, on the other hand, the deflection is extreme, all the inspired air is compelled to pass through the opposite side, and this is the case in most instances, so that we have this chronic hyperæmia developing in the healthy side. Diminution of atmospheric pressure thus acts on both cavities. The result of hyperæmia, of course, is increased nutrition, and we have finally set up certain structural changes in the membrane proper. The blood-vessels, the large venous sinuses of the membrane become dilated, and the intravenous tissue becomes thickened, and we have as a result true hypertrophy taking place, a permanent structural thickening of the membrane. Now, as we have seen, the first symptom that occurs is nasal stenosis, with resultant mouth-breathing. Mouth-breathing is often said to be a habit. Mouth-breathing is never a habit; it is a necessity, due to the fact that the individual cannot get air enough through the nose. Now, this nasal stenosis may exist at the onset of the injury; but, as I have said before, the real catarrhal symptoms often do not set in until ten, fifteen, or twenty years later. The inference, it seems to me, is that this so-called vicious habit of mouth-breathing is by no means the vicious habit that has been claimed. It is not mouth-breathing which does the mischief. It is simply an adventitious feature of the disease. Mouth-breathing is not necessarily a mischievous habit. It is a necessity, and an evidence of a morbid condition elsewhere, and it is this morbid condition which causes mouth-breathing and all the unpleasant symptoms which are attributed to it.

The prominent symptom of a so-called "nasal catarrh" is the tendency to mucous accumulation in the fauces, with what is usually termed pharyngitis. Now, it is a popular impression that the excessive secretion of so-called faucial catarrh is due to the pharyngitis. But I have examined the pharynges of a vast number of patients, and I am convinced that pharyngitis is one of the rarest of throat diseases. The pharynx belongs to the food-tract, and not to the air-tract. The pharynx is inflamed oftentimes in connection with chronic gastritis, but never, I think, or very rarely, in connection with inflammation of the air-passages. The excessive secretion of so-called pharyngeal catarrh is not from the pharynx; it is from the nasal chambers; from the hypertrophied mucous membrane largely. It is a very popular impression that this so-called nasal catarrh gives rise to an excess of secretion; that a mucous membrane, the seat of chronic inflammation, pours out an increased amount of mucus. I think this is exceedingly doubtful. I believe the real truth of the matter is that, instead of increased secretion, there is probably diminished secretion. Certainly there is no marked increase of the secretion, as is the popular view. The secretion is perverted to that extent that it becomes thick and inspissated to a degree that it is not removed by the ordinary efforts at expectoration. The normal secretion of the nose is a very thin fluid mucus, of about the consistency of a thin syrup, so rendered by the exosmosis of serum from the turbinated tissues, which probably in the twenty-four hours amounts from fourteen to sixteen ounces. The nasal mucous membrane pouring out this large amount of serum, the mucus becomes diluted to that degree that it can flow freely into the fauces and, even, in large amount, without the patient being conscious of it. Now if the turbinated mucous membrane is thickened and hypertophied, as the result of a long-standing hyperæmia, the natural consequence is that the exosmosis of serum is interfered with, the normal nasal secretion becomes thick, and is removed with exceeding difficulty. Moreover, in the place of the normal transparent mucus we have a muco-purulent discharge, as it were; a discharge which contains a large number of epithelial cells, the excessive proliferation of epithelium being a part of the chronic hypertrophic process. In the forty-five cases already alluded to the success of treatment was primarily due to removal of the primary cause of the disease—as I take it, the obstructing deflection of the septum. After removal of that we were ready for the successful treatment of the hypertrophied membrane which had resulted from the deformed septum. The destruction of the hypertrophied tissue and the removal of the septum completed a perfect cure in these cases.

I think it but just to myself to say that in the thirteen cases which I report as only relieved, and not cured, some of them were so far benefited as to cease treatment. In others the deformity of the septum presented conditions which were beyond my manipulative skill to remedy, for I might say here that whereas a very large majority of the cases of deformities of the nasal septum are amenable to the operation which I have reported, we occasionally certainly must meet with cases which are beyond the reach of our skill, the deformity being so located high up in the nasal chamber, or so far back, as to interfere with the success of the operation. The teaching, however, remains, and it seems to me is unmistakable. The removal of an obstructing piece of the cartilage, which in itself performs no important physiological function, cures a long-standing catarrhal disorder. Its action is to re-

store normal atmospheric pressure to the membrane, thereby diminishing turgescence and restoring normal blood-supply, and, consequently, normal nutrition, to the part.

I have stated that the faucial secretion in nasal catarrh was due to secretion from the nose passing into the pharynx; this is only partly true. Much of the secretion in the fauces has its source in the glandular tissue in the pharyngeal vault. This mass of glands pours out a very large amount of clear, transparent mucus, whose function is to lubricate the bolus of food, and to facilitate its passage into the stomach. In health this secretion passes down behind the palate in large quantities, and without one being conscious of it, as all of us have noticed many times in examining the lower pharynx. Now, in hypertrophic rhinitis, as I have already asserted, the membrane is so much thickened that exosmosis is seriously interfered with. Hence the inspired air reaching the upper pharynx has a tendency to dry and render inspissate the mucous secretion there found; it lodges, therefore, a thick tenacious plug, which is voided with much difficulty. We have here again markedly diminished secretion, giving rise to a so-called naso-pharyngeal catarrh, and not an excessive secretion. That this is the true view, I think, is the unmistakable teaching of these operations. It has been the fashion in past years to treat naso-pharyngeal catarrh by local application to the pharyngeal vault, and we have a number of instruments, named after their devisers, to facilitate this manipulation. I doubt if a single case of the disease has ever been cured by this method. If it can be cured by operation on a deformed septum, without further measures, there can be but one conclusion—my reasoning is correct.

Its Relation to Chronic Rhinitis.—Twenty-one operations were done for simple chronic rhinitis, in which there was marked turgescence of the mucous membrane without structural hypertrophy. In these cases the prominent symptoms were especial liability to cold, nasal stenosis, snuffling, and watery discharges from the nose. It was a notable fact in these cases that a majority of them were under twenty years of age. The hyperæmia had existed for longer or shorter periods, but in no case sufficiently long to give rise to hypertrophy.

The prominent condition in these cases consisted simply in obstruction of one nasal passage, due to the deflection of the septum, with hyperæmia on one or both sides; the existence of hyperæmia, in contradistinction from true hypertrophy, being in every case easily recognized, as you know, by the local use of cocaine, which, expelling the blood completely from the membrane, enables us to detect a swelling due in one case to the mere hyperæmia, in another case to hyperæmia with hypertrophy. In most of these cases the immediate result of the operation was relief without further treatment, opening up the nasal passage, admitting of normal atmospheric pressure to the whole mucous membrane, under the action of which the hyperæmia and swelling subsided. In a few cases, where the normal tension of the coats of the blood-vessels had been so far weakened by the long-continued hyperæmia, a moderate amount of treatment was required. This consisted in the application of chromic acid, a caustic which I prefer above all others. The action of chromic acid is valuable to us, not only in destroying hypertrophied tissue, but also in reducing hyperæmia; for, as you know, after the turgescence has been reduced by the application of cocaine, a few crystals of chromic acid laid upon the parts destroy the superficial layer of the membrane, converting it into a more or less dense slough which adheres closely to the surface for three or four days and holds it down, as it were, and prevents a return of the turgescence, its action being not unlike that of a film of collodion.

Let me add in this connection, that an especial liability to colds in the head is one of the prominent symptoms of the class of cases mentioned in the above head, viz., deformed septum, with chronic hyperæmia of the turbinated tissues. It is an old teaching that chronic inflammation results from a series of colds; that chronic nasal catarrh is caused by frequent colds in the head, or by neglected colds. I have taught the same doctrine within very few years. Now, there is no such disease as nasal catarrh. No one has ever yet described the definite pathological changes which characterize it, or even its locality. It is merely a symptom and not a disease. Translate it into English, and call it a nasal discharge, and we get at its proper meaning.

The liability to colds in the head is to be regarded as one of the prominent symptoms of the early stage of a chronic rhinitis, the chronic inflammation commences first. This, it seems to me, is shown conclusively in studying the development of these catarrhal troubles in the upper air-passages. The same is true of the larynx, trachea, and bronchial tubes. A mild chronic inflammation is the first morbid change, and recurrent attacks of acute inflammation become a prominent symptom.

Its Relation to Diseases of the Larynx and Bronchi.—We come now to the consideration of those morbid conditions of the larynx, trachea, and bronchial tubes which are found dependent upon the nasal disorder, and which have been more or less successfully affected by the operation. Of bronchitis and laryngitis, or simple laryngitis, with an impairment of the singing or speaking voice, there were 5 cases, 3 of which were entirely cured, 2 markedly relieved. These were cases of clergymen and professional singers. Of bronchitis there were 18 cases, 8 of which were cured and 10 relieved; of simple irritative cough, due to mild hyperæmia of the larynx, with no evidence of bronchial trouble and no expectoration, 5 cases were operated upon with perfect success; of hay-fever there were 13 cases and 5 cures; hay-fever and asthma, 11 cases and 5 cures; of asthma alone, 12 cases and 6 cures; of rose-cold, 2 cases, both cured; of rose-cold and asthma, 2 cases, both cured.

There is much in this last series of operations which is exceedingly instructive with reference to the connection between diseased conditions of the nose and diseased conditions of the bronchial tubes. In order, however, to make clear my idea, and to make my paper complete, it will be necessary to briefly allude to certain views in regard to hay-fever and asthma, already expressed in a paper on this subject read before the American Climatological Association, May 28, 1885. We are too apt to regard the nose as the organ of olfaction, whereas it seems to me this function is somewhat adventitious. The olfactory nerve probably could find no more convenient place for its distribution than in the nasal chamber, because here odoriferous particles will most readily reach its terminal filaments. But this function is quite secondary in importance to the great respiratory function of the nasal chamber. Impairment of olfaction is not a grave matter. Impairment of the respiratory function of the nose may lead to most serious results. We are told that the function of the nose is to warm and moisten and purify the inspired current of air. This respiratory function essentially consists in the profuse exosmosis of watery serum, already alluded to, by which the ingoing current becomes more or less completely saturated with water, the warming and rarifying of the air being of far less importance than this. If by any cause the mucous membrane of the nose becomes the seat of morbid changes, this function is interfered with, and one of its direct results is, I believe, the development of a catarrhal inflammation of the larynx, trachea, and frequently of the bronchial tubes, due to the fact that the air entering the passages below has not been so thoroughly fitted to enter these delicate parts that it may not do injury. The long-continued action of this process is to develop morbid changes here. We often regard a laryngitis and bronchitis as the extension of a catarrhal process from

the nasal membrane. That such is the case I do not believe. There is no continuity of tissue. As before stated, the pharynx is not a part of the air-passage, its membrane is not inflamed in connection with disease of the air-passages. Extension of the catarrhal process must necessarily involve a continuity of tissue in close physiological relation, and this does not exist. That this is the true view I think is well shown by the fact of our utter failure for many years to treat successfully catarrhal disease in the larynx and trachea by local application, and by our final and striking success in curing such diseases by removing diseased conditions in the nose, to the exclusion of any local measures whatever, directed to the passages below. That there is a close physiological connection between the nose and the bronchial tubes is shown by numerous experiments. Hyperæmia of the nose is very apt to be followed by hyperæmia of the tissues below. An irritable condition of the nose is followed by a similar condition of the bronchial tubes. The probe passed into the nose will often cause quick, expulsive cough. In my paper, already alluded to, I took the ground that hyperæmia of the nasal mucous membrane, with weakness of vaso-motor control, was the result of diminished atmospheric pressure, caused by nasal stenosis, this being the primary factor in the development of hay-fever and asthma. It seems to me that there is an additional element to be counted upon here, and that is the close, quick, and intimate sympathy between the membranes in the two regions. What this is I do not attempt to explain.

We speak of it as reflex. Are we not in danger of extending the use of this term too far? I am disposed to think that we often use it to cover our ignorance of the real connection between obscure symptoms and the real seat of disease. Whatever the relation may be, I think the inference may be clearly drawn that a morbid condition in one region is especially liable to be followed by a similar condition in the other. Vaso-motor paresis of the blood-vessels of the nose, constituting inflammation, is liable to be followed by vaso-motor paresis in the larynx, trachea, and bronchi. Complete vaso-motor paralysis in the nose, constituting hay-fever, rose cold, etc., is especially liable to be followed by complete vaso-motor paralysis of the blood-vessels of the bronchi, constituting asthma. An application of cocaine to the nose I have seen relieve an attack of asthma in less than three minutes, and this in many instances. Can we explain this in any other way than as above? A single application of chromic acid to the turbinated tissues of the nose I have seen in very many instances relieve a cough instantly. This I have done with especial success in children, even as young as two years of age.

The action of the acid was here to reduce hyperæmia in the nose, which was immediately followed by the disappearance of the tracheal and bronchial congestion. We attribute the successful use of caustics in the nose to the destruction of tissues. This I regard as a mistake. The more important action is, I think, in controlling hyperæmia. In the same manner the removal of a septal deformity is followed by relief to the overcharged blood-vessels in the bronchi.

To make my point clear, I relate the following case: Mr. G——, aged twenty-seven, consulted me early in October, with the history of asthma commencing in 1873, mild in character for three years, but for the last ten years of so great severity as to compel him to seek relief in most of the health-resorts in this country and in Europe, but without success. His attacks usually came on at night, were worse in winter than in summer, and lasted weeks, and even months. His seasons of immunity, were most frequent in warm weather, rarely lasting over a few weeks at a time; occasionally, however, three months. His family history was clear of any neurotic tendencies, and an examination failed to reveal anything other than a prominent deflection of the nasal septum to the right, and very marked hyperæmia of the turbinated tissues of the left side. I advised an operation, which was consented to, and from the day of the operation to the present he has been entirely free from asthma. His health, which before was exceedingly delicate, has markedly improved. He has gained in flesh, and his chest measurement has increased about three inches, as he tells me.

This, as an illustrative case, it seems to me, is rather striking. The operation secured two results. It opened the left nasal passage by the removal of obstructing bony and cartilaginous tissue, allowed the air to enter freely, and subjected the mucous membrane of the turbinated bones to normal atmospheric pressure, under which their turgescence immediately subsided without further treatment. I have seen this patient several times since the operation, and made applications of chromic acid to secure greater patency of the air-passages as a protective measure. But the obstruction caused by the swollen turbinated tissues on the side opposite to the deflection was due to hyperæmia rather than to hypertrophy. A further result secured by the operation, then, in addition to removing the cartilaginous obstruction, was the relief of hyperæmia of the nasal membrane, followed immediately by subsidence of the hyperæmia of the bronchial mucous membrane. Asthma, as I have stated before, I believe to be the same disease as hay-fever. In hay-fever we have a complete paralysis of vaso-motor control of the blood-vessels which supply the mucous membrane of the nose, this complete paralysis resulting in their dilatation to the utmost extent, and at the same time resulting in the paralysis of the osmotic control, the watery discharge in hay-fever being the same discharge which occurs daily in health as constituting the respiratory function of this membrane. In health, under proper control, from twelve to fourteen ounces of watery serum are poured out daily. With the complete paralysis which occurs in hay-fever the amount may be five or six times this quantity.

Now in asthma the same thing occurs practically. An attack of bronchial asthma consists, I think, in the complete paralysis of vaso-motor control of the blood vessels which supply the bronchial mucous membrane. But here we have to do with a totally different anatomical condition. The immensely rich plexus of blood-vessels in the nose, when swollen to their utmost limit, completely block up this large passage, and pour out serum in large quantities. The minute blood-vessels of the bronchial tubes, when distended to their utmost limit under this complete vaso-motor paralysis, markedly diminish the calibre of the bronchi, and so interfere with respiration. The bronchial tubes do not possess the especial physiological function of serous exosmosis; therefore they do not pour out this large quantity of serum. The prominent symptom is merely that of obstructing the entrance of air to the air-cells. In the latter stage of asthma the attack passes off with cough and expectoration. The blood-vessels relieve themselves at this stage of the attack by a moderate amount of exosmosis, the turgescence subsides, and the sufferings of the patient are at an end for a time. Furthermore, in this connection, I might say that I think we have good reason for abandoning the old classification of bronchial, cardiac, and gastric asthma. In bronchial asthma, so called, or chronic bronchitis, the neurotic element is not prominent. The chronic inflammation of the bronchial tubes is the prominent factor; the asthma is an intercurrent symptom. The so-called gastric and cardiac varieties of asthma, I think, we must consider, in the majority of cases, if not in all cases, as nasal reflexes due to a diseased condition of the nasal cavity of an obstructive character. While the exacerbations may be precipitated by a temporary attack of gastric disorder or cardiac disturbance, which we can easily understand might be produced where the vaso-motor weakness already existed in the bronchial mucous membrane, I have seen no case of asthma—and my clinical records

cover a very large number in addition to those here reported—in which the source of the trouble could not be traced to disease of the nasal cavities. It is a very striking fact, however, that in a number of these cases, in which my diagnosis proved to be correct by the result of the treatment of the nose, one of the most prominent symptoms complained of was an exacerbation of the attack as a result of indigestion, with flatulence, and I have often found difficulty in convincing my patient that the primary seat of the disease was not in the stomach.

Another symptom which might be alluded to is the exceeding great frequency with which an attack of asthma commences with a sense of irritation of the nose and sneezing.

The special points, then, which I desire to emphasize are:

First.—That a nasal stenosis due to obstructive lesion must necessarily be followed, sooner or later, by hyperæmia of the membrane beyond the point of obstruction; this occurring first in the nose, and secondly in the larynx, trachea, and bronchial tubes.

Second.—A hyperæmia in the nose is liable to be followed by hyperæmia of the air-passages beyond, as the result of an intimate physiological connection between the two, both deriving their vaso-motor control probably from the same central ganglia; this hyperæmia, either in one location or in the other, tending toward the development, first, of catarrhal inflammation with hypertrophy, as shown in the cases of laryngitis and bronchitis dependent upon nasal disease, and only relieved by treatment of the nose, and, second, in those cases in which complete vaso-motor paralysis develops in the nose, giving rise to hay-fever, which sooner or later is followed by vaso-motor paralysis in the bronchial mucous membrane, causing true asthma.

Its Relation to Ear Diseases.—Twenty-four of my cases suffered more or less well-marked impairment of hearing, the hearing distance varying from one-fortieth to one-half normal. In addition to deafness there were hyperæmia and hypertrophic rhinitis in varying stages of development. As an immediate result of the operation in all cases there was improvement in the hearing distance; and as the result of further treatment, specially indicated in certain cases, 10 cases were ultimately cured, while 14 cases were relieved. Of these 24 cases, 8 suffered from noises in the ear, 4 of which were cured, and in 4 the operation failed to afford relief.

As regards the relationship between nasal disorders and ear troubles, I, of course, cannot speak as an expert. Many striking clinical facts, however, have come within my observation, which, it seems to me, throw much light on this question. Not only in deformities of the septum, but in a large number of cases of nasal difficulty, trouble with the hearing has been present; and the frequency with which it has been relieved by nasal treatment induces me to think that so-called catarrhal deafness is not due to an extension of the catarrhal process to the Eustachian tube. In examining the orifice of the Eustachian tube evidence of catarrhal inflammation is rarely seen. The inspection simply reveals this orifice lined with a membrane perfectly normal in appearance. With my imperfect knowledge of ear pathology I think the suggestion may safely be hazarded that in a very large proportion of cases the deafness is due, not to a catarrhal extension, but to rarefaction of air in the middle ear as the result of the nasal stenosis, and the closure of the Eustachian tube from hyperæmia rather than from inflammatory action, with the resultant depression of the tympanum and its loss of elasticity.

The further development into chronic catarrh of the middle ear follows in the same manner as in the air-passages. That it arises from an extension of the catarrhal process from the vault of the pharynx I do not believe. Disease in this region is exceedingly rare, except in children; but among them the large glandular tumors, so often seen in this region, are unquestionably a most prolific source of ear disease.

As regards tinnitus I have no suggestion to make. I simply offer the clinical fact that out of 8 cases 4 have been cured by the operation. Perhaps when the otologists shall have harmonized their views regarding the pathology of this distressing affection, the mechanical action of nasal stenosis in producing it may become more clearly understood.

In addition to the above class of cases I have operated on 2 cases of chorea, both of which were cured, with a moderate amount of subsequent treatment of hypertrophic tissue; 1 case of spasm of the glottis, cured; 3 cases of vertigo, cured; 1 case of epilepsy, operated upon December 1st, since which time there has been no attack as far as I have heard.

Upon the special relation existing between nasal disorders and these nervous affections I have no disposition to speculate. Spasm of the glottis, I believe, in far more cases than we recognize, is dependent upon laryngeal hyperæmia secondary to nasal disorder. The patients with purely nervous affections were benefited in their general health by the operation. The free entrance of air to the lungs through healthy air-passages I believe to be one of the best of tonics, as I have verified in numberless cases in which I have seen vigor re-established by treatment of the nasal passages. That this is the special indication in all of these cases of nervous disorders I am not disposed to say. That the treatment resulted in so much benefit in the above cases has been a source of satisfaction.

In closing this paper I have only to say that I have endeavored to give the result of the operation with as much accuracy as my records afford. When I say that an ordinary faucial catarrh has been cured, I mean that all the symptoms which rendered it a source of annoyance to the patient have been removed. What a complete cure is in catarrh is a nice question. It consists simply in the very accurate adjustment of the relations between mucous secretion and the respiratory exosmosis from the turbinated vessels. In the cases which I have reported as cured, I think the use of the term has been justifiable. In all cases, without exception, I think I may say that the operation has resulted in relief, and in most of the cases in marked relief to my patients. Many of the failures have been due to the fact that the deformity presented features which rendered it impossible to restore the septum to its normal plane.

In presenting these cases I desire to do so in all modesty, and would simply say that if I seem to write with undue enthusiasm it must be excused on the ground of many years of futile endeavor to devise some means of curing these heretofore intractable cases. If a device presents itself by which we do cure them, and cure them in flattering proportions, I think, perhaps, some little enthusiasm may be excusable.

It should be added that this action of diminished air-pressure, as the result of nasal stenosis, has been already alluded to by Dr. A. H. Smith, of this city, in The Medical Record for August 6, 1881. Dr. Smith takes the ground that its action is to produce hyperæmia, and, therefore, hypersecretion. As will have been noticed, I am disposed to think that diminished secretion is one of the essential conditions of so-called nasal catarrh, rather than hypersecretion. I will also add that since making use of this little saw I have been shown, by my friend Dr. Butlin, of this city, who has made a special study of the diseases of the eye and ear, an arrangement of the ordinary jeweller's saw which he has been using, since 1883, for the removal of these obstructions, with great success. I can only compliment Dr. Butlin in giving him this priority, and for the readiness with which he recognized the indications for treatment and the successful manner in which he carried it out. Dr. Butlin's operations were done for the relief of ear disease.

As regards my own instrument, I claim no especial pri-

ority—a nasal saw is not especially new, others have used it. I do claim, however, to have made an instrument which may be depended upon to do the work required, and, furthermore, to have demonstrated its value.

Before I close I desire to add a few words in regard to the causes of catarrhal diseases. We hear much of our American climate as a cause of catarrh, some charging that our frequent changes are the source of the mischief, while others attribute it to the dust-laden atmosphere. Climate has much to do in aggravating an existing morbid condition in the upper air-passages, but very little to do in causing it primarily. My own conviction is, that certainly a very large majority of cases are due to the injuries above described. Atmospheric conditions and climatic changes are not harmful to healthy mucous membranes; we must, therefore, look elsewhere for the true source of these affections. That it is in these deformities, in a large proportion of cases, my observations convince me more strongly day by day. As I have shown, the injury which causes them occurs usually in childhood when the parts are soft and especially liable to injury. This, then, it seems to me, is the time when the disease is to be prevented. We attach too little importance to a fall or blow on the nose in young children; we should, I think, recognize in it, a possible if not probable source of grave trouble in later years.

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THE DANGERS OF THE ADMINISTRATION OF ETHER IN NEPHRITIS AND IN BRIGHT'S DISEASE.

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The dangers thus arising are at present fortunately very well known, and I do not think that any experienced practitioner would now be likely to permit the use of ether in a case in which the existence of nephritis was recognized. There exists, nevertheless, a large number of cases of light or mild albuminuria, perhaps intermittent, and without renal symptoms or marked impairment of the health, in which the nephritis has not attained the fully developed dignity, as it were, of Bright's disease, and where the needed caution in the use of ether is liable to be, and often is, disregarded. The following case, which came most near to a fatal termination, will illustrate this:

In May, 1885, my patient, Mrs. X——, aged thirty-five, the kidneys being perfectly normal, underwent the operation of curetting the uterus, by Dr. W. Gill Wylie, some hemorrhoidal trouble receiving attention at the same time. Ether was freely administered, the patient being under its influence nearly thirty minutes. She bore it perfectly well, and no untoward results followed. In March, 1886, the patient having been exposed to severe cold, the kidneys became affected, there being evidences of slight catarrhal nephritis. Repeated examinations, however, showed no casts, and but very few renal epithelia, and though the specific gravity was low the amount of albumin was at all times slight.

I first detected albumin, March 5th, there being one-tenth of one per cent.; April 16th, specific gravity 1.003, with one two-hundredth of one per cent. of albumin; April 21st, specific gravity 1.006, one-fortieth of one per cent. of albumin; May 14th, specific gravity 1.003, one-seventy-fifth of one per cent. of albumin. Too little importance, as events showed, was attached to the low specific gravity, owing to the fact that the patient was of a very nervous temperament, and usually passed large quantities of urine. For several months preceding the operation there had been menorrhagia (it may be mentioned that the patient had uterine fibroids), and Dr. Wylie thought best to curette the uterus, which he accordingly did at 4 P.M., May 26, 1886. Ether was administered; the patient was not under its influence more than fifteen minutes; she bore it quite well, and, although she had considerable vomiting in the night, slept fairly, though she took little or no food.

The next day at 1 P.M. I was summoned in haste, and found her in a state of collapse; she was barely conscious, and could speak with difficulty, the action of the heart was very feeble and intermitting, there was great dyspnœa, and the breath had a strong odor of ether. Dr. Wylie soon after arrived, and we could not account for the collapse except in the supposition that the kidneys were at fault. Fortunately the urine passed since the operation, about eight ounces, had been kept, and we found this to be highly albuminous. A hypodermic injection of half a grain of morphine was administered, also ten drops of digitalis, and after that five drops in alternation from time to time with small doses of corrosive sublimate; whiskey was also given in small doses. The next morning she was out of immediate danger; the odor of ether was, however, apparent for two or three days. The evening of the collapse I was able to make a microscopic examination of the urine. I found acute hemorrhagic nephritis; there were hyalin, granular, and blood casts in abundance. On the 28th nine ounces of water were passed; after that the quantity increased and became abundant, amounting, indeed, in time to polyuria. The renal condition was so grave that it was followed by albuminous retinitis and dangerous cerebral congestion—June 27th, a month after the operation, uræmic convulsions being imminent. Acute catarrhal had been superadded to the original mild, chronic catarrhal nephritis. July 9th Dr. Hermann Knapp made an examination of the eyes and pronounced them to be in the convalescent stage of albuminous retinitis. At no time was there any œdema or, excepting immediately after the operation, nausea.

The patient has since quite recovered from the nephritis, by prolonged rest (nearly three months in bed), sweating, milk diet, and the use of appropriate remedies. For the three months preceding January 15, 1887, there have been neither casts, renal epithelia, nor even traces of albumin, while the average daily excretion of solids has been about seventy-five grammes. During the month of June it did not exceed twelve grammes, though she was taking then, however, next to no nourishment.

As regards the responsibility of the administration of ether in this case, there was, perhaps, too much of a division of labor between Dr. Wylie and myself, and a complication of peculiar conditions and various severe symptoms caused the real condition of the kidneys to be overlooked or undervalued. A year before, severe and dangerous vomiting was produced, by gastric catarrh in part and in part by uterine fibroids, so that the patient brought near to the verge of starvation, and nutrient enemata had to be resorted to. The urine was then carefully watched, and nothing abnormal being found, ether was freely given, and the curetting did much toward the relief of the vomiting. In the spring of 1886, as I have stated, I found only traces of albumin, and neither casts nor renal epithelia. The specific gravity was indeed very low, but, as I have said, I did not attach great importance to this, as polyuria was common with the patient, and as much of her deranged health had been attributed to hysteria by physicians, among others Debove and Charcot, who saw her with me in the autumn of 1885, these eminent practitioners being, however, wrong in this case.

Dr. Wylie had the urine of May 15th examined, and two hyalin casts with a trace of albumin were reported. In numerous examinations I had found mucous, but no inflammatory, casts, and believed these casts to be simply mucous. I placed the whole matter of the operation, administration of ether, and all, in Dr. Wylie's hands, as I had done the previous year, and I supposed he took it for granted that had I seen any objection to the use of ether I would have informed him. The urine should have

been examined by me the day of, or the one preceding, the operation. At the same time, had I found the urine no worse than May 14th, I would not then have objected to the careful administration of the small amount of ether that was required for the operation. Nevertheless, I shall never again sanction its use when there is any diffuse nephritis, before at least ascertaining that the kidneys are excreting something like the proper amount of solids; if they cannot perform fairly well the work of elimination of solids, it is safe to take it for granted that they are incapable of excreting ether from the system.

Thorny, however, as was the road that led to the eventual cure of the chronic interstitial nephritis, I am certain that nothing less than an acute illness with absolute physical helplessness on the part of the patient, who would not otherwise have submitted to treatment with any degree of thoroughness, and who was extremely imprudent in all such important matters as diet, dress, exposure to weather, over-exertion, etc., would have enabled me to bring about a healthful condition of the kidneys; and had not the progress of the chronic nephritis been arrested in the violent manner that it was, I am confident that by this time a bad condition of cirrhosis would have been established. The knowledge of whether a condition of acute or subacute nephritis preceded the use of the ether, or was produced by it, would, of course, be valuable. The patient's digestion had been greatly impaired, and there was violent vomiting, as there had been a year before, when no albuminuria existed; nevertheless it appears to me now that some of the nausea may this time have been produced by trouble of the kidneys

It is reasonable to conclude that the administration of ether must always affect the kidneys, functionally or otherwise. From the manner in which the brain, and spinal cord, and sympathetic nerve are affected by ether, it can be easily seen that the renal nerves, which are derived from the sympathetic through the solar plexus, the semilunar ganglion, and the lesser splanchnic nerve, may be so affected as to derange at once the normal circulatory conditions of the kidney, or suspend the vital action of formation on the part of the renal epithelia, or the functions of the glomerulus, producing anoxæmia or a deoxygenated state of the blood of the latter. The conclusions of Charcot (Leçons sur les Conditions pathogéniques de l'Albuminurie), deduced from the experiments of Nussbaum, Overbeck, Heidenhain, Goll, Stockvis, and others, are that the glomerulus is the seat of albuminous secretion or exudation, and that this secretion results from diminished slowness and pressure, or entire suspension of the blood-current in the glomerulus, anoxæmia resulting; increased pressure producing not albuminuria, but polyuria. The intimate and rich supply of every part of the parenchymatous and circulatory system of the kidneys is ably shown in a paper, by Dr. Holbrook, on "The Termination of the Nerves of the Kidney," read before the American Society of Microscopists, in 1883, an abstract of which I have given in the second edition of my work on Bright's disease. According to this, the nerves supplying the kidneys are mainly of the non-medullated variety, sometimes surrounding the arteries in bewildering number, encircling them around, above, and below, freely branching, bifurcating, and supplying all the neighboring formations with a large number of delicate fibrillæ, a plexus encircling every tubule; supplying the connective tissue extending into the layer known as the membrana propria, and even piercing this membrane, and penetrating into the epithelia and the cement substance between them; the nerve-fibres also give off delicate ramules to the afferent vessels, by which they enter the tuft and produce a delicate plexus spun around the capillaries. The distribution of nerves is richer in the convoluted and narrow than in the straight collecting tubules.

Dr. Lafont, in a paper read before the Société de Biologie of Paris in 1885, stated that the administration of nitrous-oxide gas always produced albuminuria. Chloroform, as regards its effect on the kidneys, seems safer than ether. I believe ether to be productive, when administered in nephritis, of a double source of danger; first, the production of paralysis of the renal nerves and their terminal filaments, leading to passive congestion, or inflammation of the renal vessels, glomeruli, etc.; and second, the impossibility, on the part of the kidneys, of the elimination of the ether, and its consequent retention in the system.

Chloroform is, I think, much safer. I have many times resorted to it in uræmic convulsions occurring in the puerperal state. and almost always with benefit; never, as yet, with any unfavorable consequences. The experience of many other—indeed, I believe, of most—physicians has been equally favorable.

Chloroform is, however, administered in operations much less frequently than ether, and I do not think that we are to pronounce its use in chronic nephritis absolutely unattended with danger. What evidence is there, for example, that some of the deaths after its administration may not have been owing to disease of the kidneys?

Fortunately for patients afflicted with renal disorders who suffer from conditions which are dependent upon the knife or upon surgical interference for relief, the skilful local application of cocaine has proved a sufficient anæsthetic in many severe cases.

The literature pertaining to the administration of ether when nephritis exists is not extensive. Among the most important articles are the well-known papers of Dr. Turnbull, of Philadelphia, published in 1880, and of Dr. William F. Norris, of Philadelphia, published in 1881, to which I may add an able paper by Dr. Wesley M. Carpenter, of New York, published in THE MEDICAL RECORD, February 6, 1886, valuable both as containing much original matter and as a *résumé* of what has been written.

If I have given the details of this case with some prolixity, it is because I have wished to do justice to the length and breadth of a common condition of mild albuminuria, apparently of small dimensions, but capable, when aroused by ether, of assuming very gigantic proportions and producing dire results.

HOW TO ABORT A FELON.—Dr. John T. Metcalf writes to the *Boston Medical and Surgical Journal*: "My father was a medical man, who graduated from the University of Pennsylvania in 1816 or 1817. In 1839 I learned from him that a felon could, if seen early enough, be made to abort by wrapping the finger-end with narrow strips of adhesive plaster. When pus has been formed, I learned twenty years ago, from a country doctor, that immediate relief and speedy cure would follow the gentle, slow separation of the nail from its envelope by means of a penknife blade, not too sharp, at the point nearest the seat of greatest pain. Very soon a drop of pus shows itself, and relief comes. I am aware that the plan described is known to many medical men. It was not known to me at the time referred to, when the country doctor showed me how to treat a paronychious patient, whose finger I was about to lay open by the 'free incision down to the bone, taught in the lessons of my great masters."

INTESTINAL CALCULI.—Dr. Hockenhull reports in the *Atlanta Medical and Surgical Journal* a case of a boy who was suffering from tenesmus. Examination of the rectum showed a mass of small hard stones, forming a complete wall, obstructing and distending the bowel. The stones were of a black color, and of a hard, flinty nature, and varied in size from that of a pea to that of the end of the little finger. According to the father's account the total number of stones extracted at the time and passed subsequently was four hundred and two.

Clinical Department.

PARANOIA.

Dr. Philip Zenner, of Cincinnati, reported the following case at a meeting of the Cincinnati Academy of Medicine, held on December 20, 1886: The patient was a married lady, twenty-eight years of age, who had always been in good health, never had uterine disease, and was always regular in her menstrual periods. There was no nervous disease in the family, but both parents and a sister had died of phthisis. She had always been apparently of sound mind, but since the death of her sister had been morbidly apprehensive of becoming herself consumptive, and hardly a month passed in which she did not consult some physician in regard to her lungs. A few days after her second confinement, which had been an easy one, she suddenly thought that she was dying, although there was absolutely nothing abnormal in her condition. Soon after leaving her bed, after this confinement, she began to have delusions that her neighbors were looking at her in a peculiar way, were talking about her, and wanted to injure her and her child. She insisted on moving away from the neighborhood, and was never thereafter content to stay long in one house because of her suspicions of her neighbors. She grew careless about her household affairs, and began to spend money lavishly. She also seemed to become weak in her will-power, and was unable to come to a decision in any matter. Her youngest child died three years after this change in her mental condition, and she grieved a good deal and grew worse rapidly. She now began to have suspicions that some one was trying to poison her by putting cannabis indica in her tea. When Dr. Zenner first saw her he tried to draw her attention to her physical condition, but though her memory and judgment seemed good in other matters, it was impossible to draw her mind away from her delusions or to persuade her that her suspicions were unfounded. She soon after attempted suicide, and was then removed to an asylum. She now has more constant hallucinations, hears voices, and believes that everyone who comes to the asylum desires to see her. Many prominent people, she thinks, are trying to liberate her; numbers have sent her presents of diamonds and costly apparel. There are several features of this case to which the author directed particular attention: 1. The absence of heredity or other predisposing causes. 2. An antecedent condition of slight hypochondriasis. 3. The special kinds of delusion—delusions of observation, of persecution, and of grandeur. 4. All the delusions have a certain logical basis; the basis is faulty, but the delusions follow logically from them.

The case reported was a typical one of paranoia. The most common order of development of symptoms is, first, hypochondriacal sensations; second, delusions of observation; then, delusions of persecution; and, finally, delusions of grandeur. The author then explained the origin of these delusions, and how one naturally grew out of the other. The delusions vary according to the subjective condition of the patient and his surroundings. One with hypochondriacal sensations about the genitalia is likely to have delusions of a sexual cast. One living in a monarchy is likely to believe himself to belong to the royal family, in a republic to be a statesman, reformer, etc. Some of these patients have great intelligence, which they continue to manifest after they have the disease; the majority are above the average intelligence. The disease occurs most frequently in those with a hereditary taint of insanity. There is often, in addition, asymmetry of the skull or other irregularity, indicating a personal predisposition to nervous diseases. The disease often breaks out at great physiological periods, as puberty, etc. It is sometimes caused by great emotional strain, injury to the head, and acute febrile affections, etc. The cases are often the source of great difficulty in diagnosis. The disease may be entirely overlooked. They are the kinds of cases which cause the most trouble in courts of justice. The diagnosis must be based especially on the logical basis of the delusions. The character of the delusions may be of value as pointing to the true disease. The author reported a case in which he was led to a diagnosis of paranoia by the fact that the patient was suspecting his friend of ill-treating him.

Mistakes are often made in supposing cases to be mania or melancholia on account of a gay or sad demeanor. The paranoiac may be either cheerful or depressed, according to the character of his delusion. It is often very important to make a correct diagnosis, because the prognosis in mania and melancholia is much better than in paranoia. The author reported two cases of his own in illustration of the importance of a correct diagnosis.

Paranoiacs often become addicted to drink, and then the alcoholism is likely to mask the real disease. The author reported such a case. The man, who had been sent several times to the asylum, and detained a few weeks as a case of alcoholism, shot at and wounded a man, an act to which he was prompted by his delusions, shortly before the author saw him. This would not have occurred if the true disease had been recognized and he had been kept in the asylum. The prognosis of paranoia is generally unfavorable, though the disease may be at a standstill for years.

The treatment should be of a tonic character.

EPITHELIOMA OF THE AURICLE.

Dr. J. W. Kales, of Franklinville, N. Y., reports the following case to prove that epithelial cancer in this locality may be of most malignant type, and that caustics are often most inefficacious in the treatment of the affection: "T. K——, sixty-five years of age, his father, grandfather, and some others in the family had died, and a brother has since died, of cancer. I cannot give further particulars of these cases. T. K—— first noticed a small scale on the upper portion of the helix of the left ear. From time to time scales were removed, and the cancer doctor applied his caustics. The disease was not cured, nor did the caustics do more than stimulate the growth. The application of the knife was refused. The growth of the epithelioma continued for about five years without affecting the health of the patient. Then it suddenly commenced to grow very rapidly. In two months the whole auricle was involved, and the disease was extending along the external auditory canal. The patient rapidly declined in health. The cancer in a few weeks involved the middle ear, and death claimed its victim. I have seen a large number of cancers, but I never saw one do its deadly work more rapidly than this epithelioma of the auricle."

HERNIOTOMY UNDER COCAINE.

Dr. Albert F. Fuchs, of Fredonia, Wis., writes: "Articles on operations under cocaine are so frequent as to have become tiresome, but I will, nevertheless, venture to contribute another to the vast number. On December 8th I operated on an incarcerated femoral hernia, in a man aged seventy-five years, under local anæsthesia by cocaine. Without going into details regarding the operation, I may be excused when I claim that it was quite difficult. The impediment to reduction was threefold, *i.e.*, an hour-glass constriction of sac, bands of fascia about the neck, and the femoral ring. The gut had been out, and there had been no movement of the bowels for eight days; pain and tympanites had been persistent and increasing for six days. Cocaine solution was applied with a Squibb's graduated pipette to the skin, and injected at numerous points into the cellular tissue. It

was used but once, and in all seventy minims of a four per cent. solution was consumed. The operation was painless, with exception of skin sutures, which were inserted two hours after the application of the cocaine. Recovery was typical of aseptic surgery. In this case local anæsthesia with cocaine was employed, not for the novelty of the thing, but because general anæsthesia was inadvisable. The old man had been suffering for years with putrid bronchitis, the discharge sometimes amounting to twenty-four ounces and over in a day. Momentary dyspnœa was very frequent and aeration of blood insufficient. The idea of giving ether or chloroform in such a case was not pleasant. I do not know, and it is immaterial, whether mine is the first herniotomy under cocaine; and it is hardly probable that I can claim priority of suggestion and use on patients suffering with putrid bronchitis and bronchial dilatation. I may be wrong when I claim that bronchiectasis is a contra-indication to the use of general anæsthesia; theoretically, I should judge it is."

SECONDARY SYPHILITIC INOCULATION OR CONTAGION.

Dr. J. J. Cassidy, of Toronto, writes: "In eighteen years' practice in this city I have treated two cases of chancre on the lip. Both patients were respectable young girls. The history of the first case is as follows: H. S——, eighteen years of age, Canadian, was brought to my office by her mother, to be treated for an indurated sore, situated about two lines below the red margin of the lower lip. The cervical glands were enlarged and tender. Dr. J. E. Graham, of this city, saw the case with me, and pronounced the disease a true chancre. Anxious to learn the cause of the disease, I questioned my patient as to her relations with gentlemen. She informed me that she was receiving attentions from a young man to whom she was engaged to be married. I asked if her affianced was of good constitution. She replied in the affirmative, and stated that she never knew him to be ill; but that, owing to overwork at the shop, he occasionally felt weak and was taking a tonic. I obtained a sight of the prescription, and, as I expected, the principal preparation in the formula was iodide of potassium. I then asked my patient to request her affianced to call at my office. He came. I informed him of my suspicions, but he denied having had any improper relations with women. His penis was free from disease. He had, however, a number of mucous patches on the inner surfaces of the lips and cheeks. He acknowledged having frequently kissed my patient, but stated that he had no idea that poison could be conveyed from his mouth, as he supposed his sores to have been caused by his habit of holding zinc nails in his mouth when working at his trade. I treated the patient for some months with mercurials, and learned subsequently that the pair got married; but their subsequent history has not reached me.

"M. C——, aged nineteen, Canadian, was receiving attention from a young man, and consulted me for an indurated sore, situated at the edge of the red margin of the lower lip. The cervical glands were enlarged and tender. In this instance I was unable to secure the attendance of the donor, and cannot therefore describe the state of his buccal mucous membrane. The young lady, however, stated that he had been taking mercury, and that he had a tender mouth. Mercurials were used in her case until the disease was cured. I cannot say whether these cases were instances of inoculation or contagion. I questioned both patients on this point, but neither of them remembered having had a pimple or an abrasion about the mouth previous to the appearance of the chancre. The presumption would therefore be in favor of contagion. I do not, however, consider the evidence conclusive. The same difficulty must surround the origin of chancre in the male. Not every man who presents himself with a chancre can say for certain that he had no abrasion of the surface of the penis before or during coitus. Everything considered, it is hard to say how the bacillus of syphilis effects an entrance into the body—whether it goes to the blood directly through an abraded surface, or through the lymphatics, or through both these channels. It is certainly, however, more reasonable to attribute syphilis to inoculation than to contagion. The interesting point for practitioners to know is that syphilis may be communicated from secondary lesions. A patient under treatment for syphilis should therefore be informed of this fact by his physician."

A FATAL CASE OF POISONING FROM CAMPHOR.

Dr. Mary J. Finley, of Mansfield, O., sends a report, read before the North Central Ohio Medical Association, of a case of camphor-poisoning. It is asserted that no undoubted fatal case of poisoning from this substance has ever been recorded. The writer states that she has been able to find reports of but two cases in which death was presumably due to an overdose of camphor. One was in a feeble infant, to whom thirty grains of powdered camphor had been given as a vermifuge. The second case was that of a woman, forty-six years of age, who took 184 grains in order to produce abortion. The abortion was produced and the patient died. The smallest dose known to have produced alarming symptoms in an adult is 20 grains; the largest dose recovered from is 160 grains. The following is the case reported by Dr. Finley: "On August 5, 1886, I was called to see a child, aged two years, and found it in violent convulsions. About an hour before that time the mother had heard it cry out in the adjoining room, and the child met her in the door, crying that its mouth was burned. A bottle which had contained an alcoholic solution of camphor lay on the floor; some of the liquid was spilled on the carpet, and the front of the child's dress was saturated with it. After taking a drink of water and having its mouth washed, the child made no further complaint, and appeared to be perfectly well. But in about half an hour it suddenly fell over in its mother's arms, apparently unconscious. It remained quiet for a while, when convulsive movements began, slight at first, but increasing in violence until I saw it. At that time the breathing was noisy and rapid; pulse 180, but not weak; skin moist and pale, but warm. The breath smelled strongly of camphor. I immediately ordered a warm bath, and while that was being prepared gave an enema of bromide of potassium and chloral. While the patient was in the bath the convulsive movements moderated, until there was only a spasmodic jerk of the right arm and side of the chest at intervals of several seconds; this was accompanied by spasm of the diaphragm. In half an hour the convulsions again became general, and the hot bath was repeated; bromide was again given in strong coffee by enema. The movements moderated as before, and finally ceased. Two and a half hours after the ingestion of the poison the child was comatose; breathing slightly sterterous, but normal in rapidity; pulse 100 and of good strength; skin natural in color, warm, and free from moisture. At this time Dr. A. J. Erwin saw the case with me. The child looked as though it was in a natural sleep; and from all previous experience with camphor-poisoning, and from the teaching on the subject, there was every reason to expect that the coma would pass into that condition, and the child would awake convalescent. But in less than an hour the convulsions returned with redoubled fury, and continued unabated until the little fellow expired. Death occurred in about four hours from the time the camphor was taken. The temperature during the final convulsion ran up rapidly. Immediately after death there was a free watery evacuation of, apparently, the enemata which had been ad-

ministered, and which had not been absorbed. The attempted medication by the rectum had, in all probability, no influence whatever on the course of the symptoms. The child could not swallow at any time after I saw it. I was told that it had vomited before my arrival, but the mother afterward informed me that it had not done so. The amount of camphor taken cannot be known with certainty. The mixture from which the child drank consisted of 15 grains to a drachm of sixty per cent. alcohol. It is not to be supposed that the child would take more than a single mouthful of this fiery liquid, and that it swallowed all of that is extremely improbable. It is strongly probable that the child did not swallow more than a drachm of the solution; if so, death occurred from 15 grains of camphor."

NOTES ON ANTIFEBRIN.

Dr. J. L. R. Wadsworth, of Collinsville, Ill., reports the following case, showing the results obtained by antifebrin in malarial fever:

"I received a telegram, calling me to the bedside of my daughter, in Kansas City, Mo., November 23, 1886, and found her suffering with an attack of continued malarial fever, that had reached the twenty-third day, under the excellent care of Dr. Schauffler, of that city. Dr. Schauffler had considered the case a mild one up to the twentieth day; but at this time the conditions were more serious. Temperature now ranged from 101.8° to 104.9°; pulse, 104 to 120; patient restless and sleepless. Medicine now failed to meet expectation. Quinia raked the stomach, not only in antipyretic, but in tonic doses. Antipyrin was followed by great depression, and with but little effect upon the temperature, although its previous use in this case had given the best results. These remedies had to be abandoned; and frequent spongings with water, and the internal administration of peptonoids, milk and whiskey, iron, ergot, and bromidia, were resorted to, to meet indications, with, however, but slight improvement for a few days. On the thirty-fifth day heart-failure threatened early dissolution. Thorough alimentation and stimulation were now pushed. Peptonoids (beef, milk, and gluten), ʒ j., with McMunn's Elix. opii, gtts. v., every four hours, alternated with whiskey, ʒ j., with tr. ferri chlo., gtts. xv., slightly broiled beef (which was relished) and water-toast, as would be taken by the patient. On the thirty-seventh day there was still no change for the better; the temperature was 104.2°. Pulse weak, irregular, and very compressible (so much so that it was with much difficulty counted), and ranging from 120 to 148. Dr. J. D. Griffith was asked to unite with us in the management of the case, and on the second visit suggested the use of antifebrin—a remedy entirely new to us, of which he had recently procured a small sample while in New York City, at the suggestion of Dr. A. A. Smith, who assured him that it could be given under the most unfavorable conditions of the heart's action; and we decided to use it. I gave it with the greatest care, accompanied by hourly observations of the temperature and pulse. Throughout the time of its use no change was made in the treatment last indicated, with the exception that, as on the thirty-eighth day, a slight exacerbation of fever, followed on the thirty-ninth day by a decided one, was noted. Quinia was administered at first hypodermatically, and later by enema. I could observe, however, no effects on the temperature from its use, but the exacerbations ceased.

It would seem, from the data obtained in this single case: First, that antifebrin in five-grain doses reduced the temperature as promptly as either quinia or antipyrin had previously done in this case.

Second, that, notwithstanding the very unfavorable conditions for exhibiting antipyretics, such as we have so far been familiar with, antifebrin gave no evidence of any depressing influence upon the system.

Third, that the effect of a dose of five grains upon the temperature commenced in about one hour from the time of administration, and continued for from three to seven hours, averaging a little less than four hours.

Fourth, that temperature was lowered from 1.3° to 4.5°, averaging a little over 2°.

Fifth, that the pulse-rate was lessened proportionate with the fall of the temperature, following the latter about one hour, both at commencement and termination.

Sixth, that the pulse-rate was lessened from two to sixteen beats, averaging about six.

Seventh, that recurring exacerbations of fever disturb the action of antifebrin; and, in the above conclusions, I have tried to eliminate the results of this disturbance, and enumerate only its effect on the fever without the marked exacerbations.

Finally, fully recognizing that "one swallow does not make a summer," I still offer this observation to the profession, with the hope that others may be led to investigate the drug, and more fully determine its value; and if it should be proven to be a non-depressant antipyretic, it will rank among the most valuable drugs which we possess.

CASE OF INVERSION OF THE UTERUS REDUCED, EIGHTEEN HOURS AFTER ITS OCCURRENCE, BY NOEGGERATH'S METHOD.

Dr. Alonzo Pettit, of Elizabeth, N. J., reports the following case: Mrs. W. G——, aged thirty, was attended in her second confinement by Dr. ——. The labor was natural, and occupied about twelve hours. Two half-drachm doses of fluid extract of ergot were given before the birth of the child, and another before the delivery of the placenta. At the close of labor the uterus was found inverted in the vagina. The patient was in a state of collapse from shock, so that efforts at reduction were not persisted in.

Under the use of stimulants reaction was established, and after the lapse of eighteen hours the operation of reduction was performed—present, Drs. Schleimer, Hough, and Crane.

The patient being etherized, the writer introduced the right hand into the vagina, grasped the uterus, and squeezed it firmly for a few minutes. In this way a good deal of blood was expressed from its sinuses; the uterus was considerably reduced in size, and its walls were rendered softer and thinner. It was then found that an indentation could be easily made in the region of the left cornu. This was gradually extended to include the fundus, and the reduction was then completed without difficulty. Counter-pressure was made continuously with the fingers of the left hand into the ring of the os, above the pubes. The time occupied was about twenty minutes. The recovery was complete, and was not attended by any unfavorable symptoms.

THREE CASES TREATED BY INHALATIONS OF OXYGEN GAS.

Dr. L. C. Winsor, of Spirit Lake, Ia., reports the following cases: Case I.—A boy, aged eighteen months, was suffering from a severe attack of laryngismus stridulus and chronic bronchitis. The child was weak and anæmic, and seemed to be of a strumous diathesis. Cod-liver oil inunctions were made twice a day, and syrup of the iodide of iron, bromide of sodium, iodide of potassium, and lactopeptin were given internally. This treatment was varied somewhat during two months, but was on the same general line. The child had a fair appetite, but did not gain in flesh or strength. All medicines, except cod-liver oil, iron, and pepsin, were now discontinued, and inhalations given of equal parts of oxygen and nitrous oxide. The first night following this the patient slept much better than for two months before, and he began

from this time to regain his strength. At the end of six weeks he was in very good condition, the lungs were normal, appetite and digestion were good, and there had been a marked increase in flesh and strength.

Case II.—A woman, aged thirty-four, had been for several hears in delicate health, and had trouble at the apex of the right lung. Upon being called to see the patient, Dr. Winsor found her suffering severely from dyspnœa; the respirations were 57 per minute; pulse 120, small and weak; temperature 99.5°. Physical examination revealed the presence of a capillary bronchitis in the lower lobes of both lungs; mucous râles were heard over the upper lobes, and there was dulness over the lower lobes, and in some cases flatness. The patient had been suffering from dyspnœa for tweve hours, and was gradually growing worse. She was unable to lie down or to walk across the room. Commencing cyanosis was present. Inhalations of pure oxygen were begun at once, and at the end of five minutes, after three inhalations of five breaths each, the patient became easy, the breathing was slower, pulse slower and fuller, and the cyanosis disappeared. Whiskey and carbonate of ammonia were given, a hot flaxseed poultice was applied over the chest, and inhalations of oxygen were given every fifteen minutes. At the end of eighteen hours the inhalations were reduced to once an hour. Two days later the patient was very comfortable and much stronger. Physical examination showed almost entire absence of râles over the upper lobes, the dulness was less marked over the lower lobes, and the chest was expanding well. Respiration, 23; pulse, 80; temperature, normal. The patient continued to improve and made a good recovery.

Case III.—A young woman, nineteen years of age, who had been subject to severe headaches, biliousness, and constipation, came under treatment for anæmia. There was extreme pallor of the face, lips, and conjunctiva; the pulse was 120; a loud anæmic murmur was to be heard in the neck; the patient was weak and suffering from headache and nervousness. Inhalations were given of a mixture of equal parts of oxygen, nitrous oxide, and air, and tincture of iron and Fowler's solution were also ordered. The inhalations were practised twice a day, five breaths being taken each time. In two weeks the patient was feeling very much better. The murmur had disappeared, the lips and face were of a healthy color, and the headache and nervousness were but little complained of.

Dr. Winsor reports that he has also two cases of pulmonary phthisis in the second stage now under treatment by inhalations of oxygen and nitrous oxide. Both patients have gained in flesh and strength, but they have been under observation for too short a time to enable him to say whether the improvement will be permanent or not.

A CASE OF EARLY DENTITION.

Dr. L. C. Winsor, of Spirit Lake, Ia., reports a case occurring in his practice, of a boy, aged seven weeks and six days, who has already cut the canine tooth in the upper jaw on the right side, the corresponding tooth on the other side is almost through, and the gum over the two central incisors of the upper jaw is swollen, and the teeth seem about to appear. The father and mother are both healthy, and at the time of conception the father was in the habit of walking sixteen miles every day. The diet of both consisted of ordinary food, with the exception of more fruit than is usually eaten. During the latter part of gestation the mother ate oatmeal in considerable quantities. Both father and mother lived in the open air (he being a civil engineer) a greater part of the period of gestation. The child is very healthy in every respect, although he is being fed with the bottle. Dr. Winsor adds that he would be glad to be informed of any similar cases on record.

A CASE OF ACUTE INDO-CYCLITIS WITH PERSISTENT INCREASED TENSION SUCCESSFULLY TREATED BY "BADALL'S" OPERATION.

Dr. A. P. Gilmore, of Chicago, Ill., reports the following case: Mr. J. R., aged thirty-five, presented himself at the Eye and Ear Infirmary, August 10th, suffering from a severe attack of what seemed to be idiopathic indo-cyclitis of the left eye. He had never had sore eyes before. There was considerable pericorneal injection, pain over the ciliary body, augmented tension, severe pain, annoying lachrymation, photophobia, and blepharospasm. The usual treatment was adopted, atropine alternating with eserine and massage, leeches, hot water, and anodynes. The eye did not improve, the pain grew worse, and the tension increased. As he had suffered with syphilis ten years ago he was placed on anti-syphilitic treatment, but with no relief. Opiates were given at night to produce sleep. This treatment was continued three weeks, with only occasional relief, followed by renewed exacerbations.

I suggested to him, with some reserve, Badall's operation, to which he readily consented, and the operation was performed without an anæsthetic. The result was most gratifying; the pain subsided, the tension diminished, and the patient slept that night without narcotics.

The next day both subjective and objective symptoms were much improved. I discontinued all other treatment excepting the atropine, which was continued for four days after the operation. On the tenth day the patient was discharged cured, with normal vision. He was seen again on December 1st, and states that his eye has been perfectly well since the operation.

"Badall's" operation consists in neurectomy of the nasal branch of the trigeminal nerve, and is employed by the originator for persistent and painful increased tension in glaucoma. The results of the operation are due to reflex action on the eye through the branches of the fifth nerve. The operation has been indorsed by Abadie in his observations on glaucoma, and adds one more to the class of anti-tonic operations, such as sclerotomy, iridectomy, paracentesis, etc.

Bicarbonate of Sodium in Tonsillitis.—Some years ago Dr. Giné y Partagás proposed the local use of sodium bicarbonate in acute amygdalitis, and claimed that the drug was of great utility in the abortive treatment of this affection. Dr. Rovira y Oliver has republished, in pamphlet form, a series of articles bearing on this subject, which appeared in different issues of *Gaceta Médica Catalana* during the past four years. He reports a number of cases of simple catarrhal and parenchymatous tonsillitis in which a thorough trial of this remedy was made, and his conclusions are not wholly in accord with those of Dr. Giné. He thinks that in certain cases local applications, made every two or three hours, may prove of service in shortening the duration of the disease, but that the remedy cannot be considered in any sense as abortive of the inflammation. And very frequent applications, every five minutes, as recommended by the proposer of the method to cut short the disease, Dr. Rovira believes to be positively injurious rather than beneficial.

Students in the Italian Universities.—During the winter of 1885–6 there were 14,633 students in the universities of Italy, of whom 3,894 were at Naples, 2,073 at Turin, 1,216 at Rome, 1,163 at Bologna, 1,008 at Padua, and 1,005 at Pavia. The other universities had less than 1,000 students each, and at Ferrara there were but 39. Of the total number 5,195 were students of medicine.

A Dispensary in Kabul.—The Amir of Afghanistan has established a dispensary in the city of Kabul, and has placed it in charge of Dr. Abdul Kadir.

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THE COMPARATIVE DIGESTIBILITY OF THE DIFFERENT NITROGENEOUS FOODS.

THE subject of food is one of perennial interest, and anything new bearing upon it is sure to receive attention. Certain experiments recently made by Dr. J. W. Fraser upon the comparative digestibility of the different albuminoid bodies are *à propos* of this remark. He found first, experimentally, that the different substances—serum albumen, egg albumen, myosin, syntonin, casein, and gluten—varied considerably in their digestibility when acted upon by peptic or pancreatic solutions. Further tests were made, therefore, to determine the exact amount of these differences. The substances were taken in amounts of about two grammes, and were submitted to an artificial digestive process for six hours at a temperature of 100° F. The percentage of the substance digested was determined by dialysis.

The experiments showed that serum and egg albumen head the list in digestibility by pepsin (1.97 and 1.96 per cent.); next came syntonin, or acid albumen (1.25 per cent.) (made by submitting raw beef to a dilute hydrochloric-acid solution); myosin, raw and cooked, was quite high in the scale also (1.03 and 1.04 per cent.); while cheese (casein), cooked albumen, and vegetable albumen, or gluten, stood at the bottom (0.47 to 0.60 per cent.). Cooked myosin ranked at the head in pancreatic digestion, while the raw albumens of serum and egg came next.

Some experiments were made also with beef-tea, with and without the addition of albumen. The main outcome of the experiments was to show that the raw albumens are the most digestible of the albuminoid proximate principles, while myosin, in the form of beef-tea, ranks high. On the other hand, casein, gluten, and cooked-egg albumen are much less digestible.

The pancreatic juice acts especially well on raw albumen, and on acid and alkali albumen. Hence in fevers, when the gastric juice is secreted in very small amount, while the pancreatic gland continues active (Sir W. Roberts), raw albumen, syntonin, or alkali albumen, may be given alone, or in beef-tea. Milk ought to be a rather better food in fevers than in a febrile state in which there is gastro-intestinal dyspepsia.

In adynamic states beef-tea, to which the white of an egg is added, or soup containing syntonin may be used. Dr. Fraser says:

"The experiments with casein and gluten appear to show that there are very few worse foods for a delicate stomach than the usual bread and milk, for, as has been seen, the stomach only dissolves about 0.6 per cent. of these principles in the same time that it dissolves nearly two per cent. of serum-albumen. And the casein in the experiment was in an easier form for digestion than that in which it is usually presented to the stomach, for, as used, it was in a fine granular form, practically freed from fat with alcohol and ether; while cow's milk in the stomach forms dense solid clots, rendered all the more insoluble by the fat, which forms the greater part of their bulk. True, the bread acts as a diluent to the clots, breaking them up, with passages for the gastric juice; but still it is evident that, for digestion by a delicate stomach, bread and milk does not form an ideal food. Whey contains lact-albumen, which is the same as serum albumen, and it is a mildly nutritive food."

QUACK ADVERTISEMENTS AND THE RELIGIOUS PRESS.

WE have often called the attention of religious papers to the gross deception which they encourage by allowing "never-failing cures," "warranted never to fail," etc., to appear in their advertising columns. All these journals may place it upon their records as one of the things proved, that when medical men read such advertisements in religious papers, they conclude that it is more the love of money than the love of truth that influences them, and that these papers are wearing the cloak of hypocrisy.

The Christian Advocate, one of the most influential papers of the Methodist Episcopal denomination, has allowed in its advertising columns the statements that a certain medicine "never fails to give almost instant relief," "is unsurpassed for the relief of," "stops more surely and thoroughly than any other medicine," and other similar expressions, all of which can be found in the deceptive advertisements of the most blatant quacks and pretenders.

Upon the first page of the same number we find the following words: "We ask our readers to turn a deaf ear to those who would induce them to give up *The Christian Advocate* for other papers in or out of the Methodist Episcopal Church." To this we would add, without reference to the mercenary pleading: "The influence of the paper would be greatly promoted were its advertising columns absolutely *pure*." There is no good reason why they should not be. We also find in the same number: "It is a safe rule to beware of all correspondents who offer to do anything *free*, unless they are known to be responsible; and an equally safe rule to put no confidence in correspondents and advertisers who *do not tell the whole truth* in the advertisements."

Again, in the same number we find a noteworthy criticism of one of our daily papers for publishing the indecent proceedings of a notorious divorce case, and in it the following language was used: "Things will go on as bad as they are, or, rather, they will grow worse, until every time decent men and women see indecency in the paper they regularly take, they will send a protest. These should be showered in by the hundred, and by the thousand, and if no change takes place the paper should be dropped." We heartily urge that this advice be applied

by all medical men to all religious papers that publish advertisements of patented and proprietary medicines worded in a way which will *deceive the people.*

For an honest and educated physician cannot be found who will not say, without hesitation, that expressions such as we have quoted above, when applied to any known remedy, have no foundation whatever in truth. To harbor them is to deceive; to practise deception is wrong; to continue to practise it after attention has been called to the error is inexcusably wrong; and the papers continuing it should be rebuked in the way recommended by *The Advocate.*

THE STATISTICS OF SEWAGE AND SEWER-GAS.

Sanitary science concerns itself with some very odd data, which affect the imagination in a manner almost precisely opposite to that produced by idyllic verse. Dr. Tidy, for example, states that 10,000 people pass 600,000 fluid-ounces of urine, and one ton of moist fecal matter daily. Upon this basis it follows that the good people of New York City discharge yearly the Niagarous volume of 173,375,000 gallons of urine, and 50,000 tons of fecal matter. This would be worth to agriculture between two and three millions of dollars; since each man's annual income, simply from his emunctories, is estimated at from $1.50 to $5.00. This is often more than the total annual income from the first years of professional practice.

The sewage of a city contains not only excrementitious matter, but the water from washings of all kinds, vegetable matter, etc. The amount of sewage to each inhabitant is estimated to be 24 gallons daily. For this great city, which believes itself above the average in most things, the total annual sewage amount cannot be less than eleven billion six hundred and eighty millions of gallons. This immense stream of liquid filth flows beneath our city and empties itself into the sewers on each side. In its passage gases of fermentation and putrefaction are generated. The amount varies greatly with the season, the rainfall, etc., and the anosmic statisticians who delve into these matters hesitate to give us any averages here. According to some estimates, however, there are 800,000,000 cubic inches of sewer-gas developed in the sewers daily.

This sewer-gas (in Paris) is found to be composed of carburetted hydrogen, 72.88 parts; sulphuretted hydrogen, 6.70 parts; carbonic acid gas, 12.30 parts; carbonic oxide, 2.54 parts; miscellaneous gases, 5.68 parts. Micro-organisms are also present in it.

Such gaseous mixtures are, of course, not healthful, but, on the other hand, are not seriously injurious to health when quite well diluted, as is the case when the mixture escapes into houses. In large amount, or if continuously inhaled for a long time, languor, anorexia, headache, slight febrile movements may result. The men who work in the sewers of Paris and London are, however, quite up to the average in health.

When, through obstruction of sewers, the sewage matter accumulates, its gaseous emanations are likely to become much more poisonous, probably because it becomes a nidus for the development of pathogenic organisms. In fact, sewer-gas is probably a seriously poisonous substance only when it has been infected with specific germs.

NIAGARA FALLS AND THE INTERNATIONAL CONGRESS.

It is curious to observe with what unanimity all our European exchanges speak of Niagara Falls in connection with a trip to this country next summer. The impression seems to be that, if the Congress is not a large one, the Falls will abundantly make up for it, and that any lack of national representation at Washington will be fully set off by the thoroughly American way in which the water goes over Niagara. We have no doubt that the Falls will do themselves credit, irrespective of ethical differences or geographical misrepresentations. And we are quite sure that our visitors will find that, in the line of precipitous aqueosity, they quite outdo anything in decaying Europe. We do not like, however, to have it thought that Niagara Falls will be the sole salve for possible scientific disappointments. The Falls really are only one hundred and sixty feet high, and are composed only of plain water. One-half is in Canada, and is necessarily somewhat provincial in its style of precipitation.

Let us assure our coming guests that, aside from the Congress and the Falls, we will have other curiosities to present equally capable of making the trip an agreeable and instructive one.

A NEW SYMPTOM IN TUBERCULAR MENINGITIS.

Dr. J. D. Skeer, of Chicago, has recently made a communication to the Pathological Society of that city, in which he claims to have observed a new and pathognomonic symptom of tubercular meningitis. It is, he says, always present in the first or second stage of that disease, and consists of the appearance of a small whitish or yellowish-brown circle, which forms in the iris near to and completely surrounding the margin. When it begins to appear it is indistinct, and resembles a wreath of thin white clouds, the edge of which extends to the free border of the iris. In from twelve to thirty-six hours the whole margin of the iris will be involved, having become of a whitish or yellowish-brown color, and appearing irregular, thickened, and somewhat granular. The changes occur in both eyes simultaneously. They are more apparent in irides of a brown color. The cloud-like appearance is sometimes very evanescent, hence the iris must be frequently examined. In cases of primary tubercular meningitis the circles appear early, but in cases in which there is originally a simple inflammatory change, with tuberculous deposits later, the circles are not seen until the second stage of the disease. Whenever it appears, according to Dr. Skeer, the diagnosis of tubercular meningitis may be made with certainty. We do not understand it to be claimed that it always occurs. Dr. Skeer has observed this sign in twenty cases, in only two of which a post-mortem observation was made. This is a rather slender basis upon which to construct a pathognomonic symptom.

A committee appointed by the Society to report upon Dr. Skeer's paper gives the results of a correspondence with a number of ophthalmologists, including Dr. Marcus P. Halfield, Dr. Adolf Alt, Dr. H. Knapp, and Dr. Bock, of Vienna. None of these gentlemen seem to have observed exactly the appearance described.

In one case observed by the committee, and declared by Dr. Skeer to show the symptom in question, some

doubt is expressed as to whether the condition was not normal, or, at least, had not for a long time existed in the patient, a cachectic and scrofulous child. The question as to whether a syphilis may not be concerned in producing the appearance was not discussed.

Further observations upon this interesting point will, no doubt, soon be forthcoming.

VERY REPREHENSIBLE MEDICAL ADVERTISING.

Our esteemed contemporary the *Philadelphia Medical and Surgical Reporter*, in its issue of January 22, 1887, published the following startling announcement :

LOCAL CELEBRITY OF A NEW YORK MEDICAL EDITOR.

As Dr. Geo. F. Shrady, of New York, editor of the New York Medical Record, is such a stickler for keeping the names of his fellow-editors out of the newspapers, that we respectfully ask his explanation of the following felicitous tribute to his skill, printed in the *New York Tribune* of recent date :

" Dr. Geo. F. Shrady, of New York City, performed a noticeable surgical operation upon a young son of Mr. W. MacRussell, of Saugerties, N. Y., on Saturday last. The child's leg had been broken some time since, and it had become united so improperly that he had lost all use of it. The doctor removed a portion of the defective bone, and reset the limb successfully. Various prominent surgeons witnessed the operation. The patient is doing well."

Will not our brother-editor relieve us by stating that it was " without his knowledge " and " contrary to his wishes ? "

We simply answer that, although the operation was performed several years ago, and must have been noticed then, this is the first time that Dr. Shrady has seen the article, and the first time that he knew it had been written. Of course, it can easily be seen that the operation was not a very remarkable one. It simply consisted in sawing off the ends of an ununited fracture and wiring them together. We should like to be able to state that this operation was the first of its kind on record. Probably it was—from a newspayer standpoint.

TENEMENT-HOUSE REFORM.

There can hardly be too much done for the improvement of life in New York tenement-houses. At the very best, they furnish poor substitutes for homes, and the poor who live in them are constantly subject to social dangers and unhygienic influences. The attempts of the Sanitary Protective League, the *Morning Journal*, and of numerous public-spirited citizens, to secure amendments to the present tenement-house law, deserve the hearty support of the medical profession. The amendments provide that every tenement shall have a dry cellar, good drainage, ample water-supply, and a janitor ; that the owner's name shall be " registered ; " that a semi-annual inspection by the Board of Health of all tenements, and an annual report shall be made ; that free winter baths shall be furnished ; that there shall be electric lights in the tenement districts ; and that Leonard Street shall be cut through so as to open up the Mulberry Street " Bend." The last two points are not so essential or important, but a more rigid official scrutiny of the tenement-houses is certainly much needed.

Dry cellars, good drainage, and an ample water-supply will not bring about millennial conditions, but they are quite essential to progress in that direction.

The mightiest steps will only be made, however, when the tenement-house dwellers have learned the gospel of cleanliness and temperate living. Sanitary reformers are too apt to think that when they have furnished soap and towel, their unwashed protégés are at once made clean ; whereas, the fact is that there pervades in the tenement-house population a prejudice against wasting in ablutions good money and valuable time that might be devoted to whiskey, tobacco, beer, concert gardens, and rowdy excursions.

GRASS STAGGERS AND THE LOCO WEED.

Under the name of the " grass staggers " the writer of an article on cow-boys, in the *Cornhill Magazine*, has described a disease affecting horses in certain parts of Texas and New Mexico. In a recent communication in these pages Dr. J. W. Carhart gave some additional information concerning the symptoms and etiology of this curious affection. The prominent symptoms seem to be due, in part, to a loss of muscular co-ordination ; the ponies become weak and staggering, and a slight blow on the head of an affected animal causes him to rear and fall over backward. The animal falls away in flesh, and his coat loses its shining appearance, the hair becoming rough and of a dirty color. The brain as well as the spinal cord would seem in certain cases to be affected, as it is stated that the animals often become absolutely crazy. These symptoms are due to the poisonous effects of a plant known locally as the " loco " weed, so called from the Spanish word *loco*, meaning insane.

Dr. W. Thornton Parker, of Newport, R. I., who saw much of the disease while living in the Texas Panhandle as acting assistant surgeon in the United States Army, sends us a description of this plant. The weed does not grow as high as has been stated, but rather clings to the ground. The plant, even in winter, presents a bright, velvety appearance when all around is burnt up and dry, and the animals eagerly devour it. Dr. Parker writes :

" At a meeting of the Newport Medical Society, held October 6, 1885, I presented specimens of the loco plant, and such information as I then possessed concerning its history, and its poisonous effects upon horses. ' In view of the evident importance to the economical interests of that portion of the country, and possibly to medical practitioners also, that the plant should be still further investigated,' I was directed, in behalf of the Society, ' to bring the whole matter to the attention of the director of the Smithsonian Institution at Washington.' I procured several fine specimens from my friend Dr. Newton, of Mobutu, Tex. (assistant surgeon U. S. Army), and these were duly examined and reported upon. The loco plant is regarded by Professor Gray, of Harvard, as the *Astragalus legum*, a peculiar species of the vetch tribe, abundant in the region of the ' Texan Panhandle,' and agreeable to cattle and horses, but after having been used for some time by the latter, causing a special *madness ;* hence its name, from the Spanish loco. As a food its use renders *horses* valueless, and these seem to suffer most from this plant. It seems to have for them the fatal attraction that opium has for too many human beings. It has not yet been proved that cattle suffer very much, if at all."

The symptoms of the disease, as well as the description of the plant which is the apparent cause of them, recall the accounts given by various French and Italian writers of lathyrism. This affection presents the symp-

toms of a spastic paralysis of the lower extremities, the individuals having a markedly ataxic gait. The sensibility of the skin of the lower extremities is greatly increased, there is exaggerated patellar tendon reflex, and the ankle clonus is excited by the slightest movement of flexion of the foot. The plant, to the poisonous effects of which lathyrism is attributed, is also a species of vetch, the *Lathyrus cicera*. The disease attacks chiefly men, but horses have also been known to be affected. Vision seems to be disturbed in grass staggers, but in lathyrism the eyes are unaffected. The poisonous principle of the lathyrus has not been isolated, but experiments upon animals would seem to show that it resides in the healthy plant, and not in a mildew.

Lathyrism appears to be a curable disease. It sometimes subsides spontaneously when care is taken to exclude the vetch from the diet of the patient, and its disappearance may be hastened by the administration of bromide of potassium in large doses. Revulsive applications to the spine are said, also, to be beneficial. Possibly a similar plan of treatment for "locoed" ponies might be followed by good results, although there would be some difficulty in weaning them from their fondness for the poisonous weed.

QUALIFICATIONS IN SURGERY.

The impetus to surgery resulting from the adoption of careful antisepsis and more elaborate technique is producing results that are not altogether beneficial. The impression exists that capital operations, with the help of carbolic acid, can be done by almost anyone, and good obstetricians are turning themselves into poor laparotomists, skilful general surgeons are becoming restively anxious to undertake every kind of difficult abdominal surgery, and young men without special training are boldly undertaking the removal of the viscera and of visceral tumors. The operations of hysterectomy, nephrectomy, gastrotomy, pneumotomy, are in fashion, and a necessity is felt of keeping "in the swim." The result is, we fear, many disasters that are but little heard of, but which are helping to diminish greatly the beneficent results of modern surgery.

The fact is, that some natural aptitude and a great deal of special care and training are required to secure success in difficult capital operations. There are many persons not fitted by temperament or physical qualifications to do such work, but who yet are drawn by a feeling of ambition or false pride into pursuing it.

It would be better for surgical science and suffering humanity if some selective process could be applied to this matter. We do not advocate the creation of specialists who shall do such lines of work alone. This is unnecessary, and it would narrow and cripple the surgeon's art. But it is most desirable that some special qualification be shown before surgeons or physicians be allowed by professional sentiment, at least, to undertake those serious capital operations which are not required by emergencies, but through the slow progress of disease. Our schools give no special training in this direction, although they try to teach several other specialties qualifications in which are much less necessary to the saving of human life. It is time that educational institutions took up this matter.

News of the Week.

A Rare Book.—Dr. Alexander Hadden, of this city, has just become the possessor of a rare book, "The Herball, or Generall Historie of Plantes," by John Gerarde, surgeon, printed in London in 1597. It is a work of 1,392 pages, exclusive of copious indexes, etc., and contains upward of two thousand wood-cut illustrations of trees, plants, fruits, and flowers, which are remarkable for their excellent drawing, as well as for their number. Few copies of this first edition are known to be in existence; the editions of 1633 and 1636, enlarged by Thomas Johnson, apothecary (after the death of the author in 1607), being the ones most commonly met with in book-sales and in the possession of dealers. One of the 1633 edition, on large paper, is reported to have been sold, between two and three years since, in London for about $180.

The Dosage of Opium for Infants.—Dr. A. Walt, of Oakdale, Mass., writes us, enclosing the copy of a prescription for a child under two years of age. In a four-ounce mixture there were four drachms of laudanum, and the dose was a drachm, or nearly eight minims, every three hours. He asks if the druggist was right in making it up. We should say that the doctor was not right in writing it.

A Training-school at Willard Asylum.—This asylum, now the largest and best organized institution for the insane in the United States, has taken another step in advance by the organization of a school for the purpose of training the attendants to the intelligent performance of their duties. The course of instruction will extend to two years. There are now forty persons in the class. We congratulate the managers and the superintendent, Dr. P. M. Wise, on this new feature in their management.

New York State Medical Society.—Additional papers to be presented at the next meeting. Since the publication of the list of papers to be read at the coming meeting of the Medical Society of the State of New York, the following papers have been offered: "Embolism of the Radial Artery Complicating Endocarditis" (in abstract), by F. E. Martindale, M.D., of Port Richmond; "Modification of Chadwick's Gynecological Table" (model and photos), by Charles Stover, M.D., of Amsterdam; "Ametropic Condition of the Eye as a Factor in Cephalalgia," "Treatment of Small Perforations of the Membrana Tympani, with Reference to Formation of New Tissue," by B. H. Grove, M.D., of Buffalo; "New Nasal, Pharyngeal, and Laryngeal Instruments," by Samuel Sherwell, M.D., of Brooklyn; "Seven Cases of solid Pelvic Tumors successfully Removed by Laparotomy," by M. D. Mann, M.D., of Buffalo; "Observations on Diphtheria: Its Complications and Treatment," by E. N. Liell, M.D., of New York. The Society will be convened at 10 A.M. on Tuesday, in the City Hall in Albany.

We learn from Dr. S. B. Ward, of Albany Chairman of the Committee of Arrangements, that the Delaware & Hudson Canal Company's Railroad will sell return

tickets from the meeting of the Medical Society of the State for one-third of the usual fare, on a certificate issued by the Secretary at the meeting that the holder is entitled to the reduction.

A similar arrangement has been made with the New York Central & Hudson River Railroad to sell return tickets at half-fare; and it is altogether probable that the same arrangement will be made with the West Shore Railroad.

The Springfield Hospital, at Springfield, Mass., has lately received a bequest of $75,000 from the estate of the late William Merrick.

New Books.—There were 5,210 new books or new editions published in the United Kingdom in 1886. Of these 114 were new medical books, and 57 were new editions of medical works. Only 18 new books on law were published, while there were 616 upon theology.

Professor C. Westphal has recently celebrated the twenty-fifth year of the beginning of his career as a teacher in the University of Berlin. Professor Westphal was the successor of Griesinger, and to these two are due reforms in the treatment of the insane.

Cholera has appeared in Chili, South America.

The Medical Association of Canada will hold its next meeting, under the presidency of Dr. Graham, of Toronto, in Hamilton, Ontario, during the week following the meeting of the International Medical Congress in Washington.

Dangers of Antipyrine.—Dr. George D. Hays calls attention (*N. Y. Medical Journal*) to the dangers in the use of antipyrine when given in repeated doses. Very serious collapse has been observed in several cases.

A Signal Failure with Narceine in the treatment of whooping-cough is reported by Dr. L. Eliot, in the *Journal of the American Medical Association*. The dose used was gr. $\frac{1}{24}$, but it produced great drowsiness and entire suppression of urine. Perhaps the narceine was only impure opium.

Small-pox in New York.—Small-pox has appeared very suddenly and developed with much rapidity in this city. Up to January 11, 1887, there had been but 1 case reported during the winter. In the next week there were 25 cases reported, with 2 deaths. Up to Monday last there had been 32 cases reported, which is more than have occurred in the city since 1882, as shown by the following table:

Years.	Cases Reported.	Deaths.
1881	1,342	451
1882	708	259
1883	26	12
1884	5	..
1885	105	26
1886	109	31

The source of the present contagion seems to have been mainly in the neighborhood of West Fiftieth Street and Seventh Avenue. A few cases have been contracted on shipboard and brought through the quarantine before the disease had made itself known. Yet another source seems to have been the mysterious case of the Mauri family, in Brooklyn, to which it is thought a few of the earlier cases may be traced.

Dangers of Water Gas.—The experience of the people of Troy in the use of water-fuel gas, shows that, unless this gas is made odorous, so that its presence in the air can be ascertained by the sense of smell, its manufacture and delivery in a city may largely increase the death-rate. Water gas having no odor, and being very deadly, may be as fatal to a man who is awake as illuminating gas is to a man who is sleeping in a closed room. This gas is an excellent fuel, and it is cheap. In Troy it was made for nine cents a thousand and sold for fifty cents.

Kreatinine and the Reaction for Sugar.—Dr. George Johnson states that the substance in urine which reduces picric acid in the presence of potash is kreatinine. This kreatinine, which causes a reaction like that of glucose, may be removed by a simple method devised by the younger Johnson.

Diarrhœa and Antiseptics.—In an admirable paper upon the treatment of summer diarrhœa by antiseptics, read before the Academy of Medicine recently by Dr. L. Emmet Holt, it was claimed that the treatment by antiseptics was the most rational and effective method, and that salicylate of soda was the most efficient of this class of drugs. This is a *non sequitur*, however, since salicylate of soda is only very moderately antiseptic, being some fourteen hundred times weaker than corrosive sublimate. The conclusions apparently, therefore, are not in harmony with the argument, although their practical value is not diminished.

Rhigolene is a better agent for the production of anæsthesia, in many operations upon the nose, than cocaine, according to Dr. William C. Jarvis. Dr. Jarvis has recently reported (*Eastern Medical Journal*) the results of three years' experience with this agent.

Scopoline as a Substitute for Atropine.—Dr H. Percy Dunn writes, in the *British Medical Journal*, that the new mydriatic, scopoline, introduced by Pieral Thurey is a useful drug. For some time he has used scopoline at the West London Hospital, not for the purpose of testing its qualities as a mydriatic, but as a drug to supersede atropine in the treatment of keratitis, corneal ulcers, and iritis. He has found that, in the case of troublesome corneal ulcers which had been treated respectively with both atropine and eserine without success, rapid improvement followed the instillation of scopoline. Especially was this good effect shown in cases of severe interstitial keratitis, in which atropine had been previously employed. Again, in rheumatic iritis the use of scopoline was obviously effective in reducing the pain and injection of the globe. Upon no occasion has he seen any conjunctival or other irritation set up by its use, and he has found one grain to the ounce a sufficiently strong solution for all purposes.

Death of an Aged German Professor.—The death is announced of Professor Baumgärtner in the eighty-eighth year of his age. He was for a long time Director of the Medical Clinic at Freiburg.

The Flatbush Insane Asylum.—Dr. John A. Arnold, of Brooklyn, has been appointed medical superintendent of the Insane Asylum at Flatbush, of the Kings County Farm, and Kings County Hospital.

Reports of Societies.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, January 24, 1887.

LAURENCE JOHNSON, M.D., PRESIDENT, IN THE CHAIR.

DR. E. WAITZFELDER read a paper on

THE USE OF ACONITIA IN THE TREATMENT OF NERVOUS DISEASES,

in which, after speaking of the physiological action of the drug, he mentioned several affections that he had seen benefited by its administration. It had been, in his experience, especially useful in neuralgias of the trigeminus. Marked benefit may be derived from its use in the treatment of the pain of chronic pachymeningitis, whether syphilitic or not. In the fulgurating pains of locomotor ataxia it was not of any service. Some forms of insomnia could be benefited sometimes by the use of $\frac{1}{100}$ of a grain, especially when aided by bromides.

DR. WEBSTER mentioned a case of pachymeningitis in which he gave $\frac{1}{200}$ of a grain of the drug with benefit, when the pain yielded only partially to morphine. He referred to another case of severe headache in which no benefit attended its use.

DR. LESZYNSKY thought that the drug should be given in granules, so that the exact quantity administered might be known. In general, he thought that aconitia would not be a safe remedy to employ, and that it should be resorted to only after other drugs had been used without benefit. For he had seen very alarming symptoms produced by $\frac{1}{100}$ of a grain. In all affections attended by exhaustion, or liable to be, aconitia should be used with the greatest caution. He had used the oleate of aconitia prepared by Dr. Squibb, with benefit, as a local application in facial neuralgias.

DR. MESSENGER used aconitia externally, as far back as 1853 or 1854, and came to regard it as a dangerous remedy. It had, however, proved beneficial used as an ointment in syphilitic cases, especially when combined with veratria.

DR. O. B. DOUGLAS had given the tincture of aconite with very marked success in one case, and DR. WEBSTER also had used the tincture; but DR. WAITZFELDER said that he had confined his paper to the use of aconitia as a remedy which could be given in a more certain dosage than the tincture of aconite or the fluid extract. He quite agreed with Dr. Messenger and Dr. Leszynsky, that the drug was a dangerous one, and one not to be used when exhaustion was present or likely to be; still many other remedies were equally dangerous, but, with proper precaution, were at the same time very serviceable.

THE RELATIONS OF THE MEDICAL PROFESSION TO THE HEALTH DEPARTMENT,

was the title of a paper presented by DR. JOHN C. PETERS, in which he said that they must always be more or less disagreeable, because the laws of the State of New York forbade any physician from being president of the Board of Health. He urged that action be taken to ask the Legislature, the Governor, and the Mayor of the city to use their best endeavors to place a physician at the head of the Board of Health of this city.

The writer then referred to the case of Brown *vs.* Purdy, and he thought that the Society and Dr. Purdy had a just claim for exemplary money-damages against the Board of Health, and hoped that it would be pressed at the proper time.

Reference was also made to the requirement that the Board of Health notify families with contagious diseases about disinfecting, and which it almost invariably neglects, and did not send directions to physicians, who had to send for them and run a risk of being fined if they did not.

The Croton River and its tributaries abounded with nuisances, which the Board of Health had inspected in full detail, but had neglected to send an official report thereof to the State Board of Health and to the Department of Public Works; the State Board of Health could do nothing until officially informed by the City Board of Health. In the meantime

THE CROTON RIVER INCREASES IN NASTINESS.

The gallant Colonel of the Seventh Regiment, secretary of the Board, could not see the nuisances in the "Shanty Block," although it abutted directly on the grand armory of the Seventh Regiment. This might, by some, be regarded as a greater dereliction of duty than that of the General.

The Committee on Hygiene reported on

THE PROPER DISPOSAL OF MANURE.

The report contained an account of the complaints that were made concerning the manure-dumps, the manure-pits, etc., and the Committee concluded that the present manner of storing, removal, and disposal of the accumulation of stables in this city was done in a most slovenly and careless manner; that the manure-pit was a public nuisance, and a source of annoyance and disease to the neighborhood, and that the only way of properly doing away with this was to press the manure into bales. The process of baling is carried on at the model stables of Ryerson & Brown. The Committee had recommended to the Board of Health that the manure should be baled, so that it might be removed without offence, and do away with the disgusting manure-pit.

THE HEALTH COMMISSIONERS REPORTED

to the Committee on Hygiene that there was but one press in use in the city; that a machine costs $150; that at only one stable was manure being baled (Smith & Stills); that Ryerson & Brown had discontinued baling, and did not intend to resume; that Smith & Stills deliver their bales to Peter Donnelly's manure-dump, where he opens them, as there is no sale for baled manure; that their estimate was that sixty thousand horses were stabled within the city, etc. Michael Kane had found (Kane & Wright) baling manure at the stables to be utterly impracticable. Peter Donnelly stated that baled manure quickly heated in the bale, which rendered it useless for farming purposes; that after it was pressed it was almost valueless, as all its substance had been removed.

The question was discussed by DR. D. B. ST. JOHN ROOSA, who said that it was no concern whatever to the medical profession whether or not the baling of manure was a profitable business for Mr. Michael Kane and others, and that the Board of Health was open to criticism in presenting the subject from that point of view.

IS IT, OR IS IT NOT, A NUISANCE TO HAVE MANURE REMOVED AS IT IS NOW DONE?

was the question to be answered. He moved that the Medical Society of the County of New York request the Board of Health to abate the nuisance of the removal of manure as it is done at the present time in this city.

Until that question was settled, would the Board of Health have the kindness to have the manure removed, as is other offal, between the hours of twelve and three o'clock in the night?

DR. F. R. S. DRAKE seconded the motion in a few remarks, and the Society adopted it unanimously.

THE PRESIDENT AND THE BOARD OF HEALTH.

DR. JOHN T. NAGLE read from the last printed minutes the following quotation from the President's inaugural address (p. 47):

"The manner in which one particular bureau of the Health Department is conducted—that of vital statistics—is a matter of interest both to the profession and the

people. I presume there are few members of this Society who have not, at one time or another, been greatly annoyed, not to say injured in professional standing, by the return for correction of certificates of death upon the flimsiest pretext. No honest man doubts the necessity for rigid scrutiny of such certificates, but such scrutiny can be made without discourtesy, and trivial errors corrected without a degree of annoyance to both physician and friends that is as mischievous as if incited by malice."

He moved that this portion of the President's address be referred to the Committee on Ethics, with the request that the Committee investigate the statement, and report to the Society at an early date.

The Vice-President, Dr. Drake, was called to the chair.

The President seconded the motion, for the purpose of having an opportunity to discuss it, and the question was further discussed by Drs. Drake, Nagle, Fry, and Irwin, after which Dr. Nagle withdrew his motion, and moved that a committee of five be appointed by the Chair, to which the statement read should be referred for investigation and report to the Society as early as possible.

The Vice-President subsequently appointed as the committee Drs. D. Lewis (chairman), O. B. Douglas, J. S. Warren, W. M. McLaury, and J. W. Warner.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, January 20, 1887.

A. Jacobi, M.D., President, in the Chair.

THE VALUE OF QUININE AS AN ANTIPYRETIC IN PNEUMONIA.

Dr. John Ripley read a paper [see p. 113] on the above subject, and was followed by Dr. Mary Putnam-Jacobi, who gave an abstract of her paper on

THE USE OF QUININE IN THE PNEUMONIA OF CHILDREN,

read before the Section in Practice, January 18, 1887, the discussion being postponed until this meeting. The paper was based upon observations made in one hundred cases occurring in dispensary practice. Only 33 cases could be followed to their completion, but in an additional number, sufficient to make 53 in all, were fairly satisfactory observations recorded. The ages of the children varied from six months to four years, the average being about two and a half years. The doses were ten grains daily, five at night and five in the morning. There were 33 unquestionable recoveries, and 7 deaths, but the mortality was doubtless more than seven per cent. The modification in physical signs, to which special attention was directed, pertained to the blowing respiration and tubular breathing. These disappeared during the use of the quinine in from two to seven days in 29 cases; in from eleven to eighteen days in 7 cases; and in 1 case after three weeks. The fever disappeared entirely in 32 cases; on the second day in 8 cases; on the third and fourth day in 3 cases; on the fifth day in 5 cases, etc. In 25 cases, defervescence occurred within seven days from beginning the quinine; in 7 cases, later.

The writer concluded that in the pneumonia of children quinine in daily doses of ten grains does not act as an antipyretic, but that it causes defervescence or arrest, temporary at least, of the morbid process. A forced defervescence would be of but little advantage in broncho-pneumonia.

The author of the paper then discussed the pathology of pneumonia, and the effect which quinine has in producing an active diastole of the heart, thus explaining the tonic action of the drug on the circulation, although large doses will produce undue diastole. Quinine was indicated when there was no fever, but only consolidation was present.

The conclusion reached was that quinine was specially indicated to avert the tendency to death.

The discussion was opened by Dr. J. Lewis Smith, who said that a large majority of physicians in this city used quinine in the treatment of broncho-pneumonia, and it seemed to be the remedy most commonly employed in the treatment of pneumonia, whether catarrhal or croupous. His mode had been to give quinine for three or four days only, in what might be called large doses, and then continue it in small doses, with carbonate of ammonia between, and the rate of mortality had certainly been less than it was twenty-five years ago, when the more heroic and depressing measures were adopted. He had been excessively annoyed by the vomiting which had so frequently attended the administration of quinine, and while an emetic might not do any harm, and quinine might be as good an emetic as could be employed, still the drug was administered for other purposes, which rendered it desirable to have it retained. To obviate vomiting the best vehicle he had used was the syrup of the wild-cherry bark.

Dr. J. H. Fruitnight's experience had been similar to that of Dr. Ripley. He had never been convinced that quinine reduced the temperature in pneumonia, but he still continued to use it for its sustaining effect, and for this purpose only small doses were required.

Dr. F. A. Castle's experience bore out the statements made by Dr. Ripley concerning the uselessness of quinine in the treatment of pneumonia. He had carried its use to the full degree of toleration by the stomach, and it had seemed to him that it was at the expense of the patients' nutrition. During the last five years he had abandoned its use in pneumonia almost entirely. To sustain the heart he preferred digitalis to quinine.

Dr. C. E. Billington had found that the best method of administering quinine to children was by suppositories. He had taken occasion to study the natural history of pneumonia in children, and had reached the conclusion, based upon observations made in conjunction with Dr. A. A. Smith in twenty cases, that with a very simple treatment this class of patients would recover from it in most cases.

Dr. L. E. Holt had given quinine for its antipyretic effect in twenty cases of pneumonia in children. From sixteen to twenty grains were given to children from one to two and a half years of age. In twelve not much, if any, antipyretic effect was produced; in eight there was total failure. In two or three cases the temperature rose steadily while the quinine was being taken. He had stopped its use altogether during the last two years, because he regarded it as useless in small doses, and dangerous in large doses. Quinine, however, was of decided advantage in convalescence and in persistent broncho-pneumonia, and for its tonic effects.

The President referred to the changes that had occurred during the last third of a century in the profession concerning the use of quinine in pneumonia. At the beginning of that period it was customary to give from one-half to one grain of quinine a few times a day, with great expectations, and a large number of children got well. It was true that the tendency was toward recovery in many diseases occurring in children. And therefore it was only in the bad cases that the effect of remedies could be measured. At that time he gave from six to twelve grains of quinine daily, and made for himself the reputation of giving such doses as were liable to kill the patient. But times have changed, and while he seldom goes beyond the doses he then gave, many physicians had given twice or three times as much without endangering their reputations at all. Dr. Jacobi always gives the quinine during the remission of the fever, say five grains in the morning at eight o'clock, and five grains at eleven o'clock, to anticipate the afternoon exacerbation.

It had occurred to him that much of the inefficiency ascribed to quinine was not due so much to the drug as to the fact that the stomach was not in proper condition

to absorb it when taken; for the stomach with a temperature of 104° or 105° F. does not absorb, and the same was true of the rectum. When given subcutaneously it produced its effects rapidly, and the best solution for hypodermic use that he had used was that of the *carbamide* of quinine, which was readily soluble in quantities of four or five grains, in sufficient water to fill the barrel of an ordinary hypodermic syringe. It was not worth while to give quinine when the temperature was no higher than 102°, or 102.5°, or 103° F. He also believed that the large doses spoken of were detrimental. When pneumonia occurs that does not undergo resolution, with increased temperature in the afternoon and considerable cough, the patients will do well under quinine given in the forenoon.

Dr. Ripley said that in a large number of cases in which he used quinine hypodermatically, the result was the same as in the cases in which the drug was retained by the stomach. In none of the cases reported was the quinine vomited. In a large number of instances, it was true, as Dr. Jacobi had said, that the drug would not be absorbed.

With reference to long-continued pneumonia in children, he thought that pleurisy existed as a complication, which produced the prolongation of the disease, and he had found the same conditions in adults.

For hypodermic use he had employed the *muriate* of quinine, which could be dissolved in the proportion of forty grains to the ounce of water by the aid of heat. As the solution cools, crystallization takes place, but the fluid readily becomes clear when again warmed for use.

The President had used a saturated solution of the quinine by the aid of a slight quantity of acid, and had found that the fluid portion was absorbed and the quinine remained in the subcutaneous tissue. He therefore thought it not always desirable to make the solution for hypodermic use too concentrated.

Dr. John E. Weeks then described, and exhibited with microscopes, specimens of a small bacillus that he had observed as of constant occurrence in

ACUTE MUCO-PURULENT CONJUNCTIVITIS,

popularly known as "pink-eye."

The observations included about two hundred and fifty cases. Cultivations of the small bacillus were made with great difficulty, as the microbe would not grow on the ordinary food media. A perfectly pure cultivation was not obtained, but the contamination, a clubbed bacillus, was cultivated pure and experimented with. Inoculation of the conjunctiva of inferior animals and of man with the pure culture of the clubbed bacillus produced no inflammatory results. With the cultivation, which consisted of the small and the clubbed bacillus, the former largely predominating, inoculations of the human conjunctiva were performed, and in all the inoculated eyes the typical muco-purulent conjunctivitis was produced. The inflammation appeared about thirty-six hours after the inoculation in every case. Five days after the inoculation of one eye the other eye became affected.

Microscopical specimens of the small bacillus in the secretion from the conjunctiva, in and on pus-cells, in nearly pure culture with the contamination, and a pure culture of the clubbed variety, were shown. Cultivations in test-tubes of the above two varieties were shown, also cultivations of ten other varieties of microbes taken from the healthy and diseased conjunctiva, including the staphylococcus pyogenes, aureus, albus, and citreus, but not including the coccus of Neisser nor the trachomacoccus of Michel, were exhibited.

The cultivations were in gelatine and on agar-agar. Inoculations of each of the ten varieties, thoroughly tried on the human conjunctiva, failed to produce inflammation. He considered the *small bacillus* to be the cause of acute contagious conjunctivitis, the form mentioned.

The Academy then adjourned.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

A CASE OF RECOVERY FROM TUBERCULAR MENINGITIS—ANATOMICAL TEACHING—A PRIVATE MEDICAL SCHOOL—THE SEVERE WEATHER AND DOCTORS—OUT-DOOR AND IN-DOOR PRACTICE—THE WILSON BEQUEST—THE NEW PRESIDENT OF THE PATHOLOGICAL SOCIETY—GUY'S HOSPITAL AND ITS DIFFICULTIES.

London, January 10, 1887.

Tubercular meningitis is generally considered as being almost invariably fatal, but at the last meeting of the Pathological Society Dr. Carrington read a case which goes far to upset this opinion. The patient was a boy, aged sixteen, with a good family history, who had been knocked down by a tricycle. The right knee was injured, and considerable swelling ensued, with impairment of movement. Fifteen months later the left knee began to be affected. He improved under treatment, but in January, 1886, he was admitted into Guy's Hospital for psoas abscess on the right side. In April he left the hospital considerably improved by treatment, but in October was readmitted with another abscess on the left side. He gradually became worse and died. At the post-mortem the pia mater and arachnoid were found thickened, granular, and matted together. On examining the membranes carefully, small, yellow caseous tubercles were found, and their tubercular nature was confirmed by microscopic examination. The brain was healthy; so was the cord, except that the latter was softened. There was meningitis at the lower third of the cord. At the apex of each lung were old phthisical lesions. Two of the lumbar vertebræ were carious, and the right knee-joint was completely disorganized. There was lardaceous disease of the spleen and small intestines, but the other viscera were healthy. Dr. Carrington said he was disposed to lay much stress upon the concomitance of old tubercular phthisis, old cerebral meningitis, caries of spine, and chronic joint disease as evidence of the nature of the meningitis. He believed that it was tubercular, and had been recovered from. The spinal meningitis was probably more recent, and due to the same cause.

The teaching of anatomy has undergone great changes since the days of John Hunter. Before the passing of the Anatomy Act bodies had to be surreptitiously obtained and, being scarce, preserved as long as possible so as to get as much instruction as possible from each. Preservative injections and antiseptic solutions wherewith to preserve the part were unknown. The sights and smells of dissecting-rooms in those days are therefore better imagined than described. Nowadays I have seen many a "part" kept perfectly fresh and sweet for two or three months by the aid of either methylated spirit or carbolized water, a cloth soaked in one of these being wrapped round the part, and the whole enclosed in Mackintosh cloth to prevent evaporation. Dissection is now confined to duly licensed places of study. In London each medical school possesses, of course, a dissecting-room, and a certain amount of dissection also goes on at the College of Surgeons, and some other of the examining bodies. Private dissecting-rooms have almost wholly disappeared, that conducted by Mr. Thomas Cooke being, I believe, the only one extant in the metropolis. Mr. Cooke, although an Englishman by birth, was educated at Paris, where he graduated in arts, science, and medicine. He was for a time Demonstrator of Anatomy at the *École Pratique* of the Faculty of Medicine. Proceeding then to this country,

he became a Fellow of the College of Surgeons of England by examination, and obtained the appointments of Assistant Surgeon at the Westminster Hospital, and Demonstrator of Anatomy in the Medical School. On ceasing to hold the latter post he founded the private medical school which he has since conducted for about fifteen years. Anatomical instruction formed the basis of the school, but physiology, histology, chemistry, materia medica, and operative surgery, are now taught, both theoretically and practically. Mr. Cooke has obtained suitable premises for the purpose in a central part of London, and that part of his teaching which comprises instruction on the dead body is carried on in two iron buildings erected on an isolated piece of ground at a distance from any dwelling-house, and consequently no nuisance is caused. Many students have to thank Mr. Cooke for a large measure of their examinational success, and his persevering efforts have just obtained for him from both the College of Physicians and the College of Surgeons the recognition of his school as a place of medical study in the case of those candidates who, rejected at their first examinations, have to produce certificates of further study. These certificates can now be given by Mr. Cooke. Although his teaching absorbs a large proportion of his time Mr. Cooke also practises, but, practising solely as a consulting surgeon, he does not use his "M.D. Paris," but his name appears on his door-plate with the simple prefix of "Mr."

The late severe weather has been very unfavorable to doctors. As a rule here, the doctors go to their patients —not the patients to the doctors, even when well enough to do so. I am speaking of general practitioners, who constitute the great majority of the profession. To consultants patients frequently pay a visit instead of summoning them to see them, the reason being that, after the first interview, the fee for a home consultation is only one guinea, but two guineas for a visit. Consultants, though, have a certain amount of out-of-door work ; an afternoon round being a usual thing among those in good practice. But the latter can keep a carriage, and in this way with a good pair of horses a considerable distance can be rapidly and comfortably traversed over the smooth wood paving now laid down in the leading thoroughfares of London. The unfortunate general practitioner, though, has to make at least two rounds a day, if in large practice, and cannot always, in the poorer districts of London, afford to keep a carriage. As a consequence, he is always out—a fact of which many of his patients complain. A lady residing in one of the most fashionable western suburbs of London remarked to me a few days since that in her district none of the doctors were ever at home when sent for to an urgent case, and said she really thought it would pay a medical man to settle in the district and announce that he would remain at home all day to see patients, and not make a round out. Then, she said, you could always rely on finding one doctor in an emergency. I made the natural rejoinder that to a second patient sending he would be "out." On the other hand, if a suburban practitioner refused to visit at all he would soon find his practice melt away.

Apprehensions are rife that the Wilson bequest to the College of Surgeons may not be wisely used. It is feared that the Council contemplate putting a large sum of it in bricks and mortar, and that in addition a considerable amount of income now derived from ground-rents on houses contiguous to the college may be sacrificed by taking up all the available space for the purposes of the new buildings. The legacy is estimated to produce $1,000,000, but if not cautiously guarded even this large sum may be frittered away in unprofitable undertakings.

Sir James Paget is the newly elected President of the Pathological Society, and may be trusted to maintain the high reputation for honest scientific work that society has hitherto enjoyed.

Scarcely one-third of the $500,000 needed by Guy's Hospital has yet been subscribed.

LONG BEARDS, "SANITAS," AND HIS COAT-TAILS.

To the Editor of the Medical Record.

Sir: "Sanitas" pictures the method of catching diphtheria, or the contagion, by bringing the whiskers, rather than coat-tails, near the patient's face when making a professional examination ; and also says most doctors expose their faces by this manœuvre rather than their coat-tails ; but some may have idiosyncrasies which may destroy his argument. This is really very cunning, but let us see how it will work if applied to other cases. Diphtheria is not the only disease, nor is examining a patient the only method of getting a load of contagion which may be conveyed by the doctor. I have mentioned that contagions material may be deposited upon door-latches, car-seats, privy-seats, church pews, drinking-utensils, cash, clothing, or most any other substance. Now, I do not know what are the idiosyncrasies of some folks, but out West a man is not so likely to get contagion in his whiskers from car-seats, privy-seats, etc., as he is in his coat-tails. Verily, if "Sanitas" cuts off his whiskers as a measure of sanitary engineering, he must, if he carries out his good intentions, be found standing on his head in many places to save his coat-tails.

I will continue my argument in the words of "Sanitas," merely substituting "coat-tails" for "beards." "The plain facts appear to be this [he should have said these] : The customs of society, and precedents in our profession have decreed that long coat-tails are not suitable for those who attend the sick. The coat-tails carry contagion, and are particularly adapted for the lodgement of germs. Let the physician at least reduce the risks of this kind as much as possible."

To conclude, there are many men, East and West, who wear no whiskers and roundabouts. "Sanitas" can't be distinguished by this dress through his assumed name. Forty thousand doctors, more or less, want to know who "Sanitas" is. He has only to hitch his name to his glory and wake up to fame. Come, "Sanitas!" give us your name, who made you, what county you live in, and we will give you a rest. Romaine J. Curtiss, M.D.

DANGER IN TOAST.

To the Editor of The Medical Record.

Sir: A Russian author in a recent novel makes all his principal characters devils. Satan, as chief, directs the lesser devils each to his separate task, which is to corrupt mankind, and to bring sorrow and woe where there had been happiness and rejoicing. With what success the story tells.

If we can conceive of disease as some archfiend, bent upon bringing pain and suffering and helplessness and death to the whole human family, using as his emissaries broods of bacteria, each seeking and finding their own organs to attack, we have here materials for a tragedy equalling in interest Tolstoi's weird tale.

But the foes of health are not all included in the various forms of cocci. There are many other causes of disease that work with charming regularity, and all the more so because they are entirely unsuspected. One of these is toasted bread. An innocent-looking thing, and yet, like the Grecian horse before the walls of Troy, it works sad havoc when once inside.

It is with some hesitancy that I venture to say anything against toasted bread, for did not our mothers and our grandmothers and our great-grandmothers always give it in sickness, and does it not even now hold a sacred place in the heart of every housewife? Surely an idol-breaker is not to be envied, and yet I cannot forbear giving a few plain facts from my own experience tending to show that there are times and circumstances under which it seems to do great harm.

Years ago, a room-mate in college was taken with ty-

phoid fever. He passed safely through the disease and was considered convalescent, when near the fourth week his physician permitted him to eat a piece of toasted bread softened in milk. Three hours later he grew worse, had a relapse, and died in a few days.

Some time ago I was called away from my practice, at a time when I had two typhoid-fever patients in charge—one convalescent, the other in the third week. I cautioned the families not to give them toast as they grew better, but as soon as the morning temperatures became normal it was given, resulting in a relapse, though not a fatal one, in each case.

Last summer several dysentery cases suffered relapses in the same way from eating toast.

One illustration will suffice: Mrs. B——, a delightful lady, was taken very severely with this trouble. Large enemata, and hydrarg. bichlor., gr. $\frac{1}{100}$, every two hours brought speedy relief. A diet list was carefully made out and a special and emphatic warning left against toast. But with a perversity of appetite which others may be able to explain, toast was the one and only article of food which she wanted. A liberal bill of fare had no attractions for her; toast alone would satisfy her craving, and toast she ate. (Who is prepared, in the light of this incident, to say that the story of Eve and the apple is a myth?) An hour or two after indulging she was taken with violent pains (I refer to Mrs. B——, not to Eve) and all her symptoms returned in an aggravated form. She was a very penitent and tractable patient during the rest of her illness and has permanently abandoned the use of toast in sickness. I had five other cases, where, after the pain and discharges had ceased, they were brought on again by the use of toast. I have seen it produce pain and vomiting in gastric catarrh, in fibroid induration of the stomach, or whenever there is inflammation of the mucous membrane of the gastro-intestinal tract. In inflammatory diarrhœas of children the anxious mothers are forever giving toast, and it in turn is forever giving pain and more diarrhœa. It would seem as if the gritty particles of charcoal, insoluble in the juices of the stomach, are shoved up and down over the irritable mucous membrane like so much powdered glass, and finding their way into the intestine scratch the inflamed Peyer's patches, or the angry mucous membrane, as the case may be, renewing and aggravating inflammatory action.

We are taught to beware of the danger that is dissolved in our drinking-water, of the germs that lurk in the air, of the mince-pies that linger in our stomachs; ought we not in inflammatory conditions of the stomach and bowels, enforce a strict quarantine against the "pernicious activity" of toast?

E. W. HEDGES, M.D.

PLAINFIELD, N. J.

"REPORT OF A CASE OF TYPHOID FEVER IN WHICH ANTIFEBRIN WAS USED SUCCESSFULLY AS AN ANTIPYRETIC AGENT."

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Such are the head-lines of an article in the MEDICAL RECORD, January 1, 1887, by George R. Elliott, M.D.

You will please pardon a few questions from an old physician of a sceptical turn of mind, who desires to know something more in regard to the treatment of this essential fever in New York.

The new antipyretic "was used successfully," but the patient died on the twenty-first day of the fever, notwithstanding. How much the treatment and how much the essential poison contributed to the death of the unfortunate young man may never be satisfactorily measured. But the diagram of fever range, and history of treatment, form a reasonable pointer to a rational conclusion, and forcibly remind the reader of experiments by way of advertisement of a new remedy.

Dr. Elliott saw the case at the close of the first week, and in forty-eight hours after this the patient had taken calomel and eighty grains of quinine, the latter in doses of fifteen and twenty grains, and would have received more but for the induced heart-failure and dyspnœa. Under this treatment "the stools were frequent," with tympanites, delirium, and subsultus, with a temperature of $104\frac{3}{5}°$, which continued throughout the second week without variation or remission. Now, at the end of the second week, the doctor calls in the "new remedy," and says: "It was evident that unless the temperature could be controlled, the prognosis was rendered correspondingly more grave." Is "temperature" the synonym for the disease? Large doses of quinine had been given, but not to reduce the temperature. Eighty grains were given to "*exclude a possible malarial element.*" "The further use of quinine was abandoned, for, in our experience as an antipyretic agent in typhoid fever, it is useless. I have repeatedly employed it in a large number of cases of typhoid fever in hospital practice, with the *prime object in view* of testing its efficacy as an antipyretic agent, and can *positively state that in no single instance have I ever seen it reduce temperature. In all cases when it did so act*, an unmistakable malarial element has been *proven to exist*" (italics my own). The temperature under large doses of quinine remained the same, and the doctor was satisfied he "*had excluded a possible malarial element and was dealing with an unquestionable case of typhoid fever*," and by means of "antifebrin" kept the temperature below 103°. Still, in this case of typhoid fever, with the "malarial element excluded," and the temperature or disease doing wonderfully well, the doctor seems to have been unhappy, and "*resolved again to try quinine in large doses, and gave fifteen grains*, repeating in four hours." We are told this was done to "*exclude a possible coincidence.*"

But why try quinine again in large doses, when its effects on a case of typhoid fever, with the "possible malarial element excluded," were so positively known to the prescriber? It had been used to expel one possible phantom—why use it at this late and most dangerous juncture to expel another? We are not told that the young man had voluntarily sacrificed himself to the wiles of science; but had he done so, the experiments were as unjustifiable as they were disastrous. It would be natural to suppose caution would be exercised by one who had so frequently employed quinine, in such a large number of cases of typhoid fever, with the prime object in view of testing its efficacy as an antipyretic agent, and who positively never found a single instance—no, not one, where it reduced temperature—still, where it did reduce the temperature in typhoid fever, an unmistakable malarial element has been proven to exist. In early days, or times past, it was not considered true science to prescribe for some prominent symptom of a disease and give no attention to pathological conditions of the suffering organs. It has been said, "Nature is fighting disease," but the physician should not represent the blind man with a club striking at random—he may kill Nature in his vain attempts to aid her.

Does anyone know that antipyretics have diminished the mortality of typhoid fever? Does anyone know it is the temperature that destroys the patient? Is not the ratio of mortality in this fever much greater where the temperature-point is little changed from normal?

Does anyone suppose a rise of the temperature-point necessarily implies an increase of the production of heat? Does anyone know that the rise of the temperature-point is not a conservatory provision of nature? If not, why should the afflicted father agree with the attendants, that the antifebrin effects were simply wonderful, and volunteer the statement that "*no possible relationship could be established between its use and the fatal result?*"

N. E. JONES, M.D.

CIRCLEVILLE, O.

Army News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from January 16 to January 22, 1887.

FORWOOD, W. H., Major and Surgeon. Ordered for duty at Fort Meade, Dak. Terr. S. O. 5, Department of Dakota, January 14, 1887.

BROOKE, JOHN, Major and Surgeon. Ordered for duty as Post-Surgeon at Fortress Monroe, Va. S. O. 10, Division of the Atlantic, January 14, 1887.

GARDNER, W. H., Major and Surgeon. Ordered for duty as Post-Surgeon at Fort McHenry, Md. S. O. 10, Division of the Atlantic, January 14, 1887.

POPE, B. F., Major and Surgeon. Ordered for duty at Fort Clark, Tex. S. O. 15, A. G. O., January 19, 1887.

Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending January 22, 1887:

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	13	4
Scarlet fever	49	10
Cerebro-spinal meningitis	6	5
Measles	651	68
Diphtheria	128	49
Small-pox	18	2
Yellow fever	0	0

HOW TO WRITE A PAPER FOR A MEDICAL SOCIETY.—In an address read before the Stark County, O., Medical Society, Dr. A. W. Ridenour, of Massillon, says many things that will doubtless interest a number of our readers: "The honorable president of this society wrote me a postal card, a short time since, saying that I was to prepare a paper for this meeting. No subject was mentioned, and none has been sent me since, although I have been anxiously waiting, and while waiting thinking what should constitute a paper. One person may consider it necessary to write a long dissertation on some abstruse medical problem in mycology, that he knew but little—*very little—about really*, and his listeners still less. During the reading of this paper *one* would be thinking of his patients, another of his deaths, another of his creditors, others of how badly they were used by their brother practitioners, and the balance staring at vacancy. To avoid this, we would require to make our paper *brief* and practical. We might take up the subject of fractures, and after telling you some things you already know, proceed to tell you things you did not know, and did not believe the writer knew either. One doctor would treat all fractures of the long bones with wooden splints, without weights and pulleys; another would use weights and pulleys, without wooden, or, in fact, any splints; another would suspend the limb in mid-air; another would use the Bavarian method with plaster; another would use the plaster *roller*, and so on—each believing his own method the best, and standing ready at any time to testify against all other methods; even for a consideration would swear that shortening was the rule, if his cases presented shortening, and, per contra, should he succeed in getting no shortening in one or two cases, even forgetting those of his cases where shortening was present. We might write about the great honor it was to be called a surgeon by the profession, a butcher by the people, and a murderer by the victims. We might say that the ancestors of the surgeons were barbers; and it might seem suggestive, in view of the great desire to lop off all tonsils of more than four lines in diameter. But it would not be right, in view of the actual condition of affairs, to say that it is not considered an honor any more by the people to be a surgeon, or rather an aspirant thereto. It would not be right to discourage the *gentle* rivalry that exists among nine out of ten of all practitioners, of all ages, condition, and sex, by saying that the more successful they become as surgeons the more they are shunned by the people. But we might say that some—perhaps the greater number of these aspirants after these *false* honors—want to pose before the eyes of their patrons as general practitioners, and not surgeons, always naming and designating some one else as being the surgeon, or, more properly speaking, in view of public opinion, 'The Butcher,' thereby getting the spoils, while the unfortunate *surgeon really* takes the *odium* attached to the name, and nothing more. It might be proper, then, to write a paper advising all thoughtful doctors to practise what they preach, and, *to be fair*, to let the spoils go with the odium; that it is perhaps true that a surgeon cannot live with less than a population of ten thousand, while a physician can live and save money in a population of one thousand; that it is preferable to be a general practitioner; that it seems incomprehensible how doctors will fight for the honor (empty) of being called a butcher by the people. It is true that doctors will almost tear each other's clothes off, so great is this rivalry, to aspire to be a descendant of the *Tonsorial Homo*. How much better it is to dandle the babies, talk about the weather, gossip, be a children's and a ladies' man, with a good *fat* family practice, have plenty of money, and no enemies, no suits for malpractice staring you in the face, and not be liable to the appellation of murderer. The grave will kindly cover the mistakes of the physician, while a crooked limb meets the aspirant to surgical dishonors at every corner. We might say this picture is overdrawn, and while it would be true as regards some, yet not true as regards the majority. But suppose we conclude to enlarge the scope of the paper, and embrace medical politics, general politics, theology, history, and *earthquakes*. If we enter the field of medical politics, we will allow our hair and beard to grow short quickly, avoid every thing that favors the development of positive electricity. Long hair and whiskers suggest combativeness, and, gentle listener, did you never pause to notice that long-haired men, *races*, *women*, and communities were very combative when crossed. Let us not carry this too far, however, lest we get lost. Inquire into the present controversy concerning the International Medical Exposition, and you will find exposed to view long-haired gentry arrayed on one side, and the short on the other This being the exact ground of controversy, it necessarily ends the subject of medical politics, and, as the length of hair forms a prominent feature in general history, we will devote a brief time to a discussion of that mighty subject. The Romans were finally conquered by short-cropped gentry from the north. The Indians were conquered by the short-crop; except recently when the aborigines began using the tonsorial appliances incident to the surgeon, since which time one Indian can manage a regiment of short-crops. The old Puritanical Cromwell cut off the hair of Charles I., and thus made a better man of him. Charlotte Corday cropped the hair of that fiend Marat, and civilization cheered. The long-haired Inquisition was finally abolished by short-bearded Protestantism, and so on. The short-bearded rulers of the old countries were always liberal with medicine, and never to enemies. Now we might say that the length of the hair and beard applies with equal force to the discussion of theology; we might say that liberal ideas go hand in hand with the short growth of the hair and beard. But while we are searching for a subject to write a paper on, we find that we are occupying more than a brief time, and hence we must hurry

along. What is an earthquake? We have various definitions to choose from, but we might say, without being accused of egotism, that an earthquake is an attempt of a portion of the earth's surface to stand on its head, while the remainder growls out its disapproval, the quake being the sensation of fear at the consequence of the act of balancing, if the attempt were successful; hence the trembling. Now having exhausted all the subjects under contemplation, it yet remains to ask, what shall we write about?"

The Performances of a Kansas Quack.—A correspondent living in Leavenworth, Kan., sends us the evidence given before a coroner's jury of a local quack who had been treating the deceased. The quack in question has no diploma, and relies in his practice, as we are told, mainly upon a certain salve. The following evidence tells the story:

"Maria Johnson, being sworn, says: 'I lived here with the deceased and others. She complained, about one o'clock on the night of the 23d inst., of cramps all over her body. I gave her red-pepper tea. It had no effect on her. When morning came I went for Dr. Fowler, and he came at ten o'clock. The deceased was still in pain. He then gave her the half of a dose of morphine he had in a spoon of water, and *in ten minutes* he gave her the other half. Then she went to sleep, and soon waking she complained of an itching and a hurting in her face; she then fell asleep, and we awoke her once. She opened her eyes and went to sleep again, and died at half-past eight last evening; she was subject to inward pains, and suffered in her limbs from rheumatism. Her breathing was hard and rapid before she died. Maria Johnson.'

"George Fowler, being sworn, states: 'I am a practising physician, and was called on the 24th of this month to see and prescribe for a girl named Carrie Carter, corner of Dacotah and Third in this city. On my arrival I found her suffering from a severe attack of bilious colic. I gave her *five grains of morphine* in two doses, half an hour intervening between the two doses. In my judgment, from the symptoms she manifested, she was *struck with death* when I arrived—her under jaw falling down and her eyes rolling back, leaving nothing but the whites to be seen. Her *pulse had moved up toward her elbow*, which in my opinion is a strong indication of approaching death. I observed the first dose of morphine had no effect in allaying the pain, and in fifteen minutes after taking the second dose she gradually got into a state of stupor. I then made an examination externally of her abdomen, and found small lumps over the surface of her bowels, and to the best of my opinion the pain and spasms accrued from these lumps. I then left the house, but returned between two and three o'clock, and found her sleeping, breathing very hard. Next morning I again called, and she was dead. I *do not think five grains of morphine was too much when divided into two parts, half an hour intervening between the doses.* Some time ago I gave her sister, Mrs. Richardson, *six grains of morphine*, and it had the effect of only making her drowsy.'

"Attest: George Fowler.

"John C. Lynch, Coroner.

"I generally buy my medicine at Aller's drug-store, and *use very little* of it."

Luther and Ménière's Disease.—Luther, when he was twenty-seven years old, was troubled with giddiness and sounds in his ears, and, as he was entirely ignorant of all physical science, attributed them to the devil. He says: "This toothache and earache I am always suffering from are worse than the plague. I am tormented with a noise and buzzing in my ear, just as though there is some wind tearing through my head. The devil has something to do with it. You don't know what a horrid thing this vertigo of mine is. Here all day I have not been able to read a letter through or even two or three lines of the Psalms. I have not got beyond more than three or four words, when buzz, buzz, the noise begins again, and often I am very near falling off my chair." This was in 1510. In 1530, he writes: "When I try to work my head becomes filled with all sorts of whizzing, buzzing, thundering noises, and if I do not leave off on the instant I should faint away. For the last three days I have not been able to look at even a letter. I have had another visit from the devil. My malady is made up of the ordinary weakness of old age, the results of habitual tension of thought, and above all by the blows of Satan. No medicine in the world will cure them or me." These noises in his head and ears were so confusing that in 1521, when some one gave him a bag of nuts which he put in a box in his bed-room, he thought the devil came and rattled them. He says: "When I put out the lights and got into bed, it seemed to me all at once that the nuts had put themselves in motion, not only jumping about in the sack, but knocking violently against each other, and then they came to the side of my bed to make noises at me. However, this did not alarm me, and I went to sleep; but by and by I was awakened by a great noise on the stairs, as though someone was tumbling down one hundred barrels, one after another. I rose immediately, saying: 'Is it thou, devil? Well, be it so, I commend myself to God.' I returned to bed and went to sleep. Again at Wittemberg I distinctly heard the devil making a noise; he thrice made a noise behind the store, just as if he were dragging some heavy thing over the floor. As I found he was going to keep it up, I gathered together my books and got into bed. At another time I heard him walking about, but, as I knew it was the devil, I paid no attention to him and went to sleep." Once when there was a great storm abroad, Luther said: "It is the devil who does this. Hark! how the devil is puffing and blowing." Then again he thought: "Idiots, the lame, blind, dumb are persons in whom the devil had established himself. All the physicians who try to heal these infirmities, as though they proceeded from natural causes, are ignorant blockheads. They know nothing about the devil or his works."

The Filiform Bougie.—A correspondent of the *Atlantic Medical and Surgical Journal*, writing from New York, says: "The most simple application of common sense is in the little instrument known as Banks' filiform bougie. We all can recall times when we have worried for days, trying to dilate an old, inveterate stricture, when we have taxed our ingenuity and the patient's patience, trying all the means at our command, and making but little satisfactory progress. I well recall one case in which it took me three days to get down three ordinary filiform bougies, putting in one and leaving it fifteen or twenty hours, and then passing another down beside it, and so on till I could get in a small steel sound, and thus I was three weeks accomplishing what I could now accomplish, with Banks' filiform, in thirty minutes. Banks' filiform and cocaine now are masters of the situation in most strictures. The only surprising thing about these filiforms is that we didn't think of the same thing a hundred years ago."

The Archæology of Artificial Limbs.—The history of medicine is all but silent on orthopædic surgery. And yet the Greeks and Romans, who, as archæology has shown, had anticipated much of modern dentistry, cannot have been without artificial substitutes tor limbs lost in the vicissitudes of peace or war. Herodotus tells us of a captive who amputated his foot to free himself from the shackle, and thus escaped to his friends, who replaced the limb by a wooden one. The Elder Pliny (Nat. Hist., vii., 28, ed. Mayhoff) records the case of M. Sergius, great-grandfather of Catiline, who lost his right hand in his second campaign, was wounded twenty-three times in two campaigns, and thus had the complete use of neither hand nor foot. Twice made prisoner by Hannibal, he twice escaped, after twenty months spent in chains. He fought four battles with his left hand

only, and then made himself a hand of iron, which he fastened on to fight with, and, thus accoutred, raised the siege of Cremona, protected Placentia, and took twelve camps of the enemy in Gaul. Similar substitutes for amputated arms or legs must have been in use even before the time of Sergius; so at least we may infer from the treasure-trove turned up at Capua, in 1885, in a tufa-grave. Among the contents of this tomb was an artificial leg, made of bronze, wood, and iron, the skeleton being entire, save the bones represented by the artificial limb. This (probably unique) relic is now in the Museum of the Royal College of Surgeons of London, and is thus officially described: "Roman artificial leg. The artificial limb accurately represents the form of the leg. It is made with pieces of thin bronze, fastened by bronze nails to a wooden core. Two iron bars, having holes at their free ends, are attached to the upper extremity of the bronze. A quadrilateral piece of iron, found near the position of the foot, is thought to have given strength to it. There was no trace of the foot, and the wooden core had nearly all crumbled away. The skeleton had its waist surrounded by a belt of sheet bronze, edged with small rivets, probably used to fasten a leather lining. Three painted vases (red figures on a black ground) lay at the feet of the skeleton. The vases belonged to a rather advanced period of the decline in art (about 300 B.C.)." Commenting on the above, General H. H. Maxwell says: "It is important to add, from other sources, that the upper third of the leg was hollow, while the lower two-thirds were filled with wood."

The Peculiarity of Malarial Disease in China, according to the Hospital Report of the American Episcopal Mission, is that there is a remarkable predominance of the quartan type, and the paroxysms are most likely to come on at night or in the afternoon.

The Mortality from Labor in China is estimated to be eight per cent., or about four hundred thousand deaths annually.

Small-pox and Measles in China.—Small-pox is spread every winter by the custom of inoculation. This is done by putting the variolous matter on a rag and inserting it up one nostril. No care is taken to isolate patients suffering from this disease. Measles are very common, and it is a well-known fact that one attack of measles here is no protection from the disease at home.—*Report of Hospital for Chinese, Shanghai.*

Gonorrhœa and Strictures. — Gonorrhœa affects the white and colored races with equal readiness, but the colored race is less liable to have strictures follow, according to Drs. McIntosh and Carter (*N. Y. Medical Journal*). Among whites there is about one stricture to four to ten cases of gonorrhœa; among negroes the ratio is about one to twelve to twenty-three cases.

Pelvic Hæmatocele.—Dr. Lawson Tait believes that there is no justification for any confusion about this disease. In the Ingleby lecture, recently delivered by him at Queen's College, in Birmingham, he endeavors to clear matters, and finally arrives at the following conclusions (*The Lancet*, October 30, 1886): That in the great majority of cases of extraperitoneal hæmatocele the disease may be left alone, being rarely fatal, and that it is to be interfered with only when suppuration has occurred. That, on the contrary, intraperitoneal hæmatocele is fatal with such almost uniform certainty that so soon as it is suspected the abdomen must be opened and the hemorrhage arrested. In the overwhelming majority of cases the source of the hæmatocele will be found in the broad ligament, and then it can be dealt with, and with every prospect of success. If anyone objects to this, he appeals again to the canon of surgery, which is of uniform application. For surgical hemorrhage, cut down and tie the bleeding point; if a big branch of the femoral artery were bleeding, my colleagues who deal in such cases would cut down and tie it. "Why should Poupart's ligament be a line of demarcation within which this surgical writ will not run? Why should my friend Dr. —— be allowed to do to the external iliac artery what I am prohibited from doing to the internal iliac division?"

Constipation.—Dr. A. V. Meigs, of Philadelphia, recommends the following combination of well-known drugs, in pill form, for the cure of obstinate constipation: ℞ Ext. belladonnæ, gr. $\frac{1}{2}$; ext. nucis vom., gr. $\frac{1}{4}$; aloes, gr. $\frac{1}{8}$; Rhei, gr. $\frac{1}{4}$—to be taken three times a day. ℞ Ext. belladonnæ, gr. $\frac{1}{12}$; ext. nucis vom., gr. $\frac{1}{4}$; ext. colocynth comp., grs. ij.—to be taken three times a day.

Malarial Hæmoglobinuria.—Dr. H. McHatton, of Macon, Ga., has made a study of this subject, and concludes therefrom, first, that this disease is purely malarial; second, that the jaundice is not dependent on impairment of the hepatic functions, but on the coloring matters of the blood following the disintegration of the red blood-corpuscles; third, that quinine is the only medicine which has any controlling influence on the course of the disease.

Contagious Pneumonia.—In the *Canadian Practitioner*, November, 1886, Dr. J. E. Graham describes a series of cases of pneumonia which he has recently observed. From a study of these cases, as well as the literature of the subject, he is led to draw the following conclusions: 1. That lobar pneumonia is in almost if not in all cases an essential fever. 2. That it is a parasitic disease. 3. That it frequently occurs in the form of epidemics. 4. That it occasionally has appeared to be contagious. 5. That the disease, in an epidemic or contagious form, is nearly allied to erysipelas. 6. That the early and persistent administration of tincture of iron is the proper treatment for these cases.

A Tonsil-knife.—Dr. G. W. Squires, of East Avon N. Y., describes an instrument which he devised, and has employed for some time, to scarify, or incise, the tonsils, which, he claims, possesses many advantages over the ordinary scalpel wound with adhesive plaster. It consists of a rounded blade, attached, longitudinally, to the side of a steel shaft, near its tip. A flat spring, of soft temper, conceals the blade from view, but by simple pressure the latter may be made to advance as far as desired, through a longitudinal slot in the spring. The mouth is opened, and the tongue depressed with a spatula. The instrument is then introduced, and the spring is made to rest against the tonsil. Then, by graduated pressure, the blade is protruded, and the tonsil is incised to any desired depth, without danger of wounding the carotid artery or any of the deeper structures.

The Advantage of Combining Antiseptic Substances.—Dr. R. Lépine writes, in the *Revue de Médecine*, No. 10, 1886, concerning some experiments made by him with mixtures of different antiseptic substances. He combined mercuric chloride, salicylic acid, carbolic acid, benzoic acid, calcium chloride, bromine, hydrobromate of quinine, and chloroform, each in very minute quantity, so that if it was alone in the solution it would be powerless to prevent the development of the bacillus subtilis in beef-broth. The solution as made, however, when mixed with an equal amount of bouillon, effectually prevented any development of this bacillus. The author believes that, by mixing different substances in this way, very powerful antiseptic solutions may be made, which will, at the same time, be entirely devoid of danger to the human organism.

Lady Visitor: "Well, how are you this morning, my dear?" Invalid: "Oh, very low indeed." "Have you seen a physician?" "Yes." "What did he say?" "That the malady was mortal." "And who is this doctor?" "It is Dr. X." "Ah, well, he was right; with him all maladies are mortal."

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Original Lectures.

MULTIPLE NEURITIS AND ITS RELATION TO CERTAIN PERIPHERAL NEUROSES.[1]

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LECTURE I.

MR. PRESIDENT, LADIES AND GENTLEMEN OF THE PATHOLOGICAL SOCIETY:

In inaugurating the course of lectures which bears the name of the founder, it is becoming that some expression of gratitude should be made to Dr. Middleton Goldsmith. This can hardly be associated with any form of personal encomium, since that would be as distasteful to him as it is needless before this Society, which owes its existence in part to his exertion. It is proper, however, to emphasize our appreciation of the motives which have led to the establishment of this lectureship. Every one knows that in the rapid progress of medical science, in the great and needful division of labor which that progress has made imperative, there is offered to each individual worker a vast mass of facts which cannot be easily grasped or even readily comprehended. To classify these facts, to weigh their importance, to draw logical conclusions from them, and to present these conclusions in a clear and accessible form is a work of no little magnitude, but of absolute necessity. To accomplish this specialists are at work in every department, and it may be well to emphasize the fact that it is the necessity for their labor, rather than any temporary fashion, that has led to that specialization in medical science which is so often harshly criticised. But special studies lose half their value if they are not made generally available. And it is just here that a lectureship such as this has its use. It enables the results of individual labor to reach beyond the specialist, to be placed before the general practitioner in a simple but comprehensive way. There is, therefore, no means by which an individual can make his influence more widely and permanently felt than by the endowment of such a foundation. For when his personal activity has of necessity ceased with the natural termination of an honorable career he may be sure that, yearly, facts and results are proclaimed in his name of immeasurable service to his successors and of benefit to the profession.

And now, before proceeding to the subject which is to occupy our attention for a time, let me express my obligation for the honor which this Society has conferred in inviting me to inaugurate this course of lectures. It is an honor to which I have no claim, and the duty incurred is one which I feel incapable of performing satisfactorily. I must beg your indulgence in the performance of the task you have laid upon me, and if I succeed in eliciting your interest I know that it will be because the subject we are to study together has a novelty which may compensate for the defects of its presentation.

The discovery of a new disease is never made suddenly. It is a gradual process, and certain stages in the progress toward its complete recognition may be observed. There is first the period of clinical observation, when isolated cases of an unfamiliar and mysterious affection are recorded as curiosities. To this succeeds the period of diagnosis, when, by a comparison of the now numerous cases, a clinical picture of the disease is gradually filled out. In this stage there is much to impede the progress of discovery. For not content with an analysis of symptoms, and a grouping of cases, the majority of observers offer theoretical explanations of the nature of the new affection, and an element of speculation enters which often obscures the facts. There is, however, a real progress in this period, for it is characterized by inductive reasoning from fixed data, and as a result reliable conclusions are reached which make a diagnosis possible. The third period is that of pathological discovery, when the morbid changes lying at the basis of the disease are accurately ascertained. In this stage erroneous theories are eliminated, true explanations for various symptoms become self-evident, and the exact nature of the affection is determined. The disease has now a status of its own. And at first this might seem to be the final stage in the progress of discovery. But it is not. There remains a period of etiological classification, when conditions, formerly supposed to be dissimilar are found to have a common basis, when the pathological changes are ascertained to be the same although the clinical pictures have varied, and when classification of the various forms is rendered possible and a definition of the disease is reached.

Such a gradual advance toward general recognition is well illustrated by the history of multiple neuritis, which is to engage our attention at the present time.

I think we may claim that one of the first cases presented was by an American physician, Dr. James Jackson, of Boston, in 1822.[1] In a paper "On a Peculiar Disease Resulting from the use of Ardent Spirits," which he named arthrodynia, he gives a most graphic picture of what we now know to be one form of multiple neuritis. He says, "This disease comes on gradually. It commences with pain in the lower limbs, but especially in the feet, and afterward extends to the hands and arms. The hands may be affected first in some instances, and in all cases in an advanced state the pain is more severe in the feet and hands than in the upper part of the limbs. The pain is excruciating, but varies in degree at different times. It is accompanied by a distressing feeling of numbness. After the disease has continued a short time, there take place some contractions of the fingers, and toes, and inability to use these parts freely. At length the hands and feet become nearly useless, the flexor muscles manifesting, as in other diseases, greater power than the extensors. The whole body diminishes in size, unless it be the abdomen, but the face does not exhibit the appearance of emaciation common to many visceral diseases. The diminution is especially observable in the feet and hands; and at some time the skin of these parts acquires a peculiar appearance. The same appearance is noticed in a slighter degree in the skin of other parts. This appearance consists in a great smoothness and shining with a sort of fineness of the skin. The integuments look as if tight and stretched, without rugæ or wrinkles, somewhat as when the subjacent parts are swollen; but the skin is not discolored. Yet in this disease there is not any effusion under the skin, and the character which this assumes

[1] The Middleton Goldsmith Lectures, delivered under the direction of the New York Pathological Society, January 25, 1887.

[1] New England Journal of Medicine and Surgery, vol. xi., p. 351.

arises from some change in the organ itself. The most characteristic symptoms are manifested in the limbs, but the pain is not limited to these—and other symptoms are exhibited in other parts. The pain sometimes shoots suddenly up one or both legs, and in one case it frequently passed up the back and then forward to the pit of the stomach. The functions of the stomach are always impaired. The mind is weakened. Sleep is prevented by pain. I believe that this disease is always fatal when the use of spirituous liquors is not abandoned before the powers of the digestive organs are greatly impaired."

It is hardly possible, even at the present day, to add to this description, which portrays in strikingly vivid language the main features of one form of multiple neuritis.

The next observations of importance in establishing a clinical picture were made by Magnus Huss, who, in his work upon chronic alcoholism, in 1852, gave a very complete description of alcoholic nervous symptoms, dividing the cases into paralytic, anæsthetic, convulsive, epileptic, and hyperæsthetic forms. But not content with the clinical side, he advanced to pathological hypothesis, and ascribed all the various symptoms to lesions in the central nervous system. His description was amplified and completed by Lancereaux, in 1864, in an article upon alcoholism in the "Dictionnaire Encyclopédique des Sciences Médicales." But the pathology of the disease was still a matter of speculation.

In 1855 the great work of Duchenne was published,[1] and in it a number of cases are recorded which we now recognize as multiple neuritis. In these cases there were sensory disturbances, consisting of pain, numbness, and loss of sensation; motor disturbances, consisting of paralysis, with atrophy, especially marked in the distal parts of the extremities, and attended by a loss of faradic contractility in the paralyzed muscles; and cyanosis, coolness, and increased sweating in the affected limbs. Duchenne grouped these cases together under the title "Paralysie Générale Spinale Subaigue Ascendante," because he thought a gradually advancing lesion in the spinal cord, from below upward, would explain the symptoms. It is true that he found no macroscopic change in the cord in the only case in which he made an autopsy. But when, under the leadership of the French school, from 1860 to 1865, the microscopic appearances in nervous lesions began to be studied, the hypothesis of Duchenne at once appeared to be verified, for it was found that such symptoms as numbness, pain, and anæsthesia were associated with lesions of the posterior columns of the spinal cord. And it was also proven that atrophic paralysis was caused by a degeneration of the ganglion-cells of the anterior gray horns of the cord, not necessarily visible to the naked eye. It seemed an easy step to the conclusion that when these symptoms occurred together the entire spinal cord was the seat of disease, and that wherever they occurred a spinal lesion was progressing. The pathology of this form of paralysis appeared to be definitely ascertained, and for many years the fallacy of such a conclusion was not detected. All atrophic paralysis was invariably referred to spinal lesions, because spinal lesions may cause atrophic paralysis.

But facts rarely accommodate themselves permanently to theories, and after a time a mass of very unwieldy facts began to accumulate. Cases of atrophic paralysis without spinal lesion were observed, and these threw doubt upon the theoretical pathology. The period of true pathological observation had begun, and gradually went on to completion. In 1864 Dumenil reported the following case, which deserves to be cited, as it is the first in which an autopsy established the existence of a wide-spread disease in the peripheral nerves as a cause of sensory, motor, and trophic symptoms.

Observation I.—A tailor, aged sixty-one, after suffering from prickling in the toes for two weeks, was suddenly taken with weakness in the left arm and right leg, and, a few days later, by the same paresis in the left leg. Within five days he could not stand or walk. The paralyzed feet hung flaccid, and were totally paralyzed; the thighs could be moved freely. Anæsthesia was found on the right sole and calf, and on the left foot and outer side of the leg. In the muscles of the hands and forearms a considerable atrophy, with paralysis, developed. The faradic contractility was abolished in the paralyzed muscles. He complained of a painful numbness in the paralyzed limbs up to the knees, and involving the hands. No improvement; death in four and a half months.

Autopsy: Spinal cord and nerve-roots were normal. The finer nerve branches in the legs and hands were degenerated, only a small number of nerve-fibres being found. Single fibres showed no continuous myelin sheath; but this was segmented and granular. There was an increase of connective tissue, and many fat-cells in the nerves.[1]

This case being of an anomalous character excited very little attention. Two years later, however, Dumenil reported another, and published an elaborate article on peripheral paralysis, in which he said: "My own observations have convinced me firmly that many paralyses of obscure origin are caused by true spontaneous neuritis."[2] The second case, which with the first led to this conclusion, has been cited by Leyden as a case of neuritis, but it does not conform to any of the types of multiple neuritis, and is open to some doubt from the results of the autopsy, since numerous foci of disease were found in the spinal cord. We therefore pass it by.

Singular as it may seem, an interval of ten years elapsed before another case of similar nature, accompanied by a record of *post-mortem* examination, appeared. Then Eichhorst, of Berlin, reported the following interesting history:

Observation II.—A female, aged sixty-six, after suffering daily for two weeks from a chill, fever, and sweat, attended by malaise, anorexia, and constipation, noticed an œdematous swelling of both feet and legs, and complained of pain in the abdomen. A week later, on admission to the hospital, these symptoms continued. The urinary examination was negative. Three days after admission she suddenly felt a severe boring pain in the left leg, shooting into the toes, and at the same time a profuse sweat broke out over the calf and back of the foot. A few hours later a total paralysis was found in the muscles supplied by the peroneal nerve, with a marked anæsthesia. The electric reaction, at first preserved, was found two days later to be gone. After six days, during which she had no further chills, a paralysis of the anterior tibial nerve developed, and soon after of the posterior tibial nerve also. One week later entire paraplegia of the legs, with anæsthesia, severe pains, continual sweating, increasing œdema, and loss of the tendon reflexes had ensued. There followed a paralysis of the left, and soon after of the right, radial nerve. Moderate fever continued, and albuminuria appeared. Three weeks after her admission sudden blindness developed, the ophthalmoscopic appearances being at the time normal; the patient then lay in bed with eyes closed, unable to move a limb. The extremities perspired constantly, and were tender, any pressure on nerve-trunks being very painful. In the face there was no trouble, and the senses were normal except that of sight. No trouble in swallowing. Nothing abnormal about the viscera during the entire disease. No irregularity of pulse or respiration. Death occurred on the forty-fourth day of the disease.

Autopsy: Spinal cord absolutely normal. The nerve-trunks in the bicipital grooves appeared intensely red to

[1] Electrization localisée.

[1] Dumenil: Gaz. Heb., 1864, p. 203, and Gaz. Heb., 1866, No. 4.

[2] Ceque j'ai observé me donne la conviction intime que bien des paralysies de cause obscure ont leur point de départ dans les véritables névrites spontanées, Gaz. Heb., 1866, No. 4.

the eye, the perineurium being discolored and the endoneurium blood-red. The same appearance was noticed in the large nerve-trunks of the arm in their course, as well as in the left tibial nerve. The microscopic examination showed a remarkable distention and tortuosity of the blood-vessels of the perineurium; the vessel-walls were thickened, their nuclei increased. In the vicinity of the vessels a large number of lymphoid cells were found, which everywhere followed the vessels and infiltrated the connective tissue. There were also numerous fatty cells. The connective-tissue fibrillæ of the perineurium were thickened, shining, and swollen; their nuclei were increased and partly infiltrated with fat granules. Similar changes were seen in the endoneurium, viz., numerous extravasations of blood, which separated the nerve-fibres and compressed them. The nerve-fibres showed marked degeneration, especially those lying next the endoneurium, consisting of disintegration of the myelin sheath, and a distention and spindle-shaped swelling of the individual nerve-fibres. The nuclei of the sheath of Schwann were not increased in number, but the protoplasm about them was coarsely granular and opaque. The cells of the endoneurium were everywhere wanting, being replaced by fatty granular cells, even between the uninjured fibres.[1]

This is the first case to be found in which the microscopic appearances are described with sufficient detail to be satisfactory. It is to be noticed that here the lesion was an acute inflammation, and was, apparently, a diffuse one, both interstitial tissue and nerve-fibrils being involved in the process. That it was primarily an interstitial inflammation, and that the affection of the nerve-fibrils was secondary, due to pressure of the products of exudation, is clearly seen in the fact that those fibres were more seriously affected which lay near vessels, while the deeper fibres in large bundles were not at all degenerated. The appearance of the fibres was such as occurs in any degeneration from pressure. There is no reason, therefore, to believe that the process began diffusely.

As to the symptoms in this case, it is to be remarked that they were ushered in by an acute febrile movement with chills, and that severe pain was an early and prominent symptom; also that œdema and sweating were present; and that the optic nerves were involved.

The clinical picture in the following case of Joffroy, published three years later, was somewhat different, as was also the pathological condition.

Observation III.—A washerwoman, aged thirty-three, in the last stage of phthisis, was admitted to the hospital on March 5th. In February she had noticed a rapidly increasing weakness of her legs, and at the time of admission she could not walk or raise her feet from the bed. She could flex the knees but not extend them. There was no contracture, and the muscles were relaxed and flabby. Sensations to pain, temperature, and pressure impressions were normal, but the muscular sense was lost, and reflexes were diminished. She showed such a degree of mental weakness that tactile sense could not be tested. She had no shooting pains, no loss of control over bladder and rectum, no bedsores. Two weeks later the arms became involved in the paralysis, and atrophy, inco-ordination, and loss of muscular sense, with fibrillary motions, developed within a few days. There was great diminution of faradic excitability in all the paralyzed muscles. At the end of ten days the arms were entirely powerless, but retained their sensibility. On April 7th she died.

Autopsy: A chronic meningitis of the brain explained the mental symptoms. The spinal cord was normal. The nerves appeared normal; but microscopic examination showed very marked degeneration in all the nerve-trunks, but especially in the sciatic, radial, and ulnar nerves. There was a segmentation of the myelin sheath, which at places was reduced to a finely granular mass. Many sheaths of Schwann were filled with this mass, others were empty, The nuclei of the sheaths of Schwann were increased in number. All the spinal nerve-roots were normal. The changes in the nerves were followed down into the fine terminal branches in the thenar muscles. The muscles were atrophied and showed fatty degeneration.'

Here, in contrast with the preceding case, it is to be noted that the lesion was not attended by congestion of the nerves, or by any exudation of lymphoid cells, or by marked interstitial changes. The affection was a true parenchymatous inflammation, with degeneration of the myelin sheath and axis cylinder. As a result, the macroscopic appearance of the nerves was not such as to attract attention, and it required a microscopic examination to demonstrate the changes present. Joffroy, who reports this case as one of general spontaneous neuritis, finds the lesion identical with that observed in cases of localized neuritis occurring from cold, from lead palsy, or as a sequel of the infectious diseases. In regard to the symptoms, also, the case contrasts strongly with the preceding one. The patient had phthisis. The disease advanced more slowly. Pain was absent, and the sensory symptoms were by no means prominent, the muscular sense being the only one affected.

In 1880, the following cases were observed by Leyden, in the Charité Hospital of Berlin, in both of which changes were found in the peripheral nerves. They are cited because they not only enlarge our clinical picture, but confirm the pathological conditions already described.

Observation IV.—A sailor, aged twenty-five, was suddenly seized with severe tearing pains in all four extremities, especially near elbows and knees, which were swollen, white, indurated, and very tender. The pains shot down the limbs, and were attended by formication and by diminished sensation in fingers and toes. High fever accompanied the onset. In a few days, as the fever subsided, a paretic condition with muscular atrophy was noticed in the forearms, and to a less extent in legs and feet. A gradual improvement took place in the course of a few months in the lower extremities, but the paralysis and atrophy in the arms increased in degree, and the appearance of the hands resembled that seen in lead palsy. There was a reaction of degeneration in the muscles paralyzed. A year after the onset he died of chronic nephritis.

Autopsy: A sclerotic atrophy of both radial nerves was found. The nerve-sheath was thickened. The muscles were considerably atrophied. The anterior spinal nerve-roots, as well as the cells in the anterior horns, and the entire spinal cord, were normal. In the nerves of the lower extremities no changes were visible.[2]

Observation V.—The second case was that of a merchant, aged thirty-one, who noticed about Christmas, 1878, a feeling of formication in the toes and sole, of first the left, and then the right foot. This continued more or less severe, without any motor disturbance, until July 10th, when he found his legs heavy, and in two days this had so increased that he could not walk. At the same time a constant formication in the soles of the feet was felt. Within a few days similar symptoms appeared in the arms and hands. On admission to the hospital on July 17th, he complained of weakness of the legs and loss of sensation in the hands, also burning pain in the left hand and inner side of the left knee. The motion of the legs was powerless and uncertain, and there was paresis of the extensors of the hands and fingers. Sensation was much impaired in the periphery of the extremities; the tendon reflexes were abolished, the muscles flabby. The electrical examination showed a loss of faradic contractility, and a great diminution of galvanic contractility in the affected muscles. The liver was tender, and there was a slight jaundice; pulse 70; no fever. The paralysis

[1] Eichhorst: Virchow's Archiv, Bd. 69, p. 265. 1876.

[1] A. Joffroy: Arch. de Phys. norm. et path., 1879, pp. 172–198.

[2] Leyden: Charité Annalen, 1880.

increased slowly in extent and severity, and was accompanied by paræsthesia, pains, and diminished sensibility. The muscles atrophied, and showed the reaction of degeneration. After six weeks slight fever began, with rapid pulse aud dyspnœa. The pains affected the upper part of the thorax, and the spinal column became sensitive as low as the eighth dorsal vertebræ. During the last days small rapid pulse, severe dyspnœa, purely costal respiration, delirium, somnolence, and exhaustion were noticed, and on September 3d he died.

Autopsy: The spinal cord was normal, the gray and white substance intact, the large ganglion-cells in normal form and number, though a few seemed to present a slightly swollen, glassy appearance which Leyden considered the first indications of trophic disturbance. The nerve-trunks, especially the radials and peronei, presented the appearance of a high degree of fatty degeneration and atrophy. The myelin sheath was either wholly wanting or greatly divided and split up, and in a state of fatty degeneration; the axis cylinder seemed varicose from deposits of fat in it. A marked infiltration of lymphoid cells, especially between the endoneurium and nerve-fibres, was noticed, more marked along the course of the small arterioles. These changes were present in a greater degree in the peripheral branches of the nerves, and seemed less in the nerves near the cord.[1]

It will be noticed that here the lesion corresponded quite closely to that in the case of Eichhorst.

Impressed by the striking features of these two cases, and by their similarity, both in clinical symptoms and pathological changes, to the cases of Dumenil, Joffroy, and Eichhorst already cited, Leyden undertook a review of atrophic paralysis.[2] He showed the confusion which had come from blindly referring all such cases to a single lesion in the spinal cord. He proved that previous authors had erroneously grouped together several diseases distinct from one another, both in their course and in their pathology. One of these is poliomyelitis anterior, acute and chronic, occurring in children and adults; a disease of the anterior gray horns, with local foci of inflammatory degeneration; a disease characterized by motor and trophic symptoms of peculiar distribution and typical course. A second of these is progressive muscular atrophy, with its corresponding bulbar affection, glosso-labio-laryngeal paralysis; a disease of the anterior gray horns and of the motor cranial nerve-nuclei, of a chronic degenerative, non-inflammatory kind; a disease characterized by trophic and motor symptoms of different distribution, nature, and progress from the first disease considered. A third disease is pseudo-hypertrophic paralysis, in which a fatty deposit in the muscle conceals the real atrophy in progress; a disease of childhood, but not due to any spinal affection; a disease of the muscular tissue itself. And lastly, he drew the picture of multiple neuritis, a disease due to degenerative processes in the nerves, independent of spinal lesion; a disease characterized by atrophic paralysis, associated with marked sensory symptoms, and with tenderness of the nerve, by a typical course, and, usually, by a favorable termination. By this article Leyden established the status of multiple neuritis as a distinct disease. Its symptoms were analyzed. Its lesion was described. The pathological stage in the progress of its discovery was complete.

When the characteristic features of a new disease have once been clearly pointed out, it is remarkable to observe how rapidly cases of it begin to be recognized. In the two or three years which followed the appearance of Leyden's article, numerous cases of multiple neuritis were reported in the journals. And many physicians, reviewing their records, recognized, in cases previously obscure or imperfectly diagnosticated, typical pictures of the new disease. It may be well to consider a few of these cases in order to complete our clinical knowledge of the affection.

Observation VI.—A female, aged thirty, of intemperate habits, but otherwise in good health, after suffering from formication, coldness, and pains in her feet and legs for some months, noticed an œdema of both legs. This increased rapidly after a few days, and the swollen limbs became painful to touch or pressure, and were the seat of severe lancinating pains, which were worse at night. Within a month the same symptoms appeared in the arms and hands, and a marked hyperæsthesia developed in all the extremities, as well as a rapidly progressing paralysis; so that, on admission to the hospital, six weeks after the appearance of the œdema, it was impossible for her to lift her limbs from the bed, or to extend her hands and fingers. The movements in the distal portions of all the extremities were much more impaired than those near the trunk, and in the paralyzed extensor muscles the faradic excitability was almost abolished. Heart and kidneys normal. She had some fever, and was delirious at night. The symptoms increased rapidly; the paralysis became total; respiration became difficult; the heart rapid, and a week after admission to the hospital she died.

Autopsy: Tubercles in the lungs. Brain and cord were normal. Nerve-roots were normal. In the nerves of the extremities marked degeneration was found, especially in the radial and tibial nerves. By the side of a small number of empty sheaths were found fibres, whose myelin was segmented and in drops, separated by empty spaces. The axis cylinders were indistinct. There was no increase in the nuclei of the sheath of Schwann.

In discussing the case Dr. Lancereaux made the diagnosis of alcoholic paralysis, assigning the lesion to the nerves, and differentiating it from a myelitis or a meningitis. In so doing he criticised the view of Wilks and Lockhardt Clarke, who still considered alcoholic paralysis as a central disease. He cited another case, very similar, of a female aged thirty-three, in which the symptoms were pains, hyperæsthesia, tenderness, paralysis, with atrophy in the extremities, but in which œdema was not so marked and came on quite late in the course of the case. The same lesions were found. To these he added two cases in which the patients manifested the same symptoms, but had never drank. They were both, however, sellers of varnish, and lived day and night in an atmosphere permeated by alcoholic vapor, from which he concludes that chronic alcoholic poisoning can occur by absorption through the lungs—a valuable observation, but hitherto not confirmed.[1]

The following case was reported by Grainger Stewart, together with two other cases which resulted in recovery.

Observation VII.—A male, aged thirty-one, noticed during August, 1880, a weakness of the legs, and during the following month a pain of a prickling character in the legs and feet. These increased in intensity, and in October a similar feeling came on in the fingers and hands, accompanied by loss of power and stiffness. When seen, in November, he had tingling pain in both legs from the knee to the back of the foot, with numbness and feeling of cold in the toes and plantar surfaces, so also in the hands, to a less extent. No girdle pain or formication. Sensibility to touch was diminished in the legs and hands. Transmission of impressions was delayed. Sensibility to heat, tickling, and pain were all diminished, as was also the muscular sense in the feet. There was no nystagmus, although he complained of things dancing before his eyes. Sight was normal. There was no incontinence of urine or fæces. The skin reflexes were absent in the soles, but normal in the abdomen and groins. The knee-jerk was absent. Voluntary motion was greatly impaired in legs and arms, and attempts to use the muscles caused pain. Electric irritability of the

[1] Leyden: Zeitsch. f. Klin. Med., 1880.
[2] Leyden: Zeitschrift für Klin. Med., I. Ueber Poliomyelitis und Neuritis.

[1] E. Lancereaux: De la Paralysie alcoolique, Gaz. Heb. de Méd., 1881, p. 120.

muscles and sensibility of the skin was much diminished. There were no vaso-motor or trophic changes. His mental condition became changed during his stay, his memory was impaired, and he seemed drowsy. A month after his first examination he died of pneumonia.

Autopsy by Dr. D. J. Hamilton: The median, ulnar, and tibial nerves showed great changes. With a low power of the microscope the bundles of fibres appeared to be affected by fatty degeneration. With a high power it was found that the axis cylinders were swollen so as to form a number of fusiform bodies in the course of the nerve-tubes. These at parts were divided into a number of round homogeneous colloid bodies. When set free these bodies underwent a fatty degeneration, forming compound granular corpuscles. In some fibres the axis cylinder was totally destroyed, nothing but a quantity of fibrous tissue remaining. The cords of the brachial plexus and the sciatic nerves were normal. Slight evidence of secondary sclerosis in the spinal cord was found in the columns of Goll and in the direct cerebellar columns. Its origin could not be explained.[1]

It must not be supposed, from the fact that all the cases so far cited were fatal, that death is always the result in multiple neuritis. This is very far from the truth, and probably, if the mortality had been greater, the pathology of the disease would not so long have eluded search. The fatal cases have been brought together in order that the pathological appearances observed might be noted and compared, and might become somewhat familiar by repetition. It is time to enter upon the more careful study of their pathology, and so, for a time, let us leave the clinical features of the disease.

It may not be out of place, before proceeding to discuss the changes occurring in inflammations of the nerves, to review the normal anatomy of a nerve.

THE HISTOLOGY OF A NERVE-FIBRE.—When a nerve-trunk is dissected, the connective-tissue sheath or perineurium enclosing its fibres torn away, and the individual fibres set free by teasing from the finer connective-tissue strands or endoneurium which bind them together, it is possible to distinguish certain parts, by means of appropriate methods of staining.

There is *first* the axis cylinder, Fig. 1 (*a*). This is made up of a number of primitive fibrils arranged longitudinally and continuous throughout the length of the nerve. The fibrils are cemented together by a substance which appears finely granular. Each cylinder is supposed to represent a prolongation of a single nerve-cell; but whether the individual fibrils of which it is made up come from the same cell or from different cells, or from the fibrillary network in the central organ surrounding the cell, is a matter of hypothesis.[2]

FIG. 1.—A Normal Nerve-fibre. *a*, Axis-cylinder; *b*, medullary sheath: *c*, sheath of Schwann; *d*, node of Ranvier; *e*, incisure of Schmitt: *f*, nucleus of the sheath of Schwann.

There is, *secondly*, the myelin sheath surrounding the axis cylinder, Fig. 1 (*b*). This is not a continuous tube, but consists of a series of little tubes, or interannular segments, placed end to end. The point of junction of two adjacent segments is indicated by a constriction in the contour of the nerve-fibre, and if the myelin be stained with osmic acid it is seen to be deficient at these constrictions. If, by any means, the nerve-fibre be broken, the myelin in any segment will run out and collect in drops, showing that it is a semi-fluid substance, of fatty nature.[1]

There is, *thirdly*, a connective-tissue membrane surrounding the myelin sheath, the sheath of Schwann, Fig. 1 (*c*). This, like the last, is made up of segments cemented to one another at the point of constriction of the fibre. This constriction is known as the ring or node of Ranvier, Fig. 1 (*d*), and at its situation the sheath of Schwann is the only covering of the axis cylinder. On the inner side of this sheath, and half-way between two nodes, is found a nucleus, Fig. 1 (*f*). The sheath and node are made evident by staining with nitrate of silver, while the nucleus is seen best by staining with carmine or acid fuchsin. The mutual relation of the sheath of Schwann and the myelin sheath, are best understood by the study of their development, segment by segment. Ranvier[2] likens the production of any one segment of these sheaths to the production of a fat cell from a nucleated cell. Every nucleated cell is surrounded by a layer of protoplasm. As the fat forms it collects within the layer of protoplasm in the vicinity of the nucleus, in the form of drops which finally unite into a mass. This mass is surrounded by a very thin layer of protoplasm and by the cell-membrane. On one side of it is seen the nucleus flattened out against the inner side of the membrane in the layer of protoplasm. Now, if each segment of the sheaths corresponds to the fat cell, and the myelin to the fat, the structure of the segment is clear. The membrane of the fat cell is represented by the sheath of Schwann. At the point of constriction of the nerve-fibre this membrane is cemented to that of the adjoining segment. Beneath the membrane, and flattened against its side, is the nucleus of the segment, lying in a layer of protoplasm in the middle of the segment. This layer of protoplasm forms a lining everywhere to the sheath of Schwann. With that sheath it is reflected around the axis cylinder. Within the lining, in a state of semi-fluidity, is contained the myelin, which will run out if the limiting membrane is broken. By appropriate staining fine lines can be seen passing between the outer and inner layers of protoplasm, through the myelin sheath, the so-called incisions of Schmidt, Fig. 1 (*e*). These have been considered little trabeculæ of protoplasm within the segment in the midst of which the myelin lies. Recent staining methods seem to indicate that they belong to the sheath of Schwann and are connective tissue. The layer of protoplasm lying against the axis cylinder is the layer which was formerly described as the sheath of Mauthner. Some authorities consider that a layer of connective tissue similar to the sheath of Schwann surrounds the axis cylinder, but this is still uncertain. Thus the nerve-fibre consists of a central conducting strand, surrounded and insulated by a series of tube-like segments of fluid contained within a membrane, which are joined to one another, forming a double protecting sheath.

Individual fibres are associated in bundles held together by fine connective-tissue cells whose nuclei can be seen in a carmine or fuchsin stained preparation, lying always adjacent to, but outside of, the sheath of Schwann.[3] This has been called the endoneurium, while the connective-tissue sheath surrounding the entire bundle is named the perineurium. Capillary vessels with free anastomoses run within the nerve, their walls lying adjacent to the in-

[1] Grainger Stewart: Edinburgh Medical Journal, April, 1881.

[2] Whatever their origin, it is certain that they pass together in the axis cylinder to the periphery, and that there the axis cylinder as such terminates, while the individual fibrils branch out in various directions, and, joining with other fibrils from other cylinders, form a fine plexus within the organ to which the nerve as a whole has gone. It has been thought possible to trace individual fibrils of the plexus into individual epithelial cells. Such is their termination in various internal organs and in the skin. This is not, however, the only manner of termination of the axis cylinder, for individual nerves can be traced directly to terminal organs, such as the terminal plates upon the muscle, and the terminal bulbs and corpuscles in the skin; in which cases no division or branching of the fibrillary constituents of the axis cylinder has been discovered. The termination in each of the organs of special sense is still different. The axis cylinder can best be seen by the acid fuchsin stain.

[1] The myelin sheath is not a necessary constituent of all nerve-fibres, for the majority of the nerves of the sympathetic system are devoid of such sheaths. Nor does the myelin sheath of the nerves of the cerebro-spinal system extend from end to end of the axis cylinder. For the axis cylinder first receives its sheath at some little distance from the cell from which it issues, and at its termination, where it breaks up into branching fibrils, the myelin envelope ceases. Throughout the course of the nerve, however, the myelin sheath is present in the cerebro-spinal nerves, forming a protecting envelope, and probably acting as an insulating substance as well.

[2] Ranvier: Leçons sur l'Histologie du Système Nerveux. tome i., p. 115.

[3] These connective-tissue cells which lie between individual fibres have been recently the subject of study by Adamkiewicz (Adamkiewicz, Ueber Ruckenmarkschwindsucht, Sitzungsbericht der Wiener Acad., Bd. 91, Abth. II.), and Rosenheim (Rosenheim, Arch. für Psych., xvii., p. 830). The former regarded them as nerve-corpuscles, but the latter has proven that they are true connective-tissue cells. They are best seen in specimens stained with a double staining of

dividual fibres, and thus affording a perfect nutrition.[1] Lymph-spaces also have been demonstrated within the nerve-sheath, but not among the fibres.[2] That the interfibrillary spaces of the endoneurium, however, open into these peri-fascicular lymph-spaces is probable, from the fact that they do so in other organs. While it is evident that the nutrition of the axis cylinder is derived from the circulatory fluids, it is probable that it is only at the nodes of Ranvier that the absorption takes place, since elsewhere the myelin sheath interferes with osmosis. Thus, if the nerve be put in nitrate of silver, it is only opposite the nodes that the axis cylinder becomes stained.

The Pathology of Multiple Neuritis.—In studying the pathological processes which occur in multiple neuritis, it is necessary to keep these various elements of the normal nerve in mind, since each element is subject to changes. The exact character of these changes is best understood by observing the results of nerve-degeneration artificially produced in animals. And a study of this will not be out of place here, for, as we shall see, the changes occurring in multiple neuritis correspond quite exactly to those produced by experimental degeneration.

In considering the pathology of degenerative neuritis we enter at once upon a mass of controversial statements. It would seem to be a simple matter to establish, by observations upon nerves which had been experimentally compressed or severed, the changes which ensue in nerve-injuries. But, as a matter of fact, there is, perhaps, no field of experimental pathological inquiry in which the results have differed more widely. In the first place, it is probable that the rapidity and even the character of the changes differ in different animals. Secondly, various methods of investigation, of hardening, dissecting, and staining the nerves, seem to have resulted in the production of different appearances. And, lastly, it is by no means certain that a uniform pathological process goes on after experimental lesions.

After a lesion of a nerve-trunk, a process of degeneration sets in at the point of injury, and involves a small portion of the central end and the entire peripheral part of the nerve, from the seat of injury onward. This process may be more or less complete, and may, or may not, be followed by a second process of regeneration in the diseased nerve. It is necessary to distinguish between the degenerative and regenerative processes; and, inasmuch as it is affirmed that they may proceed simultaneously in various parts of the same fibre,[3] it is not strange that the confounding of the two should have increased the confusion in the statements.

In early times it seems to have been a question whether the destruction of a nerve was ever recovered from, and while the majority of authorities rightly contended that this was possible, there were those who denied it vehemently. Steinneck,[4] in 1838, seems to have determined this finally in the affirmative, using both the physiological and anatomical data at his disposal to good advantage. The exact processes of degeneration were first carefully studied by Nasse[5] and Waller,[6] and their results having attracted attention to the phenomena in question, a host of investigators have followed their lead. The most careful examinations of the entire series of changes which go on in degeneration and regeneration have been made by Ranvier,[7] Philipeau and Vulpian,[1] and Dejerine,[2] in France; by E. Neumann,[3] S. Mayer,[4] and Wolberg,[5] in Germany; by Hanken,[6] in Holland; by Schiff[7] and Tizzoni,[8] in Italy, and by Weir Mitchell,[9] in America.

The majority of writers upon nervous diseases and upon general pathology seem to have followed Ranvier closely, without any mention of the fact that other authorities differ from his conclusions. It will be necessary here to present the various views which are held.

The Process of Degeneration.—When a nerve is compressed by a ligature or forceps without sufficient force to rupture the sheath of Schwann, the myelin is driven away from the point of pressure in both directions, and the axis cylinder is disintegrated and mingled with it. It might be supposed that the nodes of Ranvier would prevent such a driving back of the myelin, but they seem to offer but feeble resistance, so that the entire fibre on either side of the compressed spot is bulged out for some little distance, the sheath of Schwann between the distended portions being left empty or containing only a little granular débris. In a short time changes of a degenerative character are observed on both sides of the point of compression. Those on the central side are limited to the immediate neighborhood of the injured spot, and, according to Ranvier, do not affect the nerve for a distance greater than a centimetre from the point of compression.[10]

On the peripheral side of the point of pressure the degeneration is extensive, involving the entire nerve down to its finest terminations. The process is held by some to be a gradually advancing one along the fibre from the point of pressure outward, while others believe that it begins at once in the entire length of the nerve. The first change noticed is a breaking up of the myelin sheath into segments, and then into smaller masses and drops (Fig. 2, *a*, *b*), which finally undergo further disintegration, either by a fatty or albuminoid degeneration, or by a process of saponification, until a finely granular mass alone remains. Tizzoni states that this process is partly due to the activity of migratory white blood-globules, a view which Ranvier supports, and which Neumann and Mayer deny. If, as seems probable, the connective-tissue cells of Rosenheim take an active part in all processes of nerve inflammation, it is possible that these are the bodies which Tizzoni mistook for leucocytes. Ranvier holds that the segmentation of the myelin is due to the increase of the protoplasm about the nucleus of the segment, and that it is this protoplasm which replaces the myelin. Neumann holds that the granular mass resulting from the disintegration is not protoplasmic, but is a débris capable of acting as the basis for processes of regeneration after undergoing a chemical change. All authorities admit that the granular mass may be gradually absorbed, leaving the sheath of Schwann collapsed and empty, or containing only granules of débris or nuclei (Fig. 2, *c*, *d*).

As the myelin undergoes these changes the axis cylinder

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anilin, gentian violet and methyl blue, though they can be seen distinctly in fuchsin stained preparations, as has recently been demonstrated by Dr. Van Giesen, of the Laboratory of the College of Physicians and Surgeons. They appear on nerves after the age of five, and increase in number as the individual grows older, so that in elderly persons they are very numerous. They are round or spindle-shaped, and frequently appear to have little thorn-like processes. In addition to these connective tissue cells there are fine fibrils of connective tissue, and bands of tissue lying between the bundles of nerve fibres.

[1] Ranvier, l.c., p. 253.
[2] Ranvier, l.c., p. 258.
[3] E. Neumann: Ueber De- und Regeneration der Nerven, Arch. f. mikros. Anat., xviii.
[4] Schmidt's Jahrbuch., Bd. 26, S. 102, 1840.
[5] Müller's Archiv, 1839.
[6] Comptes rendus, 1852, vol. 34, p. 675.
[7] Leçons sur l'Histologie du Système Nerveux.

[1] Gaz. Méd. de Paris, 1859, Comptes rendus à la Soc. de Biol.
[2] Arch. de Physiol., 1875, p. 567.
[3] Arch. f. mikros. Anat., xviii., 302, 1880.
[4] Zeitsch. f. Heilkunde, ii., 1881.
[5] Deut. Zeitsch. f. Chirurgie, xviii. u. xix., 1883.
[6] Internat. Monatsch. f. Anat. und Histologie, Bd. iii., 1886; Fortschritte der Medicin, 1886, December.
[7] Comptes rendus, 1854, vol. xxxviii., p. 448, and Zeitsch. f. Wissen Zool., 1856, vii., p. 145.
[8] Centralbl. für. Med. Wissen., 1878, Nr. 13.
[9] Injuries of Nerves, 1872.
[10] Some recent investigations of Friedlander and Krause throw doubt upon this statement. (Fortschritte der Medicin, December 1, 1886). They have discovered a considerable degree of atrophy in the nerve-trunks in the stumps of amputated extremities, and they traced this atrophy upward through the nerves, and into the posterior nerve-roots exclusively. They conclude, therefore, that the fibres affected are entirely sensory fibres. The axis cylinder is only slightly affected by the atrophy, but the myelin sheath is wholly destroyed. Inasmuch as the degree of atrophy in a nerve-trunk was about the same whether the amputation had been made near the body or near the end of the limb, they conclude that only certain of the sensory fibres degenerate upward. And as the tactile corpuscles and terminal bulbs are only found in the most distal parts of the extremities, it is suggested that only those sensory fibres degenerate which arise from these so-called tactile bodies. If this is proven to be true by further observation, the tactile bodies will assume the role of trophic centres for the sensory nerves. And in this case anything which interrupts the connection between the tactile bodies and the posterior spinal ganglion will produce a centripetal degeneration in the nerve. Hence in neuritis from section or pressure, as well as in multiple neuritis, such secondary degeneration is to be expected and should be looked for.

usually becomes involved. Some authors, it is true, believe that it remains intact, and that, although deprived

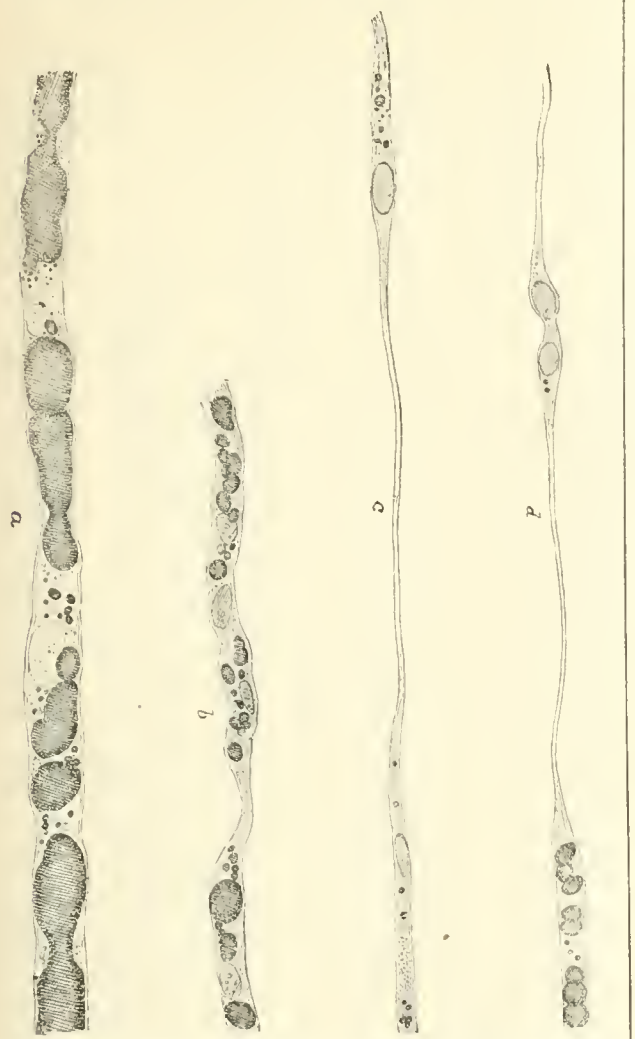

FIG. 2.—The Process of Degeneration. (After Ranvier.) *a*, Segmentation of myelin an daxis-cylinder, with increase of protoplasm; *b*, disintegration of myelin into drops, increase of nuclei, partial absorption of débris; *c*, complete absorption of the disintegrated mass, leaving the Schwann sheath empty, or containing only débris and nuclei; *d*, the same, nuclei alone remaining.

of its function, it is capable of resuming that function at any time when regeneration of the myelin sheath has taken place. Such authorities as Erb, Charcot, Weir Mitchell, and Wolberg have given their approval of this view. Ranvier believes that the protoplasm of the nucleus attacks and destroys the axis cylinder as well as the myelin. Neumann holds that it is split up into segments like the myelin, becomes mingled with it, and undergoes the same process of chemical change, or absorption; and Mayer agrees with this view. (Fig. 3, *a*, *b*, *c*.)

The sheath of Schwann also takes part in the process of degeneration. When that process has fairly begun numerous nuclei are observed lining this sheath in each interannular segment. They may have come by a process of segmentation of the original nucleus of the segment, as Ranvier holds. But Neumann and Mayer have shown that they appear as early at the extremities of the segment as they do in the vicinity of the nucleus, and they therefore conclude that they are a free formation originating in the granular or protoplasmic mass. Tizzoni thinks them emigrated corpuscles. The most recent view of all is that of Rosenheim, that they come from the connective-tissue cells along the sheath which divide and multiply, and show powers of emigration as soon as the process of degeneration begins. When the granular mass is absorbed these nuclei remain scattered along the sheath of Schwann, and it has been suggested that, when in an empty sheath a new axis cylinder appears, it owes its existence to these nuclei, which arrange themselves in a line and develop into the new fibre (Wolberg). If no regeneration occurs they disappear gradually, and then the only relic of the former nerve-fibre is the empty, collapsed sheath of Schwann, which remains as a connective-tissue strand.

The increase of nuclei and connective-tissue fibrils in the endoneurium and perineurium which accompanies the process of degeneration, aids in the transformation of the nerve into a band of connective tissue.

The degeneration which affects the nerve is continued to the terminal plates upon the muscle, and these are changed into a mass of granules and finally absorbed, a connective-tissue plate being left.[1] Whether any changes occur in the sensory terminal organs, such as the tactile corpuscles or terminal bulbs, has never been ascertained. Those who believe that the individual axis cylinder fibrils terminate in the epithelium of the skin may cite the trophic changes which often occur on the surface as evidence that this covering of the body shares in the nerve changes.

Authorities seem to agree that the same results follow a division of a nerve that are observed after its compression, with the difference that at the point of section the myelin runs out of the sheath of Schwann. The cut central end of the nerve becomes swollen into a bulbous extremity by a growth of connective tissue.

Whether a true union of the divided ends ever occurs is still a matter of uncertainty. The majority of authori-

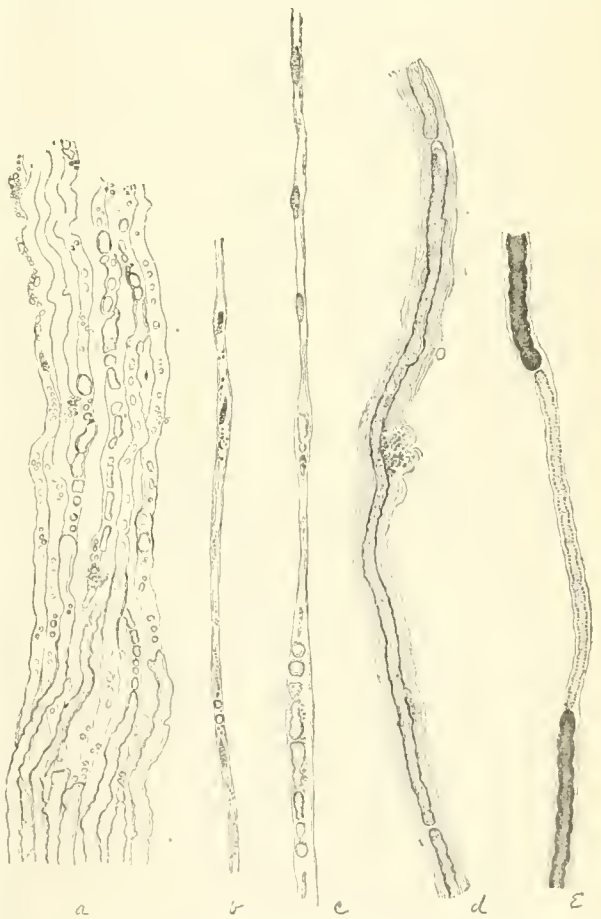

FIG. 3.—The Process of Degeneration and Regeneration going on in Normal Nerves. (After Mayer.) *a*, Segmentation of the myelin; *b*, contents of sheath of Schwann reduced to granular mass; *c*, sheath of Schwann, containing only débris and nuclei; *d*, granular mass in the sheath in process of regeneration; *e*, regeneration of a single segment after degeneration.

ties, following Ranvier, affirm that while a primary coaptation of the ends by an exudate which is secondarily transformed into connective tissue may occur and hold the ends in position, no true primary union of nerve-

[1] Gessler: Die Motorishe Endplatte und ihre Bedeutung fur die Periphere-Lähmung. Leipzig. 1885.

fibres is possible, and under all circumstances the degenerative process already described goes on to completion. Glück, however, claims to have observed an actual union of the two ends, with re-establishment of function, at a time too early to have admitted the occurrences of degeneration and regeneration; and Wolberg, approaching the subject from the surgical side, and considering the results of nerve-suture, inclines to the same view.[1]

In the midst of such contrary statements, what conclusion can be reached as to the actual facts? It seems evident that but one conclusion is certain, viz., that under different circumstances different processes occur. The various observers are equally trustworthy. It is impossible to choose one set of conclusions rather than another, or to rely wholly upon one series of experiments, however capable the observer may be, for they all rest upon repeated observations. It is undoubtedly true that in some cases the degenerative process, so graphically pictured by Ranvier, from the beginning segmentation of the myelin down to the final result in the connective-tissue strand, the relic of the empty sheath of Schwann, does go on; while in other cases of a less serious nature the destruction is less complete, and there remains a fibre consisting of a sheath of Schwann, containing a granular mass which may be either an axis cylinder or a mass capable of developing into an axis cylinder under favorable circumstances. If this is the case, we can affirm that brilliant surgical successes, with rapid restoration of nerve function after suture, are possible when the partial degeneration is present, but are impossible when the total destruction of the nerve-fibre has occurred. And statistics show that there is a certain percentage of operations which fail of any result, though repeated on the same nerve.

It is evident that future research should be directed, not so much to determine which of the processes described occurs, as to settle under what circumstances the one is produced rather than the other. And such research will have an eminently practical bearing, inasmuch as it will also demonstrate under what circumstances nerve-suture is likely to be attended by success.

The Process of Regeneration.—After the process of degeneration has gone on for some time in the nerve-fibre, it may cease, and the process of regeneration may begin. With regard to the method of this process two widely divergent views are held. Ranvier and his followers claim that the new nerve is wholly a product of the central end of the injured nerve, growing out from it and making its way along the track of the peripheral end, which takes no active part in the process. Neumann and Mayer, on the contrary, believe that the regeneration goes on in the peripheral end of the cut nerve, segment by segment being formed successively, beginning at the point of injury and proceeding outward, the entire nerve being built up by the union of each distal segment with the one lying centrally to it, until this process has reached the end. These various views demand a more exact statement.

Ranvier describes several ways in which the new fibres issue from the central end.[2] He has seen the central end of an individual nerve-fibre become hypertrophied, and from this swollen part a single new fibre start out already medullated. He has also seen a single axis-cylinder grow out, and then divide into two, or even more, axis-cylinders, each of which develops into a complete medullated nerve; or from the swollen central end of a single fibre several medullated and segmented fibres may originate, or one medullated fibre may be sent out with several non-medullated fibres coiled about it; or, lastly, a simple axis-cylinder branches out without a medullary sheath, divides into two, and each of these in turn divides into two, and so on until the sheath of Schwann, which had originally but one axis-cylinder within it, contains as many as eight or more (Fig. 4, *a*). These new fibres appear like a brush upon the end of the divided nerve, and wind about each other, forming a sort of plexus. By the aid of the cicatricial tissue, which usually joins the central end with the degenerated peripheral end, the bushy, branching fibres are directed outward toward the periphery. And when they reach the peripheral end of the cut nerve they insinuate themselves into the old remaining sheaths of Schwann, or between those sheaths, and grow on and outward till at last they reach the termination of the peripheral end, and the regeneration is complete. The terminal plates upon the muscles are renewed by a production of protoplasm in the plate. The description given by Neumann and Mayer is very different. It will be re-

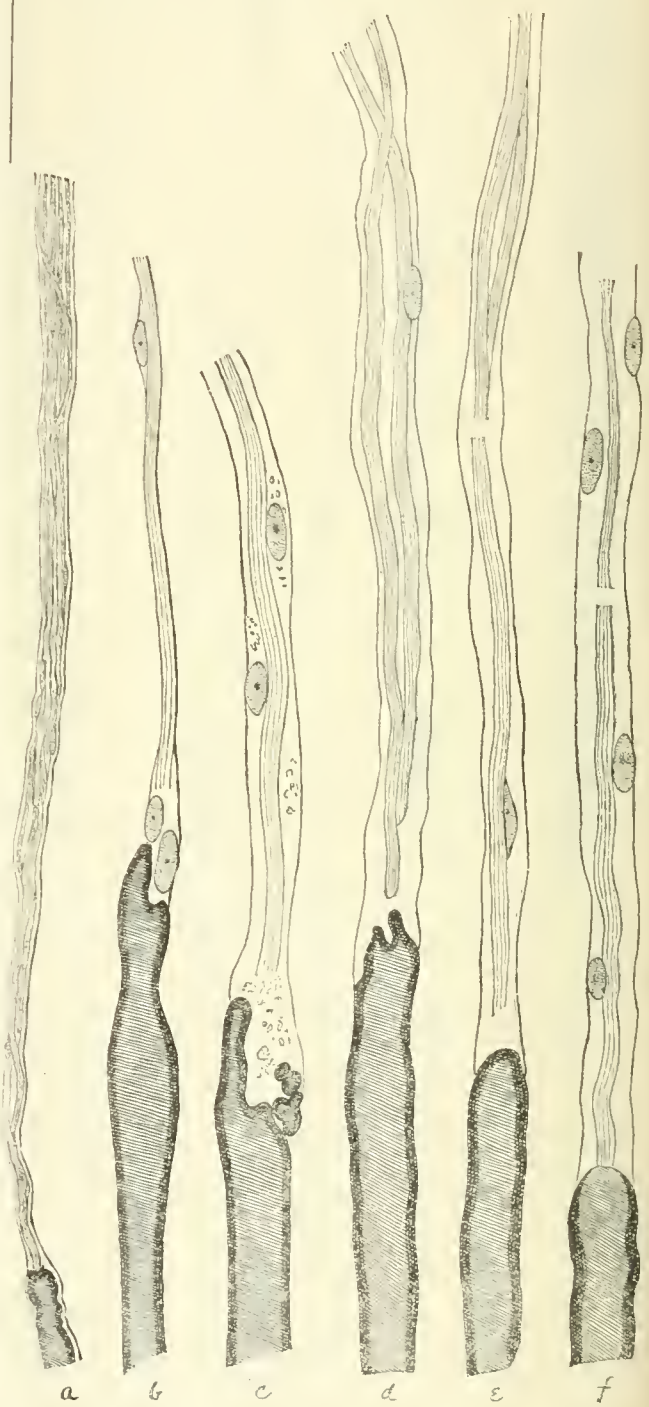

Fig. 4.—Process of Regeneration. (After Neumann.) *a*, Outgrowth of new nerve-fibre from central end, division into numerous axis-cylinders (Ranvier); *b*, development of axis-cylinder in peripheral end, the new fibre separated from the old by nuclei; *c*, ditto, with increase of protoplasm destined to become a new myelin sheath, overlapping of old myelin upon the new; *d*, two new fibres developing in a peripheral segment and ready to unite with the central end; *e*, two segments nearly developed, the central one in advance of the peripheral one; *f*, final union of the peripheral with the central segment, nuclei still remaining.

[1] See, also, Weissenstein, Brun's Klin. Chirurg., 1884, p. 310.
[2] L. c., ii., 42–67.

membered that they describe, as the terminal result of the process of degeneration, a band of fibres each consisting of a sheath of Schwann containing a granular mass. The process of regeneration begins in this mass. Within it they have seen a narrow band of fine homogeneous substance appear, which has the structure of a rudimentary axis-cylinder (Fig. 3, *b*). This does not fill the sheath of Schwann, and is often pressed aside by the nuclei which lie in that sheath (Fig. 4, *c*). It is not at first continuous with the end of the old axis-cylinder, remaining in the central part of the compressed or divided nerve, but as it increases in definite structure it approaches this old axis-cylinder, and finally unites with it. At the point of union a ring of Ranvier is formed. As this axis-cylinder develops, a substance is gradually formed around it, which is stained by osmic acid. This increases in thickness as the protoplasmic mass and the nuclei diminish, until it finally forms a new myelin sheath. The new myelin sheath is never continuous with the old one in the central end of the nerve, since it is separated from that by the ring of Ranvier; but often at first the older sheath seems to bulge out and encircle the new sheath, though this appearance is never permanent (Fig. 4, *c*). At the point of union of the new fibre with the old one, nuclei are often found; but these, like the others, gradually disappear (Fig. 4, *b* and *d*). Lastly, a new sheath of Schwann is produced around the new myelin sheath, and within the old sheath of Schwann. It presses aside the old sheath, together with such masses of protoplasm, drops of myelin, and nuclei as may remain, leaving them thus wholly outside of the new-made fibre, so that they coalesce with, and make part of, the endoneurium (Fig. 4, *e*). The new sheath of Schwann has but one nucleus in each segment, and presents the nodes of Ranvier at regular intervals.

Neumann has shown that this process goes on in every individual segment of the nerve-sheath, so that in segment by segment, proceeding toward the periphery, the regenerative change occurs, and as each segment approaches completion it joins itself to the preceding one (Fig. 4, *e* and *f*), until finally the entire nerve is re-established in its entire length. As the degenerative process begins in the segment nearest to the point of compression, so does the process of regeneration; and in some nerves the two processes may be seen going on together, the segments near the seat of injury being renewed while those at the periphery are still in a state of degeneration. The new fibres do not grow out from the old ones, as Ranvier describes in the regeneration of cut fibres, but protoplasm, with specific developmental properties, forms and differentiates the elements of the new fibre, and then unites it to the old one. The new fibres are, at first, somewhat smaller in calibre than the old ones (Fig. 4, *f*), but they gradually attain a normal size, and then the process may be said to be completed.

While Neumann would have the new fibres develop from the granular mass remaining in the old sheath of Schwann, Günther, Hjelt, and Weir Mitchell suppose that they may originate from the nuclei of the old sheath, or even from connective-tissue cells and neurilemma nuclei remaining in the connective-tissue strand, and to this opinion Wolberg agrees. It is evident, therefore, that the process of regeneration is by no means accurately determined. But here again it is possible that conflicting statements may be explained. The method of regeneration may, perhaps, depend upon the exact stage of degeneration reached before it begins. If the product of degeneration is a simple band of connective tissue, it seems probable that the nerve-fibre will have to grow into it from a central origin, as in its original development in fetal life, unless the connective-tissue cells recently discovered are neuro-plastic cells, and have the power of producing new nerves, just as cells of periosteum may produce a new bone. If, however, when degeneration ceases, there remains a sheath of Schwann containing a granular protoplasmic mass, it is not at all improbable that that mass may be differentiated into an axis-cylinder and a medullary sheath, and joined to the old nerve-fibre, a process which has its analogy in the medullation of nerves in the embryonal state. If we admit, with Wolberg, that in some cases the axis-cylinder is not destroyed, the formation of new myelin is a rapid matter. That some such process as the one last described must occur in certain cases is certain, when the rapid recovery after minor injuries is considered, and when the results of nerve suture are taken into account; for in both these conditions the return of function occurs long before a new nerve-fibre, starting out from the old one, could have reached the periphery.

It is affirmed by Mayer that individual nerve fibres in normal nerves are constantly undergoing these processes of degeneration and regeneration, either because the necessary renewal of worn-out tissue takes place in this manner, or because slight injuries from pressure or over-strain are sufficient to start up degeneration in single fibres.

The process of degeneration in the nerves, consequent upon the destruction of the ganglion cells from which they arise (the so-called Wallerian degeneration) differs in no respect from that ensuing upon compression or division, excepting that in the latter case only the distal part of the divided nerve undergoes the pathological change, while in the former it is the entire nerve that is affected. And in the changes described in multiple neuritis the same progress of events and the same varieties of termination are observed.

When the cases of multiple neuritis are examined from a pathological standpoint several varieties may be distinguished. In some of the cases, and these are the most numerous, there is a parenchymatous inflammation in the nerve-fibre only visible to the microscope. At the outset of this inflammation the myelin sheath appears slightly swollen, is less homogeneous, and, from a difference of refractive power, is less translucent. It then becomes split up into segments of different length and form, the segmentation occurring preferably at the incisures of Schmitt, while the incisures at other parts disappear. Between these segments of myelin, a finely granular protoplasm is seen, in which new nuclei are found. These nuclei probably are the cells of Rosenheim which have emigrated, although a few near the nucleus of the sheath of Schwann may be due to its division. In some fibres the axis cylinder may still be preserved. In others it is broken at the same places as the myelin. At the next stage of the process the changes are more marked. The myelin is now reduced to a series of small globules surrounded everywhere by granular protoplasm, and in this protoplasm the nuclei are now very numerous. The axis cylinder cannot be distinguished in the mass, as a rule, but occasionally a fine line is seen passing through the mass, which may be a remaining cylinder. The succeeding stage presents a different picture. While up to this time the size of the nerve-fibre has remained about normal and uniform, it is now seen to vary. At places the fibre is still wide and filled with a granular mass, at other places it is narrow, the mass having disappeared, leaving either a collapsed sheath or a sheath containing only nuclei here and there. In a few such narrow fibres there seems to be an axis cylinder lying directly within the sheath of Schwann, and occasionally separated from it at various places by nuclei. But this appearance is rarely seen. As a rule, no trace of the axis cylinder remains. As any single fibre may show at some places constrictions, at others dilatations, the variation in its calibre is the most striking feature of this stage. In the terminal stage the calibre is uniform again, but is now everywhere reduced. The sheath of Schwann is empty, or contains only a little granular substance, and the nuclei are now less numerous than before. There is in fact only an atrophied tube with none of its original contents. These tubes lying side by side are folded and undulating, and appear like a strand of connective tissue.

These various stages of parenchymatous inflammation are to be seen in different fibres in the same specimen. Their appearance is identical with that observed in the course of degeneration of a nerve after compression, or after destruction of the spinal ganglion-cells. This has led such an accurate observer as Erb to advance the hypothesis that some slight changes in trophic cells in the spinal cord, not visible to the microscope, are present primarily, and that these changes are of a secondary nature.[1] But this cannot be admitted. Those who would explain the parenchymatous neuritis as secondary to changes in the cord, fail to explain why it should be limited, as it is, to the distal portions of the nerves, and not be continuous through the nerve-trunks, and anterior nerve-roots into the anterior cells. They also offer no explanation for the cases in which the sensory, as well as the motor, nerves are affected, centrifugal degeneration of these nerves from spinal lesion being unknown. Strumpell, in meeting Erb's hypothesis, urges with reason that a parenchymatous neuritis has its parallel in other parenchymatous inflammations, and therefore does not need to be traced to any primary affection in trophic cells. He also mentions the existence of primary lateral sclerosis of the cord, similar in all respects to secondary degeneration of the pyramidal columns—yet now admitted to be a primary disease—as illustration of the fact that like changes are not always to be traced to one cause. It cannot but be admitted, therefore, that the first class of cases of neuritis must be considered as due to a primary parenchymatous inflammation in the nerve-fibres. This form seems to be much more frequent in its occurrence than the first variety, and constitutes the lesion in the majority of the cases hitherto reported. The appearance in section is seen in Fig. 5, *b*. The appearances of single fibres are the same as those shown in Figs. 2 and 3.

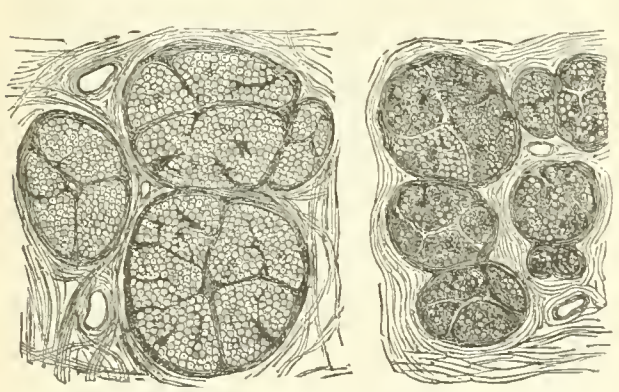

FIG. 5.—(After Joffroy.) *a*, Section through normal nerve; *b*, section through degenerated nerve in a case of multiple neuritis, bundles reduced in size, individual fibres degenerating, their place taken by débris.

A second class of cases presents a different appearance. In this class the mere inspection shows the nerve to have been the seat of pathological changes, for it is either congested, swollen, and lacking in lustre, or it is yellow and irregularly swelled by the accumulation of fat, or it is evidently reduced to a mere connective-tissue strand. Upon teasing the nerve it is at once clear, from its brittleness, that individual fibres are lacking in continuity and are changed in structure. And if it is examined under the microscope the exudation of serum and of lymphoid bodies, the great increase in the number of connective-tissue nuclei, the distended condition of the vessels, as well as the various appearances characteristic of nerve degeneration, are clearly seen. Here the inflammation is either originally an interstitial inflammation or, more probably, a diffuse one. It is possible that the degenerative processes in the nerves may have been due to the compression by the exuded products of inflammation within the nerve-sheath. In one or two cases where the patient died early in the disease, the nerve-fibres which lay near the vessels were affected to a greater degree than those lying deeper, and from this fact it was concluded that their degeneration was secondary. In other cases, however, all the fibres in a bundle are equally involved. Here it is probable that the inflammation was diffuse from the outset, parenchyma and interstitial tissue being affected simultaneously. The final result in either case is a diffuse inflammation. One marked feature in these cases is the large amount of fatty deposit found in the altered nerves. This is to be ascribed to the fact that myelin in undergoing degeneration breaks down into globules and undergoes a fatty change. It is itself allied to fat, and making up, as it does, a large part of the bulk of the fibre, it would be noticeable in the product of degeneration if it were not absorbed. In this form the absorption seems to be interfered with by the vascular condition, and hence the residual amount of fat is increased. The changes observed in the nerve-fibres are very similar to those seen in the first form of neuritis, and need not be described again.

It is to be noted that in both of these forms the pathological changes are always more intense in, and are occasionally limited to, the peripheral terminations of the nerves. The nerve-trunks may be slightly involved in their distal portions, but it is very rare to find any changes in them at their origin from the plexuses. And, as a rule, the spinal nerve-roots in cases of multiple neuritis are normal. In making autopsies upon such cases this fact is to be remembered, and the nerves are to be removed down to their finer branches in the muscles and fascia.

One additional pathological form must be mentioned, since it has been described by such a careful observer as Gombault.[1] It is the so-called segmental periaxillary neuritis. In toxic neuritis from lead-poisoning, Gombault found that the degenerative process was not uniform in the entire length of a nerve-fibre. On the contrary, entirely normal segments alternated with the degenerated segments in the nerve. Mayer has noticed a somewhat similar condition (Fig. 3, *e*). The changes already described take place in the myelin sheath of the affected segment, even to its entire absorption, leaving the axis cylinder in the sheath of Schwann. But as the adjacent segments are not involved, regeneration is thought to be more easily accomplished. Pitres and Vaillard[2] have noticed a somewhat similar condition in the neuritis occurring after diphtheria, although in their case the axis cylinder as well as the myelin sheath was totally destroyed in many segments.

While it is, of course, impossible to describe definitely the process which goes on to complete regeneration of nerves in multiple neuritis, there is no reason to suppose that it differs in any way from that observed in experimental lesions.

The time required for the completion of the process will depend upon the severity and extent of the degeneration. When that is slight the recovery may be rapid, cases having been reported where a total cure took place in two months. As a rule, however, it is a slow process. The large majority of the cases on record required over six months for the complete regeneration, and in not a few cases from ten to sixteen months elapsed before the condition of the nerves was proved to be normal by the total disappearance of all symptoms.

A degeneration of the muscles proceeds hand in hand with that of the nerves. This is usually in the form of an atrophy, with fatty degeneration and an increase of nuclei. The muscle-fibres become thin, homogeneous, are easily split up, contain fatty granules, and finally, in place of the atrophic muscle, new connective tissue is found. When no regeneration takes place, a mass of connective tissue replaces the muscle, containing a few muscular elements.

With the end of 1883 we may consider the third stage

[1] Erb: Neurol. Centralbl., 1883, p. 481.

[1] Gombault: Archives de Phys., 1873, p. 592; also Arch. de Neurol., i., 1.
[2] Pitres et Vaillard: De la Nevrite segmentaire, Arch. de Neurol., xi., 337.

of pathological discovery in the history of multiple neuritis as terminating. At that date the symptoms of the disease had been recognized as constituting a distinct clinical picture; hypothetical lesions in the spinal cord had been abandoned, and the exact pathology of the disease had been ascertained. Since 1883 the final period in the development of knowledge of the affection has been in progress. About one hundred cases, of varying degrees of severity, have been observed (see Bibliography). The lesions described have been confirmed in all their details. The symptoms arising in the course of the disease have been subjected to careful analysis, together with their varied modes of combination. Certain diseases hitherto considered of spinal origin are found to be due to peripheral disease. Thus it has been discovered that a form of ataxia may occur from multiple neuritis of alcoholic or arsenical poisoning, which closely resembles and was formerly confounded with tabes; also, that some cases supposed to be anterior poliomyelitis must now be differently named. And as physicians review their records, they find that former diagnoses require revision in the light of new discoveries, and that greater circumspection is to be exercised in differentiating spinal from peripheral affections. The grounds for such differential diagnosis will require attention in the next lecture.

And, what is perhaps of greater importance, the fact has been elicited that some combinations of symptoms formerly supposed to be without a pathological basis, some of the so-called peripheral neuroses, really belong to this class of diseases. At present we have only time to allude to one or two forms of peripheral neuroses which must be removed from that unsatisfactory category of disease and be considered as peripheral neuritis.

And the first of these is the affection termed numb-fingers. This was first described by J. J. Putnam, of Boston, but met with instant recognition from neurologists and from general practitioners all over the world. It is a disease chiefly seen in women between the ages of forty and sixty, usually associated with dyspeptic or uterine symptoms, but entirely independent of them. It begins as a tingling sensation in the ends of the fingers, felt at night, and sufficiently annoying to keep the patient awake. It then extends to the entire fingers, and may invade the hand, and is felt by day as well as by night. The fingers are so numb that all finer acts become impossible; the patient can no longer sew or knit, cannot be sure of holding anything securely, and finds herself unable to perform any delicate movement. Sometimes a slight degree of anæsthesia and analgesia can be discovered by ordinary tests, but often the disturbance of sensation is purely subjective. There is rarely any inco-ordination, and paresis is usually wanting. It may develop in the feet as well as in the hands, making walking more or less disagreeable, and adding to the discomfort of the patient. The affection is of indefinite duration; often subsiding quickly under treatment, sometimes baffling all attempts to arrest it. For a time it was considered a purely functional affection, then a spinal-cord disease;[1] but now, in the light of the parallelism between the symptoms mentioned and those which are characteristic of multiple neuritis, we cannot but consider it a slight form of this disease.

The second of the peripheral neuroses which must be referred to peripheral neuritis is intermittent paralysis. Cases of sudden paraplegia, lasting a few hours and passing off as rapidly as it appeared, have been observed too frequently to admit of any doubt. Westphal has described such a case in which no cause could be found. Gibney reported some cases presumably due to malaria. Others have thought the disease of functional character, either central or peripheral. But in the light of recent observations upon infectious cases of multiple neuritis it becomes evident that these sudden, transient paraplegiæ find their adequate explanation in such an affection.

And, lastly, there are numerous cases of indefinite nervous symptoms, pain of various kinds, formication, and odd sensations grouped under the indefinite term numbness, flashes of cold and heat accompanied by actual changes in the temperature of the part, or only by apparent vascular irregularities, slight spasms, or tremors; functional weakness, with sense of fatigue not reaching the grade of paresis, and many equally obscure manifestations of disturbed function in various parts of the body, which receive their best explanation in the theory of multiple neuritis.[1]

And since it was one of the objects of the founder of this lectureship to determine the true nature of such peripheral neuroses, it is with the greater interest that we examine the disease to which they must be assigned.

In the present stage of progress in the history of neuritis much attention is being given to the etiology of the disease. Cases which, from their causation, were formerly separated are now found to be closely allied in their pathology. Thus the forms of paralysis occurring after the ingestion of various poisons, such as arsenic, lead, bisulphide of carbon, and alcohol, are known to be due to a common pathological change. The various kinds of sensory and motor disturbance occurring as complications of the acute diseases, diphtheria, variola, typhoid and typhus fevers, and severe malarial fever, are traced to a lesion in the peripheral nerves. Tuberculosis is known to predispose to neuritis, and many cases formerly supposed, without question, to be produced by central or meningeal affections of a tubercular character are now assigned to a peripheral cause. It is a question whether syphilis will cause a simple degenerative neuritis, but syphilitic affections of the nerves are easily recognized and well known. Nor can the nervous system escape the action of those micro-organisms which are now recognized as the constant cause of many diseases. There is an epidemic form of multiple neuritis, fortunately not prevalent in this country, but occasionally imported here in the form of sporadic cases, known as kakke, or beri-beri, the bacillus of which has recently been discovered and cultivated. And, lastly, there is a class of cases, of supposed spontaneous origin, in which cold or overexertion are assigned as causes, but which need further investigation in regard to their etiology.

It is evident from this array of causes that several conditions formerly separated from one another because of the different circumstances of their occurrence are really forms of the same disease. But while they may be brought together upon a pathological basis, and while all have many symptoms in common, each of the forms of neuritis presents certain distinct features. Without dwelling too long upon any single variety, it will be necessary to review the different classes of cases in order to obtain a clinical picture of each. And such a review, together with the analysis of the symptoms of multiple neuritis, the discussion of its diagnosis from other diseases, its prognosis, and the treatment, will occupy us at the next lecture.

Heat Holidays.—In Switzerland and some parts of Germany the law provides that all schools, public or private, must give the scholars a holiday whenever the temperature reaches a certain height. The regulations in Basle are that when the temperature reaches 77° F. in the shade by 10 A.M. the school must be closed until the late afternoon. These heat holidays are very popular among the scholars.

Convulsions may be frequently cut short like magic by turning the patient on his left side. Nausea, after ether or chloroform, may generally be controlled in the same manner.—*Ex.*

[1] Ormerod, St. Bart. Hosp. Rep., 1883; Sandby, Lancet, 1884; W. Sinkler. Phil. Med. Times, 1884.

[1] Dana, Acroncuroses, N. Y. Med. Rec., July, 1885.

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A LAYMAN'S VIEW OF THE WAY TO PRACTISE MEDICINE.

IT is a fundamental part of the physician's duty that he do the very best he can for every patient. Whoever fails in this is very certain not to succeed long in his profession. It is not a common complaint, therefore, that physicians are thoughtless and unreasonable in their requirements, or prescribe conditions unnecessarily rigorous. That such things do happen sometimes, however, is the opinion of an esteemed correspondent, who has evidently suffered long from medical arts and the divagation of physiological processes. He writes us: "Many physicians, from lack of consideration, worry their patients uselessly. . . . There is, I find, a tendency on the part of physicians to set their patients many ingeniously devised supplementary tasks without fairly considering whether the chances of resultant benefit may not be overbalanced by the distress which is certain to be caused. I speak from many experiences, of which I will cite one, by way of illustration. A physician, who had me on a course of medicine, and some other treatment, prescribed, in addition, a snuff, *to be used every hour*. It soon became apparent that if I went about my usual vocation the hours would often pass away and the snuff be altogether forgotten, or I would be so situated that I could not use it. I therefore found it necessary for several months—as long as the treatment lasted—to lay aside all business and recreations, and to sit idly at home, in sight of a clock, except that I went out occasionally for an hour's walk, or to see my kind physician. The depression and distress caused by this imprisonment were great. If the snuff did me any good I am not aware of it."

We may be permitted to interpose here the remark, that if our correspondent was not able to take a dose of medicine hourly, without giving up his business, and sitting down before his clock, his trouble must have been largely mental, and of the character known as enfeeblement. However, he has other things to say.

"During the last ten years I have, at intervals, been successively (not successfully) treated by a number of well-known New York physicians, seldom for less than six months at a time. Each of these physicians expressed his positive belief that he could restore me to health. No one of them produced on me the least particle of good effect. I was treated by dieting, baths of different kinds, massage, electricity, and counter-irritation, and was given bromides of potassium and strontium, pepsin, quinine, cod-liver oil, mercury, nux vomica, and many other poisons whose names I never knew, or have forgotten. Last July I came under the treatment of a physician who informed me (although these little matters had escaped the attention of my previous physicians) that my urethra was strictured; that I should be circumcised, and that certain malformations in my nasal cavities should be removed by a series of minor operations.

"He first enlarged my meatus. It healed smaller than the calibre of the urethra. Disregarding this fact, he attempted to remove the stricture by dilatation, producing no apparent effect except to tear the orifice several times, leaving it finally in irregular shape. He then cut the stricture; but his cut was a little too short. Two weeks later he gave me a cut overlapping the first one. When I was able to walk about, he gave the meatus a second cut. Next he circumcised me. My wounds are now so far healed as to make it apparent that the circumcision will require a supplementary operation, and that the orifice of the meatus, although large enough, is crooked. It is purposed to overcome this latter difficulty by cauterizing the crooked part, so that it will become sore and heal solid, and then to make a straight cut. Meanwhile the operations in the nasal cavities are under way. I could, while undergoing these operations, have gone about much as usual, had they been undertaken in the summer. *Now* they confine me pretty closely to a warm room.

"Were it not that every physician with whom I have done business has loaded his system of treatment with uselessly onerous requirements, I should feel surprised to find that my present physician—a member of the County Medical Society, and admittedly a master of both major and minor surgery—has not, apparently, even thought it worth while to consider, intelligently, whether one order of arrangement for a series of operations is better than another, but has been content to take them just as they occurred to him, without any seeming order of fitness; and that he has performed each of my three genito-urinary operations in such way that, after healing, it has received, or must receive, another cut.

"It seems as if physicians, especially those of them who practise surgery, might worthily, and even profitably, study how to avoid imposing upon their patients unnecessary burdens. I believe that my operations might have been performed in half the time, with half the pain, with half the blood, with half the trouble, and might have been completed weeks ago. Whenever I have begged my physician for a little more expedition, a little more attention to system, a little more care, he has replied that he will submit to no dictation, and calls me 'A nervous kicker.'"

Our correspondent expresses himself with feeling, and has, we fear, some ground for complaint. Without disregarding the probability of there being another side to his story, we can quite admit the justice of his plea for more consideration in the arrangements and details of a long-continued course of medical or surgical treatment.

THE USES OF ICHTHYOL IN THERAPEUTICS.

Some curiosity has been felt by physicians to know whether the remedy known as ichthyol, or sulpho-ichthyolate of soda, has any special merits, or deserves to be treated as one of the numerous proprietary drugs forced upon the market by enterprising manufacturers. It seems but fair to judge this substance upon its merits, since it was introduced by a man of unquestioned prominence and skill in dermatological science—Professor Unna—and received at his hands an apparently careful physiological study. Accounts of Unna's researches are given in the *Journal of Cutaneous and Venereal Diseases* of September, 1886. Lorenz contributed some results of his experience in the *Deutsche Medicin. Wochensch.* in 1885. Stelwagon and Piffard have written briefly upon it (*Journal of Cutaneous and Venereal Diseases*, November, 1886). So also has Dr. Gécé (*Gazette des Hôpitaux Quarterly Compendium of Medical Science*, October, 1886, p. 447). Some very successful experiences have been reported from its use in the Charité Hospital at Berlin (*Medical and Surgical Reporter*, January 8, 1887), and Dr. Joseph Zeisler writes upon it at length in the *Chicago Medical Journal* of December, 1886. Dr. Dubelir has also given the results of his use of it in several cases of rheumatism (*Rueskaya Meditsina*, August 10, 1886).

Lorenz speaks in high terms of its value in articular rheumatism, when applied externally over the affected joints. Dubelir treated eight cases with it, six being of acute and two of chronic rheumatism. He used the drug both externally and internally, and found that it relieved the pain, but not the swelling. He recommends it, therefore, only as an anodyne. Ichthyol was also given for rheumatism of all types at Charité.

In skin diseases Dr. Stelwagon found that, in a small proportion of cases of acne rosacea and acne vulgaris, the ten or twenty per cent. solution was of value. In furunculus it acted well in three cases when applied as a twenty per cent. plaster. In a fourth case it had no effect. It was of use in psoriasis, and also in a case of lupus erythematosus. In favus it did no good. In twelve cases of eczema he found positively no beneficial effect—certainly a very damaging statement. On the other hand, Zeisler, in 56 cases of eczema, found that the drug produced excellent effects in 11 cases, good effects in 27, fair in 4, negative in 1, and unknown in 13. Dr. Zeisler says, however, that he used the ichthyol combined with zinc ointment as a base, the strength being from five to thirty per cent. This seriously vitiates the value of his conclusions as to its special potency. In 11 bad cases of sycosis, epilation was practised; ichthyol soap and ten per cent. ichthyol ointment was used. The effects were excellent in 4, good in 7, cases. In acne vulgaris good results were only attained by its internal use. In acne rosacea the action was "remarkable" in two cases, and very satisfactory in five. Two chronic and very obstinate cases are reported by Dr. Zeisler, in which a ten per cent. ichthyol salve, sulphur-naphthol soap, and occasional mechanical treatment were resorted to. Dr. Zeisler seems to think that the drug has some effect in chronic rheumatism and dyspepsia.

Ichthyol mixes with all of the ointment bases, and may be made up with vaseline, cold-cream, zinc ointment, etc. It is also used in watery solution, and as a paste, or a soap. It is given internally in capsules of one to two grains, of which from three to ten may be taken daily. It does not disturb the stomach. It has a strong, peculiar odor, and leaves a brownish discoloration of the skin, which soon disappears. Unna believes that it is a strong reducing agent, drawing oxygen from the tissues. It is spoken of as having a regenerative effect in small, and a resolving action in larger, doses; it causes the blood-vessels to contract, and so possesses an astringent property.

It will be seen that the indications for the use of ichthyol are still somewhat indefinite. But while it apparently possesses no wonderful specific properties in any direction, it may be found to be worthy of a place in therapeutics.

THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

The attendance at the State Society was fully up to the average, and, scientifically speaking, the meeting was a reasonable success. The papers were numerous and good. Many gentlemen on account of the stress of business were unable to obtain any hearing and were forced to read only by title. Much dissatisfaction was caused thereby, although perhaps the error, from a Society stand-point, was on the right side. In another place we present a full report of the proceedings, which speaks for itself.

This year the presidency belonged to New York City. The choice of Dr. A. L. Loomis was an eminently proper one, and will meet with that approval which is the reward for long and faithful labors as an instructive teacher, a lucid writer, and a successful practitioner.

THE REGULATION OF PROSTITUTION IN GREECE.

Our French contemporary, *Le Médecin Moniteur de l'Hygiène Publique*, is learned in classical medicine, and particularly in that part which relates to the cult of Venus and Priapus. In a recent issue the "monitor of public hygiene" discourses in an interesting way upon the laws of prostitution in ancient Greece. These laws, as will appear, convey a valuable lesson, for they show one way of dealing with this question which is sure to fail, because it allows license to the man and slavery to the woman, taking account of the passions only, but not of the health. The laws enacted by Solon established a class of prostitutes. These women had no rights as citizens, could not have legal offspring, were obliged to wear a certain costume, could not enter the temples, and, in fine, had no civil, social, or religious rights. The married woman, on the other hand, was destined to be a mother and to rear children. Her place was the home; she was not allowed at the theatre or public places; she was illiterate, ignorant, and had few accomplishments. To further protect her, or prevent her from indulging in intrigues, there were certain officials, called "gynèco-cosmoi," charged with spying upon her conduct. Severe punishments might be inflicted in case of adultery. The man, on the other hand, was free. "We have our courtesans," said Demosthenes, "for pleasure, our concubines (domestics) for the care of our person, our wives to give us children and rule with fidelity over our homes." This

was a very pleasant arrangement for the man, but was open to the objection from a hygienic stand-point that the man who took his pleasure with the courtesans might bring to his home physical troubles which would interfere with his domestic felicities and the propagation of healthy children. The Greek method of dealing with prostitution protected the home for a time and preserved a class of pure women in a most dissolute age. But the wife in time tired of servitude, and infidelity became common, while the courtesan took away from her more and more of her exclusive privileges. The result finally is pictured in the dialogues of Lucian and the letters of Alciphron.

THE MIDDLETON GOLDSMITH LECTURES.

It is with great gratification that we present to our readers the first of the Middleton Goldsmith lectures, delivered before the New York Pathological Society. In the movement thus auspiciously inaugurated we recognize a substantial encouragement for progressive work, and a becoming stimulus for patient original research. The New York Pathological Society is the foremost organization of its kind in the world. Its noble record is its best claim for such an honorable position. It is fortunate that its old friends have not forgotten it. Dr. Middleton Goldsmith, now of Rutland, Vt., has, with a few others, been spared to watch its success from the beginning of its existence. In fact, as one of its founders, he has noted its steady progress from a handful of earnest men to a membership of hundreds, absorbing, appropriating, and utilizing the pathological studies of every dead-house of a great city. With a liberality worthy of all praise, and under the advice of a fellow-founder and life-long friend, Dr. John C. Peters, he has endowed a lectureship which shall justly and appropriately bear his name for all time. May he be spared yet many a year to realize to still fuller fruition his cherished wishes.

News of the Week.

Homœopathy and Hypodermics.—The dean of a homœopathic medical college in this city is reported to have bought another hypodermic syringe recently. This is not what Hahnemann taught; it is not homœopathic.

The Cause of Right-Handedness, according to Dr. Oscar H. Allis, is the liver. This throws an extra weight upon the right side, and makes the right the more reliable limb. The use of the right arm, situated directly over the right leg, tends less to the disturbance of the centre of gravity than does the use of the left arm. But how will the doctor explain left-handedness?

Boldo-glucine is the name of another new hypnotic, obtained from boldo by Dr. René Juranville. It has a quieting effect in nervous insomnia, given in doses of twenty grains to two drachms.

Reforms Needed in the Naval Medical Service.—In his last annual report Surgeon-General Gunnel recommends an appropriation for the establishment of a naval hospital at Widow's Island, to receive patients from infected vessels of the North Atlantic squadron. Plans for the construction of the hospital accompany the report. The Surgeon-General states that it is impossible, with the present inducements offered, to find young medical men who are disposed to become medical officers of the navy. He recommends that the medical corps of the navy be put on an equality, both as to rank and pay, with that of the army.

Colorado and Consumption.—The Health Commissioner of Denver, Col., reports that in 1886 there were one hundred and ninety-five deaths from consumption in Denver, Col., of which only five were contracted in that place or State.

The Pasteur Institute.—The subscriptions have at last account reached the sum of $300,000.

Death from the Electric Current.—During the progress of a fire in this city, recently, Superintendent Frederick Simmons, who attempted to cut a wire of the United States Illuminating Company, which caused obstruction to the firemen, was instantly struck dead by the force of the electric current with which it was charged.

An Annex to Bellevue Hospital, for purposes of abdominal surgery, is to be erected. It will be attached to the Fourth or Non-collegiate Division.

The Trustees of the Massachusetts General Hospital have decided to build a new ward, to be devoted to abdominal surgery.

The Danger of Being a Pioneer in Oöphorectomy.—Dr. Robert Batty, now the pride of Southern medicine, says in describing the history of his first case: "While engaged in nursing assiduously, as I did my first patient, spending ten days at her bedside, without leaving the house for a moment, even for a change of linen—during this time of great suspense and anxiety, in the office of one of my brother practitioners, were held nightly meetings of the profession of the town, receiving reports on the condition of my patient, awaiting her demise with anxious longings in order to institute proceedings in our court and put me before the bar as a criminal."

Worshippers of Small-pox.—There is nothing, however monstrous or grotesque, that is deemed unfit for worship, says Mr. Saltus in his "Anatomy of Negation." In Benares there is a shrine to small-pox, in Gaya there is one to the police. Perhaps in this city there will soon be one for both.

Dr. Metcalf on the Treatment of Sciatica.—Dr. Metcalf, of this city, writes to the *Boston Medical and Surgical Journal*, that no prescription for sciatica has ever equalled in efficacy the following: ℞. Tinct. aconit. rad., tinct. colchic. sem., tinct. belladonna, āā ʒ j. M. Sig.: Dose, six drops every six hours. He also uses triturate tablets, each containing three drops of the following: Tincture of aconite-root, tincture of seeds of colchicum, tincture of belladonna, tincture of actea racemosa—equal parts by volume. Dose, one every four or eight hours.

Mitral Disease and Active Work.—The late Lord Iddesleigh had a lesion of the mitral valves for forty years, but engaged during all that time in active, intellectual, and political work. Contrary to what used to be taught, this kind of life did his heart no harm, but the lesion remained stationary.

Testimonial to Dr. N. S. Davis.—The attainment of the fiftieth year of his professional career by Dr. Davis was signalized, on January 20th, by a very cordial demonstration on the part of the students of the Chicago Medical College. A study-chair and a book-case were presented to the venerable doctor, with the accompaniment of flowers and graceful oratory. Dr. Davis is now in his seventy-ninth year.

Dr. George S. Thayer, ex-Mayor of Binghamton, died suddenly of apoplexy, recently.

Reaffirming the Constitutionality of the Law Compelling the Licensing and Registration of Physicians.—From August to December, 1886, Albert Eastman, a resident of Steuben County, Ind., practised as a physician and surgeon. He had, however, not obtained a license for his privilege, and upon an affidavit being filed against him he was tried, convicted, and fined. The conviction was made under the act of April 11, 1885, which makes it unlawful for anyone to practise without a license. Eastman at the trial made a motion to quash the indictment, on the ground that the law was unconstitutional and void, for the reason that the Legislature had no right to place restriction upon the liberty of a citizen in following any profession or vocation which he chose to. The motion was overruled, and after the conviction Eastman appealed to the Supreme Court, where the decision of the lower court was affirmed. The opinion was very comprehensive in every citation, and was written by Chief-Justice Elliott. It held that the case of admitting physicians to practise was the same as the admitting of lawyers, and that the admittees should be thoroughly proficient in learning and skill, so as to protect the interests of the State. A physician was trusted with care of the health, life, and limbs of the people of the State, and it was in order to protect such that the law of license was enacted.

Doctors and the Declaration of Independence.—Dr. S. Weir Mitchell contends that he was right in his remark that Dr. Benjamin Rush was the only physician who signed the Declaration of Independence. Josiah Bartlett, Lyman Hall, Oliver Wolcott, and Matthew Thornton all studied and practised medicine somewhat, but none were graduates or titular M.D.'s like Rush.

Restraint at the Utica Insane Asylum.—It is announced in the daily papers that the authorities of the State Lunatic Asylum at Utica have abandoned the use of mechanical restraint. This means, we presume, that the "crib" has gone forever.

Professor David Swing on "the Christian Science of Healing."—A few weeks ago, when an apostle of the new mode of medical practice had finished reading an address upon the "Christian Science of Healing," some critic said the term "science" should be omitted from such lectures; some one whispered also the word "Christian;" while near such omissions the word "healing" might well take part in the elimination, and not be left to utter solitude. . . . The "Metaphysical Cure" is destined not wholly to fail, but to become a popular element in medical practice. The public may well reject a large part of its claims, and may then thank its disciples for telling us plainly that we are sick often from weakness of will and want of enthusiasm—not real invalids, but whining hypochondriacs, who should be sawing wood in the basement or digging in the back-yard, instead of lying upon the family lounge or dealing out symptoms to the family doctor. For all such suggestions, and for accompanying proofs, these practitioners merit not the fame of discoverers, but of new and eloquent exhorters to action.

Another Successful Pneumotomy is reported by Dr. J. Thiriar, of Brussels (*Bullet. de l'Acad. Royale de Méd.*, 1886). The patient suffered from a large pulmonary cavity, due probably to a suppurating interlobar pleurisy. It had opened into a bronchus.

Regulating Prostitution.—Fournier asked 873 male syphilitics how they had become infected. It was found that 625 got the disease from registered, licensed, and regularly examined prostitutes, 100 from working-women, 24 from domestics, 24 from married women, 46 from clandestine prostitutes. The inquiry showed that the licensed prostitute was the most serious source of infection.

The Faculty of Medicine of Paris has conferred the Lacaze Prize of 10,000 fr., awarded every four years for the best work on the treatment of fevers, typhoid in particular, to M. Albert Robin, for his "Leçons de Clinique et de Thérapeutique Médicales."

Medical Students in the German Universities.—The total number of students in the medical faculties of the German universities is about three hundred in excess of what it was last winter session, the largest increase (seventy-six) being at Würzburg. Berlin shows a decrease of eight, and Königsberg a decrease of four.

Charity Organization.—We are glad to notice, from the reports made at the recent annual meeting, that this society continues to flourish and extend its work. It has done good work in the cause of medical charity, by demonstrating that in the dispensaries examined one-third of the patients can afford to pay, and one-third give a wrong address and are more or less frauds.

The Dangers of a Milk Diet.—That milk is not always a good thing for adults is well known; but it seems that an exclusive milk diet may even bring on dilatation of the stomach, emaciation, and many other distressing symptoms. A patient illustrating this fact was recently shown by M. Debove at the Société Médicale des Hôpitaux. The man had had alcoholic gastritis, and lost thirty-six pounds under a milk diet.

Pulsatilla in Acute Orchitis.—Dr. Gerard Smith writes (*British Medical Journal*) in the following enthusiastic strain about pulsatilla: "Having witnessed the striking curative action of pulsatilla in acute orchitis and epididymitis, I should like to persuade others to follow Dr. Brunton's advice, and give this drug in inflammatory states of the testicle, epididymis, and spermatic cord. To have it in our power to subdue promptly the intense suffering of such cases is a great blessing; and the relief is so rapid that it is even unnecessary to employ morphine to subdue the pain, while the swelling and heat subside more rapidly than under any other drug."

A Too Healthy City.—St. Paul, Minn., reports for the year 1886 the very extraordinary death-rate of 12 per 1,000

Reports of Societies.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

Eighty-first Annual Meeting, held in Albany, February 1, 2, and 3, 1887.

TUESDAY, FEBRUARY 1ST—FIRST DAY—MORNING SESSION.

THE Society convened in the Court-room in the City Hall, and was called to order at ten o'clock by the President, DR. WILLIAM S. ELY, of Rochester.

Prayer was offered by REV. W. W. FOSTER, Jr.

THE PRESIDENT then delivered his inaugural address, after which he appointed the following committees:

Business Committee—Drs. F. A. Castle and Laurence Johnson, of New York; and Archibald Dann, of Rochester.

Committee on Credentials—Wm. C. Bailey, Orleans County; James D. Spencer, Jefferson County; and James Macfie, Franklin County.

THE PRESIDENT'S INAUGURAL ADDRESS.

After returning his thanks for the honor of being called upon to preside over the deliberations of this body, with reference to the scientific work, he recommended that the President be given discretionary power, when the amount of scientific material will justify, to arrange for the formation of two or more sections, for which he may appoint a chairman and secretary.

He recommended also that matters pertaining to change in the existing medical laws be referred to the Committee on Legislation, with instruction that it report next year what changes are required in the laws affecting the State and County Medical Societies.

The President also recommended that the laws relating to the formation of Boards of Health be referred to the Committee on Hygiene for report next year as to the expediency of recommending any change in the present law.

Reference was made to deceased members, and the recommendation made that the page in the "Transactions" immediately preceding the obituary sketches be made a page "In Memoriam," upon which the names of deceased members during the year should be inscribed.

INVITED GUESTS.

Drs. E. W. Mulligan and H. S. Beahan, of Monroe County; R. J. Wilding, of Malone; J. E. Janvrin, of New York; Geo. H. Oliver, Dickinson, Franklin County; T. A. Foster, Portland, Me.; J. W. M. Shattuck, D. H. Cook, R. D. Clark, S. R. Morrow, E. A. Bartlett, and Franklin Townsend, of Albany; C. N. Dixon Jones, of Brooklyn; Claude Wilson, of Waterville; J. A. Morris of Hudson; G. P. English, of Booneville; G. A. Menzie, Verona; F. N. Otis, New York; Roswell Park, Buffalo; H. T. Dana, Cortland; Reuben Jeffrey, Jr., Norwich; J. H. Moon, Otsego County; S. S. Wallian, Essex County; A. M. Larkin, St. Lawrence; J. B. Ramsay, Clinton County.

The question of the appointment by the President of

A MEMBER OF THE COMMITTEE ON LEGISLATION

was raised, and on motion it was referred to the Committee on By-Laws for report as to whether, a vacancy occurring, it can be filled by appointment or must be filled by election by the Society.

THE COMMITTEE ON EXPERIMENTAL MEDICINE

reported that no bill conflicting with its interests had been introduced into the Legislature within the last year.

On motion by DR. PIFFARD, of New York, the usual

COMMITTEE ON THE PRESIDENT'S ADDRESS

was appointed, consisting of Drs. Piffard, of New York; Sherman, of St. Lawrence; and J. V. Kendall, of Onondaga County.

Several

PERMANENT MEMBERS

were then elected, in conformity with the resolution adopted last year.

DR. W. C. WEY, of Elmira, read a paper on

SEPARATION BY VIOLENCE OF THE EPIPHYSIS, AT THE HEAD OF THE HUMERUS, IN AN INFANT TWO WEEKS OLD.

He had been able to find record of only a single case, that reported by Hamilton in his work on "Fractures." The case illustrated how promptly, completely, and rapidly recovery takes place when left to nature.

DR. DAVID WEBSTER, of New York, read a paper entitled

ADAPTATION OF CORNING'S METHOD OF PRODUCING LOCAL ANÆSTHESIA TO OPERATIONS ON THE EYELIDS,

consisting of multiple puncture and the introduction of cocaine by the aid of a galvanic battery.

DR. SHERWELL, of Brooklyn, had always liked the instrument, because it was his own invention.

DR. POOLEY, of New York, had used what was more satisfactory to him than Dr. Corning's method, namely, the use of Knapp's entropion forceps, and the hypodermatic use of the cocaine.

DR. CORNING took some exception to the purpose for which Dr. Pooley had said that he applied the forceps-clamp.

DR. POOLEY replied that what he had stated was substantially what he stated in the New York Ophthalmological Society, and that he had not claimed any priority.

DR. J. LEONARD CORNING, of New York, then read a paper on his method of

MEDICATION OF THE NERVES OF THE SPINAL CORD,

which consisted in first introducing cocaine by means of the electro-chemical method or by means of the hypodermic syringe and then covering the area with fine wire gauze and making moderate pressure, which includes the fine capillaries, without pressing out the anæsthetic.

DR. F. W. RING, of New York, testified to the practical efficacy of the method, but urged the following cautions: 1, The positive electrode must be directly over the cocaine; 2, anæsthesia is confined to the area of punctures, and therefore care must be taken not to cut outside of this limit; 3, the possibility of coagulating the vitreous; 4, a fresh solution must be used to avoid irritation.

DR. PHELPS, of Chateaugay, regarded cocaine as one of the most dangerous drugs when handled indiscriminately, and thought that it should be used in as small quantity as possible.

DR. ROOSA, of New York, thought that the dangers from the use of cocaine had been extremely exaggerated.

IS THE DANGER FROM POST-PARTUM HEMORRHAGE INCREASED BY THE USE OF ANÆSTHETICS DURING PARTURITION?

DR. FORDYCE BARKER, of New York, read a paper on the above subject, in which he said that the affirmative answer to this question was one of the most effective arguments urged against the use of anæsthetics in midwifery nearly forty years ago by such eminent obstetricians as Tyler Smith, Robert Barnes, and many others. Even the most recent authors, and many writers in medical journals, refer to the danger of anæsthetics in causing post-partum hemorrhage.

The real question is whether anæsthetics, properly administered, should be withheld from a woman in labor,

when desirable to save her from unnecessary suffering, because of the danger of causing post-partum hemorrhage.

He regards chloroform as the safest and best anæsthetic in obsetrics, and since 1850 he has not used ether.

What is termed uterine inertia is often but another name for uterine exhaustion, and this most certainly must be less likely to occur when the nerve-force and vital powers have been saved by the use of an anæsthetic. This uterine exhaustion may be and often is the result of prolonged labor, and while he was convinced that the effect of chloroform was often to prolong labor, he had not been satisfied that this apparent objection was not more than counterbalanced by the advantage obtained by its use, even where the use of the forceps has been made necessary for that cause. But in a large majority of patients his experience led him to believe that the use of chloroform shortens labor.

Dr. Barker does not hesitate to give chloroform to a woman with heart disease. In his private practice he had never had but one case of post-partum hemorrhage, and in that no anæsthetic was administered.

Dr. T. Addis Emmet, of New York, said that anæsthetics hasten labor, but that in many cases injury was done by their too early use.

Dr. W. W. Hewlett, of Suffolk County, thought that, when improperly used, chloroform might have something to do with favoring the occurrence of post-partum hemorrhage, but properly administered in the second stage it hastens labor, and he was not afraid to use it, and rarely attended a case of labor without it.

Dr. S. B. Ward, of Albany, does not regard chloroform as the safest anæsthetic in labor; but was perhaps prejudiced against it, because of its danger in general surgery. He preferred ether, and believed that the danger from the anæsthetic was much less than the danger from the severe suffering during labor without it.

Dr. McLaury, of New York, spoke in commendation of the use of chloroform. He had used hydrate of chloral with good effect.

Dr. F. A. Castle, of New York, spoke of a case in which the woman had had repeated post-partum hemorrhage, but in her eighth labor, without chloroform, the hemorrhage was so profuse that he should in her next confinement give chloroform at the closing of the second stage to give relief from the pain attending the passage of the head over the perineum.

Dr. J. O. Roe, of Rochester, read a paper on

CORRECTION OF THE DEFORMITY OF PUG-NOSE BY OPERATION,

which consists of removing from the end of the nose a sufficient portion to make it symmetrical from one end to the other. He had performed it in five cases successfully.

SPECIAL REPORT OF THE COMMITTEE ON BY-LAWS,

by Dr. W. C. Wey, of Elmira. The Committee most respectfully reported that, while it was clear that the presiding officer had no authority to fill a vacancy in a standing committee, they recommended that the action of the President in appointing Dr. Bendell a member of the Committee on Legislation be confirmed by the Society, but that it could not be taken as a precedent for similar action in the future.

The Society then adjourned, to meet at 2.30 P.M.

Afternoon Session.

The Society was called to order by The President.

THE REPORT OF THE COMMITTEE ON LEGISLATION

was read by Dr. Bendell, of Albany, which included an approval of the Purrington bill for codifying the medical laws of the State from 1806; also recommending that $100 be appropriated for Mr. Purrington for aid rendered to the Committee.

The report was adopted after discussion by Drs. Lewis, of New York; and Furbeck, of Gloversville.

Dr. Roosa, of New York, offered the following, which was unanimously adopted:

Resolved, That while the Medical Society of the State of New York approves of the report recommending the codifying of the laws of the State of New York as regards medical matters, it does not relinquish its conviction, so often expressed, that it is necessary for the interest of the people and the profession that a law creating a board of medical examiners be passed.

In connection with this subject the Secretary read a communication received from Dr. Martindale, of the Richmond County Medical Society.

Dr. H. G. Piffard, of New York, read the

REPORT OF THE COMMITTEE ON THE PRESIDENT'S ADDRESS,

which approved of recommendations one, three, and four, but regarded the second recommendation as being premature.

Dr. Sidney Ringer, of London, England, sent a paper on

THE INFLUENCE OF SMALL DOSES OF THE SALTS OF SODIUM CALCIUM AND POTASSIUM ON THE HEART AND THE SKELETAL MUSCLES OF THE TORTOISE,

which was read by Dr. E. V. Stoddard, of Rochester.

Dr. O. D. Pomeroy, of New York, read a paper in which he related

CASES EXHIBITING THE RESULTS OF MULTIPLE PARACENTESIS ON THE HEARING IN CHRONIC AURAL CATARRH.

The number of cases was twenty-four; six of which were contributed by Dr. N. J. Hepburn, of New York. There was a decided improvement in the hearing in both ears in *seven* cases; considerable gain in one ear in *three* cases; great improvement after inflation in *one*, but not maintained until puncture. In the other cases the benefit was variable.

The paper was discussed by Dr. Roosa, of New York, who regarded ordinary conversation as the best test of hearing, and he had heard with great satisfaction of one case where ordinary conversation was heard very well where previously it was heard badly. The discussion was continued by Dr. Bendell, of Albany; and Dr. Hepburn, of New York.

The President then announced the following:

COMMITTEE ON NOMINATIONS.

First District—Thomas R. Pooley, of New York.
Second District—A. M. Campbell, of Westchester.
Third District—B. A. Mynderse, of Schenectady.
Fourth District—A. W. Suitor, of Herkimer.
Fifth District—W. E. Ford, of Utica.
Sixth District—Henry C. May, of Corning.
Seventh District—J. V. Kendall, of Baldwinsville.
Eighth District—David Little, of Rochester.

The President appointed as member of this Committee from the Society at large, Dr. Harvey Jewett, of Canandaigua.

Dr. David Little, of Rochester, read a paper entitled,

IS MODERN MIDWIFERY MEDDLESOME?

In normal labor, as recommended to be practised by use of the vaginal douche, treatment of the perineum, etc., the answer was substantially in the affirmative.

Dr. Fordyce Barker, of New York, opened the discussion, and mentioned the fact that he had never had but one case in which it was necessary to suture a lacerated perineum. He recommended several years ago the use of the vaginal antiseptic douche after delivery of the placenta, to be continued three or four days, but for over

four years he has not used them unless there was some special indication.

Dr. L. Johnson, of New York, believed that a great deal of trouble in midwifery practice was due to the indiscriminate use of anæsthetics.

Dr. E. L. Partridge, of New York, spoke of the uselessness of cocaine in labor.

Dr. A. G. Gerster, of New York, spoke of the necessity of absolute cleanliness, especially as to the hands.

Dr. Barker doubted whether physiological cleanliness was the same as physical cleanliness, although he agreed with Dr. Gerster with reference to cleanliness of the hands.

Dr. J. S. Wight, of Brooklyn, reported

A CASE OF DISLOCATION OF THE LEFT FEMUR UNDER THE PUBIC ARCH.

It was first reduced into the thyroid foramen, and then reduced as if originally of that variety of dislocation.

Dr. L. Emmett Holt, of New York, then read a paper entitled

A PLEA FOR MORE CAREFUL INVESTIGATION OF THE URINE IN INFANTS AND YOUNG CHILDREN.

Primary disease of the kidneys in infancy occurs, and may not manifest itself by symptoms other than those exhibited by examination of the urine.

The paper was discussed by Dr. A. B. Simmons, of Utica, Dr. Low, of Oswego, and Dr. Kretschmar, of Brooklyn; and the discussion was closed by Dr. Holt.

Dr. F. N. Otis, of New York, read a paper on

THE TREATMENT OF DEEP URETHRAL STRICTURE,

in which he said that the central point in the paper was the recognition of strictures in the bulbous portion of the urethra *without entering the bladder*, and dividing them with a *miniature* Maisonneuve instrument (other instruments, if necessary), thus avoiding the necessity of external urethrotomy.

The Society then adjourned to meet at 7.45 P.M.

Evening Session.

The Society was called to order at 7.45 by The President.

Dr. Alfred Mercer, of Syracuse, read a paper

CONCERNING STATE PREVENTIVE MEDICINE,

the object being to stimulate an increased interest in sanitary questions through the medical and lay press.

Dr. David Little, of Rochester, exhibited a rubber bag, with tube attached, to be used as

A SUBSTITUTE FOR THE ORDINARY "DINNER-PAD,"

in applying Sayre's plaster-of-Paris jacket.

Dr. H. R. Hopkins, of Buffalo, read a paper on

THE INTOXICANT HABIT,

alcoholic, cocainic, and otherwise. Are we responsible in any degree for its causation? When is it a vice? When is it a symptom? With what diseased conditions is it associated? To what diseased conditions does it tend? What relation has the intoxicant habit to personal responsibility, liberty, and testamentary capacity? The paper was discussed by Dr. W. C. Wey, of Elmira, and Dr. W. E. Ford, of Utica.

Dr. Thomas Addis Emmet, of New York, made some

REMARKS ON INTRA-UTERINE MEDICATION.

He was the first to oppose this method of treatment. The answer to the question turns on the general pathology of uterine disease apart from diseases the result of parturition. Many of the conditions which we treat today as diseases are merely symptoms. Ordinary discharges from the uterus are due to some cause outside of the organ, the discharge being accidental. Leucorrhœa occurs from anæmia, and from local pelvic peritonitis, etc., and, therefore, treatment should be directed toward these pathological changes rather than to the symptoms produced by them.

Dr. Wylie, of New York, argued in favor of intra-uterine medication, believing that there were some conditions which could not be removed by any other mode of treatment. It should never be resorted to so long as there is peri-uterine inflammation.

Dr. A. Vander Veer, of Albany, read a paper on

THE NECESSITY FOR COMPLETE REMOVAL OF THE UTERINE APPENDAGES WHENEVER OPERATION IS CALLED FOR.

The subject was considered under two heads: (1) What proportion of cases of hystero-epilepsy are relieved by removal of the uterine appendages? (2) What condition of the tubes have been observed after simple removal of the ovaries, or Battey's operation?

Dr. S. B. Ward, of Albany, read a paper on the same subject, received from Mr. Lawson Tait, of Birmingham, England, in which he foreshadowed his probable opinion that, where operation is demanded by the presence of serious disease, even if on one side only, total removal of the uterine appendages should be practised.

Dr. T. A. Emmet believed that the operation should *never* be performed for the relief of neuralgia due to anæmia. It is still a question as to how much influence removal of the uterine appendages has upon the growth of uterine fibroids. The operation has a place, but it has been greatly abused; abused more in this country than abroad. Beyond question we owe a great deal to Mr. Tait, but if all the cases of what Dr. Emmet called peri-uterine inflammation were due to diseased ovaries and tubes, the operation had a very limited field, for he believed such patients could be cured by other means.

Dr. W. Gill Wylie, of New York, said that in cases of well marked hystero-epilepsy he would favor the operation, although his experience was by no means perfectly satisfactory. He was not prepared to remove the ovaries which were not diseased. He does not believe in removing the ovaries and tubes simply because they are diseased, but if they give rise to repeated attacks of peritonitis, and the patient is practically bedridden, or has reached an age after which her ovaries will not be of service, he would operate.

INVITED GUESTS.

Dr. Wilcox, from the Berkshire District Medical Association, Massachusetts; Pascal M. Dowd, Oswego; J. O'Dwyer, of New York; May Owen, Richmond County; J. Myers, of Kingston; J. H. Bogart, of Roslyn; S. R. A. Dolley, of Rochester; O. D. Ball, J. Lewi, John Thompson, L. B. Winne, G. L. Munson, P. J. Keegan, Joseph Craig, Thomas Trego, A. E. Larkin, George C. Culver, A. H. Hoadley, Lorenzo Hale, H. E. Mereness, J. H. Van Rensselaer, and Dr. Murphy, of Albany; F. H. Bosworth, of New York, and C. P. Byington, of Croton Landing.

The Society then adjourned to meet at 9 A.M., Wednesday.

Wednesday, February 3d—Second Day—Morning Session.

The Society was called to order by the President, Dr. Ely, of Rochester.

Prayer was offered by Rev. C. H. W. Stocking, D.D.

Dr. Chas. H. Porter, of Albany, Treasurer, presented

THE TREASURER'S REPORT,

which was referred to an Auditing Committee, consisting of Drs. B. F. Sherman, of St. Lawrence County; J. V. Kendall, of Onondaga County; and S. Sherwell, of Kings County.

Dr. W. C. Wey, of Elmira, Chairman of

THE COMMITTEE ON BY-LAWS,

asked that the question of delegateship from the Northern Medical Association be further referred to the Committee for report next year. Granted.

Dr. E. H. Parker, of Poughkeepsie, introduced a resolution concerning

THE RELATION OF COUNTY SOCIETIES TO THIS SOCIETY,

which was referred to the Committee on Legislation for report next year.

Dr. S. B. Ward, of Albany, reported the following as

INVITED GUESTS:

Drs. George Huntington and C. L. Fletcher, of Dutchess County; S. S. Richards, of Frankfort; M. B. Bagley, of Haverstraw; S. A. Russell, H. S. Case, and J. B. Southworth, of Albany; J. W. Poucher, of Gardner.

Dr. E. V. Stoddard, of Rochester, Chairman of

THE COMMITTEE ON HYGIENE,

made the annual report, which was referred to the Committee on Publication.

Dr. A. G. Gerster, of New York, read a communication on

ANTISEPTICS IN PRIVATE PRACTICE AND EMERGENCIES.

Practical demonstration of the same was made by Dr. Gerster at the hospital in the afternoon.

Dr. A. M. Phelps, of Chateaugay, demonstrated his method of

MANAGEMENT OF CERTAIN FORMS OF EQUINO-VARUS.

His view concerning the pathology of club-foot is that the deformity is primarily due to contraction of the soft parts, and secondarily to changes in the bones, which yield to the contraction. The application of a water-glass shoe was an essential feature, adjusted by the assistance of mechanical apparatus for putting the foot into the proper position.

Dr. Lucien Howe, of Buffalo, read a paper on

ANTISEPTICS,

in which he spoke of the tests, the limitations of the term, the methods required to establish the value of such an agent, the method of obtaining a pure culture, microphotographic apparatus, and the effect on the eyes of the rabbit when the culture is sterilized and when not sterilized.

The paper was discussed by Dr. Hailes, of Albany.

Dr. R. F. Weir, of New York, then read a paper on

THE TREATMENT OF REDUCIBLE AND IRREDUCIBLE HERNIA BY HEATON'S METHOD, AND BY THE RADICAL OPERATION OF TYING-OFF BY TUCKING UP THE SAC AND HIGH SUTURING OF THE INGUINAL CANAL.

The details of these methods were described. Heaton's method is applicable only to the small reducible hernias which have a distinct canal, and especially in children where trusses have failed to cure.

The radical operation is applicable to the large hernias, the irreducible hernias, in which the internal and external rings are opposite to each other, etc. According to his experience relapses occur in thirty-nine per cent., and the mortality which he had found in 425 cases was 2.85 per cent.

Dr. Charles D. Jones, of Brooklyn, described

A MODIFICATION OF MACEWEN'S METHOD

of treatment of hernia described by Dr. Weir.

Dr. Roswell Park, of Buffalo, had been so satisfied with Czerny's method that he had not resorted to any other. So far as he knew there had been no relapses.

Dr. A. Vander Veer, of Albany, said that, in the midst of all the operations that have been devised, something more is still required, in view of the success that has been obtained. Cases treated by Heaton's method have given fairly satisfactory results. In cases in which omentum complicates, the proper way to deal with it is, as Dr. Weir has said, to remove it, otherwise trouble will ensue. He uses catgut with considerable reluctance. MacEwen's is a form of one of Wood's methods.

Dr. Wylie, of New York, said that hernia after laparotomy could be prevented by drawing up the strong fascia and suturing the fascia of one side to that of the other; in that way a strong wall can be obtained.

Dr. W. B. De Garmo, of New York, did not believe that Heaton's method was adaptable to all cases, and said that in all old and more serious cases the method which

Dr. S. Van Etten, of Port Jervis, Vice-President, in the Chair.

Dr. Martindale, of Richmond County, read an abstract of a paper, in which he related a case of

THROMBOSIS OF THE RIGHT RADIAL ARTERY COMPLICATING ENDOCARDITIS,

occurring in a patient considerably beyond the middle period of life.

Dr. W. Gill Wylie, of New York, read a paper entitled

PRACTICAL OBSERVATIONS IN ABDOMINAL SURGERY.

1. The use of hot water within the peritoneal cavity after laparotomy, for the purpose of preventing shock.

2. The use of laxatives and enemas after laparotomy and in septic peritonitis.

3. The abuse of tapping abdominal tumors.

He gave a synopsis of one hundred and twenty-five cases of laparotomy.

INVITED GUESTS.

Drs. W. H. Murray, G. L. Ullman, W. J. Nellis, and R. N. Steenberg, of Albany; C. B. Herrick, of Troy; F. L. Classen, F. D. Morrill, Henry Hun, and J. F. Barker, of Albany; C. W. Wilbur, of Rochester; D. W. Houston, of Cohoes; E. H. Howard, of Monroe County; J. S. generally believed.

Dr. Roosa, of New York, believed that, at this juncture in the general discussion of this subject by the profession, all might admit and believe that there was a large number of cases of amblyopia from the combined influence of alcohol and tobacco, perhaps from the influence of tobacco alone, but he thought that we were not yet permitted to say that its occurrence from the influence of tobacco alone had been proved.

Dr. Alfred L. Loomis, of New York, then read a paper on

PAROXYSMAL CARDIAC DYSPNŒA.

In many cases of cardiac hypertrophy and dilatation dyspnœa is a prominent symptom. It is often of gradual development, and depends rather upon secondary pulmonary and renal changes than upon the cardiac lesion.

In the cases of which he wished to speak, the dyspnœa is due to influences existing within the heart. Its one essential cause is a temporary or permanent arrest of the blood within the heart and pulmonary arteries, which is either paroxysmal or it will speedily terminate in death. He related illustrative and typical cases. The primary cause is gradual failure of organic power of the heart, and the exciting cause is anything which will lead to undue cardiac action. The symptoms consist in the sudden development of dyspnœa, with pale countenance, feeble pulse, intermittent and irregular cardiac action, cold sweat, sense of extreme distress in the chest. Cardiac murmurs are not present; cardiac impulse is feeble; no evidence of valvular insufficiency; urine negative; and entire absence of pulmonary disease. Degeneration and thinning of the cardiac walls has been the most constant lesion; first, and most advanced, in the right ventricle. The essential feature of treatment consisted in regulation of diet, and a careful regulation of

exercise in the open air. Medicinally, alkalies, preparations of iron combined with small doses of digitalis.

The paper was discussed by Dr. Sherman, of Ogdensburg.

THE CLINICAL SIGNIFICANCE OF ENDOCARDIAL MURMURS.

Dr. Wesley M. Carpenter read a paper on the above subject, in which he expressed the belief that the *pathological* significance had overshadowed the *clinical* significance of endocardial murmurs, and therefore the terms "endocardial murmur" and "valvular disease of the heart" had been very frequently used synonymously.

The interest in the paper centred in the following propositions and conclusions:

Dr. J. S. Wight, of Brooklyn, reported

A CASE OF DISLOCATION OF THE LEFT FEMUR UNDER THE PUBIC ARCH.

It was first reduced into the thyroid foramen, and then reduced as if originally of that variety of dislocation.

Dr. L. Emmett Holt, of New York, then read a paper entitled

A PLEA FOR MORE CAREFUL INVESTIGATION OF THE URINE IN INFANTS AND YOUNG CHILDREN.

Primary disease of the kidneys in infancy occurs, and may not manifest itself by symptoms other than those exhibited by examination of the urine.

The paper was discussed by Dr. A. B. Simmons, of Utica, Dr. Low, of Oswego, and Dr. Kretschmar, of Brooklyn; and the discussion was closed by Dr. Holt.

Dr. F. N. Otis, of New York, read a paper on

THE TREATMENT OF DEEP URETHRAL STRICTURE,

in which he said that the central point in the paper was the recognition of strictures in the bulbous portion of the urethra *without entering the bladder*, and dividing them with a *miniature* Maisonneuve instrument (other instruments, if necessary), thus avoiding the necessity of external urethrotomy.

The Society then adjourned to meet at 7.45 P.M.

The paper was discussed by Dr. Loomis, of New York, who said that, up to the time when evidence of degeneration of the cardiac walls could be obtained, he did not mention the fact of the presence of a cardiac murmur, but when such evidence existed he informed his patient of the exact condition present. A prolongation of life depends largely on the proper management of the case with reference to hygienic measures and general medicinal treatment.

Dr. J. O'Dwyer, of New York, then demonstrated on the cadaver his method of

INTUBATION OF THE LARYNX.

He received a vote of thanks.

The Society then adjourned to meet at 2.30 P.M.

AFTERNOON SESSION.

The Society was called to order by the President at 2:45 o'clock.

AMENDMENTS TO THE BY-LAWS.

Dr. W. C. Wey, of Elmira, Chairman of the Committee, reported, recommending that delegates be elected for three instead of four years, and that they be made eligible to permanent membership after *two* years of actual service.

The recommendations were adopted and the By-laws amended to correspond with them.

THE AUDITING COMMITTEE.

Dr. Sherman, Chairman, reported that it had examined the Treasurer's report and the vouchers, and had found them in every respect correct.

The report was accepted and ordered entered upon the minutes.

Dr. E. F. Brush, of Mount Vernon, read a paper on

THE MAMMARY GLAND.

After a humorous introduction, in which he quoted instances of the secretion of milk in the mammary glands of the unimpregnated female as well as in the male, and deplored the fact that the product of human female mammary glands was threatened with competition not only by the baby-food men, but also by the male wet-nurses of the future, Dr. Brush gave his own experience with cases of mammary abscess. He pointed out that, as there is an excessive activity in the gland during the puerperal state, disturbances in the other parts of the economy produce pathological changes in it; that a malarial chill, rheumatic seizure, or the like, were often at the bottom of these troubles, and that by treating these constitutional symptoms the local manifestations could be aborted, and that this, indeed, was the rationale of the exhibition of quinine and salicylic acid in cases of abscess. For sore nipples he proposed a new, and according to his statement, an effectual, method of preventing and remedying this troublesome annoyance; for painful abscesses he recommended ice-bags, and, if necessary, strapping and bandaging, and in galactorrhœa ergot, quinine, and iodide of potassium. For emptying the breast he preferred the use of hot bottles as more efficient and gentle than breast-pumps, many of which he described as simply barbarous. He alluded to the fact that in the human female pus never exudes from the nipple, while in the bovine female it always exudes from the teats.

Dr. George F. Shrady, of New York, Chairman of the Committee, reported on

THE MERRIT H. CASH PRIZE.

The prize was awarded to an essay bearing the title "Physiological Condition and Sanitary Requirements of School Life and School-houses," bearing the motto "*Experte Crede.*"

The name of the successful competitor was Dr. A. N. Bell, of Brooklyn.

The number of essays submitted was eight.

Dr. W. E. Ford, of Utica, read a paper entitled

OBSERVATIONS ON THE REFLEX NERVOUS DISTURBANCES.

Dr. Roswell Park, of Buffalo, read a paper on

SURGERY OF THE LUNGS,

in which he gave an historical sketch, and then spoke of the indications for pneumotomy and its results, pneumectomy, experimental and clinical, and indications for its performance, and thoracoplasty, Estlander's operation and its modifications, and the general principles upon which it is based. He then reported cases which had been under his own observation.

The paper was discussed by Dr. Weir, of New York, who believed that cutting into the lung for acute abscesses did not have a firm footing in surgery; while for certain chronic conditions, such as gangrene, removal of foreign bodies, etc., it was a legitimate procedure, and one that was well established in surgery. With regard to removal of a portion of the chest-walls for the benefit of pleural and pulmonary conditions, successful results were more easily obtained.

Dr. C. C. Rice, of New York, read a paper on

THE RELATION OF LARYNGEAL TO PULMONARY PHTHISIS AND THE IMPORTANCE OF LOCAL TREATMENT,

in which he discussed the question of primary and secondary development of the laryngeal affection, also the question, Is laryngeal phthisis always tubercular? etc. He does not believe that laryngeal phthisis is always laryngeal tuberculosis, and for these cases he bespoke the benefit which comes from local treatment.

The paper was discussed by Dr. F. H. Bosworth, of New York, who substantiated the belief that laryngeal phthisis is frequently non-tubercular and susceptible of cure, and by Dr. O. B. Douglas, of New York, who

spoke of the marked benefit that followed the internal use of terebene in six-drop doses three times a day.

INVITED GUESTS.

Dr. W. E. Ford reported the following: Drs. C. S. Parkhill, of Hornellsville, and R. F. Parkhill, of Howard.

Dr. A. W. Suiter, of Herkimer, read a paper in which he gave

SOME POINTS OF MEDICO-LEGAL INTEREST IN THE SCIENTIFIC INVESTIGATION OF THE CASE OF THE PEOPLE *vs.* ROXALANA DRUSE, TOGETHER WITH AN EXHIBITION OF SPECIMENS REPRESENTING THE CORPUS DELICTI.

The paper was discussed by Dr. W. M. Carpenter, of New York, who referred to the possibility of cremation being made available for removing medico-legal evidence.

Dr. Sherman, of Ogdensburg, wished to thank the author personally for the care with which the case was worked up.

Dr. E. L. Partridge, of New York, read a paper on

INTUBATION OF THE LARYNX,

in which he spoke of the dangers of the operation, the fact that it did not compete with tracheotomy, and he believed that it should be tried carefully and industriously, and that the credit of the method should be given to O'Dwyer, an American investigator.

Dr. A. Jacobi, of New York, said that he felt obliged and was willing and anxious to discard the opinion he entertained two years ago, and which he published in "Pepper's System of Medicine," with reference to intubation of the larynx, and wished to say that if anyone deserved credit for his discovery and his painstaking labor, it certainly was Dr. O'Dwyer. There was no doubt that a large number of children had been relieved immediately, not only temporarily, but permanently.

Dr. Hopkins, of Buffalo, referred to six cases in which impending death was overcome and life saved by intubation.

Dr. Hailes, of Albany, reported two cases in which intubation was practised successfully.

The discussion was continued by Dr. Brush, of Mount Vernon, who gave the operation the name of "intubation."

Dr. A. F. Currier, of New York, read a paper on

THE PALLIATIVE TREATMENT OF CANCER OF THE UTERUS IN ITS LATER STAGES.

He first referred to the origin of the term cancer, and then to the pathology of the disease. He then made some remarks on the question of local and constitutional origin, and also on the question of radical removal. The weight of opinion tends toward the view that it is of local origin, but that it reappears, and that radical cure after its first stages have been passed is impossible. The disease does not seem to be likely to be put on the list of affections due to a bacillus, and there are still too few data to enable one to speak with positiveness concerning the possibility of its originating by inoculation.

As to classification, he follows Waldeyer, and calls all the forms epitheliomata. By later stages he meant the period when constitutional infection has almost certainly occurred, the uterus is fixed, and ulceration exists to a greater or less degree.

If the patient can bear the operation, he advocated the removal of all the tissue which can be so removed with the scissors, then with the curette, and then, after the surface is thoroughly dried, apply the Paquelin cautery at red heat over the entire field of operation. After removal of the slough, the surgical treatment will consist of vaginal irrigations of hot water, and suitable topical applications. Medicinal curative treatment plays an unimportant part. The hygienic and dietetic treatment are very serviceable.

The paper was discussed by Drs. Jacobi, Lewis, and Janvrin, of New York; Goff, of Cazenovia, and a delegate from Brooklyn.

Dr. Samuel Sherwell, of Brooklyn, exhibited a set of ingeniously devised

NASAL, PHARYNGEAL, AND LARYNGEAL SCISSORS.

It is an absolutely pointless scissors, with joints, so that it has four blades.

Dr. A. Jacobi, of New York, read a paper

ON CREMATION,

sent by Sir Spencer Wells, of London, England, honorary member, in which purifying by fire was advocated.

Dr. S. Van Etten, of Port Jervis, Vice-President, in the Chair.

Dr. Martindale, of Richmond County, read an abstract of a paper, in which he related a case of

THROMBOSIS OF THE RIGHT RADIAL ARTERY COMPLICATING ENDOCARDITIS,

occurring in a patient considerably beyond the middle period of life.

Dr. W. Gill Wylie, of New York, read a paper entitled

PRACTICAL OBSERVATIONS IN ABDOMINAL SURGERY.

1. The use of hot water within the peritoneal cavity after laparotomy, for the purpose of preventing shock.
2. The use of laxatives and enemas after laparotomy and in septic peritonitis.
3. The abuse of tapping abdominal tumors.

He gave a synopsis of one hundred and twenty-five cases of laparotomy.

INVITED GUESTS.

Drs. W. H. Murray, G. L. Ullman, W. J. Nellis, and R. N. Steenberg, of Albany; C. B. Herrick, of Troy; F. L. Classen, F. D. Morrill, Henry Hun, and J. F. Barker, of Albany; C. W. Wilbur, of Rochester; D. W. Houston, of Cohoes; E. H. Howard, of Monroe County; J. S. Van Vechten and J. B. Ransom, of Franklin County.

The Society then adjourned, to meet in the Assembly Chamber at eight o'clock, to listen to the President's annual address.

Evening Session.

THE PRESIDENT'S ANNUAL ADDRESS.

The Society met in the Assembly Chamber, and listened to the entertaining and instructive address of the President, Dr. W. S. Ely, of Rochester. His theme was

THE PHYSICIAN IN SCIENCE AND LETTERS,

which was elaborated under the title, "The Achievements in Science and Letters of Men who have been connected with the Medical Profession."

The illustrations were taken from those whose names have been most intimately connected with philosophy, general literature, science (other than medical), and travel.

Philosophy.—Dr. John Locke, who has been called the greatest of English philosophers, was born in 1632. His first patient (while a student in medicine at Oxford, 1655) was Lord Ashley, afterward Lord Shaftesbury, on whom he diagnosticated empyema, performed an operation, and saved his life. Sydenham became acquainted with Locke, and formed a high idea of his medical skill. Locke, in turn, endorsed Sydenham's theory of the proper mode of treating disease.

Never of a strong constitution, Locke is obliged to leave England for the warmer climate of France. He returns to England and takes his degree of Bachelor of Medicine in 1674, in his forty-second year, but is again forced to travel for his health. He speaks of health as

"the only mistress he has for a long time courted, and so coy a one that he thinks it will take up the remainder of his days to obtain her good graces, and keep her in good humor."

In 1670 Locke sketched the first outline of his immortal essay concerning "Human Understanding," an essay which is said to have "done more than any other single work to rectify prejudice, to undermine established errors, to diffuse a just mode of thinking, to excite a fearless spirit of inquiry, and yet to contain it within the boundaries nature has set to the human faculties." He *sketched the outline*, but to complete the work twenty years were required.

But while Locke is the most distinguished medical representative in philosophy, there are others whose names deserve mention.

Few of us, perhaps, think often of Mr. David Hartley, whose name is connected with English philosophy. He was the son of a clergyman, born in 1705, and in his fifteenth year was sent to Jesus College, Cambridge. Like Locke, he was destined for the church. It is said that he led the life of a benevolent and studious physician. If he had given his time exclusively to medicine, he probably would have been forgotten. At the age of twenty-five he is absorbed in investigations into the cause of sensation. Sir Isaac Newton had raised the question whether vision might not be effected by the vibrations of a subtle medium which pervades all bodies, and Hartley amplified the idea into a system, affirming that vibrations small and large of the medullary substance of the nerves accounted for all of our sensations and ideas. He was the first to attempt to explain psychological phenomena on physiological principles.

The fame of Erasmus Darwin, the grandsire of the distinguished Charles Darwin, rests more on his contributions to philosophy and poetry than on his medical achievements. He is known as the author of a poem called "The Botanic Garden," and a philosophical treatise on disease, entitled "Zoonomia."

Schelling, the distinguished German philosopher, studied medicine, but immediately turned his attention to philosophy.

In France philosophy found a medical representative in Cabanis, who made valuable contributions to the physiological studies of mind.

It has been said that Cabanis "lays open our moral structure with his dissecting-knives and real metal probes, and exhibits it to the inspection of mankind by Leuwenhoeck microscopes and inflation with the anatomical blow-pipe." "Thought," he is inclined to hold, "is still secreted by the brain, but poetry and religion are the product of the small intestines, and must be cultivated medically by castor-oil."

In *Literature*, as in philosophy, medicine has had its part in shaping great minds, and one of the most charming of English writers is Dr. Oliver Goldsmith. The son of a clergyman and of the daughter of a clergyman, Goldsmith was designed for the church; but he was rejected by the bishop, before whom he appeared in red breeches for holy orders. Next he is urged to take up law, but this has no attractions for him; and finally physic is deemed the profession for which he is suited. So he goes in 1752 to Edinburgh, and spends two winters there in the study of medicine. He probably took the degree of doctor of medicine at Padua, but "all of his medical science gathered in foreign universities could not gain him the management of a pestle and mortar."

His friend Dr. Sleigh encouraged him to begin medical practice, and so he settles in Bankside, Southwark, where he endeavors to practise among the river-side poor. In the tarnished finery of a second-hand suit of green and gold, with a shirt and neckcloth of a fortnight's wear, he was, as he said to someone who asked him about his prospects, "practising physic and doing very well."

How much this reply is like the answer the young physician, starving and doing nothing, often gives to those friends to whom he is unwilling to admit his trials, hardships, and ill-success! But Goldsmith was struggling with poverty.

Among physicians, in literature, Sir Thomas Browne was mentioned, who pursued his medical studies at Oxford, Montpellier, and Padua, taking his degree of Doctor of Medicine at Leyden about 1634. He then returned to England and settled down as a physician. For recreation he wrote "Religio Medici," which during his life passed through eleven editions, being translated into Latin, Italian, German, Dutch, and French. More than thirty imitations of the book were published, which either copied the plan or stole the title. Lord Lytton called the "Religio Medici" one of the greatest prose poems in the language.

An interesting article could be written of the life of Doctor Tobias George Smollett, whose contributions to fiction and history have given him a permanent place in literature.

After studying medicine at Glasgow, he was made a physician in 1749, and commenced practice in London.

If time permitted, detailed reference might also be made to Sir James Mackintosh, who obtained his diploma in Medicine at Edinburgh in 1788, and achieved distinction as author, orator, and statesman; to Dr. John Brown, of Edinburgh, and to many others.

In *Poetry*, too, physicians, or those educated for physicians, have attained fame. All scholarly physicians claim Keats as one of their body. He was born of humble parentage, in London, 1795, and after receiving a fair education, was apprenticed at the age of fifteen to a surgeon. He died of consumption, at the age of twenty-four, and was buried in the English Cemetery at Rome, of which Shelley said that it was beautiful enough to make one in love with death. "Here lies one whose name was writ in water," was the epitaph Keats directed for his grave, so evanescent did he believe his reputation would be.

Another poet connected with the medical profession is George Crabbe. On leaving school, in his fourteenth year, he was apprenticed to a rough country doctor, and had to share the bed of the doctor's stable-boy. After six years of study, during which time he has written several poems, he proceeds to London, where he had a narrow escape from being carried before the Lord Mayor as a resurrectionist.

Mark Akenside, a physician as well as a poet, was the son of a butcher, who maimed him for life by a cut from his cleaver. When nineteen years old, he is sent to Edinburgh to study for the ministry. He soon revolts from divinity, and begins to study medicine. After three years spent in Edinburgh, he goes to London, where he obtains the degree of Doctor of Medicine in 1774. He was considered among the poets the best Greek scholar since Milton, and is described as a stiff-limbed, starched personage, with a lame foot, and pale, strumous face, a long sword, and a large, white wig.

Some may also recall Sir Richard Blackmore, who, although he obtained eminence and practice as a physician and wrote many treatises on the art of healing, is best remembered by his poetry, most of which he composed while visiting his patients. Pope said: "There's Sir Richard, in that rumbling old chariot of his, between Fleet Ditch and St. Giles pound, shall make you half a Job."

Lastly, reference may be made to Sir Samuel Garth, physician in ordinary to King George the First. He delivered the Harveian oration in 1697, and wrote a poem on "The Dispensary" at the time this charity was first instituted in London to counteract prescribing by the apothecaries over their counters.

But in *Science*, also, we have distinguished representatives in men who chose the medical profession, and were led by its study into some field of scientific research with which medicine is allied. No more interesting illustration of this can be cited than Doctor Louis

Agassiz. He was the son of a Swiss clergyman and early showed a fondness for natural science. At fifteen years of age a commercial life is projected for him, but so strongly does he beg to be permitted to continue his studies that he is sent to Lausanne to school. His uncle, who was a physician, is impressed with his fitness for a medical career, and advised that he should be permitted to study medicine. In 1826 Agassiz is found at Heidelberg, where are teachers whose influence upon him must have been great. His mother, who was the daughter of a physician, is fearful that he will give up his medical studies, so she writes to him: "How is it that you look forward only with distaste to the practice of medicine? Have you reflected seriously before setting aside this profession? Indeed, we cannot consent to such a step." His father shares the mother's feelings, and strives to repress the natural history bent in his son. Thus he writes: "If it be absolutely essential to your happiness that you should break the ice of the two poles in order to find the hairs of a mammoth, or that you should dry your shirt in the sun of the tropics, at least wait till your trunk is packed, and your passports are signed, before you talk with us about it." . . .

But the study of natural history he cannot abandon, and he finally writes to his father, "I hope yet to prove to you that with a brevet of a doctor as a guarantee, natural history may be a man's bread-winner, as well as the delight of his life."

He died in 1873, regretting that he could not live four more years, in order to complete the work he had contemplated. "His daring conceptions were only equalled by the unwearied industry and genuine enthusiasm with which he worked them out."

Any allusions to the achievements of physicians in other fields of science than medicine would be incomplete which omitted reference to Copernicus, "the Columbus of the heavens," "the setter forth of truths hitherto unknown, and the impugner of the rights of time-honored dogmatism." He obtained the degree of doctor at Padua in 1499.

Scanning the heavens by night, he exercised by day what Dean Milman calls "that blessed privilege of the Christian physician—the gratuitous care of the poor."

A century later Galileo, while prosecuting his medical studies at Pisa, invented the pendulum, and used a modification of it, known as the pulsilogon for accurately counting the pulse.

Travel.—The name of Elisha Kent Kane, M.D., will ever be prominently associated with Arctic exploration. He was graduated in medicine in Philadelphia in 1842. His restless spirit soon led him to enter the U. S. Navy as surgeon, and to make a voyage around the world. Next he served in the Mexican War. In 1850 he joined the First Grinnell Expedition in search of Sir John Franklin, and in 1853 made a second voyage for the same object.

Mungo Park may not be remembered by all as Dr. Mungo Park. He was designed by his father for the Church, but preferring the medical profession, was apprenticed, when fifteen years of age, for three years to one Thomas Anderson, a surgeon of Selkirk. At the expiration of his service as surgeon's apprentice he seeks Edinburgh, and spends three years there in studying medicine. Imbued with a desire to travel, he sails to Africa, under the auspices of the African Association, and returns in 1797 with the proud distinction of being the first of modern Europeans to reach the well-nigh fabulous waters of the Niger.

Lord Brougham said: "In Mungo Park the world has lost a great man, and one who was as well qualified, as he was inclined, to have been one of its greatest benefactors."

But great as Dr. Park was, he but prepared the way in African exploration for his still greater fellow-countryman, Dr. David Livingstone, whose career and history must be fresh in the minds of all. He was born in Scotland in 1813. In his tenth year we find him working in a cotton-mill, and after the hard work of the day striving to obtain some advantages from a night-school. His parental training had been markedly religious in its character, and Livingstone was early led to determine to devote himself to the alleviation of human misery.

His medical degree is obtained in 1840, his graduating thesis being upon the Stethoscope. "It was with unfeigned delight," he says, "that I became a member of a profession which is pre-eminently devoted to practical benevolence, and which, with unwearied energy, pursues, from age to age, its endeavors to lessen human woe."

In bringing to a close, a review of the lives of certain physicians whose reputation had been made in other callings than medicine, Dr. Ely desired to state that allusion to living exemplifications of the subject had been purposely omitted.

It would be observed that men had been led, in some cases by choice and in others by necessity, to unite other studies with that of medicine, or to subordinate the latter to the former. The "Religio Medici" was written, as the author affirms, for his personal amusement primarily. Dr. Hartley's philosophical work was his recreation. Every physician, who can command time, may find recreation in studies of a literary or scientific character, and great satisfaction in the results of such studies. It had, too, been made apparent, that the study of medicine had often suggested and aided the subsequent prosecution of other pursuits. To but few, indeed, is it given to frame an essay to rank with that of Locke, to create a "Vicar of Wakefield," to compose an "Ode on a Grecian Urn," to rival the original work of an Agassiz, or to lay bare the secrets of an unexplored continent. Among the number who have enriched philosophy, or adorned literature and poetry, or advanced science, or added to our knowledge of unknown regions of the globe, those who have been connected with the medical profession have a special claim upon our recognition and admiration.

The Society gave the President a vote of thanks for his instructive and interesting address, and then adjourned to participate in a banquet to be given at the Delavan.

THURSDAY, FEBRUARY 3D—THIRD DAY—MORNING SESSION.

The Society was called to order by THE PRESIDENT.

Prayer was offered by REV. H. A. STARK.

DR. CHARLES H. PORTER, of Albany, offered resolutions giving a vote of thanks to Sidney Ringer and Sir Spencer Wells for their exceedingly valuable contributions, and that their papers be referred to the Committee on Publication.

CONTAGIOUS OPHTHALMIA.

DR. LUCIEN HOWE, of Buffalo, offered the following resolutions, which were adopted:

Resolved, That a committee of three be appointed to investigate the question of blindness due to contagious ophthalmia in this State and the United States, and recommend means for its prevention.

Resolved, That the Society respectfully requests the President of the United States to accord such facilities for prosecuting the investigation as may be at his command.

Resolved, That this Society asks officials in charge of institutions to furnish any information on the subject which they may have.

REPRINTS OF THE PRIZE ESSAY.

DR. CARPENTER, of New York, moved that reprints of the prize essay on "Sanitation of School Life and Schoolhouses" be distributed to all municipal and other authorities and officials having under their management schoolhouses.

The motion was supported by Drs. Jewett, of Canandaigua; Mercer, of Syracuse; and S. B. Ward, of Albany, and the number was limited to fifteen hundred copies, in the discretion of the Secretary.

Dr. W. H. Richardson, of New York, was elected an invited guest.

Drs. C. S. Allen, Rensselaer County, and H. Bendell, Albany, were elected permanent members.

Dr. L. D. Bulkley, of New York, read a paper on

SYPHILIS OCCURRING IN CONNECTION WITH OTHER DISEASES OF THE SKIN.

Acne, eczema, psoriasis, and tænia versicolor were considered, also chancroid and gonorrhœa.

THE REPORT OF THE COMMITTEE ON NOMINATIONS

was read by W. E. Ford, of Utica, Secretary.

President—Alfred L. Loomis, of New York.

Vice-President—A. M. Phelps, of Chateaugay.

Secretary—William Manlius Smith, of Syracuse.

Treasurer—Charles H. Porter, of Albany.

Censors—Southern District: J. S. Warren, New York; M. B. Chase, Brooklyn; W. H. Helm. Eastern District: J. Lewi, Albany; Thompson Burton, Montgomery County; L. McLean, Troy. Middle District: J. G. Orton, Binghamton; Robert Frazier, Oneida County; I. N. Goff, Cazenovia. Western District: Theodore Dimon, Cayuga; M. S. Kettenger, Niagara County; David Littele, Rochester. Of the College of Medicine, Syracuse University: Harvey Jewett, Canandaigua.

Committee of Arrangements—S. B. Ward, of Albany; E. L. Partridge, of Brooklyn; F. C. Curtis, of Albany.

Committee on By-Laws—W. C. Wey, of Elmira; H. G. Piffard, of New York; William Manlius Smith, of Syracuse.

Committee on Hygiene—E. V. Stoddard, of Rochester; F. C. Curtis, of Albany; A. N. Bell, of Brooklyn; J. P. Creveling, of Cayuga; E. Hutchinson, of Utica; W. H. Bailey, of Albany; E. F. Brush, of Mount Vernon.

Committee on Legislation—Laurence Johnson, of New York; F. R. S. Drake, of New York; H. Bendell, of Albany.

Committee on Ethics—A. Jacobi, of New York; A. Matthewson, of Brooklyn; J. W. Whitbeck, of Rochester.

Committee on Prize Essay—George F. Shrady, F. P. Foster, Wesley M. Carpenter, of New York.

Committee on Publication—Wm. Manlius Smith and Alfred Mercer, of Syracuse; Charles H. Porter, of Albany; and Wesley M. Carpenter, of New York.

Honorary Members—E. Landolt, of Paris; James Grant (Bey), of Cairo; K. A. P. Grinnell, of Burlington, Vt.; Bennet Dowler, of New Orleans.

Eligible to Honorary Membership—H. C. Allchin, of London; D. N. Wilcox, of Lee, Mass.

Delegates to Massachusetts State Medical Society—Daniel Lewis, of New York; C. H. G. Spencer, of Watertown.

Delegate to New Jersey State Medical Society—A. P. Morrow, of New York.

Delegate to Pennsylvania State Medical Society—F. A. Henkel, of Erie County.

Delegates to New Hampshire State Medical Society—O. B. Douglas, of New York; Harvey Jewett, of Canandaigua.

Delegates to Vermont State Medical Society—M. H. Burton, of Troy; W. O. Moore, of New York; A. M. Phelps, of Chateaugay.

Delegate to Connecticut State Medical Society—N. C. Husted.

Delegate to Canadian Medical Association—Lucien Howe, Buffalo.

PAPERS READ BY TITLE.

By J. V. Kendall, Baldwinsville, "The Obstetrical Experience of a Country Practitioner;" by Laurence Johnson, New York, "The Therapeutic Use of Bismuth;" by A. Jacobi, New York, "Treatment of Membranous Croup," "Peritonitis of the Infant;" by F. W. Henkel, Buffalo, "Irregularities of Septum Narium;" by George Henry Fox, New York, "Errors in the Treatment of Skin Disease;" by A. Dann, Rochester, "An Unusual Method of ridding the Male Bladder of Small Calculi;" by Franklin Townsend, Jr., Albany, "Ovulation and Menstruation;" by J. R. Leaming, New York, "Diagnostic Areas of the Human Chest;" by H. Knapp, of New York, "Ninth and Tenth Series of One Hundred Consecutive Cataract Extractions;" by Wm. Hailes, Albany, "Obituary Sketch of Henry March, of Albany;" by H. D. Didama, Syracuse, "Obituary Sketch of R. W. Pease, of Syracuse;" by A. Hutchins, Brooklyn, "Cascara Sagrada."

AMENDMENT TO THE BY-LAWS.

An amendment to the By-laws was adopted which gives the President the power, *ad interim*, to receive and accept resignations from committees, and to fill the vacancies that may thus occur.

Dr. Pillsbury, of Middleton, read a paper on "Albuminuria treated by Glonoin, and Bromide of Potash in the Treatment of Rheumatism."

VOTES OF THANKS.

On motion by Dr. Laurence Johnson, New York, the thanks of the Society were voted to all railroads which had given reduced rates; also to the custodians of the City Hall.

On motion by Dr. Vander Veer, Albany, the Society gave the retiring President a vote of thanks for the able and impartial manner in which he had presided over its deliberations.

Drs. W. O. Marcelius and Albert Marsh were elected invited guests.

Dr. Glover, of Amsterdam, exhibited a modification of Chadwick's gynecological table.

The committee on Dr. Howe's resolution concerning contagious ophthalmia consists of Drs. Lucien Howe, of Buffalo; C. R. Agnew, of New York; and E. V. Stoddard, of Rochester.

Several more papers were read by title and the Society adjourned.

Simple Apparatus for Staining Tubercle Bacilli.—Rapidly to prepare an aniline-water-fuchsin solution Dr. Saccharow uses the following practical apparatus: To a common holder with stand, as used in laboratories to keep reaction tubes, etc., in an upright position are attached: 1. A glass bottle with the bottom upside down and filled with aniline water. Whatever too much aniline is present accumulates in the lower part. Through the neck pass two glass tubes. One is intended to admit air, the other is provided with a piece of rubber hose and some little arrangement, as a clamp, for stopping the flow of the aniline water. 2. A funnel and paper-filter, which fits into a glass tube just beneath the bottle, and which contains fuchsin-crystals, and has a pointed end. 3. Underneath this is another funnel and filter, through which the aniline water, now containing fuchsin, gradually passes from above into a watch-glass, so that the solution is filtered the second time. With this simple apparatus one may prepare at any time a fresh solution of fuchsin in aniline water. As soon as the fluid is obtained the clamp on the rubber hose is closed, and the apparatus ceases working until the clamp is opened and the aniline water allowed to flow out over the fuchsin again.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN SURGERY.

Stated Meeting, January 10, 1887.

STEPHEN SMITH, M.D., CHAIRMAN; A. B JUDSON, M.D., SECRETARY.

OFFICERS FOR THE ENSUING YEAR.

DR. R. F. WEIR was elected chairman, and Dr Robert Abbe secretary.

SUPPURATIVE NECROSIS OF THE JAW—ABSCESS OF THE FRONTAL SINUS.

DR. GOODWILLIE related the history of a patient who had been sent to him by the late Dr. Farnham in, 1880. There was great swelling of the face and neck from necrosis of the jaw, and suppuration following disease of one of the lower molars. Treatment was by aspiration with the hypodermic needle. Upward of twenty operations were thus performed under the nitrous oxide anæsthetic, with remarkably favorable results, as shown by wax casts taken before and after treatment.

Another patient was shown, who had received a blow from a hot cinder from the Elevated Railroad. The result was an abscess involving the sinuses of the frontal bone. Dr. Goodwillie had trephined and inserted a platinum drainage-tube in the inner and anterior part of the roof of the orbit. The manipulation of the platinum tube, and the treatment of the sinus by peroxide of hydrogen injections, was exhibited to the Section. The result sought in this case, and obtained in the preceding case, was recovery without disfigurement or deformity.

DR. GIBNEY discussed the subject of aborting abscesses of the face or elsewhere. He favored the bringing about of this result, and had seen many cases in which recovery from joint-disease had been attended with the disappearance of abscesses without direct treatment, and without discharge.

DR. R. W. TAYLOR read a paper entitled

IODOFORM ERUPTIONS.

He first considered briefly the general toxic effects of the drug, and spoke of the necessity of their knowledge by those who used it, since it was generally so ill understood—particularly the mild form of the poisoning, the chief symptoms of which were increasing weakness, emaciation, and delirium, with all of their concomitant symptoms, all of which were frequently passed unrecognized as to their origin in the systemic action of iodoform. He then detailed a series of personal cases as well as those reported by Zersil, Fabre, Neisser, Treves, Goodell, Fifield, and others. The conclusions drawn from these cases were: First, that iodoform quite frequently produced in those who used it freely—assistants at hospitals and dispensaries—a mild erythema, particularly of the fingers and about cuts, which caused little or no uneasiness and ceased when the use of the drug was discontinued; secondly, in certain cases of open granulating wounds, a longer or shorter time after beginning the use of the agent, two forms of erythema might be observed, the one simple, superficial, and more or less extreme, the other well marked, attended with much œdema; both of these varieties might be complicated with papulation, vesiculation, pustulation, and in very bad cases with phlegmonous inflammation; thirdly, an eruption occurred from applying the agent to the throat or by smelling it, in which absorption of the drug occurred, and very soon severe dermal lesions of the face, head, hands, feet, etc., were seen; fourth, that in these cases there seemed to be a distinct iodoform idiosyncrasy, such as we see in some cases of quinine, iodide of potassium, and ipecac. Dr. Taylor considered further, minutely, the divisions of eruptions, and entered briefly into their pathogenesis.

DR. JACOBI said that Dr. Taylor's cases reminded him of the frequent results of the administration of small doses of iodide of potassium. He recalled one case in particular, in which a young man had suffered severely from stomatitis, conjunctivitis, and urticaria.

DR. GIBNEY stated that he frequently resorted to the application of iodoform, for the excoriations caused by adhesive plaster in the treatment of cases of hip-disease, but he had as yet failed to observe any unpleasant effects beyond the occurrence of slight itching in one or two instances.

DR. P. A. MORROW had occasionally seen erythematous and œdematous infiltrations from the topical application of iodoform, but had never observed a generalized eruption from this cause. Some cases produced papules and vesicles, and in a few cases there had been urticaria, and even erysipelas. The eruption appears after protracted use of the drug, and its acme may not be reached till after the application has been discontinued. These effects of the use of iodoform are the result of the contained iodine. They are analogous to the groups of symptoms known as iodism. A textural predisposition of the skin permits the drug to produce irritation of the sensory nerves, causing reflex paralysis of the vaso-motors of the vascular area affected. The result is dilatation of the vessels, with erythema and various degrees of dermatitis. Dr. Morrow knew of no eruptive accidents from the internal use of iodoform.

DR. C. S. WOOD had seen several cases in children, and considered that the drug excites a neurosis in susceptible persons, like the neurotic effect which is produced in some persons by the administration of five grains of blue pill, or the smell of ipecac.

DR. STEPHEN SMITH recalled the case of a physician who, after receiving the iodoform spray every day for two or three weeks for a follicular tonsillitis, was suddenly attacked with drowsiness and mental hebetude, so marked and persistent that he spent a large part of the day in studying his visiting list, making frequent but vain attempts to formulate his thoughts in words. There was headache but no fever, and recovery was rapid and complete.

The Section then adjourned.

SECTION IN OBSTETRICS AND DISEASES OF WOMEN AND CHILDREN.

Stated Meeting, January 27, 1887.

ALEXANDER S. HUNTER, M.D., CHAIRMAN; HENRY GRISWOLD, M.D., SECRETARY.

OFFICERS FOR THE ENSUING YEAR.

DR. E. L. PARTRIDGE was elected Chairman, and DR. L. EMMETT HOLT Secretary.

DR. S. HENRY DESSAU read a paper entitled

CERTAIN PECULIAR FEATURES OF BRONCHITIS AS IT OCCURS IN CHILDREN.

Before speaking of the subject proper, Dr. Dessau referred to the method of examining the thorax in children, and said that the chest should always be completely uncovered and that auscultation should be done with the stethoscope. The temperature of the child should always be taken, and he preferred to do it in the rectum.

Bronchitis limited to one lung.—Of these cases Dr. Dessau had seen several; in three the smaller bronchi were involved, as determined by the character of the râles and the absence of bronchial respiration. In some there was elevation of temperature to 102° to 104° F., and the pulse and respiration were accelerated. It was the common opinion that bronchitis attacks both lungs, and such was the case ordinarily; but it was equally true that it might affect only one lung, or only a portion of one lung, or it might be confined to the bronchi of the

first, second, or third order. The interesting point in these cases was the differential diagnosis between the bronchitis and pneumonia and pleurisy.

The next point of special interest was the fact that a slight bronchitis may give rise to enlargement of the lymphatic glands at the roots of the lungs, to be followed rapidly by caseous degeneration, meningitis, and general tuberculosis.

Bronchitis more or less severe may occur in the course of summer diarrhœa in children. He regarded the cause as analogous to that which produces pulmonary congestion in cholera.

Treatment.—Under this head attention was first directed to hygienic conditions and prophylactic measures. As a prophylactic cold bathing was especially recommended. Except in severe cases it was not necessary to keep the child in the house, provided it was kept warm while in the open air. In private practice the child may be kept in a room well ventilated and having a temperature of about 65° F. The addition of steam in the air of the room would be of advantage in severe cases, and it might contain a small quantity of the vapor of turpentine. He seldom uses opium, but relies upon stimulating embrocations, mustard poultices, aconite, belladonna, ipecac, spirit of mindererus, cod-liver oil with or without the hypophosphites of lime and soda, muriate of ammonia, and the children should have abundance of water to drink, as had been recommended by Dr. Jacobi.

Dr. L. Emmett Holt agreed with Dr. Dessau concerning the use of the stethoscope, and also the uselessness of attempting to auscultate the chest through the clothing.

As to unilateral bronchitis he thought that a temperature of 103° or 104° F., persisting for a week or ten days, would indicate broncho-pneumonia rather than bronchitis. Persistent high temperature was perhaps the most reliable symptom in favor of broncho-pneumonia in making a differential diagnosis.

Concerning bronchitis attended by enlargement of the bronchial glands, followed rapidly by meningitis and general tuberculosis, it had seemed to him that these cases were better explained on the supposition that meningitis and pulmonary tuberculosis began at the same time.

With regard to medicinal agents, he had used terebene with very satisfactory results, particularly in the chronic cases when a hard, dry cough persisted—even though the physical signs had cleared up—and the child was far from being well.

Dr. J. H. Fruitnight agreed in the main with what Dr. Dessau had said in his paper, yet there were some points in which he should differ with him. He thought that more stress should have been laid on inspection of the chest, and also that the pleximeter and hammer were preferable to the fingers in making percussion. Although the stethoscope should be our main reliance, auscultation by the unaided ear should not be discarded entirely. He thought, also, that the cases in which there was enlargement of the lymphatic glands and secondary development of general tuberculosis were very apt to be overlooked. There was one symptom which should have received more prominence, and that was a peculiar spasmodic cough the clang of which resembled whooping-cough, but the physical signs and the preceding history of the case would enable us to readily eliminate that affection.

With regard to persistent high temperature, he should regard it as most probable that it was evidence of broncho-pneumonia rather than bronchitis.

As to treatment, he would be chary concerning the use of antimonials. What Dr. Holt had said with regard to terebene he could corroborate. He had found the tincture of sanguinaria to be a very serviceable remedy. He used the preparations of opium merely for the purpose of securing rest and allaying an irritative cough.

Dr. E. L. Partridge said that there was one point especially in the paper which was of practical importance, and that was with reference to allowing the children to go about while suffering from bronchitis, particularly out of doors under proper precautions as to clothing, etc. It had always seemed to him that there was more danger in carrying these children from one room to another than in taking them out. For the difference in temperature of rooms was much greater than was generally supposed. To test or to regulate the temperature of any room he always insisted that the thermometer should be placed on a level with the probable situation of the child while occupying it.

He had found the camphorated tincture of opium, given in small doses frequently repeated, a very efficient remedy; it diminishes the secretion of mucus, steadies the heart, and overcomes restlessness and pain.

Dr. T. J. Kearney said it was not till three or four years ago that he had his attention directed to the frequency of the occurrence of unilateral bronchitis, and since that time he had seen several cases. Poultices, intelligently applied, he regarded as very serviceable.

The Chairman was quite in accord with what the author of the paper had said, and would criticise only so far as to say that he believed it to be better in preparing a mustard poultice, to use a difinite quantity of mustard to a certain quantity of flaxseed meal, as 1 to 16, rather than to dust the mustard upon the surface.

Dr. Dessau, in closing the discussion, said, with regard to persistent high temperature being a symptom of broncho-pneumonia, that he was inclined to take that view of the case, but from the fact that there was no bronchial respiration nor dulness, he was led to believe that it was one of unilateral bronchitis involving the smaller bronchi. So far as antimonials were concerned, he had advised them in such small quantities that there would probably be no danger in so using them.

The Section then adjourned.

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, January 4, 1887.

C. L. Dana, M.D., President, in the Chair.

Dr. W. H. Porter presented

THE KNEE-JOINT AND SPINAL CORD IN A CASE OF SPINAL ARTHROPATHY.

The patient had suffered from locomotor ataxia in a typical form for about six years. The joint troubles developed several years before death. The knee was enlarged, there was partial dislocation and venous hypertrophy with rarefication. In the joint were found a large number of loose cartilages, the articular cartilages were worn away, and there was eburnation of bone.

In the discussion by Dr. L. Weber, Dr. Sachs, Dr. Starr, the President and others, the recent views of Virchow, that the spinal arthropathy was not a special trophic disorder characteristic of tabes, was referred to. The general opinion seemed to be that the arthropathy was a condition resembling that of rheumatoid arthritis, but somewhat modified by the peculiar condition of the nerves and nerve-centres in posterior sclerosis.

Dr. Porter also presented the spinal cord in a case of

LOCOMOTOR ATAXIA RUNNING ONLY A SIX WEEKS' COURSE.

The patient had been in the Presbyterian Hospital, and his history was obtained with special care. No evidence whatever of any spinal symptoms previous to about six weeks before death was obtained. There was no history of diphtheria or an infective disease.

Sections of the cord had been made by Dr. C. L. Dana, stained by Weigert's method and with aniline blue.

They showed a very marked degree of posterior sclerosis affecting both the columns of Goll and of Burdach.

NOTE ON APHASIA WITH REFERENCE TO LOSS OF NOUNS.

Dr. Putnam-Jacobi read a paper on that form of aphasia in which the defect is limited to the loss of nouns. Seventeen cases out of a total of one hundred and sixteen analyzed offered this peculiarity, which had not failed to attract the notice of authors. Several explanations had been offered, none of which seemed to the writer completely satisfactory. Anatomical data were not at present sufficient to throw much light on the matter, further than to demonstrate that the symptom was probably always associated with diffuse, and not with focal, lesions. These lesions could not fail to lie on the sensory side of the speech mechanism, and for reasons detailed at length in the paper must especially involve the paths between the auditory and visual centres, through which the auditory impression or sign of the object became habitually associated with the visual impressions. The writer maintained that the act of speech always involved an entire proposition, framed in the supra-sensory concept centres, probably the superadded convolutions of Broadbent. This proposition constituted a verbal conglomerate, a unity to the mind expressing it, whatever the number of separate parts into which it might be broken up. Such actual verbal conglomerates remained in many primitive languages, as that of the Greenlanders and North American Indians, where entire sentences were often inflected like a single noun or verb. In our languages the conglomerate or proposition to be expressed is composed of the reminiscences of auditory signs which have become fused with similar reminiscences of visual impressions of things and their relations. If the visuo-auditory paths are interrupted the signs or names of things will be dislocated from their habitual association with the other characters of such things; while the visual impressions themselves remain and enter directly into the verbal conglomerate. All other parts of speech than nouns, expressing complete intellectual relations, and although remotely connected with impressions registered in the visual centre, are immediately associated only with the processes and registrations of the supra-sensory or intellectual centres. While these are intact, therefore, and unless focal lesions have altogether obliterated the memory of language, the speech of relations will be remembered and revived in expression. The objects which are involved in the relations of the conglomerate proposition will no longer be revived in consciousness by their names, but by means of their visual impressions only. These can be expressed by gestures, mimicry, or periphrases, the loss of the auditory sign being thus compensated.

PERIPHERAL NEURITIS AND THE PAINFUL PARALYSES OF EARLY LIFE.

Dr. H. D. Chapin read the paper (see Medical Record, p. 57).

In the discussion, Dr. M. Allen Starr did not know of any recorded case in a patient under twenty-four years of age in which a lesion of a peripheral nerve had been found at autopsy which would account for the paralysis, and while there was great probability in the statements made by the author, they yet lacked confirmation by autopsy. The points had been brought out very well with regard to the distinctions between peripheral neuritis and anterior polio-myelitis, but he would take exception to what had been said regarding the rapidity of the onset. There were many cases of acute onset of peripheral neuritis, the patient having fever and chill, and the limbs within twenty-four hours becoming entirely immovable. Too much attention could not be given to the usually great tenderness in the muscles and nerves in multiple neuritis.

Dr. Rudisch said that he was the first to observe, as long ago as eight or nine years, a form of polio-neuritis leading to paralysis and atrophy, and which followed affections of the joint, often so-called rheumatic affections. We now saw often enough an affection of one or more joints with inflammation, followed after a while by paralysis usually curable.

Dr. Fisher said a girl thirteen or fourteen years of age was brought to the dispensary with the history that one morning after taking cold she woke up with paralysis of the upper and lower extremities. At that time she had only paralysis in one leg, which he supposed, without thought of neuritis, to be ordinary polio-myelitis. Rapid improvement took place, and she recovered within six weeks, and the minister who brought her reported the case as one cured by faith. Dr. Fisher was unable to say whether the case was an affection of the anterior cornua or one of multiple neuritis.

Dr. Sachs thought we should not be influenced too much by the present fashion, and call all or most of the cases formerly regarded as polio-myelitis cases of multiple neuritis. Referring to one of the cases related in the paper, and the symptom of pain, he said too much stress should not be laid upon it unless it was severe, persistent, and located distinctly along the tract of a peripheral nerve.

Dr. Leszynsky said that the pains present in some of Dr. Chapin's cases reminded him of the pain from straining of the tendons of the extensor muscles which had been for some time in a paralyzed state.

Dr. Chapin thought that a neuritis would occasionally explain cases which could not be accounted for on the supposition of a spinal lesion, and he would rather say halt to the universal spinal cause of disease. With regard to pain, it was difficult to locate it along a particular nerve in children, but in his cases it was acute and persistent, and not due simply to stretching of tendons.

Correspondence.

THE COMPENSATION OF EXPERT WITNESSES.

To the Editor of The Medical Record.

Sir: Your editorial in the Medical Record of January 8, 1887, concerning expert testimony and its compensation, suggests to me that the following references which I have gathered may be of interest to many in the profession.

During the past year, as a member of the committee on medico-legal matters appointed by the New Mexico Medical Society, I made a diligent search for information on this topic. Here are the results:

The decision of the Supreme Court of Alabama is the only one I learned of that was wholly adverse to the expert. *Ex parte* Dement, 53 Alabama, 389, is the title. The learned judges held that "in so testifying he would not be practising the healing art . . . he would be deposing only to things which he had learned in the course of his occupation or profession," etc. In Summers *vs.* State, 5 Texas (App.), 374, in 1879, the court followed the Alabama precedent closely.

The most important decision in favor of the physician was rendered in the Supreme Court of Indiana in 1877, and is entitled Buchanan *vs.* State, 59 Ind., 1. This is by far the most interesting and complete discussion of the whole subject, and should be well known to every physician. It was held that, "while a physician or surgeon could be required to attend as a witness to facts without other compensation than that provided by law for other witnesses, yet he could not be required to testify as to his professional opinion without the compensation of a professional fee. The professional knowledge of an attorney or physician is to be regarded in the light of property, and his professional services are no more at the mercy of the public, as to remuneration, than are the goods of the merchant, or the crops of the farmer, or the wares of the

mechanic." "When a physician testifies as an expert by giving his opinion, he is performing a strictly professional service," the exact reverse of the Alabama decision.

Curiously enough, this acute decision of the Indiana Supreme Court did not satisfy the bucolic legislators of that State, for in their Revised Statutes, 1881, Sec. 504, is a provision that "a witness who is an expert in any art, science, trade, profession, or mystery, may be compelled to appear and testify to an opinion as such expert" without other pay than that of an ordinary witness.

In U. S. *vs.* Howe (12 Cent. L. J., 193), the United States District Court for the District of Arkansas decided in the same manner as the Indiana Supreme Court.

There are statutes in Iowa, Rhode Island, North Carolina, and South Carolina, granting extra compensation to expert witnesses; that of Iowa seems to be the best—the "compensation to be fixed by the court with reference to the value of the time employed, and the degree of learning or skill required." South Carolina fixes the pay at $10 per diem in addition to the ordinary witness fees and mileage.

The New Mexico Medical Society has prepared a bill which is now before the Legislature at Santa Fé, which provides that any person, of whatever trade or profession, called to testify as to his professional opinions, shall receive extra compensation to be fixed by the court, the minimum to be $10 *per diem*, the amount to be regulated by the time and skill engaged, and providing that not more than two experts can be called on a side. The object of the last provision is to prevent the accumulation of excessive costs. Its passage intact is very doubtful.

In the Indiana decision are several references to cases of interest.

Webb *vs.* Paige (1 Carrington and Kirwein, 23), an English case in 1843. The expert was a cabinet-maker, and having objected to testifying without compensation, the Court (Maule, J.) held that a witness called to depose to a "matter of opinion depending on his skill in a particular trade has, before he is examined, a right to demand from the party calling him a compensation for his loss of time, and there is a distinction between a witness thus called and a witness who is called to depose to facts which he saw."

Greenleaf on Evidence: "The latter (an expert) is under no such obligation, and the party who selects him must pay him for his time before he will be compelled to testify."

Webb *vs.* Baird, 6 Indiana, 13. In favor of the expert, in this instance an attorney.

Blythe *vs.* The State, 4 Indiana, 525. Blythe, an attorney, objected to defending a pauper by order of the court, unless compensated. The Supreme Court sustained him.

People *vs.* Montgomery, 13 Abb. Pr. (U. S.), 207 (1871). Here it was held that an expert cannot be compelled to examine a case or otherwise prepare himself for testifying.

In the Texas case above it was decided that a physician may be compelled to testify as to the result of a post-mortem examination made by him, but he cannot be compelled to make such an examination.

Also Moch *vs.* City of Buffalo, 13 Rep., 251. Haynes *vs.* Mosher, 15 How. Pr., 216.

In Re Roelker, U. S. Dist. Court, Mass., 1854, the court decided in favor of the expert, in that case an interpreter.

Editorial in *Boston Med. and Surg. Journal*, December 22, 1881, concerning case in Superior Court, Boston, Mass. Court held "that a physician is not bound to give his professional opinion for nothing in court any more than anywhere else."

Other references are: "Duties and Privileges of Expert Witnesses," *Phil. Med. Times*, January 6, 1877; Reese's "Manual of Toxicology," Philadelphia, 1874; *Phil. Med. Times*, February 11, 1882, p. 332; *Phil. Med. News*, March 11, 1882, p. 283. See also Judge C. C. Fuller's decision in Michigan, case of State *vs.* Vanimmans, where the expert was sustained, in N. Y. MEDICAL RECORD, April 3, 1886, p. 395; *American Journal of the Medical Sciences*, October, 1882, p. 546.

The standard works of Ordronaux, Med. Jur., Sec. 114, Taylor, and Wharton have passages sustaining experts in their right to extra compensation; also Redfield is named. Honeyman's Practice and Precedents, Sec. 447. Snyder *vs.* Iowa City, 40 Iowa, 616. Code of Iowa, 1873, Sec. 3814. Dille *vs.* State, 59 Indiana, 15.

From Massachusetts I learn that "the common law permits the court to allow extra fees to experts, and such a fee is always allowed witnesses for the commonwealth. Medical experts usually receive $25 a day, and those from a distance sometimes get more; but this is optional with the court, and a physician can be compelled to testify for the usual witness fee." See this discussed by F. W. Draper, M.D., in *Boston Med. and Surg. Journal*, August 2, 1883, p. 98, where the other relations of the expert witness, besides his compensation, are well considered.

In the same journal, July 7, 1881, Dr. Walter Channing treats the same topic, and quotes a proposed law regulating expert testimony.

Again, in THE MEDICAL RECORD, June 25, 1881, p. 722, is mentioned certain action of the Rhode Island State Medical Association.

The most complete presentation of the subject is to be found in Lawson's "Expert and Opinion Evidence," where the Indiana decision is given in full, as well as that of the Alabama Supreme Court.

I have no doubt that a more thorough search than I have been able to make, so "far from the madding crowd," would reveal much more material on this subject, in which every physician has an equal interest. To favor completeness, let me add the references to Tidy's "Legal Medicine," and Mr. Henry A. Riley's contribution on the "Law of Expert Evidence" in the "Reference Handbook of the Medical Sciences." It is rather surprising that the opinion of an author so highly esteemed among all English-speaking people as Simon Greenleaf should not have constrained all our courts long ago to a unanimity of principle and action as regards compelling and compensating expert witnesses.

The other relations of the expert, whether as a partisan or an impartial scientific witness, his privileges and his woes in the courts, his duties and details as to his manner of giving his professional opinions, have all been much discussed also by physicians and by lawyers of liberal views.

FRANCIS H. ATKINS.

LAS VEGAS, N. M.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: While the case of Dr. Darby is fresh in mind, it seems proper to state that, during the November term of the District Court in this place, six physicians were kept for two days in attendance upon the court. The judge was called upon to order extra fees to be paid to witnesses who should be required to give expert testimony. He answered that he would be glad to order such fees if he had the power; but that when the Territorial Judiciary had been recently convened, for the purpose of holding a supreme court session, the matter was fully discussed, and the opinion expressed by every member that a district judge has no power nor authority in Dakota to order extra fees to be paid in cases where expert testimony is taken.

The shortest remedy, it seems to the writer, for such a state of things, is by legislation. The situation demands that a united effort be made to compass such remedy, and that you, by means of the powerful influence of your journal, effectually urge upon the various societies and members of the medical profession the importance of making an organized and simultaneous effort to secure

legislation in all the States and Territories, authorizing judges to order expert-witness fees in cases where expert testimony is taken.

When it becomes a matter of statute, the injustice and outrage to which medical expert witnesses are now so often subjected will end.

Respectfully,

S. A. Brown, M.D.

Sioux Falls, Dak., January 14, 1887.

SYPHILIS FROM VACCINATION.

To the Editor of the Medical Record.

Sir: The important case communicated by Dr. J. S. Prettyman to the Medical Record prompts me to ask space to refer to some other features of this vitally important subject. Several of my personal acquaintances having become affected with cancer, in some instances terminating fatally, I have been led to inquire into the probable cause of the serious increase of late in this terrible disease. The mortality in England and Wales from 1851 to 1860 was 421 per million; from 1861 to 1870 was 534 per million; from 1871 to 1880 was 553 per million. It is allowed by physicians that cancer may be due to impregnating the blood with impure matter, and it is obvious that there is no method by which this is done on so large a scale as in vaccination and revaccination. It is not denied that vaccination is an exciting cause of infantile syphilis, and according to the Registrar-General's returns—No. 433, dated 1877; and Infant Mortality, No. 392, dated 1880—the increase in this disease since vaccination has been made compulsory is fourfold. Mr. Hibbert, formerly Secretary to the Local Government Board, said, in July, 1880, that this terrible increase was one of the most unsatisfactory features of the Vaccination Acts, and a reason why further legislation was needed. Dr. William Forbes Laurie, late Medical Director of St. Saviour's Cancer Hospital, Regent's Park, was thoroughly convinced that the great increase of cancer was due to vaccination, and he wrote to several members of Parliament inviting them to visit the hospital, and witness the dismal results of the operation. He says this increase of cancer is "attributed by some medical men to the large amount of syphilitic disease, with which vaccine lymph is impregnated," and by others to the direct impregnation of healthy persons with lymph imbued with scrofulous and cancerous matter. The *British Medical Journal* for May 19, 1883, in a leading article on the increasing fatality of cancer, puts the mortality from 1850 to 1855 at 302 per million; while in the year 1875 it had risen to 480 per million; and, in considering the causes of this increase, says: "Our negligence in dealing effectually with other diseases may also favor its dissemination; for if syphilitic inflammation may become cancerous, it is clear that the spread of syphilis has scattered throughout the population innumerable possible seeds of cancerous degeneration." The *London Hospital Gazette*, a short time ago, said that fifty infants were admitted into one hospital within a month suffering from syphilitic disease, from some of whom vaccine lymph had been taken. This is an indication how the cancer-spreading virus may be distributed. It would be unbecoming in me to dogmatize upon a subject which is admitted to be a puzzle to the medical profession, but I venture to hope that some of the medical correspondents of your impartial columns who have had the opportunity which clinical experience affords will, in the interests of the public health, be able to say whether the suggestion I have made is borne out by facts.

Yours faithfully,

William Tebb.

National Liberal Club, Charing Cross,
London, January 11, 1887.

Vaccination is just now a profitable pastime for the old and young practitioner.

New Instruments.

A COMBINED CURETTE AND DOUBLE CATHETER.

By George E. Abbott, M.D.,

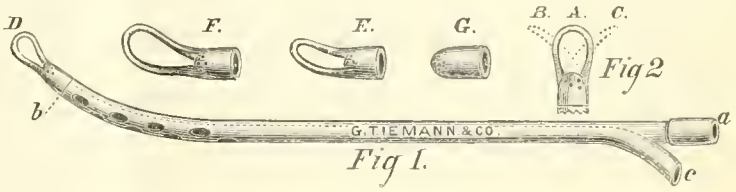
New York.

I send herewith a drawing of a double catheter with a curette attachment, which has been found to work well by my friends and myself in several cases.

It consists of a fac-simile of a double catheter lent to me by Dr. Edwin F. Ward, of this city, which has unusually large fenestræ for the free return of the injected fluid, to which may be attached the curettes *D*, *E*, *F*, on the round end of the catheter *G*.

The curettes are of various sizes, and dull or sharp, as desired.

For curetting the anterior surface of the uterus or other cavity, screw the curette on as far as it will go, when it will be in position, as at *D*, Fig. 1, or *A*, Fig. 2.



Figs. 1 and 2.

For the posterior surface, give the curette a half turn, when its concavity will look backward, and will attack the posterior surface well.

For curetting the sides, unscrew the curette a quarter turn or a three-quarter turn, when it will have the position of Fig. 2, *C* or *B*.

It will at first seem that, when placed in these positions, the curette would not attack its work, but would turn this way and that. That this is not the case can be demonstrated by curetting the sides of the hand as it grasps the instrument.

The curettes are attached by a fine thread and a long shoulder or tenon, as at *b*, and thus allow of the positions above indicated without loss of firmness.

In use, a Davidson's syringe or irrigating tube is attached to the catheter at Fig. 1, *a*, through which the antiseptic fluid passes, emerging at the little holes at the base of the curette *D*.

The return-current passes through the large fenestræ below *b*, and out at *c*, into a white receiving-vessel. (It will add much to the comfort of the surgeon to have a tube attached to *c*, thus avoiding wetting his hands, etc.)

The advantages gained are:

1. In making the parts thoroughly aseptic. The antiseptic fluid being allowed to run before entering the cervical canal, and during the time of operating.

2. The denuded surfaces are immediately covered by the antiseptic fluid before infection can possibly take place.

3. The detritus is immediately and fully removed.

4. The surgeon can see by the returns in his white receiving-bowl what he is doing—fungosities, membrane, pure blood, or clear antiseptic fluid.

5. No bacteria are introduced, as in the use of the ordinary curette.

6. No fungosities or detritus remain to decompose.

It is hoped that the instrument will be of service to the profession, who can obtain it from Messrs. Tiemann & Co., of this city.

Aural Troubles.—A French medical writer, in treating of the ear, says that this organ is subject to a number of painful affections, among which may be mentioned otitis, Wagner's music, etc.

Army News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from January 23 to January 29, 1887.

MORRIS, EDWARD R., First Lieutenant and Assistant Surgeon. Granted leave of absence for one month, to take effect about March 10, 1887, with permission to apply for an extension of twenty days. S. O. 6, Division of the Pacific, January 19, 1887.

Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending January 29, 1887:

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	13	5
Scarlet fever	47	13
Cerebro-spinal meningitis	5	4
Measles	453	54
Diphtheria	109	33
Small-pox	23	3
Yellow fever	0	0

THE TREATMENT OF THREAD-WORMS IN CHILDREN.—Dr. Sidney Martin writes as follows to the *Practitioner* of October, 1886: "The complete cure of thread-worms in children is often very difficult. While the ordinary methods used, such as rectal injections of salt and water, infusions of quassia, and other remedies, do good for a time, yet they often fail to relieve the attendant symptoms of 'worms,' symptoms usually very irregular, and in some cases severe in character. In many cases, though the irritation about the anus is relieved by injections, the irregularity of the bowels and the disturbance of sleep remain the same. This is probably due to the fact that the habitat of the worms is higher up in the large intestines, where no remedy introduced by the rectum can reach them. In many cases I have found that rhubarb, in small doses, brings away large numbers of worms, and at the same time regulates the bowels, so that the use of injections may in most cases be dispensed with. The formula which I have found most useful is as follows, varying slightly with the age of the child: ℞. Tincturæ rhei, ℥iij.; magnesii carbonatis, gr. iij.; tincturæ zingiberis, ℥j.; aquam, ad ʒj. This is to be taken twice or three times daily, according to the effect on the bowels. Whether the rhubarb acts as a vermicide or simply by 'moving the worms on,' I am unable to say."

DE SENECTUTE.—To most people there is something peculiarly fascinating in a description of the habits and constitution of persons who have lived to extreme old age; even if the reader is not possessed by a secret hope that he may rival them in vitality, his imagination is stimulated by the history of men and women who were born in the last quarter of the eighteenth century, living on to witness the achievements, to share the sorrows, and, in their own persons, to afford matter for the scientific speculations of the last quarter of the nineteenth century. The series of fifty-two cases of reputed centenarians got together by the Collective Investigation Committee has been analyzed by Professor Humphry, of Cambridge, who is able to state positively that, in 11 cases, 2 males and 9 females, the evidence left no doubt that these old people were really centenarians. In the large majority of the cases the evidence was not conclusive, but there can at least be no doubt that all had attained to a very great age. Swift, in his "Voyage to Laputa," has given a description of extreme old age so appalling, and yet so nearly in accordance with everyday experience, that it is a pleasure to find Professor Humphry championing our common humanity, and describing centenarians who were cheerful, retained their faculties and their interest in relatives and old friends, and even showed a marked liking for making new acquaintances. The centenarian generally comes of a long-lived family, and is a person of active habits, both of body and mind, a good sleeper, endowed with a good appetite, and a tranquil, cheerful disposition. One centenarian collier had always drank as much as he could, and expressed his intention of continuing this habit, but all the others were stated either to have been moderate or very moderate in the indulgence of this taste, or to have been total abstainers. The majority also did not take tobacco in any form, but one chewed the drug, and seven, of whom four were women, smoked a great deal. Perhaps the most interesting fact which has come out of the analysis of these cases is that, though centenarians, as a rule, have not suffered much from illness during their long lives, yet a considerable number of instances were met with where even severe illnesses had been recovered from at an advanced age. Indeed, some of these old people seem to take a new lease of life, as the saying is, after passing four-score years, and are not only able to resist fresh attacks of acute disease, but even apparently to throw off some of the effects of chronic maladies from which they had been previously suffering. It is interesting to note that women are in a decided majority in Professor Humphry's list; after making every allowance for their comparative immunity from accident, exposure, and anxiety, and their greater temperance in eating and drinking, there still appears to be reason to believe that woman possesses a greater inherent vitality than man.—*British Medical Journal.*

MEDICINE IN TENNESSEE.—There are in Tennessee according to the "Medical and Surgical Directory of the United States," 2,059 persons claiming to be physicians and engaged in the practice of medicine. Of this number only 965 have diplomas, or any other authority upon which to establish their claims; hence 1,094 are practising without any authority whatever. It is but reasonable to suppose that very many of the latter class are wholly ignorant of even the principles upon which the science is based. This is indeed a bad showing, and it is to be hoped that a better day will ere long dawn upon our profession and the good people of Tennessee.—*Mississippi Valley Medical Monthly.*

TWO NEW REMEDIES FOR ULCERS.—The well-established hemostatic action of solutions of antipyrine prompted Dr. Bosse (*Berliner Klinische Wochenschrift*, 33, 1886) to employ it in a case of varicose ulcer, in which a profuse hemorrhage occurred from an arroded vein. He dusted the surface freely with antipyrine, and put on a compress of absorbent cotton and a bandage. After three days the dressing was changed, and the whole ulceration was found to be covered with healthy granulations. He therefore continued to apply the antipyrine for ten successive days, and thereupon dressed the granulations with a two per cent. ointment of nitrate of silver. The result was that the ulcer, which was as large as the palm of the hand, was healed in about three weeks. Thirty similar cases were treated with equal success. Bosse, therefore, recommends antipyrine as promoting the development of granulations in atonic ulcers and fistulæ. According to Martin, suppositories composed of cocoa-butter and ten grains of antipyrine afforded great relief in hemorrhoids and fissured anus, and may cure. Dr. A. Sydney Reynolds, in the *Medical News*, gives the result of his experience with sub-iodide of bismuth in the treatment of ulceration. Its therapeutic and physical properties may be summed up as follows: (*a*) It subdues the inflammatory process. (*b*) It substitutes the inflammatory regeneration of tissue with a neoplastic force, which closely simulates normal em-

bryonic histo-genesis. (*c*) It is, by its action, *a vital aseptic.* (*d*) It prevents the formation of pus. (*e*) It lessens direct and reflex irritability. (*f*) It is so bland and unirritating that it can be used on any surface. The sub-iodide of bismuth, by virtue of these properties, is almost a specific for ulceration.

Effect of High Altitudes on Heart Disease.—In the September number we gave an extract from a paper by Loomis, giving examples of serious consequences following the ascent of mountains by persons with cardiac affections. To offset this we quote from a private letter received from Dr. W. X. Sudduth, of the Medico-Chirurgical College, who is spending a year in the German laboratories, preparing material for his classes in histology. He writes as follows: "I have done some of the highest passes in Switzerland. I commenced with the Trutt pass (6,000 feet), and led gradually up to the ascension of the Stockhorn (12,000 feet). This latter trip, including the descent to Zermatt, kept me on my feet ten hours and a half. The ascent was over 7,000 feet, and the descent 9,000 feet. Pretty good day's work! Now, I know that this will be considered heroic treatment for a case of mitral stenosis. I have a theory, however, based upon my last year's experience, that it would be beneficial in my case, although such treatment is not laid down in the books. I held that as there were no vegetations in my heart, but only a lessening of the calibre of the valve, a high altitude, which would necessitate the expansion of the lungs would prevent pulmonary congestion, and also that if the continued exercise were not of too violent a character, the whole effect would be beneficial. So it has proven in my case. I have felt less uneasiness in the region of the left auricle than is customary with me. My general health is first-class, and my powers of endurance have not exceeded their present condition at any time in the last ten years."—*Medical World.*

Acute Fatty Degeneration of the Newly-Born.—Buhl, in 1861, described the symptoms and morbid anatomy of a rare disease, occurring in newly-born infants, to which he gave the name of acute fatty degeneration. His observations have since been confirmed by Hecker, Furstenburg, Roloff, and Runge, though it cannot be said that this condition is sufficiently well known for it to take its place as a well-defined and definite disease. The infants suffering from it are generally born in a condition of asphyxia, without obvious cause, and some die asphyxiated. If it survive it mostly suffers from more or less cyanosis, with hemorrhage from the bowels, stomach, or from the navel, on the separation of the cord. There is often jaundice, and blood extravasations take place beneath the skin, conjunctiva, or mucous membrane of the mouth; there may be general œdema; death usually takes place within two weeks. At the *post-mortem* minute hemorrhages are found in the various internal organs, sometimes they are infiltrated with blood; the tissues are bile-stained. On microscopical examination of the tissues of the heart, liver, kidneys, etc., they are found to be in a condition of fatty degeneration. The nature of the disease is quite unknown. It is interesting to note that a similar condition has been noted in newly-born pigs and other domestic animals.—*Providence Medical Journal.*

Winckel's Disease.—A somewhat similar disease as acute fatty degeneration of the newly-born has been described as occurring in an epidemic form by Winckel, and characterized by cyanosis, jaundice, and hæmoglobinuria. This epidemic occurred in the Foundling Hospital, at Dresden, in 1879, where twenty-three infants were affected in the course of a month. The symptoms noted were first of all a bluish tinge on the skin of the face, body, and limbs, with a more or less icteric tint; in some cases there was vomiting and diarrhœa. The urine was of a light-brown color, with a sediment consisting of epithelium and casts; the blood contained an excess of white corpuscles and many granular bodies. The symptoms mostly began on the fourth day after birth, death occurring in one case in nine hours, though the average duration of the disease was about two days. The sections showed a yellow staining of the skin and the internal organs. The spleen was large and hard, and dark red; the kidneys were usually dark brown in color, the microscopic examination showing their tubules to be filled with granular pigment. There were punctiform hemorrhages on the surface of the various internal organs, and fatty degeneration of the liver and heart.—*Providence Medical Journal.*

Linseed Oil in Pruritus.—A correspondent writes us that he has lately witnessed the triumph of linseed oil in the treatment of pruritus ani, and where all the classical remedies had failed. In the case of two patients, who had been for several years sufferers from pruritus ani, with a trifling erythematous eruption and no rectal complications that could be discovered, the free external use of linseed oil, at bed-time, about the parts gave immediate relief, and thus far free inunction with this simple remedy has given complete exemption from the nocturnal annoyance.—*Boston Medical and Surgical Journal.*

The Early Diagnosis of Vertebral Caries.—Dr. George W. Ryan, of Cincinnati, in a paper on this subject read before the Cincinnati Academy of Medicine, expressed himself as surprised that so many excellent observers should regard the knuckle as the first symptom of vertebral caries (*The Medical and Surgical Reporter*, December 11, 1886). Over-estimation of the importance of a diagnosis before the kyphosis is apparent, is impossible. If we believe that we have a constitutional disease, an essentially tuberculous one, beginning generally as a central ostitis of the body of the vertebra, the rational symptoms will be accordingly clear to us. It is now generally understood that this disease can be diagnosed in the incipient stage, and ought to be when the opportunity is presented. There are, however, cases which cannot be made out until the knuckle is visible. The first step is an accurate family history, directed especially to tuberculosis. The next, as to whether the child has passed through the infantile diseases or not, and as to convalescence. A tardy convalescence is often the starting-point of this disease. You will have heard before you ask it of a trauma, real or suspected. Further questioning will give you the history of restless nights, moaning and disturbed sleep, a tired feeling, or a continued desire for support. The child very likely complains of an epigastric pain, if it falls it screams from pain, it walks with care, or if young does not walk at all; that it holds its back very rigidly, or the shoulders thrown back to an abnormal degree, or one shoulder appears higher than the other, that it does not stoop, or if it does it is with great care. Pain in the back is occasionally complained of, and this generally when a jar is sustained. The gait is characteristic, almost pathognomonic. There is a carefulness, a rigidity about the spine which is never found unless there is spinal disease. The physiognomy will give you a pinched and anxious expression. The child can only stoop with the spine held rigid, or from pain gives it up. Physical examination, with all the clothing removed, may not give a trace of the angular curvature. Pressure to ascertain the existence of a soft spot is valueless. The examination as to mobility can be readily and painlessly made by having the child lie on its face and slowly bend the limbs with the opposite hand on the opposite side to the disease. It can thus be determined whether the column yields throughout, or whether there is any point where rigidity is present. If, with all this, rigidity is found, the diagnosis is unmistakable. In the cervical region the symptoms are altogether different. Torticollis is often present, with an occasional occipital or post-auricular neuralgia or hyperæsthesia. Brushing the hair causes pain; there is considerable interference with the act of motion, and the deformity is often slight. The acuteness of perityphlitis and peri-

nephritis would, as a rule, enable us to exclude spinal disease. The flexible spine would also assist. The pressure test, though of some pathological and clinical value, should, on account of its cruelty, be entirely discarded. He had never seen tenderness from pressure over a diseased spine in the incipient stages in but two cases, and in one of these it was probably neuralgic. It is indicative of a periosteal rather than a central lesion. To diagnose the kyphosis of rickets from caries, take into consideration the general rickety appearance of the child. He urged, in closing, the necessity of a physical examination, a clear history of the case, to keep in mind the pathology of the disease; and a diagnosis can readily be made, in the majority of cases, before the kyphosis appears.

Warts.—It is now fairly established that the common wart, which is so unsightly and often proliferous on the hands and face, can be easily removed by small doses of sulphate magnesia taken internally. M. Colrat, of Lyons, has drawn attention to this extraordinary fact. Several children treated with three-grain doses of Epsom salts, morning and evening, were promptly cured. M. Aubers cites the case of a woman whose face was disfigured by these excrescences, and who was cured in a month by a drachm and a half of magnesia taken daily. Another medical man reports a case of very large warts which disappeared in a fortnight from the daily administration of ten grains of the salts.—*The Medical Press.*

Diagnosis of Ovarian Tumors.—Professor J. S. Wellford, of Richmond, suggests as a valuable adjuvant means of differential diagnosis between pregnancy and ovarian tumors the examination of the phosphatic condition of the urine. In pregnancy, owing to the consumption of the phosphates by the fœtus, there is a very decided diminution of the phosphates in the urine. In the presence of ovarian or other tumors, owing to the strain on the nervous system by the disease, the quantity of the phosphates excreted is very largely increased.—*Practice.*

Ice-water enemata are used with success in the Birmingham General Hospital in cases of collapse often seen during diarrhœa in young children. It is claimed that one injection, two or three ounces, is very soon followed by sleep, and that, by the astringent effect on the congested vessels of the intestines, the diarrhœa is diminished. It is further claimed that no depression or other bad effect has resulted.

Hydrochlorate of quinine is combined with a smaller quantity of acid, and hydrochloric acid is better suited to the system than sulphuric acid. Hydrochlorate of quinine contains a larger proportion of the alkaloid quinine. While the price is one-third higher than the sulphate, yet its greater efficiency fully compensates for the enhanced value. Hence, says Mr. H. W. Fuller, the muriate of quinine is the best salt to use.

Ugly Vaccination-scars.—A writer in the *Correspondenz-Blatt für Schweizer Aerzte*, No. 18, 1886, who had a good opportunity of studying vaccination-scars at the Basle Federal Athletic Fête (*Turnfest*), draws attention to the æsthetic aspect of the "art of vaccination." Very many of the men had ugly, thick, and broad scars, reaching sometimes down to the elbow. When spoken to about the matter, they expressed indignation at the disfigurement inflicted upon them by the vaccinator. The writer recommends that more attention should in future be paid to this matter, which, though trifling in itself, may sometimes strengthen the hands of anti-vaccinationists. We understand that the practice of vaccinating on the leg is quite common among American physicians, and has much to recommend it.

Supernumerary Fingers among Negroes.—Dr. F. K. Stoekly, of Bluebank, states that supernumerary fingers and toes are found with extraordinary frequency among negro tribes living beyond the Orange Free States. He mentions the case of a Caffre, aged eighteen, who himself had six fingers on each hand; while the same anomaly was present in his father, in his mother, in his four sisters, and in one brother. His mother had also a double series of toes on both feet.

Bone-Grafting.—At the French Congress of Surgery M. Poncet expressed the belief that it would be possible to reconstruct a destroyed bone by means of osseous grafts. It is not after cicatrization that the grafting can be expected to succeed; it is at an anterior period, when active healing of the wound is taking place, that the grafting can be made under the most favorable conditions. M. Poncet then cited the case of a child, eleven years of age, from whom a long sequestrum of the tibia had been removed after osteo-myelitis. This sequestrum measured twenty-five centimetres in length. One month after the operation the first attempt at grafting was made. The fragments were taken from a newly born infant which had just died. Antiseptic dressing was used, and the limb was kept at rest with plaster splints. Twelve days later the dressing was changed; there was slight suppuration. New grafts, composed of four bony fragments, were then procured from a young kid. These were implanted in fleshy granulations and only one was eliminated. Six months after the operation there was a solid bony mass, thirty centimetres in length; the child became strong, and able to walk.—*Brit. Med. Journal.*

The Megaloscope.—At the French Congress of Surgery, M. Boisseau du Rocher exhibited a megaloscope, invented by himself for the purpose of exploring deep-seated cavities, such as the bladder, intestines, and stomach. By means of this instrument the mucous membrane of the bladder may be examined over an area of twenty-nine centimetres. It is fixed on a stem varying in shape and calibre, adapted to the cavities examined.

The Art of Washing the Hands.—In a communication to the Thurgau Medical Society, Dr. E. Haffter, of Trauenfeld, discusses the paramount importance of antisepsis in surgical and obstetrical practice; and, among other things, said that he is the best antiseptic-ist who best understands how to wash his hands, "since the latter are the most common vehicles of infection." The "art of washing hands" is not an easy one, according to the author. To insure absolute surgical cleanliness of the hands they must first be carefully washed with potash soap and water as hot as can be borne, and then with a five-per-cent. solution of carbolic acid, or one-per-mille solution of corrosive sublimate, or chlorine water.—*Brit. Med. Journal.*

Abdominal Tumors and the Excretion of Urea.—At the French Congress of Surgery, M. Thiriar, of Brussels, speaking of the analysis of urine in cases of abdominal surgery, stated that in benign tumors the proportion of urea in urine is always more than twelve grammes, while in malignant tumors there is always hypo-azoturia. In support of this opinion he mentioned several cases in which he was able, by this indication alone, to diagnose a tumor as benign or malignant, which was afterward confirmed by the operation, the necropsy, or the subsequent course of the tumor.—*Brit. Med. Journal.*

Some Statistics of Hernia.—Dr. Baxter's tables show that out of 334,321 recruits and substitutes examined by the recruiting officers during the War of the Rebellion, more than 17,000 were rejected on account of hernia. The London Truss Society, during the first twenty-eight years of its existence, issued over 83,000 trusses. Two factories in Philadelphia manufacture and sell from 216,000 to 250,000 per annum.—J. B. Hamilton, in *Chicago Med. Jour.*

A North Carolina Health Resort.—Tarboro', N. C., is said to be gaining quite a reputation as a resort for consumptives. The local physicians claim that phthisis is unknown in the neighborhood.

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Original Lectures.

MULTIPLE NEURITIS AND ITS RELATION TO CERTAIN PERIPHERAL NEUROSES.[1]

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LECTURE II.

MR. PRESIDENT, LADIES AND GENTLEMEN OF THE PATHOLOGICAL SOCIETY:

IN the last lecture we studied the history of multiple neuritis, and incidentally obtained some clinical pictures of various forms of this disease. We also discussed its pathology and its etiology. This evening we must look more carefully at the symptoms presenting themselves in the different varieties of the affection.

An etiological classification of the cases of multiple neuritis appears to be the one most useful to the clinical observer, and as the forms vary considerably in their symptoms, we shall perhaps arrive at a more definite knowledge of the disease if we consider each of the classes separately. It is possible to distinguish—

1. Toxic cases, due to poisoning by alcohol, arsenic, lead, and bisulphide of carbon.

2. Infectious cases, due to the direct action upon the nervous system of the infectious agents, producing diphtheria, variola, typhoid and typhus fevers, severe malarial fever, and tuberculosis; to which must be added the agent causing the epidemic form of neuritis known as kakke or beriberi.

3. Spontaneous cases, due to uncertain causes, among which cold, and exposure to damp and wet, and to overexertion, may find a place.

I. TOXIC CASES.—(*a*) *Multiple neuritis, due to poisoning by alcohol.* While alcoholic paralysis has been universally recognized for many years, it is only within a short time that the symptoms and pathology have been brought into a logical connection. It is to Moeli,[2] of Berlin, and Dreschfeld,[3] of Manchester, England, that we owe the most important recent contributions to the knowledge of this form of neuritis, though the work of Henry Hun,[4] of Albany, and of Bernhardt,[5] of Berlin, cannot be passed over without recognition.

It will be remembered that among the first cases of multiple neuritis in which an autopsy was made, viz., those of Lancereaux,[6] the disease was traced to alcoholism. Lancereaux deserves the credit of demonstrating the pathological basis of alcoholic paralysis, for the descriptions of its symptoms previously given by Jackson and Huss were not accompanied by post-mortem records. But Lancereaux's observations were for many years overlooked by physicians outside of France; and in England, where the disease is well known, it was ascribed, as lately as in 1883, to a spinal lesion.[7] But in 1884 Dreschfeld combated this theory and called attention to its true pathology, showing that cases formerly supposed to be spinal paralysis were really due to an affection of the peripheral nerves.

All observers have emphasized the fact already noted by Jackson, that the disease is especially frequent among females. Males are not, of course, exempt from alcoholic paralysis, but in them the poison seems more liable to manifest itself by acute cerebral symptoms than by those of disease of the peripheral nerves. It is especially frequent among those persons in the higher classes whose nervous organism is highly developed, and who lead a comparatively inactive life. It seems not at all improbable that sedentary habits predispose an alcoholic drinker to this disease, and hence active workers, male or female, though taking an equally large amount of liquor as the luxurious drinker, escape. All alcoholic drinks are not equally prone to produce paralysis. It is the spirituous liquors—brandy, whiskey, gin, and rum, and the liqueurs, absinthe, vermouth, etc.—which are dangerous. And it is only after these drinks have been consumed in large amounts and for a considerable length of time that neuritis develops. Its onset, though often apparently very sudden, is usually gradual. For months the patient has suffered from chronic gastritis, insomnia, general neuralgic pains, or severe pains in the joints or limbs, and from tremor and a certain feebleness in movement, when all at once her legs give way beneath her, and after the sudden fall she finds herself unable to rise. Thus a patient of my own, after a year of such premonitory symptoms, was seized with paralysis quite unexpectedly when getting out of bed in the night. This paralysis soon becomes complete in the feet and legs below the knees, and may advance up the thigh. It next attacks the hands and forearms, and while in all extremities it is often greater in the extensors than in the flexors, in some cases both groups of muscles become entirely helpless. This has been the case in three patients under my care. The paralyzed muscles are flabby and soon become atrophied, they have no excitability to mechanical irritation, and the tendon reflexes are lost. They fail to react to a faradic current in the majority of cases, though occasionally a very strong current may produce a response. When galvanism is applied the reaction of degeneration is found to be present. No stimulus can be given to the muscle by sending a current through its nerve, and the positive pole produces more marked contractions with an equal current than the negative pole when placed on the muscle, and then it is only a slow or vermiform movement, not the quick jerk of health. It is also found that strong galvanic currents have to be used to produce any contraction at all. The paralysis of the muscles may advance rapidly in severe cases, involving the motor cranial nerves, the muscles of the trunk, and lastly the diaphragm, thus causing death. More frequently, however, it is arrested when only the distal parts of the extremities are involved, and then it gradually subsides until recovery is complete. The position assumed by the paralyzed limbs has been thought to be almost characteristic. There is dropped wrist quite similar to that seen in lead-palsy, and also dropped foot, due to the falling forward of the foot from its own weight, since the anterior tibial muscles are weak. This deformity is increased by the fact that the patients lie in a recumbent posture with the feet extended; and when the flexors of the toes are but slightly affected, as sometimes is the case, their unopposed contraction serves to exaggerate the malposition. If there is entire paraplegia the legs

[1] The Middleton Goldsmith Lectures, delivered under the direction of the New York Pathological Society, January 25 and 28, 1887.
[2] Moeli: Charité Annalen, 1884.
[3] Brain, Nos. 26 and 32.
[4] Amer. Jour. Med. Sci., April, 1885.
[5] Zeitsch. f. Klin. Med., 1886.
[6] Gaz. Hebdom., 1881.
[7] Wilks: Dis. of Nerv. System, p. 272.

and thighs may both be extremely flexed, so that the heels touch the buttocks, but this is exceptional. While the dropped wrist is the usual deformity of the hands, cases are recorded in which the paralysis was limited to single muscles and to muscles supplied by single nerves. Thus Lilienfeld describes a weakness of the extensors of the thumb, fourth and fifth fingers, and Leudet mentions a paralysis of the ulnar nerve. In one case of my own the *main en griffe* was the deformity noticed, indicating a weakness of the interossei only. Such cases as those of Hun,[1] where a facial paralysis was seen, or of Lilienfeld,[2] where double abducens paralysis occurred, are certainly rare, and still more so are those in which irregular, rapid pulse has been ascribed to an affection of the pneumogastric.

To the physician these motor symptoms, and the œdema, occasional lividity, profuse sweating, and glossy skin, so often associated with them, are very noticeable. But the patient suffers far more from the disturbances of sensation. In the description of Jackson, the pains were graphically portrayed. They are the cause of terrible agony, sufficient to produce insomnia, and wearing seriously upon the endurance of the sufferer.

In addition to pain, hyperæsthesia is not infrequently observed. It is usually quite extensive in the legs, though in cases of poisoning by absinthe it has been limited to the soles of the feet. The muscles, as well as the skin, are sensitive to handling and to pressure, and marked tenderness in the course of the nerves is always elicited by examination. In one of my cases soon after the onset, the patient could not bear to be touched or moved, though perfectly unable to help herself. Charcot goes so far as to say that muscular sensitiveness associated with flaccid paralysis is pathognomonic of alcoholism.

Paræsthesiæ are always complained of. Numbness, tingling, and formication are frequent. In one of my patients the sensation was as if heavy bracelets were around the wrists, and as if very tight drawers were on the legs. At other times she felt as if the limbs were swollen and as if the skin were about to burst. Such sensations may cease as the case increases in severity, and give place to a total lack of sensation in the parts. They return, however, with advancing recovery, and are among the last symptoms to disappear.

Abolition of tactile sense, and to some degree of muscular sense, is the rule after the paralysis is developed. Temperature-sense and the perception of pain are never wholly lost, but may be delayed in transmission. The anæsthesia may be limited to irregular areas, and may be only in the cutaneous distribution of one nerve, but is usually found over the entire distal part of the paralyzed limb. Usually the cutaneous reflexes are preserved. The loss of muscular sense is, in some cases, so marked a symptom, and one of such early occurrence, that Dreschfeld distinguishes a class of cases which he terms ataxic rather than paralytic. And this distinction is perfectly justifiable, for in many cases it is the inco-ordination which attracts the attention of both the patient and the physician. It is this class of alcoholic cases which may be mistaken for locomotor ataxia, and which have been named by French writers pseudo-tabes alcoholique.[3] But ataxia is not exclusively limited to this class of cases. It may be present in some degree in cases of paralysis, and during recovery from paralysis the deficiency in co-ordinating power may become evident, and appear to retard the progress of the case. Nor are the cases of ataxia, on the other hand, free from paralysis.

And this fact is proven by the observations of Westphal[4] and Charcot. For, by contrasting the walk of a true ataxic patient with that of an ataxic alcoholic patient, they have each discovered several points of difference. The ataxic patient throws the foot forward with undue violence, the toe lifted high in air, and brings first the heel down forcibly and then the entire foot. The alcoholic, however, has some weakness in the muscles of extension and cannot raise the toe. He therefore lifts the foot high in order to step over the hanging toe and not to trip on it, but the motion is made without undue force. He then throws the foot forward in order to throw the toes up and get them out of the way as he brings the foot down to the floor. The motion is awkward and has an appearance of one stepping over high obstacles, but it is a voluntary attempt to remedy a deficient power—not the involuntary awkwardness of a man unable to manage strong muscles. There may be in both patients some tottering, and swaying when standing with the eyes closed, the so-called Romberg symptom, is common to both locomotor ataxia and alcoholic neuritis. Dejerine describes the following case, in which the symptoms resembled those of tabes.

Observation VIII.—Male, forty-two, a hard drinker, complained for four months of shooting pains in the legs, and noticed a gradually increasing difficulty in walking, which was worse in the dark. He had also found his feet swollen at times, and had some difficulty in micturition. Examination on admission to the hospital showed a high grade of ataxia in walking, Romberg's symptom, loss of tendon reflexes, anæsthesia almost total of entire body, considerable analgesia with retardation of sensations of pain, temperature-sense being preserved, and loss of muscular sense in the legs. The muscles were slightly feeble and a little diminished in size. It could hardly be said that there was paralysis or atrophy. The diagnosis made was locomotor ataxia of an unusual type. The onset was so rapid, the anæsthesia so extensive and severe, the paresis of the limbs, though slight, so evident, that it differed from a typical tabes. But no other diagnosis could be made from the symptoms. The patient died of chronic nephritis six weeks after admission. The autopsy showed the spinal cord to be normal. But in the cutaneous and to a less degree in the intra-muscular branches of the nerves, as well as in the distal parts of the nerve-trunks, a high grade of parenchymatous neuritis was found. The nerve-tubes had lost their double contour, the myelin sheath was segmented, the protoplasm was increased, the nuclei multiplied. The nerve-trunks on the plexuses and the nerve-roots were normal. The nerves of the legs were more deeply involved than those of the arms.[1]

The second case, in a female forty-nine years of age, presented almost identical symptoms and lesions.

The special senses are occasionally affected in cases of alcoholic paralysis. Amblyopia has been observed, and also defective vision from central scotoma. The field of color-vision is often contracted, even when sight is preserved. There may develop a true optic neuritis, evident to the ophthalmoscope, and this may go on to optic-nerve atrophy.[2] Inequality of the pupils is frequently seen, as is also a moderate contraction of the pupil. All these eye symptoms, occurring as they may in a case of the ataxic variety, make a differential diagnosis from locomotor ataxia difficult. The Argyle Robertson pupil (which contracts in accommodation but not to light) has not been seen in alcoholic cases, while it is an early symptom of tabes.

One feature of alcoholic paralysis remains to be noticed, viz., the cerebral symptoms. These are hardly ever wanting. There is at first the excitement rising to the degree of active delirium, with illusions and hallucinations of the various senses; there is the insomnia which so soon exhausts the patient if it is not remedied; there is the loss of memory, especially of recent occurrences; and the lack of power of attention or concentration which prevents intelligent conversation. The indifference to

[1] Hun: Loc. cit.
[2] Lilienfeld: Berl. Gesellsch. f. Psych. und Nervenkrankheiten, July 15, 1885; see also Richard Schultz, Neurol. Centralbl., Nos. 19, 20, 21, 1885.
[3] Dejerine: Arch. de Phys., 1884.
[4] Westphal: Ueber eine bei chronischen Alcoholisten beobachtete Form von Gehstörungen, Charité Annalen, 1879. Charcot: Leçons, Progrès Médicale, 1886.

[1] Dejerine: Arch. de Phys. Normale, 1884. For other ataxic cases, see Dreschfeld, loc. cit.
[2] Brissaud: Des paralysies toxiques, p. 31. Paris, 1886.

bodily wants may be so great as to lead to uncleanliness, and since paralysis of the sphincter is the rare exception, incontinence is usually to be ascribed to the mental state. It is useless to attempt to get any reliable history of their illness from these patients. Their statements are unintelligible or unreliable. And here it may be well to notice a symptom first remarked by Strümpell.[1] These patients will relate occurrences as having happened recently with much elaboration of detail, when as a fact the story is entirely a product of their imagination. Thus one patient of my own, who had been confined to bed for many days, told me one afternoon that she had been out to see an eminent gynecologist during the morning; had gone to his office and waited for him several hours; had seen other patients there, and finally had been told by the doctor's brother that he would not return in time to see her, so she had come home again. And this was all related in apparent good faith, so that I have no doubt that she believed that what she said had occurred. With the possibility of such delusions in view, it is evident that the statements of these patients cannot be accepted regarding anything, especially as to their own history.

One patient, who was admitted to Bellevue Hospital during my service there, told me a different history of her case every day for a week, and it was only by interviewing her friends that the correct account was obtained.

The course of alcoholic neuritis is quite uniform. After a sudden onset the symptoms rapidly advance to a high degree, which is reached in a week or two from the beginning of the paralysis or ataxia. Then they may increase further, and cause death by respiratory paralysis. Usually they remain stationary for a time, and then gradually subside, the entire duration being from two months to a year. Individual muscles regain their power, tone, firmness, and electrical reaction slowly, and during recovery the tingling and numbness in hands and feet may be severe. In a few cases the muscles become contractured, and permanent deformities, only to be overcome by long-continued massage or by operative measures, develop. When the fact is considered that those who recover rapidly rarely fail to resort again at once to the use of stimulants, and thus expose themselves to the danger of a relapse, the ultimate fate of the chronic cases is hardly more serious than that of those who get well.

As examples of the paralytic form the following cases are cited:

Observation IX.—A baker, aged forty-seven, phthisical, a moderate drinker, had suffered for several years from numbness of the hands and legs; and for a year before the acute invasion of his illness from a slight weakness of the legs and uncertainty of motion in walking. This weakness became much worse during the spring of 1881, so that all summer he was confined to his room, though he managed to walk a little. In November, after an uneasy night, during which he was delirious, it was found that he could not move his legs at all, and that his arms were powerless. He was brought to the hospital November 25th, when a total paralysis, with atrophy and loss of tendon reflexes, was discovered in legs and arms, as well as slight disturbances of sensibility in the legs, consisting of a delayed sensation of pain. His mental condition was a weak one, but he answered questions rationally. The face was in no way affected. No involuntary evacuations. Electric examination showed a great diminution, and in many muscles total loss, of faradic excitability when the current was applied both to nerve and to muscle. With the galvanic current few contractions could be elicited by exciting the nerves, and by exciting the muscles the slow contractions characteristic of RD,[2] as well as the predominance of AnCC over KCC were present. The mechanical excitability of the muscles was not impaired. There were no pains. During the following three months there was little change in the condition, except that his mind was not clear, and that he told extraordinary stories of having been out walking, of having made purchases, etc., when, in fact, he could not move from the bed.

His pulse became more rapid during this time, averaging 120 per minute. In February, 1882, the legs had become œdematous, and there was marked analgesia in them, except on the soles of the feet, which were hyperalgesic; sensations of touch were, however, readily perceived. Though he had a sanguineous dysentery, there was no incontinence. On the 12th there developed suddenly great difficulty in respiration, due to suspension of all diaphragmatic breathing, and the next day he died. An ophthalmoscopic examination on the last day showed an atrophy of both optic nerves on the outer side of the eyes.

Autopsy: Brain and cord normal. No macroscopic changes in the nerves. A microscopic examination, however, showed the presence of a very high degree of degeneration and degenerative atrophy in the nerve-fibres. The myelin had divided in large and small drops, containing fat-granules; the degenerated mass within the Schwann sheath, consisting of myelin and axis-cylinder, was seen in various stages of absorption, and in spots the empty Schwann sheath alone remained. No inflammatory exudation was present, and the endoneurium and perineurium appeared to be normal. The muscles showed evidence of degenerative atrophy. The anterior nerve-roots were normal.[1]

The lesion here resembled exactly that in Joffroy's case, already cited. It was similar in the following case:

Observation X.—Female, who had recently indulged in alcoholic excesses and had suffered from gastritis and delirium tremens; complained for some days of pain in her legs and numbness in hands and forearms. When seen by Dr. Webber the pains in the limbs were severe, and she could not turn in bed without help, her knees were drawn up, and attempts to straighten them caused pain. There was loss of power in extensors of the wrist and hands, and the fingers could not be shut perfectly. There was general tenderness over the muscles of the extremities, and pressure along the nerves was very painful. Her throat was sore, but she did not have diphtheria. She spoke in a whisper and with difficulty. Three days later anæsthesia of the feet and hands appeared, and the tendon reflexes were lost. The pain became so severe that morphine was given to control it. The paralysis became more complete, the anæsthesia increased, incontinence of urine and fæces developed, she appeared to be very feeble, and respiration became wholly thoracic. Seventeen days after admission to the hospital she died.

Autopsy showed brain and cord normal. The chief nerve-trunks of the extremities, and the phrenic and pneumogastric, were in a condition of degeneration, the distal ends being affected to a greater degree than the central portions. "The simplest change found was in the medullary sheath at Ranvier's constrictions, without break in the axis-cylinder, and without increase of nuclei." In some nerves extensive degeneration was found, the medullary sheath being broken up into fatty fragments, the axis-cylinder discontinuous or destroyed, and the number of nuclei increased. In the fibres which were most altered was found an increase of nuclei; and apparently small masses of protoplasm, not nuclei, were tinted in the midst of the granular débris. Nearer the root of the nerves axis-cylinders were more numerous. In the sciatic the sections from the highest part of the nerve, which had been preserved, were still diseased in a small proportion of their fibres.[2]

A very similar case, with the same changes in the nerves, is recorded by Müller.[3]

[1] Strümpell: Arch. f. Psych., 1883, xiv., 339.
[2] RD = reaction of degeneration; AnCC = anode closure contraction; KCC = cathode closure contraction.

[1] Strümpell: Arch. f. Psych., 1883, xiv., 2.
[2] S. G. Webber: Arch. of Med., 1884, xii., 33-49.
[3] F. C. Müller: Arch. f. Psych., 1883, xiv., 3.

The following case, under my own care, terminated favorably :

Observation XI.—Male, aged thirty-six, a hard drinker, after an attack of gastritis became paralyzed suddenly in both legs. A few days after this, both hands became useless, so that he was completely helpless. His wife says that his memory is quite gone. On admission to Bellevue Hospital, September, 1880, seven weeks after the onset, he complained of pain in all four extremities, and of tenderness in the muscles and joints when these were handled. The upper extremities were almost totally paralyzed below the elbows, the only motion possible being a slight flexion of the fingers. There was wrist-drop on both sides. The lower extremities were totally paralyzed below the knee, and the feet hung down motionless. The muscles of the thighs were also affected, for although he could pull his legs up in bed, it was with great difficulty that they could be straightened out. All the paralyzed muscles were atrophied, and the faradic reaction was lost in the extensors and greatly diminished in the flexors. The galvanic reaction was not tested by me from lack of apparatus. Tactile sense was considerably impaired, but the senses of pain and temperature and muscular sense seemed to be natural. The knee-jerks were lost. When an attempt was made to have him stand, the feet were pushed out and the knees doubled under him at once. Fibrillary twitchings were very noticeable in the atrophied muscles, and a marked tremor of the tongue was seen. The facial and ocular muscles were not affected, and the special senses were normal. There was no incontinence of urine and no symptom of thoracic or visceral disease. His mind was much impaired. He talked in a rambling manner, laughed much, could not fix his attention, and his memory was so poor that no reliance could be put in his statements. Under treatment by iodide of potash, and complete cutting off of all stimulants, he began at once to improve. In two months from the time of admission he was able to walk, and one month later he was discharged perfectly well.

These cases are sufficient to present a clinical picture of the symptoms and course of the forms of alcoholic multiple neuritis. The differential diagnosis, elements of prognosis, and means of treatment will be considered when other classes of the disease have been studied.

(*b*) *Multiple neuritis due to poisoning by arsenic.*[1]—It has long been known that an occasional result of arsenical poisoning is the development of paralysis, but it is only within the past four years that the fact has been determined that the symptoms in these cases are due to an affection of the peripheral nerves. Had the fact of the peripheral origin of alcoholic paralysis not been already proven, it is probable that the theory so long in vogue, that arsenical nervous symptoms were due to spinal lesions, would still prevail. But there is such a similarity between the two sets of cases, that it is impossible to ascribe them to other than the same pathological condition. Autopsies in support of the position that the peripheral nerves are involved are few in number, but in several cases the lesion has been found. The observations on record of spinal lesions are, it is true, more numerous; but when these are compared it is found that different lesions have been discovered in different cases, so that there is no single pathological change in the spinal cord which is constantly produced by arsenic. Further, some of the changes described in experimental cases in animals (viz., vacuolization of cells) are due to imperfect hardening of the specimens. It must, therefore, be admitted that multiple neuritis may be due to arsenical poisoning.

The changes produced in the nerves are so exactly similar to those already described, that there is no need of a recital of the pathological process.

The nervous symptoms produced by arsenic have been thought to vary somewhat, according as the ingestion of the poison has been a sudden or a gradual one. Brissaud claims that if there is slow poisoning, as, for example, by the long-continued use of Fowler's solution, paralysis is rather the exception, and is not severe, it is diffuse and transient; while other symptoms, such as gastro-enteritis, trembling, delirium, and aphasia attract the chief notice. If there is acute poisoning from an overdose of arsenic, he holds, on the other hand, that paralysis ensues either during the period of active symptoms of poisoning, or soon after. The observations of other equally careful authors do not entirely support this view of Brissaud; for in two cases of Dana, one of acute, the other of chronic poisoning, very similar symptoms of paralysis and ataxia developed.

The description which has been given of alcoholic paralysis might almost be repeated for arsenical paralysis. There is the same limitation of the affection to the muscles of the distal parts of the extremities, the extensors being chiefly affected, and the weak muscles are flaccid, soft, and atrophied. There is a partial reaction of degeneration. The tendon reflexes are abolished; skin reflexes are preserved. There is often a marked tremor. The paralysis may begin either in the feet or in the hands, is usually bilateral, but has been in four cases of the hemiplegic type. The same dropped wrist and dropped foot are seen as in alcoholic cases. Disturbances of sensibility are prominent symptoms; burning, tearing, shooting pains; formication, tingling, muscular, and arthritic pains and tenderness are associated with hyperæsthesia, and this may be followed by irregular patches of anæsthesia. The muscular sense is usually impaired, and so much so in some cases that an attempt has been made to establish a distinct class of cases as arsenical ataxia, or pseudo-tabes arsenicale. In these cases the inco-ordination of hands and feet, Romberg's symptom, and an awkward gait are very noticeable, so that tabes may be suspected until the history makes the causation evident. In a case of Dana's the patient could not tell the position of his limbs or distinguish between weights differing one to forty. In Scolozouboff's case the walk resembled that described by Westphal in alcoholic tabes, and was easily distinguished from a real ataxic gait. Seeligmüller and Dana, however, affirm that the gait in their cases was like that of locomotor ataxia. Occasionally œdema of the extremities, cyanosis, unusual sweating, and extensive desquamation indicate an implication of vaso-motor and trophic nerve-fibres. In the most severe cases contractures in a flexed position developed in the paralyzed limbs. The sphincters are never involved. The duration of arsenical paralysis is somewhat greater than that of ataxia. Either condition may last several months, but occasionally the recovery is complete in a few weeks. Frequently, after the power has returned, the patient suffers for months from numbness and tingling in the extremities, which is sufficient, as in a case under my own observation, to interfere with the finer motions, to disturb the sleep and cause constant discomfort. According to Gerhardt's statement (cited by Dana), ninety-seven per cent. recover wholly.

(*c*) *Multiple neuritis due to poisoning by lead.*—It is not my purpose to enter upon any description of the various forms of lead palsy, which are familiar to every practitioner. Nor is this the proper place for a discussion regarding the various theories of the pathology of the disease. It is only necessary to call attention to the fact that there are now on record a number of autopsies in cases of lead paralysis in which the lesion has been found in the peripheral nerves. In a recently published case of Schultze[1] there was found a very marked atrophy and disappearance of nerve-fibres in the trunk of the

[1] Scolozouboff: Arch. de Phys., 1884, p. 323; Imbert Gourbeyer: Des Suites de l'empoisonnement arsenical, Paris, 1881; Seeligmüller: Deut. Med. Woch., 1881, p. 185; Lancereaux: Gaz. Hebdom., 1881, p. 719; Jaeschke: Thèse Breslau, 1882, Ueber Lähmung nach acuterar senik Vergiftung; Levin: Schmidt's Jahrbuch, Bd. 165, p. 239; Da Costa: Phil. Med. Times, 1881, p. 385; C. L. Dana: Brain, January, 1887; Brissaud: Paralysies toxiques, Paris, 1886.

[1] F. Schultze: Ueber Bleilähmung, Arch. f. Psych., xvi., p. 791.

musculo-spiral nerve, below the point where the branch to the supinator longus was given off. This decreased in intensity centrally, so that at the brachial plexus no anomaly was found. It increased in intensity toward the termination of the nerve in the muscles. The spinal cord was normal. This is simply a type of a number of recently published cases. On the other hand, there are numerous cases of this disease in which decided spinal lesions have been found—so numerous that many writers always ascribe the disease to destruction of certain groups of cells in the anterior cornua of the spinal cord. It must be admitted, therefore, that in lead we have a poison which, under certain circumstances, affects the spinal cord, and under other circumstances produces neuritis. It may be claimed that the same is true of alcohol and arsenic, and in showing that these poisons can cause neuritis there is no intention of defending the position that they never affect the central nervous system. But it is important to notice that the central organs are rarely involved. The limitation of the neuritis in lead palsy to the motor nerves makes the clinical picture in some cases resemble closely that of spinal disease. In illustration of this the following case is cited:

Observation XII.—A male, aged thirty-six, by occupation a dyer, had suffered from numerous attacks of lead colic, followed by general muscular weakness, which on one or two occasions was so great as to be a general paralysis rather than a simple weakness, and had finally developed a paralysis of the extensors of arms and legs, when admitted to the hospital, where he spent the last three years of his life. During this time his paralysis varied somewhat in degree, but was never entirely recovered from. The muscles affected were the extensors of arms and legs. These were much atrophied, and showed a loss of faradic reaction, and a characteristic change in the galvanic reaction, the anode producing stronger contractions than the cathode, and all contractions being slow. There was also a considerable degree of œdema in the extremities, especially in the legs. Spasms in the unparalyzed flexors occurred on one occasion for one day. The patient suffered also from the symptoms of cardiac disease and phthisis, to which he finally succumbed.

The autopsy showed no changes in the brain or spinal cord. The muscular branches of the peripheral nerves, although presenting no macroscopic changes, were found in a state of extreme degeneration when examined microscopically. Side by side with normal fibres were to be seen fibres, unstained by osmic acid, wholly destitute of myelin sheath. There was no fatty degeneration. Between the fibres a thick, finely fibrillary connective tissue, with small cells, was found. Transverse sections of the nerve-trunks showed a large number of small fibres scattered among the normal fibres, but not collected into bundles, and it was often difficult to distinguish naked axis-cylinders from connective-tissue fibres. The lesion was an increase in the connective tissue of the endoneurium with simple atrophy of the nerve-fibres of different grades.[1]

But in a certain proportion of the cases of lead palsy there are marked sensory disturbances, consisting of severe pains, and anæsthesia, with numbness. In these it is possible, especially if tenderness along the nerves and in the muscles is present, to make the diagnosis of multiple neuritis. The history of the following case, under my care, coincides so closely with that of other toxic cases of neuritis that the diagnosis could not be mistaken.

Observation XIII.—Male, aged thirty-eight, after suffering from an attack of lead colic, began to feel numbness and pain in his legs and feet, which soon extended to his hands and forearms. This steadily increased for two weeks, and to it was added paralysis of the extensors of both hands and both feet, so that at the end of that time he was unable to use his hands or to stand. With the paralysis there was a rapid atrophy of the muscles, and a decline in the faradic excitability. The muscles became more and more tender, and the spontaneous pains gradually increased until it was necessary to use opium freely to quiet them. By the end of a month a well-marked anæsthesia had developed below the knees, and it was noticed that the atrophied muscles were in a constant tremor. There was wrist-drop and foot-drop on both sides, and all reaction to faradism ceased. It required a very strong galvanic current to produce contraction, and ACC was greater that KCC. The knee-jerk was preserved. The muscular sense was impaired. For five months his condition remained stationary, in spite of treatment by strychnia, iodide of potash, massage, and electricity. Then a gradual improvement set in, the pains became less severe, sensation returned, the muscles regained their contour and strength, and finally the electric contractility returned to the normal standard. About a year from the onset of the symptoms, the recovery was complete.

(*d*) *Multiple neuritis from poisoning by sulphide of carbon*[1] *and from illuminating gas* has been suspected, and the similarity of the symptoms in such cases to those already described is quite remarkable. But as there are no autopsies to substantiate the theory, this cause is merely mentioned.

II. Multiple Neuritis consequent upon Infectious Diseases.—There are a number of infectious diseases which are especially liable to be followed by the development of nervous symptoms. These are diphtheria, variola, typhoid, typhus, and scarlet fever, malarial fever, and tuberculosis. The nervous affection usually appears shortly after the period of convalescence in the acute fever. The disease may consist of a simple paralysis of the muscles in the region of distribution of a single nerve. It may affect several nerves on both sides of the body symmetrically. It may even paralyze two or more limbs. It occasionally produces sensory as well as motor symptoms in a single nerve-trunk. It may even cause a general sensory and motor paralysis of as widespread and complex a kind as that produced by chronic alcoholism. Sometimes the symptoms are chiefly of a sensory kind, and consist exclusively of pains, numbness, and anæsthesia, or hyperæsthesia, in the legs, or of a loss of the muscular sense, in which case a true ataxia is the most noticeable symptom. Thus it is evident that the poison of an infectious disease may act as powerfully upon the nervous system as any other form of poison known.

It is only since the clinical pictures presented by multiple neuritis have been recognized that a question has arisen as to the part of the nervous system affected in these cases. Formerly all such phenomena were referred to central lesions; and undoubtedly in many cases this was justified, since autopsies are not wanting to prove that anterior poliomyelitis, diffuse myelitis, and hemorrhages into the cord and brain may follow the acute fevers. There are, however, many conditions which do not correspond to the types of disease produced by central lesions and which recover with a rapidity impossible were the brain or spinal cord involved. It was these cases which raised the question of some possible affection of the peripheral nerves. And careful investigation has been rewarded by the actual discovery of lesions in them.[2]

(*a*) Diphtheritic paralysis is probably more common than any other of these forms of neuritis. As is well known, it is usually the soft palate to which the paralysis is limited, and as a result difficulty in swallowing and in speech are the most prominent symptoms. Bernhardt has found[3] that in the large majority of cases of this kind there is a loss of the patella tendon reflex, but whether this indicates any general affection of the peripheral nerves he does not venture to state. The limitation of the

[1] Eisenlohr: Deut. Arch. f. klin. Med., 1880, xxvi., p. 543.

[1] Ross: Medical Chronicle, January, 1887.

[2] Pitres et Vaillard: Rev. de Médecine, 1885, p. 986; 1886, p. 193 et p. 574, Des Névrites Périphériques chez les typhoïdes, les tuberculeux et les tabétiques; also, Arch. de Neurol., 1886, p. 337, De la névrite segmentaire.

[3] Virch. Archiv, 1885, Bd. 99, s. 393.

paralysis to the palate has been explained by supposing that the poison of the disease has a direct action upon the terminal filaments of the nerves, which in this position are, as it were, dipped constantly in the poison. This theory is supported by a case in which paralysis of the abdominal muscles was associated with diphtheritic inflammation of the navel in a new-born child. But the more serious cases prove that through the blood the poison may be carried to nerves far removed from the seat of the diphtheritic inflammation.

And the following cases demonstrate the wide-spread symptoms which such general poisoning can produce, as well as the nature of the lesion.

Observation XIV.—Marie S——, aged thirteen, after suffering for a few days from a slight sore throat, found herself unable to see clearly because of the development of a paresis of accommodation. There followed a slowly progressing ataxia of the upper, and later of the lower, limbs, with uncertain gait, disturbance of touch, pain, temperature, and muscular senses, with delayed sensation of pain and loss of tendon reflexes. At first she felt shooting pains in the limbs, but later these ceased. There was at no time tenderness of the nerves to pressure. After three months bulbar symptoms appeared, atrophy, with paresis of the tongue, difficulty in swallowing, spasms of coughing, weakness of voice, and paralysis of the palate. The muscles of the hands began to atrophy about the time that the bulbar symptoms commenced, and soon were useless. In the atrophic muscles the faradic reaction was absent, the galvanic much reduced, and very slow. Nine months after the onset she died of pneumonia.

The autopsy showed the brain and spinal cord to be normal. In all the peripheral nerves of the extremities, as well as as in the hypoglossal and recurrent laryngeal nerves, well-marked atrophic degeneration was found, with destruction of axis-cylinders and medullary sheaths, and with thickening and increase of nuclei in the connective-tissue sheaths.[1]

Observation XV.—Male, aged seventeen, after an attack of diphtheria grew gradually weaker and weaker, developed paralysis of the uvula and paralysis, with some atrophy, in the muscles of all the limbs, and a slight paralysis of the face and tongue. There was no real ataxia, the muscular sense being normal, but the weakness of the muscles interfered with all accurate movement and caused trembling. The eyes were not affected. There was a slight decrease of tactile sense all over, but pain-sense was slow and imperfect. The reflexes were lost, electric reaction was normal in all muscles except the palate, in which RD was found. The sphincters were unaffected. The paralysis involved the respiratory muscles three weeks after the onset of the disease, and caused his death.

The autopsy showed extensive parenchymatous neuritis in all the peripheral nerves. The various stages of degeneration were found side by side in many nerves, and all degrees of degeneration were discovered. The nerves of the extremities, as well as the phrenics, showed these changes. Some nerve-fibres had simply lost their myelin sheath, others were reduced to a series of granular corpuscles; others consisted only of the empty Schwann sheath, whose nuclei were numerous. In many nerves the lesion only involved a few segments, and was not continuous through the entire length. At places circumscribed thickening of the endoneurium produced nodular appearances in the course of the degenerated nerve. Here congestion and emigration of leucocytes were found. The perineurium was unaffected. In almost all the muscles of the extremities and trunk such degenerated nerve-fibres were found. The cutaneous nerves were similarly affected, but to a less degree. The nerve-trunks were but slightly affected, as were also the nerve-roots. The spinal ganglia and cord were normal.[2] The limitation of the degeneration to single segments has also been noticed by Gombault and by Pitres et Vaillard.[1]

Observation XVI.—A boy, aged eight, developed paralysis of the soft palate one week after an attack of diphtheria. This continued for one month, when there suddenly appeared a weakness of all the extremities, and some disturbance of sight. Examination of the eyes showed a complete paralysis of all the recti muscles, with double ptosis, the accommodation and pupil reactions being preserved. The right side of the face was paretic. There was a very marked ataxia in all the limbs. It was with difficulty that he could carry food to his mouth, and he walked with much staggering, and with legs wide apart. Power and nutrition of the muscles was normal, and there was no change in their electric contractility. The tendon reflexes were absent, but the skin reflexes were preserved; and there was no disturbance of sensation or of bladder and rectal functions. The symptoms all increased for ten days, and then respiratory paralysis caused his death.

It was possible to examine the brain only. The small vessels and capillaries were engorged, and the perivascular spaces full of emigrated corpuscles, while here and there small capillary hemorrhages were found. The vessel-walls were not affected, and there were no thrombi discovered. The nuclei of the cranial nerves showed no changes. Both oculo-motor nerves were the seat of very great changes. The myelin sheath of individual nerve-fibres absorbed the carmine stain. In many fibres no axis-cylinder was to be seen. In others the cylinders were swollen or atrophied, presenting variations in size. The number of nuclei of the endoneurium was greatly increased, and among them large granular corpuscles were discovered.[2] The lesion, therefore, which had caused the ocular paralysis was a diffuse neuritis.

A similar affection of the ocular muscles, associated with general weakness, has been reported by Utthoff,[3] which developed two weeks after an attack of diphtheria in a boy, ten years of age, and who at the end of three months had completely recovered. In this case all reaction of the pupils in accommodation was lost, but the light reflex remained. The eye symptoms were attended by some paresis, especially in the legs below the knees—but the muscles were not atrophied, nor was their electric contractility altered. There was a very marked tenderness along the course of all the nerve-trunks. After recovery was complete the knee-jerk returned.

I have seen a case which resembled this quite closely, and inasmuch as paralysis of all the ocular muscles appears to be a rather rare affection, the case may be worthy of mention here.

Observation XVII.—A boy, aged thirteen, after an attack of diphtheria developed paralysis of the soft palate. One week after the paralysis of the palate he noticed a disturbance of vision, which proved on examination to be due to a total paralysis of all the muscles of the eyeballs. The pupil reflex to light was preserved; but as he could not converge the eyes there was no reaction in accommodation. This paralysis of the eyeballs came on within twenty-four hours, and at the same time he developed a very marked degree of ataxia. He swayed in standing with eyes closed, and his gait was exactly like that of a well-marked case of tabes. The motion of the hands was also disturbed, and all the tests demonstrated an extreme degree of inco-ordination. The knee-jerks were lost; the skin reflexes were present. In addition to the ataxia there was actual weakness of the muscles, which was more evident in the arms and hands than in the lower extremities. He had formication in the legs, but not in the hands, and there were no lightning pains. He had great difficulty in swallowing solids as well as liquids, which seemed to point to some involvement of the muscles of deglutition as well as of the soft palate. This condition

[1] Kast.: Deut. Arch. f. Klin Med., 1886 Bd. xl., s. 41.
[2] P. Mayer: Virch. Arch. 1881, Bd., 85, s. 181–226.

[1] Arch. de Neurol., xi.
[2] Mendel: Neurol. Centralbl., 1885, p. 128.
[3] Neurol. Centralbl., 1885, p. 125.

remained stationary for about three weeks, and then all the symptoms began to pass off gradually. His recovery was not complete until six months after the onset.

The prognosis in cases of diphtheritic paralysis is usually very good, the fatal cases here cited being rarities. The treatment consists in general tonic medicines, and the application of electricity to the limbs in the same manner as in other cases of neuritis.

(*b*) Neuritis following variola is a rare complication, and the following case is the only one on record in which an autopsy proved the seat of the lesion.

Observation XVIII.—A young man had varioloid in November, 1881, and while convalescing, six weeks later, began to suffer from severe pains in his four extremities, especially in the joints of his arms, which were diagnosticated as rheumatic, although there was no fever. Soon after there followed a true paresis, with progressive atrophy of the muscles of forearms and legs. The muscles at the same time became very tender to touch or pressure. The tendon reflexes were much diminished. Reaction of degeneration developed in all the paretic muscles. The pains in the joints and limbs continued, but were less severe than at the outset. The sensibility of the skin was about normal. The nerve-trunks were tender to pressure. Profuse, offensive perspiration in all four extremities was a distressing symptom. There was no tendency to bed-sores, but an extensive pemphigus developed in the legs, and then the pains became more severe. The patient died in July, 1882, of pneumonia.

Autopsy showed the brain œdematous, and the cord in a state of hypostatic congestion. The pathological changes of importance were found in the nerves and muscles. The majority of the nerves of all the extremities were found in a state of degeneration and atrophy. There was marked degenerative atrophy and fatty degeneration of the muscles.[1]

(*c*) It is still somewhat a matter of conjecture whether cases of paralysis following typhoid, typhus, and malarial fevers are due to an affection of the peripheral nerves or of the spinal cord. The researches of Pitres and Vaillard[2] have shown that extensive degeneration of peripheral nerves is to be found in the bodies of patients who have died of typhoid fever, and they have also demonstrated that these fevers are often followed by local neuritis as a sequel. Cases of multiple neuritis with autopsies have not as yet been reported after typhoid or typhus; but Buzzard has recently recorded[3] two cases, following malarial fever, in which all the symptoms pointed to an affection of the peripheral nerves. In this country Gibney has described several cases of paralysis of the extremities, of sudden onset, rapid course, and prompt recovery under large doses of quinine, which he considered malarial. Probably the following case, which was kindly sent to me by Dr. L. E. Holt, was of this nature:

Observation XIX.—Peter S——, aged ten, a healthy boy, was suddenly seized with a chill and fever, and with pains of a severe kind in both legs, associated with weakness so that he could hardly stand. The pain was referred to the sciatic nerves, and was accompanied by numbness and tingling of the feet and legs. There was marked tenderness both in the course of the sciatics and in the muscles of the thigh and leg. There was loss of tendon reflexes, preservation of skin reflexes, and marked paresis in all the muscles of the legs, so that he required help in walking. There was no ataxia, and no incontinence of urine. The symptoms lasted about twenty-four hours, and then decreased in severity gradually during the following day, but recurred on the third, and, after a remission, on the fifth day, with lessened severity. The periodicity of the affection and the rapid cure under quinine left no doubt as to its malarial nature. During the third day, at the time when I saw him, there was redness along the course of the sciatics, and in the region of the right median nerve, and extreme tenderness along these nerve-trunks, in addition to the symptoms mentioned. The electric condition was, unfortunately, not tested; but in Westphal's case faradic contractility was totally abolished during the attack.[1] In this case the active manifestation of the malarial poisoning was by a general neuritis. In Buzzard's cases the malarial attacks preceded the nervous affection. The tenderness in muscles and nerves left no doubt regarding the peripheral nature of the disease.

And here I may suggest that it is possible that many minor nervous affections of transient nature and of malarial origin, if more carefully examined, will be found to be due to some abnormal condition in the peripheral nerves. I allude not only to neuralgiæ, but also to visceral neuroses, whose clinical features have been so graphically described by Dr. Clifford Allbutt,[2] and to numb fingers and toes, and to hyperæsthetic and painful areas on the surface, and that host of symptoms of a local character so often carelessly ticketed neurasthenia and dismissed from consideration as soon as named. There is much in the study of the phenomena of neuritis to enforce this suggestion which cannot be developed here.

(*d*) We come, lastly, to those cases of multiple neuritis which occur in tubercular patients, or in those who have had syphilis. If a review of the cases of multiple neuritis already cited be made, it will be found that quite a number of the patients died of phthisis. This was true of the cases of Joffroy, Eisenlohr, Strümpell, Webber, and Müller. Oppenheim[3] has reported cases of multiple neuritis in tubercular patients which went on to recovery. The following case died:

Observation XX.—A young girl, who had had syphilis, and was suffering from phthisis, took a severe cold and began to have pains in the joints, weakness, and numbness of the lower extremities. The weakness of the legs increased rapidly, and was attended by rapid diffuse atrophy. The same symptoms soon developed in the arms. Four weeks after the onset partial RD was present in all the extremities, and total paralysis of the legs and nearly complete paralysis of the arms were present. In the course of the disease, which lasted five months, there was little pain, but great tenderness of the muscles and hyperæsthesia of the skin. The sensation was diminished in feet and hands, but this was slight in comparison with the motor symptoms. The paralysis finally attacked the trunk muscles and the diaphragm, while the beginning of rapid heart action was thought to indicate paralysis of the pneumogastric nerve. Great prostration, delirium, incontinence, bed-sores, and œdema of extremities, with fever, preceded death.

Autopsy: High degree of degeneration of the peripheral nerves, including the phrenic and pneumogastric, was found, with a moderate degree of atrophy of the muscles. Cord normal, anterior motor roots normal. The changes in the nerves were similar to those after section, viz., a simple degeneration of the fibres with some increase in the connective tissue, but there were no evidences of changes in the vessel-walls, no infiltration with cells. The nerves contained very few normal fibres. The myelin sheaths were found in all stages of destruction, down to an entire absence of contents of the sheath of Schwann. Throughout the fibres fatty and granular masses were found. The sheath of Schwann did not, however, show an increase of nuclei.[4]

Such a case as this would have been ascribed, a few years ago, to a tubercular spinal meningitis, as would many of the other cases already alluded to. It is not my purpose to dispute in any way the fact that many cases of paralysis occurring in the course of phthisis are due to lesions of the central nervous system and its membranes; but I desire to emphasize the fact that a multiple neuritis may produce paralysis in tubercular individuals,

[1] P. Grocco, Milano, 1885; Centralbl. f. Med. Wissen., 1885, p. 693.
[2] Rev. de Med., Des Névrites périphériques, 1885, p. 980.
[3] Paralysis from Peripheral Neuritis, p. 104.

[1] Neurol. Centralbl., 1885, p. 287.
[2] Gulstonian Lectures, 1884.
[3] Oppenheim: Zeitschr f. Klin. Med., 1886, p. 230.
[4] Vierordt: Arch. f. Psych., 1883, xiv., 3.

and the importance of appreciating this possibility cannot be too strongly urged, since the treatment, as well as the prognosis, will differ widely according to the diagnosis made. It has been known for some time that local neuritis may complicate phthisis, and the researches of Pitres and Vaillard have recently confirmed this fact. But the complication of multiple neuritis is one not mentioned in the text-books, and yet is one which is by no means rare. It seems not unlikely that some of the nervous symptoms in consumption, formerly considered functional, may be traced to this affection.

Although syphilis has been described as a cause of neuritis, I cannot find that the lesion in the few cases examined has had the peculiar characteristics of syphilitic lesions elsewhere in the body, and therefore it seems to me doubtful whether we are justified in describing a syphilitic multiple neuritis. Further facts are needed to establish its existence.

(*e*) It only remains to consider briefly the epidemic form of multiple neuritis, and our study of the infectious cases will be complete.

In 1882 Professor Scheube, of Tokio, Japan, called the attention of European physicians to the existence of a peculiar affection prevailing among the Japanese.[1] It was called kakke; from two Chinese words, *kiaku*, meaning legs, and *ke*, meaning disease. It had been known among the Chinese for centuries, being mentioned by name in Chinese medical books written two hundred years before the birth of Christ, and fully discussed by an eminent author in 640 A.D. It ceased, however, to prevail in China about two hundred years ago, and its ravages are now confined, according to Scheube, to Japan. There its importance is considerable, since it is so prevalent that in 1877 fourteen per cent., and in 1878 thirty-eight per cent., of the men serving in the army suffered from it. It is considered a miasmatic infectious disease by Scheube, although an eminent Japanese authority considers it due in some way to the diet of rice. That diet has something to do with its occurrence is proven by the fact, communicated to me by Dr. Wallace Taylor, that since wheat has been substituted for rice in the diet of some of the barracks and prisons in Japan the disease has been less common. It occurs in epidemics, but is always endemic in Japan. It does not attack Europeans. It affects females rarely, only nine per cent. of the cases being in women; and it is the youth of the land, between the ages of sixteen and twenty-five, who are attacked. Exposure to damp and cold in crowded dwellings, such as barracks, increases the liability to the affection. The majority of the cases occur during the hot months, but some are always under observation. This disease is not, however, confined to Japan. It has been observed for many years in the islands of the Pacific Ocean, in India, Ceylon, on the west coast of the Red Sea, in Borneo and New Guinea, in Brazil and Cuba, and its prevalence in the Dutch possessions in the China Sea has made it familiar to physicians from Holland who have visited these colonies. It is there known under the name of beriberi. It is endemic in these regions, but occasionally occurs as an epidemic. An interesting account of such an epidemic, occurring in 1882–83 in Manila, the chief city of one of the Philippine Islands, has been given by Dr. Koeniger.[2] It appears that in the fall of 1882 an epidemic of cholera occurred in Manila, of such severity that twenty thousand persons, in a population of four hundred thousand, were affected. As a precaution against this disease the native population lived for several months almost exclusively upon rice, refusing to eat fruit or fish, which are their other chief articles of diet. As the epidemic was subsiding a terrible cyclone devastated the city, destroying the light wooden houses, and leaving sixty thousand families homeless; and these poor people were exposed for several weeks to the inclemency of the weather, which at this time of the year is rainy. A few days after the cyclone the epidemic of beriberi began, and as the disease had never before appeared in Manila the unknown affection excited great alarm. This was increased by its fearful mortality, sixty per cent. of the early cases proving fatal. Europeans were exempt, with two exceptions, and the Chinese population did not suffer greatly, but among the natives the epidemic was wide-spread. Thus, in one suburb of Manila, of twenty-five thousand inhabitants three hundred died in the course of eight weeks. Men and women were equally affected, and persons of all ages, except young children were attacked. The disease terminated fatally in from ten days to five weeks after its onset; but as time went on the proportion of recoveries increased, and by the end of March, 1883, it had almost disappeared. The months from October to March are the dry, cool season in the Philippine Islands, although the climate is tropical. Exposure to heat could hardly be considered a cause of this epidemic, but whether the exposure to cold and damp, or the diet of rice, or the transportation of some infectious agent by the cyclone was the cause, gave rise to much discussion, and could not be determined.

Sporadic cases of beriberi, or kakke, occasionally appear in our hospitals, usually in the persons of Chinese or Malay sailors, or in the persons of travellers from tropical climates who have been exposed to the infection in the place from which they came. Three such cases have recently been reported by Dr. Seguin, of this city,[1] in patients who came from the West Indies, and a case observed in Bellevue Hospital, by Dr. J. West Roosevelt, was discussed in the Academy of Medicine recently. In 1881 a Brazilian naval vessel entered San Francisco with a large number of the crew affected by the disease. They were sent to the United States Marine Hospital, and attended by Dr. Hebersmith, who gave an interesting account of the circumstances leading to the development of the disease in the United States Marine Hospital Report.[2] From this report the following map is taken, which demonstrates the localities in which beriberi is endemic.

Only last year a commission was appointed by the Dutch Government to investigate the subject of its nature, and the recently published report contains the following statements:[3] The disease is caused by a micro-organism resembling the bacillus of splenic fever, though somewhat smaller, which colors with fuchsin and gentian-violet, and can be seen with a power of 560°. These bacilli are found in the blood, lungs, heart, brain, cord, and nerves of the patients, and can be cultivated outside of the body. The germs infect wooden dwellings chiefly. They may be conveyed by articles of clothing, and probably enter the body by the lungs. Direct contagion has not been observed. A potent predisposing cause to their reception in the body and to the development of the disease is lack of nutrition, consequent upon exposure to damp and to cold, and upon insufficient or bad food. It must, however, be added that a most thorough examination in Dr. Roosevelt's case, by Dr. Prudden, failed to reveal the presence of such bacilli.

In the light of these recent investigations a new view is taken of an epidemic of a peculiar kind which occurred in France in 1828. Buzzard has found an account of this, prepared by Graves, in which the symptoms are so fully detailed as to leave no doubt that it was an epidemic of multiple neuritis.[4]

The cases of beriberi are divided into two general classes, according to their severity.

There are, first, slight cases, in which the onset is gradual, being usually preceded by a little fever, coryza, and conjunctivitis, which cease when the actual symptoms commence. The patient first notices a weak and heavy feeling in his legs, and finds that he tires so easily that

[1] Deut. Arch. f. Klin. Med., xxxi. and xxxii. [2] Ibid., xxxiv.

[1] Medical News, Philadelphia, December 11, 1886.
[2] Marine Hospital Report. 1881.
[3] Deutsche Med. Woch., December 9, 1886 (an abstract only is given). See also Harada: Neurol. Centlbl., 1885, p. 326.
[4] Buzzard: On Paralysis from Peripheral Neuritis, p. 37.

he cannot walk as much as usual. The tired feeling is soon associated with numbness and pain in the legs, and with a slight œdematous swelling. Then, if not before, palpitation of the heart, oppression and weight in the epigastrium, loss of appetite, and general malaise are felt, and the patient finds it necessary to apply for treatment. An examination then shows some diminution of power in the feet and legs, and also in the hands, with loss of tendon reflexes, and much tenderness in the muscles, which show a diminished electric excitability. There is never any ataxia, though the patient sways when his eyes are closed. There is discovered a slight degree of anæsthesia, of irregular distribution, chiefly in the legs and in the radial-nerve region on the forearms. Though the patients look pale, it is usually impossible to find anæmia by examination of the blood.[1] The circulation in the extremities is sluggish. The heart is irregular and rather rapid, and the œdema of the extremities indicates a failure of its power. Dr. Wallace Taylor[1] finds that a sphygmographic tracing is characterized by a sudden high upstroke in ventricular systole, by a precipitous descent from the apex of the percussion-wave, and by dicrotism. Beyond this point these cases, which make up the majority, do not advance. They usually recover in a few days, or at most a month; although a few become chronic and require several months before the cure is complete.

There are, secondly, severe cases. These may present three different types. There is the atrophic or dry type, in which, after an onset similar in nature to that in the slight cases, but much more rapid, the weakness develops into a true paralysis, associated with marked wasting of the muscles and reaction of degeneration, with great diminution of galvanic excitability. Within a week the patient has to go to bed, and then the paralysis soon spreads from the legs to the arms, and may involve the trunk and even the face. The entire muscular system wastes away till the patient is a mere skeleton. In addition to the motor symptoms there is great sensory disturbance. The suffering from pain, paræsthesiæ, and general muscular tenderness is extreme, and the patient lies totally helpless and unable to tolerate the lightest touch. The skin may be glossy. There is usually some anæsthesia, but it is never complete, although it may involve the entire body. The temperature sense is seldom affected. Pain may be delayed in transmission. There are no gastric symptoms, and no œdema. Some cases prove fatal from general exhaustion, or intercurrent disease, but the majority recover after a convalescence which lasts a year or more, during which the muscular system is rebuilt.

There is, secondly, the hydropic or wet type. In these, heart-failure appears early, and is associated with a marked decrease of arterial tension and much œdema of the entire body, effusion into the cavities being added to that beneath the integument. The swelling of the edematous parts conceals the atrophy which is going on in the muscles, but this is indicated by the paralysis, which is as severe as in the preceding form, and it becomes evident during recovery when the œdema has subsided.

There is, thirdly, the acute pernicious type. In this all the symptoms of the two former types appear in rapid succession, and, in addition, gastro-intestinal symptoms and a suppression of urine combine to make the condition an alarming one. Effusions into the pleura and pericardium appear early. The pulse becomes small and irregular, and cyanosis indicates the heart-failure which precedes death.

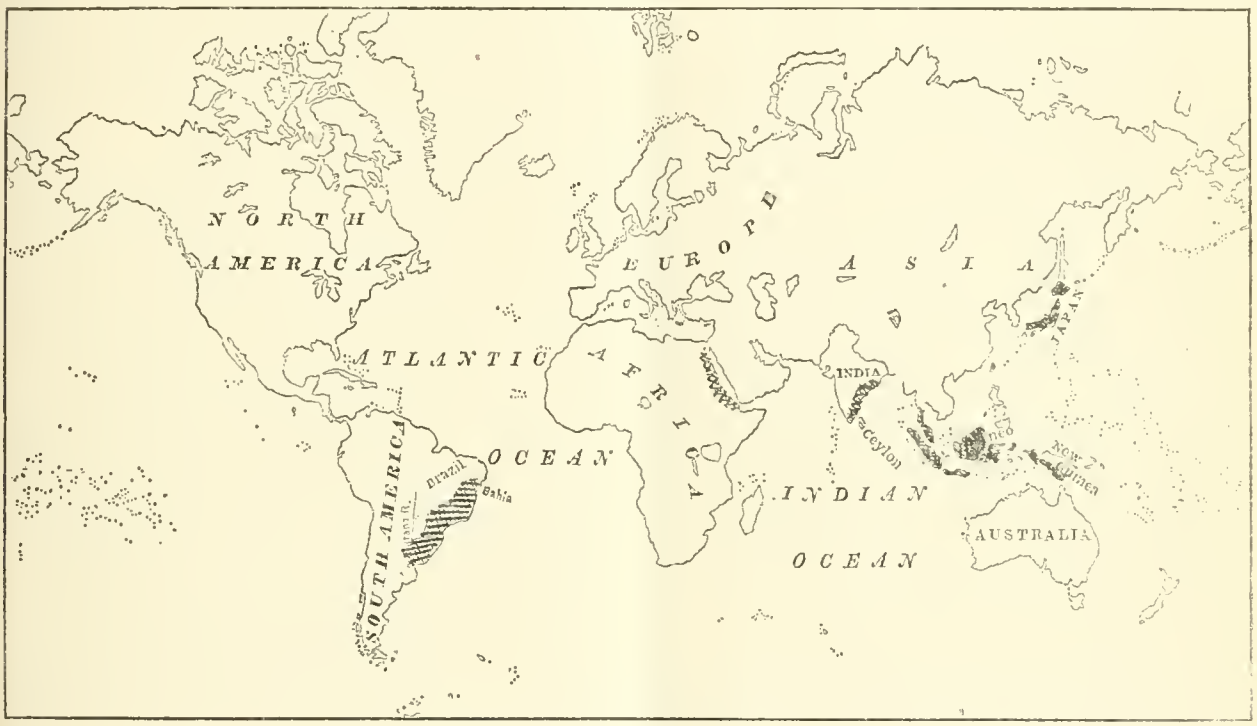

FIG. 6.—Sketch Map indicating the Geographical Distribution of Beriberi. (From United States Marine Hospital Report, 1881.)

In this form the disease may run its course in two weeks to a fatal termination. This was the form which chiefly prevailed in Manila, the cases of the atrophic form being the ones which recovered.

The severity differs much in different epidemics, the mortality varying from two per cent. in Japan to sixty per cent. in Manila. It is usually not above three per cent. In all the forms there is some danger of a sudden heart-failure, and this is usually the cause of death.

The morbid anatomy of the disease is, primarily, a multiple peripheral neuritis, with, secondarily, numerous organic changes in various organs, none of which, however, are essential to the disease.[1]

While we cannot join in the wish expressed by an enthusiastic German author, that the disease may soon become a familiar one to those outside of Japan, we cannot pass it by without a brief reference, especially as it resembles in so many of its features, as well as in its pathological basis, the condition which has occupied our attention at present. And it may not be unprofitable to obtain a clinical picture which differs somewhat from

[1] Wallace Taylor, M.D.: Studies in Japanese Kakke. Osaka, 1886.

[1] Scheube: Virch. Archiv, Bd. 95, s. 146.

that already viewed, in connection with the forms more familiar to us, in order to detect sporadic cases of the disease, if such should appear among us. As to its treatment, it may be mentioned that quinine failed to influence its course, and that heart-stimulants to combat the dangerous complications, hypnotics to counteract the pain and insomnia, and general tonic treatment have proved of the greatest service. Change of climate often is attended by recovery. In the stage of recovery electricity and massage have been employed with advantage.

III.—In a considerable number of cases of multiple neuritis no cause of the disease could be definitely ascertained. Great fatigue by walking, or by hard labor, and exposure to dampness and cold are assigned as causes in some of these cases, and may have acted as etiological factors. In others the disease seems to have developed spontaneously.

The following cases are cited as belonging to this class:

Observation XXI.—A perfectly healthy man, aged thirty-four, after a long and fatiguing walk was suddenly attacked with weakness of the legs, pain, and formication, which increased so rapidly that in two days he could not walk, and in eight days was totally paralyzed—legs, trunk, arms, face, and pneumogastric nerve being all involved. The paralysis was attended by severe pains, tenderness along the nerves, profuse perspiration, fever, and jaundice. Further, a diminution of sensibility, a loss of tendon reflexes, a loss of muscular sense, a rapid atrophy, with reaction of degeneration, were observed; and trophic disturbances, consisting of an abnormal growth of hair and pigmentation of the skin, as well as vasomotor disturbances in the form of œdema, appeared. There were no fibrillary muscular contractions, no increase of mechanical excitability, and no incontinence of urine or fæces. During the following four months a gradual improvement took place, which went on to final recovery a year and a half after the onset. The only anomaly at that time was an absence of contractility of the muscles to the electro-current, when excited through the nerve.[1]

Observation XXII.—A female, aged forty-two, previously in good health, was attacked, on October 1st, with pain in the back and in all four extremities, attended by great weakness, which increased so rapidly that on October 13th there was found to be an almost total paralysis of both legs, of the trunk, and of certain muscles of the arms. The pains were accompanied by a feeling of formication and a painful sensation of tingling. When first seen by Dr. Guttmann there was total paraplegia, slight movements in fingers and toes being the only motion possible; the muscles were all relaxed and flabby, were much atrophied, were tender to pressure, and a few of the smaller muscles showed slight diminution of faradic excitability. There was no disturbance of sensation. The tendon reflexes were abolished. The sphincters were not involved. The temperature was normal, but the pulse was unduly rapid. There were no bulbar symptoms. Under large doses of iodide of potassium and the application of faradism, the patient recovered completely in the course of three months.[2]

In some of the cases of this form the early pains were located in the joints, and led to the diagnosis of rheumatism. The fact is merely mentioned to call attention to the possibility of mistake. A careful examination will never fail to correct it.

Symptoms.—Turning now to the consideration of the individual symptoms of multiple neuritis, and their course, we are at once impressed by their number and variety.

The *sensory symptoms* are the earliest to appear and the last to pass away. In the majority of the cases on record, from whatever cause, numbness, tingling, or formication usher in the disease. These forms of paræsthesiæ begin in the feet and hands, and extend to the knees and elbows. They may be associated with burning, stretching, boring, or tearing sensations, which distress the patient, especially during the onset. But all such sensations usually subside as the affection reaches its height. Their recurrence, as the case goes on, may be regarded as a favorable symptom, however annoying, for they frequently precede recovery, and are among the last evidences of the disease to disappear. Pain is usually present as well as paræsthesiæ. It may occasionally be sharp in character; but is usually moderate and not continuous. At times it may be lancinating, and so severe as to necessitate the use of morphia. But it is rarely as distressing as in cases of locomotor ataxia. Tenderness in the nerves and muscles is a constant symptom. It may be so marked that the limbs cannot be moved or handled, and thus it may interfere with the application of electricity and massage. When the tenderness and pain are referred to the joints, as not infrequently occurs in the early stage of the disease, the case may be mistaken for one of acute articular rheumatism, and if the joints are swollen or the limbs edematous the difficulty of diagnosis is greatly increased.

In addition to these subjective feelings some demonstrable disturbance of the various sensations is usually present. Hyperæsthesia to touch, and also to electricity, is not infrequently observed during the first few weeks. It is usually followed by some anæsthesia, although this rarely becomes complete. In some cases the loss of tactile sense is quite evident from the outset, either limited to the cutaneous distribution of some special nerve, in which case oddly shaped areas of insensibility will be found, or, as is most often the case, about uniformly distributed over the distal parts of the extremities. When the anæsthesia is at its height the patient has difficulty in locating a touch upon the limb, even though he feels it. The transmission of pain and temperature-sensations is always delayed, but the impressions are usually felt quite acutely. The sense of pressure has been tested in only a few cases, and in those it was decidedly impaired. The muscular sense escapes any affection in some cases, but in others is the most profoundly disturbed of all the senses. When it is involved, the inco-ordination and ataxia are well-marked symptoms, and, as already stated, some of the cases have been mistaken for locomotor ataxia, because of the predominance of the disturbance of muscular sense.

These sensory symptoms are usually limited to the forearms and hands, and to the legs and feet. In a few cases they have involved the entire extremities, and even the trunk; and one case of facial tingling, with anæsthesia, has been recorded.[1] The skin reflexes are usually preserved.

The special senses are rarely affected in multiple neuritis. It is true that optic neuritis has occurred in a few cases, and in two cases hearing as well as sight has been affected. These cases prove that no nerve can be said to be exempt from implication in this disease, but the liability to affection seems to be slight in the case of the nerves of special sense.

The *motor symptoms* are as marked and as important as the sensory. Paralysis, beginning as simple weakness, with a feeling of fatigue on any exertion, gradually increases in severity until at the height of the disease it becomes complete. It usually comes on rapidly, so that within two weeks the patient is helpless; but it may be less sudden, and not deprive him of the power of walking and of using his hands for two or three months. In a few cases a very acute onset is recorded, all the symptoms developing within three or four days. The distribution of the paralysis is not uniform at the outset. It may develop in the muscles supplied by a single nerve, and advance to others; it may begin in all the muscles of the legs, and then involve those of the forearms; it may

[1] R. H. Pierson: Ueber Polyneuritis Acuta, Volkmann's Klin. Sam., 1883, No. 229.

[2] Guttmann: Deut. Med. Wochenschr., 1884, No. 19.

[1] Lowenfeld: Neuro. Centralbl., 1885, No. 7.

commence in all four extremities at once. It is always more severe in the muscles which move the joints of the feet and hands, and the ankles and wrists. It rarely invades those which move the knees and elbows. When the disease is fully developed, all the muscles below the knees and elbows are much weakened or totally paralyzed. In a few cases those of the thighs and arms are involved also, and occasionally the muscles of the trunk and those of respiration become affected and the patient dies. When such a paralysis makes rapid progress and involves all the body, the case resembles Laudry's paralysis. But in multiple neuritis, as has been already stated, the disease does not creep up from legs to thighs, and then to trunk and arms, as in Laudry's paralysis. It spreads from feet to hands, from legs to forearms, and the trunk is invaded only at the end, and in Laudry's paralysis sensory symptoms are wanting. In some cases of multiple neuritis the cranial nerves become involved; those of the eye and of the face being most liable to invasion. It is only in fatal cases that the action of deglutition has been affected; and when the pneumogastric is invaded, and the heart becomes rapid and irregular, the prognosis is always grave. Spasms rarely occur.

The paralyzed muscles are relaxed, flabby, and atrophied; they may or may not lose their mechanical irritability, but their normal tone is always lost, and hence the so-called tendon reflexes are abolished.[1] To the electric current their excitability is very rapidly and markedly changed; but the conditions which have been observed are quite various. Sometimes there is a simple diminution of excitability, and then a very strong faradic or galvanic current is needed to produce contractions. Frequently all faradic excitability is lost, and then the muscles react to a galvanic current only. In this condition it may require a very strong galvanic current to produce contraction, and this fact is quite pathognomonic of neuritis. For an anterior polio-myelitis, where the muscles respond to galvanism only, it does not require a strong current to cause a motion until some months after the invasion. The action of the different poles is not uniform. In many cases the contraction of the muscle when stimulated with the positive pole is greater than when stimulated with the negative pole, and the contractions may be sluggish. Then the reaction of degeneration is present. But in some cases the normal condition is found, and the negative pole produces stronger contractions than the positive pole. If the muscles that are not paralyzed be tested, the same electrical changes may often be discovered in them. A loss of faradic irritability and a marked decrease in the galvanic irritability of the muscle and nerve are, therefore, important symptoms of multiple neuritis. And as the disease goes on to recovery a gradual increase in the galvanic irritability occurs, a fact which is often of much aid in prognosis if careful measurements of the strength of current used be made by the galvanometer. I am accustomed to record such measurements upon charts, and thus to obtain an electric curve for each muscle which is paralyzed.[2] These curves enable one to judge of the progress of the case quite accurately, and when the line is advancing steadily toward the normal point, after a great deflection or after a stationary level, the prognosis is very favorable.

As a result and accompaniment of the paralysis *abnormal positions* are assumed by the limbs. The dropped wrist and dropped foot are quite characteristic of multiple neuritis. But other deformities may be present. In a few cases there have been extreme contractures of all the extremities in flexed position. And not infrequently the appearance of the claw-shaped hand, and some one of the various forms of talipes, indicates a serious shortening of one set of muscles, and corresponding weakness of its opponents. These deformities usually subside as the power returns, or if they do not they can be corrected by proper manipulation and by apparatus. In a few cases it has been necessary to resort to tenotomy, but a permanent deformity has not been recorded.

The *vaso-motor and trophic symptoms* are less constant than those already described. In some cases marked œdema has been an early and a permanent symptom. This may develop in the feet and hands, or may appear about the joints. It usually is temporary. The circulation is not impaired any more than is customary in a limb whose muscles are inactive, and coldness and cyanosis are rarely sufficient to attract attention. Sometimes profuse perspiration is a noticeable symptom, being limited to the paralyzed parts. It may be offensive, and by its evaporation always causes a complaint of coldness. In other cases glossy skin makes its appearance early, and remains until regeneration of the nerves begins. Its disappearance in one of my own cases was the first sign of recovery in the lower extremities. Other forms of trophic disturbance are rarely met with in multiple neuritis. And this is quite remarkable in view of the fact that it has been the tendency of late to refer such trophic affections as ulcerations, bed-sores, gangrene, pemphigus, and various eruptions to lesions of the nerves.[1] It is true that inflammations of the joints, resembling those appearing in acute rheumatism, sometimes occur at the onset of neuritis; but as they disappear quickly, while other symptoms remain, it is improbable that they are to be traced to the changes in the nerves. They may be due to the infectious agent, or to the same obscure cause which sets up the neuritis, or they may be evidence of an attack of acute articular rheumatism, which is in turn followed by neuritis; but they cannot be described as trophic symptoms of the disease, otherwise they would be more constant in their occurrence and more permanent in their duration.

A negative symptom of some importance is the absence of any interference with the automatic acts controlled by the sphincters.

One word about the onset. Occasionally it is sudden and accompanied by a marked febrile movement, with chill, and temperature of 103° to 104.5° F. The fever may persist for several days, but usually subsides spontaneously and does not recur. In a few cases there has been a constant elevation of temperature from one-half a degree to one and a half degree above the normal; and an increase in the rapidity of the pulse throughout the disease has been noticed. A pulse of ninety need give no alarm, but if it runs up to one hundred and forty, and becomes irregular, there is reason to believe that the disease has attacked the vagus nerve, and then the prognosis becomes serious, though not by any means hopeless.

The duration of the disease varies considerably in different cases. An average of twenty-five cases gives seven months as the probable time required for complete recovery. But in these cases the duration varied from two months, in the most favorable, to sixteen months, in the most refractory.

The disease is more common in males than in females, excepting the form produced by alcoholism. Of 47 non-alcoholic cases, 33 were males.

All ages are liable to be affected, but in the records of multiple neuritis, excepting the form produced by diphtheritic poison, the cases recorded do not include any children.

That children may be affected is, however, not at all improbable. Dr. H. D. Chapin, of this city, has described four[2] cases of atrophic paralysis in children, in which the presence of sensory symptoms, pain and mus-

[1] A few exceptions to this rule are found in two cases recorded by Strümpell and Mobius, Munchener Wochenschrift, 1886, No. 34, and in Brit. Med. Jour., January 1, 1887.

[2] Electric Charts, Journal of Nervous and Mental Diseases, February, 1887.

[1] Raynaud's disease has recently been ascribed to neuritis. See J. Wigleworth, Brit. Med. Jour., January 8, 1887.

[2] Painful Paralysis in Children, New York Medical Record, January 15, 1887.

cular tenderness, and the steady progress toward recovery pointed to the existence of multiple neuritis. The cases were such as are usually called infantile paralysis, but there were points of difference (viz., the existence of sensory symptoms) which removed them from this category. Leyden called attention to the possibility of mistaking neuritis for poliomyelitis in his first article upon the disease, but he referred to adult cases rather than to children's cases. And if the surmise of Chapin should be substantiated by autopsy, it might be necessary to conclude that in children, as well as in adults, the majority of cases of supposed poliomyelitis which recover are cases of multiple neuritis.

In adults, out of 50 cases 6 were between the ages of 18 and 20; 8 between 20 and 30; 20 between 30 and 40; 8 between 40 and 50; 5 between 50 and 60 and 3 over 60 years of age.

Diagnosis.—While the individual symptoms occurring in the course of multiple neuritis are not different in character from those found in spinal-cord diseases, the diagnosis can usually be reached with very little difficulty when their combination, the causation, and the course of the case under examination are considered. The varying combination of the symptoms possible has been manifest during their description, and it is not my intention to review them again. There are, however, three combinations which resemble very closely, respectively, anterior poliomyelitis, locomotor ataxia, and diffuse myelitis, and to these attention must be directed.

Atrophic paralysis, with reaction of degeneration and loss of reflex is common to anterior poliomyelitis and some cases of multiple neuritis. In the latter a more gradual onset, preceded and attended by numbness and pain, tenderness in the course of the nerves, tenderness in the muscles, and the persistence of sensory symptoms after the invasion, will remove all doubt regarding the diagnosis. When these symptoms are not clearly marked, the distribution of the paralysis in symmetrically situated muscles, especially if these muscles are supplied by single nerves, and the further extension to muscles in other nerve domains, rather than the affection simultaneously of muscles which are grouped physiologically (*i.e.*, act together to perform one function), will point to neuritis. In neuritis the paralysis advances more or less gradually, while in acute poliomyelitis there is, after the onset a subsidence of the paralysis in some of the muscles first involved. And lastly, as the case goes on, a gradual complete recovery will be far more frequent if it was originally a case of multiple neuritis.

Ataxia, loss of knee-jerk, pain, and sensory disturbances, including a loss of muscular sense, Romberg's symptom, and optic neuritis are common to locomotor ataxia and multiple neuritis. In the latter the relatively rapid onset of the ataxia, which follows closely upon the sensory symptoms; the prominence of numbness and anæsthesia, rather than of lightning pains; the extreme degree of the anæsthesia and analgesia; the tenderness of muscles and nerves; the usual occurrence of some degree of actual paresis with atrophy and RD; and the absence of bladder and sexual symptoms will point inevitably to the diagnosis. Furthermore, the ataxic form of neuritis only occurs after poisoning with alcohol or arsenic, or as a sequel of diphtheria, and the establishing of the causation will aid the diagnosis. Here, again, the course of the case toward recovery, with return of the knee-jerk, will decide in favor of neuritis, if the diagnosis has not been reached in an early stage.

There are very few symptoms of diffuse myelitis which are not found in cases of neuritis. But cases of diffuse myelitis of the type of Duchenne—paralysie générale spinale subaigüe ascendante—are very rare, and indeed by Leyden it has been affirmed that all such cases are multiple neuritis. Other authorities dispute this assertion and leave us to establish points of difference. These are as follows: In neuritis affections of the functions of micturition and defecation do not occur. Girdle sensation is very rarely mentioned as a symptom; bed-sores and cystitis have not been observed. The advance of the paralysis is rarely from the legs to the thighs and trunk, and then to the arms; it is usually from the legs to the forearms, the trunk and thighs escaping, and, as a rule, the distal portions only of the extremities are paralyzed. If the muscles of the abdomen and respiration are involved, it is only in rapidly fatal cases. In neuritis there is usually some ataxia, and loss of muscular sense is quite evident; while in some, at least, of the cases of myelitis of Duchenne, there were no sensory symptoms at all. Finally, the tenderness of muscles and nerves, and the absence of tenderness to pressure or to heat in the spine, would decide in favor of neuritis. The diagnosis from meningitis of the cord, from tumors or hemorrhages into the cord, or from general paralysis of the insane, would rarely present any difficulty to one who was familiar with the symptoms in those affections, and who knew the prominent features of multiple neuritis.

No small difficulty may be encountered, however, in settling the question whether in a given case we have to deal with multiple neuritis alone, or with multiple neuritis which is complicated by myelitis. The importance of the question is evident, since the prognosis in the two conditions is very different; and the number of autopsies on record in which this complication has been demonstrated, though few, is sufficient to make a decision of the question necessary.[1] The following points may enable a determination of the question to be reached: (1) As long as a case is increasing in severity, or in the extent of the symptoms, no one can determine the extent of the lesion. It is only when its course has become stationary that the question of exact limitation will arise. Many cases remain practically without improvement for three or four months, and then gradually recover. A stationary condition alone does not, therefore, excite fear of a complication. But neuritis tends spontaneously to recover, the process of regeneration beginning soon after the degeneration has ceased. If, therefore, there appears to be no improvement of the condition after the fourth month, the probability is either that the cause of the disease has not been removed, or that a myelitis has developed and prevents recovery. (2) The course of a case of neuritis is quite characteristic, the symptoms reaching their maximum in a short time, and then subsiding. If, after a stationary period, further symptoms develop, we must believe either that the cause of the disease is renewed (*e.g.*, the use of alcohol) or that myelitis has begun. The symptoms of such a myelitis will be an increasing weakness and more rapid and progressive atrophy of the muscles; a gradually decreasing degree of galvanic excitability in the paralyzed muscles; a loss of pain and temperature senses, which, as a rule, are not affected in neuritis; a decrease in the paræsthesiæ, and an increase in the degree of anæsthesia; the development of loss of control over the sphincters; the occurrence of bed-sores, furuncles, eruptions of a bullous nature; and the beginning of cystitis. (3) On the other hand, if the symptoms are gradually improving; if the power gradually returns; if the anæsthesia decreases, and is succeeded by paræsthesiæ, however disagreeable to the patient; if the galvanic excitability becomes gradually more acute in the muscles, so that the electric curve approaches the normal line; if the faradic contractility returns in the muscles; if the tenderness of muscles and nerves decreases; and if the glossy appearance of the skin disappears, it may be stated that no complication of myelitis has occurred, and that recovery, though possibly prolonged, will at length result.

Another question of diagnosis must also be considered. It is found that in no small number of cases of locomotor ataxia multiple neuritis develops as a complication. How can we determine when this complication exists? The symptoms of the two diseases may be so nearly iden-

[1] Oppenheim, Zeit. klin. Med., xi., 232; Leyden, Charité Annalen, 1878; Duménil, Gaz. Heb., 1861.

tical that difficulty arises in distinguishing them. When they coincide it is equally difficult to determine to which disease any given symptom belongs. Pitres and Vaillard,[1] who have considered this subject most carefully, affirm that there is no constant relation between the severity of the central and peripheral lesions when they coincide. But there are certain symptoms which develop in some cases of tabes, but not constantly, which may be looked upon as accidental, and thus traced to neuritis. Such are the appearance of plaques of anæsthesia and analgesia of limited area, muscular weakness or paralysis of limited extent, trophic disturbances in the skin (*e.g.*, perforating ulcer), nails, joints (*e.g.*, Charcot's disease), bones (*e.g.*, spontaneous fractures), and teeth (*e.g.*, spontaneous falling out), and possibly the various crises referable to the viscera and larynx. In cases which competent observers have examined, peripheral neuritis has been found *post-mortem* in the nerves supplying the parts in which these symptoms appeared. It is, therefore, reasonable to conclude that in any case of locomotor ataxia in which these symptoms develop we have to deal with a posterior sclerosis which is complicated by a peripheral neuritis. And here again the distinction has a bearing upon the prognosis, for the symptoms of the accidental kind may pass off, while those due to the central lesion will remain. While these conclusions of the French authors are of importance, it must be noticed that their claim that trophic disturbances are due to a complicating neuritis is by no means substantiated by the history of cases of multiple neuritis, in which, as we have seen, trophic disturbances of the varieties mentioned do not often occur.

Prognosis.—The prognosis in multiple neuritis is good, provided the exciting cause can be removed. The only cases which form an exception to the rule are those whose constitutions are much impaired by excesses or by other diseases; those who have so far indulged in alcohol or are so completely soaked with arsenic or lead as to be unable to throw off the poison; and those in whom the disease begins with great suddenness, advances rapidly, and involves the phrenic and pneumogastric nerves. These cases either die of respiratory paralysis or of some complication. When a case has reached the stationary period the prognosis is generally favorable, and if the encouraging signs of recovery already mentioned begin to appear a cure may be promised. The possibility of the complication of myelitis must not, however, be overlooked, and if it occurs the prognosis becomes at once unfavorable. Even in serious cases of alcoholism, with gastro-intestinal and cerebral symptoms, if the acute stage is safely passed and all alcohol be removed from the patient's diet, recovery from very extensive paralysis will occur. The cases of diphtheritic paralysis and ataxia usually recover without treatment. The cases occurring with syphilis and tuberculosis are not so uniformly favorable, although the former usually respond promptly to specific treatment, and even the latter may recover wholly. In epidemics, the percentage of mortality has been found to vary, but is usually low.

Treatment.—The treatment of multiple neuritis requires patience, but receives the reward of success. As we have already seen, the majority of the patients recover, and it is probable that, if the cause of the affection were removed and the patients placed in favorable circumstances, expectant treatment would alone be sufficient. It is, however, not advisable to let therapeutics play a passive part. The course of the disease can be altered and its duration much shortened by active interference. In the stage of invasion the free use of salicin, salicylic acid, or the salicylate of soda seems to have important results. These remedies cannot be said to act as promptly as in cases of acute articular rheumatism, but the consensus of opinion is that their effect in multiple neuritis is very marked. They should be given, as in acute rheumatic fever, in large doses until noticeable effects are obtained. They should be combined with the bromide of potash or soda, partly because these drugs counteract unfavorable symptoms produced by the salicin compounds, and partly because in the hyperæsthetic irritable condition attendant upon the invasion of the disease they are indicated. This condition may require stronger sedatives, and not infrequently morphine must be employed to give relief from the excruciating pains. The pains are often relieved by hot or cold applications to the limbs; but as the muscles are often exceedingly tender ordinary applications cannot be made. It is then advisable to use evaporating lotions, preferably those containing chloroform, which may be soaked into light cambric or gauze, and gently placed upon the limbs, which lie upon the softest pillows, or which may be more comfortable if the patient is put upon a water-bed. Applications of a five per cent. solution of carbolic acid have also been of use. If cool applications prove intolerable, heat may be employed. The limbs may be enveloped with cotton and covered with oil-silk, a light bandage keeping these in place; or they may be frequently bathed in hot water, and hot bottles placed against them, some soft substance intervening. One of my patients found great relief from the paræsthesia by cold douches, while another preferred the use of hot water. It is best to let the patient decide as long as the application has to be made for the relief of pain. Gentle friction with oil of cocoanut often affords comfort. In the chronic stage, as we shall see presently, heat is to be preferred to cold. Cases which are distinctly syphilitic, if such occur, should be treated from the outset with inunctions of mercury and large doses of iodide of potash. I believe that both these drugs should be employed together, even in the tertiary stage of syphilis, and it is my experience that all syphilitic nervous lesions, whether central or peripheral, yield more promptly to their combined use than to the employment of either alone. Malarial cases must be treated with quinine or Warburg's tincture. In non-malarial cases quinine has proved of no avail. In cases which are due to poisoning of any kind the first necessity is to eliminate the toxic agent from the system, and the second to prevent any further ingestion of the poison. Iodide of potash aids in the elimination. The second indication is easily fulfilled when arsenic or lead are the toxic agents, but when the case is due to chronic alcoholism special precautions are needed. Alcoholic cases require from the outset special treatment. The condition at the time of the onset of the paralysis may be one verging upon delirium tremens. If all alcohol is suddenly removed, without due care to supply some other heart-stimulant and to secure the perfect nutrition of the patient, serious collapse may ensue. The first necessity is therefore to take care of the general condition of the patient. If this will admit of the immediate withdrawal of all alcoholic stimulation it should be done; if not, the alcoholic beverage must be immediately reduced in quantity, and as soon as possible wholly cut off. The use of milk diet, or kumyss, or pancreatized milk, or, if necessary, rectal alimentation will be followed by a gradual recovery of the power of assimilation, and as soon as the patient ceases to lose weight all alcohol may in any case be safely stopped; its elimination by the intestines and kidneys may be hastened by appropriate means, and cerebral symptoms, if they arise, may be treated as in other cases of alcoholic intoxication. But it is in the chronic stage, when the patient is gradually recovering, that the vigilance of the physician is called into play to prevent a renewal of the poisoning. It is amazing that patients who know perfectly the injurious effect of alcohol upon them should insist upon getting it. But it is done. And when these patients are surrounded, as is often the case, by sympathizing friends, or servile domestics, or unscrupulous nurses, who do not appreciate the importance of total abstinence either for themselves or for the patient, they often succeed in baffling all attempts to deprive them of the favorite drink. It is only

[1] Pitres et Vaillard: Des névrites périphériques chez les tabétiques, Rev. de Méd., 1886, p. 574.

when they are watched constantly by persons who can be implicitly trusted, and who have sufficient authority to cut off all surreptitious supplies that the physician can feel sure that his commands are obeyed. And this precaution is by no means needless even when it is probable that family servants are trustworthy; for the continued plead ing and remonstrance of the patients may corrupt the best of attendants, especially if accompanied by threats of discharge at a future day. It is therefore necessary to place these patients under the surveillance of trained nurses from the start, or to remove them to an institution where they are under control.

In the chronic stage the drugs which are of greatest service are strychnia and arsenic. Strychnia may be given in doses of $\frac{1}{60}$ to $\frac{1}{30}$ gr. t.i.d., and it is well to combine it with phosphoric acid and the syrup of the hypophosphites. Arsenic may be used in tablets or pills containing $\frac{1}{50}$ to $\frac{1}{30}$ gr. t.i.d., or in Fowler's solution, five to eight drops t.i.d. The use of iron with these two drugs will be indicated in the majority of cases where there is attendant anæmia. In alcoholic cases both arsenic and strychnia may increase the mental irritability, but should be continued unless this becomes too great. I have seen benefit from both of these drugs, and think it well to employ them alternately, using each for about two weeks at a time.

The remedies used in the chronic stage have two objects: one is to increase the rate of repair in the nerves; the other is to keep the nutrition of the muscles as good as possible. While the drugs mentioned probably meet the first indication there are other remedies which meet both. These are massage, warm baths, and electricity.

The proper manipulation of the limb increases the circulation in it. The increase of circulation brings fresh supplies of material to the nerve which is undergoing repair; it also aids the nutrition of the muscle, which would otherwise be decidedly affected by the sluggish flow of venous blood, due to the lack of functional activity. As soon, therefore, as the active progress of the disease is checked and the muscular tenderness has sufficiently subsided to allow the limbs to be rubbed, this potent remedy should be employed daily.

Allusion has already been made to baths and douches in the early stage, for the purpose of quieting sensory symptoms. In the chronic stage the object is a different one. Like massage, warm baths and douches stimulate the circulation and aid the nutrition and reparative processes in progress. Hence they are to be used daily. And if the warm bath be given at night it will secure not only a local action but produce a general sedative effect, insuring quiet rest. In multiple neuritis as well as in many other nervous affections not due to anæmia, a warm bath at night or a warm douche to the neck and spine is far preferable to, and more efficacious than, the majority of hypnotic drugs in causing a good night's sleep.

The last agent to be mentioned is electricity. It is, however, among the first in importance, and in its use it is necessary to know what object is sought in its application. There is first the object of increasing the progress of nerve regeneration. This may be attained by the application of a constant galvanic current to the degenerated nerve, passing the current through the nerve in either direction, or in both alternately. A mild current should be employed, its strength being measured by a galvanometer. The strength of the current will depend: (*a*) on the size of the sponges placed upon the skin, (*b*) on the pressure upon the sponges, (*c*) on the resistance of the skin, and (*d*) on the number of cells of the battery used. If the sponges are two inches in diameter, six milliampères is enough; if they are three by five inches in measurement, twenty milliampères should not be exceeded. If no galvanometer is used the strength of the current employed is uncertain. But it is to be remembered that the current grows stronger the longer it passes, since the skin resistance is gradually overcome; and therefore, if the strength is measured in cells, the number of cells used should be decreased gradually during the application. As so few practitioners use a galvanometer it may be well to state that with large sponges (*i.e.*, three by five inches) wet with warm water a freshly filled bichromate of potash battery will give nearly one milliampère of strength for every cell used during the first three minutes, provided the sponges be put on any part of the body except the soles of the feet or the palms of the hands, and pressed firmly upon the skin. After the first three minutes the body resistence decreases, so that when twenty cells are used to start with, one should be cut off every half minute until the number is reduced one-third. The duration of the application should be about ten minutes to each limb. During this time the distal sponge should be passed over various parts, so as to include all the nerve-branches in the current; the central sponge should be put over the nerve-trunk high up on the limb. The current should be begun and stopped gradually, and never suddenly broken; applications may be made daily.

The second object to be obtained is to re-establish the conduction of impulses in the regenerated nerve. This is secured by the method just described. It may be attained by the use of faradism, the interrupted secondary current being sent along the nerves by placing one pole over the nerve-trunk and passing the other over the skin of the limb. The strength used should be just sufficient to be felt distinctly through the palms of the operator's hands. The third object sought is to maintain the nutrition and function of the muscles by exercising them, and thus preserving their normal irritability. This cannot be done by a faradic current as long as they do not contract to it. The galvanic current must therefore be employed. But now it is not a steady current which is needed, for this does not cause any motion. It is only when the steady current is suddenly broken and renewed that the contraction occurs. Hence place one pole over the trunk of the nerve and the other upon the muscle, and with an interrupting electrode make and break the current at the pole which is on the muscle. The pole which produces a contraction with the least current possible is the one to be applied to the muscle. This is in RD the positive, in normal conditions the negative pole. Each muscle should be exercised for three or four minutes every other day. When electrical treatment is thus employed very marked improvement is observed, which can be measured accurately if a galvanometer is used, since every week will show a change of the strength of current needed to produce muscular contractions toward the normal.

The treatment must be kept up, in the chronic stage, until recovery is complete.

If contractures have occurred in the paralyzed limbs persistent massage may overcome them. If it does not, they are to be treated on general surgical principles.

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Original Articles.

A HELP TO THE TEACHING OF PHYSICAL DIAGNOSIS.

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Remembering the difficulties encountered in mastering physical signs as a student of medicine, and recognizing like difficulties daily occurring among the students of the various classes in physical diagnosis held in Bellevue Hospital, I have been led to devise some means for the more rapidly and surely acquiring the knowledge sought.

In a class, say, of thirty students, and with some ten or fifteen interesting cases to "go over" in an hour, it is very possible that many students, while occupied in the examination of an individual case, will lose the demonstration of another of equal interest by the physician conducting the class.

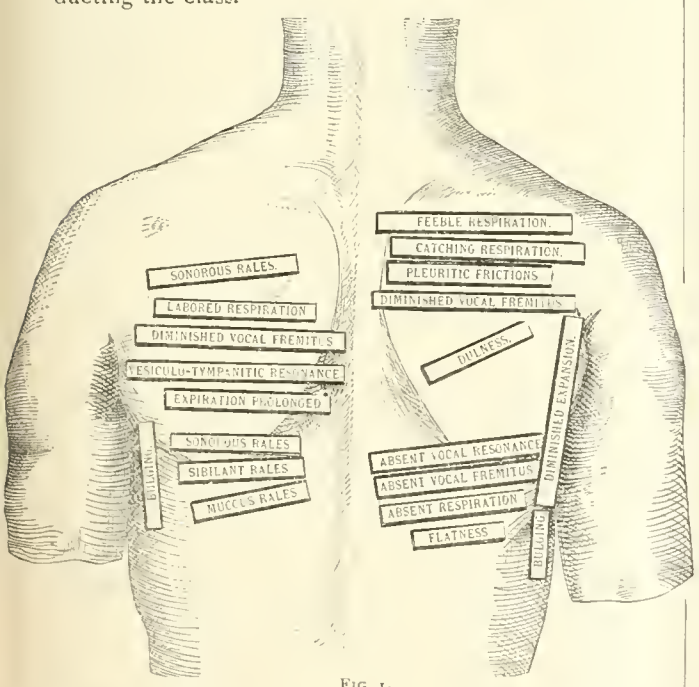

Fig. 1.

Thus, when a student, as above, comes to a patient he has failed to hear percussed or seen palpated, he is uncertain in his own mind of the signs present, and the demonstration has to be repeated.

To do away with this difficulty it has been my custom, as assistant to Professor A. L. Loomis in his class of physical diagnosis, to label each patient, after Professor Loomis has made his examination, with the name or names of the particular conditions present, these conditions being detected by inspection, palpation, percussion, etc.

For this purpose small strips of rubber adhesive plaster have been printed, with the various signs of thoracic and abdominal disease, as indicated by the above mean of diagnosis.

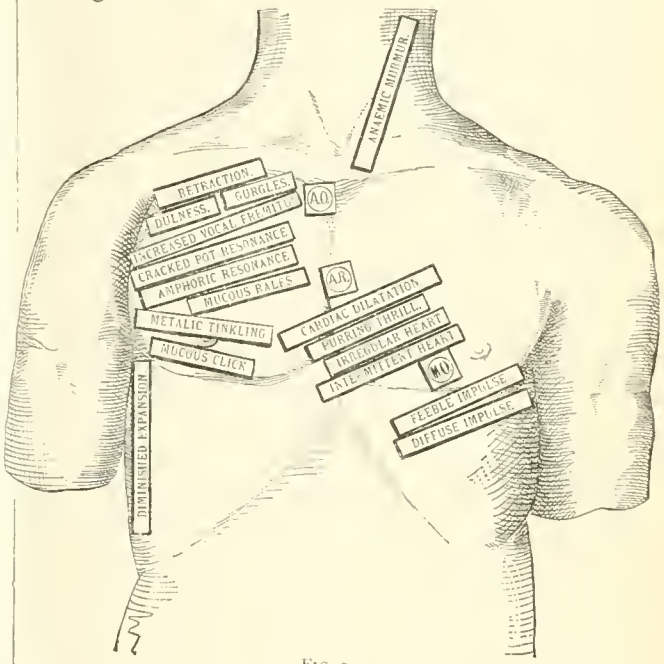

Fig. 2.

The lettering is in clear block type, very compact. and the plaster adhering so closely to the surface, and being so small in area, there is no danger of its giving rise to abnormal sounds or obstructing the examination.

For example, after the physical signs contained in a perfectly normal chest are mastered, a case, say, of emphysema, is taken.

This case is examined by a practised ear, labelled with the signs found, and handed over to a student to go over at his leisure.

Another case, say of general bronchitis, is treated in a like manner. The student is thus certain in his own mind as to what the sounds heard within the chest signify. Having once heard a certain normal or abnormal sound, he is pretty certain to recognize it in the next instance without any such aid.

The accompanying cuts explain themselves. Fig. 1 would represent some of the signs to be found in a man having a large cavity at the upper part of his right lung, together with cardiac dilatation with murmurs at aortic and mitral orifices.

Fig. 2 would represent the posterior surface of a man's chest having a pleurisy with effusion on his right side, and emphysema and bronchitis of his left lung.

An Inebriate Asylum in Italy.—In 1882 there was established in Milan a temperance society, the first and only one in Italy, called the Patronato di Temperanza. As an aid to its work of reform the society has determined to establish an asylum in Milan for the reception and care of inebriates desiring to be cured of their affliction, and for this purpose has issued an appeal to the charitably disposed in that city for assistance.

A Curious Remedy for Typhoid Fever.—The New York correspondent of one of our exchanges, in a notice of the treatment of typhoid fever in the different hospitals, says that at Mt. Sinai Hospital Catholics are omitted in this fever. We never heard of Catholicism being a very efficient antipyretic, except perhaps as a long-range prophylactic, and we presume the author wrote cathartics.

Progress of Medical Science.

A Case of Nervous Contagion.—Dr. Kreuser relates the clinical history of a family which furnishes a curious example of induced mania. A girl, eighteen years old, began to suffer from religious melancholia, with delusions of obsession, and having no treatment soon became insane. She passed whole days and nights praying and making her parents pray also. A few days later the family shut up the doors and windows, and all sat around the table with Bible and Prayer-book before them. The father and mother pounded on the table with their fists and cried continually: "If it is right, so must it be." Everyone who tried to enter the house was driven away with blows. The most violent of all was the younger sister of the patient first seized. Finally the neighbors became alarmed at the state of things and made a regular assault upon the house, finally gaining admittance, and then carried the inmates off to a hospital. Here the patients gradually became quiet, and were restored one after another.—*St. Petersburger Medicinische Wochenschrift*, No. 36, 1886.

The Treatment of Pleurisy in Children.—Dr. Wiederhofer has recently studied this subject, chiefly from a clinical stand-point. The following are the main points of his paper, as given by the *Archives of Pediatrics:* The younger the child the more difficult of diagnosis is pleurisy. The disease may be entirely overlooked without a very minute examination. After the exudate has formed the diagnosis is somewhat less difficult. Then the child breathes more superficially, there is a febrile movement and cough, which may last several days. The frequent and superficial respiration are the more important indications in making the diagnosis. If there is no exudation in the pleural cavity, the child will lie upon the diseased side. As to the physical signs, at first there is general bronchial respiration, gradually there is dulness on percussion and diminution of the respiratory murmur. Should the exudation be abundant the diagnosis may be readily made, but should it be limited to a small area at the base of the pleura the diagnosis will be difficult. The sensation which is yielded by percussion is believed to be of greater assistance in forming a diagnosis than the information which is obtained by auscultation. The prognosis of this disease among children is usually favorable. Thoracentesis will be necessary in case the exudation is not absorbed, and especially in cases in which it is so abundant as to occasion troublesome dyspnœa to the patient. Purulent accumulations rather than serous or serofibrinous ones cause trouble of this kind, and can usually be correctly diagnosticated in those cases in which an exudation persists longer than fifteen days, the temperature reaching 104° F., morning and evening, while the child steadily emaciates. The crucial test is, of course, an exploratory puncture. The treatment of purulent pleurisy by aspiration is not followed by the best results, for, in a few days, another deposit of pus has taken the place of the former one. The author believes that it is best treated upon the same principle which governs the treatment of abscesses. An incision, sufficiently large, is made between the fifth and sixth ribs, the pus is evacuated, a drainage-tube is introduced, and an antiseptic dressing applied. The patient is usually cured in from two to three weeks. Should the operation be deferred until an advanced period of the disease the pleural cavity must be washed out systematically with a solution of salicylate of soda or of thymol. Phenic acid solutions are dangerous, and numerous cases of poisoning have followed their use. Unless the operation is performed early there will be deformity of the thorax. If the purulent deposit is left to itself it may point somewhere upon the abdominal or thoracic wall, and will be revealed by swelling, fluctuation, and inflammatory œdema. In most cases of this character there is a fatal issue.

Nocturnal Cough in Children.—Sharp paroxysms of cough, which sometimes suddenly attack children at night when they are apparently enjoying the most tranquil sleep, are believed to be due to the accumulation of salivary and mucous secretions of the mouth, originating from a stomatitis or gingivitis which is associated with dentition. As the patient lies in the horizontal position the accumulated secretion tends to gravitate toward the epiglottis, the arytenoids, and even to the posterior commissure of the larynx. Thus the rich reflex nervous supply of this region is excited, and a cough, either convulsive or non-convulsive, is the result. During the day, when the child is in the horizontal position, the same conditions do not obtain. The same condition as to accumulation of secretions is seen in chronic and moist coryza. McCoy thinks that the paroxysmal cough in question is always the result of nasal catarrh, and is due directly to an irritant action upon certain zones of mucous surface in the nasal fossa, which were described by Hack, Mackenzie, and others. According to McCoy's explanation the vertical position enables the secretion to escape readily by the natural channels, while at night the dorsal decubitus prevents such a course.—*The Archives of Pediatrics.*

Quinine by Inunction.—It is often stated, and as often denied, that an ointment of sulphate of quinine and lard proves promptly efficacious in acute malarial affections. Those who affirm speak from experience, while those who deny the fact speak upon purely theoretical grounds. Liebreich is quoted as saying in a public address that Unna's experiments upon the relative affinity of different oils and fats for water determines the degree or capacity of such for cutaneous absorption. Hence it is argued that, as sulphate of quinia is very sparingly soluble in water, and not at all so in lard, an ointment made of these could not penetrate the dermis. After a tepid bath the ointment of quinia and lard may be rubbed into the skin of infants and others who are unable to tolerate any form of antiperiodic in the stomach, with promptly efficient results, theoretical objections to the contrary notwithstanding. The great discrepancies of opinion as to proper dosage depend, no doubt, upon two widely varying conditions: One as to the urgency of the demand for antiperiodic effects; the other as to the thoroughness with which all the details of the administration, in order to secure its introduction into the general system, are observed. Any form of inunction presupposes a freshly bathed surface for application, and any form of disease demanding quinia is sufficiently urgent to require enough of the drug to make its powerful impress upon the nerve-centres, as evinced in diuretic and diaphoretic stimulation. All the good effects, with the least of the bad effects of quinia, can best be secured in one full dose at night.—*Progress*, December, 1886.

Twenty Cases of Alexander Adams' Operation.—Dr. W. Gardner, in the *Australian Medical Journal*, October 15, 1886, publishes a series of twenty cases in which he performed the operation for shortening of the round ligaments. In no case did the operation result in death. The first case operated on was a complete failure, owing to imperfect performance of the operation, due to want of knowledge. Of the rest, one has been found to continue well three years after operation, two for a period of two years, seven for a period of one year, nine for a less period than one year. Four of them have been delivered of living children at full time. His method of operating and after-treatment is as follows: He draws out the ligaments from four to six inches, and always ties them together over a large pad of gauze. He also sews them carefully to the margins of the ring and to the skin. He uses very little sedative, and gives only ice to suck for the first twenty-four hours. Urine is allowed to be passed spontaneously to avoid the risk of cystitis. The first change of dressing is generally made on the seventh day; up to this time Lister's gauze

is used, and afterward iodoform and salicylic wool. The patient is allowed to get up and sit in a chair, or recline on a sofa, at the end of the third week, and is encouraged to walk after the fourth week has passed. No pessary or artificial support is used. He is inclined to believe that the operation will be found most beneficial in cases of chronic retroflection, with prolapse of one or both ovaries, the fundus being made to describe an arc of a circle which shall prevent it from pressing on the ovaries. It must also act beneficially by restoring the circulation in the broad ligaments to the normal condition. In anteflexion also it may be beneficial by straightening the uterus, and in prolapse also it will be of advantage, in cases which have resisted other methods of treatment. He inclines very strongly to the belief that displacements of the uterus are of no importance in themselves, and that they only give rise to trouble through the alterations they sometimes cause in the circulation through the broad ligaments. Therefore he does not operate because of the flexion, but only in cases where the flexion has caused alterations, probably in the circulation, evidenced by ovarian pain and reflex nervous manifestations.

Fissures of the Tongue.—In some persons, especially where gastric disturbances are present, the tongue suddenly becomes fissured all over, without, however, becoming coated, changing its color, or losing its moisture. Professor Schwimmer had the opportunity to experiment on some cases of this kind at his clinic. He tried chromic acid, which has been recommended by Vidal, and iodoform, which Dr. Unna, of Hamburg, has greatly praised, but in none of his cases did the tongues show any improvement. If anything, they became worse, especially under iodoform. As the patients were greatly annoyed by this morbid state of their tongues, the author tried a series of remedies in the hope of bringing about some alteration, but utterly in vain. Even Kaposi's treatment with nitrate of silver was useless. Some improvement was noticed after the application of soda solutions. Lactic acid, first employed by Schiff, gave the patients decided relief, and in one case almost established a cure. Finally Schwimmer used papayotin, and the result was surprising. In every case an amelioration was at once noticed, and within a few weeks a perfect cure was obtained. He applied the papayotin as follows:

℞. Papayotin..... 1 to 2 parts.
Aq. destill.,
Glycerin ..... āā 10 parts.

This solution is applied with a camel's-hair brush, from two to six times every day, after the parts have been previously well dried. The effect is not a macerating one, as one would think from the action of the drug on digestion, but it acts by stopping the pain in the parts deprived of their epithelium, and causes a renewal of the latter. In twenty-five cases, many of which were of many years' duration, a complete and permanent cure was established in all, with the exception of one, where a syphilitic dyscrasia existed, but where specific treatment brought about no result either. But even in this case a great amelioration was obtained.—*Wiener Medizinische Wochenschrift.*

Fracture of the Base of the Cranium.—Frederick Hyde concludes his consideration of the above subject with these suggestions: 1. The anatomy and physiology of the base of the skull render its fracture more fatal, independently of their inaccessibility to direct surgical treatment, than when the lesion is restricted to the cranial vault. 2. The symptoms determining the diagnosis in basal fracture are caused by meningeal and cerebral lesion involving the origin of nerves or their continuity, often both, as well as lesions of blood-vessels. 3. While the displacement of fragments in this fracture is but little in the majority of cases, it will be more in the minority; and it is not uncommon, when the displacement is not detected in the outer table, that the inner will be comminuted and the fragments lodged in the subcranial tissues, with blood extravasation. 4. In the majority of examples of this fracture the symptoms of cerebral pressure are plainly marked; if not early, they appear only a little later, and yet so early as to prove that they are the immediate result of the injury, rather than from inflammatory products which appear later. 5. When the fracture involves the lower part of the parietal bone and the temporal with its petrous portion if compound, or only contusion of the part receiving the blow or force with marked symptoms of this fracture, an incision made at or over the site of the bruised scalp will aid in detecting the extent of the injury. 6. If fragments of bone or blood can be reached, remove them; and if there be slight or greater displacement, with positive symptoms of pressure which cannot be removed, then apply the trephine, elevate the depressed bones, and if there be blood remove it. 7. In this fracture, when caused by the direct application of force, as may be in the frontal sinus and in the proximity of the base of either fossa, with positive symptoms of brain-pressure, the hopeless condition of the case left to the expectant treatment, if there be no opening through the soft coverings of the bone at the point receiving the injury, warrants making an incision for exploration, that its cause may be better defined, and if it cannot be removed without, then use the trephine. 8. In all cases, if the operation of trephining is to be made, it should, as in vault fractures, be done at once after the receipt of the injury, to shorten the time of pressure upon the vital textures, and before inflammation has occurred.—*Medical Times.*

What to do in Puerperal Eclampsia.—Dr. Clarkson, in the *Virginia Medical Monthly* (October, 1886), sums up his views on the treatment of eclampsia as follows: Encourage the attendants. Enforce quiet. Restrain your patience sufficiently to keep her from bodily injury. Place a cork between her teeth. Remembering that the whole surface of the body is in a condition of hyperæsthesia, make as few vaginal examinations as possible. Use the catheter only if there is distention of the bladder. At no time yield to the common suggestion to apply blisters to the nucha, or cataplasms to the calves. Evacuate the bowels by stimulating enemata. If there has been constipation, purge by calomel or croton-oil. Apply cold to the head, and remove hair if necessary. Mustard-baths to the feet. Do not dash cold water into the face. It may be done in hysteria; in syncope it is undoubtedly beneficial, but in eclampsia, Barnes says, "he has seen it provoke a fit, and knows it to be decidedly injurious." Give enemata of chloral and a bromide. Bleed only in decided plethora to relieve cerebral hyperæmia. Etherize, but not completely, except during a paroxysm. Keep your hands off your patient, save when necessary to perform some service, and then, if possible, do what is to be done under the cover of anæsthesia. The spasm over, prepare to empty the uterus. Puncture the membranes and leave the rest to nature. If nature refuses to respond, slowly dilate the os. Do not forget that the fingers in cone shape are the best dilators, and chloral their best assistant. Dilatation effected, deliver with the forceps for the head, or, in breech cases, by the feet. The uterus emptied, all unfavorable symptoms will vanish; if not, continue the chloral, the bromides, etc., as needed.

Cremation in Denmark.—The Danish authorities have forbidden cremation on the strength of an old ecclesiastical law passed in 1685, according to which burial is prescribed as the only way to dispose of the dead. As a crematory has already been erected in Copenhagen the owners feel that they have a just cause of complaint that they were not earlier informed of the existence of this law.

THE MEDICAL RECORD:

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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INHALATIONS OF COLD AIR IN TYPHOID FEVER.

COLD air has been used to a limited extent for the reduction of elevated temperatures, but it has not found much favor among therapeutists, and has never attained the position among antipyretic agents that cold water has assumed. Yet, if we may rely upon some experiments made by Dr. Sokoloff, related in the *Journal de Médecine de Paris*, this would seem to be a remedy of no little power in depressing an abnormally high body temperature.

Dr. Sokoloff noticed that patients with typhoid fever who were treated in hospital tents during a season when the temperature at night would fall nearly to the freezing point were almost apyretic in the morning, although in the evening they might have a temperature of 104° F., or over. This observation led him to institute a number of experiments to determine the effects of the inhalation of cold air in fevers. He used the inhaling apparatus of Niemeyer, and gave three inhalations a day, of from five to thirty minutes' duration. The temperature of the inspired air varied from 16.5° F. to 26.5° F. Thirty-three patients with typhoid fever were subjected to these experiments, and from the results observed the author came to the following conclusions:

1. Inhalations of cold air cause a reduction of temperature, less marked, however, and less constant, than that obtained by baths of cold water, or even of cold air. The antipyretic effect varies according to certain conditions—(*a*) The time of day: the most marked depression of temperature was obtained when the inhalations were given in the early evening. (*b*) The stage of the disease: the most noticeable results were obtained after the second week, the fever at this time being often reduced 2° F., and remaining low for several hours. (*c*) The duration of the inhalation is not of much importance, though the best effects were generally observed when this had been prolonged over a period of about fifteen minutes. (*d*) The temperature of the inspired air: the most noticeable results were obtained when this was between 16° F. and 20° F. (*e*) The moral condition of the patient: in states of great mental depression or excitement the antipyretic action was much less marked.

2. Inhalations of cold air cause a reduction in the number of respirations of about four in the minute, and in the cardiac pulsations, of about six.

3. They diminish the unnatural dryness of the skin and mucous membranes.

4. They exert a favorable influence upon the bronchitis which so often complicates typhoid fever, and cause a more rapid exchange of gases in the lungs.

5. In consequence of this, they lead to an improvement in the general condition of the patient, and produce sleep.

6. The inhalations act as antiphlogistics upon the inflamed respiratory passages, and may be used with advantage in the treatment of chronic bronchitis, asthma, and emphysema.

The use of cold air as a therapeutic agent has been tried by Senator, Niemeyer, Rosenthal, and others. Traubenberg has made a number of experiments with cold-air baths, but considers them as inferior in value to baths of cold water. Sokoloff, in his experiments, never saw collapse induced, nor were there any other complications which could justly be attributed to the inhalations. The method, were it found to be really efficacious, would commend itself by its ready applicability, in winter at least, since air of the required temperature could at once be obtained from without, and there would be no necessity for moving the patient from the bed to the bath and back again, with its attendant risks.

The plan of treating patients with typhus fever in tents or open barracks was at one time extensively employed in this city, with very good results. And whether the good effects observed were attributable to the fresh air and thorough ventilation, or to the cold inhalations incidentally administered, is a question which might suggest itself. The method is probably not devoid of danger, especially as regards congestion and inflammation of the bronchial mucous membrane, and experience only can show whether the risks would be counterbalanced by the beneficial results obtained.

TEMPERANCE AND DRUG STORES.

KANSAS, among other things, enjoys the distinction of being a prohibition State. Its legislators have provided it with an enactment known as the "drug-store law." The Osage City *Free Press* has recently taken the trouble to investigate the working of this law, and to what extent prohibition prohibits under its salutary provisions. One of our leading dailies has shown its interest in the subject by some judicious editorial comment relative thereto. It appears that, in a general way, the law has been a great boon to the business interests of the druggist. The "saloon" still exists, but it has now assumed the more tempting guise of the pharmacy. To procure the coveted liquor the would-be consumer need not, as in some States, flourish a physician's prescription in the face of a perhaps unwilling clerk. The Kansas citizen dispenses with that empty formality, for the statute allows him to be the sole judge of his alcoholic needs and requirements. The local paper above named "has prepared a curious and strikingly significant table giving a full list of the purposes for which liquor was sold in that county during the month of June last. It is an extraordinary exhibit. Three hundred and fifteen different reasons for wanting liquor are given, and the majority of these are of a character to satisfy the reader that the assumption of medical

uses was the shallowest pretence. Thus we find people demanding whiskey for bilious headache; for a broken arm; for spinal complaint; for bathing; for chronic diarrhœa and chronic constipation; for congestion of lungs; for dropsy and heart disease; for a mysterious complaint styled 'dry stomach;' for epilepsy; for gravel; for inflammation of the kidneys."

The New York *Tribune* continues: "It is wonderful how the thoughtfulness of the Osage County citizens is developed by the drug-store law. The number of men who wanted whiskey for their wives, for their children, even for sick babies, is truly surprising, while the humanitarian spirit is further shown in the eagerness with which the same remedy was sought for the special benefit of sick cows, mules, colts, and horses."

The Kansas law-makers are doubtless gratified to perceive how completely the objects aimed at by their measure are fulfilled. On the principle of *similia similibus curantur*, whiskey is certainly a sovereign remedy for "headache." A refractory druggist may, perhaps, believe that "the remedy" is not invariably suited to the particular "disease" for which he sells it. But the law gives him no power to exercise his own discretion. So that the man who suffered from "indigestion of the lungs" got his "medicine" just as promptly as if he had pleaded the wants of a sick baby or a sick mule. "In fact, the table cited proves that, if the Kansas saloons have been closed, the drug stores have taken their place quite effectively, and that so long as the present drug-store law remains on the statute books nobody is in any danger of suffering from 'dry stomach.' The *Free Press* has done public service in compiling these interesting and unique statistics. They constitute a revelation, for they indicate that in a so-called prohibition State there has been enough liquor influence to enact legislation which practically knocks the bottom out of the prohibition policy of the commonwealth. Such a drug-store law as that of Kansas is in effect a free liquor measure, and this the table of the *Free Press* completely demonstrates. Anybody and everybody can procure all the liquor they want in any part of Kansas, the only change being that they have to get it from an apothecary instead of a saloon-keeper. Of course it is nonsense to discuss such a state of things as having any definite relation to a real temperance movement."

We have nothing to add to this quotation, except to emphasize the fact, attested by ample experience, that repressive legislation has hitherto given us no more real temperance, than attempts to extinguish prostitution "by law" has given us universal chastity. It may be discouraging to have to write this, but the evolution of "man" from "animal" has evidently not yet reached the high latitude of immunity from vicious propensities. Until that millennial period, however, it is to be feared that the experience of the Kansas law-makers will be from time to time repeated.

TUBERCULAR CONTAGION THROUGH THE MEDIUM OF CHICKENS.

It seems to be a fact pretty conclusively established that tuberculosis can be transmitted by milk and infected animal food of certain kinds, though examples of the latter method of contagion are not as yet very numerous. An instance of this nature, of considerable interest and not without practical importance, was recently communicated to the Société des Sciences Médicales de Gannat by Dr. de Lamallerée.

In a little hamlet of ten cottages, isolated in the midst of a large forest, and always hitherto free from any cases of tuberculosis, a young soldier returned home affected with pulmonary phthisis. His wife also became tuberculous and gave birth to a child who speedily showed evidences of hereditary tuberculosis. Another woman in the same hamlet presented in her turn the evidences of pulmonary phthisis. She had had no intercourse with the first cases, but had eaten of eleven chickens which had died in the yard of the soldier's house. The chickens were cooked very little before being eaten. The autopsy of another of the same flock showed tubercular lesions of the intestines, and the tubercle bacilli were found in great numbers. These chickens would thus seem to have been the means of conveying the specific virus, having themselves become tuberculous from eating the sputa from the affected individuals.

This observation possesses a threefold interest, as showing the possibility of transmitting the contagium of tuberculosis from man to man, from man to animals, and from animals to man.

News of the Week.

The Naval Medical Service Again.—The daily papers are taking up the complaints made about the United States Naval Service. There are ten vacancies in the grade of Assistant Surgeon in the navy, which have existed for more than a year. It is with the utmost difficulty that suitable young physicians are induced to enter the service. The Board of Medical Officers at Philadelphia, in its annual statement, says that of thirty-nine candidates examined for appointment as Assistant Surgeons, only seven proved successful. This year the Board has as yet done no work, but will examine several applicants on the first of next month. The Surgeon-General regrets exceedingly that the superior advantages offered physicians to enter the medical corps of the army, leave but few desirable ones from which the navy can choose. The pay of an army Assistant Surgeon, immediately upon entering the service, is that of a First Lieutenant of cavalry. In the navy it corresponds with that of a Second Lieutenant of infantry. In the army the new Surgeon has good quarters, while in the navy he is obliged to dwell in the steerage. Surgeon-General Gunnell deplores this condition of affairs, and intends to make it one of the first objects of his administration to place the medical corps of the navy on a footing with that of the army. We wish him every success.

Dr. Luther M. Knight died at Franklin Falls, N. Y., February 2d, aged seventy-seven years. He was born in Franconia, and graduated from Dartmouth Medical School.

Dr. C. C. Rice.—The Trustees of the New York Post-Graduate Medical School and Hospital have elected Dr. Clarence C. Rice Professor of Diseases of the Nose and Throat, in the place of Dr. Clinton Wagner, resigned.

Decided Megalocephalia.—The brain of the late Professor Edward Olney, of Michigan University, is stated to have weighed sixty-one ounces. This weight is rarely exceeded, the records giving not more than four or five instances. Abercrombie's brain weighed sixty-three ounces, and Schiller's the same.

The Washington Irving Bishop Performances.—Those who have seen Mr. Bishop perform his extravagantly advertised "mind-reading" performances will be astonished most, perhaps, to think that so much discussion has been excited by them. His tricks are, with hardly an exception, manifest examples of muscle-reading, and can easily be explained upon that theory. Mr. Bishop has undoubtedly an extraordinary muscular sensitiveness, which has been highly trained; but as for mind-reading, he does none of it.

A Prize Essay on Hay-Fever.—A prize of $25 is offered by the United States Hay-Fever Association for the best essay on hay-fever, its pathology, causes, and treatment. The essay is to be practical and non-technical. Manuscripts are to be sent to Samuel Lockwood, Freehold, N. J.

The New York Obstetrical Society has become semi-public, *i.e.*, its meetings are no longer to be held at the houses of the members, and outsiders, to a limited number, can attend on invitation of the members. We agree with the New York *Medical Journal* that the change is "certainly experimental," and we fear that the prestige of the society will wane.

The New Hospital for Phthisis and Incurables, to be erected in this city at 144th Street and St. Ann's Avenue, will contain 250 beds and cost $150,000.

The Celebrated Gynecologist, Professor Schoeder, recently died in Berlin.

New Medical Journals. — The *Foreign Medical Press* is the title of a new journal recently started in this city under the editorship of Mr. J. L. Stern. The *American Journal of Psychology* is announced to be edited by G. Stanley Hall, Ph.D., at Johns Hopkins University.

The Tallest Man of Modern Times has recently been put on exhibition in London. His height is given as eight feet nine inches, which is about a foot higher than any other modern giant.

For Corns and Bunions an efficient remedy is equal parts of castor-oil and tinct. iodine. This is to paint on the part two or three times a day.

Beer and Health.—An alliterative organization, called the "Brewers' Benevolent Bureau" has instructed its physicians to examine 1,000 employees in the breweries as to their morbility, mortality, and general physical condition. These men drink three or four quarts of beer daily. Of the 1,000 only 2.5 per cent. were unsound, 7 having liver and 5 kidney disease, 1 heart disease, 1 phthisis. The death-rate was lower by forty per cent. than the average in an adult city population, and, altogether, the conclusion is to be drawn that the drinking of several quarts of beer daily is promotive of health and longevity. This is an instance, however, in which every-day experience quite overrides statistics.

Sexual Physiology and Mohammedan Women.—Mussulman girls are circumcised, says Dr. Zambaco, *i. e.*, have the clitoris removed at the age of seven. They menstruate, as a rule, at the age of nine or ten years. They marry, as a rule, at about this time, or even before, and the result is uterine disorder and a very small fecundity. Mussulman women have a horror of pregnancy, and abortions are common. Their whole life is centred about the sexual sense and its gratification, and the results are early maturity, slight fecundity, shorter duration of physical beauty and sexual life. Our esteemed but unwarmed contemporary, the *Boston Medical and Surgical Journal*, says: "The harem and the higher education may lead by widely divergent paths to a common goal, sterility."

The Excise Commissioners have assigned the sum of $113,000 to be divided among the charities of this city.

A Bill to Exempt Hospitals and other charitable institutions from paying the water-rates has been introduced into the State Legislature.

Intubation of the Larynx, Descent of Tube, Removal by Tracheotomy; Recovery.—Such is the history of a case reported by Dr. Joseph Eichberg, in the *Cincinnati Lancet and Clinic*. The tube did its work well, but when the symptoms had so improved that it was desired to remove it, the instrument, being of the old pattern, was pushed down and had to be removed by an operation.

Two New Medical Journals have recently reached us, viz.: *Zeitschrift für Nahrungsmittel-Untersuchung und Hygiene*, a monthly journal published at Vienna, and edited by Dr. Hans Heger, and the *Centralblatt für Bacteriologie und Parasitenkunde*, edited by Dr. O. Uhlworm, of Cassel, and published by Dr. Gustav Fischer, of Jena.

The Dark Side of Florida is said to be malaria and mosquitoes, both being more or less prevalent in most sections of that sunny State.

In Active Laparotomy of 347 gynecological cases presented to the Liverpool Hospital for Women, 167 were treated by abdominal section.

The Hospital Saturday and Sunday Fund had, at last accounts, reached the sum of $50,304.07.

The Michigan State Medical Society holds its next annual meeting on May 12 and 13, 1887, instead of in June, as was first announced. This change is to prevent any conflict with the American Medical Association, which meets June 7th to 10th.

Physicking the Paupers of Llanfihangelrhosycorn.—A correspondent of *The Lancet* writes: "For the privilege of physicking the paupers of the parish of Llanfihangelrhosycorn and the adjoining parishes the guardians offer, forsooth, a salary of no less a sum than £30 per annum, and at the same time gently announce the acreage of the district. The area of the combined parishes is stated to be 34,700 acres. The advertisement calls to mind some lines of Albert Smith:

"'The parish is small—ten miles by sixteen,
With some commons and gravel-pits scattered between;
And respecting the cases, to state 'tis p'r'aps right,
That they always occur at the dead of the night.'"

Reports of Societies.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, February 3, 1887.

ABRAHAM JACOBI, M.D., PRESIDENT, IN THE CHAIR.

AFTER the reading of the President's address, DR. JOHN H. GIRDNER was introduced, who read a paper and made a demonstration

ON DETECTING AND LOCATING METALLIC MASSES IN THE HUMAN BODY BY THE INDUCTION BALANCE AND THE TELEPHONIC PROBE.

The author first referred to the apparatus constructed by Professor Bell for detecting the bullet in President Garfield's case, an experiment which failed because of the haste in its preparation, and because the patient was lying upon a metallic mattress, unknown at the time, which interfered with the proper working of the instrument. Dr. Girdner said that now, however, we have before us a perfected apparatus, one which will detect and locate any piece of metal, wherever situated in the human body. It would prove particularly useful in times of war. The second apparatus, which he ventured to name the telephonic probe, was also the invention of Professor Bell, and was useful in connection with the induction balance, as by it the exact distance to the ball could be determined.

In the construction of the induction balance a bichromic battery was used, with six cells, and an ordinary interrupter, the interruptions being about six hundred to the second. The exploring coils were put in a framework of wood, which he called the explorer, while to the others the name adjusting coils was given. Thus in the primary current were two coils, in the secondary current were also two coils, and in the circuit was a telephonic receiver. When the exploring coil was not in relation to a metallic substance there was silence in the telephonic receiver, but as the explorer approached or receded from the metallic mass the balance was disturbed, producing a musical tone in the receiver. The sound was distinct a distance of six inches from the metal, if located in the human body; a less distance if the intervening space was occupied by air or an inorganic substance.

The telephonic probe consisted of a telephonic receiver and two wires, one terminating in a long, slender steel probe, and the other being connected with a steel plate laid over the surface of the body in the neighborhood of the metallic mass, as determined by the induction balance. The steel probe being now plunged into the body (the surface having been first rendered insensitive by cocaine), as soon as it reached the metal a distinct click is heard. The practical working of the first instrument was demonstrated upon a man in whose chest a bullet had become lodged during the civil war, and of the second, upon a piece of beef into which a mass of lead had been placed. The President was also able to discover with it a quarter of a dollar in one of his pockets.

DR. NEWTON M. SHAFFER then read a paper on

THE USE OF CONTRACTION IN THE TREATMENT OF CLUB-FOOT, WITH A CONSIDERATION OF SOME OF THE MECHANICAL PRINCIPLES INVOLVED, AND A DESCRIPTION OF THE ANTERO-POSTERIOR AND LATERAL TRACTION APPARATUS.

The paper was supplementary of one previously published in the MEDICAL RECORD. Numerous diagrams were presented, showing the mechanical principles involved in motion at the ankle-joint in health, and it was a return to this state for which treatment was instituted in club-foot. The author claimed that there was only one antero-posterior centre of rotation, and that is not at the ankle-joint, but below it. The direction of the heel in flexion of the foot is downward and forward, and of the toes forward and upward. These principles should be carried out in any apparatus devised to overcome club-foot, but, in fact, the apparatuses employed ordinarily act on principles quite opposed to those which we see in nature. For instance, instead of being constructed and applied in a manner to push the heel downward and forward, and to bring the toes upward and forward in overcoming talipes equinus, they make direct traction upon the toes, fix the heel in a manner to prevent it from going downward and forward, and indeed, by the force exerted upon the toes, tend rather to bring the heel in the opposite direction, namely, backward and upward. His own instrument, based upon the principles seen in the action of the healthy foot, was then described, and also the one intended to overcome varo-equinus—instruments which he had greatly improved since his last publication. He rarely found cases which did not conform to traction treatment, and still more rarely those which did not yield to tenotomy and traction combined.

DR. RIDLON said that, after six years' experience, he was unable to obtain as good results from the lateral shoe as were obtained by Dr. Shaffer. There were certain cases in which good results could not be obtained by traction, by whomsoever applied, and he thought we ought to be able to distinguish those cases from the beginning. One indication was a sensation of shivering or shudder passing throughout the patient's entire system when the foot is placed upon the stretch.

DR. KETCH said it ought not to be forgotten, in applying Dr. Shaffer's method of treatment, to employ traction intermittently. Relapses after tenotomy were common, and the usual so-called after-treatment was rendered much less by the use of traction with Dr. Shaffer's apparatus. He had been much gratified with the results of the lateral extension shoe.

DR. JUDSON remarked that, inasmuch as Dr. Shaffer's apparatus was capable of exerting a great deal of force, he thought it should be in capable hands. He would say, but not as a restriction upon the paper, that proper treatment instituted very early ought to do away with the necessity for an operation or apparatus.

DR. SHAFFER closed the discussion, and expressed some surprise that Dr. Ridlon had found the use of his lateral traction apparatus difficult. In fact, the parents could regulate it after a few visits by the physician. It should be made to fit in the first place, and the treatment should not be hastened. Some of his best results had been obtained in cases in which Dr. Ridlon thought tenotomy was indicated, namely, pain and a shudder passing through the system on making traction with the shoe.

The President was chosen as one of the committee to consider the question of an eligible building site for the Academy, the other two, consisting of Drs. George A. Peters and F. A. Castle, having been named by the council and trustees.

In March the following resolution will be voted upon:

Resolved, That the trustees and council be and are empowered to purchase a site or building, or erect a new building, for the Academy when such a course shall be considered expedient.

VACCINATION IN CHINA.—The Chinese have, from time immemorial, made a practice of inoculating small-pox; but as those inoculated are not isolated but mingle freely with others, the result is that the disease is spread only the more widely. They have of late, however, been adopting vaccination very extensively, and it is now not at all uncommon to see notices posted in various parts of the cities informing the public where they may take their children to have them vaccinated.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, December 22, 1886.

JOHN A. WYETH, M.D., PRESIDENT, IN THE CHAIR.

DR. W. H. PORTER presented, in behalf of a candidate, a set of specimens, consisting of the brain, which showed marked thickening of the pia mater; the liver, which was atrophied, and the kidneys, which were cirrhotic.

DR. WESLEY M. CARPENTER presented, in behalf of a candidate, a specimen of *cystoma* of the ovary, with pyo-salpinx.

PULMONARY SYPHILIS.

DR. W. H. PORTER presented two lungs which illustrated syphilitic phthisis. In one there were at the apex two small nodules, which he regarded as gummata. The case was one of acute alcoholism, and the patient died of lobar pneumonia, beginning in the apex of the other lung. The peculiarities of the gummatous formations are that they are sharply defined, have a distinct fibrous capsule, and a cheesy centre, which, after a time, break down and ulcerate into the bronchial tubes and ultimately form cavities. Absence of tubercle bacilli is also an important fact, as well as absence of rise of temperature.

The other lung showed the same lesion more extensively, and contained neither tubercles nor tubercular tissue. It was taken from the body of a man who had been in the hospital for some time, and although both lungs were infiltrated with the process throughout almost their entire extent, and contained numerous small cavities; the patient had neither elevation of temperature nor cough with copious expectoration.

Dr. Porter had found the bacillus of syphilis, described by Lustgarten, in twenty-three per cent. of the specimens examined, and in the same specimens had failed to find the tubercle bacillus. The syphilitic bacillus had been particularly abundant in the centre of the nodules.

In answer to a question, he said that he would distinguish the syphilitic lesion from pneumonic phthisis by the distinct capsule surrounding the nodules and the formation of a large amount of interstitial tissue. In that case, also, the presence of Lustgarten's bacillus would be an important fact.

DR. H. J. SCHIFF presented a specimen of

SYPHILITIC EPIDIDYMITIS

with the formation of abscess. J. A——, twenty-seven years of age, single, and a liquor-dealer, had always been healthy except for his various venereal troubles and their sequelæ. Ten years ago he had a sore on the upper part of the penis that left a cicatrix as large as a silver quarter of a dollar. He came to Dr. Schiff thirteen months ago with almost complete retention of urine, who, with difficulty, introduced a filiform bougie, and finally, at the end of two months, was able to introduce a No. 22 French. Two months later the patient had right epididymitis following gonorrhœa, which so yielded that within a few weeks treatment was discontinued. About three months after the beginning of this attack he had another attack of epididymitis on the right side, following a fresh gonorrhœa. This yielded to treatment in eight days.

Eight days subsequently he came to Dr Schiff with a typical initial lesion of syphilis, and said that he had not had sexual intercourse since his last attack of epididymitis. Dr. Schiff concluded that the patient was doubly infected five weeks before. This was on August 24th. He applied a solution of bichloride of mercury, 1 to 1,000, and the sore healed in eight days.

On October 2d the patient came with secondary roseola. Mercurial inunction was begun. On November 1st there was commencing alopecia, besides large raised condylomata around the anus and scrotum. He also had mucous patches in the throat. The mixed treatment was prescribed, and the condylomata were painted with a solution of bichloride of mercury in ether—1 to 60.

November 10th he had retention of urine, was placed in bed, and had sounds passed until November 27th, when the urethra would receive a No. 26 French. During this time he took no medicine and felt fairly well.

On December 11th the right side of the scrotum was swollen, and the epididymitis enlarged but not very painful. The mixed treatment with evaporating lotions was prescribed.

December 19th, scrotum much enlarged and fluctuating. Severe pain of a burning character, and aspiration revealed pus. On December 21st Dr. Schiff made an incision, evacuated about six ounces of pus, found the epididymis much enlarged, and he could squeeze pus from places where it was broken down. He extirpated the testicle.

The specimen showed an enlarged and hardened epididymis, with softening in spots, which yielded pus on pressure. It was interesting as an illustration of the rapidity with which syphilis may run its course.

DR. H. J. BOLDT presented two specimens of

PYO-SALPINX,

interesting chiefly on account of the fact that the pain of which the patients complained was referred to the side opposite to that with the diseased appendage; also the disease was well-marked upon one side, while on the other the organs were apparently perfectly healthy.

The *first* was from a patient, eighteen years of age, married, and the mother of one child; no miscarriages. Menstruation began at the age of thirteen. For five months the patient complained of intense pain in the left inguinal region, backache, and cephalalgia; bearing-down pain on micturition; metrorrhagia and profuse leucorrhœa.

Diagnosis of probable pyo-salpinx on the right side, because on admission to hospital the patient's general condition was very poor and accompanied by some fever, and the right ovary and tube were enlarged and prolapsed. On the fourteenth day after the operation the patient left the hospital apparently well.

The *second* was from a married woman, thirty-three years of age, who had had three children and four miscarriages. The last child was born six years ago. Menstruation appeared at the age of fourteen. There was a history of gonorrhœa. For the last four months she has had intense backache, and abdominal pain of the bearing-down character, menorrhagia and metrorrhagia, intense pain in the left inguinal region, running down the corresponding thigh and leg, and profuse leucorrhœa. On opening the abdomen there was found, besides a parovarian cyst and a cyst in the broad ligament, a suppurating ovarian cyst, which ruptured, and the adhesions were so firm that the use of a drainage-tube was necessary. The patient was doing well.

DR. BOLDT also presented

A URETHRAL CALCULUS

removed from a boy, fourteen years of age, who gave the history of an illness beginning in 1875. At first there was difficult micturition, the bloody-colored urine escaping only by drops, with marked tenesmus. He went to Roosevelt Hospital, where he remained three months, and returned as incurable. In 1877 he began to have epileptiform convulsions. In 1878 he was admitted to Bellevue Hospital, where he was circumcised, but no relief was obtained, and his condition remained, after removal from the hospital, substantially unchanged up to December 19, 1886, he having been, in the meantime, under the care of several physicians. When Dr. Boldt first saw the patient he had a continuous desire to micturate, was pale and weak, but was able to pass his water only in drops. The meatus urinarius was unusually small, and this Dr. Boldt at first thought was the cause of all the trouble. But he discovered a small mass, apparently in the urethra, near the root of the penis, and was able to work it forward slowly until it was near the

meatus, which he then divided freely, and the calculus was removed. Could the calculus have been in the bladder near the urethral opening, and there remained without change of position, and caused all the symptoms for which he had been treated, or had it been in the urethra, where it steadily increased in size? He was inclined to the opinion that it had been from the beginning a urethral calculus.

Dr. Amidon presented a specimen of

CARCINOMA OF THE SPINE,

with the histories of two other cases of malignant disease of the spine—one being sarcoma. He regarded the cause of the pain, from which these patients suffer, as filling up of the intervertebral foramina with the new growth. There were small nodules of the malignant disease in the liver in the first case, and it had been a question whether or not the carcinoma of the sacrum and other portions of the spinal column was primary.

Dr. Mendelson said that the case was very similar to one which he saw two years ago. There was a history of injury in September, and in December the patient began to suffer from pain in the middle dorsal region, and intercostal neuralgia became the chief symptom. Finally the diagnosis of caries of the spine was made, although there was no deformity, and only slight tenderness on pressure. The patient grew worse steadily, symptoms of pressure myelitis developed, and he died six months afterward. At the autopsy a tumor was found within the spinal canal, extending from the body of the third to that of the fifth dorsal vertebra, which, by pressure, had produced great thinning of the cord. The bodies of the vertebræ were more or less involved, and there were extensive deposits in the lungs, so great that the diseased exceeded by far the normal tissue. About one month before death the diagnosis of tumor pressing upon the cord was made, because of a secondary deposit which appeared just above the sterno-clavicular articulation on one side, and there were deposits also in the skin. The case was interesting, especially with reference to diagnosis. At no time was there any deformity, although the bodies of the vertebræ were found extensively diseased; but the lack of deformity was attributed to the fact that the patient was most of the time in the horizontal position upon a water-bed.

Dr. Prudden thought that the small size of the nodules of malignant growth in the liver did not necessarily exclude the idea that they were primary, and the disease in the spinal column secondary. Primary carcinoma of the bones, it was generally conceded, occurred very rarely, and even its occurrence at all was doubtful. It was also well established that secondary malignant disease frequently progressed much more rapidly than the primary.

Dr. Prudden further remarked, concerning

THE EPITHELIAL ORIGIN OF CARCINOMA,

that two practical objections had frequently been urged to the acceptance of the view of the exclusive epithelial origin of carcinoma, namely, the occurrence of so-called primary carcinoma of the bone, and primary carcinoma of the peritoneum, pleura, and pericardium.

In regard to the apparent occasional exceptional occurrence of so-called primary carcinoma of the bone, it may be said that they are becoming less and less frequent as autopsies are being more carefully made, and nothing but the most complete examination of every part of the body in which primary cancer is wont to occur can justify the anatomical diagnosis of primary bone cancer. If such cases do occur, they may be explained on Conheim's theory of displaced embryonal remains. But the most serious objection, after all, to a belief in the exclusive epithelial origin of carcinoma, has been its not infrequent occurrence in the peritoneum and on the pleural and pericardial surfaces, because it has long been an accepted view that the great body cavity, which later became divided into the peritoneal, pleural, and pericardial sacs, was formed by a split in the mesoblast, was lined with true endothelium and hence was a connective-tissue structure. Recent researches, however, especially those of His and Waldeyer, and these were in a measure confirmed by Balfour, have shown that the great body cavity is not of connective-tissue origin at all, but is originally formed by diverticula from the gastro-intestinal canal, and is thus lined with true epithelium. This epithelium at a later period becomes greatly flattened, and has the appearance of the true endothelium, such as is found in the blood- and lymph-vessels. The analogy of the peritoneum with the lymph-vessels has seemed to find a justification in the free connection of the two by means of stomata; but the stomata are of late development after the peritoneal epithelium has changed its characters.

These considerations thus afford a most satisfactory explanation of the occurrence of primary carcinoma of the body cavities, which is no longer an exception, and no longer an argument against the exclusive epithelial origin of carcinoma. On the contrary, it affords a most excellent and striking example of the tendency of cell growth in tumors to reproduce the embryonal type.

Dr. W. H. Porter had examined the specimens in two cases of extensive disease of the lumbar vertebra, supposed to be cancerous, but it was found that the disease was sarcoma. There were also extensive deposits in the liver, lungs, spleen, etc. It seemed to him that where diffuse growths were found with disease of the spine they were likely to be sarcomatous rather than carcinomatous.

Dr. Amidon said that in one of the three cases he had reported the disease was sarcoma, but the specimen just presented had been examined by Dr. Frank Ferguson, who reported that it was carcinomatous. There were two facts of which he wished to speak, and the first was tenderness. Many, if not most physicians, argue against organic disease when there is no spinal tenderness, as much as they do for it when the tenderness is prominent. When the spine is excessively tender it is generally regarded as functional. But in all the cases of malignant disease of the spine which he had seen, and he had seen several, decided tenderness on deep pressure had been present. This point was brought to his attention particularly by a case which he saw in consultation at St. Luke's Hospital. A negro girl, twelve years old, had gradually increasing and painful paraplegia. He found a trifling knuckle in the lower dorsal region that was excessively tender, as was also the entire spine. She had been treated by an orthopedist, who argued against malignant disease of the spine because of the fact that it was so tender. The child died, and it was found that the disease involved the bodies of the vertebræ and was tubercular in character. Dr. Amidon thought that it could be said with safety that organic diseases of the spine are not necessarily insensitive to pressure, but are sensitive to deep pressure.

Another point was the extremely long period of latency in some cases. There might be a history of painful affection of the spine, extending over several years. According to his experience these cases have a long latent period, which was very apt to mislead one with regard to the true pathological condition present; malignant disease elsewhere being usually a rather acute process.

The President said that he removed a cancerous breast last March, and three months after the operation symptoms of metastasis occurred in the lumbar vertebræ. There was kyphosis between the seventh and ninth dorsal vertebræ, but there was no tenderness on pressure, and still the patient suffered the most agonizing pain from pressure on the intervertebral disks. There was no paraplegia or paresis. Dr. Janeway saw the patient, and diagnosticated metastasis to the spinal column, and said that he had seen two cases with similar symptoms.

Dr. Van Santvoord reported at the meeting, January 12, 1887, that Dr. Wyeth's patient is now suffering from pain along the eleventh and twelfth intercostal nerves; also pain along the distribution of both anterior crural and sciatic nerves, which dates to a period anterior to the removal of the breast. At the time the breast was removed these pains were regarded as neuralgic, but probably were due to organic changes in the vertebræ, thus sustaining Dr. Amidon's belief that malignant disease of the spine may remain latent for a long time.

The Society then went into executive session.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

PHOSPHATIC DIABETES — THE SUTURE OF DIVIDED NERVES—PHYSIOLOGICAL EFFECTS OF MASSAGE—A NEW OPERATION FOR IMPERFORATE ANUS—A GENERAL SPECIAL HOSPITAL—SIR JAMES PAGET'S PRESIDENTIAL ADDRESS AT THE PATHOLOGICAL SOCIETY—TRUE LIPOMA OF HEART—SPONTANEOUS DISINTEGRATION OF A VESICAL CALCULUS—BURMESE MIDWIFERY—THE HIGHER EDUCATION OF WOMEN—A CURIOUS LEGAL CASE—THE WILSON BEQUEST—THE NEUROLOGICAL SOCIETY—A NEW YEAR'S CARD.

London, January 19, 1887.

The last week's society meetings have been full of interest. The more important subjects under discussion have been phosphatic diabetes, the suture of divided nerves, and the physiological effects of massage. At the Medical Society of London, Dr. Ralfe, long favorably known for his researches on urinary chemistry, read a paper on phosphatic diabetes. Particulars were given of thirteen cases. The cases were arranged in groups, according to the classification of Professor Teissier. All but two of the patients were young adult males. The symptoms in all were emaciation, aching pains in the loins and pelvis, dry harsh skin, tendency to boils, ravenous appetite, and, in some cases, cataract. In most of the cases there was polyuria; in others the urine was normal in quantity, but with a high specific gravity. The urea was increased—in some cases slightly, in others considerably. In all the cases the phosphoric acid eliminated was considerably—and constantly—increased in amount. Dr. Ralfe thought that the increased elimination of phosphoric acid did not depend so much upon increased metabolism of nervous matter as upon defective nutrition. When it was associated with nervous derangements or phthisis, respectively (Groups 1 and 2 of Teissier), the prognosis was unfavorable. When alternating with saccharine diabetes (Group 3), or running a distinct course by itself (Group 4), the outlook was much better. Two cases under Group 3 had got well. For measuring the amount of phosphates discharged he employed volumetric analysis, uranium nitrate being used to precipitate the phosphates. Care must be taken to use a specimen of urine from the mixed urines of the twenty-four hours.

At the Medical and Chirurgical Society an animated discussion on the suture of divided nerves followed the reading of a paper on the subject by Mr. J. Bland Sutton. Mr. Sutton maintained that by following the rules which had been gained by studying the effects of neurotomy in horses, the ends of the divided nerve could be found with ease, and then sutured. In horses, after the experimental performance of neurotomy, he had found a delicate fibrous band present, uniting the divided ends. Mr. Holmes doubted the general existence of this band, an opinion shared by Mr. Bowlby. The latter remarked that in cases where the injury was an old one, it was evident that not only the nerve, but the muscle, had to be remade. The first sign of restoration was a return of voluntary power; this might precede the return of electrical reaction by many months. He was convinced that the lower end of the nerve could be regenerated without being brought into contact with the upper end of the divided nerve. Thus it might happen that union of divided ends, even after a long time had elapsed, would be followed by very rapid return of function. Mr. Hulke asked what we were to do if the divided ends were so widely separated as to render it difficult, if not impossible, to bring the divided ends together? German surgeons had united them by pieces of sciatic nerve from sheep and dogs, and apparently with success. A method of side-splitting the nerve and bringing one piece down to fill the gap had also been used. Cylindrical decalcified bird's bone had also been tried. Mr. Warrington Haward remarked on the great variation in the time that elapsed between operation and restoration of function.

An interesting paper on Massage, by Mr. Symons Eccles, was then read. Mr. Eccles had made a number of experiments on healthy persons as to the effects of massage. He described four distinct manipulations, viz., *effleurage*, *pétrissage*, *massage à friction*, and *tapotement*. Massage was a combination of these, and its immediate and remote effects were that the texture of the skin was improved, the sense of locality increased, and the general temperature of the body raised. The surface temperature of a part under massage was higher than that of the rest of the body, while abdominal massage reduced the temperature of the extremities. A course of massage of one month increased the body-weight, the appetite, muscular strength, and ability to eat and sleep well. Dr. Hermann Weber remarked that medical men should themselves superintend the treatment. Dr. Playfair observed that he had taken more interest in the forms of the disease for which it was useful than in massage itself. As a remedial agent in neurasthenia it was most important. Many patients put on several pounds a week, and he had known the body-weight to be doubled in six or eight weeks. In a case of destructive disease of one lung eighty-four pounds in weight were gained in a few weeks. He believed that any hysterical appetite could be made by this treatment to eat, assimilate, and digest more than a Lifeguardsman could in the same time. Dr. Douglas Powell remarked on the necessity for medical supervision, and said he had known a nurse induce hæmaturia by rubbing, contrary to order, an abdominal tumor. Dr. Arthur Gamgee said there was a difficulty in acquiring all the methods. To treat infantile paralysis or scrivener's palsy by massage a thorough anatomical education was necessary. Massage could modify the condition of internal organs.

At the Clinical Society the most noteworthy paper was one by Mr. Mayo Robson, of Leeds, in which he suggested a new plan of treatment for certain cases of imperforate anus. Where the bowel could not be readily reached from the perineum the recognized treatment had been, he said, to perform either Littré's operation or colotomy. But in such cases the mortality was very heavy. Mr. Robson advocated making an incision from the central point of the perineum to the coccyx, and then a careful dissection until either the bowel be reached or the peritoneum opened, when the upper end of the rectum or the sigmoid flexure of the colon could be brought down and sutured to the skin in the anal region. Mr. Robson described the case of a child of a day on whom he had performed this operation last March. The child recovered without a bad symptom, and when last seen the anus appeared normal and there was a daily motion. He considered the operation not difficult if a catheter were passed into the bladder and a good horizontal light was available. Mr. Harrison Cripps criticised Mr. Robson's statistics, and said that he had collected a hundred successful cases of Littré's operation. He had himself had five successful cases out of sixteen. Where no sign of

an anus could be found he remarked that the results of operations were much more favorable than when some trace could be seen, as the malformation was often more serious in the latter case. He preferred Verneuil's operation of resection of the coccyx without opening the peritoneum.

We are threatened with another hospital in London in commemoration of the Queen's jubilee. Yet those already existent are languishing for want of funds, and in some the wards have been partially closed. The new institution is to be a special hospital *devoted to all the specialties*, and is to be located in the aristocratic neighborhood of South Kensington. That such a hospital can really be needed no well-informed person can for a moment suppose. To say that it is being started as a commercial speculation in the interests of certain medical men would probably not be far from the truth!

London, January 26, 1887.

On Tuesday last Sir James Paget delivered his inaugural address at the Pathological Society on assuming the presidential chair. He observed that it was characteristic of modern pathology that it offered work sufficient for the employment of nearly every variety and opportunity of the scientific mind. There was in it work not only for the anatomist and physiologist, but for the clinical observer, the experimentalist, the minutest microscopist, the statistician, the chemist, the naturalist, the historian, the psychologist, and yet more. Of all these methods of study, Sir James Paget remarked that there were only two with which he had been much occupied—those of pathological anatomy and of clinical pathology in active practice. We might justly believe, he said, that practice and pathological anatomy, if studied with the scientific mind and methods, would still contribute largely to the progress of the whole science of pathology. We heard science and practice spoken of as in opposition, and sometimes as if they were mutually distrustful. What practice might be depended much more on the person engaged in it than on its own subject-matter. It might be for one a noble profession; for another a vile trade. In equal contrast it might be a mere useful art practised by one who had neither love nor knowledge of any science, or to the man of scientific mind it might be a thoroughly scientific study as well as an applied science. As examples of scientific researches made in active practice were instanced those by which Bright attained the knowledge of the disease bearing his name, and Jenner's discovery of vaccination. As to the latter, we must observe that Jenner was a thorough naturalist, trained by John Hunter. Practice, said Sir James Paget, was full of opportunities for science. He suggested one group, viz., the action of specific medicines, such as that of quinine in malarial diseases, of mercury and of iodide of potassium in syphilis, of arsenic in many cases of psoriasis, or of bromide of potassium in some cases of epilepsy. Here were sure facts, but among these empirical facts modern scientific work in practice might win great riches in pathology. For the medicines he had named were not only remedies, but diagnostic tests, and we might guess that each of them detected the presence of some material belonging only to the disease which it cured. Here, then, was work for the scientific practitioner. He might find the material and more, if he would observe the facts in practice more minutely, and record and collect them, and bring to bear upon them as much light as possible from other sections of pathological science. They would yield more knowledge, and his practice would be promoted to a better title than "empirical."

The fact pointed out by Dr. Bright, that there was a form of dropsy always associated with disease of the kidneys, was accepted at first as a singular fact and nothing more. It would be difficult to tell now into what, with fifty years of scientific culture, that singular fact had grown. Could any fact stand more alone than did that of the use of vaccination as first observed by Jenner? Now it might be honored as the first knowledge attained in all that wide range of knowledge in which Pasteur's great work had been done, and to which Power and Klein had lately annexed their admirable discovery of the true source of the milk scarlatina. There were many more of this group of the facts of which we had better knowledge in practice than we had in morbid anatomy or any other section of pathology. As instances, Sir James Paget referred to predispositions to disease, functional diseases, sequelæ to certain diseases, and hybrid morbid conditions. The best way to remedy these defects was by study and minute scientific work in practice. It could be proved by the example of other sciences that the more minute the inquiries, and the facts obtained by them, the more sure and complete would the fusion of pathology become with the whole body of biological science, and the more would it thence gain. Whenever possible, minute microscopical examinations should be made upon the living as well as on the dead morbid structures. He uttered a warning suggested by the word "structureless." It suggested that we had really reached a boundary, that something was really structureless, or that there was a protoplasm which was the same always and everywhere, at least in the same species. The protoplasm in every structure, he remarked, must be essentially different from that of every other, and these differences would be discovered by our successors if we did not discover them. At the same meeting of the Pathological Society, Dr. Handford showed a specimen of fatty tumor of the heart, and said there was no satisfactory example of a true lipoma of the heart in any of the nineteen principal museums in the kingdom. There were only three doubtful specimens, two of which were probably examples of fatty overloading, and the third was classed among "tumors of doubtful origin."

Dr. Ord showed some fragments of a vesical calculus which had been passed per urethram as the result of spontaneous disintegration. The patient was a gentleman aged seventy-five, who had for six years past had both sugar and albumen in his urine. Large crystals of free uric acid were also passed. The fragments passed consisted of free uric acid and urate of ammonia.

Obstetricians have been greatly interested by a paper read by Dr. Pedley, of Rangoon, at the last meeting of the Obstetrical Society. The subject of the paper was the Burmese and their customs, especially in obstetric matters. Midwives were employed who were of low class and ignorant, and the more decrepit with age they were the more were they respected. As among some other uneducated nations, every method was used to exclude air from the lying-in chamber, in which also a wood fire was lighted and, there being no chimney, the smoke filled the room. Abdominal pressure was employed throughout labor. A silk scarf was also tied tightly round the body above the umbilicus, and drawn tighter as the case proceeded, their idea being that it prevented the uterus from rising into the chest. In all first cases the midwife tore the perineum, either with her thumb-nail, which was grown sharp and long for the purpose, or with her great toe-nail. After delivery of the child, if the placenta did not follow quickly, the cord was dragged on, and, if this failed, the placenta was removed by the hand or torn away piecemeal. The mother was washed, the whole body rubbed with turmeric, and saffron plastered over the vulva. The fire was kept up, and hot bricks wrapped in rags, or bags of hot sand, placed on the abdomen, and twice a day the patient squatted over smouldering embers upon which turmeric had been thrown, or over steam arising from hot bricks. The skin was often blistered, but heat was supposed to heal the parts. When delivery was delayed, various barbarous methods were used, such as standing on the abdomen or placing a bamboo or plank across it, and pressing on each end. These methods were very fatal. Burmese women really needed but little assistance if left to nature, as their pelves were

roomy, and expulsive efforts strong. The Burmah branch of the "Countess of Dufferin's Fund" had determined to undertake the supply of properly trained native midwives.

In Dr. Langdown Down's recent Lettsonian Lectures, he touched on the recent controversy as to the higher education of women, started by Dr. Withers Moore's remarks on the subject in his presidential address at the annual meeting of the British Medical Association at Brighton, in August last. Dr. Down is not one who sees danger in every form of higher education. He said women should be made fit to be not only "mothers of men," but also companions and helpers of men. At the same time he does not approve of over-pressure, and uttered a warning as to the danger of cultivating too much the "emotional side" of woman's nature.

A curious case has been occupying the attention of the law-courts for some days, and was decided yesterday. A gentleman, while dining at a restaurant off some quails and chopped spinach, felt something stick in his throat. This ultimately proved to be a threaded needle, as after passing down and causing an ischio-rectal abscess, it was recovered. A fistula resulted, and two operations were performed. He brought an action against the restaurant keeper, but has been non-suited.

The Wilson bequest is still exciting much interest at the College of Surgeons. No decision has as yet been arrived at.

Dr. Wilks is to be the new President of the Neurological Society.

The following announcement appeared a few days ago in the advertising columns of a daily paper: "A medical practitioner of high standing in the West End of London has received, in the form of a New Year's greeting, the following: 'Asses can be hired or bought.' He begs to say that the Ass that sent it is SOLD."

OUR PARIS LETTER.

THE POSSIBILITY THAT THE SO-CALLED PREVENTIVE TREATMENT FOR HYDROPHOBIA MAY ITSELF ORIGINATE THE DISEASE.

PARIS, January 14, 1887.

PASTEURISM has taken an unlucky turn of late, for certain circumstances have been brought to light which are anything but favorable to the method, and that by men who are not necessarily adversaries to it, but who are earnest investigators, in common with the illustrious biologist who has given his name to the method, for the well-being of humanity. Professor von Frisch, of Vienna, has, after having performed several experiments with the virus of rabies supplied to him by M. Pasteur, come to the following conclusions: "Most of the animals which were submitted to the preventive treatment after subcutaneous inoculation with street rabies, died of the disease even when the period of incubation was thirty-four days. The experiments, according to M. von Frisch, show that M. Pasteur's method of rendering animals refractory to rabies is not yet proved to be quite certain. There is not yet a sufficient scientific basis for the application in man of a preventive treatment after the bite of a rabid animal." But the most appalling reflection suggested by von Frisch, is "the possibility that the preventive treatment, or, at any rate, the intensive method recently adopted by M. Pasteur, may itself transmit the disease." A case lately brought to the notice of the Paris Academy of Medicine by Professor Peter would seem to afford grounds for such a hypothesis. It was that of a young man, aged twenty, who was bitten, about the beginning of November last, by a dog which, recognized by a veterinary surgeon as being mad, was killed. Two days after the patient went to M. Pasteur's laboratory in the Rue Vauquelin, where the inoculations, according to the intensive method formulated by M. Pasteur, were performed in the hypochondriac region. Three inoculations were practised daily for twelve consecutive days, the first having been commenced on November 2d. The patient's health remained perfect to December 12th, when he experienced for the first time a premonitory symptom of considerable importance, viz., pain originating *from the points where the antirabic inoculations had been practised*, and not from the cicatrix of the bite in the finger. His indisposition soon became general and was attended with a feeling of extreme weakness; the patient refused to eat, and he died four days after, that is on December 16th, without having had any convulsions, about six weeks after the bite. Dr. Miquel, who was sent for, arrived just to find the patient dead, with froth at the mouth.

"It is impossible," observed M. Peter, "not to be struck here with at least two facts: The first is, that the premonitory pains set in, not in the bitten finger, but from the points of the inoculations. The second is, that the symptoms were not those of ordinary hydrophobia, for, setting aside some spasms of the œsophagus, the predominant accidents, instead of being of a convulsive character, were paralytic." Dr. Dujardin-Beaumetz did not find Professor Peter's observation conclusive, adding that nothing proved that the patient in question died of rabies; the patient had not been seen by a medical man and no autopsy was made. M. Chauveau, the well-known veterinarian, conceded to M. Peter that the patient may have died from rabies, though this has not been demonstrated. Even were the fact admitted, it would only prove that the preventive inoculations were inefficacious, and nothing more. In fine, it was going too far to assert that Pasteur's method was infallible. As to pretend that the rabies in the above case had been communicated by the inoculations, is quite another matter. The paralytic form of the malady proves absolutely nothing, and as much may be said of the premonitory phenomena which might have had their starting-point at the seat of the inoculations. These local phenomena are often wanting, and they have, in fact, a value of little importance. M. Verneuil finds that M. Peter abuses the *post hoc ergo propter hoc*. When one has been inoculated with an infectious malady and dies, it is not always, and fatally, from that malady, and he regrets that the observation of M. Peter is incomplete, and that it does not present the rigor of a scientific fact. He also wanted to know the reason why the veterinary surgeon had the dog killed that bit the patient, if it was only to ascertain that it was rabid, for he must certainly know that one can learn nothing very serious at the autopsy which would enable one to form a positive diagnosis of rabies, unless he inoculated another animal from the spinal marrow, which was just what he omitted to do.

At the same meeting M. Trélat, the President, read a letter that he had just received from Prince Zughil, of Russia, stating that ten Russian soldiers that had been bitten by a dog were sent to Paris to undergo the inoculations at M. Pasteur's laboratory, adding facetiously that they returned "cured," but that the dog which bit them was at the time, and is now, quite well. This excited some hilarity, but M. Trélat gravely remarked that this letter is interesting in the sense that it attests the innocuity at least of the inoculations, and that it should be saved as a document for the archives of the Academy. The discussion, which promises to be very exciting, was resumed on Tuesday last, but as several members are taking part in it, I shall report the result in my next.

In a report from M. Béclard, Dean of the Paris Faculty of Medicine, it is stated that the number of medical students regularly registered for study during the official year 1885–86 was 3,696, of which 533 were foreigners. Of this last number 108 were women, the greater part being Russians.

Professor Pajot, the well-known accoucheur, having completed his seventieth year, has retired, and his chair is to be temporarily occupied by Dr. Pinard, an agrégé of the Paris Faculty of Medicine.

DANGERS OF ADMINISTRATION OF ETHER IN NEPHRITIS.

To the Editor of The Medical Record.

A recent issue of your journal contains an article by Dr. Henry B. Millard—on "The Dangers of the Administration of Ether in Nephritis and in Bright's Disease." As the author has made some effort to present the literature on the subject, I beg to offer an important contribution.

During the winter of 1865–66, I lost a patient from uræmic poisoning a few hours after closing a laceration of the perineum, and in a subject otherwise in perfect health apparently.

This case drew my attention to the danger attending the administration of ether with any existing disease of the kidneys. It was reported to the Obstetrical Society; other cases have been given from time to time, and published in the different medical journals. Very little has been written on the subject, but I have had credit for the original investigation.

At the annual meeting of the State Medical Society, February, 1872, I read a paper on "Chronic Cystitis in the Female," which was reported in the medical journals of the city, and was afterward published at length in the *American Practitioner* for February, and in the "Transactions of the State Medical Society" for that year. I there state—"To the effects of the anæsthetic I attribute the chief danger attending the operation in the advanced stage of the disease, while from the irritability of the bladder its use is indispensable. As the kidneys are barely able to perform their function sufficiently well to preserve life, the balance is easily lost in the attempt at elimination, and death from uræmia rapidly takes place."

During my service as "Surgeon in Chief" of the Woman's Hospital, it was a standing rule, which I endeavored to enforce, that in every instance the condition of the kidneys should be carefully investigated before the administration of an anæsthetic.

In the first and in the subsequent editions of my work on "The Principles and Practice of Gynæcology," this subject will be found treated of, and in the Index under the head—"Ether, danger of, in cystitis with renal disease."

Thomas Addis Emmet, M.D.

January 31, 1887.

HOSPITALS, THE SICK POOR, AND ALL ENGLAND.

To the Editor of The Medical Record.

Sir: The rapid growth of the population of Great Britain in recent years has caused a corresponding increase in the number and variety of those cases of sickness among the poor which can be adequately treated only in hospitals. Along with the increase of these cases there has been a similar growth in the hospital provision for meeting their necessities. But while the sick abound and the hospitals are numerous, there is often experienced very great difficulty in finding out the right hospital for the right patient at the right time. Hence arises much unnecessary suffering, with loss of time and money, and sometimes even the loss of life itself. These circumstances have, for a long time, forced themselves upon hospital managers; but there has appeared to be no general method applicable to all cases, which would at once and entirely put an end to the difficulties.

The Hospitals Association was formed some years ago, with the view of becoming a central meeting-ground for all hospitals on the one hand, and for all on the other hand who might desire to come into relationship with hospitals, either as patients or in any other capacity. To a considerable extent these objects have been gained, and now, by means of the Association, it is possible to place a given patient in a given hospital with little or no loss of time, and also to obtain any kind of knowledge which may be desired concerning almost every hospital in the United Kingdom, or in the world. The resources of the Association have recently received such a degree of development that the objects which formerly were but partially and incompletely carried out, will, in a short time, be perfectly accomplished, and all these resources will then be placed at the disposal of every member of the Association, and every institution which may be now or hereafter affiliated with it.

It is desired to bring every parish or congregation, and even the remotest villages and hamlets, by affiliation, into immediate and permanent relationship with the hospital system of the United Kingdom, and with the Hospitals Association as the centre of the system. By this means every person needing the peculiar treatment which hospitals alone can give will be enabled to obtain, if eligible, without inconvenience or loss of time, the highest degree of medical and surgical skill which the science of the time affords. If the efforts of the Association be adequately seconded it is hoped to establish by its agency a fully equipped ambulance system for each large centre of population; and, by arrangements made with the various railway companies, to secure the cheap and easy removal to the nearest hospital of persons living in remote and outlying districts. In order to the complete carrying out of these objects the Association has prepared a scheme, which is hereby submitted to the parish clergy and the ministers of congregations, and also to all other persons who may be interested in the care and cure of the sick poor. The scheme is as follows:

I. Each parish, congregation, village, or hamlet, is invited, through its clergyman, minister, or other representative, to affiliate itself to the Hospitals Association by the formation of a "Hospital Society." In either case the annual[1] subscription will be one guinea, and that will secure all the advantages detailed above, together with the weekly publication, *The Hospital*. It is hoped that wherever it is practicable, a "Hospital Society" will be formed, consisting of the clergyman or minister as president, the local doctor or doctors, and two honorary secretaries, one of whom should be a lady. There can be little doubt that the poorer the parish or congregation, the greater would be the advantages derived from affiliation. With the view of bringing these proposals more fully under the attention of those actively interested in the welfare of the sick poor, a congress will be held in May next, under the presidency of Sir Andrew Clark, Bart., M.D., to explain, consider, and finally consolidate the work now begun.

II. The Hospitals Association will be an Immediate Aid Society and its Central Office will be in London. The Secretary will give prompt assistance in the placing of difficult and other cases in those hospitals which may be most suitable for them. Any clergyman or minister of an affiliated congregation having difficult cases for hospital treatment, instead of making applications in all directions, and often fruitlessly, will at once communicate with the Secretary at the Central Office, and his difficulty will be at an end.

III. The office will be a *Bureau of Information* and a *centre of reference*. It will give all possible facilities for gaining the completest knowledge of any and every hospital in the kingdom, and of hospital affairs generally. It will arrange for lectures and illustrations of hospital life for the winter months. It will provide trained and eminent lecturers. It will give aid and advice in the management of public meetings, and co-operate in obtaining men of standing and ability as speakers on specially important occasions.

IV. The new journal of the Association, *The Hospital*, which is published weekly, will be sent post-free every week to each subscribing member of the Association, affiliated parish, or congregation. *The Hospital* will con-

[1] In the case of individuals, a single payment of ten guineas constitutes a Life Member.

tain the latest, most accurate, and most interesting information concerning hospitals and kindred charities, as well as instructive articles on medical and sanitary questions and the related topics.

V. Facilities will be offered whereby members of the Association, and of affiliated societies, may from time to time visit and inspect the general and special hospitals and other institutions of a like kind, thereby obtaining at first hand whatever knowledge of the subject they may wish or require.

Such is the plan which The Hospitals Association commends to clergymen, ministers of religion generally, and to all other persons who are concerned in the well-being of the sick poor. It is conceived in the interests of the poor and of those who have the care of them. It is easy to see, however, that not only will it be of inestimable service to the sick, but also that the hospitals and their work will thus be brought into immediate practical relation with every parish in the kingdom, and will so become known, valued, and supported, as they urgently need and justly deserve.

There can be no question that if the scheme becomes popular, as it is hoped, much unnecessary suffering will be prevented, much waste of time avoided, and much hostile criticism of hospitals, their work and their methods, brought to an end.

Applications for membership, or for further information, should be made to the Secretary, Hospitals Association, Norfolk House, Norfolk Street, Strand, London, W. C. I am, etc., HENRY C. BURDETT.

Army News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from January 30 to February 5, 1887.

BRECHEMIN, LOUIS, Captain and Assistant Surgeon. Granted leave of absence for four months, with permission to go beyond sea, to take effect when his services can be spared by his department commander. S. O. 28, A. G. O., February 3, 1887.

POWELL, JUNIUS L., Captain and Assistant Surgeon. Granted leave of absence for two months, to take effect when his services can be spared by his department commander. S. O. 24, A. G. O., January 29, 1887.

BURROWS, C. C., First Lieutenant and Assistant Surgeon. Ordered for temporary duty as Post Surgeon at Fort Barrancas, Fla., to take effect upon the expiration of his present leave of absence. S. O. 24, Division of the Atlantic, February 3, 1887.

CLENDENIN, PAUL, First Lieutenant and Assistant Surgeon. Ordered for duty as Post Surgeon at Camp Pena Colorado, Tex. S. O. 14, Department of Texas, January 26, 1887.

Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending February 5, 1887:

	Cases.	Deaths.
Typhus fever	1	0
Typhoid fever	7	5
Scarlet fever	34	4
Cerebro-spinal meningitis	3	2
Measles	500	78
Diphtheria	100	52
Small-pox	6	6
Yellow fever	0	0

THE TREATMENT OF CHANCROID BY SALICYLIC ACID.—The use of salicylic acid in the therapeutics of soft chancre has been recommended by various authors. Dr. Giuseppe di Bella, in a report of cases treated in the clinics of Drs. Monteforte and Santi-Sirena, says that this agent has acted promptly and efficaciously in a large number of cases. Hebra has seen a number of cases of chancroid cicatrize in a very few days under treatment by salicylic acid. Dr. Ping y Falco has also obtained most satisfactory results with this same agent in similar cases. Dr. A. Farriols Anglada has reported thirty-two cases of soft chancre in which salicylic acid was used with the happiest results (*Journal of Cutaneous and Genito-Urinary Diseases*, February, 1887). This method, he says, possesses many advantages over the others hitherto used, and especially over the abortive plan. It is very simple, and the patient himself can carry it out; it is only necessary to wash the chancroid with some antiseptic fluid, and then to dust it with finely pulverized salicylic acid. In the great majority of cases no more than two applications in the twenty-four hours are required, and in a few days (four or five, according to the author's experience) the ulcer loses entirely its specific characteristics. When this result has been obtained, that is, when the lesion has been converted into a simple ulcer, the applications of salicylic acid should be suspended, and a carbolic-acid lotion or boracic-acid ointment employed. Under this treatment the ulcer becomes covered with healthy granulations, and cicatrization proceeds with great rapidity. Finally, Dr. Anglada urges, if we bear in mind that salicylic acid causes hardly any pain or inconvenience of any sort, in this way differing so greatly from the caustics ordinarily employed, we are forced to admit that it is a most valuable therapeutic agent in the management of soft chancres.

PALATABLE TEREBENE.—The following formula is said to produce a good mixture, and is not unpalatable:

℞. Terebene..... 1 part.
Glycerine,
Spt. vini rect.,
Syr. simpl.....āā 15 parts.

M. Ft. mist. A dessert-spoonful for a dose.

THE COCAINE CRAZE.—In an article entitled "Sensationalism in Therapeutics," Dr. C. H. Hughes (*Weekly Medical Review*) says: "The truth about cocaine is that it is a tonic and stimulating exhilarant of some power in melancholia, mental depression, and nerve-weariness. That it acts rapidly but much more evanescently than morphia. That excessively used it intoxicates and converts melancholia into mania. That, given largely in the upright position, it is capable of inducing vertigo, whether, as Dujardin-Beaumetz thinks, by inducing anæmia is not proven. That as an antidote to alcoholism and its effects it is not equal to morphia. That it is not equal to morphia as a tonic in melancholia, or as a narcotic in certain states of nervous debility. That in equal doses it nauseates more certainly than morphia. That it is not an antidote to meconophaggism, though beneficial if judiciously used and timely abandoned. That it may be used with advantage, if carefully given, in the withdrawal of opium and the cure of the opium habit, as one of many substitutes, but cannot be alone relied upon. That it intoxicates some persons and poisons them. That its continuous use is difficult to break off. That it is probably capable of developing permanent madness, like similar intoxicants, as a few doses occasion temporary insanity. That it is a dangerous therapeutic toy, not to be used as a sensational plaything. That it will probably help to fill rather than deplete the asylums, inebriate and insane, if it should unfortunately come into as general use as the other intoxicants of its class. As an intoxicant it is more dangerous, if continuously given, than alcohol or opium, and more difficult to abandon."

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Original Articles.

INJURY OF THE EAR CAUSED BY THE BLAST OF A BURSTING SHELL:

WITH SOME REMARKS ON THE EFFECTS OF EXPLOSIVES ON THE ORGAN OF HEARING IN WARFARE.

BY SAMUEL SEXTON, M.D.,

NEW YORK.

THAT the ear may be injured by the violence of aërial impact, or concussive force, propagated by the explosion of gunpowder, has been known ever since the introduction of explosives in military warfare. Owing, however, to the obscurity of traumatic lesions of the drum of the ear, or of its deeper parts, and the limited means of observation at the command of the military surgeon in the field, it has been more difficult to study these injuries than most other wounds. Such was my own experience at least, and reference to the literature of the subject shows that the opportunities of writers on military surgery were probably no greater in this respect. It is a fact, moreover, that from the suffering occasioned by other and more painful wounds simultaneously received, together with the bewilderment caused by nervous shock, aural injuries are liable to be entirely overlooked. Indeed, in some of the cases about to be described there were serious wounds of the ear of which the wounded men themselves had been unconscious up to the time of my examination, several weeks after the accident. It may be stated here, on the contrary, that after artillery engagements it is not unusual for participants to fancy that deafness, due to other causes wholly, has been produced by the loud sounds of great guns, and since the War of the Rebellion applicants for pensions not infrequently present their cases with the statement that aural disability has originated in this manner.

While the writer was recently seeking information from perons having had experience in the field or on shipboard, especially among army and navy officers, an opportunity quite unexpectedly presented itself to investigate thoroughly the effects of concussive force on the ears of a number of men in the midst of whom a twelve-inch mortar shell, weighing five hundred and eighty-five pounds, and containing a bursting charge of twenty-seven pounds of rifle-powder, was accidentally exploded. This took place at the United States Ordnance Proving Ground, Sandy Hook, October 21, 1886, at 3.30 P.M.[1]

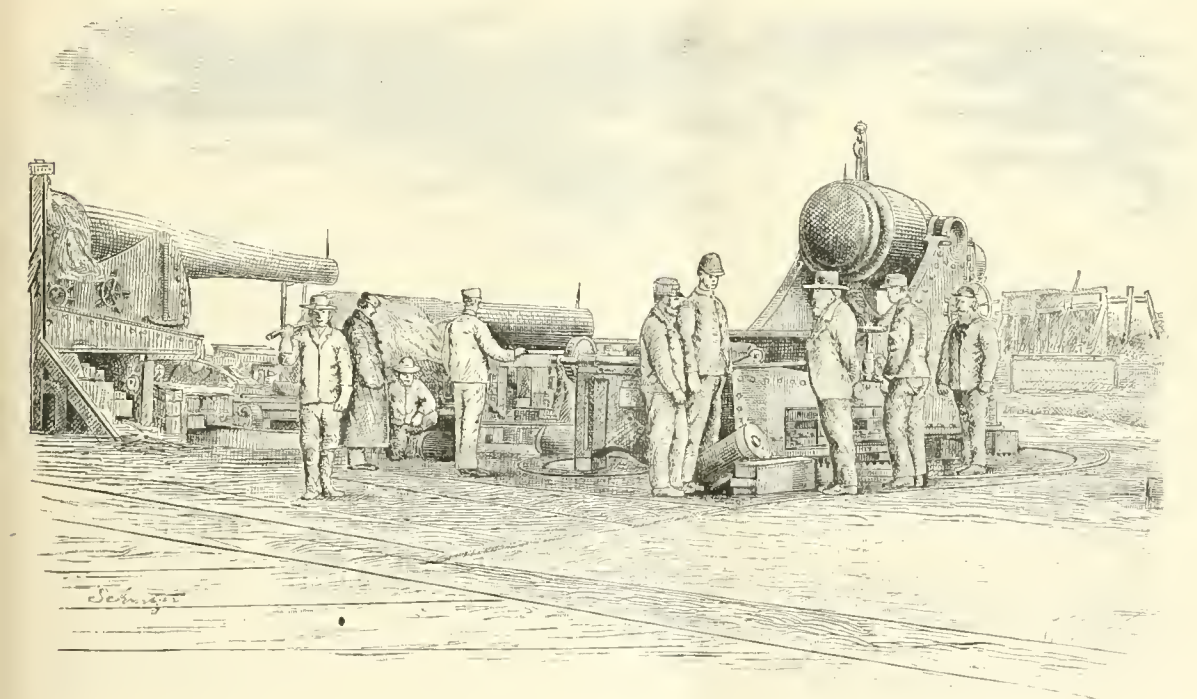

FIG. 1.

The effects produced by the bursting of this shell, both as regards the aërial concussion of the blast and the distribution of fragments of metal, were, of course, similar to those produced by the explosion of projectiles fired from great guns during an engagement; and, it is hoped, since a careful study of wounds of the ear arising from this cause have never been reported, so far as known, that a detailed account of the conditions of the organ of hearing, found to exist in the persons injured, may be of interest to both medical and military men.

The scene of the catastrophe, as shown above, was produced from a photographic view taken on the spot by my friend Mr. Walter C. Tuckerman. The men were taken in about the same position they occupied at the time of the accident; the places of three of them, namely, Lieutenant Medcalfe and private King, killed, and Cor-

[1] The ordnance officers on duty at the time of my visit, namely, Colonel Mordecai, Captain Shaler, and Captain Whipple, kindly offered every facility in aid of my investigation, as did also Colonel Janeway, of the Medical Department, U.S.A., Post Surgeon, Governor's Island.

poral Goodno, absent in hospital, were occupied by other persons.

The diagram of the twelve-inch mortar, gun-carriage, and platform (Fig. 2), where the firing was taking place, was kindly designed by Captain Whipple; the facings of the men are designated by arrows, and it also shows the direction and force of the wind at the time. The shell with a drift and hammer, and thus exploded it) was instantly killed, and his body was blown fifty-five feet away; Lieutenant Medcalfe, who was standing by the side of the shell, was blown twenty-two feet and died in thirty minutes; private Clark was blown fifteen feet. The other six men kept their feet during the explosion. Eight men thus escaped with their lives, but all of them

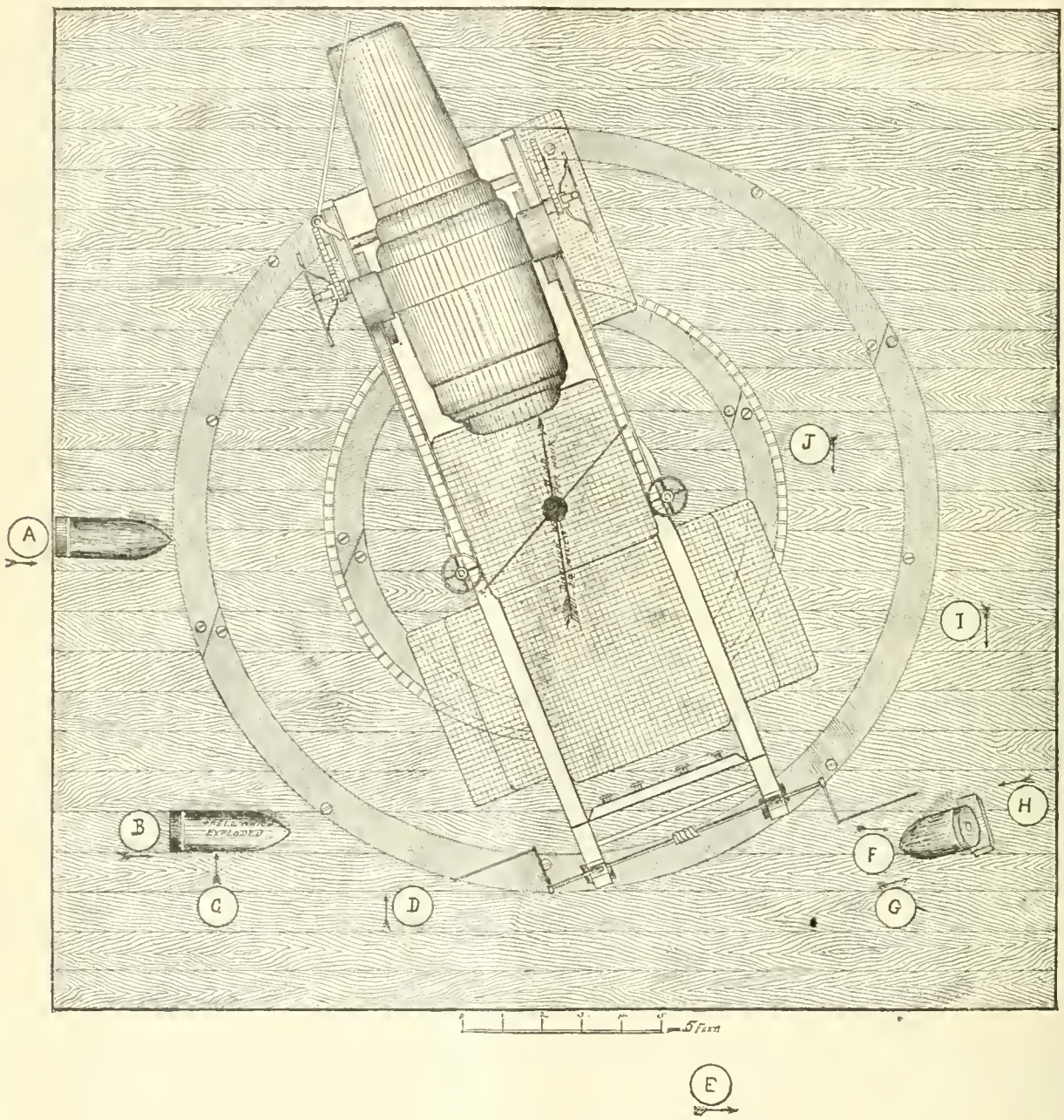

Fig. 2.

distance of the men from the shell which exploded was as given below:

A. Sergeant Abbott,	position	8	feet	from	the	shell.
B. Private King,	"	at the base of the shell.				
C. Lieutenant Medcalfe,	"	at the side of the shell.				
D. Corporal Clark,	"	4	feet	from	the	shell.
E. " Goodno,	"	12	"	"	"	"
F. Private Cunningham,	"	15	"	"	"	"
G. " Cramer,	"	15	"	"	"	"
H. Mr. Sinclair,	"	19	"	"	"	"
I. Private Burns,	"	19	"	"	"	"
J. Corporal Ingram,	"	16	"	"	"	"

As an immediate effect of the explosion, Sergeant Abbott was blown ten feet from his position. Private King (who was closing the screw plug in the base of the

were more or less injured by the concussion, and some of them received contused wounds or were burned by the blast.

The three men first described below were examined at the Post Hospital, Governor's Island, October 31st, where they had been sent for treatment. They were still suffering from shock and contusions, but able to walk without assistance to the office where the examinations were made.

Case I.—Sergeant John Abbott, aged thirty-four, was kneeling on right knee and toe when explosion occurred, presenting right ear toward the shell. He was thrown ten feet by the force of the concussion, found himself upon all fours, but got up immediately and ran some thirty feet before looking to see what had hap-

pened. Noticed that the right side of chest, shoulder, and face were burned by the blast. As regards his hearing, although there was much talking and shouting, he could hear nothing at first. He was much confused, but had no vertigo or pain in the ears. An hour after the accident, however, the deafness was found to be confined to the right ear. After going to bed blood was observed on the pillow, and continued to trickle from the right ear for two or three hours, when it ceased. He slept but little. Pain has been experienced in injured ear on blowing the nose, or swallowing only.

Hearing: Right ear, ordinary voice only; left ear, low voice if plainly spoken—distance, eleven feet.

Examination of ears.—Auricles and canals were healthy; the latter are small.

Right drum-head: A large, irregularly ovoidal perforation of the drum-head exists in the posterior segment; it is bounded anteriorly by the malleus handle, inferiorly by the annulus tendinosus, and above by the membrana flaccida. There is a narrow margin of the membrane between the perforation and posterior wall of the external auditory canal. (This opening was temporarily occupied by a dark crust, probably of inspissated

Fig. 3.—Abbott: Right Drum-head.

muco-sanguinolent matter.) The anterior segment is dull and fleshy-looking (cicatricial?); the membrana flaccida is considerably injected. The short process is just visible, pressing out as a lighter point in the drum-head.

Left drum-head: Slightly atrophic, moist-looking, and opaque. Short process rather prominent, but other landmarks somewhat faint.

Patient has some autophonous phenomena, the voice seems lisping, and for three or four days past there has been tinnitus aurium resembling the sounds heard in a shell when placed to the ear. Vision unaffected.

November 27th.—(Seen at Sandy Hook.) Right ear: The upper portion of the anterior segment is now opaque, slightly vascular, and has a cicatricial appearance; the lower portion is partly cicatricial, exposing some fibrous structure extending perpendicularly. A large, dark, partially inspissated blood-clot yet remains on the lower portion of posterior segment, extending upward in front of the malleus handle; reproduction of the membrane is probably taking place beneath this clot. The clot not shown in diagram. Patient hears low voice at fifteen feet plainly in both ears, but when several persons are conversing he cannot follow them. His voice still sounds to him as if he were lisping. Has occasional tinnitus.

Case II.—George Clark, aged twenty-seven; entered Governor's Island Hospital October 23d. Was standing, when the explosion took place, four feet from the point of the shell, looking at King, and having the left ear toward the missile. He was thrown fifteen feet, but jumped up at once. Was much confused with a "dumb feeling" in the ears; first running away from the scene, and then returning. He staggered to the pump, some three feet distant, and felt better after he had taken some water. He has been, however, unsteady in his gait ever since, and is very nervous and giddy. He was employed in running errands nearly all night. Afterward was too nervous to sleep. He could not sleep on the second night, but on the third night was given bromide of potassium, which has been continued ever since.

Status præsens.—Patient complains of pain through temples, with throbbing sensation. His pulse is weak and irregular. There is a noise in the left ear resembling that of a "steamboat."

Hearing: Right ear, low voice; left ear, only loud voice at eleven feet distance.

Examination of ears.—Right ear: The posterior segment of the drum-head rather opaque and there is at about the centre a slightly injected spot. The anterior segment is fairly brilliant, with good cone of light. A dark line extends along the posterior edge of malleus handle, having the appearance of a light brown crust. This might be taken for a shadow, but for the wrinkled appearance of the membrane about its centre, the folds running principally up and down. Syringing the right ear, which has been tried once, gives rise to unbearable pains in the right eye.

Left ear: There is a large loss of substance of the drum-head, embracing most of the posterior segment be-

Fig. 4.—Clark: Left Drum-head.

low the membrana flaccida, extending inferiorly to the tympanic ring, then curving into the lower portion of anterior segment, and through which the inner wall of the tympanum can be seen. The landmarks afforded by the malleus handle are not visible, but the whole membrana flaccida and the upper portion of the anterior segment of the membrana vibrans has a thickened, macerated, and retracted look. There is a pulsating bubble, affording a light reflex in the anterior-inferior portion of the tympanum, and another posteriorly.

A small amount of blood trickled from left ear the night of the injury; there is now discharge of muco-purulent matter. Pain has been experienced in the left temporo-maxillary space. The ear has been syringed several times daily with a pump-syringe, and the mastoid process was blistered three days ago. For twenty-four hours after the injury mastication was painful. Eructations also gave rise to pain. His own voice is autophonous, and sounds "far off" to him. Patient has become highly neuropathic, and says he has "gone all to pieces." He can scarcely stand to-day, and seems to be getting weaker. Complains also of left eye; says it is "blurred." Both pupils are large, but respond to light. There is twitching at the inner canthus of the left eye, and above the angle of the jaw.

November 21st.—(Patient seen at my office.) He has been on duty at Sandy Hook for past ten days. His left arm and leg feel numb unless he is exercising, and especially at night. He is feeling somewhat stronger. Complains of no vertigo, but of much dull pain in temporal regions, which is increased by the firing of great guns. Cold air causes pains in the ears, especially in the left, and patient thinks that the left auricle is colder than the right. The right ear is, however, healthy. The left ear has healed and the inflammation and discharge have ceased. The perforation remaining is as large as when first seen, and shows no tendency toward closing. The malleus handle is scarcely distinguishable. There is pain, at times, in the ear but no tinnitus. He has still, however, tinnitus, resembling escaping steam, in the right ear. Introduction of a speculum into the left ear causes tears to flow from left eye, which also feels irritated. When patient uses his eyes in reading, etc., the left gets "blurred," he says, and "weak."

Hearing: Left ear, loud voice only[1]; right ear, low voice, at eleven feet distance.

Patient becomes confused when several persons are conversing.

November 27th.—(Seen at Sandy Hook.) Patient is now improving and feels stronger. He is less nervous also. In left ear the parts are clearing up, but the perforation is unchanged.'

[1] Captain Whipple writes, December 22, 1886; "I am sorry to say that I hear Corporal Clark, whom I had transferred back to Springfield, is not doing well. His 'hearing' is getting worse, and he seems to have lost his grip." Subsequently, however, Clark again became much better.

CASE III.—Corporal Walter Goodno, aged thirty-four, had just picked up a handspike and walked away from the shell. Thought a keg of powder on his right had exploded and tried to get away. His ankle was hit, hat torn to pieces, and he received a contused wound of the scalp, just below the occipital protuberance. Patient had his left ear turned nearly toward the shell at the time of its explosion. He had autophonia at once, could hardly hear his own voice; but could distinguish pretty well what others were saying, in the right ear. Immediately after the injury there was a great ringing in the left ear. Patient says he felt something (which he fancies was blood) drop down "into the throat from the head" about an hour afterward.

Examination of ears.—Left ear: At the inner end of the canal the cutis is dry, white, and exfoliating, being

FIG. 5.—Goodno: Left Drum-head.

covered with a light coating of boracic acid and iodoform in powder. Almost the entire portion of the drum-head, constituting the membrana vibrans, appears more or less disorganized; the posterior portion is missing, leaving a ragged edge, and the anterior portion has a bruised, fleshy look. The malleus handle is very prominent.

Right ear: Membrana tympani lustreless, uneven, and depressed. Slight injection along malleus handle. A

FIG. 6.—Goodno: Right Drum-head.

large circular area, occupying almost the entire upper portion of the posterior segment, is of recent cicatricial formation, with uneven, depressed, and lustreless surface. Behind this can be seen the inferior portion of the long process of the incus. On the umbo is a small, dark blood-clot. Two parallel folds of the membrane, resembling cords, run from the umbo forward and downward to the margin of the drum-head. The area between these is occupied by disorganized substance. Both external auditory canals are large.

Hearing: Right ear, low voice, if plain; left ear, ordinary voice, if plain, at twelve feet distance. Patient still has autophonia. The pulse is feeble and rather frequent.

December 6th.—(Seen at my office.) Patient has recovered and will report for duty. *The right ear* shows a minute, dark, and depressed cicatrix at umbo. Below this, occupying nearly the entire area of the lower segment of the drum-head, is a large, circular perforation, where there was broken-down tissue before. No inflammatory symptoms remain, and the drum is cured. In the left ear nearly all of the drum-head is absent, and the denuded malleus handle hangs down in front of the inner wall of the tympanum *in situ*.[1] The anterior edge of the round window and the incudo-stapedial joint is exposed to view. All the parts have a whitish, dry appearance. All discharge from the ears has ceased. Syringing or probing the left ear causes a sensitive impression in the left eye and lower part of larynx.

Hearing: Left ear, ordinary voice; right ear, lowest voice, at fifteen feet distance. Watch heard in left ear only on contact; in right, at thirty-three inches. The extent of sloughing in the membranes in this case is remarkable. The great amount of hearing for the voice is also notable, and quite in contrast to the poor hearing-power for the watch.[2]

[1] The diagrams of the drum-heads in this case, as in the others, represent the appearance of the parts when last seen.

[2] Corporal Goodno suffered a relapse in respect to the wound at occiput, which had healed but slowly, and on return to the hospital a small fragment of shell was removed from the wound. After this recovery was rapid.

The following persons were examined at Sandy Hook, November 27, 1886, over five weeks after the accident:

CASE IV.—Mr. Allan G. Sinclair, machinist, aged sixty-two years; has been in the employment of the United States Government for some thirty-seven years, twenty-four of which have been passed in the Ordnance Department. He has been testing guns for twenty years, but has never experienced unpleasant sensations or injury of the ears from this occupation. At the time of the explosion the patient was standing about nineteen feet from the point of the shell, and facing it. At first he was dazed for some moments, but does not think he was thrown down. His hat was blown off. He had no pain in the ears, but a noise in both resembling escaping steam. This still continues, but is less severe. Of late he has felt pulsations in the ears, mostly in the left. These are variable, scarcely ever occurring before about 3 o'clock, A.M., when he fancies they wake him up. His ears have felt "dumb" from the first, at times, and his own voice is autophonous, and seems distant to him. No vertigo.

Hearing: Left ear, ordinary voice only, at ten feet; not so well in the right.

Examination of ears.—Right ear: The malleus handle

FIG. 7.—Sinclair: Right Drum-head.

has a light-brown appearance, and behind it lie some inspissated blood-crusts. A cicatricial area extends from the anterior superior border of the tympanic ring downward, and terminates in a transverse band of thicker tissue below. Underneath this band there is a large loss of substance in the membrane, and under this, below the umbo, extending into the lower portion of the posterior segment, is another area of cicatricial tissue, due to reproductive growth. The denuded short process marks the termination, posteriorly, of the band above mentioned.

A small crust, consisting of epithelium and inspissated blood, which has worked off from the wound of the drum-head, lies on the posterior wall of canal. The parts have healed up entirely, and are free of any injection. Through the large perforation the inner wall of the tympanum is visible.

Left ear: A blood-clot occupies most of the posterior segment of the drum-head, which is elsewhere fairly brilliant. At the junction of the inner end of canal and posterior edge of the membrane, and behind the clot, there is a small ulcerous surface covered with a rather loosely attached scab, the seat of a perforation probably. Both of the external auditory canals and drum-heads are large, and this may account for the great amount of injury. The ears have received no treatment. The very considerable deafness in this case is permanent, rendering general conversation impossible.

December 13th.—(Seen at my office.) Right ear: The crust of epithelium and inspissated blood, which was described as working off the drum-head on to the posterior wall of canal, can be picked off. The small blood-clot behind the short process has become detached, leaving a reproduced dermic layer beneath. The perforation has become smaller, and its circumference looks as if it would contract still further.

Left ear: Membrana tympani cleared up entirely. The crust on the drum-head near the wall of canal has worked off on the canal and can be easily removed. The blood-clot which occupied almost the entire posterior segment of the drum-head is loose, and can be easily removed with the forceps. Beneath this crust, doubtless the seat of a perforation, the membrane has healed up entirely.

Hearing: Left ear, low voice; right ear, loud voice, at fifteen feet distance. Watch pressed against the ears not heard at all. Patient hears the noises in the streets of wagons, etc., like a low, rumbling, unaccustomed

sound. He has no nausea, vertigo, etc., and feels very healthy and strong.

Case V.—Private Michael D. Burns, twenty-four years of age, was standing about eighteen feet away, and was dumfounded by the explosion, felt stunned and dizzy, and had "buzzing" noise in both ears.

Examination of ears.—Both canals are of medium size.

Right ear: There is a marked vascular condition about the superior portion of the drum-head, and extending down along the malleus handle. The drum-head has a general humid appearance, and there is a beginning opacity just in front of the umbo. There is a small cicatrix, with some fibrous lines, in lower portion of posterior segment. Since this ear was more exposed than the left, the abnormalities seen point to extensive injury followed by almost complete restoration.

Left ear: The drum-head has a somewhat humid appearance, due to catarrhal inflammation of the middle

Fig. 8.—Burns: Left Drum-head.

ear. There was a little pre-existing hardness of hearing. There is a recent perforation in the posterior segment near the edge of drum-head. This is partly concealed by a crust, and gives, on inflation, a whistling sound.

Hearing: Right ear, ordinary voice; left ear, lowest voice, at fifteen feet distance. Watch heard at $\frac{5}{33}$ inches in the right ear, and at $\frac{2}{33}$ inches in the left. This man had both auricles frozen two years ago, while out on the plains.

Case VI.—Private Joseph Cunningham, twenty-three years of age, very tall (over six feet) and slender. After the accident patient did not take cognizance of anything for a few minutes, and was dizzy for two days afterward. Has been troubled in both ears since the explosion, especially in the right, which was constantly painful for over a week, and is occasionally so now. He experienced tinnitus aurium, which has not entirely ceased yet. His voice was autophonous and sounded hoarse and unnatural to him in both ears for four days.

Examination of ears.—Right ear: The drum-head is imperfectly developed; it is transparent (as in cases of cicatricial reproduction) and lacks brilliancy. The short process protrudes unduly. *There is a crust on the margin of the posterior segment*, and a slight opacity below the umbo.

Left ear: The same general appearances of the drum-head are present as in the right ear. The outlines of the malleus, however, are much more prominent. The long process of the incus and its attachment to the stapes is very plainly seen through the drum-head. Just posteriorly to the short process a small area of the membrane is much thinner than elsewhere and seems sunken. Notwithstanding these abnormalities the patient gives no history of previous ear trouble, and there is a strong probability that the appearance is due to reproduction succeeding to almost complete destruction of both drum-heads from the explosion. He has a very high palatal arch, and the incisors above and below are "pegged."

Hearing: Right ear, low voice, with difficulty; left ear, lowest voice, at fifteen feet distance.

Case VII.—Private Thomas Cramer, aged thirty-nine, was standing with back toward shell, but the right ear was a little more exposed than the left; felt a stinging sensation from the concussion "all the way up the left side from the foot to the ear." Has felt nothing since. The ears were apparently uninjured. It is difficult to account for the escape of the ears from injury in this case.

Hearing: At fifteen feet distance, lowest voice in both ears, but best in right.

Case VIII.—Corporal Ingram, thirty-two years of age, felt stunned for a minute or so, but had no pain or vertigo; in fact, had no aural symptoms whatever. Patient had accumulation of wax syringed from both ears in 1883. Dr. C. J. Colles examined this man for me, and found that both ears contained considerable soft cerumen. As no symptoms of injury to the hearing organs had appeared, it was thought probable that the presence of this accumulation of cerumen had been the means of

Fig. 9.—Ingram's Left Drum-head.

protecting the drum-heads from the injurious effects of the explosion. This, however, does not appear to have been the case. The patient was seen at my office on December 13th, when the wax was removed. It was found that the quantity of this was not sufficient to occlude the canals. The right and most exposed drum-head looked well; it was probably protected from the concussion by the heavy wooden structure upon which the mortar was mounted. Behind the wax, however, in the left ear, which was turned from the shell, was a quantity of inspissated purulent matter and epithelium. When this was removed the drum-head was found to be red and angry-looking, and the landmarks were not seen. Syringing produced a feeling of faintness and nausea.

Hearing: Left ear, ordinary voice only; right ear, low voice at fifteen feet distance.

December 4th.—(Seen at my office.) There has been no discharge from the left ear, and parts have cleared up slightly, showing great arrest of development, the short process and posterior fold being very prominent; otherwise the landmarks are hardly distinguishable. The entire membrana vibrans is, apparently, in a necrotic state, indistinguishable from the inner wall of the tympanum. A very thick desquamative collection lies at the site of the anterior inferior segment.

December 21st.—(Seen at my office.) There has been no discharge or pain, and the parts are dry. It can be seen that the entire membrana vibrans has been destroyed, excepting a thin edge remaining attached to the posterior wall of the tympanum. Ingram thinks hearing in the left ear has improved. He has no tinnitus, vertigo, or nausea.

Hearing: Left ear, low voice at fifteen feet distance; as tested by König's rods, fifty thousand vibrations per second perceived in both ears.

The diagrams of the drum-heads injured were drawn by Dr. C. J. Colles. The dark shading marks the extent of loss of substance in each case; the lighter indicates the presence of cicatricial tissue. In the case of Cunningham no diagram is given, since the parts were probably almost entirely reproduced.

Remarks.—As might have been expected, the immediate effect of the severe concussion caused by the blast of the explosion just described was dumfounding in the extreme, so far as most of the persons in the immediate vicinity were concerned. The mental confusion which ensued in some of the cases lasted a long time, and in one instance, that of Corporal Clark, it is doubtful if complete recovery ever takes place.

In some of the cases the absence of prominent symptoms of injury of the ear, such as pain in the organ, tinnitus, deafness, or discharge, was noticeable. Soldiers are, however, as a rule, accustomed to endure hardship without complaint, and, in fact, all insensitive persons are liable to overlook ear disease until incapacitated to perform their work. It was only after persistent inquiries were made that some of these persons would admit that they had suffered any injury of the ear.

I have endeavored to obtain some reliable statistics in regard to the frequency of injuries to the organ of hear-

ing during the late War of the Rebellion, but without satisfactory results; thus the number reported by the census-takers in 1880, as furnished me by Mr. Fred. A. Wines, of the Census Bureau, was only fifteen from all causes. These are given below. The meagreness of facts obtained in this manner illustrates the inefficiency of such a method for collecting valuable information. A single shell explosion has, in many instances, doubtlessly, injured as great a number.

ASSIGNED CAUSES OF DEAFNESS—WAR.

Connecticut, "discharge of cannon"	1
Georgia, "firing cannon in war"	1
Indiana, "cannon fired"	1
Illinois, "gunshot wound"	1
Massachusetts, "discharge of cannon"	1
Minnesota, "from a shot"	1
Missouri, "jar from cannon"	1
Nebraska, "heavy cannonade in France"	1
New York, "report of gun"	1
Ohio, "discharge of cannon"	1
Ohio, "severing of tongue cords by shot"	1
Pennsylvania, "shot of gun"	1
Texas, "gunshot wound"	1
Texas, "gun fired close to ear"	1
Wisconsin, "firing cannon"	1
Total	15

The Pension Office, doubtless, might furnish more reliable statistics were the disabilities for which pensions were granted tabulated; but Congress has, as I am informed by Medical Examiner Wood, omitted to make any appropriation for such work. It is to be regretted that more attention has not been given to this matter, since there must be a large number of persons who have suffered injury to the ears from the concussion of explosives, who are as much entitled to be pensioned by the Government from this cause, as from others which happen to be more easily diagnosed.

I have obtained some facts in conversing with officers who served during the War of the Rebellion, which may be of interest here. Commander Robeson, at the naval attack on Fort Fisher, found that the continued explosion of fifteen-inch shell at close quarters gave rise to very disagreeable ringing in the ears, which finally benumbed the hearing sense so much that he could not hear an order given on deck for several days; the disability, however, was but temporary. My friend Dr. Delavan Bloodgood, Medical Director, U.S.N., informed me of a case where deafness was said to be "from concussion of the cannon" in an action on Lake Champlain, July 3, 1813. The case was that of Captain Sawyer, U.S.N., who was a midshipman on board the sloop Eagle, which was sunk by the British flotilla, aided by troops on the shore. The engagement lasted four hours; and the captain was afterward taken to Halifax and confined on board a prison-ship over seven months. It is probable that exposure subsequent to the action very much increased what might have been but a temporary difficulty. On the cessation of the retaliatory hostage system he was immediately ordered to the Constitution, and afterward served in the Brazilian, Pacific, West Indian, and Mediterranean squadrons, and was finally surveyed and condemned, on account of deafness, in 1822.

I am in receipt of a communication from Medical Director Henry O. Mayo (retired), U.S.N., giving his own experience as to the effect on the ear of the concussion of great guns, which is of much interest, since it shows the effect of repeated injuries. He says: "I first felt the effects of concussion from big guns in the summer of 1861, on board the frigate Savannah, while engaged in a scrimmage with some rebel gunboats at the mouth of the James River. As the affair promised to be of a bloodless character, from the respectful distance kept by the enemy, I seated myself in the bridle-port, on the gun-deck, to watch the performance. My hearing was quite impaired for a day or two, but in a short time the effects of concussion passed off entirely.

"Just at the close of 1864 I was attached to the U.S.S Powhattan, of Admiral Porter's fleet, and was engaged five days (three at one time and two at another) in the bombardment of Fort Fisher, and the other batteries at the entrance to Wilmington. Having occasion to go on deck at times during the action, I could only do so by the cabin companion-way, which was but a few feet from the eleven-inch pivot gun. This chanced to be discharged two or three times, just as my head was about on a level with it, going up or down the hatch, and the concussion was tremendous. Once I thought the gun had burst, and taken my head along with it! Upon reaching home, a month or two afterward, I found the hearing of the left ear much impaired, but the right still served me so well that I was enabled to continue my ordinary duties on the active list.

"In the early part of 1870 I went to China as surgeon of the Asiatic fleet. During this cruise I was exposed for one entire day to the concussion of big guns engaged at target-firing on board the flagship Colorado. This gave the *coup de grace* to the hearing of the left ear, and still further impaired that of the right. In 1875 I was retired on account of deafness."

Dr. Mayo is of the belief that the cause of the defectiveness lies in the transmitting mechanism of the middle ear, and not in the inner ear or auditory nerve-tract. *The Eustachian tube of the left* (worst) *ear has always seemed abnormally pervious, while the right was considerably obstructed.* He cannot hear the loudest-ticking watch pressed against the left ear, and only faintly in the right. He can converse pretty well with *one* person at close range, who speaks slowly and distinctly.

It would seem, in cases where chronic catarrh of the middle ear already existed, difficult to determine the exact amount of injury due to this cause and to concussion, respectively. I think that where rigidity or fixation of the transmitting mechanism existed from catarrh the ear would thus be made more sensitive to concussion. *Per contra*, it is found that boiler-makers, who appear to have their catarrhal deafness increased by the terrific concussion from riveting boilers, do not usually complain of hyperæsthesia or of painful sensations therefrom. But this is, perhaps, a question of sensitiveness to such impressions.

Among other instances coming to my knowledge the following are of interest: General Leonidas Polk, a few days after the battle of Belmont, was standing at the breech of an eight-inch rifled gun, which, on being fired, exploded and set off a magazine of fixed ammunition immediately underneath the piece. The captain of the battery and four or five others, who were standing near, were killed. General Polk was very miserable for a few moments from the shock, and was confined to his bed for some ten days. The left ear began to discharge the day of the injury, and continued to run until he was killed, two and a half years later. He had no previous aural trouble, and the deafness following the injury was the cause of much worry.

General Imboden, in an article in *The Century Magazine* for May, 1885, states that at the battle of Manassas he squatted under the muzzle of a smooth-bore six-pounder brass cannon, when it was fired off; the concussion, he says, threw him twenty feet away, causing momentary unconsciousness. There was a gush of blood from the left ear, which has been deaf ever since.

Another case is as follows: David McConnell, late a private soldier in the one hundred and thirty-second N.Y.V., came to the New York Ear Dispensary, November 14, 1879, at which time he was an inmate of the Soldiers' Home, 205 West Thirty-ninth Street. He stated that in 1864 he was engaged fixing shells (torpedoes?) to be used in blowing up some works, when one of them was accidentally exploded. Fragments of the shell wounded him about the left side of the head, one piece striking the ear. He was blown a considerable distance by the blast. He was sent to a

hospital, where the ear ran a good deal, and there have been acute and painful exacerbations now and then ever since.

On examination at the infirmary I found a perforation in the drum-head, and chronic purulent inflammation of the middle ear. The hearing was considerably diminished. He afterward applied for a pension.

The following case came to the New York Ear Infirmary, July 17, 1877, also an applicant for pension. This patient, Bernard Cunningham, stated that he never had any aural affection until after the battle of Gettysburg. He was a private in Company G, Eightieth N.Y.V., and states that on July 1 (1863), a shell exploded near his left ear, from the stunning effects of which he did not recover for a quarter of an hour. On the third day a thin muco-purulent discharge was noticed coming from the left ear; it soon assumed a purulent and offensive character. Patient states that an aural injury was diagnosed by Regimental Surgeon Laughan soon after the injury was received.

When the patient came to me, fourteen years had elapsed since the accident, during which time he had never been free of distressing tinnitus, which was compared to the constant escape of steam under high pressure, with interruptions synchronous with the heart's pulsation. Autophonous phenomena were experienced, and he felt that unless some relief was obtained he should become insane. The deafness was variable—at times very great; usually he could hear a loud voice only in the left ear.

Examination showed the external auditory canal to be greater in calibre than the average, and the drum-head, which was correspondingly large, had a circular perforation in the posterior-inferior quadrant about three millimetres in diameter. In the certificate of disability given this soldier, it was stated that the opening in the drum-head would probably never close, and since there would be a tendency to frequent exacerbations, on account of the exposure to which an out-door laborer is subject, the discharge and autophony, though temporarily alleviated by treatment, would probably never cease altogether.[1]

Injuries like the above are especially important in consequence of affording a basis for claims on the Government for pensions.

In general it may be said that the concussion of great guns is much less in the rear of the piece than just over or at one side, and that the more in advance the greater the exposure to the blast. On shipboard a gun's crew is usually stationed from four to eight feet to the rear of the muzzle, and when protected by bulwarks and decks experience no special inconvenience; but if the ear happens to be on the same plane as the face of the muzzle, the effect at a distance of a few feet is disagreeable or even painful, and causes temporary deafness similar to long-continued concussion previously referred to.

The force of impact upon the drum-head will depend somewhat on the size and curvature of the external auditory canal and the rigidity of its cartilaginous walls; of course the more straight and large the passage, the greater the injury.

The size and tensile strength of the drum-head must be taken into account; if large and brittle, from trophic changes, it is much more easily ruptured.

The facing of the person exposed must also be considered — usually the ear directed toward the object from which the concussive force is propagated suffers most—but in the case of Ingram it was otherwise, the sound-waves having been reflected.

The immediate effect of the blast-impact in the cases injured by the shell explosion at Sandy Hook was undoubtedly upon the exterior surface of the drum-head mainly. While it is true that atmospheric tension is almost equal on both sides of the drum-head, yet a current of air passes much faster along the comparatively large tube comprising the external auditory canal than along up the small Eustachian tube, and hence in most of these cases the drum-head was driven in and contused against the inner wall of the tympanum and retained air with great force. The effect of such violent concussion is to cause the death of the membrane.

The momentum of sound-waves may ordinarily be estimated by the application of the law of central forces—the force being inversely to the square of the distance; the effects, practically, of such intense concussive force, however, cannot be measured by rules governing sound ordinarily, since it has been found by experience that instead of finding himself surrounded near the breech of the gun by highly rarified air, the experimenter may be subjected to quite an opposite condition, namely, one of condensation. In the former, intra-tympanic air would rush outwardly, carrying the drum-head before it. In confirmation of this allegation the puzzling experience related to me by Captain Shaler may be cited: The window-glass of the officers' quarters at the testing-grounds at Sandy Hook, situated some three to five hundred feet to the westward of the gun-park shown in the picture, are liable to be shattered by the concussion of large pieces in practice, and it has been found that *the glass is forced outward at one time and inward at another.* Regarding the drum-heads as window-glass under like conditions, we might find them ruptured by compression from without in one instance, and by distention of intratympanic air in another.

All of us are aware of the difficulty of ascertaining the source of sound in a sea-fog, where vapor-tension varies in a much greater degree than inland. Professor Henry described the reflections of sound which here take place as "acoustic shadows," a picturesque comparison recognizable by everyone familiar with those similar phenomena, namely, the reverberatory detonations of thunder during a storm, where clouds or mountain peaks intervene. It is to the unrecognizable vapor-"peaks" that many unexplained and puzzling acoustic manifestations are due. In the case of Corporal Ingram, cited, the wave from the blast did not nearly so much affect the right ear, which was turned toward the shell, as the left one, the sound having been apparently deflected from its course by the heavy gun-carriage intervening. General Franklin, in describing the battle of Gaines' Mill, in *The Century Magazine*, July, 1885, says it was not heard a mile and a half away; he thinks the dense woods intervening prevented the passage of sound. *Per contra*, the writer recollects hearing the cannonading at the battle of Manassas distinctly, though he was with troops more than one hundred miles distant.

Experiments are wanting to determine the windage[1] of balls. This must depend on their size and velocity, nearness of passage, and the force and direction of the wind. There seems to be no doubt but that the windage of a cannon-ball might rupture the drum-head of the ear. The compression of the air before and around the ball, I am informed by my friend Professor A. M. Mayer, is considerable, and the *velocity* of the compression is equal to that of the ball, which velocity may even exceed that of wind itself. So, an *aërial blow* of such a mass of air, at such high velocity, is probably quite sufficient to rupture the drum-head.

The size and force of modern military explosives having been greatly increased of late years, much more injury to the ear is likely to occur in future than has been recorded of the past, though the number of accidents from premature discharge or from exposure to the blast in firing breech-loading pieces must be less than when muzzle-loaders were in vogue.

[1] The Commissioner of Pensions, the Hon. John C. Black, informs me, in a letter dated February 7, 1887, that Cunningham is now a pensioner "at the rate of two (2) dollars per month for disease, and deafness of the ear."

[1] "Windage," it should be said, is a technical term used in military parlance to indicate the difference in diameter between the bore of a gun and its projectile. The word has been, perhaps improperly, adopted by writers on military surgery, in which sense it refers to the impact of the condensed air surrounding a missile passing near any part of the body.

The extent of the injury of the drum of the ear in each one of the cases reported was dependent on the distance from the shell, the facings at the moment of explosion, and the size of the external auditory canal. In some instances, as, for example, in the cases of Abbott, Clark, Goodno, Ingram, and Sinclair, the drum-heads were driven in with such force as to cause their complete destruction by death of the tissues. In some of the cases, it will be observed that partial or entire reproduction of the drum-head took place. The spontaneous cure, in most of these cases, without leaving any discharge, affords a valuable suggestion in the treatment of inflammation of the ear, as well as in operations on the organ, in healthy persons. It is believed, notwithstanding the great destruction of the membrana tympani, that the chain of ossicles has been left in every case. It is fortunate for man that great augmentation of tension, exerted either from without or from within, upon the transmitting mechanism of the ear, may be experienced without serious injury to the stapes or labyrinth.

Hearing tests employed.—The voice was employed as a test in all cases, its perception being practically the most important function of the ear of a soldier. Whereever the watch was employed, the result is noted in the history. König's rods were employed in one or more cases.

It is the experience of many officers that the vibrations of great intensity which are given off from some field-pieces and bursting shells, charged with high explosives, are more disagreeable than the heavier sounds of great guns. The metal itself vibrates under these circumstances similarly to a tuning-fork.

A very disagreeable jar is imparted to the temporo-maxillary articulation when the individual is near a great gun being fired off. This is lessened, it is believed, by standing on the toes and leaning forward. Some simple precaution, to be employed by officers and men during artillery practice, would seem very much needed, since aural shock is not only painful and distressing, but orders cannot be well heard while the confusion lasts.

There is probably no better protection than a firm wad of cotton-wool well advanced into the external auditory canal. In suggesting this protection it is believed that harm can seldom take place from pressure of air from within, since it is known that the violent introduction of air into the tympanum from the throat, by means of Politzer's method of inflation, seldom ruptures the drum-head, though, if such a volume of air were suddenly driven into the external auditory canal, the drum-head would in nearly all cases be ruptured.

The writer, in finishing this account of the aural injuries done by the explosion, would request that other observers having experience in this direction kindly communicate with him. Any knowledge that may thus be contributed would be of service to military surgeons, otologists, and others.

12 West Thirty-Fifth Street.

Acute Pneumonia in Utero.—A correspondent writes in the *Lancet* of November 6, 1886, as follows: "A patient, U. M——, was admitted to hospital suffering from acute pneumonia (whole of left lung), and a history of illness covering the four days previous to admission. She was eight months pregnant. On the evening of the day of admission her temperature was 103.6° F., and she was delivered of a female infant. The infant died in less than twenty-four hours after birth, with symptoms of acute pneumonia. A post-mortem examination showed acute pneumonic consolidation of the whole of the left lung. The mother made a rapid and good recovery. While there is ample evidence that the other acute specific diseases (so-called 'fevers') are capable of being transmitted by the pregnant woman to her offspring yet *in utero*, this is the first time I have had any evidence that 'acute pneumonic fever' could also be so transmitted."

CONGENITAL HÆMOPHILIA, WITH THE HISTORY OF A REMARKABLE CASE.[1]

By EDMUND C. WENDT, M.D.,

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For the history of this case the writer is indebted to Dr. Kate Parker, House-Physician of the New York Infant Asylum. The case occurred in the service of Dr. George B. Fowler.

Howard B—— was born at 4 A.M., November 30, 1886. His mother was a remarkably well-developed mulatto woman in perfect health. Special inquiry failed to elicit any history of syphilis, nor did a careful and searching examination give the slightest evidence of the disease, past or present. The mother's family was stated to enjoy perfect health. No cases of hemorrhage were known to have occurred in any of its members. Regarding the father, no other facts could be learned than that he was apparently in excellent health.

The mother was twenty-five years of age and a primipara. Pregnancy had progressed undisturbed to full term. The delivery was a very easy and natural process The first stage of labor lasted just six hours and ten minutes. The duration of the second stage was only ten minutes, and birth was almost precipitate. It was a vertex presentation, with right occipito-anterior position. The weight of the child at birth was nine pounds and eight ounces. The infant's appearance would have been quite normal, except for a swelling above and in front of the right ear, with purplish discoloration of the integument. Nothing unusual occurred until 7 A.M. on the following day. At that time there was a severe hemorrhage from the umbilicus, which was apparently checked, however, by the usual treatment. Two slight attacks of epistaxis followed, and some blood was also rejected by vomiting. At 11 P.M. oozing from the navel was again noticed. Although the blood seemed to come from several points, the oozing was most marked at the line of separation from the integument. In spite of all efforts to control it the bleeding continued, with but slight intermissions, until the death of the infant, on the following day, December 2d, at 4 P.M. Before death a few purpura-like spots had made their appearance on the skin of the trunk and extremities. The tumefaction above the ear had perceptibly increased in volume. Death was evidently due to exhaustion from loss of blood. The weight of the child after death was found to have become reduced to eight pounds and nine ounces.

To complete this rather brief clinical record, it should be added that there was no post-partum hemorrhage, that the mother passed through an absolutely normal childbed, and that the placenta was healthy, at least so far as gross appearances were concerned. A microscopical examination was not made.

At the autopsy, which was performed twenty-two hours after death, the following observations were made: The body of the mulatto infant appeared plump and well nourished. Cadaveric rigidity was well marked. No petechiæ or ecchymoses were visible on the integument. The right post-aural region was occupied by a doughy tumor, over which the skin was colored purplish blue.

A hard, shrunken mass, to which adhered crusts of coagulated blood, represented the soft part of the umbilical cord. At the line of junction with the integument a few small and superficial erosions could barely be made out. The umbilical vessels were carefully prepared, and, on opening the abdomen, traced into the liver and through the hypogastric arteries into the iliacs. They were patent on section, and presented no abnormality whatsoever. They contained no blood.

When the abdominal cavity was opened about two tablespoonfuls of fluid blood were collected from its different compartments. The blood was thinner, but not lighter-colored than normal. Not a single clot was

[1] Read before the Manhattan Medical and Surgical Society, January 8, 1887.

anywhere discoverable. Between the layers of the omentum quite an accumulation of blood was seen. A large patch of extravasated blood appeared under the diaphragm. Similar hemorrhagic effusions, but of less extent, were found at other points within the abdominal cavity. All the contained organs looked pale, but not shrunken. In the stomach no blood was found. The mucosa was strikingly bloodless.

The spleen was larger than normal, of firm consistency, and relatively rich in blood.

The liver was very pale, not enlarged, and not fatty. No hemorrhagic spots were found in its interior.

No inflammatory lesions were present, and no ruptured blood-vessel could be discovered here, or elsewhere in the body.

Before opening the chest the muscles were dissected away from the ribs. In this way a very large hemorrhagic effusion came to view beneath the fascia of the left pectoralis major, and extending directly into the substance of both pectoral muscles. The skin covering the region in question was not discolored.

The pericardial sac contained about one teaspoonful of blood-stained serous fluid, but only one small subpericardial effusion of blood was seen.

The muscular substance of the heart was pale and firm. The cardiac chambers of the left side contained a small quantity of thin, fluid blood. The cavities of the right side contained considerably more, but otherwise similar blood. Clots were nowhere to be seen. The foramen ovale was found closed. The ductus arteriosus was still pervious. All the valves were well formed, but appeared unusually delicate in structure. The calibre of the vascular trunks proceeding from or going to the heart was not abnormally small.

The lungs presented a beautiful and striking appearance. Numerous hemorrhages had occurred into the substance of the pulmonary tissue. The result was a mottled look, well-defined patches of bright red forming a sharp contrast to the marked whiteness of the healthy portions. The hemorrhagic islands were everywhere clearly defined by the boundaries of the pulmonary lobules, so that a mosaic-like appearance resulted. The hemorrhagic territories were of almost uniform size, only exceptionally involving more than two lobules. The bleeding must have been the result either of countless capillary ruptures or, more probably, extravasation by diapedesis.

On dissecting the scalp, in order to expose the calvarium, another very extensive effusion of blood was discovered. The tumor behind the ear, mentioned above, was found to consist of one mass of effused blood. The extravasated fluid occupied the tissues of the scalp, extending over all the bones of the skull, excepting only the left parietal part of the left temporal and the left half of the frontal bone. No blood had escaped beneath the pericranium, however, thus constituting a noteworthy departure from what is the rule in ordinary caput succedaneum. Both fontanelles were unusually large and quite soft.

On exposing the brain the vessels of the pia were seen to be very scantily supplied with blood. There was a moderate amount of clear serous accumulation in the subarachnoid spaces, especially toward the depending occipital region. The substance of the brain was of waxy pallor, and its consistency was above the normal. In the venous sinuses some fluid blood was seen, but again no clots were visible.

In trying to properly interpret this case, remarkable alike for the severity, the extent, and the very early occurrence of the fatal hemorrhages, we are confronted by all the uncertainty that pertains to the entire subject of hæmophilia—or the hemorrhagic diathesis, as it has been called. The infant whose history has just been given evidently bled even before birth. For the tumor about the ear was clearly the result of a hemorrhage that must have taken place while the fœtus was in utero. Whether any of the other extravasations noticed at the autopsy occurred before delivery is doubtful. At any rate, the condition of the effused blood makes it certain that they did not precede birth by many days, or even hours.

Hæmophilia is pre-eminently a hereditary disease; more so, probably, than any other known malady. Its history has shown that direct transmission is by no means always observed. Some of the worst cases apparently skipped one generation, to appear in the offspring of parents themselves seemingly free from all "bleeding" taint. Indeed, transmission by so-called transgressive heredity is held by some observers to be more common than the immediate parental variety. While, therefore, the parents of this infant were, so far as known, in good health, there is no reliable record extending farther back to show that bleeders may not have existed in older generations.

But there are other points connected with this case deserving our attention. An examination of the literature of hæmophilia shows that, even in bleeder-families, congenital hemorrhages, as well as hemorrhages during the first few days of extra-uterine life, have been very rarely observed. The cases of Winckel [1] appear to be about the best-observed ones of those that can be vouched for.

Perhaps it is proper to add the cases mentioned in an article on hæmophilia by Dr. Dunn, which was published in the *American Journal of the Medical Sciences*, January, 1883. This author briefly refers to a number of cases of bleeding in infancy. One child is alluded to as having bled from birth. Another "died of umbilical hemorrhage after bleeding fifteen days, dating from birth." Still another "had from birth spontaneous hemorrhages from nose, kidney, and bowel." All these cases concerned children belonging to families of bleeders. In no instance does the author give us a complete clinical record, or a description of post-mortem appearances.

Resuming the consideration of the writer's case, the question naturally suggests itself whether the assumption of hæmophilia is entirely justifiable, or whether we should not rather seek elsewhere for an explanation of the hemorrhagic phenomena observed. There is but one disease that, in the writer's opinion, can possibly be thought of in this connection—namely, syphilis. But reference to that disease will be made farther on.

Hæmophilia is so rarely brought to our notice in this country that it seems admissible here to quite briefly go over tolerably well-known ground, covering at least some of the leading facts relating to the disease.

Hæmophilia, then, or hæmorrhaphilia, or hæmatophilia, or morbus hæmaticus, or diathesis hæmorrhagica habitualis, are all terms used to denote a constitutional tendency to bleed, either in consequence of some slight traumatism or without discoverable cause—*i.e.*, spontaneously. A constitutional vice of this kind has for a long time been known to be hereditary in certain families, commonly called bleeders.

Hæmophilia is certainly not a disease frequently observed in America, nor does it appear to be at all common in other countries. It is much oftener seen among the fair-complexioned Anglo-Germanic races than among the darker types of Roman or Slavonic origin. The truth of this proposition must be maintained, even against Virchow's suggestion, that the greater prevalence of hæmophilia among the Teutonic races was only apparent, and due to the fact that the proportion of "writing physicians" (meaning actual, not potential, writers) was relatively so very large among the Germans.

According to Immermann's figures, out of a total of 219 families of bleeders Germany furnished 94; Great Britain, 52; North America, 23; France, 22; Russia and Poland, 10; Switzerland, 9; and other countries the remainder.

[1] Winckel's two cases of congenital hæmophilia, the hemorrhages occurring in new-born infants, are found in the Berichte und Studien aus dem Kön. sächs. Entbindungs Institut zu Dresden. Leipzig, 1874.

The great preponderance of male over female hæmophiles is a rather curious and a hitherto explained feature of the disease.

In 1877 Grandidier published records of 200 indisputable bleeder-families. These furnished 609 male hæmophiles and only 48 females, or a proportion of nearly 14 to 1. Dunn has collected 780 cases (including 631 mentioned by Grandidier), of which number 717 were males and 63 females, or a ratio of 11 to 1. Förster states that among the very young there is less numerical disparity between the two sexes.

As a rule, the first indication of the existence of a hemorrhagic diathesis occurs early in life. Thus Grandidier found that the initial hemorrhage took place within the first year of life 58 times in 95 well-authenticated cases. Nasse appears to be the only writer who distinctly states that hæmophilia may be the cause of fœtal hemorrhage.[1] Förster himself is of opinion that the "bleéder disposition" is only developed after the circulatory and other changes incident to childbirth have occurred.

Eichhorst, in his "Handbook of Practical Medicine," as well as in an excellent article on the subject in "Eulenburg's Real Encyclopædie," says that the congenital form of hæmophilia is allied to the hereditary disease. According to this accurate observer, congenital hæmophilia includes those cases in which children are bleeders, although the parents come of healthy families. Very little is known concerning the causes of congenital hæmophilia. Among those mentioned are marriage between blood-relations, phthisis, scrofula, rheumatism, or gout in the parents, and fright during pregnancy. It will be seen from this enumeration that syphilis is conspicuous by its absence from Eichhorst's list of causes. He also states that children sometimes fall victims to the disease immediately after birth, as the result of uncontrollable hemorrhage after tying the umbilical cord. Several authors have denied this, and Lange positively asserts that umbilical hemorrhage is not observed in consequence of hæmophilia. It is certainly a very exceptional occurrence. In the writer's case it will be remembered that the umbilical hemorrhage was not controllable, and became a prime factor in determining an early fatal issue of the disease.

The hemorrhagic diathesis generally lasts the entire lifetime of an individual. While it commonly leads to death at an early age, Simon and others have recorded cases where the patients lived above seventy and even ninety years of age (Simon, *Récherches sur l'hémophilie; Thèse de Paris*, 1874). Sometimes the disease is unsuspected until the extraction of a tooth or some traumatism reveals its presence by a dangerous and intractable hemorrhage. Circumcision has repeatedly led to death in this way. Scratching, leeching, cupping, scarification for vaccination, and even the application of a vesicant to the skin, have each had fatal consequences. But in most cases of hæmophilia the bleeding takes place spontaneously, as well as in consequence of some injury. Thus there may be epistaxis, profuse menorrhagia, hæmaturia, intestinal hemorrhage, hæmoptysis, bleeding from the mouth, bleeding into the auditory canal, or from the caruncula lacrymalis, or into the joints, or hemorrhage of the brain and its meninges. In a word, no tissue or organ supplied with blood can be said to be exempt from hemorrhagic accidents in this disease.

Regarding the true nature of hæmophilia nothing definite is known, and it would be far from profitable to recite the various views that have been advanced at different times to account for its morbid manifestations. Suffice it to say that opinions have hinged mainly on whether hæmophilia was dependent upon faulty blood-composition or upon abnormalities in the structure of the vessels, or upon a combination of both conditions. It is reserved for future investigations to shed light upon this obscure field of pathology.

The prognosis and treatment of hæmophilia are not pertinent to this article. It remains, therefore, to inquire whether the case related above cannot be better explained by placing it under the head of hemorrhagic syphilis of the new-born. That syphilis may lead to multiple hemorrhages in the new-born is to-day doubted by few. But the subject has only recently been carefully studied. Now, it appears that extravastion of blood into the tissues has never been observed to be the only sign of hereditary syphilis. In the writer's case, it will be remembered, no other sign of disease was discoverable.

Behrend, in 1883, described a condition to which he gave the name of hemorrhagic syphilis of the newly born. Kassowitz, Deahna, Schütz, and others confirmed his observations; while Petersen and several others opposed them, and to this day deny the existence of a hemorrhagic diathesis due to hereditary syphilis. The most recent, and probably the most important, contribution to this subject is contained in a paper read at the Fifty-ninth Congress of German Naturalists, held at Berlin, and published in the *Wiener Medizinische Wochenschrift*, November 6, 1886. Dr. Mracek, the author of the paper, is a lecturer on syphilis at the University of Vienna. His studies and observations were made under the supervision of Professor Kundrat, and extended over a period of four years. It is not necessary to follow the author into the details of his investigations. But there can no longer be any reasonable doubt that there is such a condition as "syphilis hemorrhagica neonatorum," or a hemorrhagic diathesis due to hereditary syphilis. It is equally certain, however, that these cases show numerous and well-marked anatomical lesions, chiefly concerning the blood-vessels of the body. As no such lesions were present in the writer's case, it must for this, if for no other reason, be excluded from the group of syphilitic affections of the new-born. It will have to go on record, therefore, as an instance of congenital hæmophilia, thus justifying the selection of the title for the present communication.

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[1] Förster, in Gerhardt's Handbuch der Kinderkrankheiten, vol. iii., p. 240.

A SHORT STUDY OF BERIBERI:

With a Report of Cases Observed in Bellevue Hospital.[1]

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I feel that this paper must begin and end with an apology. The time allowed me for its preparation was short, and it is possible that some omissions may be found in it. The article is based largely on the papers by Scheube, and I have added to his observations any other facts I was able to obtain from other authors.

Synonyms.—Kak-ké, Beriberia, Sleeping sickness, Paneuritis endemica, Neuritis multiplex endemica, Endemic Multiple Neuritis.

Geographical distribution.—The disorder is found in portions of China and Japan, Ceylon, portions of India, Burmah, the Malay Peninsula, many islands near Asia, Brazil, some parts of Central America, the West Indies, Australia, and the Sandwich Islands.

The disease prevails endemically in these countries, and occasionally breaks out in epidemics.

The season of greatest prevalence is, according to most authors, during the hot months, when there is most decaying vegetation. In general, it seems that at seasons when malarial fevers are most common beriberi is

[1] Read before the Section on Practice of the Academy of Medicine, January 18, 1887.

also most common. Scheube states that in Japan most cases occur during the hot months of July, August, and September.

Conditions of soil.—On this point there is difference of opinion. Scheube thinks that overcrowding in cities is most favorable to the propagation of the poison, while Maclean seems to think that marshy country-districts with bad water form a good soil for it. Scheube states, and gives examples to prove, that in houses newly built on previously open ground, in or near infected cities, beriberi is very apt to appear as an epidemic.

Nationality, sex, age, occupation.—Natives in infected districts are more frequently attacked than foreigners. Males are much more often attacked than females. The disease is much commoner in adolescence and early manhood than in childhood or advanced life. It attacks all classes, but seems commoner among those who are living on poor food, and those whose occupations are sedentary, than in well-fed people who lead an active life.

Bad food and water certainly seem to predispose to the disorder, and the same may be said of anything which tends to lower the vital forces, as acute diseases, etc.

The determining cause is unknown. Certain authors think that the disease is of bacterial origin; a view which has some probability. Others, again, believe that the disorder may be the result of an unknown, but not living, specific poison. Whatever the poison is, it seems to be portable, since epidemics occur on ships, far from land, sailing from infected ports. The disease either is not contagious or is but slightly so. It is not proved, but it is probable that one case may infect a neighborhood and thus indirectly cause other cases. When epidemics occur on ships, they may be possibly the result of the poison carried in food or water, or it is possible that the infection may occur on land and the disease have a long period of incubation. The ship's crews which have suffered in this way have usually been subjected to bad hygienic surroundings, or had bad food or water, or the voyages have been protracted by storms.

The period of incubation is of unknown duration.

Symptoms.—The most characteristic symptoms of beriberi are dropsy and paralysis. In some cases the dropsy occurs alone, or at least with very slight nervous disturbances; in others the nerve-symptoms occur alone, or with but slight dropsy; and in some cases both occur simultaneously in a pronounced manner. This has led authors to describe a "dry," "wet," and "mixed" form. It must be remembered, however, that there is no sharp dividing line. Cases with predominant nervous symptoms often suddenly develop dropsy, and *vice versa*, either of the simple types passing into the *mixed* type. It is also possible for the œdema of mixed cases to subside, leaving only the paralysis behind.

The disease sometimes runs a very mild course, of which the duration may be short or long. Occasionally with pretty pronounced symptoms it pursues a slow march; sometimes it is very acute in its onset, and is rapidly fatal. If a patient be suffering from the more chronic type of the disease, an acute outbreak may at any time set in and cause death.

The onset of the disease may be marked by the occurrence of fever and symptoms of bronchitis, coryza, or catarrh of the stomach or intestines (Scheube). Many cases do not present these initial symptoms, and many authors make no allusion to them. The characteristic symptoms of the disease, in mild cases, are weariness and aching pain, with a sense of weight in the legs, with or without a certain amount of numbness in the feet; sometimes an intense desire to sleep. With these symptoms, or, in some cases, before they appear, a slight amount of œdema of the lower extremities is noticed. The œdema is not a necessary part of the disease; but, on the other hand, cases occur with œdema as the only symptom. Palpitation of the heart, some dyspnœa, epigastric or præcordial oppression, more or less anæmia (which is not constant, however), together with some mental depression, are the most marked remaining symptoms. This mild type may last for weeks, or even months or years, and it may pass into one of the more severe forms or end in complete recovery.

The severe forms differ in degree, but not in kind, from the mildest. In the type with predominant nervous symptoms, sometimes called the "dry," there is a pretty complete paralysis, with rapid atrophy of the muscles, usually of the lower extremities. The paralyzed muscles are occasionally hyperæsthetic during some period of the disease, and the hyperæsthesia may be very marked. There is frequently tenderness along the course of some of the nerve-trunks. The upper extremities may be affected like the lower, but the paralysis is rarely so complete. The abdominal muscles may also share in the paralysis. The sensorium is generally clear. Such cases may slowly recover, or may develop dropsy and thus pass into the mixed form, or die, usually from some complication, as pleurisy, endocarditis or pericarditis, or with dyspnœa and the symptoms of the malignant forms.

In "wet" cases there are the same symptoms of heaviness and weariness in the legs, but soon general anasarca, with effusion into the pericardium, pleural cavities, and peritoneal cavities, occurs. There is marked diminution in the urine. Cardiac palpitation, weak pulse, dyspnœa, præcordial or epigastric oppression, and anæmia, real or apparent, are all marked. Sometimes a profuse flow of urine, followed by disappearance of the dropsy, is noted. Paralysis is not often well marked. After the dropsy disappears this latter symptom may remain, or it may disappear before the former. Considerable emaciation occurs. Such cases may recover wholly or partially, or may develop acute symptoms and die.

In the so-called mixed form we have well-marked paralysis, with well-marked dropsy.

There remains to be described the malignant form. In this, with or without œdema, prostration, weak pulse, palpitation of the heart, dyspnœa, intense præcordial or epigastric oppression, vomiting (in some cases), great mental anxiety, restlessness, and diminished or suppressed urine, are symptoms which may attack a previously healthy man, or one already suffering from mild beriberi, and cause death in a few hours or days.

The prognosis in the malignant form is very bad. In the others it is pretty good. Relapses are common.

I must detain you to look over again some of the principal symptoms.

The nerves most commonly affected are those of the lower extremities, but those of the upper are quite frequently involved to a greater or less degree. The paralysis is not always the same in degree on both sides, if both legs are affected. Scheube has seen monoplegia and hemiplegia. The facial, glosso-pharyngeal, vagus, hypoglossal and phrenic, spinal accessory, and trigeminus have been observed to be affected. I find no record of lesion of the optic nerves.

Tactile and pain sensibility are usually diminished. Temperature and muscle-sense normal (Scheube); cramps and contractures occur in various muscles, most commonly in those of the calf. Various abnormal sensations in the limbs are common, but they are usually not to be described as pain. Fibrillary contractions of the diseased muscles are quite often seen. Trophic changes in the skin seem not to occur. The same seems true of the joints.[1] The *muscles* undergo rapid atrophy and degeneration, and may show sclerotic changes. The electrical reactions are those of degeneration, save that the galvanic excitability is always *diminished*, not increased at any time. Hiccough occurs toward the end of some fatal cases (Maclean). The bladder and rectum are never paralyzed.[2]

[1] A case of joint-lesion is described by Scheube, which is possibly of nervous origin.

[2] A rather slow flow of urine is noted in some cases.

Blood and circulatory system.—Anæmia is usual, and is often extreme. Some cases show a marked diminution in the number of red disks. Exact information in regard to the amount of hæmoglobin I have not obtained. In one of my cases, with 4,500,000 disks to the centimetre, there seemed some diminution in the hæmoglobin—the blood was paler than normal—but I was unable to estimate it accurately until late in the disease. The white cells seem relatively, but not absolutely, increased in number.

The pulse is generally weak, and may be dicrotic; the tension is low; the heart-action feeble, sometimes irregular. The circulation in the extremities is feeble, and these are cold; the frequency is above normal. Beriberi may, however, exist with a normal pulse and heart-action. Dilatation of the heart, especially the right chambers, is common; hypertrophy rare. Anæmic murmurs are often heard. Accentuation of the second sound, especially the pulmonic, is often noted. In one of my cases there was reduplication of the second sound at the base. Palpitation of the heart, aggravated by exertion, seems to be one of the commonest symptoms. Few cases occur without more or less oppression in the præcordial or epigastric regions.

Dyspnœa on exertion, or without such cause, is almost always present to a greater or less degree. *Orthopnœa* is sometimes observed. Severe dyspnœa occurs in acute outbreaks. It has been suggested that this symptom may be due to a lesion of the nerves of the lungs.

Disorders of the stomach and intestines.—Hebersmith notes a marked increase of appetite in his cases. Constipation is the rule, diarrhœa the exception. Thirst is in some cases urgent, in others not complained of. Vomiting is rare; many authors do not mention it at all. Various dyspeptic symptoms are noted in certain cases. The tongue is usually pale. Maclean states that in severe cases it may become black and dry.

The urine in "wet" cases is much diminished, or almost suppressed; sugar and albumen are absent according to most observers. In acute cases, before death, Scheube found albumen and casts and renal detritus. In "dry" cases the quantity of urine is often somewhat diminished. In "wet" cases the occurrence of free diuresis will frequently be followed by subsidence of the œdema. When the urine is diminished both the water and solids are lessened in amount.

The skin shows no specific eruptions, though purpuric spots are sometimes observed. There is none of the tendency to gangrene and suppuration observed in curvy.

In regard to the dropsy, enough has been said, save to mention that localized œdemas of portions of the subcutaneous tissues occur in some cases.

The temperature is usually normal or subnormal. Fever occurs in some of the cases.

The general nutrition usually suffers markedly. There is not only atrophy of the diseased muscles, but also emaciation. Swelling and induration of certain muscles and tendons is sometimes observed.

Pathological anatomy.—The blood remains fluid for some time after death. Fatty degeneration of the heart was found by Scheube in all his 17 cases. He also found dilatation of the right heart in 14 cases, or 70 per cent.; of both sides in 4 cases, or 20 per cent.; hypertrophy of the left ventricle in 5 cases, or 25 per cent.; of both ventricles in 4 cases, or 20 per cent. Endocarditis (acute simple) is noted in a few cases. The spleen is a little enlarged in most. Scheube also notes parenchymatous degeneration of liver and kidneys, and sometimes accumulations of nuclei in the stroma of these organs. Small abscesses have been found in the liver. General anasarca, with dropsy of the serous cavities, is common. The nerve-lesions consist of inflammation and degeneration of many peripheral nerves, the cord and brain remaining normal. The changes sometimes noted in the cord seem always post-mortem alterations. Certain muscles show degenerative changes. No lesions of the blood-vessels can be shown.

Pathogeny and pathological character.—Beriberi is probably an infectious disease. It resembles in a superficial way pernicious anæmia and myxœdema. It is hardly necessary to point out the differences between it and these disorders. It resembles still more closely some forms of scurvy. In the latter disease neuritis is rare if it is ever met with.

The points which render its infectious nature probable are its lesions and its occurrence in epidemics. The effort to show that these epidemics depend on conditions favorable to the development of scurvy fails, since people in the most varied walks of life and living on the most varied food suffer from it. Any conditions which tend to produce scurvy certainly favor the occurrence of beriberi, but they do not produce it by themselves.

How the poison is introduced into the system, whether by water, air, or food, is unknown. The period of incubation is equally unknown, but there is considerable evidence to show that it is long, possibly extending over several months. The relation of the nerve-lesions to the symptoms is easy to understand as far as the paralysis is concerned. It is also comprehensible that lesions of the vagus may produce the dyspnœa, and possibly the rapid heart-action. The dyspnœa is no doubt increased by hydro-pericardium and pleural dropsy, when these exist, and perhaps in cases by œdema of the glottis.

The dyspnœa may be further increased by lesions of the phrenic. Perhaps, also, the blood state may be a factor in its production. Whether the sense of weight in the epigastrium may be the result of vagus disease, I do not know.

The occurrence of dropsy is by no means easy to explain. We must remember that general anasarca, with ascites, pleural and pericardial effusion, may occur in beriberi within twenty-four hours of the onset, if some of the histories are to be believed. The causes which occur to me, any or all of which may take part in its production, are interference with the kidney-functions, rapid alteration in the condition of the blood, aided, perhaps, by a weak heart. Vascular changes cannot be demonstrated. Obstruction to the return through the lymphatics may possibly exist. Can there be any changes in the vaso-motor nerves which will produce dropsy? Is it not probable, at least, that the interference with renal functions may be due to deranged action of the renal nerves?

In regard to the bacterial origin of the disease, I have not yet found trustworthy evidence. Bacteria are described, but I have not been able to obtain access to the original papers describing them, and the abstracts I have read do not seem to give promise of much, with the possible exception of the report of the Dutch commission. The commission reports the discovery of a bacillus similar to, but smaller than, anthrax, found in the heart-muscle, blood, nerves, and fluid from the serous sacs. As the synopsis of the report in the *British Medical Journal*, (December 4, 1887) is short, we cannot be sure of the methods employed.

In regard to *treatment* there is but little to say. Tonics, antiscorbutics, good food, and electricity are recommended. Two mixtures, known as *treuk farrook* and *oleum nigrum*, the former of unknown composition, and the latter an empyreumatic oil, from the seeds of a plant growing in India, enjoy much reputation in that country. Tapping and aspiration may be called for in cases.

Cases observed in Bellevue Hospital.—I have to thank Dr. Ely and Dr. Freeman, of the house-staff of Bellevue Hospital, both for collecting facts and for their assistance in examining the cases whose histories I am about to relate.

The ship Henry S. Sanford lay in Hong-Kong for about two and a half months, having arrived there from Newcastle, Australia, with coal. The captain and some of the crew remained with her. She shipped some new men, including our cases, at Hong-Kong. She sailed,

with all hands well, on July 20, 1886. She went through the Straits of Timor, having passed the Philippine Islands. The Cape of Good Hope was rounded, and the first stop made was at the island of Fernando de Noronha, where they remained six or eight hours, and sent ashore for a doctor. They reached New York December 9, 1886. The food and water were both rather unusually bad, so that the men complained of them. The water used during part of the voyage was collected from the deck, which was never clean, and on which two cats and a dog were allowed to defecate. The water was stinking and contained little animals. Breakfast: Bread, containing maggots, salt meat, and coffee. Dinner: Bread, salt meat, and potatoes which soon were rotten. Supper: Bread and salt meat. Dried apples twice a week. One sailor said the food was not much worse than usual, the other that it was very bad for an American ship. The food was badly cooked. The weather was fine.

There were eighteen souls on board. Of these twelve were ill. Those who escaped were the captain's wife and two daughters, the Chinese cook, the steward, and a Russian prisoner—six in all.

The captain was the first to fall ill, three months out. He had dropsy and was unable to leave his berth, whether from paralysis or prostration is not known. He died shortly after leaving Fernando de Noronha.

The carpenter had a fight with the mate, and was laid up for a while in consequence. He was taken ill with apparently ascites alone; no paralysis nor œdema of the feet. He died.

Seaman B—— was next taken. He had bloody diarrhœa and died in Bellevue Hospital. He was the only man who had any bleeding. He had œdema, probably no paralysis. He died with dyspnœa, very pronounced, a few hours after his admission. The autopsy showed general anasarca, with pleural, pericardial, and peritoneal effusion. There was slight old, and very slight recent, endocarditis.

Seaman A—— was sick three weeks. Œdema, and paralysis questionable. He took much medicine, and died, having had a great deal of vomiting.

After this all the crew, with the exceptions noted, were sick in the same way. They had weakness and heaviness of the legs, more or less œdema, and some had dyspnœa.

Case I.—Henry D——, aged thirty-one, sailor, England, admitted December 10, 1886. Sick forty-five days. Feet swelled then, and he suffered from pain and weariness in the calves of the legs and became very easily tired. He was constipated. He did not suffer much, and continued to work until fifteen days ago, when the swelling became extreme and extended up the legs and thighs and involved the genitals. At this time he developed a dry cough, dyspnœa (which soon became severe), and some palpitation of the heart.

For past two days urine has been very much diminished; he has passed a little every hour. He has lost considerable flesh since illness began.

Physical examination showed marked general anasarca, great pallor; no signs of disease of lungs; no fluid in pleuræ, or peritoneum, or pericardium. Heart second sound at base reduplicated and loud; pulse full, slow, and strong. Temperature, normal. Urine acid, amber-colored; sp. gr., 1.016; no albumen. Liver and spleen normal size.

December 11th.—Four oz. urine; œdema less.

December 12th.—Orthopnœa and some dyspnœa. Four oz. urine.

December 13th, at 6 A.M.—Severe dyspnœa, which was followed by death at 8.30. The man was weak. The existence of actual paralysis was not established. There was numbness of the feet and legs on the day before death.

Autopsy (by Dr. Prudden).—A well-built, well-nourished man. General anasarca. Abdominal cavity contains a large amount of clear, yellow serum; peritoneal surface appears normal; right diaphragm at lower border of third rib. Moderate amount of clear, yellow serum in right pleural cavity; extensive adhesions over left pleura. About 3 oz. of serum in pericardial sac; visceral pericardium, moderate old opacity. Heart: Right ventricle contains a small clot; mitral valve in places slightly thickened; other valves normal; very slight endocardial thickening over papillary muscles; heart muscle a little pale; moderate fatty degeneration of ascending aorta. Blood in general fluid. (Note by Roosevelt: Blood was not apparently paler than normal.) Lungs: Right pleura apparently normal; right lung bronchic, congested, contains muco-pus; emphysema of middle and lower lobe; in pleura of upper part of lower lobe are numerous pins'-head, dark red, petechia spots; left lung everywhere adherent; some old adhesions, but most are fresh fibrine, some of them are apparently becoming organized; over the upper part of the lower lobe the fresh adhesions are thickest; the pleura here is besprinkled with translucent miliary nodules; the pleura contains numerous larger and smaller petechiæ; bronchi congested, mucus increased; lower lobe rather dry; upper part of upper lobe congested and œdematous; no tubercles in lung; in axillary line, on third and fourth ribs, is a subpleural, dense, tough mass of tissue, about three inches long by two inches wide; in its centre is a brown, soft mass. Spleen six inches long, four and one-half inches wide, and correspondingly thick; old adhesions over surface; cut surface shows an unusual amount of connective tissue. Left kidney a little small; capsule slightly adherent; thickness of cortex normal; markings regular and very plain. Right kidney normal. Part peritoneal tissue deeply œdematous. Stomach: mucous membrane red; otherwise normal. Bile-duct patulous. Liver about normal size; surface shows depressed areas; cut surface normal. Intestines normal; one roundworm found. Pancreas normal. Suprarenal capsules normal. Mesenteric glands swollen. Brain and membranes and vessels appear normal. Glottis: mucous membrane a little swollen, suggesting œdema, now disappeared. A little petechial spot on posterior surface of epiglottis. The nerves were not examined.

Case II.—James L——, aged forty-nine years, sailor; Sweden; admitted December 11, 1886. Six weeks ago patient was taken sick, and has been unable to work since then. First symptoms were stiffness and soreness about the ankles, followed by slight swelling of the legs. He became quickly prostrated. For last month much troubled with dyspnœa and orthopnœa, and marked palpitation of the heart and epigastric oppression. Three weeks ago began to have a cough, and expectorated a little liquid containing pellets. He has suffered from some headache and slight blurring of the sight; no muscæ volitantes. From the beginning of his illness his appetite was poor, his bowels constipated, he had occasional nausea and vomiting, and he slept badly because of dyspnœa. He noticed nothing peculiar about his urine.

Physical Examination.—Well-nourished muscular man; complexion pale, with slight yellowish shade of skin; sclerotics normal; tongue pale; gums rather red and soft; a yellow, dirty deposit about one tooth; no tendency to bleed; general subcutaneous œdema; lower extremities markedly œdematous, and genitals slightly so; visible pulsation of carotids and at the sternal notch; pulse small, slow in rise and fall, and strong. Heart: Apex in normal position; area of superficial and deep dulness normal; low-pitched, blowing, systolic murmur, audible over the whole base of the heart, most intense over the third left costal cartilage, not heard in vessels; second sound at base loud and rough, suggesting reduplication; venous hum in the neck. Lungs (both lungs anteriorly): dulness, prolonged expiration, subcrepitant râles, and coughing, from apex to third rib; behind (both lungs from angle of scapulæ down), flatness,

absent voice and breathing, with exaggerated voice at upper level of flat area. Liver and spleen normal size; no signs of ascites. Ophthalmoscopic examination: Normal fundus. Blood contains a nearly normal number of corpuscles; the color is a little pale; a scanty, pink, papular eruption on shoulders and back; no hemorrhages into skin or mucous membranes. Urine amber, acid; specific gravity, 1.014; no albumen.

Ordered iron and bitartrate of potassium, and occasional purges and fruit.

December 14th.—Forty ounces urine in twenty-four hours; somewhat less œdema; 4,500,000 corpuscles in a centimetre of blood; oppression in chest and epigastrium marked; not much dyspnœa.

December 15th.—Fifty ounces of urine; œdema less; marked paresis of lower extremities is noted; patellar reflex diminished.

December 16th—Fifty-eight ounces of urine; marked paralysis of flexors of the feet; slight anæsthesia of feet.

From this date until December 29th the œdema steadily diminished, the urine averaging about eighty-five ounces *per diem*. Nothing noteworthy occurred. There had been no fever up to this date.

December 29th.—The temperature began to rise and reached 105° that evening. It continued slightly above normal until January 3d, when it again rose, reaching 103° that evening. It fell slowly, and since then has remained practically normal. The patient felt no worse during this run of fever, and there seemed nothing on physical examination to account for it.

On January 3d some difficulty is noted in starting to pass water. When the stream comes it is normal.

January 10th.—Improvement in strength of legs. No anæsthesia; no œdema. Legs have grown thinner. Some tenderness in calf muscles. No fluid in chest. No heart murmur. Tender points found over both sciatic nerves between the ischial tuberosity and the trochanter, also over both median nerves at the wrist, and over the upper part of the outer border of the supinator longus muscle in both arms. It is not known that these points did not exist before.

The patient can stand without much support. When walking, with assistance, his feet droop and the toes drag until the step is nearly completed, when by a jerk of the thigh he throws the foot clear of the floor. The toes touch the floor first as the foot is put down. When lying in bed the feet are extended, and the soles turned somewhat in. The toes are partly flexed, from paralysis of their muscles. There is no spasm. The patellar reflex remains slight but distinct.

January 15th.—Strength somewhat better. Three days ago the potass. bitartrat. was stopped. To-day there is a little œdema of the ankles. Bitartrate ordered again.

January 17th.—There is complete paralysis of the flexors of the foot and extensors of the toes. The calf muscles still have a little strength. There is considerable atrophy of all the muscles of the legs. The thigh muscles are also somewhat atrophic and paretic. Arms not affected. There is slight œdema over the external malleoli of both sides. No fluid in either chest or abdomen. Heart-sounds normal. Still some oppression in epigastric region.

Dr. Seguin kindly made an examination of the patient, and found a quantitative diminution in electric, with sluggish contractility of all of the paralyzed muscles.

Specimens of the blood of the patient were frequently examined for bacteria, with negative results, as far as the microscopical examination would show. Two sterilized gelatine tubes were inoculated by me with blood, the usual precautions being observed. A Koch syringe was also filled with fluid from the pleural cavities. These were submitted to Dr. T. M. Prudden, whose report on them is as follows:

"The specimens received from Dr. Roosevelt were two gelatine tubes inoculated with blood, and a sterilized Koch's balloon syringe filled with reddish turbid fluid from pleural cavity. Gelatine culture-plates were at once made from the blood specimens, and four gelatine plates from a small quantity of the pleural fluid. Six agar-agar plates were also made from the pleural fluid, put into the thermostat, and kept, with frequent examinations, at a temperature of 36.5° C., for eight days. The gelatine plates were kept at about 25° C. for the same time. In none of the plate cultures was there any bacterial growth whatsoever. A large number of cover-glass preparations was made in the usual way from the pleural exudation, and neither by the ordinary fuchsine and gentian violet staining, nor by Gram's method, could bacteria of any kind be detected.

"Thus the result of both the morphological and biological methods of examination of the pleural exudation, and the biological examination of the blood was entirely negative."

My attention was called by Dr. Ely to a condition of the red blood-disks observed in a number of fresh specimens when examined with a high power. Numbers of the corpuscles showed in their centres colorless portions which were of various shapes. Some were round, others were in the shape of a letter S, others were oblong, or dumb-bell in form. Beyond this nothing peculiar could be seen in the blood by the most careful examination. The earlier specimens examined showed perhaps a rather scanty fibrin network, and a somewhat diminished tendency of the disks to form rouleaux, but the correctness of this observation is rather doubtful. An estimation of the hæmoglobin, made June 10th, showed a normal amount. Gower's hæmoglobinometer was used.

Through the kindness of the physicians of the Brooklyn City Hospital, I am enabled to state that the mate of the vessel, who was treated there, suffered œdema and coldness of the feet, with weariness and numbness. He was not laid up. He had also cardiac valvular disease, apparently of long standing. He asserts that all the sick men suffered in the same way.

The question naturally arises, are the cases beriberi? One expects to find scurvy in ship epidemics. We had here certainly conditions which favored and might produce scurvy. As against the diagnosis of scurvy, I offer the following points: One man only bled, and he had only a bloody diarrhœa. There was no bleeding from the gums in any case. The condition of the gums in Case II. was no worse than that often seen in people who use no tooth-brush. The petechial spots observed in the pleura of Case I. are not much of an argument in favor of scurvy. Paralysis, as far as I can ascertain, does not occur in scurvy. Scurvy, however, may occur, with œdema as the most prominent symptom. The *captain was the first man ill.* This is a fact of importance when we think of the probability of scurvy. Finally, the mode of death of Case I., and the complete symptoms of Case II., are singularly like beriberi. The ship sailed from an infected port, and the food and water on her predisposed to an outbreak of beriberi as much as scurvy.

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Dr. L. A. Sayre has been elected chairman of the Orthopædic Section of the New York Academy of Medicine.

Progress of Medical Science.

Ignipuncture as a Method of Surgical Treatment of Chronic Cervical Adenitis.—Dr. Dumenil reports nine cases of enlarged glands of the neck among soldiers treated by the introduction of a platinum wire into the gland and the practice of galvano-cautery (*Philadelphia Medical Times*, November 27, 1886). In some cases there was a discharge of caseous matter and free suppuration for a few days; in others this did not occur. In both groups of cases the glands rapidly underwent resolution, and only a trifling scar was left by the operation. Although the most radical and rapid method of removing these glands would be by the surgeon's knife, which may now be done with antiseptic appliances even by the most timid, there still are cases in which deep cauterization has the advantage; for instance, where the patient recoils from ablation, or where the tumors are multiple. In case of doubt as to the malignant character of a tumor in these regions, probably prompt extirpation would be the most advisable plan of treatment. At the present day this affection is no longer considered as a strumous engorgement or scrofulous adenitis, but as a local tuberculosis. The lymphatic glands of the neck receive the lymphatic vessels coming from the buccal, nasal, and pharyngeal cavities, and are specially liable to receive infectious particles which are carried by the air. The numerous diverticula which are met with in these regions, and the frequent lesions, particularly of the gums, constitute ports of entry into which the infectious elements may enter with the greatest facility. The marked frequency among soldiers is due partly to bad hygiene, and particularly to neglect of the bucco-pharyngeal cavity. As the affection is found very frequently among quite vigorous subjects whose general health is good, and in whom no hereditary predisposition exists, it appears evident that the local conditions are quite sufficient to explain the production of tuberculous adenitis. In making the cauterization, a filiform galvano-cautery surmounted by a button was first employed, but afterward was replaced by a simple platinum point, which was made to penetrate to the centre or traverse the tumor in one or more directions. Cold compresses were then applied. Anæsthetics were not needed. In all the cases except one the ignipuncture gave satisfactory results. The exceptional case passed from observation without having shown any diminution in the glands, but his general health remained good. In almost all the cases the glands were in the way of becoming caseous, and it is in this condition that good results have been the most rapid and the most striking.

Conditions which Aggravate Syphilis.—Fournier maintains that certain physical conditions in the person infected have more to do with the gravity of syphilis than the quality of the syphilitic virus. These conditions he discusses as follows: 1. Alcoholism. A powerful factor in increasing the virulence of this affection, favoring the spreading and increasing the intensity of the cutaneous lesions; producing severe symptoms, tertiary in character, early in the secondary stage; creating special types of eruption, malignant, and involving large areas of skin surface, causing more frequent outbreaks of the syphilides, depressing the system, and finally predisposing to early nervous manifestations, and causing deposits in the brain and spinal marrow. 2. Age. Syphilis is always severe at the two extremes of life. In the infant the disease, whether inherited, congenital, or acquired, is very frequently fatal, in striking contrast with its benignity in the child two, five, or six years of age. In the adult it is usually mild. After fifty or fifty-five years the disease begins to be severe, and in old age it is extremely virulent. 3. Scrofula and tuberculosis act on syphilis, and give rise to special symptoms, and at the same time syphilis exerts an unfavorable influence on those diseases. In those cases the syphilides have a moist, suppurating, and fistulous character; ocular, osseous, and articular lesions are frequently present; and the larynx, pharynx, and nose are early and deeply involved. In scrofulous subjects a particular mixed kind of inflammation of the glands is noticed, and in patients with tuberculous tendency pulmonary lesions are very often hastened. 4. Malaria also predisposes to grave forms of syphilis, as seen in those affected with malarial toxæmia. 5. All agents which depress the vital economy can serve as factors of virulence in syphilis, such as extreme poverty, bad hygiene, insufficient alimentation, prolonged lactation, fatigue, mental worry, etc.—*Quarterly Compend. Med. Sciences.*

The Blood at Birth.—Dr. F. Krüger, of Dorpat, has been investigating the condition of the blood of the fœtus at birth, and comparing its properties and composition with the maternal blood. The subject has been studied before. In some respects the present research confirms the previous ones—notably those of Becquerel and Rodier. Like those authors, Krüger finds a very slight comparative increase in the total solid constituents of the blood at this early period of existence; but he shows that in fibrine fœtal blood is markedly deficient, viz., about one-third of that contained in maternal blood. The amount of hæmoglobin is about the same as that of maternal blood, but it increases in quantity in the infant for some time after birth. Unlike the adult, there is no notable difference in the composition of blood in the two sexes. Fœtal blood at the moment of birth has a great tendency to coagulate, but coagulates slowly, *i.e.*, the process begins early, but continues for a long time before it is completed. Inquiring into the reason of this, he directed attention to the factors which, according to Schmidt, are essential to coagulation, viz., the leucocytes and blood-plasma. Three possibilities presented themselves: either there is a diminished activity of the blood-plasma in causing the liberation of "ferment" from the corpuscles, or the number of leucocytes must be less than in the adult, or these corpuscles part with the ferment less readily. On the first hypothesis, coagulation ought not to be quickened on the addition to the plasma of more lymph-corpuscles; but the contrary is the case. Nor is there any diminution in leucocytes, the absolute and relative number per cubic millimetre being the same as in the adult. It is concluded, therefore, that the reason of the slowness of coagulation of fœtal blood depends on the nature of the white corpuscles, and their slighter readiness to break up.—*The Lancet.*

Tuberculosis of the Bladder.—Tuberculosis of the bladder is, according to Guyon, relatively frequent. Dr. Boursier, assistant to Guyon, has collected thirty-seven cases. According to this author, tuberculosis of the urinary receptacle can show itself under two forms, primary or secondary. In the first case the malady is marked by frequent desire to pass water at night. The patient gets up three or four times; pain is felt during the act of evacuation, and especially at the close. With the last drops of urine appear often, and in a more advanced stage of the disease, small clots of blood. This hæmaturia is nearly always the indication to consult the medical man. Micturition, which is so frequent and often imperious, is, as has been already said, attended with a burning sensation, which remains a considerable time after, and often excites spasm of the neck of the bladder, thereby producing exceedingly painful retention. At other times the patient will be troubled with incontinence, which as often results from simple over-distention of the bladder, from the fear of the patient, who seeks to delay the emission as long as possible. However, the author thinks that the incontinence observed in children might be the result of tuberculosis of the bladder. The duration of the affection is very variable — five, ten, fifteen, or twenty years.

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THE EFFECT OF EXCESSIVE ILLUMINATION UPON THE EYE.

THE exposure of the eye to intense light has been attended with many curious and unfortunate results. In the case of Professor J. Plateau, of the University of Ghent, who while trying to observe the effects of irritation of the retina gazed steadily at the sun for twenty seconds, a chronic irido choroiditis developed, which ended eventually in total blindness. Dr. J. A. Andrews, in an article upon this subject (*Trans. of Amer. Ophthalmol. Soc.*, 1886), collects a number of cases in which choroiditis and retinitis occurred in persons who had observed an eclipse of the sun. The single flash of a sun reflector has been known to cause retinitis. Scotomata, amblyopia, and other temporary visual disturbances of a functional character have been frequently noted. M. Reich has described a curious epidemic of snow-blindness which occurred among a body of laborers engaged in clearing a way through masses of snow which obstructed the road between Passanaur and Mleti, in the Caucasus. The rays of the sun, reflected from the vast stretches of snow on every side, produced an intense glare of light, which the unaccustomed eye could not support without the protection of dark glasses. A few of the sturdiest among the laborers were able to work with impunity, but the majority, and especially the weakly and anæmic, suffered severely in their eyes, in spite of the various devices to protect them from the light. Among seventy strongly marked cases, thirty were so severe that the men were absolutely unable to continue their work or to find their way home. They were collected in a covered place, where Reich found them on his arrival prone on their faces, striving to hide their eyes from the light, and crying out from pain. Photophobia was present in all the cases. Hyperæmia of the conjunctiva, with more or less injection of the ciliary vessels, and even chemosis, was found in all severe cases. Recovery was gradual, but complete. Dr. W. C. Rockliffe (*Ophthal. Rev.*, September, 1882, quoted by Dr. Andrews) records a case of acute conjunctivitis brought on by exposure of the eyes to a 3,000 candle-power electric light. Dr. Emrys-Jones and Dr. David Little have both reported instances showing that workmen or others who expose the naked eye to an arc light of great intensity are liable to have conjunctivitis, as well as more serious ocular disturbances. It is estimated that exposure of the naked eye for one minute to an arc light of 2,000 candles will cause conjunctivitis. The violet or orange lights are said to be less injurious than the normal white light.

The light of lightning is too transient to cause any injury from simple retinal over-irritation; but it is known that cataracts sometimes follow lightning-strokes, and these are believed to be produced by some physico-chemical influence.

Glass-blowers suffer from an opacity of the lens brought not by the light, but the intense radiant heat (148° F.) to which they are exposed during their work. Dr. Andrews found such opacities in 4.5 per cent. of men under thirty-eight years of age, and twenty per cent. in men above that age. Dr. Meyhoefer found nine per cent. among men under forty.

Of all forms of artificial illumination the incandescent electric light, so far as facts now go, is the best. Among 1,100 persons who worked by this light, Dr. Andrews found not a single case of injury. On the other hand many persons testified to the fact that they could work longer by it with less fatigue than with the gas or oil light. This is due, it is found, to the steadiness, absence of heat, and perhaps the greater proportion of violet rays. Short-sighted persons are, in particular, benefited by the use of the incandescent lamp.

EDUCATION AND PATENT MEDICINE.

A CORRESPONDENT asks us how much money is expended annually for patent medicines, and how the expenditure compares with that for educational purposes.

In the year 1882–3 there was expended for educational purposes upward of $76,000,000, or, including the amounts put in sites, buildings, furniture, apparatus, etc., $95,770,712 (*Report of the Commissioners of Education*, 1882, p. xix.). The amount paid for teachers' salaries is $58,272,204. The amount paid for patent medicines annually in this country is about $22,000,000, and between five and eight millions are paid annually to newspapers for advertising them. In England the tax alone on patent medicine amounts to $600,000 annually.

It will be seen that the people of this country pay annually nearly one-third as much for drugs to poison their stomachs as they do for instruction to enlighten their minds.

The *Western Druggist* has given some interesting figures which bear further upon this question: "More patent medicines proportionately are sold in the United States than elsewhere. The great middle class buys most of them.

"The smaller country newspapers subsist largely upon advertisements of these 'remedies,' and at least $100,000,000 have been paid newspapers during the last two decades, while upward of $5,000,000 have been expended in rock and fence advertisements.

"The field for new patent medicines is narrowed every day. Cathartic pills and sarsaparillas do not succeed readily, because so many well-established specimens occupy the field. Until the stamp tax was abolished patent medicines yielded the Government $1,800,000 annually. The census of 1880 shows that there were then 563 establishments in this line in the United States, employing 4,015 operatives; that the capital invested was $10,620-

000, and that the value of the annual output was $14,682,000. New York stood first in the amount of capital invested ($3,512,430), and in annual output (nearly $4,500,000); Pennsylvania second in capital invested, $2,000,000, and third in annual output, $1,000,000; Missouri third in capital, $1,500,000, and fourth in annual output, $750,000; Ohio fourth in capital, $570,000, and fifth in annual output, $450,000; Massachusetts fifth in capital, $521,000, and second in annual output, $1,500,000."

ENTEROPTOSIS—A NEWLY DESCRIBED MORBID CONDITION.

If King Solomon had studied the medical art, he would probably never have contributed to proverbial philosophy an observation so inapt as that in which he dwells upon the general absence of sub-solar novelty. The activity and acumen with which medical investigations are being pushed lead every year to some fresh increment of knowledge and some novel interpretation of facts, quite in defiance of the wise king's aphorism. From Solomon to M. Glenard, of Paris, France, is a considerable step both in time and perhaps in intellectuality; but M. Glenard believes that he has something new, and such persons controvert Solomon and, naturally, in the same connection, challenge contemporaneous attention.

Glenard's thesis is this: *Application de la méthode naturelle à l'analyse de la dyspepsie nerveuse. Détermination d'une espèce De l'Enteroptose. Lyon*, 1885. *Neurasthénie et Enteroptose, Soc. Médicale des Hôpitaux de Paris, Mai*, 1886 (*Revue de Médecine*, January, 1887). The most common form of what is known as neurasthenia is the gastric type, or, as it is sometimes called, nervous dyspepsia. In nervous dyspepsia or gastric neurasthenia there always exists a morbid anatomical condition appreciable on physical research. This condition is given the name of enteroptosis, or prolapse of the intestinal mass.

"Enteroptosis" causes (1) asthenic symptoms, such as assitude, malaise, weakness over the stomach and loins; (2) epigastric symptoms, such as feelings of weight, hollowness, squeezing, boulimia; (3) gastric symptoms of tympanites, and oppression, pain, burning, cramps, and vomiting; finally (4) general neurasthenic symptoms referable to the head and spinal cord, such as mental irritability, hypochondriasis, etc. In other words, the condition of enteroptosis produces the phenomena generally recognized as those of gastric neurasthenia.

M. Glenard bases his views upon the analysis of 200 cases, in all of which he lays the trouble to the prolapse of the abdominal viscera: 1st, Because he finds objective signs of such ptosis in these states; 2d, because the symptoms accord with what might be expected from it; and 3d, because relief of the prolapse relieves the symptoms.

The objective signs do not appear to us to be very well described; but it is stated by Glenard that in cases of confirmed neurasthenia a methodic exploration of the mesogastrium brings out four important signs: 1st, Flaccidity of the abdominal walls, loss of tension of the muscles, or "*abdominal hypostasis;*" 2d, prolapse or falling downward of the intestinal mass, *enteroptosis*. As confirmatory signs there are found in one-third of the cases evidence of prolapse of some of the viscera, such as floating kidney, mobile liver, mobile spleen, narrowing of the colon from twisting with strain upon the ligaments; finally, gastric atony, dilatation, and prolapse.

The falling of the intestines and other abdominal viscera puts a strain upon the ligaments suspending them, and also, in the case of the stomach and intestine, changes their calibre, and produces constrictions and dilatations at different points. The result is the whole train of chronic symptoms recognized as nervous dyspepsia, neurasthenia, and hypochondriasis.

Although a more or less general prolapse may exist, we are told that the fundamental and constant lesion in enteroptosis is a prolapse of the first arch of the colon, *i.e.*, of the angle at the junction of the ascending and transverse colon. This causes a prolapse and atony of the stomach, which, in turn, tends to weaken further the proper support to the colon, and so the process goes on. But the essence of Glenard's view seems to be that a prolapse of the colon is the cause of a large number of neurasthenic symptoms.

The 200 cases cited show at once that Glenard has been studying a peculiar class of nervous troubles. Among the 200 there were 123 in which the symptoms developed after accouchement, as the result of the flaccidity of the abdominal walls, 19 were of traumatic origin, 4 post-inflammatory, and 54 post-dyspeptic. Among the 200 cases there were 157 women and 43 men.

Mobile kidneys were found in the extraordinary proportion of thirty per cent.

The indications for treatment are: 1st, To combat the enteroptosis and abdominal tension by hypogastric support; 2d, to combat the enterostenosis by laxatives; and 3d, to give tone to the abdominal viscera by all possible medicinal, mechanical, and hygienic measures.

One of the best empirical treatments is that by rest, feeding, and massage.

A YEAR OF CREMATION.

The annual report of the New York Cremation Society is of interest to everyone, though this method of disposing of the dead is by no means an accepted custom. The secretary's figures show that the Society has one hundred and thirty-two active members, and a total membership of one hundred and ninety. But two have renounced their allegiance, while two have died. The latter showed their fidelity not only unto but even after death, as their bodies were incinerated at Fresh Pond. The year's receipts were over four hundred dollars, and the Society has now over twelve hundred dollars to its credit.

The report of the president expressed satisfaction at the work of the year. It says, in part: "During the year just ended we have more than held our own as to numbers and resources. Aside from this, it has been a year of inactivity. Call it a year of waiting—of waiting on events and developments at the Fresh Pond Crematory." We learn that eighty-four incinerations have been performed during the past year, and the crematory has earned over two thousand dollars. Nevertheless, the Society finds itself financially embarrassed and asks from its members and friends, "a moderate contribution in the shape

of a temporary loan," so as to have a reserve fund for emergencies. The crematory itself is regarded as "not elegant, but sufficient for all practical purposes," certainly a practical remark.

A common-sense spirit pervades the entire report. The managers of the Society have not adopted the rôle of fanatics. They have placed before the public their sincere convictions, and have allowed the question to stand on its own merits. Hence, they may naturally claim that the progress made is permanent. Their modes of procedure might well be followed by would-be reformers in general. In regard to their hopes for the future, the report says: "Cremation has gone quietly into operation without opposition or hindrance from any source and without serious difficulty as to practical details. That an entire change in the customs of a people in the important and solemn matter of disposing of the dead should have been allowed in this way is certainly creditable to modern toleration. Considering that as yet it is but a feeble minority that prefer to give their bodies to the elements of fire to purify and consume, instead of giving them to foul the other three elements, we must admit that it is very generous of the majority to let us have our own way, which we trust will soon be the way of all."

MEDICAL LEGISLATION IN OHIO.

The State of Ohio has been mediæval in its legislation regarding all matters of State medicine. It was a long time in getting a State Board of Health, and all efforts to secure a respectably good medical law are antagonized with equal persistency and ignorance. There is now a medical bill before the legislature which provides for registering physicians and regulating the practice of medicine. We cannot say whether the bill is a perfect one or not, but the main principle is correct, and the arguments urged against it by the daily press of the State show a most extraordinary degree of ignorance of the subject of medical legislation as well as of the general state of medical practice. The State regulation of this practice, so as to secure citizens against the swindlers and the ignorant, is a perfectly well-tried and approved feature of social polity. And laws tending to further this deserve the support of wise legislators. We trust that Ohio will get a suitable law, and that the drivellings of such editorial writers as have been commenting on the matter in the *Toledo Blade* will have no effect. The answer to all such persons is the practically good results of sound medical laws already attained in Illinois and many other States.

THE LAWS OF INFECTION.

Among the more positive results relating to the study of pathogenic micro-organisms achieved during the past year have been those of Watson Cheyne and of Wyssokowitsch. They bear upon the laws regulating infection, and demonstrate almost absolutely the fact that there is really in some diseases a battle between the tissue-cells and the bacteria. Mr. Cheyne, in a research intended to discover the dosage and virulence of infective germs, found that the initial dose of virus was of great importance, and in several instances exercised a marked influence on the course and virulence of the disease. In a summary in the *British Medical Journal* it is stated that various laws were made out—for example, the pathogenic dose of a virus varies inversely with the predisposition of the animal to the disease in question; in animals not very susceptible to a disease the severity of the affection varies directly within certain limits with the amount of the virus introduced, etc. It was found that in some cases a small dose of a virus produced only a local effect, while a larger dose killed the animal, and the small dose might protect the animal from the fatal effect of a subsequent large dose. Although it is as yet impossible to measure predisposition, and thus to decide the dose for any individual, nevertheless the knowledge of the relation between these two factors is of the utmost importance, as throwing light on the mode of spread of epidemics; while the fact that a considerable quantity of the virus is in many cases necessary for the production of a disease explains many anomalies, and affords indications for preventive measures.

The results of the more recent work in injecting micro-organisms into the blood are given in the *British Medical Journal*. In 1874, Traube and Gscheidlen found that, if a quantitty of putrid fluid were injected into the blood of rabbits and dogs, and the blood taken twenty-four hours later, with aseptic precautions, no organisms developed in it, showing that the bacteria introduced had disappeared from the blood, or had been destroyed in it in that short time. Some years later, Watson Cheyne found also that saprophytic bacteria, when injected into the blood-stream of rabbits, disappeared from the blood in twenty-four or forty-eight hours, and he concluded that they had been destroyed in it. Pursuing the subject further, he found that, if larger quantities were introduced, along with the fluid in which they grew, they were able to survive for a longer time, and that the same was the case with smaller quantities, if the animals experimented on had been previously weakened in health by the administration of repeated doses of phosphorus or other poisons. He explained this fact on the supposition that the products introduced with the larger quantities of putrefying fluid, or the poisons previously administered, had so weakened the vitality of the blood and tissues that they were no longer able to destroy the bacteria. Wyssokowitsch has repeated the experiments, and has come in the main to the same conclusions as Watson Cheyne, but he has added several interesting observations. In the previous researches mixtures of bacteria, probably not containing spores, were employed; but Wyssokowitsch used pure cultivations of known organisms, and found that, while sporeless bacteria were rapidly destroyed, the spores could retain their vitality in the body for a long time, and remained in the tissues in a dormant state. In both cases the blood very rapidly became freed from organisms, but the spores were deposited chiefly in the liver, spleen, and medulla of bone, and were apparently taken up by the endothelial cells of the capillaries, in which they were found imbedded many days after their introduction. In one case a few spores of bacillus subtilis were found alive in the liver seventy-eight days after their injection, although none were present in the other tissues or organs. Wyssokowitsch's results with pathogenic organisms are very interesting. When only a few anthrax bacilli were injected, they dis-

appeared from the blood almost completely for some hours, but after twenty-four hours they began to appear again, and increased in number till the death of the animal. When they were introduced in large numbers, this disappearance from the blood was not very marked. Apparently all bacteria tend to be deposited in the organs before mentioned, and in the case of non-pathogenic organisms are there rapidly destroyed unless spores are present. In the case of pathogenic bacteria, this deposit and destruction of the organisms is incomplete, and they very soon gain the upper hand, and again spread into and multiply in the blood. We have thus in the structure of the vascular walls, and especially in the endothelial cells of the capillaries, a protective arrangement against any bacteria which may find their way into the blood. These organisms are deposited and retained in or between the endothelial cells of the capillaries, especially in the organs in which the circulation of the blood is slowest. Then begins a battle between the cells and the bacteria, which results either in the destruction of the bacteria or of the cells, which in the latter case provide a pabulum for the further development of the organisms. Those bacteria which, as a rule, gain the victory must be looked on as a specific bacteria, pathogenic for the class of animal experimented on.

IS CONSUMPTION ON THE DECREASE?

From a practical and statistical study of pulmonary consumption, chiefly as occurring in the city of Philadelphia, Dr. Thomas J. Mays[1] has been led to take a rather more hopeful view of the disease than can be attributed to the majority of medical men. The author finds that in Philadelphia alone, during the last ten years, 26,180 persons have died of pulmonary consumption, and then observes that the "deaths of its many victims scarcely excite more than a passing ripple of alarm in the public mind." In New York, it is our opinion that "the public mind" is so thoroughly inured to the large mortality from phthisis, as to quite take it for granted, without even being moved by passing ripples of alarm, such as obtain in Philadelphia.

Now, it is only too true that the mortality statistics of phthisis speak with sorrowful eloquence of a frightful waste of human life. And it is likewise already apparent that the new bacterial doctrines concerning the etiology of this disease have helped us very little, if at all, in our efforts to check this enormous mortality.

In spite of all this, Dr. Mays believes that phthisis is decreasing, and he is hopeful of a still better time to come. He alludes to the often-cited allegations of professional explorers and discoverers, that the savage does not die of consumption. The disease is "principally engendered by some of the influences which have transformed man from a savage into a civilized being." But Dr. Mays does not advise a return to primitive life, believing that attention to well-known hygienic laws regarding shelter, occupation, food, clothing, and the like, will suffice to mitigate the ravages of consumption.

Besides this, he urges the erection of hospitals exclusively devoted to the treatment of "chest diseases," which may be presumed to mean chronic affections of the lungs. He also accuses the profession of apathy concerning consumption and consumptives, claiming that this is "largely due to a lack of hospital facilities, where these cases can be studied as systematically and as advantageously as other diseases are." There is doubtless much truth in this statement, but as regards the evidence adduced by him in favor of the view that phthisis is already on the decrease, it rests on the slender basis of statistics gathered from a few American cities. According to him, the figures show "that, on the whole, there is a gradual decrease in the number of deaths from pulmonary consumption." We must take issue with Dr. Mays on this point, believing that he has not presented nearly enough statistical evidence to justify any such wide generalization. On the contrary, the very influences which he has mentioned as active in the production of phthisis, are surely more potent for evil in our day than they ever were, or could have been, before. For they belong to modern industrialism, to material progress, to the harsh strife of competition; in a word, they are apparently inseparable from the growth and spread of what we call "civilized life."

An examination of the statistics of all countries will show that, if the mortality from consumption is not increasing, it is certainly not on the wane. Nevertheless, we are inclined to agree with the author when he says that, "notwithstanding the fact that pulmonary consumption causes nearly one-fifth of the whole number of deaths in this country, the picture is not grave enough to warrant us in drawing pessimistic conclusions concerning its final influence on the human race."

The diffusion among the masses of hygienic knowledge will tend to eventually lessen the mortality from this, as well as from other of the more preventable diseases. But between this confidence in the future and the actual decrease of phthisis at present, as alleged by Dr. Mays, there is still a wide gulf, to be bridged over by education and prophylaxis.

A SPECIMEN OF HAHNEMANNIAN HOMŒOPATHY.

We have read with great profit the last issue of *The Hahnemannian Monthly*, a journal devoted presumably to the propagation of homœopathy and the homœopathic practice. The six original articles with which the issue opens are striking illustrations of how little homœopathy there may be in the practice aforesaid. The first treats of fatty heart, and the treatment advised is mainly hygienic—"symptoms as they arise should be treated with the properly selected homœopathic remedy," but it is admttted that the prognosis is bad, *i.e.*, the remedies are futile. The next article is devoted to showing the value of boroglyceride in certain surgical affections. The third article is on climate and phthisis, the fourth describes how the writer gave a three-drachm vial of atropin, ten drachms, to a patient with singultus, until the throat was dry and the pupils dilated. He next gave one-fifth of a gram of pilocarpin, then lachesis, then nux vomica, then ignatia, then hyoscyamus, and then gelseminum in one minim doses. At the end of three months the patient was well, despite the polytherapy. The last communication is upon belladonna, agaricus,

[1] A Study of Pulmonary Consumption in the City of Philadelphia. Read before the College of Physicians of Philadelphia.

and borax, and reads a good deal like the real jargon of dogmatic therapeutics.

The perusal of the articles above referred to leads one to ask how much of the real Hahnemannism there is nowadays among the readers of our valuable contemporary. There is certainly more climate, pilocarpin, and strong nervines and narcotics than anything else in the last issue.

News of the Week.

Congress is Asked to give $45,000 for the International Medical Congress, and it ought to do it.

Cholera has been Prevailing in Calcutta to an alarming extent. The mortality for the month of December last was not far from four hundred cases.

An Attempt is being made to abolish the Kansas State Board of Health.

An Important Medico-legal Decision.—In the Superior Civil Court at Boston, recently, a mother and her four children individually sued the landlord to recover damages for sickness contracted because of the poor sanitary condition of the house, and in the care of the family during their sickness from diphtheria. Damages in each case were awarded, the mother receiving $1,600, and the children, $700, $300, $250, and $200, respectively. This is a unique case, and is valuable as a precedent.

A great Medical Congress of the physicians of Russia was held in Moscow, beginning January 4th. Over a thousand medical men were present.

The Medical Society of Kings County is to have a building of its own. At a meeting on February 15th the Society adopted the report of a committee recommending the purchase of land and buildings at No. 336 Bridge Street, Brooklyn. Dr. Thallon, Dr. Matheson, Dr. Jewett, Dr. Hunt, and Dr. Hutchins were appointed trustees to make this purchase, and were empowered to receive subscriptions, not to exceed $15,000. It is intended to build a large meeting hall and transfer to it the Society's library. There will also be accommodations provided for the Superintendent of Nurses.

Transplanting the Eye of a Rabbit.—An attempt recently made in this city, by Dr. C. H. May, to transplant the eye of a rabbit to the orbit of a man has proved unsuccessful. Unless some radical improvement in technique can be devised, the operation will never probably become a practicable one.

The International Medical Congress.—Dr. Mariano Semmola, Professor of Experimental Therapeutics in the University of Naples, has consented to deliver one of the "General Addresses" before the International Medical Congress at Washington. He has chosen for his subject "Bacteriology and its Clinical Therapeutics."

Dr. J. F. M. Geddings, of Charleston, S. C., died recently in the fifty-eighth year of his age.

A Medical Peer.—Professor Billroth, of Vienna, has been elevated to the peerage, and *à propos* the English medical journals lament the fact tha England alone refuses to make peers out of doctors

A Question of Prejudice.—The *Southern Clinic* says: "In looking over the proceedings of the State Examining Board for the past two years we find that, out of 29 applicants from the University of Virginia and 19 from the Medical College of Virginia, in these two years, not a single applicant from these two Virginia schools has failed to pass the required examinations! While, on the other hand, out of 24 applicants from the College of Physicians and Surgeons of Baltimore, 8, or one third, failed; out of 16 from the University of Maryland, 5, or five-sixteenths failed; out of 7 from Jefferson Medical College of Philadelphia, 3, or three-sevenths, failed; and of the 3 from Howard University of Washington (colored physicians), all were rejected. Of course, this may be all right, but it would be hard to convince those who know anything of the relative merits of the above schools that the inferior graduates always come from schools located outside of Virginia, and that the graduates of the Medical College of Virginia are better educated men than those coming from first-class schools farther north."

Overcrowded.—The number of physicians who have located in Memphis during the past two years is out of all proportion to the increase in population. A few have remained with us, others could not stand the strain, and have sought other fields, while still others are coming in. —*Mississippi Valley Medical Monthly.*

A Bill to Regulate the Practice of Medicine in Rhode Island is before the Legislature.

The Medical Politics of Baltimore and the International Congress.—The Baltimore correspondent of the *Cleveland Medical Gazette* writes to that journal: "The meeting of the International Congress, which occurs next fall at Washington, D. C., is discussed somewhat, but there is not much excitement or even interest concerning it. The profession here is pretty well divided into two factions: 'The Maryland University' faction, made up of those directly and indirectly connected with the school and their friends, and 'The College of Physicians and Surgeons' faction, made up in the same way. When the first committee apportioned the positions in the sections, etc., of the Congress, 21 were given to Baltimore. Three of these were given to one man, thus making 19 men selected. Of these 19, 3 were from the Johns Hopkins University, 9 from the faculty of the Maryland University, and the other 5 among the friends of the University. Not one of the 9 was in any way connected with the College of Physicians and Surgeons, nor friendly to it. This, of course, was so plainly an intentional insult to the College faction that they resented it and joined the opposition party, which was so successful at New Orleans, in 1885, in destroying the work of the first committee. . . The new committee allowed Baltimore but 7 positions, instead of 21, which were given to 6 men. Four of these are of the College faction, 2 are not."

The Southwestern Medical Gazette is the title of a new monthly journal published at Louisville, Ky., and edited by Drs. M. F. Coomes and J. B. Marvin. The first number is excellently made up, and contains a large amount of interesting matter.

Reports of Societies.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN PRACTICE.

Stated Meeting, January 18, 1887.

ALFRED L. LOOMIS, M.D., LL.D., CHAIRMAN.

DR. E. DARWIN HUDSON, JR., was elected Chairman, and Dr. R. C. M. Page Secretary, for the ensuing year.

DR. J. WEST ROOSEVELT then read a paper (see page 210) entitled

A SHORT ACCOUNT OF OUR PRESENT KNOWLEDGE OF BERIBERI, WITH OBSERVATIONS ON CASES RECENTLY IN BELLEVUE HOSPITAL.

DR. E. C. SEGUIN reported three cases which he had seen in private practice. He had also had opportunity to see one of Dr. Roosevelt's cases in Bellevue, when he made an electrical examination; but it was too early in the period of paralysis to obtain any indication of the reaction of degeneration, and the quantitative reduction might be explained by an objector on the basis of being produced by the œdema. In one of his private cases there were areas of œdema. He thought that there was a strong resemblance in his three cases to alcohol multiple neuritis, and therefore that the term multiple neuritis as applied to beriberi was not inappropriate.

DR. VINEBERG, while a resident in the Sandwich Islands, in 1881, met with the strange affection, and studied it as closely as he was able to do without the aid of books, microscope, and other apparatus.

The more prominent features of the endemic, which he witnessed on three sugar plantations, were weakness and vague pains in the legs, without atrophy or loss of tactile sensibility, but very painful when grasped firmly. The muscles felt normal. The functions of the economy seemed to be normal. On one plantation several Chinamen suddenly dropped down in the field saying that they had lost power in the legs. Within a week fifteen of the sixty Chinese coolies on the plantation were stricken down with the malady. The patients walked with their legs wide apart, and not unlike a tabetic when paralysis is beginning to show itself. The reflexes were normal. Pain, at first, was referred to the region of the knees, and afterward vaguely to the thighs and legs, but not infrequently to the calves alone. Pricking sensations were felt in the legs. No evidence could be obtained that the spine was affected. There was no paralysis of the sphincters, and control over the rectum and bladder was lost in only a few fatal cases a few days before death. The appetite was good, tongue clear or slightly furred, bowels usually costive, the pulse frequent, the urine of normal color and free from sediment, and contained neither albumen nor sugar. Heart, lungs, and liver normal on physical examination. Judging from touch (thermometers being broken) there was no elevation of bodily temperature, except in a few fatal cases just before death. There were no cerebral symptoms, except muttering delirium in some of the fatal cases a short time before death, and in one in which there was "paranoia."

The sudden onset was not invariable. In many cases prodromal pains in the legs and gastric disturbances were present. In several cases the paralysis of the lower extremities was complete at the beginning, and many of these were the first to recover. Œdema of the legs was present in not more than five per cent. of the cases; in none did it become general. In all the cases attended by œdema there was valvular disease of the heart that seemed to have had an existence prior to the paralysis.

Hemorrhages, swollen gums, or other symptoms of scurvy were not observed in a single case.

Of the three hundred and fifty Chinese coolies employed on the three plantations fully one hundred were attacked. Fully fifty per cent. recovered; about thirty per cent. proved fatal, and the remainder passed into a chronic state. Recovery took place most frequently in from three to four weeks, and was liable to be interrupted by relapses of three to four days' duration. In the fatal cases death occurred in from three to four weeks after the onset, and seemed to be due to a rather rapid extension of the paralysis, which finally involved the muscles of respiration, the patient dying asphyxiated. In the chronic cases, beyond a weakness in the lower extremities, the patients exhibited no evidences of ill-health.

In his opinion the endemic was due to the effect of improper food upon a constitution deteriorated by overcrowding, masturbation, and other perverted sexual habits. Opium-smoking did not play any important rôle, because only a few dare-devils ran the risk of the severe penalty imposed by the laws of the islands. The overcrowding has reference to sleeping apartments, where the Chinamen slept upon two rows of shelves. The improper food consisted principally of pea-nut oil, tainted fish, sausage, and pork in an advanced stage of decomposition. Dr. Vineberg excludes contagion and malarial poison as etiological factors.

The treatment that seemed most efficacious consisted of rest, good, nourishing food, into which fresh vegetables entered, and more commodious and comfortable sleeping apartments.

At the Honolulu Hospital, where, in addition to the above, galvanism and faradism were used, a larger percentage of cases of recovery occurred.

There were several Chinese physicians in the district, but their abominable mixtures and free acupunctures of the sites of pain did not seem to be of any more service than Dr. Vineberg's plan of treatment based upon general principles.

DR. C. L. DANA had had an opportunity to see the cases described by Dr. Roosevelt, and did not find any history of paralysis or multiple neuritis until the very latest stages of the trouble; so to speak of the disease as an endemic multiple neuritis was not applicable to the cases seen in Bellevue. To him the cases looked more like those of paralysis following infective diseases. He made an examination subsequent to that made by Dr. Seguin, and then found the typical reaction of degeneration. It had been stated that the typical reaction of degeneration did not occur in multiple neuritis, although it is sometimes present. We also obtained other reactions not belonging to multiple neuritis. Some of the French writers were positive that only the wet form was true beriberi, while the dry variety was due to some other cause. Four different observers had discovered microorganisms, and it seemed to him that there was considerable probablity that the disease was due to some such specific cause.

DR. TAYLOR, of Japan, on invitation, participated in the discussion and spoke of the disease as he had seen it in that country. In the first place, it was restricted to localities, and its occurrence in these regions only was well marked. Thus a change of locality became of prime importance to the patient suffering from beriberi, and if not more than five or six miles, was of very much benefit. Upon an island at the mouth of a certain river beriberi had never been seen primarily, hence many were sent to that locality when they recovered. In the mountains, also ten or fifteen miles away, many might recover. But, according to his experience, if the force of the circulation was very much reduced, patients should not be moved; for the exertion incident to it was liable to be followed by paralysis of the circulatory apparatus, which might terminate fatally within half an hour.

With regard to diet, it had been his observation that with an increase of wheat and decrease of rice there was a decrease of beriberi. On this plan the occurrence of beriberi in the British navy had been very much diminished.

Concerning anæmia, his clinical experience had led him to believe that it was not a prominent symptom. In one hundred and thirty tabulated cases in which he had counted the red blood-globules, he did not find any diminution in their number, and he had come to believe that when anæmia was marked some complication was present.

As to muscular paralysis, he had not tested it with electricity, but had done it by asking the patient to raise himself upon his toes, and he had found that when beriberi was present this could not be done as when in health. Also, when about to sit, the patients would lower themselves to a certain point and then go down in a lump. In almost all cases of beriberi there was more or less of muscular paralysis, and in some cases it was decidedly marked.

Dr. Roosevelt, in closing the discussion, said he regarded it as a misfortune that the disease should be called multiple neuritis, and also that it should be looked upon as an affection due to any one kind of food. The fact should not be overlooked that while it has occurred among those who have subsisted on certain types of food, nevertheless it attacks people who have been living on all kinds of food, and have been surrounded by all that tends to make people physically comfortable.

He regarded it as particularly unfortunate to compare the disease with ordinary alcohol neuritis.

With regard to the presence of a micro-organism, although a number of observers claimed to have found one, it must not be forgotten that it was of the utmost importance, before accepting any report in this direction, to know who the man was, what his work was, what his method of investigation and technique were, and to those must be added the results of inoculation. Until all that had been done, the theory that the disease was due to a micro-organism was a subject of great doubt.

The Section then adjourned.

NORTHWESTERN MEDICAL AND SURGICAL SOCIETY OF THE CITY OF NEW YORK.

Stated Meeting, January 19, 1887.

A. R. Robinson, M.D., President, in the Chair.

Dr. R. C. M. Page introduced the topic of discussion for the evening, viz. :

THE ADMINISTRATION OF QUININE IN THE TREATMENT OF BRONCHO-PNEUMONIA IN CHILDREN.

Referring to his own experience he stated: "I have come to the conclusion not to use quinine with children, for the reason that it is difficult to get them to retain it in their stomachs. In the first place, you have to fight with them to get them to take it. I have never discovered a vehicle in which quinine could be so disguised that children would not know it, and when they take it they are almost sure to vomit it. I remember an instance when a child, after taking quinine, went into convulsions. I think that antipyrin, in a little water, controls the fever of pneumonia, or any other disease, better than quinine.

"In a paper read last night at the Academy by Dr. Putnam Jacobi, it was claimed that quinine in moderate doses would increase the diastole of the heart, and thus tend to relieve congestion of the lung by drawing the blood from the lung; that in this way it stimulated the system and was a better drug than a systolic stimulant which increased the systole and drove the blood to the lung. In ten-grain doses it was contended that quinine is a very good drug in pneumonia in children, but that as an antipyretic it was a failure."

Dr. M. Blumenthal said: "I have given quinine to children in certain stages of pneumonia when they needed a stimulant, and though I have found the difficulty to which Dr. Page alluded, that they take it with great difficulty and vomit it, I do not think I have had more trouble in that way than with any other medicine. I usually give it in extract of taraxacum, dissolved so as to be taken with a teaspoon. I have not been in the habit of giving children large doses—small doses, often repeated, are my preference, and I have been pleased with its effects. I never give quinine in the first inflammatory period of the disease. I give it as a nerve tonic. To reduce the fever I produce free perspiration. I have not tried antipyrin in children's diseases. The general effect of quinine is different in children and adults."

Dr. Dessau said: "I have used quinine for pneumonia, but not as an antipyretic. In croupous pneumonia if I gave an antipyretic it would be to reduce the temperature, and if the temperature does not rise above 104° I do not trouble myself about reducing it. If it rises above that point I administer it to a child of two years of age, say from three to five grains repeated every hour for four doses. I have not yet given it to a child under two years. I have given it to older children in larger doses; to a child of nine years, ten grains, with the effect of reducing the temperature very markedly. I have used quinine in broncho-pneumonia in children to support strength and as a general tonic. In regard to any antipyretic cutting pneumonia short, especially croupous pneumonia, I do not believe it does. I believe that pneumonia is itself a disease, and all we need to do is to treat it on the expectant plan; and, if the fever rises too high, endangering the muscular fibres of the heart, keep the temperature within bounds. Antipyrin is the best antipyretic we have yet had. I have not used cold water as an antipyretic, as the accounts given of it have not been encouraging."

Dr. J. Lewis Smith said: "The paper read by Dr. Putnam Jacobi was in relation to the disease in childhood and infancy, and referred largely to cases under the age of three years.

"In my practice I have found it very difficult to administer quinine to infants or children on account of the vomiting which it is likely to produce. I have given it in various vehicles, and syrup of wild cherry bark seems to me to cover the taste best and prevent vomiting. As to the benefit to be derived from quinine, I think that it is more generally used in bronchial pneumonia, as well as in croupous pneumonia, than any other one agent, and there are physiological reasons which justify its use. The opinion has been expressed by some observers that it does, to some extent, retard cell-migration. If it is administered in a large dose, in the commencement of pneumonia, it may diminish the amount of exudation. I am inclined to think it does; and when I give it to a child with bronchial or with croupous pneumonia I give it in pretty decided doses for two or three days, that is, during the active period of the disease. This I think obtains better results than the administration of it in smaller doses. I believe it has a tendency to diminish the frequency of the pulse. As regards giving up its use for the remedies that have so recently attracted attention, I should not do it. From my experience with antipyrin I hesitate to use it. I think there is something in antipyrin having a depressing effect, and, although it may reduce the temperature, the result in the end seems to me to be not so favorable as the old treatment by the use of quinine and a nutritious diet."

Dr. Smith, on being asked what he considers the effect of quinine on the heart, whether stimulant or depressant, said: "I merely follow authorities on that question. In moderate doses I think it is a tonic and increases the systolic action. In large doses it acts differently upon the heart. There is a difference of opinion about that."

Dr. C. S. Wood said: "In regard to the use of quinine with children, I think special attention should be paid to the time of using it, if it be used at all. I used it formerly much more than I do now. Almost any dose, if it does not produce vomiting, appears to me to do them more harm than good, owing to the row they make

about taking it. During the early stages of the disease I do not think that quinine is called for, but antipyretics of various kinds may be used, and what I have mainly used is aconite in small doses. The over-distended heart is relieved by the very process of reducing its action. If that is not sufficient I believe in wrapping a wet cloth around the chest and body of the child, changing it frequently, and perhaps keeping it on for the first two or three days. When the acute symptoms have subsided, if we can administer quinine without a struggle on the part of the child, I admit that it is valuable. I believe, however, that a small dose of strychnine—from $\frac{1}{120}$ to $\frac{1}{60}$ of a grain, according to age, for children under three years—answers equally well, never disagrees with them, and can be given in one or two drops of liquid. I differ, perhaps, from many others with regard to the nature of the disease, and on that account may have biased views as to treatment. In my opinion it is not a specific disease, or one that is dependent upon the existence of a certain microbe. I believe the microbe to be the result of the disease in croupous pneumonia, and not the disease the result of a micro-organism. My success in the treatment of the disease, from that stand-point, has been as good as the average."

Dr. A. M. Jacobus said: "I have given quinine to children, but never in large doses, as they seem to me to have an unfavorable effect. I have given generally from one to two grains four times a day, more as a heart tonic than anything else. I believe it steadies the pulse. Since last summer I have used antipyrin with a high temperature, but not in large doses. From experience with adults I believe it prevents inflammation and that it lessens pain. I use both quinine and antipyrin, a little of each alternately."

Dr. J. H. Fruitnight said: "In the catarrhal pneumonia of infancy I never use quinine as an antipyretic—always as a tonic. In croupous pneumonia in adults or children, before the introduction of antipyrin, I always used quinine as an antipyretic. In broncho-pneumonia of infancy, in the early stages, I withhold quinine. If the temperature be high I use aconite. In catarrhal pneumonia I administer quinine as a tonic. The dose I give is divided to equal ten grains in twenty-four hours. I have given it in various vehicles, but since Dr. Smith suggested to me, some time ago, the use of wild cherry syrup, I find less trouble with that than with any other preparation. Most children retain it, and when there is any difficulty I instruct the nurse to give very small doses, increasing them gradually until the stomach assumes a tolerance of the mixture, and in that way I secure control of the symptoms of nausea and vomiting. As regards the effect of large doses of quinine my opinion is that it is a depressant, and I would never give a large dose to a child—never more than five grains at one dose. As regards the cold-water treatment, I have never resorted to it, but I have recently treated a child with antipyrin with good effect. Antifebrin I have never used."

Dr. S. N. Leo said: "My experience accords generally with that of Dr. Fruitnight. I have had occasion to administer quinine in both catarrhal and croupous pneumonia to very young children, and have been permitted to administer it in the form of rectal suppositories, which, I think, is an excellent plan of medication. I would also suggest that in compounding a prescription of quinine, if you take some powdered licorice and mix it with sulphate or bisulphate, add a little common salt, and beat it well up in the mortar, and afterward add a few drops of any alcoholic mixture, then mix with wild cherry, you obtain a most excellent compound. I think great care should be exercised in administering quinine to children in either form of pneumonia, and especially if they have had rheumatism we ought to be certain that there are no remnants of endocarditis, as then quinine seems to be a dangerous remedy, even in small doses. I recall some years ago a case in which I made an autopsy, where the child died, in my opinion, from an over-stimulation of the heart, due to the administration of quinine."

Dr. Peck asked how old the child was and how large the dose of quinine.

Dr. Leo: "I think the child was between four and five years. The amount of quinine administered was, I think, something like four grains every three hours, and it had been taken for quite a long time."

Dr. E. S. Peck said that he desired to contribute this statement, that the administration of quinia-sulphate in the doses just mentioned had been attended by injury to the retina of the eye, the medical attendant being ignorant of its possible extent, on account of the youth of the patient and the severity of the pneumonia. He once treated with strychnia injections a child aged four, who had taken six doses of quinia of three grains each, and there was no mistake about the retinal amblyopia. Fortunately complete vision was restored. The dangerous effect of large doses of quinia upon the acoustic nerve should be impressed upon every practitioner.

Dr. W. M. McLaury said: "In the treatment of broncho-pneumonia in children I rely very much on antipyrin to reduce the temperature, and in administering it to children I always use it in the form of suppository capsules; from two to ten grains, according to age and condition. I have never found any but good results from its use. I very rarely give quinine in the case of a continued fever, whether from disease of the lungs or general febrile condition. I rely mainly upon spirit of nitre and aconite to control the febrile symptoms. Antipyrin, however, has served me so well that I seldom fail to use it, giving it in doses from two and one-half to twenty grains, according to circumstances. I have given ten grains to children five years of age, and I generally repeat the dose within two hours if an abatement of the febrile symptoms has not taken place."

Dr. Baruch said: "I think that by making a sufferer of croupous pneumonia comfortable, and by giving an ample supply of food, we will accomplish more than by medicines. I have given no medicine in this disease within the last five years. The temperature in croupous pneumonia is, I think, of very little significance. Here we have an over-distended heart. Quinine is not intended and cannot be expected to overcome that. I think that by relieving the pulmonary congestion we can do more toward relieving the heart-weakness than by any other means. Grown persons I would not hesitate to bleed for this so-called heart-failure. For that reason I rarely give quinine. The rectal administration of quinine I regard as absolutely useless. I have always found the rectum not to be depended upon."

After some discussion as to the efficacy of the rectal administration of quinine, the President,

Dr. A. R. Robinson said: "I think, in judging of the value of any remedy in comparison with that of other remedies, we require to study the cause of the disease and the causes of death. Now, the cause of broncho-pneumonia is almost exclusively a bronchitis. It is very rarely that the agent producing the bronchitis produces the pneumonia at the same time. The bronchial secretion causes a falling in of the cell-walls of the vesicles, producing a change in the circulation. If the right side of the heart is weak, you very soon get œdema. The retained secretion, irritating the cells, produces the bronchial pneumonia. In the commencement we get very few nodules, but the trouble is that the number increases very rapidly, and we soon find a large area of consolidation. If you get a fair area affected, you have the danger of death from high temperature; consequently you have to treat for the general nutrition of the child; then the treatment for the fever and the treatment as regards air, if they suffer from respiration. If, therefore, it can be shown that quinine will be a benefit in the bronchitis, that it will build up the child, strengthen the respiratory muscles, tone up the blood-vessels, reduce the temperature

or strengthen the heart, it would be indicated, provided it will do no great harm in other directions. My experience of it has been that it has not been borne by children, and does not reduce the temperature, but, when retained, it probably tones up the walls of the blood-vessels. For that reason I would not use it, because we have better agents. I think the disadvantages are so much greater than the advantages that it is contraindicated in the majority of cases."

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE SURGICAL TREATMENT OF HYDATIDS OF THE LIVER—SANITARY IMPROVEMENTS AT THE HOUSES OF PARLIAMENT—UNQUALIFIED ASSISTANTS—ANOTHER FAITH-HEALER.

LONDON, January 31, 1887.

THE last meeting of the Medical and Chirurgical Society was entirely occupied in discussing the treatment of hydatids of the liver. Mr. Barwell opened the discussion by reading a paper on the subject, in which he proposed a modification of the treatment by incision. He recommended that puncture, with a small trocar, should always be primarily employed, but where this failed he advocated the making of a free opening, to be kept open some time. In the paper read last Tuesday he advocated the employment of "a two-stage method." The abdominal walls were to be first incised, and the cyst or its surroundings stitched to them. After a few days' delay the cyst was then to be opened. Mr. Warrington Haward thought the method dangerous, as fluid might escape when stitches were inserted into the parent cyst. He preferred the use of caustic potash to form a fistula leading down to the cyst, and then free incision of the latter. Mr. Howard Marsh said he had successfully employed Mr. Barwell's method on a large cyst. Mr. Harrison Cripps narrated a case in which he had made an exploratory incision, and, finding a suppurating hydatid, had enucleated it along with its capsule. A large cavity was left in the liver, and into this a second tumor was seen bulging, and was removed. Sir Dyce Duckworth thought he had seen good results from all these surgical methods. Mr. Walsham observed that even tapping had its dangers. Cases of sudden death had occurred in which it had been suggested that a vein might have been punctured and the hydatid fluid introduced into the circulation. He had not himself had any occasion to perform any preliminary operation of stitching the cyst or its surroundings to the abdominal walls. After securing the cyst in a safe place by forceps, he emptied it at once. He then syringed it out with carbolized water, and after filling it with iodoform, inserted a drainage tube. Dr. Angel Money mentioned a case in which, during the operation of puncture, a daughter-cyst entered a vein and lodged in the right auricle, causing sudden death. Mr. Pearce Gould said he supposed no one would attempt such an operation as Mr. Barwell advocated while simpler methods, such as puncture, were available. If a further operation than puncture were required, he advocated free incision, and related two cases in detail. He would, he said, first tap with an aspirateur, then pull out the half-collapsed cyst, stitch it to the abdominal walls, and evacuate the contents. Mr. Henry Morris said that, as to stitching the cyst to the abdominal walls before opening it, he saw no objection to Mr. Barwell's plan, but little in its favor. He considered it important not to interfere with the parent cyst in any way, to take out as many daughter-cysts as possible, and refrain from antiseptic injections. He had seen delirium produced by iodoform. Mr. Barwell, in his reply, also condemned iodoform as dangerous. Potassa fusa treatment he considered tedious and painful. He remarked that the discussion had shown him that other surgeons had used the plan he advised, but he had not previously been aware of this.

It augurs well for future sanitary legislation that our legislators have set their own house in order. The sewerage of the Houses of Parliament has just been rearranged at a cost of about fifty-five thousand dollars. The old drains were of brick, far too roomy, laid so that the fall was insufficient, and sewer air regurgitated into the Houses of Parliament. They have been replaced by iron pipes of moderate dimensions, laid so as to give a greater fall, and freely ventilated throughout. The ground at Westminster lies so low that the outlet of the new system of sewers is several feet below the low-level main sewer. The difficulty thus arising has been got over by employing Shone's pneumatic system. One or more gas-engines are used to compress air, and the compressed air is admitted into a pneumatic ejector and raises the sewage some twelve feet. The apparatus acts automatically so long as the supply of compressed air is kept up, the ejector emptying itself as soon as it is filled to a certain level. The trials which have been made with the apparatus show that it answers the expectations which had been raised of it, and it is now in full working order.

Considerable discussion has taken place lately on the subject of unqualified assistants. Lord Beaconsfield defined critics as "authors who have failed in their profession." Similarly, unqualified assistants are, as a rule, students who have failed to qualify as medical men—either from want of brains, or, in not a few cases, from want of money. There is among them a scanty sprinkling of men who have never been students at all, but have picked up a smattering of physic, either in a doctor's surgery or behind the counter in a druggist's shop. As formerly, the outcry against unqualified assistants has raised up in their defence a host of friends ready to testify to their good qualities. Not a few aver that they are, as a class, immeasurably superior to the average qualified assistant—both in practical knowledge and in acquaintance with the details of practice. That they should be better conversant with the petty routine of practice no one ought to be surprised at. The unqualified assistant remains such to the end of his career in ninety-nine cases out of a hundred, and is usually a "chronic" to begin with. The qualified man who seeks an assistancy is usually raw as to practice, though brimful (in his own estimation) with science. His object in seeking an assistancy is usually to get a little experience of actual practice before embarking in one on his own account. A few qualified men remain, from want of money, for years in the subordinate position of assistants; but the natural ambition of all is to have, sooner or later, their own practice. In England, unqualified assistants are very largely employed, though, perhaps, not to so large an extent as a generation ago. They are cheaper than qualified ones, and being without qualification, there is no danger of their setting up in opposition to their principals. Their being older is also a recommendation with patients. The unqualified assistant is often a beardless youth, full of airs as to his own importance, but frequently considerably nonplussed on being summoned to a simple case for which his college course has not prepared him. To such, measles is, at first, a *bête noir*, and the other disorders of childhood all-bewildering. As to diseases of children, indeed, most newly qualified men, whether assistants or not, soon get befogged. A case came under my notice not very long ago in which a not undistinguished youthful graduate was sent for to see an infant suffering from bronchitic catarrh. He looked at the little sufferer, and remarking that it was too young to take medicine, sagely told its mother she could do nothing but keep it warm. He then departed, leaving his reputation behind him—never to be resuscitated, so far as regards his knowledge of in-

fantile disorders, in the eyes of that particular mother. She sent for a neighboring olde. practitioner, who, although not a graduate, gave satisfaction to the family, and gained several fees for himself.

Another faith-healer has lately made his appearance here. The gentleman in question is Mr. George Milner Stephen, and hails from Australia. He is a cousin of the eminent legal luminary, Sir J. Fitzjames Stephen. Mr. Milner Stephen is good enough to inform the public that he has visited America, and performed many wonderful cures there, as in Australia. Perchance, therefore, some of your readers may know something of his career. His course here is likely to speedily terminate with ignominy. One of the daily papers has sent a special commissioner to interview Mr. Stephen and take some test cases for him to operate on. Strange to say, though, in every one of these cases did the faith-healer discover some obstacle to the successful exercise of his powers. One case was too bad; another was of too long standing. Another had been treated by other doctors in an antipathetic manner, or the patient's attitude of mind was inimical to a cure. Another objection raised was that many applications of the power would be necessary, and as the test-patients did not pay, naturally Mr. Stephen did not desire that they should make repeated visits. The conclusion drawn by the interviewer was that Mr. Stephen was an unmitigated impostor. He will probably soon vanish from London society, and the little stir created by his advent as speedily subside.

THE CHOLERA IN JAPAN.

To the Editor of The Medical Record.

Sir: Japan in, modern times, has suffered more severely from the scourge of Asiatic cholera than any other country within the belt of the temperate zone. Since I came here, in 1859, when the country was first opened to the Western world, there have been two distinct periods of long epidemic prevalence of the disease.

The first, in 1860, was fearful in its death-rate, and continued to destroy thousands during successive summers, till about the year 1867, when it died out.

As there was no systematic record of disease and death-rate at this time, the sum total, or even an approximation to power of the scourge, can be little more than conjectured. My own recollections of the first two years, especially, of this period are very vivid. Hundreds, and it is not too much to say thousands, died without even native medical aid, and in the cities near the sea the water was often their burial-place.

In 1877, while acting as Sanitary Officer of the port and city of Yokohama, I recognized the first cases of the return of the disease here, which had been, as far as could be ascertained in the absence of any quarantine regulations, imported from China. In virtue of my office I was then charged with the preliminaries of applying, for the first time in the history of this country, the principles of modern sanitary science to an arrest or control, as far as possible, of cholera.

Notwithstanding the utmost liberality on the part of the government, and the intelligence and untiring efforts of the native medical men in developing and perfecting sanitary measures according to the best known methods in the Western world, it has not succeeded in forcing the disease from its stronghold upon the country.

In 1879 there were over ninety thousand cases, and the statistical returns of the past year, just issued, mark fearful total of 154,373 cases, and 101,695 deaths.

Detailed and exhaustive reports of this year's sanitary work are now in course of preparation by the Central Sanitary Board, in which the wonderful progress of this people in this important branch of science will be strikingly brought out. I would here say in advance that the most important feature of the sanitary system carried out in this country, quite eclipsing that adopted by the highly civilized Western world, is the cremation of *all* dead from cholera.

Extensive appliances for the purpose are constructed on scientific principles in different parts of the Empire. In the city of Kyoto these appliances are on such a large scale that five hundred cremations can be made in twenty-four hours. Yours truly,

D. B. Simmons, M.D.

Yokohama, January 8, 1887.

"THE COUNTRY DOCTOR AND HARD THINKING."

To the Editor of The Medical Record.

Sir: I have read with great interest the article in your journal entitled, "The Country Doctor, and Hard Thinking," and fully agree with "Rusticus" in his letter in your issue of January 17, 1887, and would like to relate some of my own experiences. Seven years ago, one dark stormy night, I was called to go eight miles from my office to see a patient, and asked to come quickly. After driving about five miles I found the road impassable. I left my team in an old unused shed by the roadside, covering my horse well with blankets, and travelled the remainder of the way across ponds and fields on foot, arrived at the house all wet and exhausted, administered to the wants of my patient, who was suffering severely (and would have died without assistance), waited until she was resting quietly, and then returned home in the same manner.

One day during a terrible snow-storm, when the drifts were several feet deep, I attempted to go (by way of an old road) to see an acute case of pneumonia (of which we have no small amount in Massachusetts). The result was that my team was completely stuck in the snow. I unhitched my horse, beat a path with hands and feet for him, and led him to the main road, then went back and drew out my sleigh myself. I had just arranged my team when my coadjutor came along and reported that he had worked all day to get five miles from home through the drifts and cross-roads.

I could repeat hundreds of these instances; but there is one point more: After driving sometimes several miles, the country doctor often comes in contact with cases that even a specialist would shrink from, but he has no one at hand for counsel, is without suitable instruments or medicines, and the patient is too poor to send to the city hospital. Well, he must be relieved somehow, and the doctor, fully knowing what is wanted but unable to obtain it, must use all his brain-forces to meet the emergency, *and he will do it too*, and rise out of the trouble triumphant. Now, let one of your very fashionably dressed M.D.'s from the city come here, and I will loan him my office from now until spring time, and if he will attend well to my patients, I am confident he will be converted, begin to realize what a country doctor's life is, and what his medical acquirements must be. We have at the present time nearly three feet of snow on the ground and drifts by the wholesale.

Country Doctor.

THE DISPENSARY ABUSE.

To the Editor of The Medical Record.

Sir: The editorial in your issue of January 22d, on "The Present Condition of the Medical Problem," is a timely statement.

The evils of indiscriminate medical charity are not lessened as they should be, but the profession is more fully aroused to this abuse than formerly.

The reorganization of the Out-door Department at Bellevue is, indirectly, a help to the reform, as the classes are now used to supply the colleges with clinical material, and the advantages of the City as a centre of medical education are increased without adding to the thousands of people who receive gratuitous treatment.

It is not likely that the number of medical schools will be augmented, and the demand for clinical cases will not be greater than it was a few years ago, when rival institutions were striving to find injured and diseased persons suitable for exhibition to their classes as the best advertisement of their future courses of instruction.

Some new dispensaries have been opened, much against the expressed wishes of prominent medical men. This leads us to inquire whether it cannot be made the duty of the State Charities Aid Association, or of our local societies, to prevent the increase of eleemosynary institutions in districts already occupied.

A few of the dispensaries have continued to investigate the cases applying for relief, and as far as I have learned this has proved satisfactory. The physician himself must work to prevent whatever abuse comes under his own eye. If this be done, there will be an abatement of the evil and less necessity for public meetings and discussions.

That this is a subject of great importance is shown by the revival of interest in the provident dispensaries in England. Timothy Holmes, and others equally well-known, have spoken and written in favor of a more systematic application of medical charity.

Respectfully yours,

WALTER LESTER CARR.

36 WEST THIRTY-SECOND STREET,
January 28, 1887.

Army News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from February 6 to February 12, 1887.

FRYER, BLENCOWE E., Major and Surgeon. Ordered to Fort Lowell, Ariz. Terr. S. O. 29, A. G. O., February 4, 1887.

LORING, L. Y., Captain and Assistant Surgeon. Leave of absence still further extended three months on surgeon's certificate of disability. S. O. 29, A. G. O., February 4, 1887.

PHILLIPS, JOHN L., First Lieutenant and Assistant Surgeon. Leave of absence further extended one month. S. O. 29, A. G. O., February 4, 1887.

WOOD, LEONARD, First Lieutenant and Assistant Surgeon. Ordered to proceed to these headquarters, and report to Department Commander for temporary duty. S. O. 12, Department of Arizona, January 31, 1887.

HARRIS, H. S. T., First Lieutenant and Assistant Surgeon. Ordered from Fort Clark, Tex., to Fort Ringgold, Tex. S. O. 16, Department of Texas, January 31, 1887.

Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending February 12, 1887:

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	8	3
Scarlet fever	48	10
Cerebro-spinal meningitis	3	3
Measles	349	47
Diphtheria	129	39
Small-pox	12	2
Yellow fever	0	0

CIMICIFUGA RACEMOSA IN THE TREATMENT OF CHOREA.—Dr. Hiram Corson, of Conshohocken, Pa., in an article on chorea and its treatment by cimicifuga racemosa (*Medical and Surgical Reporter*) says that he has used this drug with invariable success for over fifty years. He was led to give it a trial through its recommendation by Dr. Jesse Young, in a paper published in the *American Journal of the Medical Sciences*, in 1832. He thinks that Dr. Jesse Young was probably the first regular physician who ever used the black snake-root in chorea—at least the first who published an account of its use; for in a note by the editor, appended to the communication, he says: "We are not aware of the remedial powers of the black snake-root having been noticed by any writer on the materia medica, but Dr. Physick informed us, nearly ten years ago, that he had known the plant, given in doses of ten grains every two hours, prove successful in the treatment of chorea in several instances." From the day that Dr. Young's recommendation of cimicifuga met his eye, until the present, Dr. Corson has relied on the snake-root alone, "and in every case it has given speedy relief." In addition to believing it "almost if not quite a specific in chorea," the author also maintain that it is of signal benefit in "nervous persons" who are afflicted with insomnia. Again, Dr. Corson says, we have much talk about "nervous exhaustion," and the value of "strychnine and iron, and a little good whiskey, as tonics to build up the system," and arsenic is the universal favorite in chorea; but he feels assured that all of them combined have not half the value of the infusion or fluid extract of black snake-root, a plant that is accessible to every Pennsylvanian doctor, as it grows on almost every wooded hillside in that State; and yet but few physicians are acquainted with it—cannot point it out, though it towers above nearly all the other plants of the forest. "In every county in the State," he presumes, "it can be found; any mother can prepare and administer it; and were this done early in the cases of chorea, which are found in every township in the land, physicians would not be mortified, and the inefficiency of our profession exhibited before the public by the appearances on our streets of young persons helpless in limbs and contorted in features by this disease of the nervous system."

FLUID EXTRACT OF CORN SILK IN THE TREATMENT OF CYSTITIS.—Dr. Rush M. Brown reports good results from the combined local and internal use of corn silk in catarrhal troubles of the bladder (*The Medical Age*). He injects into that organ half a teacupful of tepid water, to which has been added a teaspoonful of the fluid extract of corn silk. At the same time ten drops of the medicine are to be taken internally three times a day. The results in a number of cases were surprisingly good.

HYSTERICAL ANURIA.—The Paris correspondent of the *New Orleans Medical and Surgical Journal*, January, 1877, writes as follows concerning this condition: "In an important work by Dr. Rossoni, on hysterical anuria accompanied by secretion of urine by the stomach, he says that anuria is not a rare symptom in hysteria. This anuria results from a physiological change of the functions of the human organism, the nature of which has not been ascertained. With hysterical patients having anuria, the stomach may be the receptacle of a more or less abundant secretion of a liquid presenting all the physical and chemical properties of urine. Urinary secretion of the stomach may cease, and yet not be carried on by the kidneys. Complete anuria may last for two months. Pilocarpine may, in some cases, hasten the resumption of renal functions; with some hysterical patients pilocarpine occasions, in the salivary glands, the secretion of a liquid presenting the same chemical properties as urine. Urea artificially introduced into the circulatory system, in cases of hysterical anuria where there is no secretion of urine by the stomach, occasions uræmic symptoms. On the contrary, urea may, with impunity, be introduced in doses of sixteen grammes in case of hysterical patients, subject to vomiting urine. There is no analogy between hysterical anuria and uræmia in nephritis, or from the absence of the kidneys after nephrotomy, or from ligature of the ureters.

Locomotor Ataxia in Children.—Several supposed cases of this affection in children have been from time to time reported, but most of them were really cases of the hereditary ataxia of Friedreich, an affection resembling in many particulars *sclérose en plaques*. Remak has, however, reported two cases in the *Berliner Klinische Wochenschrift* of apparently genuine tabes dorsalis. One occurred in a girl twelve years of age, and the other in a boy of fourteen years of age.

Diabetes in Childhood.—Dr. Albert F. Fuchs writes that he has had under observation a case of diabetes in a boy four years and eleven months of age. One sample of the urine showed a trifle over seven per cent. of sugar. The total amount of sugar excreted in the twenty-four hours could not be determined, as the child died in coma on the third day after first coming under observation.

A Russian Centenarian.—On September 6th was celebrated in St. Petersburg the birthday of Count Sergius Ouvaroff, who was born in 1786. As a youth he passed a number of years in Paris as secretary of the Russian legation, and from 1833 to 1851 he was Minister of Public Instruction in St. Petersburg, and was mainly instrumental in introducing the classical method of instruction in Russia. He published a number of works in Russian, German, and French.

Diagnosis and Treatment of Tumors of the Bladder.—Dr. Guyon made some remarks at the French Surgical Congress upon tumors of the bladder, claiming that exploratory incisions are not requisite for diagnostic purposes, but that the symptoms presented, together with a clinical and anatomical examination, were sufficient in the majority of cases (*Journal of Cutaneous and Genito-Urinary Diseases*, February, 1887). He compared the hæmaturia symptomatic of vesical neoplasm with that of kidney tumor, in which latter the signs of renal ballottement and symptomatic varicocele aid us. He then dwelt upon the exploration of the bladder per rectum, per vaginam, and by catheterization, and said that little information could be obtained from the latter mode of examination. A tumor of the bladder being discovered, it should be operated upon as soon as possible, unless all the walls of the organ are infiltrated with the disease. Malignant as well as benign tumors should be operated on, the fact being remembered that the malignant are almost always followed by a return of the disease, and that the benign usually get well. Benign tumors can occupy the bladder for a long time without causing the patient more annoyance than that caused by hæmaturia, etc. One should not hesitate to operate when in the presence of a complication such as cystitis, retention of urine, etc. The extirpation of the tumor, he believes, cannot be properly done except by the hypogastric incision.

Bed-Smothering.—A most pernicious habit, which is very prevalent among children, is that of sleeping with the head under the bed-covers. Sometimes children acquire this habit when young, on account of their "fear of the dark." Unwise parents often do their children a vast deal of harm by using the imaginary man in the dark as a means of frightening the little ones into obedience. Such children, when put to bed, nestle down under the covers as soon as the light is put out, and thus breathe over and over, during sleep, air which is contaminated by exhalations from both the skin and the lungs. Another cause for this injurious mode of sleeping is cold sleeping-rooms. The custom of sleeping in rooms in which there has been no fire for weeks or months, is a most pernicious one for many reasons, and this may fairly be included among the number of grave objections to the old-time custom. The temperature of such a room is often some degrees below freezing. Children, and even older people, sleeping in a cold bedroom, are often compelled to cover the head with the bed-covers to protect the nose and ears from freezing. Children who sleep in this way awake in the morning pale and languid, and present all the evidences of systemic poisoning. Such children do not develop properly. When they sleep with older persons, as is often the case, the evil is greatly increased by the greater degree of impurity of the air beneath the bed-clothing. Infants are not infrequently smothered to death by this means. Several cases of this sort have come under the personal observation of the writer. The habit of sleeping with the head thus covered is sometimes continued to adult life, and a vast deal of constitutional injury is thus done.—*The Pacific Record.*

A Cure for Neuralgia, which is highly praised, is given by Dr. H. G. Davis in the *Boston Medical and Surgical Journal*. It consists in administering the following:

℞. Tinct. cichon. co..... ℥ ij.
Tinct. nuc. vomic..... ℥ ss.
Morphiæ sulph..... gr. ij.
M. Sig: ℥ j. q. 3 h.

This amounts, as will be seen, to giving a tenth of a grain of morphine every three hours. Naturally it will relieve the pain, but it is hardly a safe remedy.

Opium-Smoking.—In an article in the *Indian Medical Gazette* Surgeon-General Moore defends the practice of opium-smoking, and maintains that it is not only not harmful, when indulged in moderately, but that it is even beneficial. The use of opium, he says, may be continued for years without the necessity of increasing the dose, and a moderate opium-smoker is no more likely to become an "opium fiend" than is the temperate user of alcohol to become a drunkard, and even among the confirmed abusers of the drug there are seen none of the distressing effects of alcoholic intoxication. The writer says that the members of the Anti-Opium Society, in their misplaced zeal, would take away from the poor an inexpensive source of enjoyment, a protection from disease, and an alleviation of their sufferings. But perhaps his strongest argument, and a very characteristic one, is that the Anti-Opium Society, if it succeeded in its objects, would diminish the revenue of India by seven or eight million pounds sterling.

Successful Removal of Entire Scapula for Osteo-Sarcoma.—At a recent meeting of the London Clinical Society, Mr. Charters Symonds reported a case of removal of entire scapula for osteo-sarcoma, two years having elapsed since the operation without any recurrence of the disease. (*Medical Press.*) Six months before admission the patient fell and bruised his shoulder, attending for a month the Croydon Hospital, where he was told he had ruptured a muscle. One month after the accident a swelling appeared, and from that time steadily advanced without pain. The inconvenience was due entirely to its size, the man being unable to do heavy work. When admitted he was healthy in other respects. To the dorsum of scapula was attached a tumor measuring nine to ten inches, and projecting five inches from the surface. It moved with the scapula, and did not appear quite to reach the glenoid cavity. The spine of the scapula could just be traced. On April 1, 1884, the whole bone was removed except the acromion and coracoid processes. The usual transverse and vertical incisions were made, one flap only being reflected at a time. First the minor flap was dissected off and the posterior border of the bone freed. Next the inferior angle was isolated, and then the anterior flap was reflected and the axillary border freed, the various muscles being divided. The deltoid and trapezius muscles were divided close to the spine of the scapula, and the superior border was freed. The growth was found to extend to the glenoid cavity, so after sawing off the acromion and coracoid processes, the capsule and the muscles covering it were severed. The whole mass was then raised from the

chest, and the serratus magnus divided. The subclavian was compressed during the operation, and all the large vessels seized by two pairs of forceps before being divided. In this way little blood was lost. The same evening the man had an unexplained attack of dyspnœa, which lasted twenty-four hours, and interfered with sleep. The temperature rose quickly, reaching its highest point, 103.6, on the fourth day, but instead of falling it passed into a hectic fever, which lasted until May 9th, and then suddenly ceased on the removal of the cause of suppuration, viz., the head of the humerus. Rapid recovery ensued. Another clinical feature of interest was œdema of the arm, without redness and with no special fever. This was attributed to thrombosis of the axillary vein, but as it disappeared within a few days of the removal of the head of the bone, some other explanation seemed called for. Mr. Symonds called attention to the fact that the continued suppuration seemed due entirely to the cartilage covering the head of the humerus. This structure was found in a suppurating state, and was being thrown off by granulating tissue, and the moment the entire surface was removed recovery began, and was so rapid that within a few days he was up and the parts nicely healed, the man gaining flesh within three weeks. The complication was attributed previously to traumatic fever, which determined suppuration in the wound, and that this, involving the joint structures, the cartilage acting like a foreign body maintained the suppuration. On these grounds Mr. Symonds said he now always carefully removed all cartilage in operations involving joints, for that while in many cases immediate union does occur, when the cartilage is left, an occasional result such as the present will happen. The man was shown to the society two and a half years after the operation, and had a useful arm. He could do much of the lighter work of his trade of a carpenter, being able to drive nails and screws and use a plane. He was able to earn a good living. The rhomboid muscle acted well, having obtained a partial attachment, so that the man could throw both shoulders back. He could rotate the shoulder and carry it backward and forward, but was unable to raise it from the side. The tumor was a hard osteo-sarcoma, having a basis composed largely of fibrous tissue.

A Remedy against Epilepsy.—

℞. Extr. fab. Calabar ..... gr. vijss.
Spir. æth ..... f ʒ jss.
Aq. amygd amar. (sive aq. menthæ pip.) ..... f ʒ vss. M.

Sig.: Five to eight drops t. d. for children; eight to fifteen drops t. d. for adults.—*Pharm. Zeitschr. f. Russland*, June 1, 1886.

The Treatment of Puerperal Sepsis.—Runge, of Dorpat, states that his late experience in the treatment of puerperal sepsis has taught him a manner of dealing with the affection that yields far better results than other methods. A strict *local* therapeusis is carried out. Rigid antisepsis of hands and instruments in conducting the labor is the best prophylactic. The vulva is cleansed at the beginning of labor, but no vaginal irrigation is used before, during, or after a normal labor, and in such uterine irrigation is held to be a *lapsus artis*. Lacerations are sutured if large, or dusted with iodoform if small. When fever sets in the cause is sought for, and if found in the genital apparatus he uses vaginal irrigations —temporary are preferred to permanent—and in cases of offensive lochia, uterine irrigation with a five per cent. carbolic acid solution. The latter is repeated once or twice, and during its use the vagina is protected by a stream of water. Further absorption of septic matter is in this way prevented. The object of general treatment is to raise and maintain the power of resistance of the system, to enable it to throw off the poison absorbed. To accomplish this purpose the most important vital functions of the organism must be maintained and regulated. These are sleep and digestion; and while these are preserved the system cannot yield to the disease. All measures that impair the ability to take food must be considered objectionable in puerperal sepsis. Experience shows that the resisting powers of the organism are best maintained when *alcohol in large doses* is combined with *tepid baths*. The first results observable under their use are ability to take plenty of nourishment and the setting in of sound sleep, especially in restless patients. Alcohol is exhibited in the form of Stokes' mixture: ℞. Cognac, aqua destil., āā 60.0; vitellus ovi unius; syr. simpl., 25.0, of which one to two tablespoonfuls are given every hour, and between these doses one to three tablespoonfuls of some strong wine. This is continued day and night until sound sleep ensues. To show the quantities taken he cites the instance of two patients, one of whom took, during the first twelve days, twelve bottles of port wine and 1,200 grammes of cognac; and the other, from the second to the ninth day, ten and a half bottles of port or Madeira, and two litres of cognac. But alcohol alone does not bring on a desire for food. This is accomplished by the simultaneous use of tepid baths. Refusal of food, increased somnolency, a frequent and weak pulse, a high and equal temperature, restlessness and delirium, are indications for a bath. Collapse, also imminent collapse, as indicated by unequal temperature and a flickering pulse, contraindicate a bath, while metastasis to the lungs and femoral thrombosis indicate great care in their use. The temperature of the bath should be 81° to 85° F., and in case of great somnolency one or two cold douches should be applied. It should not be extended beyond five to ten minutes, and at times a simple immersion is all that is admissible. He rarely begins with the baths before the third day, and gives one, two, and three baths a day. Under this treatment patients readily take food, and milk, eggs, meat broths, and meat, the latter finely cut or scraped, is freely given, and taken with relish. Castor-oil is at first used to relieve constipation, if present, and later on enemata are employed. Severe pain demands opium and ice to the hypogastrium, the ice being replaced by hydropathic compresses as the pain becomes less severe. After defervescence is complete the patient is for a long time kept on large doses of ergot. The general should be begun conjointly with the local treatment. In the lymphatic form of puerperal sepsis, characterized by tympanites, no great pain, frequent and feeble pulse, singultus, rare or absent vomiting, the puerperal peritonitis of authors, this line of treatment yields admirable results. It remains powerless in the form simulating perforative peritonitis or septic peritonitis after laparotomy, in which intense pain, enormous tympanites, and incessant vomiting are pronounced symptoms. Runge compares the present line of treatment with that of former years. The local treatment was what it is now, except that at one time voluminous irrigations were used for prophylactic purposes, but again quickly abandoned when it became apparent that the mortality rate was increased. The general treatment consisted then, as now, of alcohol, but it was given in small, inefficient doses, and only when grave symptoms arose. Large doses of quinia were given under the sway of Liebermeister's views, for the purpose of reducing temperature. They did not at all influence the course of the disease. Thanks to the labor of Fränzel, Unverricht, and Naunyn, the views as to the injuriousness of fever have been set aside. But quinia, salicylic acid, and the other antipyretics do not now exert as good influences on the course of the disease, but are positively injurious in puerperal sepsis by impairing and destroying the desire for food, and by covering up the real condition of the patient by their physiological symptoms when given in massive doses. The favorable influence on the heart's action and on the respiration, the action on the sensorium, the effect of maintaining and stimulating the desire for food, make the line of treatment now followed out stand out brightly before all others.—*Journal of the American Medical Association.*

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HEART-STRAIN AND WEAK HEART.[1]

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NEW YORK.

CERTAIN forms of cardiac incompetency, which I frequently meet with, have had for me, during the past few years, a special interest. I do not yet know the best term to apply to *all* these cases; in fact, I do not believe, as is already shown by the title given above, that they should *all* be classified in the same division. They offer, in my opinion, various symptoms, are not invariably due to the same causes, and present frequently somewhat different and more or less well-marked physical signs. Occasionally there are in reality no evident physical signs which reveal the condition of cardiac weakness. In the analysis of my cases I find, unfortunately, that in many particulars my histories are imperfect, and especially so from the standpoint where I now desire to study them. In one way, however, I believe this deficiency is desirable, rather than the contrary, for it shows precisely how the cases impressed me at the time notes were taken and the patients under observation. Inasmuch as when many of the facts were recorded I had no idea of utilizing them to support my present views, they are, it seems to me, freer from bias than they might have been under different circumstances. I regret very much to add that search made latterly among hospital and dispensary notes has been relatively of little use to me, since the histories do not often relate to cases of the kind I desire specially to describe, or, if they do, mention is usually omitted of the facts which are of special value, and which pertain either to etiology or symptoms of certain forms of cardiac disease.

Of course, I wish it to be understood, and particularly by those members of the Society who have devoted themselves to the careful and exact study of cardiac disorders, that I have probably nothing *new* to offer *to them*. They are already familiar with the subject of my story; it merely remains to be determined whether they and I have interpreted some interesting clinical facts in a similar or somewhat different manner. Many years ago, as all of you know, Da Costa[2] described what he called "irritable heart." This affection was first brought to his attention during the War of the Rebellion. Large numbers of soldiers were affected with it. It was seemingly brought on by long marches, fasts, exposure, mental anxiety, continued during many months. It was an affection characterized by dyspnœa, pain localized over the heart, palpitations, a frequent and sometimes irregular pulse. The heart was occasionally enlarged; frequently it was of normal size. The observations of Da Costa have been corroborated by several eminent writers; among others by W. C. McLean and by Fraentzel.[3] These authors found in soldiers cases of hypertrophy and dilatation accompanying symptoms of feeble and irritable heart, and resulting from long marches and the pressure of dress and accoutrements, or the hardships pertaining to army life in the field.

In 1865 Thomas B. Peacock directed attention to over-strain as a cause of heart diseases, and according to Leyden[4] was the *first* author who described these cases with precision. Special forms of cardiac disease were recognized by him among the workers in tin and copper mines.[5] In England, also, at a later period, Clifford Allbutt[6] pursued analogous investigations with respect to laborers in other vocations. It was remarked by him that forge-men, barge-men, etc., or those workers who made excessive and prolonged muscular exertion with their arms, were sufferers from cardiac hypertrophy and dilatation. About the same time as Allbutt, Myers observed diseases of the heart among soldiers, due to strain, etc. According to Dr. Morgan, who wrote an essay entitled "University Oars," being a critical inquiry into the after-health of the men who rowed in the Oxford and Cambridge boat-races from the year 1829 to 1869, based on the personal experience of the rowers themselves, *rowing*, unless permanently indulged in, does not cause organic disease of the heart. Undoubtedly in persons predisposed to irritable heart, or other functional cardiac disorder, *rowing* increases it (Da Costa).

At the time Allbutt published his communication on a subject related to that of my paper, little attention had been paid by English writers to the mechanical causes of heart disease. Nothing could be found among them, except here and there a vague statement, as in Hope, where he says that rowing sometimes gives heart trouble. In foreign authors, at the time referred to, little more could be gleaned. The interesting facts studied by Allbutt with much exactness, were, later on, graphically described by Fothergill.[7] The late Dr. Austin Flint, in an admirable chapter on "Functional Disorder of the Heart," already in his work on "Diseases of the Heart," and subsequently in the successive editions of his "Practice of Medicine," showed how mental emotions, the influence of the passions, the improper use of stimulants, might all ultimately produce organic cardiac disorder. Quain[8] also directs attention to the influence of the emotions and prolonged exertion in producing hypertrophy and dilation of the heart, and Seitz[9] has insisted upon the various local and general symptoms caused by cardiac over-strain. In an article entitled, "On the Dilatation and Hypertrophy of the Heart, which are not produced by Changes in the Valves," by Delafield,[10] many valuable facts bearing on this subject can be read. Finally, in the last number (October, 1886) of the *American Journal of the Medical Sciences*, there is a very complete and satisfactory summary of an article by Leyden, in the *Zeitschrift für Klinische Medicin*, previously mentioned, on "Diseases of the Heart resulting from Over-exertion." So far as my knowledge and reading extend, there are few, if any, studies elsewhere to be found which afford a more thorough presentation of this matter. Still there are some features connected with similar and analogous cases which have seemed to me somewhat different from those thus far dwelt upon, at least in a forcible manner, and these are the topics to which I ask your attention. In the hospital and dispensary work, and more particularly in the latter, which I have done for many years past,

[1] Read before the Practitioners' Society of New York, February 4, 1887.
[2] Memoirs of U. S. Sanitary Com., p. 372, Am. Jour. of the Medical Sciences, 1871.
[3] Quoted by Delafield. See Am. Jour. of the Med. Sci., January, 1886, p. 97.

[4] Zeitschrift für Klinische Medicin, 1886, Bd. xi., H. 2 und 3, S. 106.
[5] Da Costa, loc. cit.
[6] Vide. St. George's Hospital Reports, 1870, vol. v., p. 23.
[7] The Heart and its Diseases, p. 343 et seq. Philadelphia, 1879.
[8] Lumleian Lectures, Medical Times and Gazette, 1872, p. 352. Quoted by Delafield.
[9] Deutsches Archiv f. Klin. Med., 1873, Bd. x.-xiii., und Die Ueberanstrengung des Herzens. Berlin, 1871. Quoted by Leyden.
[10] American Journal of the Medical Sciences, 1886, p. 96 et seq.

there scarcely passes a week in which I do not see one or more cases of chronic heart disease brought on mainly by physical over-exertion, and usually of prolonged character. Of course these cases differ from each other in respect of the *stage* of disease when they come under observation. They are unlike, also, in many instances, because the heart is not always affected in a similar manner, without regard to the period of the affection. This may depend upon the nature of the pursuit of the individual, upon his habits of life, upon concomitant or previous diseases. A most important factor, in my opinion, is likewise *the individual himself*. We have no absolute means, so far as I am aware, of estimating the real strength of the heart as a vital organ, except through its power of resistance to certain depressing and altering agencies. We do not know, for example, in advance, and when it is a question of one man or another, whether or not the person who is under consideration possesses a heart which shall be strong to resist great and prolonged fatigue, exposure or want of rest, poor food, or bad hygienic surroundings, the inroads of acute or chronic disease, the evil effects of tobacco or alcohol, nervous exhaustion brought on by over-excitement, or the action of the passions. There is an individual energy or power in the heart of every man, which can alone be properly estimated when it has been tested in different ways, subjected both to physical and mental strain. In this factor consists the tonicity of the heart, a normal property of its muscular tissue, which, if it be diminished, degraded, or lost, results ultimately, and almost surely, in more or less dilation or enlargement in size and weight.

Not a *true* hypertrophy, let us bear in mind, which *invariably* should mean increased propulsive power and energy, but rather that changed and morbid cardiac condition which carries with it always the idea of incompetency or lack of healthy force.

In this connection I beg leave to refer to illustrative cases:

Case I.—J. C——, aged eighteen, single, cabin-boy on board coaster; has always enjoyed excellent health, and had uniformly good habits until three weeks ago. At that time, after a prolonged spree, in which he indulged freely in smoking and drinking, he was attacked with sudden pain in the præcordial region, accompanied with dyspnœa and palpitation. Some cough and diarrhœa during twenty-four hours. Complains now of moderate dyspnœa, which is constant. Exertion or excitement increases this symptom notably, besides bringing on cardiac palpitation. At present he sleeps well, and has no cough. He has not worked since he was taken with the symptoms referred to above, has not smoked, or committed any excess. Patient admits that he has had for many years "short wind" when he runs or exerts himself vigorously. During the past two years he has had no suffering from this cause.

Physical examination shows that the heart is normal in size; no murmurs; regular action; impulse at apex normal in force; both sounds in this region somewhat accentuated; at base, over pulmonic and aortic areas, the first and second sounds diminished in intensity, but clear; no thrill. Pulse, 88, regular, no intermissions, somewhat weak and depressible. The lungs revealed vesicular emphysema on both sides, moderate in amount.

Ordered, Tablets nitroglycerine, $\frac{1}{100}$ gr., t.i.d.

Three days later patient returned; no improvement.

Ordered, Tr. belladonna, five drops every six hours.

Patient not seen again.

Here, then, is an example of temporary cardiac weakness brought on, evidently, by immoderate smoking and drinking. There was no history of excessive work at any time, and nothing like physical strain, in the ordinary acceptation, had occurred. Previous to the initial symptoms mentioned, the patient had never suffered from symptoms which were referable to irregular heart action.

Case II.—P. B——, married, merchant, aged forty-one, came to my office on November 11, 1881, suffering from severe cardiac palpitation. He stated that he had been enjoying his usual good health, when he passed through several hours of excitement and anxiety at a fire, which occurred six weeks previously, and had destroyed much of his valuable furniture. Since that time he has had frequent and distressing cardiac palpitations, accompanied with pronounced difficulty of breathing. The dyspnœa was not an entirely new symptom with him, as he had occasionally noticed it before the time of the fire, but never had it been so pronounced and unpleasant as during the past few weeks. On questioning this patient closely I found that he had cardiac palpitation sometimes when he had not taken food during several hours. Horseback exercise, of which he was very fond, never occasioned it.

Physical examination showed slight increased dulness to the right of the præcordia. There was a soft, blowing murmur accompanying the first sound, and heard with greatest intensity over the xyphoid cartilage. Murmur was also heard over apex, but with very slight intensity. No mention was made of any epigastric pulsation. Pulse, 84, weak and depressible.

The patient himself was of large, vigorous frame, dark complexion, had passed several years in Cuba, and had had one or more attacks of biliary colic.

Tr. belladonna, tr. nux vomica, and sp. ætheris comp. were prescribed in moderate doses, three times daily.

In this case mental anxiety and excitement were evidently the determining factors in causing cardiac incompetency.

I might cite examples in this place from my private records to show the effect of lithæmia, pronounced gout, atonic dyspepsia, anæmia, excesses of tea or coffee, uterine disturbance, etc. in producing morbid cardiac conditions. In view of the time allotted to me I shall refrain. I desire, however, to read excerpts from notes of one case of notable cardiac displacement in connection with fibroid phthisis and old pleuritic and pericardial adhesions, in which there were no rational symptoms of heart disease. A. S——, aged twenty-four, iron-worker. Patient began to suffer five years ago from cough, dyspnœa, and moderate expectoration. Soon he lost flesh and strength, and had several pulmonary hemorrhages. At present patient has pain in his chest, and is pale and anæmic. His appetite is good.

Physical examination revealed the usual signs of fibroid phthisis and pleuritic adhesions, especially marked on the left side of the chest. Heart: The greatest intensity of the impulse was discovered one inch to the left of the left nipple. No murmurs. First sound at apex accentuated; second sound not as loud as normal. At base, over aortic area, slight blowing murmur accompanying first sound; second sound diminished in intensity. Near left nipple a friction sensation is distinctly felt. A blowing murmur is heard in vessels of the neck, which is thought to be due to changes at the aortic orifice.

Patient improved under following treatment: Creasote, ♏j.; glycerine, ℥ j.; whiskey, ℥ ij. t.i.d.; and hydrarg. bichlor., gr. $\frac{1}{16}$, with tr. cinchona comp., ℥ j., after meals, t.i.d. Local applications of ungt. iodinii were made to the chest-walls.

This case had a considerable interest for me from the fact that although the heart was drawn far away from its normal position, and the concomitant conditions were such as to interfere greatly with the circulation, yet the patient never in reality complained of the ordinary rational symptoms of cardiac weakness.

In the majority of cases of heart disease due to over-exertion, which I have encountered, the affection has come on gradually. There has been in these cases no sudden irruption of morbid changes. Symptoms have shown themselves at first, and with some differences as to their manifestations, and subsequently more or less *visible alterations*, as indicated by physical exploration, have become evident in the heart and blood vessels.

All trades of a laborious kind, and most trades should

thus be described, may be efficient causes of chronic heart disorder. Yet some occupations especially predispose to cardiac incompetency, whether it be merely functional or organic. Notably are to be found in this class those vocations in which there is continuous work with the arms, or those in which heavy burdens are frequently lifted, and where, therefore, great occasional efforts act powerfully also in producing disease. In many of these cases vesicular emphysema, more or less localized, or generalized, is such an ordinary accompaniment that I consider it somewhat remarkable when I do not find marked evidences of its presence. Other lesions —as those of the liver, spleen, stomach, kidneys (usually of the nature of congestions) (Delafield)—are frequently secondary to the cardiac disorder, and modify it as complications rather than as causes. In order to be explicit and guarded in the interpretation of the cardiac cases I am studying, I would say here that I eliminate such as are found in individuals who have suffered previously from one or more attacks of well-marked articular rheumatism. I do this because rheumatism of the joints is such a frequent cause of *valvular* disease that its pre-existence might invalidate some of my observations. In regard to the use or abuse of alcohol my stand-point is somewhat different. Alcohol, when it affects the heart injuriously, shows its evil results ordinarily in the muscular fibres or the vascular walls, and not directly at the heart orifices. Fatty degeneration of the former, with more or less atheroma of the latter, are familiar changes which bear witness after death to its poisonous effects. When, therefore, such changes exist during life, the development of symptoms of cardiac weakness may be considerable and rapid in a given case from a relatively small amount of physical strain. The diagnosis, however, of these changes in their early stages is a matter of extreme difficulty, and is, I believe, made at times chiefly by reason of the manifest inefficiency of our ordinary means to strengthen cardiac systole, and by our tactile investigation of arteries within reach (temporals, radials).

Even these diagnostic tests may sometimes lead us into error, since our touch is occasionally deceptive, and our poor therapeutic results may depend upon imperfect knowledge and use of drugs, and nothing wholly satisfactory can be affirmed unless the patient dies and an autopsy is made. The first symptoms of cardiac strain or weakness are usually rational. These are—1, palpitation; 2, præcordial pain; 3, dyspnœa. All of these may be present; one, two, or all may be absent. Ordinarily the first symptom of over-exertion is cardiac palpitation. This symptom at first appears after prolonged effort, or some instance of *temporary* and *unusual* exertion. As an example of this kind the following case is interesting:

Case III. *Cardiac irritability or heart-strain; slight cardiac dilatation, with incompetency of the mitral valve; areas of pulmonary emphysema; subacute gastritis.*—W. H. R——, aged forty-five, driver, came to New York Hospital, Outdoor Department, October 15, 1886. Patient has suffered from palpitations of the heart during the past twenty years. They began when he served in the United States Army in 1862. One month ago he was attacked with acute diarrhœa and profuse bloody stools. Since his convalescence, a period of three weeks, he suffers from a sensation of weight over the stomach, particularly after meals. He has moderate pain now at all times over the epigastric region, and this pain is notably increased by pressure. The xyphoid cartilage is very tender when it supports any weight. These pains came on suddenly after lifting a heavy case, and about one hour subsequently.

Physical examination to-day (October 15, 1886) shows marked epigastric pulsation. Apex-beat of the heart is not visible, nor can it be accurately located by palpation. The area of superficial cardiac dulness extends from the xyphoid cartilage slightly to the left of a vertical line passing through the left nipple. The first sound of the heart is accompanied by a moderate, soft, systolic, blowing murmur.

℞. Tinct. strophanthus .... ℥ ss.
Syrupi aurantii..... ℥ ij.
M. Sig.— ℥ j. t.i.d. after meals.

October 18th.—Feels better; has not sensation of pressure over the heart; pain in the epigastric region about the same. Pulse, 100; regular, no intermissions, depressible. Slight blowing murmur at apex; apex-beat still very difficult to locate, except by auscultation. Patient states that every time he has lifted a heavy burden during the past ten years he has suffered from pain in the region of the heart and over the left hip and from *palpitations.*

He has never suffered from dyspnœa after making excessive physical efforts until two weeks ago. Since that time, when he remembers having lifted a heavy bar of iron, he has had considerable difficulty of breathing, even after moderate exertion. During the same period, also, he has suffered from the sensation of a heavy weight over the stomach. He never had this symptom before the time mentioned. Patient's legs are not swollen; he passes about his usual quantity of urine. On examination there is no albumen present. Patient never drank to excess. His use of tobacco is moderate. No history of syphilis.

℞. Repeat strophanthus.
Pulv. lactopeptin, gr. x., after meals.

October 25th.—Complains of palpitation, occasional pain in the præcordial region, less dyspnœa, pain in epigastric region, eased by pressure and increased by walking.

℞. Fl. extr. convallaria.
Sig.—Gtt. x. every four hours.

1. Sometimes palpitation shows itself when the patient is seated, and resting after a meal, or when relatively weak from lack of food during several hours. Occasionally patients are awakened from sleep at night with most distressing subjective feelings of cardiac palpitation. As an instance of this kind I offer the following:

Case IV. *Weak heart occurring without discovcrable cause; palpitations; dull localized pain over præcordia; vague feeling of oppression; no evident dilatation or hypertrophy of the heart.*—Mrs. F——, married, aged forty-two, gives a doubtful malarial history; came to my office on March 26, 1885. At that time she complained of the following symptoms: A raw sensation in the throat, no cough, expectorates occasionally a small quantity of white viscid phlegm, suffers a great deal from a weak and a dull sore feeling at the epigastrium. These abnormal sensations are relieved for a while by a moderate amount of light food, and particularly by stimulants. Patient has no flatulence and no other dyspeptic symptoms; bowels are regular. Patient is a great sufferer also from cardiac palpitations, which come on with no assignable cause. Her heart flutters and quivers, especially at night, when she first goes to bed, and this symptom is about equally severe in any decubitus. After sleeping a few hours, when she awakens, her heart beats tumultuously and painfully. On physical examination the heart is of normal size, beats feebly, but no murmurs are discovered. Veins of left arm are quite prominent. Patient complains of defective circulation—always feels tired. The weary, gone feeling is located especially over the præcordial region. If patient did not take a long, deep inspiration occasionally, she feels as if her breathing would stop altogether. Treated by stomachics, quinine and arsenic, heart tonics, during five weeks with no beneficial effects.

To some of these patients the heart appears to beat very rapidly, tumultuously, and with increased force. To others the heart flutters, quivers, beats irregularly, with diminished energy, and occasional intermissions are noted in the radial pulse. These different sensations

are observed by the patient and reported to the physician. I have known, on several occasions, such palpitations to be the cause of much mental distress, and particularly is this statement true of those palpitations which take place during the night and occasion great fright when the patient is awakened by them.

2. It is no unusual thing to have these palpitations accompanied by notable dyspnœa. This dyspnœa may also show itself previous to, or subsequent to, the palpitations. When it exists at the time the patient is suffering from palpitations it is very distressing. The patient feels, on rare occasions, as if he would actually stifle; and if in the recumbent position, is obliged to raise himself to a sitting posture to obtain the air essential to the demands of respiration. Ordinarily the dyspnœa is much less, or milder in type, and is merely sufficient to aggravate and heighten the suffering occasioned by the palpitations. This is true when the patient is quiet. When any physical exertion is made the dyspnœa is *increased*, as a rule, and yet, singular to say, I have seen those in whom moderate exercise in walking, or riding on horseback, did not increase dyspnœa. Dyspnœa may be the first symptom accused by the patient. He may have no cardiac palpitation; he may not feel his heart at all. He is simply conscious at times of the desire to inflate his lungs thoroughly, and thus inspire all the air possible. He has a somewhat oppressed, weighty feeling in the chest anteriorly, which is almost always present. He recognizes easily this abnormal sensation, although he cannot always define or describe it. This form of dyspnœa may not be increased by the advent of cardiac palpitations, although it usually is. As an example of this kind, I offer the following history:

Case V. *Cardiac weakness following moderate dilatation and hypertrophy, probably caused by rowing; congestion of the liver, accompanied with slight jaundice, perversion of taste, and dizziness.*—W. L——, married, aged thirty-two, merchant, came to see me professionally June 4, 1886. He complained of difficult breathing, the cause of which he was unable to assign. His bowels were regular, and there were no symptoms of dyspepsia. During many years he was very fond of athletic sports, especially of rowing, to which he had devoted himself. He has always been temperate in his habits, smokes moderately, and only drinks tea or coffee once a day. At present his skin is somewhat muddy, and his sclerotics have a yellowish tinge.

Physical examination shows somewhat dilated and hypertrophied heart. Its action is regular and tolerably strong. There are no murmurs. Moderate bulging of both sides of the chest anteriorly indicates the presence of pulmonary emphysema, which assumption is confirmed by percussion and auscultation. No bronchitis. Spleen normal in size. Liver *somewhat* enlarged, the enlargement being probably due to congestion. Two or three weeks ago, on presenting himself for examination at a life-insurance company, he was refused, on the ground that he had an "athletic heart." His urine was carefully examined, and proved to be normal. I prescribed (June 15th) carbonate of ammonia, belladonna, and ignatia, several times a day, and told him to continue the treatment several weeks.

November 11, 1886, five months after I first saw my patient, he wrote me that he had never felt better, and weighed twenty pounds more than when I last prescribed for him. "This may be," he writes, "because I took little or no exercise last summer. Following your advice I did not row at all, and previously I had been in the habit of rowing a *great deal* during at least twelve years back. I took about three bottles of the medicine you prescribed, and think this must have done the business, as after that I did not have any trouble, either from palpitations or from shortness of breath. My appetite has been splendid, I sleep like a top, and, in fact, my health has been generally fine. As regards my life insurance, I was passed by the New York Life Insurance Company, and, after passing through the hands of about ten doctors, was pronounced a good risk."

3. Pain in the præcordial region is a symptom of considerable value at times, as pointing to cardiac weakness, but cannot be relied upon as confidently as dyspnœa and palpitation in making this diagnosis. It may be present here, and be nothing more than the evidence of localized neuralgia in the pectoral or intercostal muscles. Frequently, pain in the epigastrium is undoubtedly due to heart-strain or heart-weakness; again, it is but the symptom of subacute gastritis quite independent of cardiac debility. These facts have been latterly insisted upon by Dr. P. Müller. In his recent thesis on the subject of cardiac dyspepsia, he "maintains that there are few affections of the heart which are not accompanied, at one time or another, by gastralgia, dyspeptic troubles, or even serious lesions of the stomach."[1]

Pain in the left axillary region may be attributed to the heart, when it is caused entirely by localized pleuritis. There is a dull, heavy, constant pain seated over the right ventricle, which is usually increased by slight pressure (although not always), and which I have learned to believe is of cardiac origin.

The following case is an exceptional one, in which *pressure* relieved this pain temporarily:

Case VI. *Aortic regurgitation; hypertrophy, with dilatation of ventricles; syphilis; no rheumatism; overexertion; principal symptom, localized pain.*[2]—M. D——, married, aged twenty-eight, laborer, English, came under my care November 17, 1874. Patient has been suffering two and a half years. Previously never ill. Had syphilis ten years ago, followed by secondary symptoms; been a free drinker. His symptoms began with pain in back. Six months later had pain in præcordial region. This pain persists at present; is most intense at night, and often prevents sleep. It is brought on during the day by any physical effort. It can usually be relieved, for a time, by pressure over the heart. Patient often vomits during attack of pain. Has been slightly jaundiced several times; does *not* suffer from *dyspnœa* or palpitation. Pulse, 84; respiration, 20.

Physical examination shows aortic regurgitation, hypertrophy, and dilatation of heart.

Ordered iron, potass. iodid., empl. bellad., light diet.

Sometimes sharp, lancinating pains in the præcordial region, which show themselves suddenly and then disappear as quickly—pains which shoot up the neck and down the left arm, pains which have none of the intense and indefinable agony connected with them that mark those of true angina, and which do not leave behind points upon which pressure with the fingers brings out a cry—these pains, I believe, are frequently of cardiac origin. Not that I believe they are *seated* in the heart,[3] but at least they show themselves often in connection with other evidences of cardiac strain, and are, moreover, present when there is no proof that they can be fairly attributed to changes in adjacent organs or structures.

Curious to say, I have met cases—not frequent ones—where the patient gave such a history, and showed such physical signs as could be explained solely by the preexistence of prolonged anterior effort, and yet, despite these facts, had never consciously suffered from the rational symptoms to which I have previously referred, and which ordinarily point, with unerring certainty, to heart-strain. In such examples we must interrogate the pulse and the heart itself. It is only at a later period that the urine, or the condition of the lower limbs, makes the presence of heart-strain additionally evident.

The pulse is usually, in the first stages of heart-strain, somewhat accelerated, and this is especially true if the strain of the heart follow any sudden or intense effort.

[1] Vide Medical Record, December 11, 1886, p. 659.

[2] In this case the cardiac hypertrophy was considerable when it came under observation.

[3] I am familiar with the old belief that the heart itself is insensible.

It is also true when the heart has been called to do more work than it can accomplish during the convalescence from acute febrile disorders, and when the fibres have not wholly recovered from physical changes which had previously affected them.

This statement, however, has its exceptions, and of these I would like to direct attention to the following:

CASE VII. *Heart-strain following chagres fever and pneumonia.*—T. M——, single, student, twenty-three years of age, came under my care October 11, 1886. At that time he complained of frequently recurring nausea, and of an ill-defined feeling of malaise over the chest anteriorly. Patient contracted Chagres fever on a trip to Panama three years ago, and since that time has often had symptoms of gastric irritability and torpid liver.

Ordered Pil. extract. colocynth., quinine, and belladonna, t. i. d.

November 6th.—So far as stomach is concerned, feels well. Still complains of occasional headache, although it is less frequent and painful than it was some weeks since. Upon running a short distance he suffers from great oppression and his heart seems almost to stop. These symptoms come on at times immediately after slight unusual exertion; at times several hours elapse before they manifest themselves. Whenever they occur, they invariably last several hours. Sometimes the oppression and apparent cessation of heart-beats occur without assignable cause. Occasionally the attack will occur during the night and awaken him from sound sleep. During its duration, which often lasts, off and on, several hours, he feels as if he would die. He had pneumonia of the right lung three months ago, and since his recovery from that disease has been considerably worse than ever before. Stimulants usually relieve him somewhat, even when he is suffering most acutely.

Physical examination shows pulse 72 per minute, quite full and strong, although somewhat irregular: no intermissions. Heart: Apex-beat carried somewhat toward the left of normal beat, in sitting posture. No marked increase of area of dulness over præcordial area; no thrill; no marked irregularity of cardiac beats appreciable upon palpation; soft blowing murmur at apex, preceding first sound of heart and following second sound. At base of heart, especially over aortic area, slight blowing murmur accompanies the first sound. This murmur is also heard in the vessels of the neck. The second sound of the heart at the base is *clear* and *normal* in strength.

Ordered Tablets tr. strophanthus hispidus, āā ℥ij., t. i. d.

November 9th.—Patient has taken medicine regularly; feeling in better condition, and not so much troubled with oppression as he was; has had no palpitations (although has not run at all for some days); has not had such an intense desire to take a long breath from time to time, which previously was imperative and recurred constantly every few moments. Patient can wear his vest buttoned; before he began strophanthus he was obliged to open it to give himself some relief during his attacks of oppression. He is not nervous, and his symptoms do not appear to be due to flatulent dyspepsia. Respiration, 24, regular, somewhat shallow; pulse, 76, somewhat more regular. Heart-systole decidedly more forcible; blowing murmur at apex and base more marked than last time; no epigastric pulsation visible; urine increased in quantity. Repeat strophanthus, and in addition take pill of iron, arsenic, and quinine, t. i. d., at meal-time. All very active exercise prohibited for some months. A day or two later, patient left the city and went to Virginia.

November 28th, I received a letter from him in which he still complained of feeble heart-action and persistent headache; his appetite was good and bowels regular. Despite, however, these facts, and although he lives a great deal in the open air, he has continuous cold extremities, and is unable to keep them warm.

In instances, on the other hand, where the sum of physical effort each day is very considerable, as in the vocations of numerous workers (typesetters, shoemakers, plasterers, painters, weavers, etc.), although upon no single occasion is there any excessive physical effort, the pulse is ordinarily somewhat slower than normal.

The pulse which beats rapidly *may*, or *may not*, be weak and compressible. These qualities of weakness and compressibility are, however, adjoined most frequently to the slow pulse of prolonged heart-strain. Irregularity of the radial pulse-beats is often observed in both classes of cases. Evident intermissions in the pulse are not observed in the primary stages of heart-strain. In fact, it is only when the heart-fibre is evidently somewhat degenerated, or the cavities have become manifestly enlarged, that I have been able to notice occasional intermissions. When sphygmographic tracings have been taken, especially in advanced cases, they have shown marked lowering of arterial tension.[1]

The heart itself is in a variable condition. At first, and even subsequent to repeated and great physical efforts of *somewhat temporary* nature, the heart shows no evident increase of size. Its sounds may or may not be notably weakened. Sometimes both sounds of the heart are clear and markedly accentuated, and have almost a metallic clang or tone. This metallic ring I have heard far oftener accompany the first than the second sound. As I have remarked in the radial pulse, so I have noticed in the heart, that the beats are more rapid, as a rule, when there has been acute cardiac strain; when the strain is the result of almost continuous physical effort, during many years of severe labor, the heart-beats are ordinarily somewhat diminished in frequency as compared with those of perfect health. In either case there may be some irregularity in the force and rhythm of successive beats. True intermissions in heart-systole are only recognized when close observation already indicates advanced organic changes, causing degeneration of muscular fibres, or their distinct stretching or dilatation. A soft blowing murmur, heard more or less distinctly over a large portion of the præcordia, is not infrequent. It is usually heard with most intensity near the apex. It may be loudest over the aortic area, or at the xyphoid cartilage, and indicate aortic regurgitation. Inasmuch as the former murmur sometimes disappears after weeks or months of treatment, I have under these circumstances considered it to be due to temporary dilatation of the mitral orifice, brought on by relaxation of the cardiac walls.

Except for its presence, it would be often difficult to say positively that the heart gave evidence of any organic change. This murmur, when it accompanies the first sound of the heart, may possibly be allied with the blood-condition of general anæmia. Whenever the murmur is not heard synchronous with the first sound of the heart, either at the base of the heart or in the vessels of the neck, it cannot properly be confounded with a blood-murmur. Frequently the sounds of the heart are somewhat reduplicated. This reduplication of itself *shows weakness of the heart*, and possibly that the walls of the *two* ventricles do not contract synchronously[2] with each other. No thrill is ordinarily detected over the cardiac region.[3] At first, as I have stated, there is no enlargement of the heart, and this organ may be considered as affected with mere functional disorder. As time elapses, however, and particularly if the daily strain, physical or mental, continues, the heart shows evident signs of slight enlargement, due to dilatation of the cavities and *thinning* of the cardiac walls. It must not be thought that it is invariably an easy task, in physical diagnosis, to make out in a satisfactory manner the signs of enlargement of

[1] This fact was shown to the members of the Practitioners' Society at the meeting held December 3, 1886. Case of H. W——, vide MED. REC., December 18th.

[2] I have reported a case further on, in which the reduplication appeared to me to be explained by the existence of an adherent pericardium.

[3] The exceptions to this rule are found only in cases in which heart-strain has produced evident sclerotic lesions of orifices or valves.

the heart. Occasionally the accompanying conditions obscure this change very much. There are many instances in which more or less pulmonary emphysema is present, that either changes the heart's position or else covers it in a large area. If together with this concomitant state the heart is beating feebly, inspection and palpation reveal but little, if anything, that is reliable. Percussion is, also, very puzzling. We may be able thus to limit the heart accurately toward the median line, but above, below, and to the left it will often leave us in very considerable uncertainty. Auscultation will at times enable us to fix the greatest intensity of the first sound of the heart, and hence to assign the correct location to the apex; but even auscultation in instances of very weak heart will leave us in doubt, *i.e.*, in certain cases of convalescence from fever or other acute disease. Of course it should be understood that I am referring ordinarily to cases of slight enlargement of the heart, since in almost all cases in which the dilatation, with or without slight thickening of the ventricular walls, is at all pronounced it can be unerringly stated. In cases of heart-strain, or weak heart, which occur in the *higher classes*, it is a most unusual circumstance to find, concomitantly, evidences of arterial degeneration, at least among youthful subjects, occasioned by a similar morbid process to that which produced the cardiac disorder. Among the toilers, or those whose whole existence is one persistent manual effort, it is very frequent to note accompanying arterial changes which indicate commencing or advanced sclerosis. I have encountered already more than one case of sudden regurgitant murmur, heard with the second sound of the heart, and propagated downward and to the left, which I felt confident was due to sudden rupture of one aortic cusp. I have never met with any murmur which I thought should be explained by rupture of the mitral or tricuspid valve,[1] but relative incompetence of these valves, as shown by rapidly developed murmurs, which continued during many months without change and despite appropriate treatment, have convinced me of the possibility of *acute dilatation* of the *mitral* and *tricuspid* orifices, which was more or less lasting, and at times, although by no means always, of serious import.

The following is an instance of the former kind, which I consider important and suggestive:

Case VIII. *Acute heart strain due to over-exertion in attending to household duties, etc.*—A married lady, forty-one years of age, mother of several children, had quite obstinate bronchitis during several winters. Also had, after birth of last child, during a year or two, somewhat excessive menstrual flow at each monthly period. Other than these affections, patient has always been an extremely vigorous woman. During the late Christmas season patient tired herself a great deal with shopping, visiting, making arrangements for home entertainments, etc. She sat up late and rose early in the morning. She was on her feet almost constantly during fifteen to eighteen hours of the twenty-four, and had upon an average, during a period of one week, only about six hours' sleep each night. Two days after Christmas my patient was taken suddenly with pain in the epigastric and præcordial region, and fluttering or palpitation of the heart. The sensations in or around the heart were quite distressing and made her feel anxious. Patient also had a choking sensation in the throat, syncopal tendency, especially when she had been without food several hours, and intense headache. There were no signs of dyspepsia; bowels regular; no signs of pleurisy or intercostal neuralgia. Upon auscultation there was a soft blowing murmur synchronous with the first sound, and heard with most intensity below and inside the left nipple.

The second sound at the same level was also somewhat impure, but this impurity was scarcely sufficient to be characterized by the term "murmur." The pulse was somewhat frequent, quite weak and depressible, and showed slight irregularity of successive beats. In the course of one week relative repose, more prolonged sleep at night, and the use of wine of coca several times a day, together with two or three milk-punches in twenty-four hours, restored the patient, apparently, to her former condition of vigorous health. The blowing murmur at the heart-apex had diminished, but not entirely disappeared. In the case just reported I recognize distinctly a case of acute heart-strain, moderate in degree, and of short duration. Cases similar or analogous to this one I have frequently seen. No doubt every general practitioner is familiar with them. At the same time I feel obliged to add that they are frequently ignored, and I do not believe that they have yet been emphasized sufficiently by writers on medicine so as to make the condition one which is to be constantly looked for, and, when encountered, to be energetically and judiciously treated. There are thousands of men and women in our large cities—brokers, bankers, business men engaged in large, important, and anxious business relations; there are mothers of families, spinsters young and middle-aged, devotees of fashion, frequenters of innumerable dinners and parties—who complain at times of being tired out, run down, having need of change, of rest, of freedom from care or dissipation, and who come to their family physician for advice. Usually such patients are treated as being anæmic, or neurasthenic. So they frequently are; but, after all, what is their most imperative requirement, and which is the *organ* most at fault and most needing rest? Many, many times I could answer truthfully, it is complete repose of body and mind that they require, and *the heart* is the *organ* which gives signs of special weakness—functional or organic, or both.

We should, therefore, in my opinion, recognize in all prolonged, continuous, and undue physical or even mental effort the source or origin of many morbid cardiac conditions.

As an example of the latter I offer the following:

Case IX. *Weak heart; cerebral and spinal anæmia, caused by mental overwork.*—Mr. B——, aged thirty-five, private tutor, married, smokes and drinks moderately, formerly much given to athletic sports, came to see me November 1, 1884. During past few years this patient has become mentally exhausted through continuous teaching and study. At present he complains of painful points over lower cervical and upper dorsal spine. This morning had an attack of "goneness" at region of heart; relieved by whiskey. During the past summer, and at the present time, patient has frequent fluttering, and very weak, distressing ("gone") sensations in the præcordial region.

Physical examination shows weak, slow cardiac action, and markedly weak pulse; no other evidence of structural lesion of the heart.

Ordered Tr. digitalis, ammonii carb., and ergot, in moderate doses, every four hours. Thermo-cautery applied to back of neck; mild galvanism to cord and brain daily.

November 22d.—Heart continues to annoy him a great deal, especially at night.

December 1st.—Complains of heart principally—feels weak from heart—otherwise would be strong and well. Yesterday had a pleasant evening at home; went to bed feeling bright and well. In a short time after going to sleep, awoke with a sinking sensation around the heart, accompanied by nausea, and numbness of the lower limbs. These horrid sensations lasted four hours, despite ergot-mixture, ammonia, local friction, etc. Condition of heart last spring was one of over-excitation; so much, indeed, was this felt to be true that my patient thought at times his heart would rupture from excessive action. At present there is extreme weakness of heart action, which is accompanied by a weary sensation in the back of neck.

Physical examination to-day reveals a soft, blowing murmur, not loud, heard at the apex of the heart, and in the vessels of the neck, and accompanying the cardiac

[1] Such cases have been reported by Da Costa. See III. Toner Lecture, Washington, 1874.

systole. The countenance is pale and there is evident anæmia. No history of malaria.

Ordered Pil. Vallet, t.i.d. Smoking, tea, and coffee forbidden.

December 30th.—Suffered a great deal from weak feeling around the heart three days of the present week. This unpleasant sensation is more relieved by the use of convallaria than by that of digitalis. Patient is stronger, less irritable, sleeps better, and his heart troubles him less frequently and less intensely than it did two months ago.

While a cardiac dilatation may become developed in the manner referred to, I cannot doubt that not infrequently, after great or frequently repeated physical effort, myocarditis and fatty degeneration of heart-walls will surely be effected. Occasionally we may indeed look for a sudden rupture of valve, giving rise to all the secondary effects of such a condition, or for an inflammation of orifices, which will sooner or later become allied with chronic sclerotic changes at these regions and throughout the arterial system. One of the surest indications of heart-strain, or weak heart, when it is found, lies in the alterations of the urinary secretion. The bulk of the urine may not vary notably at first. Soon, however, it lessens or increases in quantity, and deepens in color, or becomes more watery. The former condition is that indicative of lowered heart-power, especially in so far as it affects the cardiac muscle. The latter state shows marked nervous irritability, and is apt to occur whenever the heart-strain is the result of excesses in which mental impressions are most active. I have remarked it whenever the cardiac strain was under the evident influence of intense study, late hours, undue excitement of business, pleasure, or sexual relations; of abuses in the use of tobacco, tea, coffee, and alcohol. A trace, and even a moderate amount, of albumen has been noted in the urine more than once, when neither the number nor nature of the casts, the rational symptoms, or, indeed, the general condition pointed very clearly to the existence of chronic renal disorder. The following case appears to me of some interest in this connection:

Case X.—H. W. J. T——, single, aged thirty-five, came to me last spring, stating that he had been refused by life insurance companies on account of presence of notable quantity of albumen in his urine. At that time he had few or no rational symptoms of disease of the kidneys. On examination, specific gravity of urine was 1.026; distinctly acid; no sugar; no bile; urea, sixteen grains to one ounce; micturition regular; albumen, fifteen per cent.

Patient was advised to drink abundantly of milk; to rest from business cares as far as possible, and to take tr. ferri perchlor. in moderate doses. At the end of June patient passed under the care of Dr. A. L. Carroll, of Staten Island.

On July 31, 1886, Dr. Carroll wrote me that the examination of urine on June 22d showed eighteen per cent. albumen; on June 30th, twelve per cent.; on July 9th, twenty-three per cent.; on July 27th, twenty per cent. Specific gravity from 1.022 to 1.028.[1]

In specimen of July 9th two or three small hyaline casts were found; in the others, *none*. Sphygmograph showed rather high tension. Dr. Carroll thought he detected some indications of "strain" of the right heart, and wrote: "You are, I presume, aware that he (patient) was for a long while enthusiastically addicted to athletics, especially to rowing contests, and that his mother has valvular disease. The absence of other symptoms in his case, and the persistently large quantity of albumen, seemed to me to negative a purely local causation of increased blood-pressure, particularly when considered in conjunction with the maintenance of the excretory renal functions." Patient "professes to feel quite well physically." "Whether to ascribe his disorder to obscure right-heart obstruction, to incipient waxy kidney, or to some persistent local lesion," was an undetermined matter to Dr. Carroll as to myself, at the date of the letter referred to above.

Between July 31 and September 26, 1886, Dr. Carroll saw our patient twice. "On both occasions the albuminuria was increasingly persistent, and the last specimen of urine examined contained a very few small hyaline casts, though no other anatomical elements. The specific gravity was 1.031; albumen, twenty-eight per cent. (by volume) (August 23d). Total amount of urine daily about normal (?). "The patient expressed himself as feeling perfectly well in all respects." Dr. Carroll and I at this time believed in the existence of chronic parenchymatous nephritis, although I agreed with him "that it was something new to find so few casts in this condition after an undoubted existence of more than five months, and probably much longer."

October 4, 1886.—Examination of urine showed—"specific gravity, 1.024; albumen, twenty per cent.; two or three narrow and extremely transparent hyaline cylinders, . . . mere albuminous films, requiring delicate management of illumination for their detection." "In many hundreds of urinalyzes," says Dr. Carroll, "I have never met with a case which puzzles me to such an extent." A few days later Mr. T——, at my suggestion, was put on tincture of strophanthus, with the approval of Dr. Carroll.

On October 1, 1886, I made the following notes at my office when Mr. T—— called to see me: "Looks pale, although he says that he feels very well. No œdema of face or limbs; has had headache only once during the past few weeks; appetite fair; heart does not annoy him; has had once or twice cardiac palpitations on awakening suddenly at night; no dyspnœa; no præcordial pain. On physical examination I find heart-sounds rather weak; apex-beat somewhat difficult to localize by palpation; am able to do so by auscultation, and find it beats below left nipple in sixth interspace; no murmurs; regular pulse, 72; no pain in back." [Thought abuminuria might perhaps be due to deficient heart action.]

On November 8th Dr. Carroll wrote to me that he had seen Mr. T—— twice since he began taking strophanthus, and continued his letter as follows: "On the first occasion there was little or no indication of its action in the sphygmographic tracing, and I increased the dose. At his second visit there was a diminution in the amount of albumen. On October 18th the specific gravity of the urine was 1.024; albumen, one-fifth; on the 30th, specific gravity, 1.023; albumen, one-seventh. In neither instance did I find casts. He says that he feels remarkably well."

On November 30, 1886, Dr. Carroll again wrote to me in regard to Mr. T—— (in answer to my request by postal to know how he was) as follows: "Mr. T—— has been unable to renew his supply of strophanthus for more than a week before his last visit to me (on November 21st); but the effect of the drug seemed to be continued. The amount of albumen was at that time further reduced to one-ninth by volume; specific gravity of urine, 1.026."

Remarks.—In view of the interest of this case, as it seems to me, I have requested Dr. Carroll, and received permission from him, to use the observations contained in his letters to me. I have not hitherto been able to decide to what degree precisely the condition of the heart has been instrumental in occasioning the albuminuria. That it does cause a part of it seems fairly probable. And, if this be true, I think we shall be prone to admit that, in certain instances, a heart which is undoubtedly somewhat dilated, and even though the usual rational symptoms of its incompetency are lacking—*i.e.*, dyspnœa, pain, palpitations—yet the amount of albumen eliminated by the urine may point indubitably to the fact. If our case had been accompanied by diminished amount of urinary excretion it would be, in my opinion, less conclusive than it is, in view of what we know of Bright's disease. Of course one such case

[1] The albumen was estimated by volume.—A. L. C.

as the foregoing does not prove my proposition; but, as I believe I have seen analogous conditions several times previously, I now wish to call attention to them.

The following case is of interest in showing, among other matters, the fact that when there is notable cardiac weakness in connection with co-existing or pre-existing chronic renal disease, the use of cardiac tonics may increase manifestly the quantity of albumen eliminated by the kidneys, while the bulk of urine is not much increased even during the early days following its administration, and later diminishes considerably. This case is likewise of value as affording evidence of the fact that pulsation in the second, third, and fourth left intercostal spaces is not invariably found in cases of cardiac dilatation and weakness, contrary to the view ably supported by W. Russell.[1]

CASE XI.—J. C. H—— entered St. Luke's Hospital March 23, 1886. Patient had pleurisy in 1883, and since that time suffered occasional pains in præcordial region. Syphilis in 1882. Occasionally drank to excess. Formerly very athletic. Latterly urine increased in quantity; specific gravity, 1.012; acid; albumen, five per cent.; hyaline casts; round epithelium; leucocytes.

Examination of heart.—Apex fifth space, just inside mamillary line; reduplication of second sound over apex, with roughening preceding first sound. Heart rapid, regular, and feeble; difficult to determine positively nature of murmurs; weakness of heart action especially notable over right ventricle; sounds of heart heard with greatest distinctness over lower portion of sternum and at epigastric region. There is a very limited area of pulsation just inside of left nipple; none at epigastrium, and none over left intercostal spaces. Some pulsation visible at root of neck on both sides, and over sternum, when patient lies in dorsal decubitus; pulse, 96; regular.

December 5th.—℞. Caffein citrat., grs. v., t.i.d.

December 14th.—Albumen in urine, twenty per cent.; passed thirty ounces.

December 19th.—Albumen in urine, thirty-seven per cent.; passed thirty-six ounces.

December 27th.—Albumen in urine, six per cent.; passed twenty-eight ounces.

January 3d.—Albumen in urine, twenty per cent.; passed twenty-six ounces.

January 8th.—Patient died of acute pulmonary œdema.

Autopsy revealed both layers of pericardium adherent; mitral orifice somewhat contracted; cardiac cavities dilated; left ventricular wall thickened. Kidneys showed changes of chronic diffuse nephritis.

In marked heart-strain, and especially when there is a reasonable probability of the production of slight or moderate cardiac dilatation, the lower limbs are often œdematous. This œdema is always more marked toward the end of the day; in the morning it has almost as completely disappeared. In those cases in which the pulse is extremely rapid, feeble, and somewhat irregular, the heart also is very rapid and weak, palpitations excessive, and stomachal distress quite pronounced, and the cardiac strain appears to have affected directly the cardiac motor ganglia, or the sympathetic system more than the cardiac muscular fibre. While this statement is in part correct, there may also be present in such cases sufficient evidences of some enlargement of the heart, mainly due to dilatation of its cavities. This cardiac dilatation may be secondary to a condition of slight anterior hypertrophy, and may be produced by kidney disease, endarteritis, or as the result of valvular disease, "and it is impossible," according to Janeway, "to determine how far dilatation of the cavity, or degeneration of the muscular tissue, is predominant in the production of the ensuing phenomena."[2] I would say, in regard to this opinion, while often true, that at times our therapeutic means will enable us to clear up the situation, since in the case of pure dilatation decided amelioration will result from continuous judicious treatment, whereas this can scarcely be looked for if degeneration of the heart-muscle be present.

The case of W——, who was presented by me at a late meeting of this Society, admirably illustrates, in my belief, some of the preceding statements.[1]

In those cases in which the pulse-rate is remarkably slow, the pneumogastric trunks probably lack their proper supply of oxygenated blood, owing to heart weakness. In some of the most remarkable of those examples reported by Flint,[2] they were thought by him to bear evidence of morbid central disturbance associated therewith. Numerous cases in which idiopathic dilatation of the heart[3] had advanced to the degree of producing swollen legs, a rapid, feeble, irregular pulse, and all the physical signs of dilatation, have been so much ameliorated under treatment that all these symptoms passed away. In one case, reported by Fothergill, after four months' treatment with iron and digitalis, there was such complete cure that ten years later the patient had no feeling at all of weakness about the heart.

This stretching of the muscular tissue, with enlargement of the cardiac cavities, often follows conditions of passing debility, and may, under such circumstances, be recovered from completely.[4] It is wise, however, to note that the general condition may often be dependent on the feeble heart, rather than the reverse, which is, also, none the less true that the feeble heart is but a direct consequence of the adynamic state of the patient. A feature in the chronic affections of all our internal organs, which has long appeared to me one of extreme interest, is what may be termed the inherent vitality, or strength of each one, in different individuals. This strength can alone be properly estimated when it is submitted to certain tests. And while one person may bear these tests so well that apparently no evil results follow, another person, with an outward aspect of far greater vigor, will fail soon and utterly. This is one of those important facts that most trainers and all educated teachers of physical exercises for the healthy development of the body are becoming daily more familiar with. Owing to this knowledge we are less likely in the future to see among our young men, brought up in schools and colleges, the diseases which undoubtedly result from excesses of rowing, tennis, bicycling, running, and all outdoor sports or contests in which vigor of body and strength of limb are essential.[5] Some of these diseases, it must be recognized, give evidence of their presence by such signs as accurate physical diagnosis can generally discover and properly estimate. Alongside of such cases, however, there are a large number of others, I am convinced, in which no outward signs betray the tiring or exhaustion of the cardiac muscular fibre. It has been stated by some observers that when the heart-fibres are in a perfectly healthy condition they cannot be thus strained, either by physical or mental over-exertion.[6] Spillman maintains that "the heart wearies not. It is formed to beat. That is its rôle, its life. It beats sixty, seventy, and eighty years without wearying." According to such views the word "over-exertion" applied to the heart is not physiological.[7]

Such statements, in my judgment, cannot be supported by the close observation of cases which are daily seen in our hospital clinics. Certain rational symptoms, when duly weighed after the history of the patient is fully taken, and all pernicious modifying influences from diseases of adjacent organs have been fairly eliminated, are

[1] Vide Investigations into some Morbid Cardiac Conditions, pp. 34, 35. Edinburgh, 1886.

[2] Vide THE MEDICAL RECORD, June 19, 1886, p. 683.

[1] Vide THE MEDICAL RECORD, December 18, 1886, case of H. W——.

[2] American Practitioner, January, 1876.

[3] Fothergill: Heart Diseases, 1879. [4] Ziemssen's Supplement, p. 359.

[5] Vide vol. xviii. Ziemssen's Cyclopædia, p. 335, Article on Physical Exercise, by A. Brayton Ball, under heading Results of Over-Exertion.

[6] Sir Wm. Jenner, quoted by Allbutt and Schrötter, Ziemssen's Cyclopædia, vol. vi., p. 201, quoted by Ball.

[7] Vide THE MEDICAL RECORD, November, 20, 1886, p. 574, quoted from Leyden's article.

as surely diagnostic of heart-strain as the same symptoms are when accompanied by evident physical changes, or the physical alterations are without the rational symptoms. In this connection I would cite the following forcible and truthful statement from Delafield:[1] "In some of the cases the rhythm alone is disturbed; the patients have an irritable heart without any marked change in size. In other cases, in addition to the irritability, there are also dilatation and hypertrophy of one or both ventricles. . . . In still other cases, although the heart is enlarged, there is no change of rhythm, and it does not trouble the patient." After all, the heart is a working organ of which it may be truly said that the principal, all-important function is its ceaseless, intermittent activity. Now, then, are we not prone to-day to look merely, or at all events too much, at pathological results of disease which are visible to the eye, aided or not with lenses of high power? And yet these obvious pathological changes are not the *whole* disease—indeed, they are but the effects of it, and behind and beyond are the far more important etiological factors which have previously been at work, rapidly or slowly, in developing and consummating it.

If I have made myself clear in the foregoing description of those forms of heart-strain that I have personally observed many times, I have convinced you that all *physical* and *mental* over-exertion is quite capable of producing it. The amount of physical effort or mental fatigue, or both combined, essential to produce evident injurious effects must finally depend on *the individual* who may become the sufferer; and whether or not these are the *sole* efficient causes of heart-strain. Other causes may be present, which of themselves are sufficient to produce symptoms of heart-strain, and which, of course, when added to great physical and mental effort, act more speedily and disastrously. Such causes are previous existing cardiac affections of the valves and orifices, chlorosis and anæmia, fatty heart in corpulent persons, old age, pregnancy, convalescence from acute diseases of mild or grave character (Leyden). In the latter instance, particularly, we shall frequently note symptoms of heart-strain after physical or mental effort of very moderate amount. I have known, under these circumstances, attacks of fainting and vertigo to occur, accompanied by a feeling of heavy weight in the præcordial region. When the hand was applied on these occasions over the heart, scarcely could the beats be felt during some time, and subsequently, when palpitations appeared, even though unpleasant and occasionally painful, they were far less disturbing than the previous collapsed condition of the heart, which, according to the expression of such patients, seemed "dead like a stone." As an example of the manner in which mental fatigue and lack of proper hours of sleep influence the heart and produce rational symptoms of great functional distress, I would here refer to the students who sit up to the wee sma' hours of the morning. I have known a case in which, under like circumstances, at a given moment the heart would begin to beat irregularly and tumultuously, and concomitantly with these palpitations would also appear a sense of weight in the epigastric region and an uncomfortable feeling of oppression. All these symptoms would last after they appeared until the patient had fallen asleep. The following morning, on awakening, they had ordinarily disappeared.

Finally, there are cases in which no *sufficient* cause can be assigned, after the most careful examination and inquiries, to account for the apparent cardiac debility. In such instances, in the words of Dr. E. G. Janeway,[2] "it has seemed to the writer a necessity at times to make the diagnosis of weak heart, it being impossible to determine the essential cause of such weakness. This relates to those cases in which the symptoms of cardiac disease exist, but the heart is normal, or nearly so, in size; the sounds, unless carefully noted, seem normal, no murmur is present, and there is an absence in the history and age of the true, or satisfactory, explanation for this state. I am perfectly willing to admit that after acute disease we should expect myocarditis, with pyæmia, perhaps suppurative myocarditis; with rigid radials, etc., coronary endarteritis; in a person, particularly a female, who had been a hard drinker and had fatty liver, fatty degeneration; in marked anæmias, fatty degeneration, etc." Dr. Janeway reports a case of a man, forty years of age, who after running some distance had a fainting attack. Subsequently he had symptoms which were variously attributed to phthisis and disease of the kidneys, but which Dr. Janeway explained by a weakened heart. The patient died, and the autopsy showed an old thrombus of the left ventricle, which may have formed during the syncope, and myocarditis fibrosa of the left ventricular wall. At no time during life had a murmur been audible, and, therefore, the diagnosis could be only surmised previous to death, which, however, was apparently correctly done by Dr. Janeway. Such instances are of very great interest, as showing how much "the nature of the onset and the character of the symptoms" are to be estimated in arriving at a correct diagnosis in obscure forms of *weakened heart*. In some analogous cases, still the *cause* and *nature* of the weakened heart remain completely hidden, and indeed no adequate explanation can be given in regard to their presence. In this class, according to Delafield,[1] "the physical signs of dilatation were evident." Taken absolutely, I do not believe this statement to be wholly correct, for I am confident that there are some instances in which reasonable doubt must exist as to the existence of any enlargement of the cardiac cavities. In the following remarks of Dr. Delafield,[2] however, as will be appreciated from what precedes, I agree in regard, not "to most," but to some cases of weakened heart, viz., that "no cause at all for the cardiac lesion could be discovered; and in those cases in which there was a history of sudden exertion or mental emotion, or of change in the wall of the heart, these conditions do not seem at all adequate to explain the cardiac lesion."

How are these cases of heart-strain and heart-weakness to be treated?

Manifestly the first thing to be done is to discover the primary essential cause of these affections and, if possible, to remove it. If the physical labor or occasional efforts be too great, a stop must be put to an injurious occupation. Occasionally it is necessary to abandon all work for a time and take a complete rest. Of the rapidly beneficial effects of rest there can be no doubt. At first, and when the heart-strain has been but slight and is of fresh date, it may by itself be sufficient to rehabilitate these sufferers. In many cases, however, absolute repose is not essential. Abstention from work and moderate distraction, mental and physical, are what is most required. Sometimes change of scene will afford the greatest mental relief; and as the air is also changed at the same time as the occupation and surroundings, the good effects are, so to speak, doubled. In the beginning, light diet, frequently repeated, is found more useful than to attempt to overload these patients with food. Later on the most nutritious kinds of food, in relatively small quantities at any single time, are very desirable. Aids to digestion in the form of ignatia, bismuth, ingluvin, pepsin, hydrochloric acid, lacto-phosphate of lime, etc., are of moderate value. When these fail to produce good results and symptoms of intercurrent gastritis are present, I now rely to a great degree upon counter-irritation by means of fly-blisters, several times repeated, or the thermo-cautery (Paquelin's). In two instances which I recall, I had very satisfactory results from "lavage" of the stomach. The latter method has, of course, no direct effect upon the heart in the way of invigorating or regulating it, but it certainly relieved gastralgic and dyspeptic

[1] American Journal of the Medical Sciences, January, 1886, p. 98.
[2] The New York Medical Journal, June 19, 1888, p. 680.

[1] American Journal of the Medical Sciences, January, 1886, p. 104.
[2] Loc. cit., p. 103.

symptoms in a very marked degree—and thus by reflex action, and by helping to restore normal digestive power, cardiac systole was decidedly strengthened. The use of blisters and the thermo-cautery are, also, unquestionably, of very great and direct benefit to the gastric disturbance; and so far as the heart is concerned, I have likewise recognized their value frequently in stimulating its contractile power. While this is often true, it is not invariably correct, and occasionally one meets cases of heart-strain and cardiac debility in which blisters and the thermo-cautery remain without obvious beneficial effects upon the heart itself.

In these examples I have hitherto had the best results from the administration of tincture of the chloride of iron, in moderate and frequently repeated doses continued for weeks and months, while the liver was gently stimulated by tablet triturates of calomel, gr. $\frac{1}{4}$ to $\frac{1}{2}$, morning and evening, or oftener. The usual heart-tonics have sometimes proved inefficient; again, they have been evidently useful. I do not approve of the use of digitalis in these cases, except in very moderate doses, combined or not with the iron tincture. If too much digitalis be given, instead of helping the patient it does him harm.

On several occasions, when digitalis has proved to be useless or injurious, I have had very excellent results from caffeine or convallaria. Certainly, the latter drug is more easily tolerated by a sensitive stomach than digitalis is; and whenever the nervous supply of the heart is especially implicated, I believe that I secure more quieting effects from its employment. Among well-known cardiac tonics and stimulants for obtaining temporary good effects, at least, I know of no drug quite equal to coca. Given in the form of wine or fluid extract, it does much at times to restore the heart-muscle to its former tone.[1] Of course, the good effects of any and all treatment will be closely allied with the stage of the disease when it first comes under observation. If the heart-muscle be healthy, with the exception of more or less loss of tonicity or contractile power, its complete integrity may be restored. If, on the contrary, the heart-fibres are already considerably stretched and the cavities dilated, while in some instances the patient may be restored to apparent health for a shorter or longer period, the probabilities are that ultimately renewed distress will be felt and further progress in the disease will take place.

Whenever accompanying the condition of heart-dilatation, be it only very moderate in amount, fatty degeneration has already begun, the outlook is most serious. Even then these individuals may live a number of years, provided no great call be made upon the heart-force. But if efforts, mental or physical, be continued, or if an acute bronchitis become developed through over-fatigue and exposure, such cases often terminate fatally and in a very brief lapse of time. Perhaps a few days or weeks may bring on the fatal ending. In the instances which I have studied I have not felt obliged, except in rare instances, to give narcotics to allay temporarily great pain or dyspnœa. Certainly, in the first stages of heart-strain, when they are less likely to do harm, they are rarely required. Later on, in the midst of a complicating acute attack in the lungs or kidneys, I am very loath to employ anodynes, except in very small doses and at relatively long intervals. I owe this reluctance, doubtless, to the fact that, despite theories to the contrary, and the matured observations of skilled clinicians, I have known great harm to result in my own practice from what I now regard as a *very unsafe* use, especially of opiates. There are times, of course, when a small hypodermic of morphine, combined or not with atropine, will be wonderfully beneficial to the victims of heart-strain or heart-weakness. The cases that I have seen in which these admirable effects were produced were those where there was no complicating acute disorder of another important and closely connected organ, and they were those, also, where the suffering had been occasioned by relatively extreme effort producing a fresh outbreak of symptoms, which were the proof of acute grafted on old cardiac changes.

Under these circumstances, indeed, the introduction of morphine under the skin has often given temporary quiet to the dilated, laboring, and overburdened heart when nothing else could. The safety-line, however, is very narrow; and while one-eighth, one-sixth, or even one-fourth grain of morphine hypodermatically may frequently be of immense service in restoring rhythm and force to rapidly failing heart-beats, a larger quantity will be likely to occasion rapid collapse and death.

From the foregoing study it may be reasonably inferred:

1. There is a class of cardiac disease to which the names of "heart-strain," "heart over-strain," or "weak heart" may be properly given at the present time, and until this class has been more carefully subdivided.

2. In this class are now included cases in which there are no marked physical changes, and in which the symptoms alone indicate cardiac weakness.

3. In many cases the physical cardiac changes are more or less marked, and usually show some dilatation, joined or not with slight or moderate thickening of the ventricular walls, and accompanied or not with mitral or aortic incompetency.

4. There are cases in which the heart is obviously somewhat enlarged, although there never have been any morbid symptoms which showed cardiac weakness.

5. The causes of these affections are numerous; among them, however, prolonged or excessive physical exertion is often, although not always, prominent.

6. In some cases the disorder seems to be one more of neurosal than muscular deficiency, and may affect the function of the pneumogastric nerves, the sympathetic or the intracardiac ganglia.

7. In several instances the causes of cardiac disorder are very obscure or wholly unknown; and in such instances we must admit the existence of a *weak heart* primarily, that is sometimes first recognized suddenly and without premonitory indications which shall enable us to foretell such condition of cardiac debility.

8. Absolute or relative repose, appropriate diet, change of scene, chalybeates, cardiac tonics, counter-irritation, etc., employed judiciously, will do much in most cases to restore real or apparent cardiac vigor for a shorter or longer period.

[1] I have obtained the best effects from the use of Mariani's wine. From personal information given me by this reliable pharmacist, these results are attributable to the excellent quality of the coca-leaves and of the wine which he uses in its manufacture.

What is Conservative Surgical Practice Regarding Gunshot Wounds of the Abdomen?—A correspondent in Georgia writes us: "Will you please decide a question, of dispute through your valuable columns, between another physician and myself? The question is this: 'What is the most conservative surgery of the present day in gunshot wounds penetrating the abdominal cavity—especially a pistol-ball?' He contends that the surgeon would be justified in performing laparotomy and searching for the wounded intestines, closing the wounds by the glove-stitch with catgut ligatures. I contend that the above is not as conservative as to treat with perfect rest and arrest peristaltic action with opium; for we don't know how many intestines are wounded, or how many times the same intestine has been perforated by the ball, and by handling the intestines so much, as would necessarily occur in search of the wounded ones, might be set up violent peritonitis, and possibly enteritis, which would cause the patient to sink." To this we answer that the conservative surgical practice for the general practitioner who had had no training in peritoneal surgery would be that of letting the thing alone. If he had some special experience, opinion now tends to support the operation of laparotomy. When done properly, the handling and exposure of the intestines does not cause peritonitis.

SUCCESSFUL PRIMARY LAPAROTOMY FOR RUPTURED TUBAL PREGNANCY.[1]

By A. W. JOHNSTONE, A.M., M.D.,
DANVILLE, KY.

Mr. President and Gentlemen: On the 8th of last October, with Drs. Kinnaird and Huffman, of Lancaster, I saw a former patient of mine whose perineum I had restored about eighteen months before. Her age is thirty-two, and her family consists of one child, eight years old, after whose birth she had a protracted convalescence with the most intractable pain in the left side. I had been telegraphed for on the 6th, but as I was out of the State did not see her until two days after, when I found her in good condition and expressing herself as having recovered almost completely from the attack for which I was called.

It had consisted of a sharp, sudden pain, while stooping, in the left inguinal region, which, as she expressed it, "felt like something had torn loose." From the account that her physicians gave, the pain was followed by a considerable amount of shock, from which, however, she had entirely recovered, leaving little or no trace in the shape of constitutional disturbance. She was still somewhat tender in the left iliac fossa, and by conjoined touch I I found a mass high up to the left of the uterus, about the size of an orange, which was exquisitely sensitive and obscurely fluctuating. The uterus was pushed slightly to the right, enlarged about one-third, but much firmer than the ordinary pregnant organ. She said that she thought herself about two months gone in pregnancy, but that before the attack for which we met, she had not felt an ache or a pain.

The consultation resulted in our suggesting a laparotomy for an extra-uterine pregnancy; but as we could not be absolutely positive that it was not a cyst, or some encysted hemorrhagic or inflammatory product, it was declined, and we started off on the usual expectant plan of hot injections, fomentations, morphine when necessary, etc. Under this managemnt she did well, and when, somewhere about the 15th or 20th of October, she passed some membranous stuff from the uterus, they began to congratulate themselves that it was only an abortion after all. She had been sitting up for some days, when, on October 27th, the same symptoms returned in force, and being from home again, I did not see her until the 29th. By that time she had again rallied, but there was still a little constitutional disturbance, and the peritoneal tenderness had become general. The mass to the left of the uterus had decidedly increased, but laparotomy was again declined. About four days afterward I dropped in and found her with a clearly defined peritonitis, and as there was still great opposition to operation we decided not to wait longer than one week more before we said positively that the exploration must be made.

On the morning of November 6th, however, the most violent attack that she had yet had set in. When I reached her, at 9 A.M., I found a pulse of 130, temperature 99, but so much pain that she was constantly calling for chloroform, as morphine seemed to have lost its effect. At once we made preparations for laparotomy, and by 11 A.M., with Dr. W. Huffman giving the anæsthetic, and Dr. J. B. Kinnaird assisting, I made a two-and-a-half-inch opening at the usual point for exploring the pelvis, and found that in spite of the adhesive peritonitis the extravasated blood had worked its way pretty generally through the peritoneal cavity. After separating adhesions and getting into the cavity of the mass to the left of the uterus, I found a three months' fœtus lying in a much thickened and ruptured tube. To strip out this torn and bleeding duct from its bed of false and true attachments, ligating what seemed necessary, was the work of only a few minutes. To turn out the clots, wash the peritoneum, and pack it with sponges, took as many more. But on seeing the depression so great I did not deem it safe to prolong the operation to the removal of the appendages of the other side, as had been my first intention. So the stitches were put in, the sponges removed, glass tube applied, wound closed, and patient put to bed in profound shock.

No one who has not tried it can tell with what twinges of conscience I watched that flickering pulse and cold, clammy skin, knowing all the time that had I "taken the bull by the horns" a month sooner all that suffering and frightful hemorrhage would have been saved, and that instead of waiting until 2 A.M. for the first attempt at reaction, it would have come at once.

With the literature of the day teeming with the after-histories of successful laparotomies, need I say anything more about this one than that, with the exception of a somewhat protracted drainage, it is an exact repetition of all the rest. It is only necessary to say that after a tedious convalescence she is now out of bed and gaining strength.

But the one idea it has brought home to me is that I waited too long. For had I followed my judgment and forced the operation when I first saw her, instead of "a scrape through," it would have been a prompt recovery. She would have been saved a month of physical suffering, and I an equal period of regret.

While I believe it to be the first successful primary laparotomy for ruptured Fallopian pregnancy on this side of the Atlantic, still it is nothing but the extension of the work of my old master, Lawson Tait. Do not understand me to say, though, that he would have countenanced the long delay before the operation, for the one great lesson which he has taught the world can be summed up in the single word, promptness. I am sure had she been with us last year instead of watching the successive giving way of the different layers of the tube and discharge of the decidua, that the mass would have been enucleated within the first twenty-four hours, and possibly the necessity of the drainage-tube done away with. This at once almost answers the question, What would I do with extra-uterine pregnancies in general?

Four papers, in the *British Medical Journal* for December 4, 1886, place the various methods side by side, as advocated before the British Medical Association, at its last meeting, by the most earnest champions of each.

I am sure that any unbiassed judge, after reading the whole discussion, cannot help but say that the most rational means of all is to make a clean sweep of the whole thing. What could be more horrible than the condition of the poor creatures that you there see described, who, after having the growth arrested by electricity in some form, or been lucky enough not to die from bleeding before term is reached, still have to go through the terrible ordeal of getting rid of the remains by ulceration. So, without going further into the discussion, I say, most unhesitatingly, that, whether ruptured or not, we should remove it by laparatomy as soon as found. This case of mine, as you see by her previous history, is no exception to the general rule, that Fallopian pregnancies are always sequelæ to some antecedent pelvic trouble. In a conjoint debate before the British Gynecological Society, at its meeting on the 23d of last June, on a paper by Mr. Bland Sutton, on "Menstruation in Monkeys," and one by myself on the "Menstrual Organ," I think we brought out the real explanation of the accident. What I then said on this point was as follows:

"There were two points especially in which I thought we could help each other. I was sure that Mr. Sutton's proving that the epithelium of the tubes is not lost during menstruation was a help to me in understanding Fallopian pregnancies.

"Ercolani had proved that the first uterine change after the fertilization of the ovum was a destruction of the epi-

[1] Read before the Central Kentucky Medical Association, January 19, 1887.

thelium, thus laying bare the adenoid tissue for the formation of the placenta; and I thought that the menstrual denudation was the explanation of the frequency of pregnancy directly after menstruation, and that the fact just shown by Mr. Sutton went in the same line—that is, that under all normal conditions the epithelial lining of the tube protected the adenoid layer from the passing ovum, which was thus forced to enter the uterus before finding a fit place of attachment. But when, from any cause, the adenoid layer is exposed, the ovum is given an opportunity to adhere, and a tubal pregnancy is the result. Thus, the idea that extra-uterine pregnancies are always the result of some preceding pathological change, is given new force." But for the ideas then expressed by Aveling, Tait, and others, I refer you to page 301 of the November number of the *British Gynecological Journal.*

Since that meeting I have seen a good deal of tubal disease, both clinically and pathologically, and it all goes to strengthen the belief that a desquamative salpingitis is at all times an antecedent of extra-uterine pregnancy, and that an impassable stricture is not a necessary factor. While watching the convalescence of this case, I thought, combined with one of tubercular peritonitis (in which there was a doubt before operation as to what the mass of intestines that were bound to the back of the cavity was), I had good material for illustrating the life-saving power of exploratory excision. Had I then had the six-foot intussusception (which behaved so much like an abscess of the pancreas until the operation, ten days ago), I would have been ready to defy a whole America full of sceptics.

But Professor Thomas, by his recent paper before one of the New York societies, has taken the wind out of my sails, and broken the back of the opposition. For as long as Twenty-third Street held firm, and New York laid down the vagina as the only route for relief, the average medical mind was kept as religiously shut as the peritoneum used to be. With this black cap of ignorance hundreds of our American sufferers were let sink into their untimely graves, or, still worse, into the horrors of utter despair. Now, however, it is different, and he who fails to learn anew this lesson of the abdomen is his own executioner. I agree with Professor Thomas fully in his conclusion that the fingers that enter this incision should be guided by a trained brain; and I am glad to say, by the facilities which our country now gives, such an one is at the disposal of almost all patients, no matter how remote. But I must demur to putting in the whole hand; for a brain that cannot find out with two fingers what is the matter ought not, in my opinion, to be allowed to direct any sort of an operation. One of the great secrets of success in abdominal surgery is knowing where to stop; and when you make the opening large enough to admit the hand, the Rubicon ought to be already crossed, and your mind firmly made up to complete. If you do not intend to finish, your aim should be to do as little damage as possible.

Now for my claim to American priority, and I am through. It is based principally on two letters. One of them was from Dr. J. E. Janvrin, of New York, to Dr. J. T. Johnson, of Washington, D. C. As I had been out of the country for some time I had not kept up with the home literature of the subject; so when I was ready to write up this case I wrote to my friend, Dr. J. T. Johnson, for American references; and he, in turn, kindly wrote to Dr. Janvrin, as being the best posted man on the subject, and with the permission of both I read you his reply:

"191 Madison Avenue, New York,
November 24, 1886.

"My dear Doctor: In reply to your note of the 22d, I would say that when I prepared my paper on tubal pregnancy, in August, I was not able to find any recorded cases of the *primary* operation for ruptured Fallopian pregnancy *in this country.* I have not heard of any since that date (except this case of Dr. Johnstone's). I mentioned in that paper the twenty-three cases reported by Tait, and took the ground that if the diagnosis was well made out, the primary operation for the removal of the fœtus and ruptured tube ought to be done. If any cases have been done, and have also been reported, they can be found in the "Index Catalogue" at the Surgeon-General's office. I have spoken to several of our gynecologists since receiving your letter, but have been unable to obtain any information from them. Perhaps it would be well for you to forward this little note to Dr. Johnstone. Very likely his case will prove to be the first operative case (primary) in this country.

"Very truly yours,
"J. E. Janvrin."

The other letter is from Surgeon John S. Billings, of the Surgeon-General's office, in reply to one from myself. He says: "I have not yet arranged my references to 'extra-uterine pregnancy,' so as to be able to definitely answer your question. I enclose herewith, however, references to three cases of the kind you refer to, which may be of some interest." Of these only one was a primary operation for rupture, by C. K. Briddon, published in the *Philadelphia Medical News*, 1883, xliii., pp. 666–668. The case died in forty-seven hours, of shock.

Thus it will be seen that no authentic case of recovery had been recorded up to last August. Since then I can hear of but one other case that has any claim to consideration, and I heartily wish that that had no flaws at which the conservatives could carp, for it was done by my companion and associate, Dr. Jos. Price, of Philadelphia, somewhere about the first of last October. Had he found a fœtus, or had there been no doubt about the tube containing a placenta, instead of a hemorrhage, as some who saw it claimed, Tait would have been vindicated one month sooner, and Price and I would have had an earlier jubilee.

There is nothing that I more heartily dislike than a priority contest, and had it not been for the way in which our teacher has been misunderstood, as well as abused, neither Price nor I would care much about it. But knowing full well that all his disparagement, which has even reached this Society, is merely the dying clamor of his distanced rivals, all his pupils are anxious to give "the new world" an object-lesson from his teaching. And were he here, I am sure Price would be the first to applaud these specimens, and the most positive of all in his agreement with me that Lawson Tait is not only all that his published work would have you think, but for all time he will be proved to be the greatest benefactor that the age has yet produced.

The Medical Board of the French Hospital has recently been organized and the following appointments have been made: Ward service, Drs. J. J. Henna, Menierre, F. A. Lyons, and C. D. Scudder; Dispensary service, Drs. P. Rengifo, E. F. Tucker, and J. E. Newcomb.

The Treatment of Diarrhœal Diseases.—Dr. M. S. Leslie, of Greenup, Ky., is not disposed to regard the antiseptic treatment of diarrhœal affections with as much favor as were the speakers in a recent discussion at the Academy of Medicine. He writes: "While I do not question the value of antiseptic agents in the treatment of these affections, I do question that they are as all-sufficient as the speakers at this meeting seemed to regard them. For a long time I have regarded opiates as very unsatisfactory remedies in the treatment of this malady. But for the past year I have extensively used bromide of potassium with the happiest results, and I have come to regard this salt as the remedy *par excellence* in diarrhœal conditions. The antiseptic bromine element of this medicine may be entitled to some credit for the benefit resulting from its use, but to the sedative properties of the salt is mainly due its curative effects in the therapy of diarrhœal diseases."

Clinical Department.

A RARE CASE OF FRACTURE.

Dr. E. S. Willard, of Fairfield, N. Y., reports the following case: "On the evening of September 15, 1884, I was called to see G—— S——, lying on the roadside intoxicated. He had fallen from and been run over by his loaded wagon. When found, his left ear was nearly severed from the head, numerous bruises and abrasions occurred, the right humerus was broken between the upper and middle third, and *both* clavicles were broken about the middle third. He was removed to his home, several miles distant, and, with the assistance of his family physician, I dressed his wounds and left him, not seeing him again till January following, when he called to see me. Upon questioning I ascertained that union had taken place at all points of fracture, and that he was nearly as sound as ever. He must have been about sixty years of age."

CONVULSIONS FROM IMPACTED FÆCES IN A YOUNG CHILD.

Dr. G. W. Squires, of East Avon, N. Y., writes: "On the 15th I was hastily summoned to see a little girl eleven months old who, the messenger said, was dying in a fit. On my arrival I found the child just recovered from a convulsion, but there was twitching of the muscles and every indication of more convulsions. The thumbs were flexed in the palms, the eyes were wild and squinting. Upon examination I found the abdomen greatly distended, with hard, knotty-looking lumps, which were readily recognized as being in the bowels. The mother made the remark that the child had been 'terribly constipated;' that she had given her as much as three teaspoonfuls of castor-oil without a movement of the bowels; that she had been in the habit of feeding her on potatoes, cabbage, bread, and in fact everything she ate herself. Every few minutes the child would cry out, and bend almost double. I at once ordered injection of warm water and castile soap, and in ten minutes the bowels moved, bringing away a great quantity of hardened scybala the size of hickory nuts; the child immediately felt relieved, and soon went to sleep. At the end of an hour she started up with another violent griping pain. Another injection was immediately given, bringing away more fæces covered with mucus; a few grains of comp. licorice powder was given, and the injections were repeated seven times, each time bringing away less hardened dejections, until the last was of quite natural consistency. The fever-thirst and convulsive symptoms disappeared as if by magic, the child asked for playthings, and was more bright and cheerful than it had been for weeks. The mother told me that the night before the convulsion the child had a severe attack of croup, which was undoubtedly of reflex origin."

TEDIOUS LABOR FROM LARGE SIZE OF THE FŒTUS.

Dr. J. M. Perkins, of Grove Springs, Mo., reports the following case: "I was called on January 7th to see Mrs. J. J. R——, and found her in labor. On examination the parts were seen to be well relaxed. The os was dilated about three or four inches in diameter; the edges seemed very soft and flabby. The pains were regular, but not of sufficient strength to deliver the fœtus. The fœtus presented by the left occipital position. I waited two hours for the pains to increase sufficiently to effect the delivery of the fœtus, but they became no stronger. I then gave the patient one drachm of fluid extract of ergot, and waited until it began to act. I then ruptured the membranes, and let out the liquor amnii, after which the pains began to increase in vigor and come on every five minutes. Everything moved on all right for about one hour and twenty minutes, when the fœtus was born. The cord was around its neck, and about half-way from placenta to fœtus it was tied in a knot like a figure of eight. The child was a very large boy, weighing fourteen pounds. The head measured, in circumference, seventeen inches around occipito-frontal diameter, and was nine inches from ear to ear, over the top of the head. Who can show a larger boy than that from a mother weighing only one hundred and thirty pounds?"

SUPRA-CORACOID DISLOCATION OF THE HUMERUS.

Dr. F. B. Streeter, of Glenn's Falls, N. Y., reports the following case, seen by him in consultation with Dr. R. J. Eddy. The patient, a gentleman of middle age, fell down the stairs in his barn, striking upon his left elbow. The coracoid process was evidently fractured, and the articular head of the humerus was plainly felt above the clavicle, the patient being very thin and spare in person. At the present time he is making good progress toward recovery.

FRACTURE OF THE INTERNAL EPICONDYLE TREATED WITHOUT SPLINTS.

Dr. S. M. Stocker, of Duluth, Minn., writes: "In an article on 'Fractures of the Upper Extremity' which appeared in The Medical Record, December 19, 1885, Dr. Samuel W. Smith recorded a fracture of the internal epicondyle treated without a splint, and with perfect motion of the joint as a final result. I have a similar case to report. I was called Saturday, October 16, 1886, to see Emil N——, a boy twelve years of age, who had fallen to the floor, a distance of two and a half or three feet, while climbing through an open window. I found him in bed, with his left arm resting on a pillow. There was considerable swelling about the internal condyle, but all the motions of the joint were present, though more or less painful. The point of the condyle could be felt three-fourths of an inch lower than normal, and being grasped between thumb and forefinger could be freely moved in an antero-posterior direction. It could be carried upward far enough to give distinct crepitus, but not exactly into place. I carried it upward as far as possible, and endeavored to hold it with compresses and a bandage. Sunday morning, finding everything snug, I did not disturb the dressing. I gave a guarded prognosis, and explaining the necessity of careful watching, I directed the boy's mother to send him to my office Monday afternoon for inspection and renewal of dressing, if necessary. The boy failed to appear, and on the following Friday I visited his mother, who informed me that his arm was not broken, that he could move and use it, and that he was in school. I directed her to send him to me Saturday, one week from the date of injury, for inspection. The dressing I had put on the arm was still there, but was becoming loose. I had left the forearm midway between extreme flexion and extension. Flexion could not be made from this position, but extension could be made through an arc of fifteen or twenty degrees. The point of bone was where I had left it, and could not be moved by a moderate amount of force. On Sunday, the ninth day, I began passive motion, and made it every day until November 21st, when it was discontinued, as all the motions were perfect and painless. The boy was seen at my office during the treatment by various practitioners of Duluth. He was also exhibited at the November meeting of the St. Louis County Medical Society. The gap could be plainly felt, and the diagnosis was confirmed by all who examined him."

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SOME OF THE LESS COMMON USES OF ANTIPYRINE.

IT is unfortunate that many of the more recently introduced drugs, especially the newly discovered antipyretics, should have received names expressive of only one of their applications, for such a nomenclature is misleading and tends to cause other valuable properties of the drug to be overlooked. This remark applies with special force to antipyrine, which has many uses other than as a reducer of abnormally high temperature, but which, on account of its unfortunate name, is regarded and employed by a majority of the profession as an antipyretic pure and simple. We propose briefly to indicate a few of these other less known therapeutic applications of the remedy.

As pointed out in THE MEDICAL RECORD of September 11, 1886, by Dr. John Blake White, antipyrine possesses a remarkable power in controlling headache from whatever cause arising. The writer found that it relieved this symptom when due to indigestion, loss of sleep, menstrual disturbance, or mental fatigue, and that it was efficacious in uræmic headache and in recurrent attacks of cranial neuralgia. It also acted as a prophylactic in sick headache. This observation of Dr. White received independent confirmation nearly at the same time from a German source. Dr. Ungar, writing in the *Centralblatt für klinische Medicin*, of November 6, 1886, states that he has obtained excellent results with the drug in the treatment of hemicrania. When given at the beginning of an attack, or during the prodromal stage, it usually cut short the affection or so modified its intensity that the patients were able to attend to their ordinary affairs with little inconvenience. In a few cases, he states, antipyrine failed to exert any noticeable effect, and occasionally, even in the same individual, relief would be obtained in one attack and not in a subsequent one. The usual dose employed was fifteen grains.

Antipyrine has also been recommended very highly as a dressing to indolent ulcers. Dr. Bosse (*Berliner Klinische Wochenschrift*) has used it for this purpose, and says that it acts as an excellent stimulant and promotes granulation. The surface of the ulcer is covered with the drug in powder, over this is placed a layer of salicylated cotton, and the whole is retained in place by a tight bandage. The remedy is used only as a stimulant, and after granulation has become well established it is replaced by iodoform.

Another use to which this drug has been applied is as a hæmostatic. Dr. Casati uses it in five per cent. solution externally, and also finds it of value when given internally. Dr. Lavrand has found good results from the administration of antipyrine in epistaxis. The remedy, he says, is certain and prompt in its effects, and much superior as a hæmostatic to the perchloride of iron, and he has succeeded by its use in controlling a nosebleed which had persisted in spite of plugging of the anterior and posterior nares. It is employed for this purpose in a three per cent. solution applied on lint and introduced as far as possible into the nasal cavity.

Some observers have also noted a slight hypnotic action of antipyrine. This effect is not marked, but is still fairly constant. It has been noticed especially in cases in which the drug was given for the relief of headache, and possibly it was simply the result of the cessation of the pain.

These are some of the observations which have been reported of the less common applications of antipyrine, and they will suffice to show that the reduction of temperature is not the only therapeutic effect which can be obtained by means of this valuable drug.

A NEW CHOLERA FUNGUS.

A REPORT of the Commission upon Cholera which was despatched to Spain last year by the conjoined action of the Royal Society, the University of Cambridge, and the Association for the Promotion of Scientific Research, has appeared in the proceedings of the first-named body (*The Lancet*). The commission consisted of Drs. Roy, Graham Brown, and Sherrington, and the report, although "preliminary," contains matter of much importance and interest. Twenty-five typical cases of cholera were examined, either immediately or at a short interval after death, with the result that Koch's comma bacillus was not discovered in the intestinal canal in all the cases. In some this microbe was present in great abundance; in others it was far less conspicuous; while in many undoubted cases, where death occurred before the reaction stage set in, it could not be detected at all. These observations were confirmed by the results of plate cultivations in gelatine and agar-agar. Moreover, it was found that when present the comma bacilli were collected either on the surface of the mucosa or so close to it as to suggest a penetration of the epithelium after death, but in the majority the organism could not be found in the mucous membrane or in any of the tissues or organs. These results, which are directly opposed to Koch's, are considered to be conclusive against the bacillus having a pathogenetic relation to the disease; but it is suggested to be the cause of the premonitory diarrhœa, which is held not to be a mild attack of Asiatic cholera, but only a predisposing condition. Having thus satisfied themselves that the comma bacillus is not the cause of cholera, these investigators similarly dismiss the claims of Emmerich's straight bacillus to that distinction, and also state that they were unable to recognize Klein's straight bacillus in any of their preparations.

After much research another fungus was discovered,

which is believed to be pathogenetic. It consists of granular masses and a delicate mycelium, which could not be stained without difficulty, and was pronounced by Messrs. Vine and Gardiner to belong to the Chytridiaceæ, a class which includes many rapidly growing and virulent parasites of vegetables. The difficulties of its detection may have led to its being overlooked by former observers; while the objection of possible after-contamination is met and refuted. At the same time, it is stated that further investigation is needed, especially in the cultivation of the fungus, before the discovery can be held to be conclusive.

It is, we venture to say, highly improbable that the researches above described will have much weight against the long-continued and careful observations of a trained mycologist like Koch.

REFORMING THE PATHOLOGICAL DEPARTMENT OF THE NEW YORK STATE INSANE ASYLUM AT UTICA.

We are very glad to learn that a serious effort is being made toward the improvement of the scientific work at the Utica Asylum. The late Dr. Gray secured a considerable amount of money for the purpose of equipping a laboratory, and an annual appropriation was made for an imported pathologist to work in it. It has been, however, a case of *parturiunt montes, nascitur ridiculus mus*. We look in vain through the literature of psychological medicine to find any contributions from this Utica laboratory that have attracted notice or even won respectful attention. There are many persons who have accomplished more individually, in the midst of hard professional work, than has been done at the institution in question.

We sincerely trust, however, that the appropriations will be continued, for there is abundant opportunity to use the money profitably and to the credit of the State.

We but express the medical sentiment of the State, however, in saying that some radical change in the management should be made.

MORE ABOUT SPECIALISTS.

The latest contribution to the ethics of specialism is an article by Dr. Morris H. Henry in the last issue of the *North American Review*. The author alludes to articles published by Dr. Morell Mackenzie and Dr. Donkin in the *Fortnightly Review*, and which have been spoken of in these columns. Dr. Henry's view is that of the great majority of physicians. He condemns as hasty and inconclusive many of the conclusions drawn on the subject of specialism in America by Dr. Mackenzie while on his recent visit to this country. His advice is to anyone who may wish to consult a specialist, to talk first with his own family physician, and to follow his advice as to whom to apply. He recognizes that the best preparation for special work is general work. The latter teaches best of all those broad principles which must govern all investigations, and gives the proper instruction in regard to general scientific methods.

Dr. Henry maintains that only those men are entitled to be called specialists, in the true sense of the term, who have laid a foundation by, at least, ten years of general practice, and who have eliminated from their practice all but a certain class of cases, in which they find themselves especially interested, and in the handling of which they have acquired a special tact. The relation of any and every part of the human body to the organic whole is so subtile that one must understand the whole in order thoroughly to understand a part.

Many of our alleged specialists are far from confining themselves to the distinctive fields suggested by their class names. The same tendency is observed in many of our institutions for the treatment of special maladies. In a recent annual report of one of these institutions, there were reported under the head of "diseases of the throat and nose" fifteen cases of acute bronchitis. Doubtless their treatment was right and proper, but we fail to see why they should have been placed in this category. In regard to the treatment of bronchitis, it might be safely assumed that the average physician, though a general practitioner, would not err therein.

We shall have specialists as long as the world lasts. They have secured a position from which they cannot be dislodged. To them is due the increase in positive knowledge in many departments of medical research. Specialists, however, are, contrary to what obtains in the case of poets, made and not born. This making can result only from general experience, and the subsequent narrowing of one's field of work.

RECENT ADVANCES IN ELECTRO-THERAPEUTICS.

Dr. Paul Möbius has collected and reviewed two hundred and six contributions which have been made to electro-therapeutics during the past five years (*Schmidt's Jahrbücher*, 1887, No. 1). Many of these bear chiefly upon electro-physiology, electro-diagnosis, and technique, but a good share are devoted to the showing, by those whom Möbius calls "happy therapeutists," of the beneficent results of the electrical force upon morbid processes.

The unbiassed student of electro-therapeutical work cannot fail to share somewhat the pessimism of the German reviewer, who says, in effect, that no certain progress has been made in our knowledge of how electricity acts in disease, or whether it acts at all. This may perhaps, or rather may certainly, be said, that electric currents have a pain-allaying power, and do relieve a number of neuralgic pains. But as to paralysis we are still in the dark. We know that after the motor paths are broken in brain, or cord, or periphery, there is a process of reparation which follows naturally by certain laws. But do electrical currents influence this process of repair at all? Of this there is as yet absolutely no demonstrative evidence. Some cases seem to begin their improvement with the beginning of electrical treatment; others seem to cease their downward progress under it. But these effects are not uniform, perhaps not even the rule. There is no doubt that paralytics are often bettered by electricity, simply through virtue of its mechanical effects, just as they are bettered by massage and muscle-beating; and there cannot be any doubt of the value of electricity as a mechanical tonic, so to speak. But this is admitting that it has no specific effect whatever. In many functional disorders this mechanical effect comes into play, while in all diseases the psychical element

is most important. It is perhaps through the psyche that electricity acts in a majority of cases. If so, this is no argument against the use of electricity, since the wise physician always utilizes the potent influence of mind in promoting recovery from disease.

There have been brought out some special applications of electricity, some of which still remain to be positively shown are advantageous and effective. One of these is the use of the constant current in urethral and other strictures. Another is the use of galvanism in extra-uterine fœtation, and the passage of very strong currents through fibroids by means of specially adapted electrodes in order to produce their absorption (Apostoli's method). Stein, of Frankfort, has become an apostle of general electrification for the cure of innumerable diseases; while most remarkable of all are the claims of Müller for the use of very weak currents frequently repeated and applied over the seat of the disease. *Leve, breve, sæpe in loco morbi*, is his motto, prefaced to a book in which he announces the cure of such disorders as pseudo-muscular hypertrophy, transverse myelitis, locomotor ataxia, etc. He, with Neftel, Stein, Clemens, Apostoli, must be placed in the category of "happy therapeutists" whose large promises, perhaps, have the value of stimulating hope and energy in their own patients and too credulous practitioners.

A QUESTION OF PRIORITY IN RAPID DIVULSION OF THE VOCAL CORDS.

It has been our pleasant duty from time to time to correct in these columns the misapprehensions of some of our transatlantic brethren concerning the originality of certain methods of diagnosis or therapeutic measures which they have brought forward with the claim of priority. We have shown in several instances that these methods, however original they may have been with the authors, as far as they themselves were aware, were not new in this country, and that to American physicians was due the credit of priority in their invention and execution. We are now again called upon to dispute the claims of an Italian physician to priority as regards the operation of rapid divulsion of the vocal cords for the relief of laryngostenosis.

In a communication presented at a meeting of a provincial branch of the National (Italian) Association of Communal Physicians, held in Faenza, Dr. Peruzzi related the following case (*Il Raccoglitore Medico*, December 10, 1886): The patient was a man, thirty-four years of age, who had acquired syphilis some time previously, and for the past seven or eight months had noticed a gradual weakening of the voice, difficulty in breathing, and pain in the throat. Laryngoscopic examination showed the vocal cords united along almost their entire extent, and moving scarcely at all in attempts at phonation. The pharynx was red and covered with granulations. The diagnosis was made of laryngeal stenosis with sclerosis of the vocal cords, following upon syphilitic ulceration.

The patient was put upon antisyphilitic treatment, but the suffocative attacks became so threatening that it was determined to operate. On the morning of October 22, 1886, laryngotomy was performed by Dr. Loreta. Then a dilator, such as is used in cystotomy, was passed into the wound and through the small aperture remaining between the vocal cords. The blades of the dilator were then separated in the direction of the cords, and the latter were thus torn apart. Finally a tracheotomy tube was inserted. Three days later the cannula was removed, and a rubber catheter passed through the rima glottidis, and this was repeated every subsequent day, a larger tube being used each time. On the twelfth day the tracheotomy tube was permanently removed, and the patient soon recovered his normal voice and was definitely cured of the stenosis.

The author of the paper emphasized the originality of the operation, and stated that he had never read of any recorded instance of instantaneous dilatation or divulsion of the vocal cords, nor had he been able to learn from those acquainted with the literature of the subject that such an operation had been performed. The importance of the operation as a means of cure was also dwelt upon, since, in addition to the great saving of time, the ultimate results should be better if, as was held by many, a rapid stretching of fibrous tissue induced fatty degeneration and a consequent loss of retractile tendency.

We confess we are hardly prepared to admit the claims to originality in this operation, although we do not doubt that the writer was correct in his assertion that he could find no recorded case of instantaneous divulsion of the vocal cords. Most of the text-books on laryngology merely refer to rapid divulsion, but give no directions for its performance, and the instruments of Mackenzie and Navratil have been used chiefly in conjunction with the passage of catheters to hasten somewhat the progress of gradual dilatation. Yet they could be employed for the purpose of effecting instantaneous separation of the adherent cords, and doubtless have been so used.

But the identical operation of rapid divulsion has been performed by Dr. Joseph O'Dwyer, of this city, and was reported in THE MEDICAL RECORD of June 5, 1886, more than five months before Dr. Loreta operated on the case above referred to. The patient was referred to Dr. O'Dwyer for the purpose of removing the vocal cords on account of bilateral paralysis of the abductor muscles. She had worn a tracheal cannula for two years. Examination showed almost complete occlusion of the larynx from syphilitic adhesions, and the operator enlarged the tracheal opening, broke up the adhesions thoroughly, by inserting a pair of dressing-forceps and withdrawing them open, and then inserted a tube. We understand that he subsequently removed a portion of each cord, as there was shown to be complete paralysis of the abductors, as well as stenosis.

We do not assert that this was the first instance of rapid divulsion of the vocal cords, for others may have performed the operation many times. But certainly Dr. O'Dwyer's case antedates that of Dr. Loreta, and we feel justified, therefore, at least as far as these two instances are concerned, of claiming for America the credit of priority over Italy in the operation of rapid divulsion of the vocal cords for the cure of laryngostenosis.

THE MICROCOCCUS OF TUMORS.

THE belief that some forms of tumors are caused by micro-organisms has long seemed very plausible, and diligent efforts have been make to discover these. So far, however, among tumors, only the fungus growth known as actinomycosis, a growth presenting some of the clinical appearances of a maligant tumor, has been discovered to be caused by a parasite.

Dr. Luigi Manfredi, while working in the Laboratory of Cantani, at Naples, discovered quite recently a minute organism which possessed extraordinarily specific and virulent properties. It was obtained from the sputum in two cases of pneumonia, each being a sequel of measles, and running a rapid and highly maligant course. The pneumococcus of Friedländer was observed in each case also. The new organism is oval in form, often appears as a diplococcus, and is about 0.5 mm. in diameter. It has a characteristic method of growth, which is described by Manfredi in his original article (*Fortschritt der Med.*, No. 22, 1886).

A large number of inoculation experiments with pure cultures were made upon dogs, rabbits, guinea-pigs, mice, and birds. With the exception of the last named, which seem to die from blood-poisoning, Manfredi found that the micrococcus uniformly caused one and the same pathological condition. This consisted of the deposit of gray, or grayish-yellow, nodules in the parenchyma of organs, especially of the spleen and lymph glands. The lungs showed in addition the characteristic marks of a more or less intense pneumonia. The nodular masses belong to the type of the granulomata, or infectious granulation tumors. They consist of masses of newly formed cells without blood-vessels, and they begin gradually to become cheesy, to soften in the centre.

The infective granulomata include tubercle, lupus, syphilis, glanders and farcy, leprosy, and actinomycosis. The parasite described by Manfredi produces pathological changes somewhat similar to those of the diseases of the class mentioned.

THE MEDICAL STANDARD is the name of a new medical monthly recently started in Chicago, and published by G. P. Engelhard & Co. It is edited anonymously and with considerable pungency. Regarding the recent interest developed in hepatic surgery, it says: "It is a singular illustration of the influence of cliques on medical science that when the very principles on which the present surgical practices are based were first enunciated by Dr. W. A. Hammond (*Virginia Medical Journal*, October, 1879), they were, although supported by the authority of Dr. Marion-Sims, denounced and ridiculed. Dr. Hammond claimed: That hepatic abscess was much more frequent than was generally suspected, and often passed unnoticed, the symptoms being ascribed to other co-existing diseases; also, that the operation of aspiration was unattended by any danger, and it alone often produced good results on the hepatic and cerebral affection giving rise to the symptoms; that hepatic abscess and other hepatic affections were often of a trophic nature and of cerebral origin.

MILK IS NOT A GOOD THING TO GIVE IN DIABETES.—This seems to be the prevailing medical opinion just now.

News of the Week.

DEATH OF DR. FENNER HARRIS PECKHAM, OF PROVIDENCE, R. I.—Dr. Fenner Harris Peckham, one of the oldest and best known physicians of Providence, died Thursday of chronic Bright's disease, from which he had suffered for nine years. He was born in Killingly, Conn., January 27, 1820, his father being an able and noted physician of extensive practice. After graduating at Yale Medical College in 1842 Dr. Peckham began his medical practice at Killingly Hill (now Putnam Heights) and removed to Providence in 1852. He was twice chosen president of the Rhode Island Medical Society. He has contributed to literature several valuable addresses and monographs on special subjects, chiefly, however, in the department of medical research. During the civil war he served with distinction as a surgeon, first with Rhode Island regiments, and afterward as surgeon of the board of enrolment of the second Rhode Island district. He leaves a wife and six children. Dr. F. H. Peckham, Jr., to whom in 1878 he relinquished the more arduous duties of his profession, was his only son.

NEW HOSPITAL BUILDINGS ON RANDALL'S ISLAND.—The Commissioners of Charities have secured an appropriation of $25,000, and a new pavilion hospital will be erected this summer.

THE DISTINGUISHED ITALIAN OPHTHALMOLOGIST, PROFESSOR MAGUI, died at San Remo on February 2d. He was not only a doctor, however, but a senator and a party leader.

A DIPLOMA MILL IN MAINE.—The *Boston Herald*, of February 11th, contains an account of the manner in which one of its reporters obtained a degree of M.D., from the "Druidic University of America, State of Maine Branch." The "University" is situated in the city of Lewiston, Me., and occupies a two and a half story wooden building, which is ornamented with the sign of "Dr. Samuel York, Druidic Physician." The reporter represented himself as a young man who wished to settle in the city of Mexico, and there practise medicine in all its branches. With many assurances that the college did not sell its diplomas, the proprietor exchanged a matriculation ticket and a most elaborate diploma for a small amount of money, which was said to cover cost of printing and other expenses. The aspirant was also put through some very farcical examinations, and given some equally absurd instruction, the whole transaction covering some six hours' time within three different days. The *Boston Medical and Surgical Journal* says that the Maine Legislature is taking steps to repeal the charter of the Druidic University.

MEDICINE IN SOUTHERN CALIFORNIA.—A correspondent writes us that San Diego, and perhaps some other places in Southern California, are hot-beds for homœopaths, eclectics, and irregular regulars, *i.e.*, "regulars" who advertise as electricians, etc. We learn that a county society has been organized and an attempt made to collect into it the best elements of the profession. We wish it success.

Insane Asylums and Politics.—The House Committee investigating the management of the Indiana Insane Asylum has proved by several of the attendants that there was maggoty butter in the asylum in July, as charged, when sixty pounds of it were thrown into the sewer just before the committee visited the institution, and that such butter was on the tables in October last. It was also proved by a witness that a drove of hogs was received at the asylum, said to be from Dr. Harrison, the President of the Board of Trustees, which as soon as he saw he found were suffering from cholera; that some of them died from that disease, and that the witness killed hogs for the tables from the pen in which some of the animals were lying dead. These were the charges made by the Civil Service Reform Association.

Removal of the Ovaries for the Cure of Epilepsy.—Dr. J. Schramm reports two cases in which he has removed the healthy ovaries for the relief of epilepsy. Both cases were cured—at least, no fits have occurred since the operation, over a year ago.

The Medical Department of the Army.—The U. S. Senate and House have passed the bill establishing the order of promotion in this branch of the service. The measure provides that assistant surgeons of the army who have served twenty years shall be appointed to the office of surgeon, with the rank of Major, to date from the completion of such service. The service is to be estimated, as is now done in computing service for longevity pay, except that service under present commissions is to be counted from the date of the commissions. No assistant surgeon, however, can be promoted under the act until he has been examined and found qualified for promotion by an examining board. The bill also provides that the whole number of officers in the medical department shall not be increased under its terms.

The Emigration of White Blood-cells.—Dr. T. Wharton Jones, to whom belongs the honor of first discovering the amœboid movements of the white blood-cell, asserts most positively that it does not wander from the blood-vessels, as Cohnheim claimed. We do not find, however, that Dr. Jones brings forward any evidence to offset the observations of Cohnheim.

An Epidemic of Small-pox is threatening Australia, more particularly New South Wales.

Castration and Spaying.—The term castration has been incorrectly applied to the removal of the ovaries. The term "spaying" is objectionable to the spayers, as conveying in too plain English the significance of the term to the spayee. "Spaying" is very good English, however, and will answer the purpose quite as well as oöphorectomy.

A Medical College for Women is to be established in Cincinnati. Our country is already tolerably rich in these institutions, which, however, are not particularly rich in themselves.

The Death of Professor Johann Rudolph Ranke, of the University of Groningen, is announced. For the last eighteen months he had suffered from the effects of blood-poisoning, which had caused him continual severe pain; but he stuck most heroically to his work to the last, teaching from his bed students who were about to present themselves for examination, and, on days when he was somewhat better, going in a bath-chair to the university or hospital. Only three days before his death he performed an important operation.

Politics and the Indiana State Board of Health—The pernicious influence of partisan politics upon the conduct of State medical institutions, health boards, etc. is illustrated apparently in Indiana. The *Fort Wayne Journal of the Medical Sciences* says: "We learn that some amendments to the law under which our State Board of Health is organized have been recommended to the Legislature, and we sincerely hope that they may be passed. One provision is that the State Board shall be consulted in the appointment of County Secretaries, or rather County Health Officers. This is a very important amendment, and should be passed at once. As the law now is the County Commissioners appoint the County Health Officers, and they generally appoint some one who can render them the best and the most valuable service at the next election, and not as to his ability as a sanitarian or qualifications as a health officer. The Health Officers generally appointed are third-rate ward politicians.

Deaths of Prominent European Physicians.—To the announcement of the death of Professor Carl Schroeder, made last week, we regret to have to add that of the death of Professor T. Gallard, widely known as a gynecologist, and of Dr. Raige-Delorme, a prominent physician, medical journalist, and editor.

The "Practice Limited" Rule.—"One of the most absurd of the decisions of the Judicial Council of the A. M. A. is the practice limited pronunciamento." So says the *Weekly Medical Review*. We ventured to make a similar criticism some time ago, and are pleased to observe that our judgment has taken its starry way westward—skipping Chicago.

Death of Dr. W. S. Little.—Dr. W. S. Little, the eminent Philadelphia oculist, died at Aiken, S. C., February 18th, after a long illness.

THE REASONS WHY THE LEGISLATURE SHOULD PASS THE NEW MEDICAL BILL FOR THE STATE OF NEW YORK.

The following memorandum has been prepared in behalf of the pending bill to codify the medical penal law (Assembly 129, Senate 45). The opposition this year seems to be led by one eclectic practitioner, who on his own account is sending out postal cards to instrument-makers and others, asking their aid. The eclectics as a body appear to assent to the bill. It can only fail by the apathy of those who have approved it. Every one interested should communicate his views to his Assemblyman and Senator.

Memorandum of Reasons why the Legislature should pass the Bill, entitled "An Act to Regulate the Licensing and Registration of Physicians and Surgeons, and to Codify the Medical Laws of the State of New York;" being Assembly Bill 129, *and Senate Bill* 45.

It is purposed to set out (1) the history of the bill; (2) who favor and who oppose it; (3) its scope as compared with existing law, and (4) the arguments that have been adduced for and against it.

I. History of the Bill.—At present, the highest standard of license to practise medicine in this State is a diploma from a chartered medical school empowered to confer the degree of Doctor of Medicine, and it was held, in a comparatively recent case, that a diploma purchased from the president of such a school was a valid license, although signatures upon it were forged or obtained by that officer's misrepresentation. There are some schools that require earnest work, tested by careful examination of all candidates for their degree, and others that graduate matriculants after merely nominal compliance with the prescribed terms of preparation, while still others are incorporated solely to sell diplomas. As a license, the diploma of the poorest incorporated school is as good as that of the best. In order to mend this evil, an effort has been making for several years to establish a uniform standard of license, by creating a State board of medical examiners. This effort has failed hitherto, because of the impossibility of harmonizing opposing interests in the organization of the proposed Board. The law recognizes, by having incorporated them into separate societies, three classes of practitioners of medicine. These are the regular physicians, as they call themselves, or the old school or allopaths as they are called by the two other classes, who have taken for themselves the names of homœopaths and eclectics. Roughly speaking, there are about 6,000 regular physicians in the State, 1,500 homœopaths, and 600 eclectics. Upon ordinary principles of representation, the regular physicians maintained that each of these classes should be entitled to membership in the proposed board only in proportion to its numbers. The homœpaths and eclectics demanded either several boards (which would imply the very evil to be remedied, a variable standard of qualification) or an equal representation for each class on a single board, arguing that they, under the plan favored by their opponents, would cease to exist as separate schools.

But although the various bills to create examining boards failed, all parties in interest were substantially agreed that the existing penal law should be amended. For this purpose a bill was drafted in 1885 (Assembly Bill No. 820), which being introduced into the assembly by Mr. Van Duzer, on April 22d, passed that body. Introduced by Mr. Robb in the senate (Senate No. 419), it would have passed except for the lateness of the session. In 1886, the experience was reversed; the bill, after careful revision, was introduced by Dr. Craft in the assembly (No. 903), on April 7th, and by Mr. Connelly in the senate (No. 485), on the same day. It passed the senate and failed to reach a vote in the assembly.

The present bill, introduced in assembly by Mr. Hamilton, and in senate by Mr. Connelly, has been specifically approved by the State Societies of both regular and homœopathic practitioners, which are bodies made up of permanent members and delegates from County Societies, representing about fifteen-sixteenths of the whole number of legally qualified physicians of the State. It is understood, also, that at least one eclectic society has approved the bill, and certainly no representative of such a society has appeared to oppose it before the committees having it in charge. It seems, therefore, not unfair to infer that the majority of the eclectics assent to the measure, and it may be reasonably asserted that

II. The friends of the bill are: (1) All physicians desirous of maintaining some standard of professional learning and suppressing charlatanism, and (2) all private citizens who believe that the care of life and health should be entrusted to educated, rather than to ignorant men, and that none should be permitted to attempt the cure of human infirmity who are unfitted by education to write a death certificate, or recognize the presence of a contagious disease.

Its opponents are: (1) All men who honestly believe that the State should not care for the public health, or enact sanitary laws, or inspect steam boilers or provisions, or undertake any similar duty, but no intelligent or consistent argument from this extreme *laissez faire* standpoint has yet been made before any committee; (2) all who sincerely or ostensibly believe in witchcraft, voudoo, occultism, and the various forms under which ignorance, and craft batten on delusion.

III. The Scope of the Act as Compared with Existing Law.—This has been already shown in an article reprinted from The Medical Record of January 8, 1887, and sent to every member of the Legislature. The purpose of the act is (1) the regulation of the licensing and registration of physicians, and (2) that which is above all things desirable in penal legislation, the substitution of one statute for several. The bill is chiefly a codification of existing law, as will appear from the following analysis.

Section 1 forbids a minor or unlicensed person to practise medicine. This is the law now (see Laws of 1880, ch. 513; Penal Code, section 356, and compare Rev. Stat., pt. 1, ch. 14, tit. 7, sections 16, 17, 18, and 20 for the old law).

Section 2 prescribes the qualifications of a licentiate. It makes no change in the law beyond raising the age for beginning study to eighteen from sixteen, and requiring greater particularity in the endorsement of diplomas (see R. S., pt. i., ch. 14, tit. 7, sections 8 to 15, inclusive; Laws 1872, ch. 436; Laws 1880, ch. 513; compare Laws 1836, ch. 532).

Section 3 provides for registration, making no change in the law beyond prescribing forms by which to prevent careless and improper registration of unqualified persons (see Laws 1880, ch. 513).

Section 4 provides for new registration by mail of a registered practitioner removing to a new county. The purpose of the registry law is to have a list of licensed practitioners in every county. At present every registration must be made in person; this change makes the law effective and imposes no hardship on the practitioner (see Hilliard *vs.* State of Texas, Appeals, 69, laying down the same rule as our courts have followed in unreported cases).

Section 5 limits the time in which persons claiming to be licentiates under the law of 1880 and prior acts may register. There are probably few, if any, such persons, as all such practitioners have had already six years in which to register.

Section 6 defines the practice of medicine and forbids the improper assumption of the title Doctor of Medicine. Various instrument-makers having expressed a fear that their business might be included in the terms of the definition, the friends of the bill agreed to strike out the whole of the section except the last sentence, prohibiting the unauthorized use of the title M.D., which will be incorporated in Section 7. This meets the only objection of any force, and leaves the courts to decide in each case whether a defendant, in view of all the facts, has practised medicine, thus preserving the present law without change in this regard (see Smith *vs.* Lane, 24 Hun., 632).

Section 7 enumerates a number of offences, all fraudulent in their nature, that are now scarcely cognizable by the criminal law, viz., perjury in registration, counterfeiting, buying, selling, and altering diplomas, or practising under diplomas forged or bought, falsely personating another practitioner, and practising under an alias, or without registration, or after conviction of felony. The present law only punishes practising without a license. It was intended to punish false swearing or registration, but falls short of so doing by defective phraseology (Laws 1880, ch. 513; Penal Code, section 356).

Section 8 provides civil actions against unlicensed practitioners. The reason for this is twofold. In civil action against an impostor with papers purporting to be diplomas of a foreign university, it may be necessary to issue a commission to take testimony, and this can not be done in a criminal case by the prosecution. Second,

experience shows that merely to deprive an unlicensed practitioner of an action for services only makes him demand fees in advance; therefore an action against him to recover money paid is given to the patient. This is new (compare Rev. St., pt. i., ch. 14, tit. 7, and Laws 1830, ch. 126).

Section 9 exempts from the operation of the statute the persons now exempt and also dentists in their specialty, officers of hospital staffs, and physicians attending individual cases but not regularly practising in a county in which they are not registered.

Section 10 repeals specifically by title every act *in pari materia*, thus avoiding any question that might arise as to repeal by implication, and completely codifying the penal medical laws.

IV. The Arguments For and Against the Act.—Having shown the scope of the measure and that it is substantially a codification, or reduction of several incoherent statutes to one simple act, it only remains to cite and refute the arguments brought against it in committee during the last three years. These are:

1. The bill is unconstitutional and an infringement of personal liberty.

2. It will, if enacted, drive out of practice many persons who, although confessedly ignorant in medical science, have yet occult, mysterious, or even God-given powers whereby they effect cures where the physician's skill has failed.

3. The measure is in the interest of limiting competition by reducing the number of practitioners.

These three misstatements of fact constitute but one argument, to which the simple answer is that:

The bill is not unconstitutional, because (1) it does not infringe human liberty, unless the public school system, the civil service system, and every system requiring educational qualifications of candidates for certain privileges are such infringements, and, therefore (2) it does not prevent any class of persons as a class, unless the ignorant are to be so regarded, from practising medicine or forbid the practice of any system or specialty. In this respect it does not change existing law. (3) It is not to be upheld for one moment on the ground that it will pecuniarily benefit physicians as a class. Physicians approve of it, as lawyers approve of examinations of attorneys before admission to the bar, because it is to the advantage of the reputation of the profession, as well as for the public benefit, that doctors should be educated in medicine.

The true reason of such laws is thus stated by the revisers of the New York Statutes (R. S., 2d ed., vol. iii., p. 526, note to pt. i., ch. 18, tit. 3): "The uniform experience of every civilized country has shown the wisdom and policy of regulating the practice of the healing art *so as to secure the community* against the impositions of ignorance and quackery. The profession of physic and surgery is one of the very few employments which cannot with safety be left by the Government exclusively to individual sagacity and private interest, to determine the qualifications of its practitioners."

In this State the courts have uniformly spoken in the same spirit. Such laws have been always upheld as constitutional from the time of *ex parte* Smith (10 Wendell, 449) to the present moment. The enactment of the law of 1844, which the opponents of this bill would gladly restore, was characterized as the triumph of quackery (Bailey *vs.* Mogg, 4 Denio, 60). Judge Cooley says: "No one has any right to practise law or medicine, except under the regulations the State may prescribe (Cooley on Torts, pp. 289, 290). The Supreme Court of the United States has affirmed the right of a State to regulate the practice of professions (Bradwell *vs.* Illinois, 16 Wall., 142); the courts have so held in Massachusetts (Hewitt *vs.* Chavier, 16 Pick., 353), in West Virginia (State *vs.* Dent, 25 W. Va., 1, an exhaustive opinion), in Minnesota (32 Minn., 324), in Missouri (10 Mo., 591), in Illinois in several cases, and, in short, in every State where the question has been raised. No case can be cited to the contrary.

If the bill forbade the practice of medicine by any class of people, as a class, or otherwise than according to a prescribed system, it might be open to the charge of unconstitutionality, but it does not. The sophistry of its opponents, by which some honest men have been deceived, consists in their false assertion that the act will have such an effect. In fact, however, any person having complied with the present statutory requirements as to study and examination, which it must be remembered this act does not change, may practise as he pleases, and as his honest conviction dictates. He may make his diagnosis by clairvoyance, if he has that gift; he may cure by the rites of voudoo and mumbo-jumbo, by magnetic passes, by Indian medicine methods, or, if he prefer to be a specialist in Chinese practice, by sounding the tom-tom and hewgag till the evil spirit flies with its hands over its ears; and, if he believes himself possessed of greater powers of supplication than his fellow man, there is nothing in the bill to prevent him from praying, so long as his patients consent to be preyed on. He may be liable civilly for malpractice under the common law, on account of such idiosyncrasies, or, perhaps, even criminally for manslaughter; but he will not be liable under this bill as an unlicensed practitioner.

"But," say the opponents of the bill, "it comes all to the same thing, for men who have studied medicine will do none of these things, and the bill discriminates unfairly against the ignorant, *ergo*, it operates against a class."

Here at last is the issue clearly defined. Let it be stated in the words of our adversaries. In 1883 they presented a great petition and memorial to the senate asking the repeal of the law of 1880; they circulated the memorial again last year. It contained this statement, noteworthy in the nineteenth century and a land of public schools:

"This law deprives from practising within this State persons who are gifted with the power 'of healing by the laying on of hands' through the presence and imparting of vital magnetic force and otherwise.

"Some of these powers are natural to the practitioner and cannot be imparted nor increased by, but are more LIKELY TO BE DIMINISHED OR IMPAIRED BY, THE COURSE OF STUDY REQUIRED BY THE MEDICAL COLLEGES."

There is the frank confession of the handful of opponents of a measure, approved by the representatives of over seven thousand intelligent physicians, that their methods are such as no educated physician would adopt. They have made their own issue and cannot escape it. Every one who votes on this bill upon arguments made in committee, must take his stand on the side either of intelligence or of gross ignorance or brazen imposture.

But, finally,

V. If there be any one who is willing to let everybody practise medicine regardless of educational qualification, either because he believes in the efficacious work of the unlicensed, or honestly thinks the State should not interfere in such matters, let him remember that by the striking out, as above noted, of Section 6 from the bill as originally introduced, the law as to unlicensed practice is not changed, except in so far as civil actions are provided for; *and, therefore, if this bill fails the present law will still punish unlicensed practitioners, while those to be benefited by its failure are the felons, forgers, and impostors mentioned in Section 7.*

All of which is respectfully submitted.

W. A. Purrington,
Counsel of the Medical Society of the County of New York.

An effort is being made by the Kings County (N. Y.) Society to place cocaine among the list of poisons.

Reports of Societies.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, February 17, 1887.

A. JACOBI, M.D., PRESIDENT, IN THE CHAIR.

THE PRESIDENT delivered the remaining portion of his inaugural address, in which he dwelt chiefly and at some length on the baneful influence of professional advertising in the newspapers. "What must be prevented is the appearance of reports of striking operations or rare cases which cannot be possibly of interest or a source of instruction to the public at large."

DR. C. L. DANA then read a paper on

SPASTIC ATAXIA, FUNCTIONAL AND ORGANIC, AND THE COMBINED SCLEROSES OF THE SPINAL CORD.

He described a group of symptoms forming a new spinal disorder, and thought that the anatomical basis in typical cases was a sclerosis of the three long-fibre systems of the cord.

The discussion was opened by DR. M. ALLEN STARR, who thought that a thoroughly satisfactory name for the disease described by Mr. Gowers and Dr. Dana must still be looked for. The cases were not all ataxic, nor were they all paraplegic, and the term spastic ataxia was subject to the same criticism which Dr. Dana had entered against the name given by Mr. Gowers.

With regard to the anatomical name, "fascicular sclerosis," the term fascicular should not be accepted, because the lesion was not exclusively fascicular; the sclerosis was rather diffused, and did not involve any particular fasciculus throughout its entire course. In the area of sclerosis there was, as Gowers has said, a very great variety of appearances.

The distinction between locomotor ataxia and combined sclerosis was not a clear one, and the clinical picture of combined sclerosis must be further extended; it was still somewhat hazy, and therefore any contribution toward clearing up the picture was valuable.

DR. G. W. JACOBY said that the remarks made by Dr. Starr had strengthened him in his ideas of this disorder. He did not think that much would be gained from clinical pictures, as from them we were working very much in the dark.

Cases of tabes occurred in which the lateral columns were primarily affected, and the posterior columns secondarily, and *vice versa*, but whether these could be diagnosticated was exceedingly doubtful. It seemed that the majority of the cases of spastic ataxia were really tabes with secondary spastic symptoms, and that the spastic cases with secondary tabetic symptoms were much rarer.

DR. E. C. SEGUIN fully agreed with what Dr. Starr and Dr. Jacoby had said as to the departure in pathological anatomy, in this disease, from the typical fascicular degeneration. In the specimens exhibited by Dr. Dana there were deviations from the typical degeneration of the posterior columns and the pyramidal tracts. It seemed to him that the sections belonging to Dr. Hammond's case presented a sclerosed appearance of nearly two-thirds of the cord, including the lateral columns and a part of the anterior columns.

He then submitted the following epitome of one of his own cases, in which there was a post-mortem examination. A woman, fifty-seven years of age, who had suffered from gastro-intestinal and hepatic derangements for ten or twelve years, first had numbness and awkwardness in both hands in 1879, which was temporary. In the autumn of 1880 she was very well and active, and was much in society. In November she had paræsthesia, and felt as if tangled strings were drawn under her toes. No actual numbness. Found it difficult to raise the feet. Paresis of feet and legs increased, with only slight numbness. Hands and arms normal. In the autumn of 1881 there was a rapid increase of the paresis, and numbness extended to the waist. Walking was slow and difficult; legs stiff in the moving, and disposed to jerk; œdema of the feet and legs in the evening. Within the last two weeks she has frequently lost her legs in bed (anæsthesia), and micturition has been very slow; fingers numb, hands weak and awkward; back painful. Has a constriction band above the waist. No head or eye symptoms. No tenderness of spine. Slight anæsthesia of fingers; they are awkward and feel queer, and are ataxic. Pupils normal; legs paretic. Great increase in reflexes at sole, and at knees; legs somewhat tetanoid; slight sensory symptoms, but no fulgurating pains. Later, more complete paresis; whole body inclined to stiffness; bedsores; œdema of the legs, hands, and face; urine contains a slight quantity of albumen, but no casts; death. Examination of the spinal cord showed sclerosis of the lateral columns extending to the extreme lateral parts of the cord with degeneration changes, and rather irregular in distribution at different levels. The ascending cerebellar fasciculus was affected in some sections, but not in others.

The case apparently belonged to Dr. Dana's second group of spastic paralysis plus sensory symptoms.

DR. W. R. BIRDSALL thought that in attempting to classify many of these cases, while we might be able to separate them, we were able to find a certain number which resembled each other so much that a great many subdivisions could be made, and it becomes questionable whether they were not subdivisions which resulted from various degrees rather than from distinctive types of disease. There was, perhaps, a tendency to attempt to group these cases into distinct diseases, whereas they simply represented variations in type of a general condition, that may affect one column or one particular tract and produce certain symptoms in some cases, while in other cases the disease invades other areas to a little greater extent at different levels transversely in the cord. The symptoms resulting from these variations may be quite marked, and still be due to a process which will hardly bear separation. Gowers, in his attempt to separate the cases of chronic cord trouble, had used the term ataxic paraplegia in distinction from spastic paraplegia, making this difference, that in the spastic paraplegia there were exaggerated reflexes, absence of sensory disturbances, and absence of ataxia; whereas, in ataxic paraplegia there was the same group of symptoms, with the addition of ataxia, and the sensory disturbances do not bear a prominent portion. In most cases of combined sclerosis, sensory disturbances are quite common, as in Dr. Dana's cases, and Gowers has taken pains to explain why certain symptoms are absent, etc. But in making the classification from a clinical standpoint, we cannot attach it to any particular type of fascicular degeneration, as it has been shown that these cases exhibit varying changes in the cord at different levels. There could be no question of the advantages in closely grouping these cases from the standpoint of comparison, but it seemed to him, however, that neurology had made sufficient advancement to prevent making too exact typical forms of disease to fit symptoms into. He made these remarks without reference to the paper of the evening or the remarks that had been made in the discussion.

DR. STARR said he should not be willing to have it understood that he indorsed the diagnosis of combined sclerosis in the specimens from Dr. Hammond's case.

DR. N. E. BRILL said he could not take the ground that there was a general disease which we call sclerosis, and then out of this attempt to make a special group of cases, where this general disease involved special systems. Given a general pathological process, such as sclerosis, it was well known that certain tracts were more vulnerable than others, of which the chief example was the posterior columns. But the process involved other tracts, although how it did so was not known. His idea

of the cases presented by Dr. Dana was that they belonged to a special group of sclerotic cases, and that they involved special classes of nerve-cells and fibre systems in the cord.

The President said he could imagine that sclerotic troubles were propagated along the line of blood-vessels. Not many years ago an anatomist published a pamphlet on the smallest blood-vessels of the spinal cord, and illustrated what was proved by injection, that there were much smaller and more extensive and delicate vessels than had been laid down in text-books up to that time. These observations had proved that there exists a very intense vascular communication between the fasciculi, and if that be so, he could well imagine that a diffuse inflammatory process would spread along the line of the smallest blood-vessels and the interstitial tissue, binding them together. That would explain why the forms of spinal-cord disease were so much mixed.

Dr. Dana accepted the criticism of the name made by Dr. Starr. With regard to the pathology of the disease, he had not endeavored to lay down anything very positive concerning it. With regard to the disease being a combined fascicular sclerosis, he would mention that Strümpell had reported another case in which he says that this disease or spastic ataxia has typical post-mortem showings, which Dr. Dana referred, in the main, to these three columns. Strümpell insists most strongly that it is a primary typical form of disease. While that might be true, Dr. Dana's view was that they were liable to extend into other parts.

As to some of the cases referred to, they could not be discussed without bringing in their individual peculiarities, and with regard to progress of the disease from one strand to another, Dejerine had published a case in which he thinks the changes have taken place by means of lepto-meningitis. Dr. Dana, however, thought that all writers agreed that this was not the way in which they were transferred. It seemed to be rather a primary change in these strands, or else it started from a rather diffuse myelitis, and was to some extent secondary. As to Dr. Hammond's case, which gave the symptoms of spastic paraplegia, it showed that some of these cases have a different pathological anatomy. With reference to the pathological findings, while they were as Dr. Starr had said, it seemed to him that there was sclerosis in the lateral columns, and that was also the opinion of Dr. Spitzka, who had seen the sections.

AN AMENDMENT TO THE BY-LAWS

was adopted which abolishes the privilege of commuting for annual dues.

The Academy then adjourned.

THE PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, February 4, 1887.

George F. Shrady, M.D., President, in the Chair.

Dr. Beverley Robinson read a paper (see p. 230) on

HEART-STRAIN AND WEAK HEART.

Dr. W. M. Carpenter was invited to open the discussion, and he remarked that he had never been able to entirely convince himself that the so-called "irritable heart" referred to by Dr. Robinson and described by DaCosta was a very frequent primary disorder. The relation between the centre of the circulatory apparatus and all other parts of the body was so intimate and constant that an exceedingly large percentage of functional disorders of the heart could be traced to external causes.

The carefully observed cases reported by Dr. Robinson, however, would lead to the conclusion that there is a certain percentage of cases in which what had been called irritable heart, or heart-strain, or weak heart, existed as a primary disorder. When, however, affections of the hepatic, gastro-intestinal, genito-urinary, pulmonary, and nervous systems were excluded, together with the affections belonging to the group of organic diseases of the heart, the number of cases could not be very large.

Dr. C. L. Dana had been very much interested in the paper, because attention had been directed to the possibility of the existence of muscular defect in some cases which are frequently, perhaps commonly, regarded as nervous disturbance of the heart, and the patients are told that they will get well. Still, it had been observed that in some of these cases digitalis had been taken with marked benefit. He was in some doubt, however, as to the extent to which we could speak of a weak heart, referring only to the muscular structure, and he was somewhat inclined to side with the view advanced by Dr. Carpenter. It seemed to him that the heart could not be regarded as a muscular organ alone, nor should its pathology be studied alone. For it is the end of certain sets of nerves, and in other parts of the body the pathology and physiology of the two go together, almost as much as do the fundus of the eye and the entire tract of the optic nerve.

Probably in most of the so-called cases of weak heart the trouble is nervous, and not muscular, and the therapeutics rather sustain that view. In addition, it has been found of late that there are actual changes in the cardiac nerves which produce symptoms resembling those said to belong to heart-strain. For example, in multiple neuritis there is almost always great dyspnœa and rapid heart action, with a pulse from ninety to one hundred without fever. In these cases also there is præcordial distress, and examination has revealed actual lesions of the pneumogastric nerve. Again, in cases of locomotor ataxy there are cardiac crises in which occur symptoms very similar to those said to be dependent on a weak heart without organic disease, and autopsy has revealed, here also, lesions of the pneumogastric nucleus and of the nerve. These cases show that diseases belonging to the nervous system are capable of producing lesions of the cardiac nerves.

Again, the author of the paper had reported one case which followed Chagres fever. It was well known that it was not rare for neuritis to follow such fevers, and it was not improbable that there were changes of that kind in the case cited.

At the last meeting of the Society he referred to the fact that Semmola had discovered changes in the cardiac nerves, and to the affection he had given the name "cardiac ataxia," occurring in persons who had been subject to severe strain for some time. Another confirmation was the fact that these cases occur very infrequently among laboring people, unless there are evidences of syphilis or arterial disease.

He would say, therefore, that severe physical labor alone does not cause heart weakness.

There was another interesting point to which he would refer, and it was that asynchronous beating of the heart was mentioned as one of the symptoms of heart-strain, or weak heart. Cases of that kind had been reported, but he had often wondered if any such thing did actually occur. It seemed to him it was extremely improbable that the ventricles should contract at unequal intervals. Experimentally, he did not recollect having seen the ventricles contract asynchronously.

Dr. J. B. Hunter had been impressed by the clinical fact that many persons suffered from cardiac symptoms without appreciable organic lesion, and he had also been impressed by the fact that these patients were, many of them, capable of performing a great amount of mental and physical labor. He recalled the case of a woman who died recently, who had suffered from marked cardiac disturbance during the last fifty years, but had conducted a large female seminary, and finally died of pneumonia.

He had had, in two cases, very marked cardiac symp-

toms in persons otherwise in perfect health, apparently. There was no evidence whatever of organic cardiac disease, and the cases had interested him very much with regard to the difficulty of making a prognosis. At all events, the condition of irritable heart, so called, according to his observation, was not incompatible with the performance of a large amount of work. At one time he hesitated with reference to administering ether to these patients, but had subsequently learned that they take anæsthetics without inconvenience, thus giving support to the probable explanation given by Dr. Dana, that there is a nervous lesion apart from the cardiac disorder.

Dr. Robinson, in closing the discussion, said that in the study of his cases he had very carefully eliminated the sources of error to which attention had been directed in the discussion, and, as a matter of fact, had been surprised to find that he had so many cases recorded which could not be explained by secondary causes.

With regard to the point made by Dr. Dana, he had no doubt that in many instances it was correct, and the correctness of the view was sustained by the cases cited by Dr. Hunter. At the same time, he believed that his paper would prove useful in directing attention to these peculiar cardiac cases, and enable us the better to separate and treat them.

The Society then adjourned.

NEW YORK PATHOLOGICAL SOCIETY.

Anniversary Meeting, January 12, 1887.

T. Mitchell Prudden, M.D., Vice-President, in the Chair.

REPORT OF THE COMMITTEE ON MICROSCOPY.

Dr. L. Waldstein reported that the specimen of *multiple abscess* of the lung with high temperature presented by Dr. Holt showed the changes belonging to acute rapidly progressing interstitial pneumonia, with degeneration and formation of abscesses. No tubercle bacilli were found.

Dr. G. C. Freeborn reported that the tumor removed from the roof of the mouth by Dr. Robert Newmann was a simple fibroma.

Dr. W. P. Northrup presented a lung removed from the body of a child three years of age that died of

PNEUMONIA FOLLOWING MEASLES.

The special feature of interest was the infiltration of the bronchi showing the bronchial tree. The pneumonia was mostly in the posterior portion of the lower lobe, slight in the upper lobe, and it was very acute.

Dr. W. H. Porter presented two lungs that illustrated

THE PECULIAR APPEARANCES OF PULMONARY SYPHILIS.

In the first case the patient entered the hospital in a semi-comatose condition, and died soon afterward. There were six or eight small nodules in the apex, and there were gummata in the pia-mata and the liver. He had been unable to find tubercle bacilli in the specimen, but had found the bacillus of Lüstgarten.

In the second case the man entered the Presbyterian Hospital suffering from acute pleurisy, from which he recovered. He died while undergoing an operation for hemorrhoids. One lung was found riddled with small cavities, while the other lung was unaffected.

With reference to microscopical examination of the lung-tissue in these cases, Dr. Porter had been unable to find Lüstgarten's bacillus except in the centre of the small nodules. He had never found it in either the bronchial secretion or in the cavities which had begun to discharge their contents.

Dr. Porter exhibited microscopic slides that showed the bacillus of syphilis.

Dr. L. Emmett Holt presented the lungs of a child eight months old that died of

PERSISTENT BRONCHO-PNEUMONIA.

The pneumonia was primary, and its only special feature was its duration. The amount of disease was considerable. The right upper lobe was completely solid, and seemed to be made up largely of connective tissue. At the extreme apex were four or five small abscesses. There was also infiltration of the bronchi and dilatation with cavities.

TYPHOID FEVER SIMULATING CEREBRO-SPINAL MENINGITIS.

Dr. R. W. Amidon presented specimens accompanied by remarks on the differential diagnosis between certain atypical cases of typhoid fever and cerebro-spinal meningitis.

The specimens were from the body of a woman, aged thirty, who was a patient of Dr. A. F. Currier. About November 19th she began to suffer from pain in temples and occiput, worse in the latter region, and much pain and stiffness in the back of the neck. She had some chills, and thought she had caught a severe cold. She was first seen by Dr. Currier November 26th, when all these symptoms were aggravated. Her temperature was 103.8° F., pulse 100, and she had *no* abdominal symptoms whatever. The nervous symptoms continued, and the temperature ran a peculiar course, there being a remission on the morning of December 6th. Some antifibrine was then being given, but not enough to explain the low temperature. Dr. Amidon saw the patient in consultation once only, December 8th, on the eighteenth day of the disease. Then, at 8 P.M., the temperature was 103.6° F., pulse, 90. The patient was not in a typhoid condition. She complained only of occiput headache, and pain and stiffness in the back of the neck, general sensitiveness, and twitching of the extremities. On examination, he found her to have marked photophobia, a very stiff neck, which was very sensitive to the touch, as was the occiput and spine, and there was marked general hyperæsthesia. There was no ileo-cæcal gurgling, nor was the abdomen more sensitive than the rest of the body. She had had no eruption, nor diarrhœa, the stools being normal, and assimilation of light food was apparently perfect. The absence of common symptoms of enteric fever, and especially the remission of the temperature, together with the marked prominence of nervous symptoms from the start, led Dr. Amidon to favor a diagnosis of cerebro-spinal meningitis. He gave a bad prognosis, and advised that a close watch be kept for an eruption, and also for enteric symptoms. December 8th, the temperature in the morning was 100.6° F., and at night the same.

December 10th.—With a rise of temperature came a rash which Dr. Currier said was bright and scarlatiniform, and covered *every part* of the body, and lasted several days.

December 21st.—The patient developed an acute bronchitis.

December 26th.—The temperature was normal, and remained so or subnormal *one week*.

January 1st.—She was overfed, and vomited. In the next few days the patient developed indubitable symptoms of septicæmia, with a very irregular temperature (higher in the morning) and frequent chills. These symptoms subsided, and on January 10th Dr. Currier considered the patient again convalescent.

January 11th.—She died suddenly of an immense intestinal hemorrhage in the eighth week of her illness. On autopsy the spleen was found to be about four times its usual size, dark and friable. The ileum and colon were nearly full of dark fluid blood. The ileum was the seat of many entirely healed Peyerian ulcers, and many unhealed ones, from one of which, about eighty centimetres from the valve, the fatal hemorrhage had occurred.

The cæcum and the ascending and transverse colon were the seat of small, round, elevated ulcers, many of them covered with grayish protruding sloughs, which evidently consisted of necrosed solitary follicles and the superjacent mucous membrane. The peritoneum covering the large ulcers in the ileum was covered by an organized fibrinous exudation having a punctate appearance.

Dr. Van Santvoord had, in two cases, met with septicæmia associated with symptoms that pointed toward cerebro-spinal meningitis. The first was a case of surgical kidney following an operation on a urethral stricture, and in the second the source of the septicæmia was an abscess of the hip-joint that had not opened externally.

Dr. L. Waldstein could scarcely recall a case, in all the post-mortem examinations he had witnessed in Europe, in which the intestinal lesions of typhoid fever were so marked in the colon as he had been accustomed to see them in New York during the last three or four years. During these three or four years he had hardly seen a post-mortem examination after typhoid which did not show that the colon was more or less involved; in many cases the lesions were almost entirely in the colon, and in the neighborhood of the ileo-cæcal valve in the ileum. He had often asked himself the question, Why this difference in appearance? and he would ask those who had had more experience in the treatment of the disease than he had if the use of drugs here which were not used in typhoid fever abroad might not be the cause. He had thought it possible that this colo-typhoid might be auto-infectious, and thus the poison be carried into the colon. Perhaps the antiseptic method of treatment employed extensively abroad might explain the rarity of the lesions in the colon—that is, the calomel treatment in the incipiency of the disease.

Dr. J. C. Peters said that he saw typhoid fever with Schoenlein in Berlin, and attended post-mortem examinations with Rokitansky, where he saw the typical morbid appearances of the intestines, in which the ileum was largely involved and the colon but little or none at all. In the early history of typhoid fever, in New York, the same appearances were seen, and it was only quite recently that the involvement of the large intestine had been observed.

Dr. Amidon said Dr. Peabody had mentioned to him that he had never seen a case in which the existence of cerebro-spinal meningitis was suspected and the autopsy revealed typhoid fever, but that he had made a post-mortem in a case in which typhoid fever was diagnosticated, and it was found that the patient died of cerebro-spinal meningitis.

Dr. Wesley M. Carpenter spoke of a group of cases of typhoid fever which he saw several years ago, and in which cerebro-spinal symptoms predominated; in some cases throughout, but in most for ten or twelve days at the outset, and from that time on the symptoms were those of typhoid fever as ordinarily seen. The most marked case was that of a woman whose symptoms were so obscure, but so markedly cerebral, that the diagnosis was "an obscure manifestation of some inflammatory disease of the brain or its membranes." The case terminated fatally. A neighbor's wife, who was with and waited upon the patient a considerable part of the time, especially at night, was taken sick with unmistakable typhoid fever, and died of hemorrhage of the bowels. All the other patients recovered. The severity of the cerebro-spinal symptoms was greatest at the beginning of the season of the appearance of the fever, and diminished as the season advanced.

The Society then went into executive session.

The college clinics are prosperous, the hospitals are full, clinical material is abundant, and the young practitioner waits in vain for patients.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

MR. SUTTON'S RESEARCHES IN COMPARATIVE PATHOLOGY —TUBERCULAR DISEASE OF THE SKULL—TWO CASES OF RECOVERY FROM RUPTURE OF THE BLADDER—A CASE OF SCURVY.

London, February 5, 1887.

At the Pathological Society, on Tuesday last, Mr. J. B Sutton read a paper embodying an account of some further researches which he had made in comparative pathology. Mr. Sutton has now been working for some years in this field. In the present paper he dealt with diseases of the genito-urinary organs in animals. A specimen was shown of the kidney of a sloth with two calculi of oxalate of lime in its pelvis. The animal had lived in the Zoological Gardens for twelve years. Mr. Sutton remarked that renal calculi were excessively rare in wild animals, but not uncommon in domesticated ones. A case of distension of the vaginal, cervical, and uterine cavities of a hog-deer was described. A uterus from an agouti was shown in which some pieces of placenta and fœtal membranes had been retained; suppurative endometritis had ensued, and an ovarian abscess had formed and caused a fatal attack of peritonitis by bursting into the peritoneum. Another interesting specimen shown was that of the uterus of a baboon with the viscera *in situ*, the uterus being in a state of acute retroflexion. In reply to a question from Sir James Paget, Mr. Sutton said the first year at the Zoological Gardens settled the question whether an animal would become diseased or whether it would become acclimatized.

A specimen which evoked considerable interest was one shown by Mr. Bilton Pollard. It was taken from a female child who had died at the age of sixteen months, and consisted of the vault of the skull. In this were four perforations which Mr. Pollard believed to be due to tubercular disease of the bone. The child was first seen when ten months old. There were then four chronic abscesses on the skull. These were scraped out. The smallest one healed, but the others remained fistulous. A fifth one formed and ran a similar course. Four months later, sequestræ, involving the whole thickness of the skull, were removed. Three of the abscesses then healed, but the child wasted and died in two months. Patches of caseous tubercle were found in the lungs and the bronchial glands were caseous. The skull showed four perforations, but in three of these the borders were smooth and healthy. Along the upper border of the other perforation (one in the occipital bone) there were still signs of disease present. Mr. Pollard said he had examined some of the granulation tissue and one of the pieces of bone which had come away. They showed the structure of tubercle on microscopical examination, but he had failed to find any bacilli. There were no signs of syphilis in the skull. Volkmann had described similar cases of tubercular disease of the skull causing perforation. Mr. Barling remarked that he had seen a similar specimen in a child. Several speakers made remarks on the subject, and the rarity of the specimen was recognized generally. Mr. Pollard, in replying, remarked that Volkmann had collected eleven cases of tubercular disease of the skull. In some of these, caries, rather than necrosis, was the chief feature. In his own specimen, the diseased bone appears to have been previously infiltrated with tubercular material and then periostitis, ending in necrosis, had occurred.

Sir William MacCormac has lately had under his care at St. Thomas' Hospital two cases of rupture of the bladder ending in recovery. Curiously enough, the cases occurred within a month of each other, the patients being admitted on successive taking-in days. In neither were

the symptoms at first very well marked. In one they were so slight that the house-surgeon, who first saw the patient, sent him home, and he only returned to the hospital on the symptoms becoming aggravated. The other patient walked to the hospital immediately after the accident—a distance of about a mile. In both cases Sir William MacCormac performed a very similar operation. The abdomen was opened, the rent in the bladder closed by sutures, and the abdominal wound then closed. The opening in the bladder was about four inches in length in one case—two inches in the other. Both the patients were males. Antiseptic precautions were employed throughout, and the cavity freely irrigated with antiseptic solution, before closing the abdominal wound. Both patients recovered without the occurrence of a single bad symptom or any noteworthy rise of temperature. The cases are shortly to be brought before one of the London societies. No case of intra-peritoneal rupture of the bladder has, I believe, previously been placed on record in this country. In Mr. Rivington's monograph on the subject he refers to eight reported cases of recovery after intra-peritoneal rupture. Seven of these, however, he thinks not sufficiently established. The solitary exception is a case recorded by Dr. Walter in the Philadelphia *Medical and Surgical Reporter* for 1862.

A seaman has recently died at Greenwich from scurvy. He embarked at Calcutta for England in August last, and became affected with scurvy on the voyage, the dietary on board ship not being sufficiently varied. He was taken to the Seamen's Hospital at Greenwich on landing, but expired from syncope on reaching the hospital. Another seaman was also affected, but less severely, and he recovered.

"REPORT OF A CASE OF TYPHOID FEVER IN WHICH ANTIFEBRIN WAS USED SUCCESSFULLY AS AN ANTIPYRETIC AGENT."

To the Editor of The Medical Record.

Sir: The Medical Record of January 29, 1887, contains a letter from Dr. N. E. Jones regarding my article published in that journal of January 1, 1887, bearing the above title. The doctor's plea for the use of your columns is a desire to find out more about the treatment of typhoid fever in New York. He at once, however, launches into the field of bold and undignified assertions, implying that the death of the patient was due to the drug employed. Everything in the way of *bona fide* criticism, which is always desirable and to which no one can reasonably object, is wanting in your correspondent's communication. His reasoning is *post hoc ergo propter hoc.*

The careful observations made and recorded, such as noting the exact influence of the remedy upon the heart, respiration, and temperature after the administration of each dose, the cautious methods adopted in using the minimum quantity to get a certain effect, stopping the administration of the drug at the first indication that there was a tendency to a natural morning remission of the temperature, the death of the patient from *intestinal perforation five days after the remedy had been discontinued*—all these your correspondent passes unnoticed, unmet by any attempt at rational criticism. He will doubtless not deny that typhoid patients may die from intestinal perforation who have not taken antifebrin.

In taking exception to our attempt to control a temperature which was continuous without a morning remission, the doctor asks, "Does anyone know that it is the temperature that destroys the patient? In early days it was not considered true science to prescribe for some prominent symptom, and give no attention to the pathological condition of the suffering organs."

Our close attention to the pathological condition of the suffering organs was the reason for our attempt to control the temperature. Let your correspondent recall the state of the vital organs in two patients who have died from typhoid fever—one where high temperature had predominated, the other where high temperature had not been a prominent symptom. If such an opportunity has not presented itself, let him seize the first, and note the flabby character of the heart, liver, and kidneys of the one and the comparative firmness of these organs in the other. Let him go further, and make section of these organs in their recent state, and carry them to his microscope and note the differences in the parenchyma which open to his view.

This is no time or place to discuss the value of antipyretic agents. Carefully made statistics would seem to leave their value unquestioned. Liebermeister, Gutman, Ebstein, Griesinger, Leibnitz, all who have had excellent opportunities to judge, voice their sentiments, backed by well-collected statistics, in no doubtful tone regarding the efficacy of antipyretic measures.

I pass the query, "Does anyone suppose a rise of the temperature-point necessarily implies an increase of the production of heat?"

The imputation that a desire to advertise a new remedy prompted the article is false. Conservatism in the employment of new drugs and innovations in medicine is wise, but were all as conservative as your correspondent would appear, there would be no progress, and we would still be struggling with the superstition and ignorance of the middle ages. The intention is not to argue for the reckless employment of new remedies; such was not the spirit which prompted the use of antifebrin. The condition of our patient seemed to demand a certain kind of treatment. Antipyrin was rejected because it had not acted well in our hands, and antifebrin was offered to the profession backed by an excellent showing of results. The effect, in our judgment, was more than satisfactory. In the same number of The Medical Record which contains your correspondent's letter, Dr. J. L. R. Wadsworth reports employing it successfully in the treatment of his daughter when the condition of the patient was most unfavorable for any depressant. I have since employed the drug, and thus far have had only good results. Dr. Fordyce Barker tells me he has employed it frequently in four-grain doses with the most flattering effect, and has yet to meet with a bad result. Dr. E. G. Janeway tells me he has employed it in a great many cases in both hospital and private practice, and considers it the safest, most reliable, and certain antipyretic agent we have. No bad results have followed its employment in his hands.

If we are to confine ourselves to the use simply of old drugs and old formulas then is the practice of medicine indeed reduced to empiricism, and progress fatally handicapped. A physician should be able to employ any drug, having in view a distinct idea of why he employs it, and know how to interpret the result. A mariner heads his ship into an undiscovered region, but, if he makes careful observations and is competent to utilize such observations, voyages in safety. The surgeon's knife in skilled hands oftentimes safely explores uncertain regions, and as often surmounts difficulties which could not possibly be foreseen. Strong agents like aconite, strychnine, gelsemium, etc., are only satisfactorily employed when careful observation of the effect is made the basis for their use.

To blindly give a drug from an empirical stand-point is often as unwise as it is unscientific, but caution accompanied by an intelligent interpretation of the effect we are getting should enable us to use the most deadly agent with safety. In this way we tried to employ antifebrin, and published our chart. A review of the latter by your correspondent will convince him, I think, that he has misinterpreted our reckonings and misjudged our calculations.

George R. Elliott, M.D.

A doctor's bowling club has been organized in this city. The members are as skilful with the balls as with the boluses, and many a ten-strike results.

THE DANGER FROM ETHER IN NEPHRITIS.

SUUM CUIQUE TRIBUERE.

To the Editor of The Medical Record.

Sir: If only for the sake of adding to the value of my paper, I should have mentioned in my article on "The Dangers of the Administration of Ether in Nephritis and Bright's Disease," published in your issue of January 29th, the valuable and original contributions to medical science by Dr. Thomas Addis Emmett upon this subject, as well as an important paper by Dr. R. Van Santvoord, published in The Medical Record of March 10, 1883. The paper, by Dr. Wesley M. Carpenter, referred to by me, contains extracts from Dr. Emmett's work of great weight relative to this important matter, and though I have not until to-day read in his book what he has there written, his experiences and opinions as I have met with them from time to time in medical journals are well known to me. I believe it incumbent upon me to add as a supplement to my paper that Dr. Emmett was the first one, so far as I can ascertain, to call the attention of the medical profession to a danger now generally recognized, and that we are all greatly indebted to him for this, as well as to his moral courage in publishing the accounts of the cases which terminated so disastrously.

Henry B. Millard, M.D.

February 14, 1887.

Army News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from February 13 to February 19, 1887.

Smith, Joseph R., Lieutenant-Colonel and Surgeon. Detailed, in addition to his present duties, as President of the Army Medical Board in New York City, N. Y. S. O. 38, A. G. O., February 15, 1887.

Tremaine, W. S., Major and Surgeon. Sick leave still further extended four months, on surgeon's certificate of disability. S. O. 39, A. G. O., February 16, 1887.

McCreery, George, Captain and Assistant Surgeon. Granted leave of absence for one month, with permission to apply for one month's extension. S. O. 35, A. G. O., February 11, 1887.

Taylor, Arthur W., Captain and Assistant Surgeon. Relieved from duty at Camp Medicine, Butte, Wyo. Ter., and ordered for duty at Fort Laramie, Wyo. Ter. S. O. 14, Department of the Platte, February 12, 1887.

Wyeth, M. C., Captain and Assistant Surgeon. Ordered from Fort Wayne, Mich., to Fort Barrancas, Fla. S. O. 39, A. G. O., February 16, 1887.

Morris, Edward R., First Lieutenant and Assistant Surgeon. Leave of absence extended twenty days. S. O. 35, A. G. O., February 11, 1887.

Wakeman, William J., First Lieutenant and Assistant Surgeon. Relieved from duty in Department of the Platte, to take effect on the expiration of his present leave of absence, and ordered for duty at Fort Walla Walla, Wash. Ter. S. O. 36, A. G. O., February 12, 1887.

The Abuse of Medical Charity.—It is stated that a few days since a woman dressed in rags applied at the Boston City Hospital for surgical treatment for a scalp wound. The customary search of her person revealed several bank-books, representing $7,100 in Boston banks, $1,000 in bonds, and about $300 in cash—all hidden about her clothing.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending February 19, 1887:

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	9	3
Scarlet fever	47	7
Cerebro-spinal meningitis	3	2
Measles	364	53
Diphtheria	75	37
Small-pox	13	6
Yellow fever	0	0

The Data of the Chin.—The dignified and old-school Medical Record reproves a "thoughtful contemporary for attempting to establish a philosophic relation between the 'art of medicine' and the fact that a large proportion of the American Medical Association are bald-headed men." It thinks the doctor's beard is "a much more practical problem," is pained to notice that American physicians have a tendency to long beards which, duty prompts it to say, "ought to go"—to go on sanitary and æsthetic grounds, and because long beards are a "characteristic of an undeveloped civilization." All this is severe on the long-bearded M.D.'s, but there is worse a-coming. Hearken to this! "Hardly a doctor of the first eminence in the world's history ever wore a long beard, and he who possesses one may as well concede at once that he will never rise above mediocrity." All the great doctors of old "patronized the barber, and turned the physiological energies that might have been lost in making hair into making brains." What a confusedly crushing and conflicting crowd of ideas these *ex cathedra* enunciations hurl down on the hapless reader! The hygienic question goes glimmering before the great discovery that hair-energy and brain-energy are one. Granting this, it is indisputably true that the doctor who lets his energy go to his chin does so at the expense of his brain. Mark well, ye doctors! subdue your chin-energy, that you may rise above mediocrity! patronize the barber if you aspire to be a shining light! But soft! what lurking heresy is here? The barber cures your chin-energy, and the barber, from far times, has been noted for—chin-energy; *similia similibus curantur*. Interesting as the question is, we cannot pause to discuss whether the closely shaved doctor could be called "hair-brained" or not—probably not, as Shakespeare spells it, "hare-brained." Neither can we now consider that great physiological question that our esteemed contemporary has so suddenly sprung. If not hair, what, then, is that energetic crop that so persistently sprouts on the chin of the doctor who "patronizes the barber" and thereby soars into dazzling professional eminence, *via* the barber-chair? Alas, how The Medical Record has hurled headlong into ruin all the old and accepted data of the chin.—*Hom. Recorder*.

The Central Texas Medical Association held its second quarterly meeting at Waco, Tex., on January 12th. Several new members were elected, an interesting address was delivered by the President, Dr. F. M. Pitts, and a paper on "Typho-malarial Fever," so called, was read by Dr. H. W. Dudley.

Hysterical Speroma Cured by Circumcision.—A correspondent writing from Canada, under the title of "Only a General Practitioner" says: "A young gentleman, aged twenty-one, called on me a few days ago. He prefaced his visit by asking me in a hoarse whisper: 'Are you a general doctor?' Supposing him to mean a general practitioner, I answered in the affirmative. He then stated in the same whisper that he was a victim of

self-abuse, and thought, as such poor devils nearly all think when they get frightened, that he was ruined for life *quoad* virility. I asked him concerning his general health, which he said was perfect, with the exception of this hoarseness. For this, he said, he wished no treatment at my hands, as he was now being treated and had been treated by a specialist for the past few months. The specialist's diagnosis was 'paralysis of vocal cords,' requiring months of further treatment to cure. The treatment was local. Out of curiosity I took him into my dark room and carefully examined his larynx, but could find nothing to confirm our local specialist's diagnosis. As said specialist is also a general practitioner, and specializes eyes, ears, wombs, etc., as well, I may have had my own suspicions from the first—but of this no more. I expressed no opinion to the patient. I then examined his genitalia, and found a long, tight prepuce, with moist, sodden glans, and advised him as a preliminary step to have it removed. He agreed, and next morning I operated. I used ten per cent. solution of cocaine, injecting a few drops in the line of excision. I did this so that he should have the moral benefit of the operation. It was a complete success—so much so, indeed, that I made a mental note in any future operation of a similar character to use cocaine instead of a general anæsthetic. This was my first experience with the drug, except in ligating hæmorrhoid, outside of its ophthalmic use. On visiting my patient a few hours after, I was surprised to find that he had had a copious hemorrhage, which was still in progress, though the wound was quite dry when I had dressed it. But what was more surprising, my patient's vocal paralysis was quite gone, and he spoke as strongly and well as ever. Up to date he has full control of his throat, and sings a very fine tenor. Perhaps you will accept this addenda to our therapeutics and consider it a new remedy for paralysis of the recurrent laryngeal, or you may suggest that throat and genito-urinary specialists should make a combination sometimes."

The Mortality from Childbirth diminishes every year, especially in lying-in hospitals. In the Maternity Hospital at Liége there were delivered, in 1886, 417 cases without a death and with hardly a rise of temperature. Dr. Charles, the director, thinks the result due to the faithful use of corrosive sublimate.

Tinctura Ferri Citro-chloridi (Tincture of Citro-chloride of Iron—Tasteless Tincture of Iron).—

℞. Sol. chloride of iron (U. S. Ph.)..	f ℥	4
Citric acid.....	gr.	2,100
Bicarbonate of sodium.....	gr.	2,270
Alcohol	f ℥	4
Water .....q. s. ad	f ℥	16

Dissolve the citric acid in 4 fluid ounces of water, heat the solution to the boiling-point, and gradually add the bicarbonate of sodium. When effervescence has ceased, add the solution of chloride of iron, and cool the mixture. Then add enough water to make it measure 12 fluid ounces, and finally add the alcohol. Each fluid drachm contains about 7½ grains of dry ferric chloride. Note: This tincture is approximately of the same strength, in metallic iron, as the official tinctura ferri chloridi.—*National Druggist*, September 10, 1886.

Cocaine in Circumcision.—Dr. Kingsley, of San Antonio, Tex., writes that in his communication, appearing in these columns under date of November 13, 1886, he did not intend to claim absolute priority in the use of cocaine in circumcision, but only meant to claim that he had performed the operation nearly a year before Dr. Palmer. His object was more especially to illustrate the complete success of the operation in removing a series of distressing symptoms, more the result of a disordered imagination than of any visible pathological condition. Dr. M. E. Alderson, of Russellville, Ky., states that he performed circumcision under cocaine on January 23, 1885, having used the same anæsthetic in an operation for hæmorrhoids on January 5th of the same year. A short time after this he removed the entire second finger of one hand for a gun-shot injury by which the second metacarpal bone was shattered. One-half grain of cocaine was injected on each side of the metacarpo-phalangeal articulation, and the operation was performed satisfactorily, no other anæsthetic being used.

Reflex Symptoms and their Significance.—The *Pacific Record* gives the following symptoms, with their pathological interpretation. Some of these interpretations, however, must be taken with considerable reservation: Swelling under the eyes, grayish, white, or waxy color of the skin, denotes granular (?) disease of kidney. Swelling of the labia, on one or both sides, will accompany inflammation of kidney. Carbuncles on the shoulders, or scapular region (and forearm), are frequently accompaniments of diabetes. Pain, referred to the meatus urinarius, is sure to be the result of cystitis, prostatitis, or nephritis (?). Pruritus of the anus will be the evidence, sometimes, of disease of the prostate. Pain or numbness in the outer part of the thigh denotes some disturbance of the sexual organs, in both male and female. Sciatic neuralgia often (?) depends, in females, on inflammation of the ovary; in men, irritation of lumbar or sacral nerves. Pain in the heels (in females) may be the only evidence of ovarian abscess, while pain and swelling in the mammæ will evince some trouble in the same side of uterus, or Fallopian tube. That shortness of breath, or asthmatic breathing, may indicate valvular disease, or aneurism of the aorta, is probably as well known as that discoloration of the skin may be due to cirrhosis of the liver, or to disease of the suprarenal capsule. Sharp outlines of the facial muscles, a peculiar, querulous look, surely define a dyspeptic, and are not to be mistaken even as the expression of a temporary pain. A dull, aching pain in the *right* shoulder will arise from congestion of the *right* lobe of the liver, while disturbance in the *left* lobe (?), as well as *gastric ulcer*, will give ache, or pain, in the left. Some heart diseases, notably dilatation of the left ventricle, will give pain in the coracoid process, radiating into the left arm; but this pain will stop at a point half-way to the elbow. *Swollen feet* should warn us of some organic disease of heart, kidney, or liver. Hot feet and hands accompany dyspepsia, while a *red nose* will be an indication of *gastric irritation*, either from indigestion or whiskey. But the appearance of the hands is by far the best evidence we possess for instantaneous diagnosis. Not always to be depended on, it is true, as an entity, but, corroborated by other symptoms, will hardly fail. Dr. Watson first noticed a club-shaped form of the ends of the second and third digits as pathognomic of tuberculosis. Finger-nails, white at the points and purple at the base, *always* accompany the chills of malarial fever. A white appearance of the fingers in contrast with the back of the hand, will denote a very torpid condition of the bowels. A yellow tinge in the palm or under the finger-nails, produced by pressure, will indicate torpidity of liver.

Nervous Depression and the Development of Cancer.—Dr. George H. Rohé, in the Philadelphia *Medical Times*, writes: "It looks very improbable at first sight that new-growths, especially cancer, should be rationably attributable to the influence of nervous depression. However, so acute an observer as Sir James Paget seems to incline to the view that such a relation may possibly exist. Snow states that of one hundred and forty cases of mammary cancer analyzed by him, 'one hundred and three gave an account of previous mental trouble, hard work, or other debilitating agency.' Of one hundred and eighty-seven cases of uterine cancer, nearly one-half (ninety-one) gave a similar history. A number of detailed histories given by this author seem

to bear out the claim that mental depression (neurasthenia) is a frequent cause of cancer. Arndt is positive that neurasthenia is an etiological forerunner of cancer, and relates three illustrative cases. Willard Parker states that 'there are the strongest physiological reasons for believing that great mental depression, particularly grief, induces a predisposition to such a disease as cancer, or becomes an exciting cause under circumstances where the disease had already been acquired.' In over one-fourth of Parker's cases of cancer of the breast (one hundred and six out of three hundred and ninety-seven), nervous depression or conditions directly leading to it are set down as forerunners of the disease. Cooke points out the fact that in women cancer occurs, on an average, ten years earlier than in men, coinciding in the former sex with the menopause, and in the latter with the period of greatest exhaustion of the nervous system. He remarks that 'the women of fifty are very generally more worn and wasted than the men of seventy.' It is between the fiftieth and sixtieth years that neurasthenia from professional overwork is most frequent. The merchant, official, or professional man is reminded that he cannot do the same amount of work at fifty that he could at thirty; in the words of a distinguished Philadelphia teacher of the last generation, 'he cannot get a three-minute pace out of a four-minute horse.' Jonathan Hutchinson says, upon the same point: 'We shall probably be not far from the truth if we admit senility of tissues, local or general, to be the one predisposing cause of cancer with which we are acquainted. . . . A little step further may next be taken, in the belief that everything which hastens senility, either local or general, will increase the predisposing influence, and in this category may be placed anxiety, distress, overwork, and excesses of all kinds. It is highly probable that under such conditions a state involving increased proneness to cancer may be induced, and, further, that if offspring are produced after that state has been developed, they will inherit that tendency.'"

The Indian and Physical Pain.—The general idea that the Indian endures pain stoically is not sustained by the observations of Dr. Corbusier among the Apaches. He says that "they do not endure physical pain any better, if as well, as the whites. Great or continuous pain renders them stupid, and oftentimes delirious, and the stolidity with which Indians in general are credited is not well maintained by them under small surgical operations, the one of tooth-extracting almost always eliciting a groan or a yell. The expression of their faces cannot always be seen on account of paint and their long hair, but when not concealed by these, the changes induced by the emotions may readily be detected; anger is almost always betrayed by the expression of the eyes; fear by the dirty grayish color the skin assumes; surprise by suddenly drawing in a breath as if gasping, and sometimes also by covering the mouth with one hand."

Thinking and Working.—In our present system of education—now happily passing away for a better one—we want one man to be always thinking and another to be always working; and we call the one a gentleman and the other an operative; whereas the workman ought often to be thinking and the thinker often to be working, and both should be gentlemen in the best sense. As it is, we make both ungentle, the one envying, the other despising, the other; and the mass of society is made up of morbid unhealthy thinkers and miserable workers. It is only by labor that thought can be made happy; and the professions should be liberal, and there should be less pride felt in peculiarity of employment, and more in the excellence of achievement.—*The Popular Science News.*

The Rattlesnake Treatment for the Relief of Pain.—Dr. William H. Corbusier, in an article on "The Apache-Yumans and Apache-Mojaves" (*American Antiquarian*), says: "The Apache-Mojaves sometimes resort to the Tonto medicine-men to receive the rattlesnake treatment for the relief of pain. At the Agency, one day, the rattling of a snake attracted my attention, and on approaching a group of Indians from which the sound seemed to proceed, I found a medicine-man squatting down holding a large rattlesnake in his right hand, the thumb and index finger of which encircled it close to its head, while he gently stroked its back with his left. Presently an old man advanced to him, and, saying he had a pain in his head, squatted on the ground. The medicine-man arose, and, placing himself behind his patient, coiled the snake around his head, and, while holding it there, uttered a guttural chant, occasionally causing the snake to vibrate its rattles. He then quickly uncoiled the snake and swung it head foremost away from the man's head, at the same time making the sound *wisht*. The man then pointed to his right arm, and the medicine-man laid the snake along the limb, its head resting on the hand. He chanted again, caused it to rattle, and swung it away as before. The old man arose, and with a satisfied air walked away. Other patients succeeded him, to have the snake laid on various parts of the body. After a time the medicine-man rested the snake on the ground again, and, still retaining his hold of it with his right hand, put a pinch of yellow pollen into its mouth with his left, and rubbed some along its belly. He then held his hand out to a man, who took a pinch of the powder and rubbed it on the crown of a boy's head. Yellow pollen treated in this manner is a common remedy for headache, and may frequently be seen on the crown of the head of men and boys."

Ulcers of Stomach in Infantile Tuberculosis.—At a recent meeting of the London Pathological Society, Dr. Barlow showed a specimen of tubercular ulcer in the stomach of a child twenty-one months old, affected with general tuberculosis. It was situate near the cardiac end in the great curvature; had undermined edges, but no thickening around. There were also follicular ulcers at the mid-point of the great curvature, and two near the pylorus. In the first ulcer there was a minute elevation under the mucous membrane, which might have been a miliary tubercle, but had not yet been searched for bacilli. The interest of the case lay in the relation of the small tubercle to the ulcer. Small ulcers of the stomach had been found in adult phthisis. Louis said he had never once seen anything like tubercle in these, and Andral had only once found tubercle of the stomach. Of 146 cases of tuberculosis in children, Barthez and Rilliet found 21 with the stomach affected, and in 7 of these there were miliary tubercles. They had no doubt that the ulcers were caused by tubercle. He had seen two other cases of this kind, but not with miliary tubercle in their base.—*The Lancet*, January 1, 1887.

Mortality in Childbed in Public Institutions in Germany from 1874 to 1883.—Dr. R. Dohm has collected statistics of 104,287 cases of labor in the public institutions in Germany during the ten years named (*Medical Press*). The mortality was 1.37 per cent., or not one-half of what obtained in the pre-antiseptic age, when it was reckoned at 3.4 per cent. The tables also show that the lowest mortality is in the lying-in hospitals in which no teaching work is carried on (0.56 per cent.). The middle grade of mortality is in hospitals in which midwives are trained (1.13 per cent.), while the mortality of institutions to which students are admitted is 1.90 per cent. As is pointed out by the author, however, this may be accounted for by the fact that pathological cases are attracted to these institutions. The truth of this would seem to be borne out by the statistics of the Royal University Women's Klinik, Berlin, tabulated by W. Bokelmann. In that hospital puerperal eclampsia occurred once in every 49 cases (average 1 in 500), placenta prævia 1 in 88 (average 1 in 400 to 500), rupture of the uterus 1 in 195 (against 1 in 527 and 1,722 in Tübingen and Munich, and 1 in 5,664 in the Berlin Charité).

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Original Articles.

ON THE CURE OF REDUCIBLE AND IRREDUCIBLE HERNIAS BY HEATON'S INJECTION METHOD AND BY RADICAL OPERATION.[1]

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Two years before the publication by Dr. George Heaton of his little book on the cure of rupture, etc.,[2] in 1877, I had seen two patients who had been cured by him, by a then unknown method of subcutaneous injection. The satisfactory result was confirmed by the inspection of the parts formerly the site of the hernias. I was consequently easily led, on the announcement of this long-concealed method, to test its efficacy, and soon had an experience sufficiently large to come to the conclusion that it was, as asserted, a reliable procedure, but to a much more limited degree than its introducer and his immediate disciples claimed.

This procedure consists, as is well known, in injecting, by a syringe with a larger and longer point than in an ordinary hypodermic syringe, into the cellular tissue of the inguinal canal, and after the reduction of the hernia, some ten to twenty minims of a mixture of half an ounce of Thayer's fluid extract of white-oak bark, thickened properly with the addition of fourteen grains of the solid extract of the same bark; to this was also put half a grain of morphine to allay the pain sometimes created. This mixture—or its modification by Warren of adding to ℥ ss. of Heaton's oak-bark mixture, evaporated to the thickness of glycerine, ℥ j. absolute alcohol, and ℥ j. sulphuric ether, and 2 grains of sulphate of morphia—was intended to effect a mild inflammatory thickening of the part to which it was applied, with a subsequent organization of new connective tissue, and thus to block up the hernial passage.

In carrying the injection into the inguinal canal, it was directed by Heaton that the left forefinger should be pressed perpendicularly into the external ring, in such a way as to crowd the spermatic cord to the inside, and thus to feel distinctly the external edge of the opening. The needle of the syringe is then to be forced through the ring and obliquely upward into the canal toward the region of the internal ring, and as it is withdrawn the mixture is to be injected, and at the same time the point of the needle moved in various directions, so as to smear with the fluid as large an area as possible. Arrived again at the external ring, the needle should be withdrawn suddenly, in order to prevent the injection affecting the subcutaneous tissue. A firm compress is then to be applied and the patient kept in bed for a week or ten days, depending on the amount of tenderness produced. At the end of this time the patient is generally able to go about, guarded for two or three months by a compress and bandage or by a light truss. Tests by coughing, etc., should not be resorted to until considerable time has elapsed. A conical compress made of multiple layers of rubber adhesive plaster can be more easily kept in place than an ordinary muslin one. Should the hernia reappear, a second, third, or fourth injection may be made.

In the first twenty-eight cases[1] in which I performed this operation, the results were uncertain and unsatisfactory; in these I had but eight cures, and a majority of these required more than one injection. Although it seems like an easy procedure, yet I found at first considerable difficulty in successfully planting my injection in the canal. Plunging the needle perpendicularly into the external ring sometimes led to its point being caught in and penetrating the external pillar, or even to its sliding out of the ring into the adjoining cellular tissue, or to its impinging at times on the cord, thus producing great pain, and occasionally epididymitis. To avoid these contretemps I first tried to thrust the needle into the external ring alongside the finger, after having invaginated the scrotum, from below; which manœuvre I found apt to be followed by a long indurated cord; and even when successful the canal was invaded only to a very limited extent, from the needle being too short for such a procedure. Even when experience had led me to the method of operating which I now use, the natural fear that I should, by pushing the needle in too far, inject the fluid into the peritoneal cavity, deterred me for some time in carrying the injection to the deeper part of the inguinal canal. In only one of my seventy-two cases did, however, this accident happen, and it did no harm, and, in fact, was not recognized until the death of the patient, four months later, from another disease, revealed that the injection had been carried into a mass of omentum which had not been completely reduced.

FIG. 1.—Heaton's Syringe, modified.

Nowadays, after altering the syringe devised by Heaton[2] so that its needle part is longer and stouter (as is here seen), and also adding to it a collar of roughened metal about its middle (see Fig. 1), I have used it in inguinal hernia in the following way: The patient is placed on a table with the hips slightly elevated; the hernia is reduced (though probably the sac cannot often be pushed up) and the ring identified as has already been described. Then the needle is carried through the skin alongside the end of the finger with a rotatory motion, avoiding in this manner anything like a thrust, until the ring is reached, or thought to be reached. The finger which had marked the external ring is now used to invaginate the scrotum and to recognize the situation of the needle-point, and to guide it as it is depressed and pushed upward and outward by the other hand. If not already determined by a preliminary examination, the length of the canal can often be estimated before the final discharge of the fluid takes place. I have many times been able to appreciate that the needle has gone through the intercolumnar fascia by a perceptible jump or jar, and this is of moment, for this fascia can be sometimes pushed upward to quite an extent, and if the fluid be then forced out it will, on the taking away of the needle, be found to be entirely external to the ring.[3] Mastering these de-

[1] Read at the meeting of the State Medical Society, February 2, 1887.

[2] The Cure of Rupture Reducible and Irreducible; also of Varicocele and Hydrocele, by New Methods. By George Heaton, M.D. Edited by Dr. Henry Davenport. 1877.

[1] Reported in THE MEDICAL RECORD of November 11, 1882, p. 551.

[2] At one time I employed De Garmo's guarded needle, but have been more pleased with the modified Heaton needle, as described in the text.

[3] Dr. Abbe has lately, with advantage, pushed the needle into the canal by purposely puncturing above the ring, guiding it by a finger of the other hand invaginating the scrotum.

tails, the operation became an easy one. But moderate pain is occasioned, and suppuration has in none of my cases occurred, and in but three or four adult cases was an anæsthetic required. If successfully applied, at the end of a week a hard plug, the size and shape of the end of the finger, can be felt through the abdominal walls or by invaginating the scrotum. This mass I have had the opportunity of inspecting in two hernias submitted subsequently to the radical operation, in one case three weeks, and in a second case eight months, after Heaton's injection had been practised. They formed brown masses of firm connective tissue, easily recognizable, and amply sufficient in size, had they been rightly placed, to block up the canal of a small hernia.

The outcome of my personal experience with this method can be summed up in a few words. The most satisfactory results have been had in inguinal hernias of small size and of tolerably short duration, that is to say, in those having an inguinal canal yet oblique. In larger and older hernias the use of a single or repeated injection will often so narrow the canal as to permit the easier use of a truss, and so allow of the better carrying on of a vocation. Moreover, the procedure is a perfectly safe one. Figures will, perhaps, be serviceable in appreciating these conclusions.

I have myself performed this operation altogether seventy-two times; those in private practice being in selected cases, but in hospital practice often in large hernias occurring in patients refusing the radical cutting operation. Of the 72 cases, all but 8 were for inguinal hernias. Of these 8, 3 were femoral hernias, with one cure; 2 umbilical, both failures; and 3 ventral ruptures, all cured by a single injection. Of the 64 inguinal hernias thus treated there have been 35 cases whose progress has been traced beyond eight months from the time of the operation, and of these there are 12 cases of cure; and in 8 of them it is further known that they are yet well in varying periods from two to five years. This would give a success of a little over thirty-three per cent. This is a somewhat better result than is given in the reliable reports of Bull [1] and Gay.[2] These observers give a total of 36 cases, with 9 cures, or twenty-five per cent. of recoveries. This discrepancy is explicable by the circumstance that not only have the more recent trials been largely restricted to the smaller hernias, but especially has success been achieved by me in four instances in children under ten years of age, in whom the long use of a truss had failed to relieve the hernia. A single injection under ether in each instance effectually controlled the hernial descent. Adding to my own figures, therefore, those of the above observers, 71 cases are obtained, with 21 cures, or a percentage of 29.5.

These statistics give a less encouraging outlook for this simple procedure than is furnished in a recent paper on this subject by Dr. W. B. De Garmo,[3] who states somewhat vaguely that the success obtained by him amounts to about forty-five per cent. Dr. De Garmo, however, calls attention to a condition not yet mentioned, in which Heaton's injection can be applied with benefit, and though properly belonging to the second division of the subject, can be alluded to here. It is that when recurrences take place after the radical operation for the cure of a hernia, they appear generally as comparatively small protrusions; these, and also small hernias of original formation can, sometimes, be treated successfully, and without compelling the patient to go to bed, by injecting five to ten minims of Heaton's fluid into the canal, after having had adjusted and worn for a short time previously a lightly applied truss. The amount of irritation sufficient to plug up the opening can, in this way, and while continuing the use of the truss, be accomplished by one or more repetitions, and yet allow the patient to attend without interruption to his business. I have resorted to this three times with benefit. I have not had any experience with Schwalbe's alcohol injections, concerning which this surgeon reports [1] 34 cases cured by this plan of treatment, but does not give the total number treated by him. He injects repeatedly (and this is important not only in this method, but also in Heaton's) a twenty to seventy per cent. mixture of alcohol and water; but Ranke, in the discussion that follows, stated that in over one hundred cases treated by him great pain was occasioned by the injections, and that it did most good in children and in small hernias in adults.[2]

From the foregoing statements it will be seen that there is but a comparatively limited range in the application of the injection method in the treatment of hernias. Indeed, one may say the very safety of this method allows it to be used in cases that should never be treated with the knife. But there is a very large number of old reducible hernias of considerable size, which are often painful and unsightly, and not always to be kept up by a truss, together with those that are more or less irreducible, and which oftentimes materially interfere with the pursuit of a livelihood, and which by temporary incarceration frequently threaten life, that appeal for surgical help. Although under the influence of antiseptic surgery, Steele, an English surgeon, was, in 1874, the first one to perform the radical operation for a large inguinal hernia, by suturing the ring after it had been exposed by an incision; yet it is rather to the efforts of Nussbaum and Riesel, in 1876, and of Czerny, Socin, and Schede, in 1877, that the credit is due of placing this operation on a firm footing in surgery. Since that time the exhaustive brochures of Leisrink [3] and Ségond [4] have collected and digested a large number of cases. To their figures can now be added a third collection, made by Joannes Andaregg,[5] an assistant of Socin's, in the Glarus Hospital. In this manner a total of 273 cases has been arrived at; but before considering the results obtained statistically, a description of the operative procedures adopted should be given. They consist, in brief, 1, in the antisepic exposure of the ring and upper part of the hernial sac by an incision three or four inches long; 2, the reduction of the hernial contents—if this is possible the sac is not opened; 3, the separation of the sac at its neck, and the ligation of it as high as possible after forcibly drawing it downward; 4, the cutting off and removal of the sac, unless the hernia be a congenital one, when a portion is left to be sutured so as to form the top of a tunica vaginalis; and finally, 5, the sewing together of the ring and a portion of the inguinal canal. The wound is thereupon drained, and more or less tightly closed and dressed. A few comments may be made on the various steps of this operation, and their possible variations and complications.

The exposure of the sac and treatment of its contents.—In coming down on the hernia, after rendering the parts aseptic by shaving, scrubbing, and disinfecting, more certainty will be attained and less delay produced, by deepening the incision, after going first through the skin and fat above the external ring until this latter is definitely made out and exposed, when the hernial sac can be more quickly and easily reached by tearing through the connective tissue at this point with two forceps, and its neck more readily encircled by the finger than by any other way. By stripping it now downward, it can often be peeled throughout from its attachments with great facility, and the more rapidly the sac is reached and lifted out of its bed, the less likely is suppuration to occur. In this way, also, is the detachment of it from the spermatic cord best accomplished. Occasionally this latter is by no means an easy task, especially in the congenital hernia, in which it is well known the peritoneal layer is more

[1] The Medical Record, November 11, 1882. [2] Ibid., April 1, 1882.
[3] Ibid., January 8, 1887.

[1] Centralblatt f. Chirurgie Beilage, 1882, s. 59.
[2] Keetley, of London, conjoined with the radical operation smearing the ring and inguinal canal with Heaton's fluid, but has recently abandoned this plan of action.
[3] Die Moderne Radical-operation der Unterliebsbrüche, 1883.
[4] Cure Radicale des Hernies, 1883.
[5] Die Radical-operation der Hernien, Deutsche Zeitschrift, f. Chirurgie, 1886, Bd. 24, Hft. 3 u. 4.

intimately connected with the cord. The method of making a new and complete tunica vaginalis, already spoken of, has succeeded happily in my hands in two cases, the testicle moving freely in its finished sac. In a third case, instead of suturing the cut-off hernial canal or sac it was left open, and a drainage-tube carried out through the bottom of the scrotum; but this I deem, when the suture is used, unnecessary.

If it is possible to force the intestine or omentum in reducible hernias into the sac by pressure on the belly above, before the incision is begun, it should be done, as it not only renders the operation easier, but also allows one often to put in practice what I consider a proper surgical precaution, viz., the excision of the omental part of a hernia, which, by its abnormal length, tends to produce relapses. This point is not conceded by all surgeons, though in the cases where a mass of omentum has become irreducible by adhesions or by long dwelling in a sac, or where the omentum has undergone inflammatory or nutritive changes, there is no question now as to the proper treatment. In all such cases the omental mass is to be removed. This adds, it is true, somewhat to the risk of the operation, according to Andaregg increasing it by two per cent.; but as this risk is shown to be largely from a preventable cause, namely, hemorrhage, it can be thrown aside if certain precautions are observed. In the total collected cases of Andaregg, MacEwen, Banks,[1] Abbe,[2] and my own, amounting to 379 cases, there were 5 deaths from this source—hemorrhage. I have not had this mishap terminate seriously; but had I not adopted the precaution, which now I beg to present to you, I should have contributed possibly to this list of mortality. I had tied off, in several portions, with silk suture, which for this purpose is much safer than catgut, a mass of omentum, and had left attached to the remaining stump, after the removal of the herniated portion, the long ends of this ligature, to pull it out again from the abdomen in order to make a final inspection of it prior to closing the wound. And it was fortunate that this was done, for it revealed that quite a smart hemorrhage was going on from a portion of the omentum that had slipped at the edge of the flattened pedicle. An extra turn of silk around the whole mass made everything tight, and the further history of the case is given below.

Case I.—*Large irreducible congenital hernia (twenty-seven ounces); omentum cut off; Nussbaum's operation; cured.*—E. S——, aged thirty-two. He had from early childhood an irreducible tumor in the left side of the scrotum, which is now the size of a cocoa-nut, and is believed to be omental. Two years previously, during an attack of gonorrhœal epididymitis, swelling and fluctuation appeared, for which aspiration was resorted to, and three ounces of fluid withdrawn with benefit. Now the size of the hernia is so great that not only is its weight much complained of, but also its appearance subjects him to much mortification. April, 1884, under ether, an incision four inches long was made from over the internal ring downward and inward toward the scrotum, the sac reached and opened, and found to contain omentum mainly, with a single loop of small intestine three inches long. A number of adhesions existed, which were detached after being previously ligated. The intestine having been returned to the abdominal cavity, the portion of omentum corresponding to the neck of the sac was perforated and tied in three portions with heavy silk, and cut off. Some hemorrhage took place from the omental stump, which was recognized and demanded an extra ligature. The mass removed weighed twenty-seven ounces. The omental stump, with its ligatures still long, and guarded by a clamp attached to them, was allowed to drop into the peritoneal cavity, and the opening temporarily closed by an antiseptic sponge held in a long clamp. After this the sac was stripped from its connections, and in so doing the bare testis was lifted up, and proved thus the case to be one of congenital hernia. The lower part of the sac was, therefore, cut across, and the inferior mouth sewn together to make a proper tunica vaginalis. The upper part of the sac after the omentum had been finally inspected and its long ligature ends cut away, was now pulled down as far as possible and tied securely, as near as one could to the peritoneal level, with strong catgut. The part outside the last ligature was then cut off and removed, and the wound finally closed after a drainage-tube had been carried from the external ring outward, and another from the new tunica through the bottom of the scrotum. No attempt was made to sew together the external ring. Full antiseptic precautions were carried out during the operation, and similar dressings were snugly applied over the wound. The progress of healing was without note. Considerable pain, and temperature 101° for first twenty-four hours, after that normal. Patient got about in three weeks, wearing a loose truss, which he left off in six months. Hernia cured until March, 1886, when a slight bulging was noticed, size of a pigeon's egg, for which an injection of Heaton's fluid, five minims, was twice made, one week apart, the patient continuing at his business and wearing a truss all the time. Since then he has been able to omit a truss, and no recurrence has taken place.

The tendency to slipping of the outer edges of the omental pedicle, and of splitting an omental vein in transfixing it, can be guarded against by tying the mass in several sections, the outer ones being rather small, and finally encircling the already tied pedicle with a final turn of silk, tightly tied. Securing it in this manner, and making a final inspection before cutting short the ligatures and tying the hernial sac will, I fully believe, do away with this risk. Furthermore, if the sac should not be immediately tied off after the omental section or replacement of adherent intestines, the peritoneal opening should be temporarily plugged by an antiseptic sponge held securely in a clamp. This is important as it also prevents any fluid, blood, etc., running into the peritoneal cavity.

The formation of a complete tunica vaginalis is illustrated in

Case II.—*Strangulated congenital inguinal hernia; ligature of sac.*—W. K——, aged sixteen, operated on December 16, 1884. Three days previously, while lifting, a painful swelling appeared in right groin, which soon descended to the scrotum; vomiting soon came on and has persisted to the present date. His condition when observed was fair; temperature 98°; pain great; vomiting not stercoraceous. He was immediately etherized and taxis mildly employed. This failing, an incision down to and into sac was made, revealing a loop of small intestine deeply congested. Constriction was mainly at external ring, and less so at internal opening. These were nicked by a straight, blunt bistoury, intestine replaced, and sac tied and cut off as high up as possible, and again tied at a lower level to make a tunica vaginalis, for the hernia was a congenital one. No sutures to external ring; two rubber drains inserted, one into external ring and one at lower angle of incision. In six days primary healing, except at tube openings. Discharged from hospital, with a pad over external ring, and directions to procure a truss and wear it.

It may happen that such dense adhesions exist of the sac to the cord that a portion of the former must be left. This is of no moment if sufficent of the neck of the sac remains to be tied off; but adhesions of the intestine to sac-wall may at times be so extensive and so intimate as to preclude their dissection. Another interesting peculiarity was met with in

Case III.—*Double scrotal hernia; contents of left side of large intestine simulating adhesions.*—W. S——, aged sixty-two, with a large double scrotal inguinal hernia of twenty-five years' duration, with rather large rings, inter-

[1] Banks: Notes on the Radical Cure of Hernia, Medical Times and Gazette, July 5, 1884.

[2] Abbe: On the Radical Cure of Hernia, read before the Medical County Society, New York, January 25, 1886.

fering with patient's business as a pedler. Heaton done on both sides, February, 1885; left one soon returned, and injection was repeated as patient declined radical operation. The right hernia remained cured, but left one returned fifteen months later, right one still remaining up. Radical operation done on the left side, May 22, 1886. Three-inch incision, ring carefully exposed on upper surface, and as intestinal contents of sac were apparently adherent, it was opened, when it was discovered that it was a herniated large intestine, with its adjacent parietal peritoneum. This was returned as far as possible, after stripping up the sac, into the abdominal cavity, and the ring, which was large, admitting three fingers, was carefully brought together with three silver-wire sutures, and wound packed with iodoform gauze and allowed to heal from bottom to get a more solid cicatrix.

Patient eloped from hospital with sinus at operation wound, June 9th, and has not since been heard from.

Banks [1] reports a case similarly treated, with a good result, and gives a caution against mistaking the condition for intimate adhesions and thus acting erroneously.

In another case where the adhesions were broad and close, a strip of the sac was put back attached to the intestine without mishap.

The complication of an undescended testis associated with a hernia was encountered in the case next presented.

Case IV.—*Reducible inguinal hernia; MacEwen's operation; removal of an undescended testis.* — B. E. T——, aged twenty-five, had a hernia in right scrotum which has existed nearly twelve years, and which cannot be controlled by a truss. It is painful, and he asks surgical relief. The swelling is the size of a goose egg. Testicle on right side wanting.

Operation November 6, 1886.—Hernia sac contained intestine and an atrophied testis, which lodged, when reduced, in the inguinal canal. This was only one-half the size of a normal testicle, and it was drawn down and its cord tied off with catgut. The sac was then stripped up to internal ring, and the parietal peritoneum peeled off for a space of one and a half inch above the ring, and the sac, crumpled up by a catgut cord piercing it to and fro several times, was drawn up into this space and secured by carrying the terminal portion of the cord through the abdominal wall muscles. The pillars of the ring, as high up as possible, were then sewn together as advised by MacEwen, and the upper half of the wound left to heal by granulation under a packing of iodoform gauze, the lower portion being closed by two gut sutures. Progress without temperature; by December 9th he had left the hospital, wearing a sticking-plaster compress, and up to date of January 15th is free from recurrence.

A further direction is necessary relative to omental adhesions existing at the neck of the sac, or mouth even; they should be separated carefully by the finger, so that the stump can drop freely into the peritoneal cavity, or else you may have an inclined plane of this tissue directing intestine or other omental masses toward the closed aperture. Indeed, it is for this reason that Banks advises, in all instances, the opening of the sac, so as to explore it and to satisfy one's self in this way beyond peradventure that no small mass of adherent omentum at the mouth should escape detection and liberation. Individually I have found that it is not necessary to open the sac when it has been found empty or its intestinal contents have been reduced by palpation, with or without invagination of it. I have been fully able through its thin walls to determine whether the mouth is free, and particularly is this so in the more liberal manipulation of the sac now practised in the method recommended by MacEwen,[2] and which will shortly be detailed.

The treatment of the sac.—Usually, as practised by the German surgeons, I have, after separating the sac from its connections, pulled it down as far as possible and tied it, without transfixion, with a heavy catgut ligature (see Fig. 2), with only once a slipping, from cutting the sac beyond too close to the ligature; the open ring of peritoneum was in this instance seized with a forceps, gathered together and tied higher up. This pulling down and tying the sac off at the peritoneal level has, as is known, the intent of obliterating the funnel-shaped depression at the internal ring and thus to prevent the tendency to relapse; but the few post-mortem examinations made some time after such an operation have shown that this is not always successful. Ségond has collected six such observations (Schede, Riesel, Weinlechner, Reverdin, Czerny, and Esmarch). In three of these there was either a dimpling in of the peritoneum sufficient to admit the end of the little finger, or a funnel-shaped depression or radiated folds of peritoneum found at the internal ring. In all, however, was the canal completely obliterated. A corroboration of the complete occlusion of the canal and internal ring I can offer in the history of Case V., who died of pneumonia and chronic nephritis twenty-two days after the operation, but with her wound practically healed.

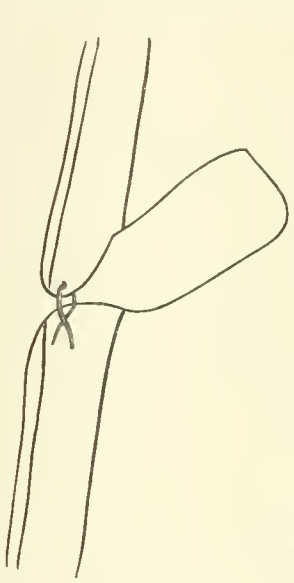

Fig. 2.—Tying Neck of Sac close to Internal Ring. (Nussbaum, Czerny.)

Case V.—*Large incarcerated inguinal omental hernia.*—M. S——, aged sixty, entered the New York Hospital October 1, 1886, with an omental hernia of the right inguinal region nearly eight inches in diameter, which had existed for ten years, but which had become irreducible within the past seven days. There was some heat and swelling present, with fluctuation in the swelling. On aspiration several ounces of bloody serum were withdrawn. No constitutional symptoms of strangulation.

October 9th.—Mass was split open and eight ounces of bloody serum evacuated, and a quantity of omentum, weighing three hundred and sixty-six grammes, inflamed and hardened, tied, with a strong silk ligature in two places, and again by a third silk ligature encircling the whole. It was then cut off beyond these ligatures and removed. The thickened hernial sac was also removed after high ligation. The ring was sewn up with heavy catgut as high as possible, and the wound closed, after being duly drained, with antiseptic dressings. It did well, and by the 27th only a slight ulcer at site of tube was left, and patient was sitting out of bed.

October 28th.—Slight chill, temperature 102°, and examination of chest showed pneumonia to be developing, which, with the chronic Bright's disease she had, caused death on 31st.

The peritoneum showed, on section through the operation wound in the abdominal walls, everything solidly united, and in the abdominal cavity the omentum was tightly united to the parietal peritoneum about the internal ring, and also to a portion of ileum and large intestine. The internal ring in being dissected was found also closed.

The frequent recurrences or relapses after the radical operation for hernia, however, show that its technique is yet far from perfect. Andaregg, whose collection of results is the best observed, gives 105 cases under his own observation where the patients have been inspected from periods ranging from seven months to seven years, with 64 definite cures, or sixty-one per cent. Of the 41 cases that relapsed 29, or thirty-nine per cent., took place in the first year, 8 in the second year, and the rest later. The

[1] Cit. supra.

[2] Cit. infra.

relapses were usually slight, and had little disposition to increase, and were easily controlled by a truss; with large old hernias and double ones relapses were more frequent. The above figures, however, embrace radical operations done in both strangulated and non-strangulated hernias. A further examination is therefore necessary, and shows that in 41 cases of non-incarcerated inguinal hernias there were 21 relapses, or fifty-two and one-half per cent., and in 6 cases of femoral hernia there was 1 relapse, or 16.6 per cent., certainly a less encouraging showing than the first grouping of figures. Rather remarkable, too, is the circumstance that in strangulated hernias, while the employment of the radical operation does not materially increase the risk, it adds decidedly to the chance of a complete cure of the hernia, as the relapses were only twenty-seven per cent. in a total of thirty-three inguinal hernias. Out of my own 21 cases in which the radical operation has been done, including 4 cases of strangulated hernia, I have been unable to trace more than 11 of them beyond a period of eight months, owing to many being hospital, *i.e.*, migratory patients; of these there were 8 cured. Neither do I find assistance on this point in the interesting papers of Banks and Abbe, already alluded to. It must be confessed that the frequent recurrence of a hernia after the radical operation justifies the opinion of Ségond, that "it is an operation which in the majority of cases only triumphs over an irreducible or unmanageable hernia, and renders it controllable."

The latter part of this dictum is corroborated by Leisrink, who shows that eighty per cent. of the relapsed cases have marked improvement in their hernias from the operation, and he therefore advises surgical interference on this ground. An improvement in the mode of operation, with a corresponding increase in the percentage of cures, has quite recently been published by MacEwen,[1] of Glasgow, by which, in 25 cases of free inguinal hernias that were under observation from periods varying from eight months to five years (17 were over one year) there were only 9 relapses, or thirty-six per cent.

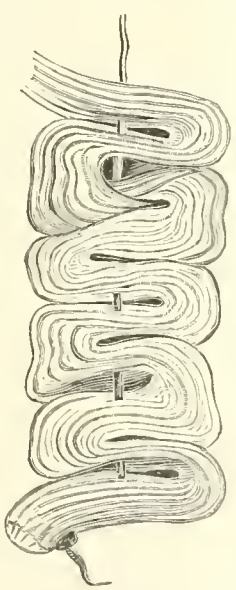

Fig. 2.—Folding Up the Hernial Sac. (MacEwen.)

MacEwen has had also a corresponding success when joining the radical operation to the treatment of a strangulated hernia, and gives 23 cases (14 inguinal and 9 femoral), with 1 relapse, or 4.3 per cent., the cases continuing under observation from eight months to four years after the operation. This is, indeed, a decided improvement in the cure of the affection under consideration, and is apparently accomplished by two deviations from the usual treatment, the first of which is his peculiar treatment of the sac. Instead of tying this and cutting it off after separating it from its attachments, and after emptying it of its contents, he secures it, in his own words, by "a stitch firmly at the distal extremity. The end of the thread (catgut) is then passed in a proximal direction several times through the sac, so that when pulled upon the sac (see Fig. 3) becomes folded on itself like a curtain. The free end of this stitch, threaded in a hernial needle, is made to traverse the canal and to penetrate the anterior abdominal wall about an inch above the internal ring, the wound in the skin being pulled upward so as to allow the point of the needle to project through the abdominal muscle without penetrating the skin. The thread is relieved from the extremity of the needle when the latter is withdrawn. The thread is pulled through the abdominal wall, and when traction is made upon it, the sac wrinkling upon itself is thrown into a series of folds, its distal extremity being drawn farthest backward and upward. An assistant maintains traction upon the stitch until the introduction of the sutures into the inguinal canal, and when this is completed the end of the stitch is secured by introducing its free extremity several times through the superficial layers of the external oblique muscle. A pad of peritoneum (see Fig. 4) is thus placed upon the abdominal side of the internal opening." To accommodate this wrinkled-up pad MacEwen previously strips up the parietal peritoneum for half an inch around the whole abdominal aspect of the circumference of the internal ring. This peritoneal pad, made up of wrinkled up sac, is supposed to constitute a boss or bulwark, with its convexity presenting backward toward the abdomen, while its base rests on the abdominal walls surrounding the circumference of the internal ring. This not only protects the internal ring, but sheds the intestinal wave backward away from the opening.

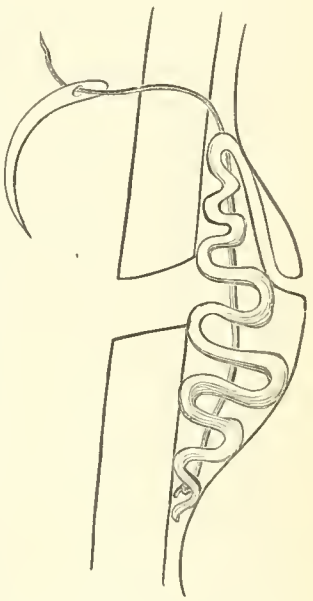

Fig. 4.—The Subperitoneal Tucking Up of a Folded Hernial Sac. (MacEwen.)

My own experience with this procedure embraces only six cases, and the results are too recent to determine for myself its value. In all but one case it was easy to accomplish the desired reposition, and in one patient who had previously submitted to the radical operation after the usual method of pulling down the sac, tying it off, and suturing the external ring, the statement made by him that after the last operation (MacEwen's) "he felt tighter than he had done for years," testifies in its favor.

The closure of the ring or canal.—Socin[1] does not consider the suturing of the ring of special advantage, and apparently proves it by showing that in 39 cases of inguinal hernia where no suture was used there were 16 relapses, or thirty-eight per cent., and that in 32 cases where it was used there were only 12 relapses, or thirty-eight per cent. He says that where the suture is not used the patients get well quicker and do better. This also I have observed. Yet, in the words of Czerny, so long as it is uncertain whether it is the treatment of the sac or of the ring and canal that is important, it is better to use both procedures. Hence most surgeons, since 1881, when Czerny, through his assistant Braun,[2] gave his second series of cases to the world, have, after removing the sac in an inguinal hernia, sewn the ring, and to some extent the canal also, snugly up to the cord in the male, and to the round ligament in the female; but when a femoral hernia has been encountered, generally speaking, only the sac has been removed and no attempt made to close the opening, mainly on account of the supposed danger of implicating the femoral vein. MacEwen, however, has given, in his remarkable cases, 9 instances of femoral hernia where not only was the wrinkled sac used as above described, but also in 8 cases the falciform process was sutured to Gimbernat's ligament, with eight permanent cures.

It is admitted, I may state, that aside from the question of closing the femoral ring, a cure is more apt to occur in this variety of hernia than in an inguinal one.

[1] W. MacEwen: On the Radical Cure of Oblique Inguinal Hernia by an Internal Abdominal Peritoneal Pad, etc., Annals of Surgery, August, 1886.

[1] Also, Israelsohn, Anderan, Leisrink, and Reverdin advise its not being done.
[2] Berlin. klin. Wochenschr., No. 4, 1881.

To close the canal, if such exists, or the space between the overlying rings, from one to four sutures in inguinal hernias have been employed, and of either carbolized silk, silver wire, or catgut. The majority of operators now use heavy catgut, either chromicized, as lasting longer, or the ordinary aseptic gut. Banks prefers heavy wire knotted, not twisted. I have resorted to both silk and wire, and have found persistent fistulas left from their use, and can show here several silk strands which had been discharged after being retained over eight months, and one which eventuated in a fecal fistula, which, however, soon closed after the casting off of the suture. Wire has played in my hands the same trick. One of Andaregg's objections to the wire sutures is rather fanciful. It is that they cause gaps by splitting the fascia through which they are passed, and also render the ring opening jagged by their cutting out, as, according to him, they all do.

Like others I have felt for some time that the mere suture of the external ring was unscientific as well as unsatisfactory, yet I had not the courage of Riesel, who, in 1877, boldly advocated the splitting of the inguinal canal its whole length, and after taking out a portion of it, to suture it from the internal ring downward, and gave subsequently 12 cases thus operated on, with only 1 relapse.

The first case of hernia I attempted to operate on was on the person of a patient in Bellevue Hospital in 1882, and in this, through a faulty idea of Czerny's procedure, I was led to do the imperfect operation of only tying off a part of the sac, and closing the ring by sutures. Descent of the hernia took place through the narrowed ring, and strangulation occurred, which, under the dressings, was mistaken for peritonitis, and was not recognized till too late. This led me to hesitate to use the ring suture in two subsequent cases, which, however, did well (Case I. is one of them). After that I employed it in nearly every case of inguinal hernia, going as far up as I could for the top suture, and putting in two or three sutures in each case, and inserting a drainage-tube between the last suture and the spermatic cord and within the canal. Sometimes a suture of fine catgut held the distal end of the tube in position. This was done to avoid, if possible, the suppuration which the frequent tearing up of the connective layers external to the sac often produced, and which has become limited in its occurrence, since the sac has been reached and enucleated, as already described. In watching, however, with interest and some anxiety, those cases where the suppuration seemed to be deep in the canal, and about the subperitoneal region of the internal ring, it was found that the cicatricial hardening thus resulting was of benefit in offering an additional barrier to the recurrence of the protrusion. Hence, early in 1885, I purposely changed my method of operating so as to leave the wound entirely open over the external ring, and to stuff it with iodoform gauze, and only to close it at the lower angle by one or two sutures. In this way, by the firm cicatrix thus produced, I have added, I fully believe, another barrier to the return of the rupture, and the recent publication, by Nussbaum,[1] of the suggestion to bring about repair by granulation over the ring by the application of the actual cautery, confirms me in its value.

With the exception of Riesel's plan, MacEwen's mode of closing the enlarged canal seems to me the best, and in the case of his plan of operation it has been easily accomplished. Not only are the sutures applied higher up the canal than usual, but in such a way as to drag the inner edge of the conjoined tendon under the outer pillar of the ring of Poupart's ligament, and so interpose a valvular obstacle to the recurrence of the hernia. A glance at Fig. 5 will show how this is done. After the sac has been returned to the abdomen and secured to the abdominal surface of the internal ring, the finger is passed into the canal to make out the inner and lower borders of the internal ring, and feel the pulsation of the epigastric artery, so as to avoid puncturing it. A threaded hernia-needle, Fig. 6, or a stout, curved Hagadorn needle in its proper holder, is then introduced, and, guided by the index-finger, is made to penetrate the conjoined tendon high up toward the internal ring, in

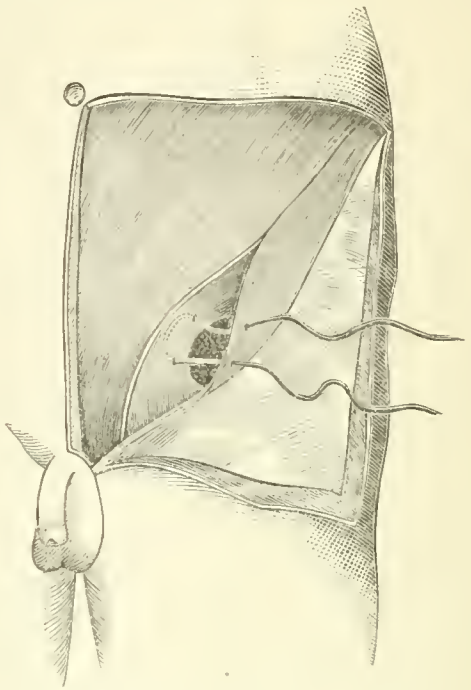

FIG. 5.—Schematic Closure of Inguinal Canal. (MacEwen).

two places about three-fourths of an inch apart, in such a way that the loop is on the under surface of the tendon and the free ends are on the upper side. These free ends are carried across the ring and canal (as one end is now without a needle, it should now be attached to one) and introduced from within outward, the lower one through Poupart's ligament, and the aponeurotic structures of the transversalis, internal and external oblique muscles, and the upper one through the transversalis internal and external oblique muscles, at points corresponding in height with the threads in the conjoint tendon. The suture is completed by drawing the free ends and tightly tying them together with a double reef-knot. In adults it is well to repeat the suture lower down the canal, and the pillars of the external ring are likewise brought together. Care is to be taken that the spermatic cord be left freely movable. MacEwen, from whom the above description is mainly taken, advises not tying the sutures until after all have been applied and tested. He further directs a drainage-tube to be inserted and the wound closed. I have, as before stated, preferred to leave the part of the wound over the ring open. Antiseptic dressings of iodoform dusted on sublimated peat-bags or gauze dressing are carefully secured by bandages, and kept on without change, if the case progresses favorably, for ten to fifteen days, or until stained. After healing has been accomplished the patients are allowed to get out of

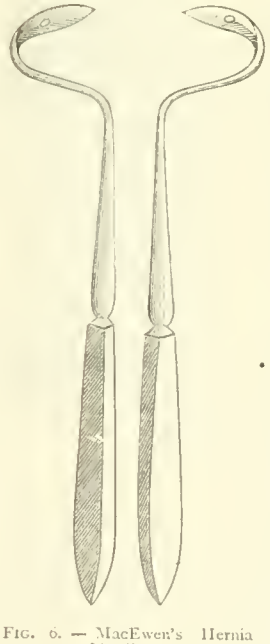

FIG. 6. — MacEwen's Hernia Needles.

[1] Nussbaum: Ein neuer Versuch, zur Radikaloperation der Unterleibsbrüche, Centralblatt f. Chirurg., No. 24, 1886.

bed, this is usually done in about four to six weeks. They are advised to wear a compress, best made of superimposed layers of sticking-plaster and bandage, and later on a light, flat, broad truss. Heavy work should not be undertaken until past the third month. Concerning the subsequent use of a truss Andaregg directs that none should be worn unless the relapse actually occurs, as it not only causes stretching of the peritoneum and absorption of newly organized tissues, but also advises free muscular movements, particularly those affecting the abdominal muscles, that thereby the orifices and canal could be strengthened. I much prefer the safety of a *flat*, and therefore innocuous truss, and advise my patients to wear such from three to six months; undue pressure must be avoided.

It will be noticed by those who have followed me thus far that the important point as to the risk of this operation has not yet been more than touched upon, and, after all, the question hinges upon this point, for if any considerable danger exists in an operation which can be promised as curative in but a comparatively small proportion of cases, it should not be often resorted to in the treatment of an affection which is in itself not directly hazardous. Looking at the grand total of the cases collected by Andaregg, which include those of Ségond and Leisrink, there were 273 cases of free or non-strangulated hernias, with 12 deaths, 4 of which were from preventable hemorrhage, 8 from septic complications. Joining to these the statistics of others we have the following summary:

Andaregg, 273 cases of radical operation of free or non-strangulated hernia, 12 deaths (4 from hemorrhage) or 4.39 per cent.; Abbe,[1] 16 cases, 2 deaths (1 from hemorrhage); Banks, 36 cases, 1 death; Weir, 17 cases, 1 death; MacEwen, 33 cases, no death; total, 379 cases, with 16 deaths, or 4.22 per cent.

From these can justly be taken those dying from hemorrhage, since increased experience has taught how this is to be avoided, when the mortality will be seen to reach only to 2.90 per cent. Of the 36 femoral hernias operated on there were no deaths.

This is sufficiently low for surgeons to be warranted in carrying on the operation, which, as is seen by MacEwen's statistics and plan, is becoming more simple and less dangerous, and, in fact, when performed in healthy individuals, as is shown by analysis of Andaregg's cases, it is found that of 125 cases operated on between the ages of eleven to forty, only 2 died—1.6 per cent.—the mortality under and over that limit being 8.3 and 8.1 per cent. respectively. The size of the hernia, as his collection also shows, as well as the age of the patient, influences the mortality to a decided degree.

In concluding, the considerations expressed at length in the foregoing pages lead me to the following recapitulation:

1. That small reducible and easily controlled inguinal hernias can with safety be treated with Heaton's injection, and with a reasonable prospect of success—thirty per cent. of recoveries.

2. That in similar hernias in children, in which the use of a truss has failed, Heaton's injection is to be recommended as a particularly successful procedure.

3. That in unmanageable, painful, or irreducible hernias, demanding surgical interference, and sometimes those in which Heaton has failed, the radical operation should be resorted to, with the sac tucked up or tied off, as the surgeon may determine, but with a high and complete suturing of the canal.

4. That where omentum is found in a hernia it should be securely tied and resected.

5. That the wound in the region of the external ring should be healed by granulation to afford a cicatricial barrier, as an additional factor in the cure.

[1] Dr. Abbe has informed me that his cases up to January 31, 1887, amount to 36 inguinal, 10 femoral, and 4 umbilical, with 3 deaths—1 from hemorrhage, 1 from intestinal band strangulation, and 1 from sepsis, from a simultaneous varicose vein operation. His last 40 cases have been without a single fatal result—9 were done according to MacEwen's method.

ON THE ADAPTATION OF CORNING'S METHOD OF PRODUCING LOCAL ANÆSTHESIA BY COCAINE TO OPERATIONS ON THE EYELIDS.

By DAVID WEBSTER, M.D.,

NEW YORK.

Since Koller's publication of his discovery of the anæsthetic properties of cocaine when applied to mucous membranes, I have rarely given ether, in cases of adults, for the performance of any operation upon the eyeball or upon the tissues reached through the conjunctiva, except in cases of enucleation. I have constantly used cocaine in my cataract extractions, keratonyxes, iridectomies, paracenteses, in tenotomies of the interni and of the externi, in advancements of these muscles, in the removal of pterygia, and of tumors of the cornea and of the conjunctiva, in the excision of chalazia, and in the various operations upon the tear-passages, and in the removal of foreign bodies from the eye. In all these operations the anæsthetic effect of the cocaine has been most satisfactory. On several occasions I have performed operations involving the skin of the eyelids after having injected a solution of cocaine, hypodermatically, into the parts to be operated upon. The results were unsatisfactory. There was always not only so much swelling of the subcutaneous tissues, produced by the necessary traumatism and by the presence of the fluid, as to embarrass the steps of a delicate operation, but in every case the patient seemed to suffer nearly as much pain as though the operation had been done without an anæsthetic. I therefore reluctantly abandoned the use of cocaine in this way, and returned to the use of ether for my lid operations. It seemed to me highly improbable, not to say impossible, that any painless process would ever be discovered by which the skin and its underlying tissues could be anæsthetized, without swelling and with uniformity, over any desired area. Great was my surprise, then, as well as my delight, when my friend, Dr. Corning, demonstrated to me, upon my own person, that he had solved the problem. Several days later the doctor published an account of his method in the *New York Medical Journal* (vol. xliv., No. 19). I have no doubt that many of you have read the paper referred to. You will recollect that he found three things necessary to produce the desired effect.

1. An instrument for making multiple punctures of the skin, the use of which is painless and bloodless;
2. A galvanic battery; and
3. A solution of cocaine.

The portion of skin which it is desired to anæsthetize is first punctured by the use of the instrument, which makes many punctures at once, about a millimetre apart, the only sensation felt being that of a slight blow or concussion. A sponge saturated with a solution of cocaine, four per cent. if you like, and attached to the positive pole of a galvanic battery, is then placed in contact with the punctured skin, while the negative pole is brought in contact with some other portion of the patient's body, and five or six cells of the battery are turned on. After the application has been kept up five or six minutes the skin is found to be completely and uniformly anæsthetized. The anæsthesia may be carried to any depth, down to the bone if necessary, by removing the sponge and driving the needles in deeper, and then reapplying it for a time. Of course, it only remained for me to adapt this method to operations upon the eyelids, and to accomplish this the only thing that was necessary was to have a more delicate puncturing instrument made. At my request, and according to my instructions, Messrs. John Reynders & Co., of New York, made such an instrument, which I have already used in several cases with entire satisfaction. I shall report these cases further on.

The multiple-puncturer which I had constructed, and of which a wood-cut is here inserted, is of about the size of a hypodermic syringe. It consists of one hundred and fifty needles, which may be made to project from

a hollow cylinder to any desired length by means of a regulator, and a spiral spring within the cylinder, controlled by the handle.

Before using the instrument upon the eyelids, the conjunctiva should first be anæsthetized by dropping in a solution of cocaine in the usual way. The lid should then be raised a little from the eyeball by means of the little

finger, or a hard rubber spatula, so as to prevent any concussion of the globe. In puncturing the skin at the outer canthus, preparatory to the operations of canthotomy, cantholysis, and canthoplasty, I have found that I could best protect the eyeball from concussion by inserting the end of my little finger beneath the junction of the lids at the canthus and making gentle pressure so as to lift the parts slightly from the eyeball. A hard rubber spatula could easily be made suitable for this purpose. On using the instrument the needles should be drawn up out of sight into the cylinder by means of the handle (*c*), the end of the cylinder placed in contact with the skin, and then the handle let go. The bunch of needles strikes the skin with a slight thud and without any sensation of pricking or pain. The whole surface to be involved in the operation should be thus pricked over, and then a solution of cocaine (I have always used a four per cent. solution) should be driven through the punctures by galvanism as above described.

My first experience with the use of this method, other than that upon my own arm, was in the removal of a small tumor situated at the juncture of the lower lid with the cheek immediately below the outer canthus, on December 30, 1886. The patient was a gentleman, twenty-four years of age, and a journalist by occupation. He said the tumor began by a small "cake of flesh" which he picked off with his finger-nails about March 1, 1886. This re-formed and was picked off about five times before June 1st. Since that time he had let it alone, and it had continued to increase in size, rather slowly at first, within the last few weeks more rapidly. When he came to me it seemed about the size of a large pea. Its surface was smooth, unlike that of a wart, and I suspected that I had to deal with an incipient epithelioma. With Dr. Corning's assistance the parts about the growth were anæsthetized by his method, and the growth was removed and the wound closed by a suture without any manifestation of pain on the part of the patient, who also stated positively that although he felt every step of the operation it gave him absolutely no pain. As I did not intend to cut the growth I did not puncture it, but punctured all around its base where the incisions were to be made. The patient returned on the second day after and had the stitch removed. There was primary adhesion and only a slight linear scar.

The growth was examined by Dr. Ira Van Giesen, pathologist to the Manhattan Eye and Ear Hospital, who, on December 30th, reported as follows: "The tumor is ellipsoidal in shape, long axis 1 ctm., the other two axes 4 and 6 mm. It is invested by normal integument. Beneath this integument the tumor consists of large round-cells and large fusiform cells, with scanty basement substance and scantily supplied with blood-vessels. The anatomical diagnosis is, then, large round celled and large spindle-celled sarcoma."

My second operation with the use of this method of local anæsthesia was a cantholysis upon the left eye of a boy, aged sixteen. This youth had been the subject of granular lids and pannus since two years of age, and consequently was not well developed intellectually. He had been under constant treatment for his eye affection at the public institutions of New York nearly all his life. He came to the Manhattan Eye and Ear Hospital on January 5, 1887, when his vision was tested and found to be reduced to $\frac{4}{200}$ in the right eye, and $\frac{1}{200}$ in the left. After applying cocaine until pricking the skin with a pin did not hurt him, I made the usual cut at the outer canthus with scissors. He began to cry. I asked him what was the matter, and he said, "You are cutting my eye." I soon reassured him, however, and proceeded to finish the operation. There were no further manifestations of pain, and after the operation was over he admitted that it did not hurt him at all, but that he began to cry because he was frightened. When I performed the same operation upon his right eye, one week later, having used the cocaine in the same way, he gave no signs of pain from beginning to end. His vision and the condition of his eyes have improved very markedly since the operations, showing that the use of the anæsthetic in this manner has no injurious effect upon eyes with granular lids and pannus.

Of course, this method of producing local anæsthesia is not likely ever to come into general use in operations upon the eyelids of children or of timid adults. No matter how painless the process, and how thoroughly the parts are anæsthetized, such patients will always be frightened and rendered more or less uncontrollable by their consciousness of being cut, and by seeing the instruments as they are used about the eye. These objections will always hold good as regards all methods of local anæsthesia, and the class of patients referred to will, probably, always have to be put to sleep for the performance of surgical operations about the eye.

ACUTE EPIPHYSITIS OF THE HIP.[1]

By V. P. GIBNEY, M.D.,

NEW YORK.

On February 12, 1885, while attending some cases at the Nursery and Child's Hospital, Dr. Hance, the House Physician, asked me to see a well-nourished, bright little girl who was running about the ward. The child presented a decided limp, which was due to shortening of the left lower limb. There was no evidence of pain or tenderness, and seemingly there was no stiffness.

The history was given me at the time, and since communicated in writing, by Dr. Hance, to whom I am indebted for the specimen, that the child was born now four years and three months ago, and was a strong, healthy baby. When six or eight months of age—dates not recorded—she suffered from a large acute abscess of the hip, which opened and discharged for a number of months. There was no history of any traumatism. The sinus closed spontaneously, and the little patient was walking about by the aid of a chair when she was two and a half years of age.

My examination, two years ago, shows that the child walked with the left foot everted over nearly a quadrant, the limb being well rotated outward, and that the limp was quite marked. There was three-quarters of an inch shortening, but this amount was easily overcome by traction. On the anterior surface of the thigh, upper third, was a cicatrix about half an inch in length and seemingly of long standing. The trochanter major was at least three-quarters of an inch above Nelaton's line. Flexion was made easily, and without any resistance, to an acute angle—the full extent that sound limb showed. Extension was equally easy, but abduction was limited to one-half the normal arc. The head of the bone could not be recognized by palpation. Grating and crepitation in the joint were very marked. There was no atrophy, and there were no acute symptoms.

For the past eighteen months she has been in a most miserable condition, suffering from repeated attacks of inflammatory diarrhœa. During the last summer she had true lienteric diarrhœa. Early in January of present year she developed tubercular meningitis, from which she died.

[1] Read before the Section in Surgery, New York Academy of Medicine, February 15, 1887.

The autopsy confirmed the diagnosis. A few scattered tubercles were found in each lung.

The specimen, when sent to me, consisted of the upper fourth of the femur and a portion of the pelvis, which was supposed to include the acetabulum. The section, however, seems to have mutilated the capsular ligament, and I am unable to learn just how much of the capsule was destroyed by the morbid process. The unnatural mobility was well demonstrated, however, and the upper end of the femur slipped up and down over a very irregular cartilaginous surface. The upper rim of the acetabulum seems to have been destroyed, or, at all events, worn down into an irregular ridge. There was a very poor substitute for a cavity.

On removing what remained of the capsular ligament, adhesive bands were found passing irregularly from the two cartilaginous surfaces, showing the remnant of a very active arthritis. On vertical section of the femur there was found no vestige of an epiphysis, and the upper extremity of the diaphysis was covered by an irregular cartilaginous layer, probably the epiphyseal-cartilage disk. The diaphysis showed no signs of recent or old inflammation; and Dr. Thatcher, Pathologist to the Laboratory of the Polyclinic, pronounced the bone, to every appearance, normal. The medullary coats seemed also normal.

The specimen was not examined microscopically, because it was thought that nothing would be discovered that was not recognized by the naked eye, especially as so long a time had elapsed between the original inflammation and the death of the patient. I have seen, within the past ten years, a number of cases giving the clinical history presented by this case, but I have not had an opportunity of securing post-mortem appearances, except in a case presented by Dr. Jackson.

Following some European observers, I have been in the habit of designating such cases acute epiphysis. By reference to a paper "On the Acute Arthritis of Infants," published by Mr. Thomas Smith, in the "St. Bartholomew Hospital Reports" for 1874, I find ten cases in which the hip was the joint affected.

All were in children under one year of age, and in seven autopsies the bone-lesions described were: "Ragged hole opposite digital fossa in great trochanter, leading to subarticular abscess," in Case III. of series; "rim of acetabulum destroyed, . . . head and neck of femur gone," in No. IV.; "head gone, . . . cartilage of acetabulum here and there destroyed," in No. V.; no section made in No. VI.; "one-half of head of femur destroyed and free surface spotted over with punctiform ulcerations, one of which led to an abscess in cancellous portion of bone, acetabulum shallow and widened, sharp edge absorbed," in No. VIII.; "head and upper part of neck gone, diaphysis eroded," in No. IX.

Mr. Smith remarks that the "existence of subarticular abscess was first discovered by accident in making a section of the bone. I cannot doubt that in times gone by, when I was unaware of this peculiar pathological condition, I overlooked many instances of subarticular abscess from neglecting to make sections of the bone in cases of suppuration within the joint-cavities."

Mr. Macnamara in his former edition employed the terms acute epiphysitis, but in the last edition—1887—of his work on "Diseases of Bones and Joints" substitutes the terms "acute osteitis of infants."

Before the epiphyseal cartilage in infant life has formed, the centre of ossification for the epiphysis is within the synovial membrane, and hence inflammation beginning here rapidly invades the joint.

Sulphur in Chlorosis.—Dr. Paul Strübing and Dr. Hugo Schulz, of Greifswald, state that in a certain class of cases of chlorosis, in which iron and arsenic fail, the continuous use of sulphur is efficacious. In those cases, however, in which there is a catarrhal condition of the digestive tract it should not be used.

THE EMPLOYMENT OF MERCURY IN PARASITIC CONTAGIOUS DISEASES, MORE ESPECIALLY THE USE OF THE BICHLORIDE IN THE TREATMENT OF DIPHTHERIA.

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The following paper has been drawn up with the view of eliciting the opinions of other physicians, and is therefore not at all exhaustive of the subject.

Long before the profession had the slightest suspicion of the important part played by microbes in the production or aggravation of disease, mercury, in some form or other, had been employed, and found to be a powerful rectifier of deranged action in the human organism, but more especially in those diseases that experience and modern scientific research have since shown to be infectious or contagious.

Need I refer to syphilis and to the various parasitic skin diseases that are effectively cured by preparations of mercury?

This is known and carried out in the practice of every intelligent physician. But there are some parasitic diseases so insidious and so rapid in their progress to a fatal issue, that it is absolutely necessary, in using this drug, to have recourse to the most potent chemical combinations of it.

It is now many years since the physicians in India, in their treatment of cholera, discovered that frequently repeated small doses of calomel gave better results than any other treatment that had previously been tried.

But as the profession in India are not encouraged (rather the reverse) to look upon this malady as a parasitical contagious disease, we cannot expect any further development of this treatment on these lines.

To show how prejudice influences our practice, I need only refer to the fact that not long ago, when Englishmen travelling on the continent of Europe fell ill with typhoid fever, English physicians were sent to prevent the continental doctors from giving calomel. I don't mention this as being myself an advocate for giving calomel in every case and in every stage of typhoid fever; but the fact that calomel has been used extensively as a remedy in this disease by the continental doctors is a proof that they, in their experience, considered that it had a beneficial effect, and I have little doubt that what alarmed the English physicians was the exaggerated reports they had heard as to the continental use, or abuse, of calomel in the treatment of typhoid.

If typhoid fever is a parasitical malady, then certainly it comes under the category in which mercury would be employed in the treatment, and if calomel has been proved to be effective on the continent of Europe, its benefit must have been derived from its parasiticide action, and to have that action it need not be given but in very small doses.

Sometimes a loaded tongue and a gorged portal system call for a large purgative dose of calomel, and mistakes may have been made in giving such doses during the later stage of the disease when the intestine was extensively and deeply ulcerated. But even this condition of the bowel does not contraindicate the intelligent administration of some preparation of mercury in parasiticidal doses.

The abuse, therefore, of a potent remedy should not prejudice us against its proper use.

At one time there was a hue and cry against the use of mercury in the treatment of syphilis, and the non-mercurial cure was upheld by distinguished physicians. The reason, however, why they took up this anti-mercurial position was simply from their inability to discern between the use and abuse of the drug, or because popular prejudice was too strong for them; so that even when

they did prescribe it, they had to give it a false appellation. I believe, however, that now very few regular practitioners pretend to cure the disease without the aid of mercury, and, no doubt, the drug is more judiciously administered than in former times, when it was not an unusual occurrence with a patient to lose his teeth and hair.

It was the careless, not to say reckless, use of this drug that brought it into disrepute.

In proposing any new line of treatment, even when suggested by modern scientific research, we have always custom and prejudice to contend against.

Some months ago I was called in consultation to see a diphtheritic case, but was told by the attending physician that I need not propose the bichloride of mercury treatment, because he was opposed to it. Fortunately there was no call for discussing the matter, as the patient had reached that stage of the disease when iron and strychnine are the indications (to the exclusion of any preparation of mercury whatever) in the treatment.

Since then I treated successfully a very severe case of diphtheria in a boy eight years of age. The bichloride of mercury was given in what may be called the parasitic stage of the disease, and this was followed up by a course of iron and strychnine.

His sister, seven years of age, who had been sent to stay with another family, was allowed to come back to her home either too soon, or the incubative stage of the disease had not yet passed. At any rate, she was seized with the malady, and the father, in his excitement and disappointment, called in a doctor who scraped and swabbed the throat three or four times a day, while sprays and gargles were also in constant use; but, *post hoc* or *propter hoc*, the child died after two days of this treatment. On the other hand, the boy recovered, although his convalescence was tedious.

The last case worthy of notice is the one that has induced me to write this article in order to bring into the foreground the bichloride of mercury treatment in parasitical diseases, such as diphtheria, seeing that some physicians are yet a little diffident in using such a powerful drug.

In the forenoon of October 3d I was called to see a child, four years of age, who, to all appearance, was suffering from an advanced stage of diphtheria. The child was prostrate, the glands of the neck very much swollen, and an ichorous discharge was running from nose and eyes, and the breathing was somewhat impeded. The history of the case was very simple. The child had been ill four days, and had been treated by an Arab doctor, who declared to the parents that there was no disease of the throat, and that the swollen glands in the neck had nothing to do with any throat affection.

In the early morning of October 3d, however, he told the parents that there was something wrong with the throat.

The parents had suspected this before, and were now dissatisfied with the medical attendant and dismissed him.

It was at this juncture that I was called in, and, after taking a general survey of the child, I attempted to have a look at the throat, but the patient struggled severely against my endeavors. At last I succeeded, and found a large piece of membrane hanging loose in the throat, which came away on the handle of the spoon, along with some bloody mucus. There could be no doubt now as to the nature of the malady. I then examined the urine by heat and acid, and found that it was about one-half albumen. The case looked far from encouraging; still I had seen cases equally as bad recover under the bichloride of mercury treatment.

Two teaspoonfuls of castor-oil were administered at once, and the following mixture was ordered:

℞. Hydrargyri bichloridi .... gr. jss.
Glycerini ..... ʒ j.
Aquæ dest..... ..... ʒ iij.,

with the directions to give a teaspoonful (ʒ j.) to the patient every half hour till six doses were taken, and then to give it every hour, night and day.

An iodoform ointment (1 in 10) was also ordered to be rubbed over the swollen glands every three hours, and crude carbolic oil to be used for disinfecting the whole house. The diet prescribed was beef-tea, and milk with lime-water.

In the afternoon some of the members of the family called at my house to tell me that they wished to have a consultation, and that they had asked Drs. X—— and Y—— (European physicians) to meet me at 6.30 P.M.

When I went at the hour appointed I found Dr. Y—— already there, but Dr. X—— had sent a message to say that he could not come till half an hour later. Dr. Y—— and I therefore decided to conduct the consultation without Dr. X——, as I had another engagement at seven o'clock. After I had given the history of the case and a statement of the treatment adopted, Dr. Y—— examined the child, who resented furiously his throat being looked at. The symptoms were pretty much the same as they were in the morning, and there was not the slightest doubt in Dr. Y——'s mind but that this was a case of well-marked diphtheria; but he opened his eyes with amazement at my treatment, which, no doubt, he thought was simply a quasi-legal way of poisoning the patient.

His proposition was to give the child chlorate of potass and to swab the throat frequently with an antiseptic solution of carbolic acid, at the risk of driving the child into convulsions and of wasting its strength in struggling against this method of procedure.

My experience in the treatment of this disease had extended over a good many more years than that of my consultant, and I had to tell him that I had employed his treatment, and a good many others besides, with most unsatisfactory results; that I had no specific to offer, but that from what experience I had had during the last three years with the bichloride of mercury treatment in parasitic diseases in general, and in diphtheria and cholera in particular, I was satisfied that I had in my hands not merely a powerful poison, but an excellent curative agent.

He would have none of it, however, and persisted in trudging leisurely along the old hackneyed road, whose ruts were deep from age, and that no one thought of filling up, as the railway now ran alongside of it.

Well, we had just to agree to differ, and my treatment was continued, with the whole responsibility on my shoulders, and under the weight of the protest of my consultant.

October 4th, forenoon: Patient had taken the medicine regularly as ordered.

In the act of swallowing it, however, a small quantity was lost by running out at the nose. This happened to have a good effect on the nose, which was covered with diphtheritic membrane, and on observing this I had the nose syringed out from time to time with the bichloride solution.

The patient was decidedly brighter, but the albumen had increased in the urine more rapidly than I had ever observed in other cases that were being treated in the same way.

Seeing that the general condition of the patient was improved, notwithstanding the increased quantity of albumen in the urine, I reasoned with myself in this way: The raw absorptive surface left by the detached membrane, while favoring the entry of the bacteria directly into the circulation, also favored the absorption of their most potent destroyer, the bichloride; and, probably, the augmentation of albumen in the urine, with amelioration of the general condition of the patient, was simply an indication of the death and expulsion of bacteria. Treatment continued every hour.

October 4th, afternoon, six o'clock: Patient apparently about the same as in the morning, only there was a decided diminution in size of the swollen glands of the

neck. The urine, however, was nearly solid with albumen.

Notwithstanding that, I ordered the medicine to be given only once in two hours. The patient had now taken a little over one grain and a half of the bichloride.

October 5th, morning: Patient brighter; had a better night; medicine taken regularly; neck much less swollen, but still being rubbed every three hours with the iodoform ointment. What struck me most was the remarkable diminution in the quantity of albumen in the urine. It was only about one-twentieth of the volume, and never again increased during the whole treatment of the malady. The process of swallowing was still very imperfect, so that part of the medicine and nourishment escape by the nose. The fever, that was never very high, is now abating.

October 5th, evening: General improvement going on. Medicine ordered to be given every three hours, and a teaspoonful of vinum ferri between times.

The patient had now consumed fully two grains of the bichloride. This treatment was continued till October 9th, with gradual improvement of all the symptoms.

On October 9th I suspended the use of both the bichloride and the vinum ferri, and gave Fellow's syrup instead—half a teaspoonful (℥ ss.) every three hours.

On October 13th I left off attending the patient, giving instructions, however, to continue for some time with the Fellow's syrup. There was still a trace of albumen in the urine, and a little paralysis of the muscles of deglutition.

On October 17th the family physician, who had just returned from Europe, called to take me to see the child, as some new symptoms had developed. I found the child suffering from a little bronchial irritation, from having caught a cold. The urine was now perfectly free from albumen, and the only remains of the diphtheria was the slight paralysis of the throat that still continued. Fellow's solution was suspended for a day or two, while a stimulating expectorant was taken in its place.

On October 30th the child was brought to my surgery, comparatively well, but was ordered to continue his Fellow's syrup.

Remarks.—Mercury and its preparations are a parasiticide, and some of these preparations are more so than others.

The bichloride is, perhaps, the most potent, and is perfectly safe when intelligently used, and I should advise its being tried in all infectious or contagious diseases in preference to other preparations of mercury. Its well-known action in preserving the red globules of the blood intact is, no doubt, owing to its killing the bacteria that would otherwise cause their disintegration.

The biniodide is preferred by some physicians, and many who acknowledge the efficacy of other preparations of mercury still hesitate to employ the bichloride. As yet I have met with no untoward symptoms in using it; but should colic or irritation of the large bowel set in, then it ought to be suspended, at least for a time, and smaller doses given afterward.

In my last case of diphtheria, as recorded above, I am convinced that the natural detachment of the membrane favored the absorption of the drug, and thus also its curative action; and although I am averse to the forcible tearing away of the membrane, yet, without doubt, many bacteria are protected by it that we ought to endeavor to get at with as little annoyance to the patient as possible.

To effect this, it seems to me that the best method would be to employ some of the ingredients that are known to have a solvent effect upon the membrane, and these to be applied by means of spray, when the patient can neither gargle, nor drink, nor allow the throat to be touched.

We have all, no doubt, tried the effect of lime-water, as well as that of lactic acid, in this respect; but have we tried them with the addition of corrosive sublimate?

Of late "papayotin" has been in vogue in Germany as a remedy for diphtheria; but from the cases I have seen reported its action seems to me to be very decidedly solvent and nothing more. Still, that is a great matter when so many cases die of suffocation from the presence of the membrane.

Papayotin is prepared from the juice of the trunk and fruit of the South American melon-tree (*Carica papaya*).

It is innocuous when taken internally, but when injected into the blood it paralyzes the heart and nervous system.

It must not be used, therefore, without certain precautions. I should be very chary in applying it to a bleeding surface.

Its local application prevents the fibrinization of the serosity thrown out by the blood-vessels on any surface, whether on a mucous membrane or on an abraded skin, but the living, healthy mucous membrane is not affected by it.

Weak solutions of it have no solvent effect. About one to six is the average strength to be used, and may be applied to the part affected by converting it into spray by means of a brush, by gargling with it or by drinking it, and two or more of these methods may be combined if considered necessary or desirable, and persisted in every hour till the membrane is dissolved or obliterated, which will be the case, probably, after eight or even fewer applications.

In my opinion papayotin merely digests the membrane (just in the same way as the gastric juice digests the fibrinous material in our food), and may or may not have any parasiticidal action whatever. I have not the slightest doubt, however, that it forms an excellent adjuvant to the bichloride treatment of this formidable malady, that is still one of the *bêtes-noires* of the profession.

Syringing the nose with the antiseptic solution of the bichloride should not be neglected, as in this way the upper part of the pharynx comes under the direct influence of the remedy; while, if the false membrane has already been formed there, the papayotin may be applied to dissolve it away.

When the patient is not able to swallow, or refuses to take nourishment, and is very prostrate, I give enemas every four hours, consisting of about four ounces of strong beef-tea, with twenty drops of brandy. When milk can be taken, I prefer it to all other kinds of nourishment, and I generally add to it about one-third aqua calcis.

The following are the usual precautions I adopt in all diphtheritic cases:

First. Isolation of those who are not required to attend upon the patient.

Second. Thorough and constant disinfection of the whole house, but sick chamber and water-closets in particular.

For this purpose I use towels saturated with crude carbolic oil, and hang upon towel-racks or on any other suitable thing.

Third. Attendants are made to gargle their throats now and again with some disinfectant, or even with salt water.

Fourth. Chamber utensils are also disinfected.

I have also thought (although I have not as yet carried it into practice) that it would be a good precautionary measure to put both attendants and those who have been isolated on a mild bichloride régime as long as there was any danger of the appearance of the malady that might be still in its incubative stage.

I claim for the bichloride treatment this great advantage, that besides giving better results than other remedies the patient's strength is not wasted by those almost convulsive fits that are so frequently induced by the struggles of the patient to prevent the throat from being examined.

It is desirable that through the medium of your journal information should be given to the profession as to the experience of other medical men who may have already, or who will in the future, put this treatment still more extensively to the test.

Cairo, November 10, 1886.

Clinical Department.

DIGITAL AMPUTATIONS UNDER COCAINE.

Dr. Nelson L. North, Jr., of Brooklyn, N. Y., writes that he has used cocaine in a number of cases of finger amputations necessitated by various injuries, chiefly those caused by stamping-machines and circular saws. The operations varied in extent from the amputation of a part of the last phalanx to that of the greater part of an entire finger or thumb. The wound is first thoroughly saturated with a four per cent. solution of the hydrochlorate of cocaine before any examination is made; and then, after waiting a few minutes for absorption to take place, one can examine and probe the wound with entire satisfaction, as the patient makes no resistance, because he suffers no pain. Let us now proceed to cut our flaps, following each considerable incision with a few drops of the cocaine solution, and using it also occasionally to wet the entire denuded part, and apply ligatures and saw or clip the bone as necessity may demand. The wound is now ready to be closed, and after thoroughly irrigating it with an antiseptic solution and providing for proper drainage, sutures are applied and the wound dressed in accordance with the principles of antiseptic surgery. The method is simply one of soaking the wound with the cocaine solution. The cocaine is not injected, not that there is any objection to such a procedure, but simply because it is unnecessary, the anæsthesia being sufficient without the use of the hypodermatic needle. The question has been asked whether cocaine does not interfere with primary union. In the cases which have fallen under the observation of the writer, no bad effects resulted from this method, either on the constitution of the patient or the healing of the wound.

TREATMENT OF "LOCO" POISONING IN IDAHO TERRITORY.

Dr. T. E. Wilcox, U.S.A., of Washington, D. C., writes that the treatment employed by the cow-boys in Idaho for poisoning by the loco-weed consists in amputation of the tails of the animals affected. They claim that they seldom lose any stock when this treatment is instituted early enough. "The paralysis," the writer adds, "is probably due to congestion of the spinal cord; it affects the posterior members first. The pupils are contracted, as after the use of eserine. Oxytropis Lambertii, astragalus mollissimus, and possibly others of the leguminosæ, are charged with producing loco-poisoning. In Idaho the cow-boys call these plants 'larkspur,' although true larkspur is rarely found in their line of march and at that season of the year."

INSOLUBILITY OF CAPSULES IN AN INFLAMED STOMACH.

Dr. B. H. Boyd, of La Fayette, Ind., referring to a paragraph in a recent issue to the effect that gelatine capsules are not dissolved in a stomach which is inflamed and irritable, following excess in the use of spirits, reports his experience as follows: "August 10th, at 11 A.M., saw Mr. D——, aged twenty-seven, married, thin, pale, anæmic, tremulous, was an habitual drinker, and had been lately on a spree, but has taken no stimulants for three days. Says he had a chill yesterday afternoon, and a high fever during evening and night. Skin, moist and soft. Temperature, 100°; pulse, 80, but irregular and intermittent. Ordered bromide and acetate potass., to be used freely and continuously; a purgative, and quin. sul., grs. xx., to be given next morning in capsules. August 11th, 4 P.M.—temperature, 103°; pulse, 88; the purgative had acted, and the other medicines had been given as ordered. August 12th, 8 A.M.—temperature, 98°; pulse, 80, and irregular. Urine scanty, high-colored, and containing no albumen. Gave quin. sul., grs xxv., in capsules, and continued salts of potass. At 5 P.M. of the same day the temperature was 103°; pulse, 88. Quin. sul., 3 ss., to be given next morning early. August 13th—remission as before. Repeated quinine capsules. Fever returned in the evening as usual. Quinine capsules ordered to be given again on the morning of the 14th. August 14th, 4 P.M.—temperature, 103.5°; pulse, 86. On examining the stools I found two capsules undissolved, with contents intact. I then ordered quin. sul., 3 ss., *in powders*, to be given next morning in water. I saw patient at 4 P.M. of same day, found the temperature 99°; pulse, 80, of normal volume, and regular. After this the temperature was never observed above 100°, and patient convalesced fairly, considering his broken-down condition.

"Patient used no alcoholic beverages nor medicines during these observations, and his diet consisted of milk, meat soups, eggs, oysters, and toast."

EARLY DENTITION.

Dr. F. B. Morrill, of North Berwick, Me., referring to a case reported recently by Dr. Winsor, relates the following: "I attended Mrs. H——, aged twenty-two, primipara, in confinement February 3, 1884, and delivered her of a female child after a natural labor. The mother was anæmic and asthenic, had had poor appetite through most of her gestation, her diet being made up largely of fruits and oatmeal, yeast-bread, and some beefsteak. She got up from her labor very well with the aid of tonic treatment. She had no milk, and I put the child on a prepared food. When the child was six weeks old, the father, who was employed as an operative in a woollen-mill, invited me in to see his baby's tooth. I with surprise accepted the invitation, and found the left central lower incisor through the gum, and in a week the right central lower incisor was through. The other teeth appeared at the usual time. On May 10, 1885, I again attended Mrs. H—— in confinement, delivering her of a male child weighing eleven pounds. The labor was a complicated one. The mother's condition was rather better during this gestation than in the previous one, but her diet was about the same. This baby's teeth are following the normal course."

Dr. A. Brothers, of this city, referring to the same subject, writes as follows: "My case was that of a child three weeks old with a hare-lip, in which the intermaxillary bone protruded. I operated for the deformity, notched with bone-forceps the misplaced bone, and forced it back to its proper place. Five weeks later, therefore at the age of eight weeks, an incisor tooth had cut its way through the portion of bone referred to. The cause for this seemed to me to be the increased activity which was set up by the operation."

CAN DIPHTHERIA BE COMMUNICATED BY TOOTH-FORCEPS?

Dr. J. W. Collins, of Toronto, Ont., writes: "During the month of January, 1887, there appeared in Toronto a man calling himself the 'king of dentists.' He held free clinics for the extraction of teeth every evening for one week. At these 'extracting bees' he would call upon all who had aching or decayed teeth to come forward and receive gratis the benefit of his wonderful skill, and, it is needless to add, he had plenty of work. During the latter part of the week I saw seven cases of diphtheria, all developed within two days. In each case one or more teeth had been extracted by this itinerant dentist. No other cases of the disease had been known in the community, either in my practice or in that of any of my professional brethren. Is it probable that the disease was communicated by the instruments?"

Progress of Medical Science.

The Propagation of Cardiac Murmurs to the Epigastric Area.—In 1881 Professor Federici showed with what ease and how definitely the area of the stomach could be mapped out by ascertaining by means of auscultation with the stethoscope the extent to which the sounds of the heart are audible in the epigastrium. Over the stomach both sounds can be clearly heard; over the colon, only the second. By percussion it is frequently difficult to distinguish a stomach note from one given by a distended colon. The propagation of the cardiac sounds gives a ready and reliable means of differentiation. Auscultation of the epigastrium may also be used as a means of separating cardiac murmurs. It is sometimes not easy to distinguish between an aortic-diastolic murmur propagated to the apex and a post-diastolic or a pre-systolic murmur, both of which latter are produced at the mitral orifice. It is found, however, that murmurs produced at the aortic orifice are not propagated to the stomach area, whereas mitral murmurs are clearly audible over the stomach. Vanni has recently (*Lo Sperimentale*) confirmed these statements by clinical observations and post-mortem investigations.

Primary Cancer of Bronchial Glands and Lung.—At a recent meeting of the Academy of Medicine in Ireland (*The Dublin Journal of Medical Science*, November, 1886) Dr. M. A. Boyd read a paper on intra-thoracic cancer, which he described as being met with in two situations—the bronchial glands and anterior mediastinum. The former variety, when it involved the lung, was frequently in its advanced stages mistaken for phthisis, the latter for aneurism. He read the histories of three cases which came under his observation last year in the Mater Misericordiæ Hospital, with the post-mortem examinations made in each case. He regarded the symptoms described in standard works as indicating cancer—such as fixed pain in the chest, red-currant jelly expectoration, and enlargement of cervical glands—as unreliable, these symptoms not being present in a fourth of the recorded cases. He considered constant blood-spitting, with congestion of the larynx, and aphonia, with or without paralysis of vocal cords, and urgent dyspnœa, as more reliable signs; and as indicating the situation of the growth in the bronchial glands, with pressure on the bronchial veins and tubes. He considered the primary form of the disease as much more frequent in these situations than secondary formations when the disease began elsewhere. His general conclusions with regard to the disease were, that it occurred most frequently in hard drinkers; that pain was not a frequent symptom until pressure on the nerves in the thorax took place; that constant blood-spitting with symptoms of pressure on the bronchial tubes and obstruction in the œsophagus indicated malignant disease involving the bronchial glands; that, like malignant disease of the abdomen with effusion of blood-stained serum into the peritoneal cavity, malignant disease of the thorax was frequently accompanied by pleural effusion containing blood; that the disease sooner or later invaded the pericardium and compressed the superior vena cava, causing swelling of the face and upper extremity, and occasionally caused pressure on the recurrent laryngeal nerve, with paralysis of one or other vocal cord; that retro-sternal dulness, with displacement of the heart, and pressure on the vena cava, accompanied by paralysis of one or other vocal cord (aneurism being excluded) were absolutely diagnostic of mediastinal malignant disease; that malignant disease of the bronchial glands in its latter stages (when the patients most frequently sought advice), accompanied by muco-purulent expectoration mixed with blood, wasting, and night-sweats, resembled phthisis so closely that autopsies were not made, and the frequency of the disease in consequence was lost sight of. The disease in his experience was fatal in from two months to eight—his three cases having died about six months after the disease first showed itself.

The Efficacy of Basham's Mixture in Chronic Diffuse Nephritis.—Dr. A. L. Gihon reports (*The Chicago Medical Journal and Examiner*, January, 1887) a case of Bright's disease in which the albuminuria completely disappeared under the use of the mistura ferri et ammonii acetatis (U. S. Ph.). The patient was a naval officer, who developed nephritis after exposure to malarial influences during a long cruise on the China station. At the Naval Hospital, New York, where he was first received on reaching the United States, his urine was noted as "smoky, variable in quantity, containing from one-sixth to one-twelfth of its volume of albumen, with granular and hyaline casts. There was general œdema, with consequent dyspnœa, spasmodic breathing, interference with heart's action, and pains in the extremities." He improved sufficiently to permit his transfer to Washington, at his own request, that he might be with his family, but the fatigue of travel proved more than he was able to undergo, and he arrived in a state of extreme prostration, his heart acting feebly and tumultuously—beating one hundred and forty to one hundred and sixty per minute—pulse scarcely discoverable at the wrist, temperature ninety-nine, features pinched, eyes pearly, skin dull yellow, surface cold, clammy sweat, tongue broad, moist, pale and cold to the touch, great præcordial distress, dyspnœa, excessive restlessness, moaning, hiccough, distention over lower pleuræ, tumid abdomen, almost complete suppression of urine, and incessant violent retching and vomiting. He was put into a hot bath, dry cups applied over the loins, and the abdomen enveloped in hot turpentine stupes. Later the mistura ferri et ammonii acetatis, the use of which had been commenced at the Naval Hospital at New York, was administered in small doses alternately with boiled milk and lime-water, and repeated as often as it was vomited. This treatment, catharsis being at the same time established, was persisted in with such modifications as circumstances required. The irritability of the stomach gradually abated on the restoration of the secretion of urine. The Basham's mixture was continued in larger doses at longer intervals, and the symptoms continued to abate in severity. After a few months his urine was found to have a specific gravity of 1022, was slightly acid, and averaged daily thirty-four ounces; no casts and not the slightest trace of albumen were discoverable. Improvement became rapid. His flesh became firmer and of rosier color, all puffiness disappeared from the face, and all swelling from the lower extremities. Some abdominal distention remained. Of course the diffuse nephritis was not cured, but all untoward symptoms subsided for many months.

Paralysis Consequent on Parotitis.—Dr. Joffray has described a form of paralysis resulting from parotitis. It affected all four limbs, beginning, apparently, in the lower, and extending to the upper; the latter, however, being less markedly disturbed than the former. The paralysis was preceded by pains of a lancinating and constricting character, and became manifest about twenty-one days after the onset of the causal disease. It was associated with abolition of the reflexes—knee and plantar. The muscles failed to respond to faradic or galvanic excitation. This was the case not only with the muscles completely beyond volitional control, but also with those still capable of being influenced to some extent by the will of the patient. The sensibility of the muscles was increased, any slight pressure on them causing pain, while the sensibility of the skin itself seemed impaired. The special senses were intact. There was slight albuminuria, but no other disorder of the urinary function. Cure was effected, in the case of a child aged four and one-half years, in the course of four months, by the administration of iodide of potassium.—*Progrès Médical.*

THE MEDICAL RECORD:

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SIMPLE CONSTIPATION AND ITS SUCCESSFUL MANAGEMENT.

AMONG the morbid states of the system for which suffering humanity seeks relief, often with but oftener without medical advice, none is probably of more frequent occurrence than constipation. From time immemorial to the present day countless expedients, including the use of innumerable drugs, have been resorted to in the endeavor to spur to renewed activity the flagging function of defecation. Sir Andrew Clarke has recently published some suggestive remarks concerning this subject, which, though not very original, nevertheless carry with them the weight of large experience and eminent practicality.

Sir Andrew inveighs particularly against the ignorant and unskilful domestic management of constipation, with its many untoward consequences, some of which may indeed become quite serious. He might with equal propriety have denounced the unskilful, because routine, practice of dealing with this disorder still practised by many medical men. The real mischief often begins by the self-conscious patient seeing imaginary evils impending from the accidental failure of his bowels to act on some occasion when he has decided that they ought to have done so. The *maladie imaginaire* forthwith concludes that the only way to relieve his "attack of constipation" is to take "a dose." And, he argues, the stronger the dose, the more effectual the cure. The medicine having operated, the bowels are probably found more inactive than before, which leads to renewed "doses." Soon the bowels fail to respond to natural stimuli, and periodical discharges are excited only by repeated doses of stronger and stronger aperients. In the words of Sir Andrew, "With few exceptions, no person has passed through this experience and fallen under the tyranny of aperients without finding his life invaded by a pack of petty nuisances which lower his health, vex his temper, and cripple his work."

Now, it is quite true that "for the most part all these troublesome consequences of constipation may be avoided by attending to the conditions of healthy defecation." Chief among these conditions are a sufficient quantity of digestible food—including plenty of liquid—the presence of enough refuse matters in the colon, a decent regard to nature's promptings, regular solicitation once every twenty-four hours, the co-operation of the will, and contentment with a moderate evacuation. Of course, this simple and natural regimen presupposes a healthy nervo-muscular apparatus, without which the function in question cannot be properly performed. Sir Andrew briefly discusses each of the above conditions; but they are so well known to the profession that it is unnecessary to dwell on any of them, except, perhaps, the last-named—*i.e.*, contentment with a moderate discharge. On that score there is probably more ignorance than on any other point connected with the subject. According to Clarke, "for a man of average weight, consuming an average amount of food, the average amount of fæces ready for discharge in twenty-four hours is about five ounces. This should be formed, sufficiently aërated to float, and coherent." There is not the slightest doubt that "many people expect to have a much more abundant discharge, and are dissatisfied or anxious if they do not get it." Such persons commonly resort to aperients in order to obtain "relief" from their imaginary constipation, and thus invite the very condition from which they are making misguided efforts to escape.

To effect a cure in such cases it is necessary, first of all, to stop aperients, and then to renew obedience to physiological laws. Sir Andrew's instructions to this large class of patients are so simple, direct, and practical that we cannot do better than here transcribe them:

"1. On first waking in the morning, and also on going to bed at night, sip slowly from a quarter to half a pint of water, cold or hot. 2. On rising, take a cold or tepid sponge-bath, followed by a brisk general towelling. 3. Clothe warmly and loosely; see that there is no constriction about the waist. 4. Take three simple but liberal meals daily; and, if desired, and it do not disagree, take also a slice of bread-and-butter and a cup of tea in the afternoon. When tea is used it should not be hot or strong, or infused over five minutes. Avoid pickles, spices, curries, salted or otherwise preserved provisions, pies, pastry, cheese, jams, dried fruits, nuts, all coarse, hard, and indigestible foods taken with a view of moving the bowels, strong tea, and much hot liquid of any kind, with meals. 5. Walk at least half an hour twice daily. 6. Avoid sitting and working long in such a position as will compress or constrict the bowels. 7. Solicit the action of the bowels every day after breakfast, and be patient in soliciting. If you fail in procuring relief one day, wait until the following day, when you will renew the solicitation at the appointed time. And if you fail the second day, you may, continuing the daily solicitation, wait until the fourth day, when assistance should be taken. The simplest and best will be a small enema of equal parts of olive-oil and water. The action of this injection will be greatly helped by taking it with the hips raised, and by previously anointing the anus and the lower part of the rectum with vaseline or with oil. 8. If by the use of all these means you fail in establishing the habit of daily or of alternate daily action of the bowels, it may be necessary to take artificial help. And your object in doing this is not to produce a very copious dejection, or to provoke several smaller actions: your object is to coax or persuade the bowels to act after the manner of nature, by the production of a moderate more or less solid-formed discharge. Before having recourse to drugs, you may try, on waking in the morning, massage of the abdomen, practised from right to left along the course of the colon;

and you may take at the two greater meals of the day a dessert-spoonful or more of the best Lucca oil."

The author maintains that if this programme be faithfully adhered to, aperients will rarely be found necessary. Of course, Clarke admits that the use of drugs is not altogether avoidable. His own preference is for the compound aloin pill (aloin, gr. ½; ext. nucis vom., gr. ½; ferri sulph., gr. ½; myrrh and soap enough to make one pill), taken half an hour before the last meal of the day. We fully agree with Dr. Clarke in believing that "the particular agent employed for the relief of constipation is of much less importance than its mode of operation." Whatever the remedy, it should act after the manner of nature in securing a daily formed stool. If in place of yielding to the importunities of patients demanding new and stronger aperients physicians would always take the pains to insist upon some such plan as outlined above, we have no doubt that there would be less trouble for and from constipated persons.

QUACK MEDICAL ADVERTISEMENTS AND THE RELIGIOUS PRESS.

We have been very much edified by the article which, in response to one of our editorials on quack advertisements and the religious press, appeared in the columns of the *Christian Advocate* for February 24th. We heartily indorse the principles which govern the editor with reference to all advertisements. We accept as eminently proper the criticism which he makes on some of the advertisements that have appeared in The Medical Record. We also acknowledge the receipt of the suggestion that "it" (The Record) "could find a better field for its missionary labors by selecting some of those religious papers which admit the worst kind of quack remedies supported by ministerial certificates," etc. We do not, however, adopt the suggestion that we could find a better field. Why? Simply because the columns of the *Advocate* have been so nearly clean that it is worth a double effort to make them *entirely* so. Of course, the *Advocate* does not wish to avail itself of the argument that because other religious papers soil themselves altogether it may be excused for being a little bit impure. We are happy to say that we believe that the principles by which the *Advocate* is governed would not allow it to seek such a refuge, however much the editor's parting shot may have of that appearance.

But let us return to the principles which govern the editor with reference to advertisements.

The editor of the *Christian Advocate* "gives instructions to the superintendent of the advertising department; these instructions are: 1. Admit no advertisements which declare that the medicine advertised is an infallible cure. 2. Admit none that declare that they cure diseases."

This is an excellent instruction, and one which those religious newspapers that admit to their advertising columns "the worst kind of quack remedies supported by ministerial certificates" would do well to take cognizance of. Now with reference to the medicine in question. The criticism of the *Advocate* on the advertisement as it at this date stands in its columns is well deserved, and we hope that the superintendent of the advertising department will "require the advertisement to be trimmed down several times" more. "It does state," says the editor, "that in croup it gives almost instant relief." "Not a solitary direct statement of its *infallibility*, or even of its *curing* any disease, is found in the advertisement."

On this we have to offer the following: It does state that "it *never fails* to give almost instant relief." Never fails and infallibility are so nearly the same that we feel warranted in assuming that those who read advertisements because they are in search of remedies will be led to believe that this particular one *always* relieves and that *almost instantly*.

The whole secret of the success of quack advertisements lies in words which convey the idea of certainty—"best," "unsurpassed," "never fails," etc. We trust that the *Advocate* may see its way clear to still further apply the pruning-knife. We make the bold assertion that the remedy has not yet been discovered that "never fails to give almost instant relief in that frightful malady, croup." The proprietors of this remedy in giving such a statement to the public have taken a position never yet assumed successfully by any intelligent, educated physician, and, by so much at least, the *Advocate* should not aid in sustaining what may give rise to deception.

Besides, the editor of the *Advocate* would act very unwisely should he peril the life of one of his own children by assuming the responsibility of diagnosticating that "frightful malady," the croup. By the admission of no tices of remedies for such diseases, for in this instance *relief* may be only the luring precursor of death, the newspaper or the journal becomes accessory indirectly to an extent that holds it and its editor *responsible*. This is no new view to the editor of the *Advocate*, and we have read with pleasure his trenchant words against what was no greater danger than that which we have thus endeavored to point out.

From this standpoint we should say that no newspaper or medical journal should permit in its columns advertisements containing such language as the following: "The best known remedy for either," speaking of cough or cold in persons having a tendency to consumption. This is too grave a responsibility for anyone to assume, either professional or non-professional. Why? Simply because medical science has demonstrated at the bedside that there is no *best* remedy yet known. And yet the *Advocate* advertises it as "the best known remedy for either."

In the first advertisement under consideration the advertiser says that *coughs* are "more speedily, surely, and thoroughly stopped" "than by any other medicine," and that it "is unsurpassed for the relief of coughs."

Certainly, it requires no play upon words to make it appear that for coughs "the best known remedy," and that which *stops* coughs "more speedily, surely, and thoroughly than any other medicine," and "is unsurpassed for the relief of coughs," can, by any possibility, be truthfully applied to two remedies. And still the *Advocate* advertises both proprietary medicines.

The *Advocate* is evidently under conviction, and we doubt not that it will draw the lines even closer than it has yet done. Would that the medical profession and the medical journals had as honest and powerful an ally

in every religious newspaper in the land as they have in the *Christian Advocate*, for then the nostrum-venders might be driven from this field.

The statement that "it is impossible for the medical profession to take care of all the sick in the country" will not bear the test of either argument or criticism for a moment. That "thousands of persons live so far from physicians that they need some remedies in the house," doubtless is true; but it by no means follows that they cannot be supplied by the physicians of the country with remedies equally efficacious and much more trustworthy than those which are heralded in the advertising columns of the religious and secular newspapers.

We hope that the *Christian Advocate* will aid us with its clarion voice in preaching against the debasing practice of inserting quack medical advertisements in the columns of the religious press. We will also do the best that we can to keep our own garden free from weeds.

A SURGEON REMOVED BECAUSE HE PERFORMED LAPAROTOMY TOO OFTEN.

At the annual meeting of the Governors of the Liverpool Hospital for Women, the case of Dr. Imlach was made the subject of lively discussion, he having been accused of too frequent indulgence in spaying, and of varying from the consultation custom of the hospital. The controversy seems to have been based mainly on personal grounds, there being great jealousy and antagonism among the staff. On the question of re-electing the staff arising first, Dr. Briggs, a new member, was elected unanimously; secondly, Dr. Burton, who had been on the staff since the formation of the hospital, and who was pointedly accused by Mr. S. B. Bacon of being "the originator" of the quarrels, was elected by thirteen votes to nine; thirdly, when the case of Dr. Imlach's re-election came up, it was negatived by seventeen to sixteen votes.

The whole affair quite exceeds, in scandalousness and publicity, anything that we have ever been able to produce in this modest new world of ours. We salute our mother country. In the matter of exhibiting dirty professional linen, she has now got far ahead. As for Dr. Imlach, he has evidently been doing oöphorectomy well, but not too wisely.

EPIDEMICS OF PNEUMONIA IN THE COUNTRY.

In certain rare cases pneumonia attacks a community with a suddenness and to an extent which constitutes a veritable epidemic. In the *British Medical Journal* of August 11, 1883, Dr. Bruce describes the appearance of such an epidemic at Dingwall, a locality in which the disease had never prevailed before, except to a small extent. From May to September Dr. Bruce treated twenty-three cases, and Dr. John Adam twenty-four cases. Many of the patients lived far apart, and there was no evidence of contagion or of some specially limited local cause. The disease seemed to prevail just as influenza sometimes does, attacking persons indifferently.

Dr. Mackenzie, of the Isle of Skye, records the appearance of an epidemic of influenza in that locality, followed by the development of pneumonia in many of the persons attacked.

Dr. R. J. Foulis reports a very typical epidemic of pneumonia occurring in the vicinity of Wylam-on-Tyne. In a population of about two thousand, there appeared within two months one hundred and fifteen cases of pneumonia. The disease followed a very severe storm; it ran the usual course of croupous pneumonia; it attacked young persons mostly, and these of all classes. In fine, it had the appearance of an acute infectious disease.

The epidemics of pneumonia above described occurred in somewhat thinly settled districts, and are unlike the occasional epidemics of this disease seen in overcrowded garrisons or in sewer-gas-poisoned houses.

Doubtless some of our readers can recall epidemics of true croupous pneumonia occurring in rural localities. Careful observations of such phenomena would be of decided interest.

News of the Week.

Excision of the Larynx.—We learn from the daily papers that a larynx has been removed *in toto* by a Philadelphia surgeon. The patient died. The same operation with the same result has recently been done in Baltimore and London.

Dr. Lewis Fisher, formerly of Morristown, N. J., and later of this city, died recently at Jacksonville, Fla., in the forty-eighth year of his age.

A Death from Chloroform occurred in the practice of Dr. William H. Pancoast recently. The anæsthesia was not completely accomplished before death occurred. The man had a fatty heart.

The Tennessee State Medical Society meets at Nashville on the second Tuesday in April. It promises to be a specially large and interesting meeting.

Bacteriology and its Clinical Therapeutics is the tittle of the general address which will be delivered by Professor Mariani Semmola before the Ninth International Medical Congress.

The Sixteenth Congress of German Surgeons meets at Berlin on April 13th, 14th, 15th, and 16th next. Professor Richard von Volkmann will preside. One of the subjects of discussion will be, "Occlusion of the Intestines, Peritonitis, and Intestinal Perforation, from an Operative Stand-point," to be opened by Dr. Madelung, of Rostock.

The Sixth German Congress for Internal Medicine will be held at Wiesbaden, April 13th to 16th, under the presidency of Professor Leyden. Among the subjects announced for discussion are, "The Therapy of Phthisis," "Cerebral Localization," "Pathology and Therapy of Whooping-cough," "Pernicious Anæmia," "Tabes Dorsalis," and "Experimental Epilepsy."

The Death of Professor Béclard occurred quite suddenly on February 9th, in the sixty-ninth year of his age. He was Professor of Physiology in the Faculty of Paris, and made many important contributions to that science. His treatise on "Physiology" has long been a standard one in France, but never got much popularity outside that country. Béclard was Dean of the Paris Faculty.

Despatches Announce that Professor Virchow has won his seat in the Reichstag at the last elections.

The Alumni Association of Long Island College Hospital held its seventeenth annual banquet on the 2d inst.

The New York Polyclinic.—The Faculty of the New York Polyclinic tendered a reception to its numerous friends in its building, No. 214 East Thirty-fourth Street, on Wednesday, March 2d. One of the features of the occasion was the celebration of the matriculation of its thousandth student. The different clinic rooms were duly inspected, and the sociabilities terminated with an elegant supper.

An Enterprising Female Charlatan.—The *Pacific Record* states that a female doctor in San Diego, Cal., started a cancer epidemic, and her rooms were filled with patients, from each of whom she extracted a cancer "without pain," and was rapidly getting rich, until someone discovered that the "cancers" were pig-kidneys. Many female doctors have ridden this hobby of curing cancers into a good practice, without one atom of knowledge. It is only necessary to employ two or three women to declare that *they* have been cured, and the thing is done.

Jews in the Paris Faculty of Medicine.—Professors Germain Sée, Charcot, Hayem, Marc Sée, and some other prominent members of the Paris Faculty of Medicine are of Jewish descent.

Considerable Excitement has been caused in medical circles at Boston over the fact alleged by the *Boston Medical and Surgical Journal* that the following message was left on the slate of a Boston physician:

οἱ ἀναγκαῖοι ἐμὲ χρήζουσιν ὀίκαδε ἰέναι.

Several translations of this sentence have been offered, the best one being sent up by a surgeon of this city. When the facts are all brought out, it will probably be shown that the gentleman who left the message was a New Yorker, on a brief visit to the provinces.

The Pennsylvania Hospital has received the sum of $4,000, and the Woman's Hospital of Philadelphia $3,000, from the estate of the late Mr. John George.

Yorkville Medical Association.—The following officers have been elected for the ensuing year: President, Dr. C. J. McGuire; Vice-President, Dr. J. F. Monell; and Secretary, Dr. J. Blake White.

New York Post-graduate Medical School and Hospital.—Dr. Joseph O'Dwyer will give a course of instruction on intubation of the larynx on Wednesdays and Saturdays, at 3 P.M., at this institution.

A Doctor's Suicide.—Every house in Inverary, Scotland, belongs to the Duke of Argyle. Opposition to His Grace means banishment. Its government is delegated to a certain councillor, James Wyllie, who is the Duke's factor and chamberlain, and chairman of a co-operative store the greater portion of whose capital belongs to the Duke. The town council consists of the Duke's men. They are called the "concur" members, because they always say ditto to every motion of the factor, chamberlain, and storekeeper. Three years ago the medical officer reported the overcrowded state of the burgh. He was dismissed from his position as medical officer and his dwelling was taken from him. This persecution so weighed on him that he killed himself, and the house from which his wife and his children were ejected still remains unoccupied, as a warning, presumably, to all such meddlers. So says *Truth*.

Reviews and Notices of Books.

Practical Clinical Lessons on Syphilis and the Genito-urinary Diseases. By Fessenden N. Otis, M.D., Clinical Professor of Genito-urinary Diseases in the College of Physicians and Surgeons, New York, etc. New York, 1886.

This edition of Dr. Otis' work is merely a reprint of the publication issued in 1883 by Bermingham. It is now published by the author for the convenience of those who wish to make themselves familiar with his views and methods of practice. A true second edition, embodying the usual changes, eliminations, and additions made necessary by progressive science, is promised by the author at a later date.

Surgical Diseases of the Kidney. By Henry Morris, M.A., M.B., F.R.C.S., Surgeon to, and Lecturer on Surgery at, the Middlesex Hospital, London. 12mo, 555 pages, with six chromo-lithographic plates and forty engravings. Philadelphia: Lea Brothers & Co. 1886.

This work contains an account of those renal affections which are likely to interest the surgeon. Malformations, injuries, and all diseases that may bring up the question of an operation upon the kidneys are discussed by the author in a very satisfactory manner. The methods of nephrectomy, nephro-lithotomy, nephrotomy, nephrorraphy, and aspiratory puncture are described in detail.

Mental Diseases. By Charles F. Folsom, M.D. Pp. 204. 1886.

These pages were a contribution to the "American System of Medicine," and reprinted for the students in the Harvard Medical School. The writer has done fairly well in covering so wide a subject in so few pages, and the book will probably prove a valuable adjunct in instruction upon this branch of medicine, the importance of which, unfortunately, is too much overlooked in a medical course.

Diseases of Tropical Climates. Lectures delivered at the Army Medical School, by William Campbell Maclean, M.D. Pp. 337. London: Macmillan & Co. 1886.

These lectures are written in the most graphic and interesting manner. In a way they are models. They are full of illustration, practical hints, and instruction of how to meet those diseases which often prove more fatal in decimating the ranks of the British army than its enemies. He considers as diseases of tropical countries, Malaria; Intermittent, Remittent, Enteric, Relapsing, Dengue, and Yellow Fevers; Insolation, Diarrhœa, and Dysentery; Cholera, Diseases of the Liver, and Guinea-worm. He devotes a chapter to the disease called Beriberi, which prevails on the Malabar coast, in Ceylon, as well as in other parts of India. He describes it as an exceedingly fatal malady, characterized by anæmia in an extreme degree, numbness and motor paralysis of the lower extremities, scanty and high-colored urine, general œdema, with effusion into the serous cavities, chiefly the pleura and pericardium, occasionally acute pain, and oppression at the epigastrium, death occurring suddenly, either from dropsical effusion into the thoracic cavities, failure of the heart, or embolism.

On Disorders of Digestion, their Consequences and Treatment. By T. Lauder Brunton, M.D., D.Sc., F.R.S. 8vo, pp. 389. London: Macmillan & Co. 1886.

Diseases of the Stomach and Intestines.

A Manual of Clinical Therapeutics for the Student and Practitioner. By Professor Dujardin-Beaumetz. Translated from the fourth French edition by E. P. Hurd, M.D.; with illustrations and one chromolithograph. New York: William Wood & Co. 1886. Wood's Library of Standard Medical Authors.

Dr. Brunton's work is not a systematic treatise, as might perhaps be supposed, but consists of a collection of essays and lectures, written or delivered by the author at different times. The author almost too candidly states that if any one should attempt to read his book straight through, he would probably throw it aside in disgust, because he has in some cases repeated himself. We would not pass so harsh a judgment. Every chapter of the work is worth reading, showing, as it does, an alert and ingenious mind stored with knowledge and experience. The first three chapters of the book consist of the Lettsomian Lectures "On Disorders of Digestion, their Consequences and Treatment." Then follow miscellaneous essays. The first two are on headache, neuralgia, and other nervous diseases connected with the teeth; on the pathology and treatment of some forms of headache. The author here gives some very interesting points regarding the headaches of digestive origin, the nature of migraine, reflex headaches, etc. Subsequent chapters are devoted to dyspepsia, the uses, etc., of fat; the physiological action of alcohol on vomiting; the action of mercury on the liver; the action of purgative medicines; the action of tonics, of alteratives; indigestion as a cause of nervous depression, etc. All the topics treated of are "live" ones, and are treated of in an ingenious, interesting, and suggestive manner. We can recommend the book most heartily, as likely to prove of absorbing interest and of much practical value.

Dujardin-Beaumetz's work is one of quite a different character. It aims to be a treatise on gastro-intestinal disorders, studied from a therapeutical point of view. The author gives us some pathology, therefore, but mostly treatment. The work is written in the form of lectures, and has the disadvantage, consequently of being somewhat diffuse. The author writes clearly, however, and his description of modes of treatment are all the better for the copiousness of detail. The book is enriched with many notes, which the editor has judiciously placed at the end of the different chapters. These notes, taken in connection with the text, evince a great deal of erudition, and make of the book a veritable encyclopædia of information upon the subject of which it treats. The author calls attention to the recent investigations which French physicians have made upon the subject of dilatation of the stomach and the generation of putrid products in that organ. He believes that the further study of this subject is going to lead to a great change in our ideas of many of the morbid phenomena attendant on dyspepsia. We congratulate Dr. Hurd upon having been the means of presenting to the profession a work likely to be of such service, and upon the excellence of his translation.

Traité Élémentaire d'Anatomie Médicale du Système Nerveux. Par Ch. Féré. Paris: Aux Bureaux du *Progrès Médical*. 8vo, pp. 495. 1886. Elements of the Medical Anatomy of the Nervous System.

There is undoubtedly a widespread desire on the part of physicians to learn the latest views regarding the anatomy of the nervous system, and Dr. Féré has undertaken to present the subject in such a manner as to make it interesting and intelligible to the average reader. The introduction of the qualifying term "medical" means, we take it, that the author intends to give, as he goes along, enough of neuro-pathology to make his work practical.

Dr. Féré has the virtue, which most French authors possess, of writing clearly, and he has had an excellent training in neurology under Charcot. His book is, therefore, as might be expected, a work of more than average merit. We cannot, indeed, find fault with it, except that in his description of the finer portions of the nervous system, such as the different tracts in the medulla, pons, and cord, he is not quite complete, and he does not bring out by diagrams, etc., the fibre-system of the brain and cord as well as might be wished. The illustrations also are not of the best. Still, we can, on the whole, heartily commend the book to the general reader, and we trust his audience in America will be a large one.

Handbook of Practical Medicine. By Dr. Hermann Eichhorst, Professor of Special Pathology and Therapeutics at Zurich. Volume I. Diseases of the Circulatory and Respiratory Apparatus, one hundred and three wood engravings. Volume II. Diseases of the Digestive, Urinary, and Sexual Apparatus, one hundred and six wood engravings. Volume III. Diseases of the Nerves, Muscles, and Skin, one hundred and fifty-seven wood engravings. New York: William Wood & Co. 1886. Wood's Library of Standard Medical Authors.

Professor Eichhorst has long been favorably known to the medical public of this country for his contributions to general medicine and nervous pathology. His book has had a favorable reception abroad, and it fully sustains the reputation of the author. There are three things which characterize the work and give to it a particular value: these are the copiousness of the therapeutical discussions and suggestions, the extremely complete and almost encyclopædic thoroughness with which the author goes over the field of medical pathology, and finally, the admirable presentation of the subject of diseases of the nervous system, in which Professor Eichhorst has achieved some special fame.

The abundance of the illustrations, there being a total of three hundred and sixty-six, adds to the attractiveness and clearness of the work. We should be glad to have learned who was the translator of these volumes, for he has evidently done his work carefully and well.

The Genuine Works of Hippocrates, Translated from Greek, with a Preliminary Discourse and Annotations. By Francis Adams, LL.D., Surgeon. In two volumes. Vol. II. New York: William Wood & Co. 1886. Wood's Library of Standard Medical Authors.

There is little new that can be said now regarding the works of Hippocrates. The present volume is hardly of so much interest as the first, yet most of it can be read with interest, if not profit. The best thing in it, perhaps, is the chapter on "The Sacred Disease." In this Hippocrates shows how thoroughly his mind was freed from the medical superstitions of the day, and with what a philosophical mind he can discuss questions of medical pathology. As for his aphorisms, we have long thought them rather poor things, as most attempts at being aphoristical when dealing with things complex and inexact must necessarily be.

The Hippocratic oath is an immortal production, and deservedly so. "The Law" is a brief tract which, if written nowadays, would be considered rather commonplace. We have said that Hippocrates' "Surgery," as the first two-thirds of this volume might be called, is of lesser interest than his medical treatises. It is, nevertheless, a tolerably complete work so far as fractures and dislocations are concerned, and the editor, Dr. Adams, a surgeon himself, says that in this nineteenth century

no other author has treated the same subject so completely.

The illustrations at the end of the volume deserve notice, if only for their showing the characteristic physiognomy of the ancient Greek.

Rheumatism: Its Nature, Its Pathology, and Its Successful Treatment. By T. J. Maclagan, M.D. New York: William Wood & Co. 1886.

This work, which is one of the series of "Standard Medical Authors of Wood's Library," is an interesting and instructive consideration of rheumatism. The author regards the disease as miasmatic in origin as is malaria, and thinks that lactic acid is produced by the morbific action of parasitic organisms which have a predilection for fibrous and serous tissues, hence the reason of rheumatism affecting the joints and the pericardium. The author then proceeds to consider rheumatism of the vasculo-motor apparatus, and rheumatism of the locomotor apparatus. The efficiency of the salicyl compounds is due, he thinks, to the power which they have of combating the miasmatic organisms. Of all of these he prefers salicine. He says it is a bitter tonic, and has not the unfavorable action upon the stomach and heart of salicylic acid.

Manual of Dietetics. By J. Milner Fothergill, M.D., Edinburgh. New York: Wm. Wood & Co. 1886.

Dr. Fothergill's name has come to be associated with matters of diet, and his book will command attention as from one who has much experience in an important and an hithertofore neglected subject in connection with the health of humanity. Food, as the writer himself states, has had its pre-scientific stage, when the question was one of the palate, and not of the digestion. To-day the degenerate descendants of the eaters of venison pasty and roast boar must think whether peptic glands and gastric juices are equal to the task demanded of them. It was not exactly "*eye of newt and toe of frog*" that made the witch-like food of Charles V. of Germany. He, nevertheless, revelled in roasted horse, cats in jelly, lizard soup, and fried frogs, as delicacies of his menu. If Dr. Fothergill had been the court physician, with his present enlightenment, he would have discoursed learnedly to that gluttonous monarch, and told him of carbo-hydrates, albuminoids, fat-salts, and just what combination of vegetable, flesh, and fish were requisite to produce a proper condition in that monarch's alimentary apparatus, such as should most conduce to his well-being, and, consequently, to that of his subjects; and his scientific discourse would have turned the mind of the Emperor from thoughts of tickling his palate to the intellectual delight which a modern can enjoy, as, for example, that of watching the process of digestion in a test-tube. It is said that, in countries where certain diseases are prevalent, the plants or trees which furnish drugs corrective of the same abound; so in this century of prevalent dyspepsia, the consideration of food, in a dietetic and scientific aspect, becomes one of the features of the time, necessity having again performed the maternal duty and brought forth her offspring, invention. To turn from these somewhat rambling considerations of diet, past and present, to Dr. Fothergill's book, we find food dealt with in all its aspects and relations. Condiments, beverages, stimulants, fluid foods, preserved, canned, and prepared foods, and artificial digestive agents each claiming a chapter. In Part II. he treats of foods for infancy, youth, adult life, and old age, and for all the diseases which are encountered by the physician. Dr. Fothergill is sometimes florid in style, a little loose in diction, and not always as exact in detailing his theories and giving directions as so scientific a work would lead the reader to expect; but these are minor blemishes, which are easily forgiven in view of the value of most of the information given, and the thought-awakening power of the material placed at our disposal. It will certainly turn the attention of the physician too exclusively devoted to medication to the valuable auxiliary to be found in a diet suitably adjusted to the case in hand.

Manual of Operative Surgery. By W. Arbuthnot Lane, M.B., M.S., F.R.C.S., etc. 12mo. Pp., 276. London: George Bell & Sons. 1886.

The author of this manual is a demonstrator of anatomy, and the book itself smacks of the dissecting-room. Anatomical details are entered into with extreme minuteness, while the practical steps of the operations are almost entirely omitted. For example, in amputation at the middle of the thigh, it is much more important that the operator should draw down and cut short the tendons and nerves, than that he should know that he is cutting small branches of specified cutaneous nerves. The best sections are on ligations of vessels and excisions of bones and joints. Many recognized operations, such as litholapaxy, and Ogston's operation for flat foot, are not even mentioned. Nothing is said as to the importance of antiseptic details. An operative surgery without this is much less interesting than the play of "Hamlet" with *Hamlet* left out. To the general practitioner the book is of no use, while the practical surgeon will find it very unsatisfactory.

Reports of Societies.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, February 28, 1887.

Laurence Johnson, M.D., President, in the Chair.

Dr. P. A. Morrow read a paper on

THE DURATION OF THE SYPHILOGENIC CAPACITY IN RELATION TO MARRIAGE.

The fundamental characteristics of syphilis were two: First, prolonged virulence, and second, susceptibility to hereditary transmission. What is the duration of the contagious stage of syphilis? A century ago the majority of syphilographers would have answered that it began and ended with the chancre. At the present day it is impossible to fix a definite limit when the syphilitic organism is cleansed from the contagious element. The author of the paper then directed attention to the results of experimentation, and also to clinical evidence, which he regarded as conclusive that in the late tertiary stage the disease is still contagious. Especial attention was also directed to a paper published by Dr. F. N. Otis, in which the writer had taken a position that was opposed by an overwhelming mass of clinical testimony, that is, that after the termination of the second year it was impossible for a man, all manifestations of syphilis having disappeared, to communicate syphilis. Dr. Morrow believed that the doctrine of the paternal transmission of syphilis was supported by most authorities on general medicine, and also by most syphilographers.

He concluded that there was nothing constant in contagion, and nothing certain in heredity; that the modern division of syphilis into secondary and tertiary periods did not furnish a safe criterion concerning the contagious or the non-contagious character of the lesions; that the chronological completion of the secondary stage did not mark the definite disappearance of the virulent principle; that in the immense majority of cases the contagious activity of syphilis, and its susceptibility of hereditary transmission, ceased after three or four years, but there were well-authenticated cases in which it manifested itself as far removed as five or six years, and even later; that the precise date, in the evolution of the diathesis, when the limit of its contagious or transmissive power had been reached, did not admit of mathematical expression; that

this limit was materially influenced by the type of the syphilis, the character of the treatment, the presence or absence of certain conditions, etc., and that to fix the date at which a syphilitic man could marry with safety at three or four years, with or without treatment, and irrespective of the existence of specific lesions, was unwarranted by science or the teachings of experience.

The discussion was opened by DR. F. N. OTIS, who maintained that all the processes of syphilis were processes of growth, characterized by cell-proliferation non-inflammatory in character, and that when the contagious element had been removed the disease was at an end; that beyond the secondary period of syphilis, however long that may be proved to be present, there was no contagion; that all the lesions of the tertiary period of syphilis were free from the contagious element, and were simply sequelæ of the disease; that the period at the end of which marriage could take place with safety had, after thorough treatment, been fixed by the profession throughout the world as three or four years; that there should be, after thorough and prolonged treatment, an interval of a year or eighteen months, during which, without treatment, no syphilitic manifestation had appeared. These were statements in which all believed. For himself, he believed that the person was beyond the contagious stage of the disease at the end of three years, if proper treatment had been carried out. He claimed that, in view of the enormous mass of evidence presented, and of the general experience of authorities, wherever syphilis had been communicated at a period later than three or four years, it would be shown, in such cases, that the true source of the disease was in a lesion less than three years old.

DR. R. W. TAYLOR confined his remarks to three points: First, the length of the contagious stage of syphilis; second, can the arbitrary line be drawn upon one side of which it can be said that the disease was contagious and upon the other non-contagious; and, third, the course and contagious character of syphilis in its bearing on the question of marriage. The key-note to the contagiousness of syphilis could be summed up in the word treatment. If taken early, and treated thoroughly, the contagiousness, in ninety-nine out of a hundred cases, could be destroyed at the end of two or two and a half years. Of course, a papular syphilide might occur as late as the fifth or sixth year, and precocious tertiary lesions might be contagious; but these were very exceptional cases, and in them no syphilographer would think of permitting marriage. Again, there was no law that could be laid down as to the contagiousness and non-contagiousness of syphilis, uninfluenced by treatment. Each case, treated or not treated, must be considered by itself, with reference to all these important questions, and the question of marriage, if influenced by the decision of the physician, should not be decided until all these points had been most carefully studied. If circumstances be such as render postponement of marriage impossible, impregnation should be forbidden until the requisite length of time had been passed under treatment to destroy the contagiousness of the disease.

DR. E. B. BRONSON thought that there was nothing more uncertain in medicine than prognosis in syphilis. The uncertainty with reference to duration was exceedingly great, and it was impossible to say when the power to propagate the disease will have ceased. He was unwilling to believe that the disease was extinct because its manifest virulence had disappeared. There was no doubt, however, that there was a gradual diminution of the virulence of the poison of syphilis. He was also unwilling to admit that syphilis without symptoms may exist. He believed that treatment for three or four years should be adopted.

The discussion was closed by Dr. Morrow and Dr. Otis, who endeavored to reconcile some mathematical calculation concerning Fournier's statistics, and also some quotations from Dr. Otis' paper.

DR. F. R. STURGIS then read a paper on

THE SUPPOSED VIRUS OF THE CHANCROID,

in which he argued that there was no virus in this lesion, and that the supposed virus was really the result of acute inflammation. It was purely a local lesion, and its peculiarity was its capacity for auto-inoculation and its power for propagation.

DR. R. W. TAYLOR said that Dr. Sturgis' paper marked an epoch, as it was diametrically opposed to the summary of his article in the "International Encyclopædia of Surgery."

He was glad to have the support of his esteemed contemporary on a doctrine which was first enunciated by the late Dr. Bumstead, in a paper read in Philadelphia in 1876, and in the discussion of which he participated, and sustained the views of its eminent author by the results of his own independent observations. He was pleased to learn that the seed then sown had taken root, even at this late day.

DR. OTIS was entirely in accord with the author of the paper with regard to the non-specific character of the chancroid.

DR. E. B. BRONSON protested against the sweeping theory that the chancroid was the product of inflammation. There was an independent sore, and that independence implied a virus.

DR. TAYLOR said that deductions founded upon absolute facts could scarcely be classed as theories.

THE PRESIDENT cited a case of bubo following preputial herpes.

DR. STURGIS said that he wished to carry the view even further than had been done by Dr. Bumstead, and then the discussion was closed by Dr. Sturgis and Dr. Taylor in an endeavor to settle whether or not the views advanced in the paper were opposed to those published in the article in the "Encyclopædia of Surgery."

THE PRESIDENT called the Vice President, DR. DRAKE, to the chair.

DR. C. C. RICE read *the report from the delegates to the Medical Society of the State*, which was ordered entered upon the minutes.

DR. O. B. DOUGLAS then read the report of the special committee appointed to investigate

THE CHARGES OF THE PRESIDENT AGAINST THE BUREAU OF VITAL STATISTICS OF THE HEALTH DEPARTMENT.

The committee found that "physicians have had cause for complaint in the *manner* in which certificates have, at times, been returned for correction or alteration, and in the carelessness of clerks in requiring unnecessary changes in certain cases. In the judgment of the committee, when corrections are necessary the request for such should be sent to the physician by special messenger or under seal, and not a verbal demand be given the undertaker to be sent through friends of the deceased to the physician. All who have charge of issuing burial permits should be competent medical men, and be under special control of the superintendent, who could then be held accountable for their acts."

Signed by the whole Committee, Drs. Daniel Lewis (Chairman), John W. Warner, Wm. M. McLaury, John S. Warren, and O. B. Douglas (Secretary).

The report was adopted.

The Secretary announced the death of Joseph Cushman, M.D., February 15, 1887, and Louis F. Schultze, M.D., February 8, 1887.

Drs. Douglas, Johnson, and Drake called attention to the urgent necessity that all the members of the Society be at once active with their influence in favor of the passage by the Legislature of the bill known as

THE PURRINGTON BILL,

which was being opposed fiercely by quacks from the city of New York. The bill appeared in THE MEDICAL RECORD for February 26, 1887.

The Society then adjourned.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN SURGERY.

Stated Meeting, February 14, 1887.

ROBERT F. WEIR, M.D., CHAIRMAN.

TUBERCULAR SYNOVITIS OF THE SHEATHS OF TENDONS.

DR. A. G. GERSTER presented a patient whose case illustrated, in a striking manner, the possibility of treating successfully, by the aid of antiseptic surgery, affections which, previous to the work begun by Mr. Lister, were regarded as the *noli me tangere* of surgical art. In particular, the sheaths of tendons were not invaded with the knife, and therefore the special interest in the case presented, that of a medical student, twenty-five years of age, with good family history, who noticed, in November, 1884, on waking one morning, that he was unable to straighten the fingers of his right hand. Swelling and pain developed and increased on use, but subsided somewhat on giving the hand and wrist rest, yet the patient could extend the fingers only with considerable difficulty. On the whole, an increase of the swelling of the wrist was noticed.

In August, 1885, a similar condition developed, affecting the flexor side of the left hand, noticed first in the palm, gradually increasing in intensity, until finally the swelling appeared above the wrist, and the fact was soon established that the swelling on the flexor side of the forearm communicated with that of the palm of the hand.

The disease of the left hand and wrist was the more troublesome of the two, and his grasp was difficult and painful. He finally sought advice of Dr. Adler, who referred him to Dr. Gerster, who diagnosticated tubercular synovitis of the sheaths of the flexor tendons of the left hand and of the extensor tendons of the right hand, and advised operative treatment, as at that stage all other measures had failed to afford relief. Accordingly, on December 30, 1886, Dr. Gerster operated on the right hand. Although he had intended to operate on both hands on the same day, he was prevented from doing so by an urgent and important surgical case, and postponed the operation on the left hand until January 27, 1887.

The operation consisted in making a diagonal incision five and a half inches in length over the entire length of the swollen hand and arm, through the skin, fascia, and sheaths of the tendons. As soon as the sheaths of the tendons were incised, a yellowish, orange-colored fluid escaped, and it at once became visible that they were all very much thickened by a gelatinous material, soft and pearly in places, and in other parts rather opaque, and that the tendons themselves were covered, to a great extent, by the same material. In some places the tendon and its sheath were agglutinated to each other. One after another of the tendons was raised out of this bed, and the mass of gelatinous substance was completely removed. After each tendon and its sheath had been cleaned thoroughly, the physiological order was observed in uniting the wound, sheath with sheath, fascia with fascia, and skin with skin, and the limb then laid upon a splint and kept in an elevated posture. The operation was rendered bloodless by the Esmarch bandage, which is indispensable, and irrigation with a bichloride solution was kept up constantly. The wound was dressed antiseptically, and healed entirely by primary union. No febrile reaction occurred. The splint extended only to the base of the fingers, and the patient was directed to keep his fingers moving constantly. Doubtless the entire cavity filled with blood which became organized. The result had been *restoration of function completely.*

A similar operation was performed on the left hand, as stated, January 27, 1887. The dissection was much more difficult than it was upon the extensor surface, because it was necessary to divide the superficial part of the palmar arch, draw the branches of the ulnar nerve to one side, etc.; nevertheless, there was no serious difficulty in removing the mass. The only difficulty encountered was in releasing that portion of the tendons which passes underneath the transverse metacarpal ligament. Volkmann, who performed the operation twelve years ago, recommended the passing of a piece of heavy rubber drainage-tube under the ligament and forcibly seesawing until the whole was dislodged. Dr. Gerster tried this plan, but found that it was of no service whatever to him, and therefore he was obliged to dissect the soft parts close up to the ligament, incise a portion of the ligament, and then draw the tendons out. He finally succeeded in freeing the tendons from the mass completely by dissection.

Union of the wound was accomplished, as in the other operation, and the prospect was that the result would be as good as in the other hand. There was active extension and flexion, although not yet so free as in the right hand.

In both instances the first dressing was changed on the *tenth* day after the operation. Although there was no microscopical examination in this case, Koenig has already made it very probable that in all cases these masses are tubercular in character.

THE CHAIRMAN had been attacking these hygromata almost as heroically as had been described by Dr. Gerster, and had opened above and below, and scraped out thoroughly with the spoon for the purpose of dislodging the tubercular material. He had failed in several cases, as he had succeeded in several. The thoroughness with which the operation is performed, and the early movement of the fingers, he regarded as most important features of these cases. In several instances he had proven the material to be tubercular, bacilli having been found with the microscope.

DR. GERSTER had a similar case one year ago at Mount Sinai Hospital, the difference being that the affection was located on the extensor side of both hands. After delivery, for the woman was advanced in pregnancy, he operated on both sides at the same time, and the result was as good as in the case of the patient presented.

DR. V. P. GIBNEY presented a specimen [see p. 264] of

ACUTE EPIPHYSITIS OF THE HIP.

The cases which he had met with had been those in which the active stage had been passed, and all inflammatory conditions had subsided. English writers recommend early opening of the swelling, and then protecting the parts by mechanical appliances, so that the acetabulum can be saved. Generally the cases occur in children less than six months old, an abscess forms that finally opens, and then the damage has been done. At the beginning he would open the swelling freely and relieve the periosteum, and then put the limb in a good position and keep it fixed long enough to allow some kind of anchylosis to occur. At all events, such a plan of treatment would save the patient from the shortening.

These cases are frequently regarded as cases of congenital dislocation, and until someone happens to see a cicatrix. and then get the history, it might be so regarded and the case dismissed. But many of them can be traced to an acute process occurring early in life. The cases which are first seen in the late stage may give evidence by scars that there have been abscesses. There is only one case reported where it has been found that the disease was tubercular.

DR. A. B. JUDSON said that although the seat of the initial lesion and the structures subsequently involved are the same in acute epiphysitis and chronic osteitis of the hip, in acute epiphysitis there is an entire absence of reflex muscular contraction and rigidity of the joint, which are constant clinical features of the ordinary form of hip-disease. In the cases which he had seen not only were the muscles relaxed, but, in addition, the limb lay completely everted, reminding one of the position assumed in fracture of the neck of the femur in the adult, and suggesting the diag-

nosis of separation of the epiphysis of the head of the femur followed by suppuration and disease of the femur. But an injury of the joint, no matter how violent or extensive, is seldom followed by destructive disease of the bone. It may therefore be believed that some of the cases of so-called diastasis attended with suppuration are simply instances of acute epiphysitis.

After recovery from acute epiphysitis the joint is left in a condition very different from that which follows hip disease. There is shortening from loss of a portion of the length of the femur, as sometimes happens after hip disease, but instead of fibrous anchylosis, which is often the result of hip disease, there is, after acute epiphysitis, a remarkable degree of preternatural mobility, the hip-joint being as flexible, though strong and useful, as it is in congenital dislocation of the hip. In fact, the diagnosis is not always easy between congenital dislocation and the results of acute epiphysitis. If scars are present, there is an increased probability that the preternaturally mobile joint has been the seat of acute epiphysitis, and in the absence of scars it is not impossible that there may have been acute epiphysitis without an external discharge. In a case which he had seen several years after the acute stage, there was no scar, but a history was given of a purulent discharge from the vagina, which may have followed perforation of the acetabulum, as in the case of double hip disease reported several years ago by Drs. Poore and Gibney.

Dr. Jacobi asked how long the duration of the cases was before the formation of abscess.

Dr. Gibney replied that an average duration was from two to three weeks; they are acute, and soon come to the surface.

Dr. Jacobi would like to know whether or not there were cases which were less acute, even subacute, with but little fever and pain. If such cases occurred he could well imagine that internal treatment directed to the formation of bone, by means of the administration of phosphorus in small doses, in substance (not the phosphates or phosphites), might be of service. He had been in the habit of giving phosphorus internally in subacute and chronic bone disease of every description since seventeen or eighteen years ago, when Wagner described his well-known experiments in fractures treated with and without the internal use of this drug, and it had always appeared to him that the cases ran a shorter course when phosphorus was administered.

Dr. F. A. Castle then exhibited

A NEW SPICA BANDAGE

which he had been led to devise in the treatment of a case of gluteal abscess in which the ordinary spica failed to make the requisite amount of pressure and retain its position.

Dr. J. D. Bryant then read a paper on

MODERATE DILATATION OF A URETHRAL STRICTURE FOLLOWED BY ABSCESSES OF THE TRUNK AND LIMBS.

The patient was twenty-four years of age, and a merchant with good family history. There was no history of injury. He had had repeated attacks of gonorrhœa between 1875 and 1885, many of which were much prolonged. There was no positive history of gleet in the intervals, although it probably occurred. In 1883 the common symptoms of urethral stricture made their appearance, and in 1884 the presence of stricture was determined by a physician who cured it by gradual dilatation. The patient was rebellious not only this time, but at other times subsequently, and ceased treatment as soon as a comparative degree of comfort had been secured. At no time had the stricture been dilated above No. 13 English. There was also a history of repeated chills, followed or attended by fever, and associated with previous dilatation of the urethral stricture.

Under cocaine Dr. Bryant found a stricture three inches from the external meatus that admitted a No. 5 English bulbous bougie. At the bulbo-membranous junction was another stricture, which admitted only a whalebone guide, four of which were introduced side by side, and then dilatation was carried up to 5 and 8 of the conical gum-elastic bougie. This was done under cocaine, was performed without difficulty, and was attended by only a trifling amount of pain. The hemorrhage was only sufficient to discolor the mucus and oil that were expelled from the urethral canal.

Three days afterward Nos. 5 and 8 were introduced as before, without pain or difficulty. No. 10 encountered greater resistance than did 8 at the previous sitting, and some hemorrhage followed at the first micturition, when he had a chilly sensation attended with great prostration while sitting in the water-closet. During the next ten days he had irregular, chilly sensations and fever, and when Dr. Bryant, at the end of that time, saw him, the patient's pulse was 90, his temperature 102° F., and his countenance haggard. There were two phlegmonous swellings on the left thigh, one anterior, the other posterior, one above the crest of each ileum, a small one on the inner side of the right arm near the axilla, and a small one beneath the right nipple. Those on the thigh, and one of those above the crest of the ileum, suppurated profusely and discharged an abundance of offensive pus tinged with blood. The others disappeared soon afterward, except one, which remained for weeks, and then passed away without suppuration. The constitutional symptoms attending the suppuration were not severe, the temperature varying from 99° to 102° F., with occasional chilly sensations, without sweating, until near the close of the suppurative process. At this time the patient had a mild attack of pneumonia, with some pleuritic effusion, from which he made a satisfactory recovery.

The kidneys at no time gave any evidence of disease.

The most interesting and important feature of the case was the occurrence of phlegmonous swellings, and the question arose whether similar abscesses were consequent or accidental complications of the treatment of urethral stricture. If a consequent complication, how are they produced? Can they be prevented? Do they affect prognosis as regards cure and the life of the patient?

If an accidental complication, how are they to be avoided? It seemed to him that in this case they were accidental, or an indirect complication.

If they are a consequent complication of a septic nature, they must depend either upon the absorption of some poisonous element existing in the urine that comes in contact with freshened surfaces or on a subsequent thrombosis at the site of the stricture. If consequent on urinary sepsis, their prevention demands that the course of the urinary stream be changed, as, for instance, causing the urine to escape through an opening made in the perineum behind the site of the stricture.

He did not believe that urethral medication directed to the prevention of urinary sepsis by absorption was of practical importance.

If the phlegmonous swellings were accidental non-septic complications, no attempt at internal treatment should be made, provided the conditions of the case will admit of delay, until the patient has been thoroughly fortified, in a general sense, when either gradual dilatation or cutting can be resorted to—cutting, in his opinion, being the better of the two plans. Internal incision, if the obstruction be in front of the bulbo-membranous junction; external, if behind this part.

The Chairman said that Dr. Bryant's case was very interesting, and the complication described was a comparatively rare one, although not unique. He had met with the same conditions prior to the advent of antiseptic surgery, but recently had not had any urinary complications whatever. Multiple abscess, following urinary operations, slight or severe, dates back to Velpeau, who attributed them to a peculiar poison which comes from the urine or from a fault on the part of the surgeon. The

Chairman was convinced that it came from one of these two sources. We could guard our patients against it somewhat by the use of antiseptic injections at the time of the operation. He had more faith in this method than Dr. Bryant had expressed, and accordingly injected the urethra with a mixture of iodoform and sweet-oil, and always smeared the instruments with vaseline and iodoform. After the operation is concluded, he injects the bladder with a solution of bichloride, 1 to 10,000, and flushes the urethra as the instrument is withdrawn. In this manner he felt confident that he had made urethral absorption the exception rather than the rule. He had, in cases in which there had been a chill with rise of temperature, introduced a soft instrument and washed out the bladder and urethra.

Dr. F. N. Otis thought that Dr. Bryant was correct in his opinion that in his case the abscesses were only a coincidence. He had never met with a case in which abscesses occurred as the result of the manipulation mentioned or as the result of any urethral operation, although he had heard of such cases. His experience had been more in the way of dividing strictures than dilating them, and although it covered many hundreds of cases, he had yet to see the first abscess as the result. Rightly or not, he had attributed this immunity to the very great care which he had given to his instruments, passing them through an antiseptic solution before using them, perhaps through the flame of an alcohol lamp, carefully and thoroughly cleaning every instrument before it is put away, etc.

He had had but very little trouble from urethral fever, and had attributed this absence to the use of the catheter after the operation.

In those cases in which the patient has been accustomed to use the catheter or sound he always uses it, and in the cases where he had failed to use it, and the patient has passed his urine without the catheter, chill has frequently occurred, perhaps for the first time three to five days after the operation. It seemed to him that the catheter was one of the best means of preventing urethral fever.

He had also found that urethral fever had been prevented by quinine, and therefore he uses the remedy after his operations. He had not practised irrigation of the bladder as carefully as the chairman had mentioned, although in cases where habitual disinfection was required, on account of decomposition of the urine, he had been very careful to wash out the bladder; but where it was in good condition he had not thought that it was necessary. He had avoided operating where a urethral discharge was present, and had taken pains to have the patient lay up until at least the discharge was reduced to the least quantity and there was no pain. In cases where it had been impossible to reduce the discharge so that it was not painful, he had kept up the use of antiseptic injections after the operation.

The Chairman asked Dr. Otis if there had been much pain produced by introducing the catheter early after internal urethrotomy.

Dr. Otis said that he had very seldom found that it produced pain. Sometimes there was difficulty in introducing it on account of coagulated blood in the urethra, and he had taken pains to dislodge the clots of blood, but where there had been much difficulty he had allowed the patient to urinate rather than attempt to pass the catheter.

Dr. F. R. Sturgis thought that there was no sepsis at all in Dr. Bryant's case. He would suggest the possibility of the presence of sugar in the urine, and that suggestion he based on the history of a single case only that had fallen under his observation. In the event of sugar being in the urine, he would decline every operation except perineal section. In Dr. Bryant's case, whether the urine were diabetic or not, he would perform only the perineal section, as he thought it quite probable that there would be a return of the difficulty if he attempted to dilate. He thought that the Chairman was over-cautious in washing out the bladder and flushing the urethra, although cleanliness in the highest degree was commendable.

With regard to the use of quinine, he gave it his most hearty adherence, and believed that it would prevent a chill in nine out of ten cases, giving five grains two or three hours before the operation, and nine grains with one grain of opium after the patient had come from under the influence of the anæsthetic.

Concerning the use of the catheter, he thought that in the larger portion of cases the patients were as well off without as with it. According to his experience, the introduction of the catheter had been painful. He also favored sudden dilatation to the cutting operation, and had practically abandoned internal urethrotomy on account of the chill, hemorrhage, etc., liable to follow. Certainly his experience had been unfortunate in urethrotomy for deep strictures, for which he now always performs perineal section.

Dr. R. W. Taylor agreed fully with the Chairman with regard to the use of quinine, and in the main with reference to the antiseptic precautions. He believed, however, that it was best to treat urethral stricture by dilatation when it was possible to do so. Some years ago he had a case in Charity Hospital in which he operated with Maisonneuve's instrument, which he preferred to the divulsing instrument of Holt, and the patient had phlegmonous inflammations in the thighs, arms, and trunk.

He also called attention to a case of septic absorption from the urethra after a cutting operation.

Dr. Castle said, with regard to antiseptic applications to the urethra, that vaseline, cosmoline, etc., really belonged to the paraffines, which vary very much as to solidity. Paraffines can be obtained which are limpid and also free from rancidity. Olive-oil should never be used in making antiseptic solutions, unless the antiseptic is sufficiently powerful to disinfect the oil itself, which is almost invariably impure.

Dr. Otis said that he had been using the liquid forms of paraffine with great satisfaction. He had always used quinine in the form of suppositories—ten grains of the bisulphate with one-quarter of a grain of morphine immediately before the operation.

The Chairman said that he had fallen back to the use of the tincture of aconite, three minims two or three times a day, but always with morphine. All use more or less of morphine after these operations, and he thought it quite probable that the benefit came from the morphine rather than from any of the drugs with which it was combined.

Dr. Bryant said that the urine in his case was not examined until after the recurrence of the chill. It did not contain sugar, and the kidneys had not given any evidence that they were diseased.

With regard to the use of quinine, he had given it in the different ways and in varying doses, and he had reached the conclusion that it did not exert any salutary influence. He also used oil combined with carbolic acid or iodoform for urethral injections. With regard to dilatation, divulsion, and the cutting operations, he was inclined to think that, when his patient was in a proper condition for another operation, he should first wash out his urethra carefully, and if a chill followed, he should cut his stricture and allow the patient to take the chances.

Dr. Castle suggested that there might be some disturbance of the trophic nerve-centres in Dr. Bryant's case to account for the trouble. If so, any operation would be liable to be followed by such a history as had been given.

Dr. R. W. Taylor then read a paper on

THE RELATION OF FIBROMATOUS INFILTRATION OF THE SKIN TO KELOID,

which was really a sequel to his paper published in the *Journal of Cutaneous and Genito-Urinary Diseases* for February.

The present contribution pertained to the *etiology*. Traumatism he believed to be an important cause of moluscum fibrosum, and he cited two cases to sustain the opinion, in which the wounds were sufficiently severe to damage the subcutaneous layer. In the fibromatous tumors there is no tendency to recurrence after removal, which is unlike keloid.

The Chairman referred to two cases of keloid *without* the spur-like processes.

Dr. Taylor exhibited an illustration of hyperplastic cicatrices. True keloid disease originates in superficial irritation, and is essentially different from hyperplastic cicatrix.

The Chairman asked Dr. Taylor concerning the character of the little tumors which appear at suture holes sometimes and are so annoying.

Dr. Taylor said that his studies had convinced him that keloid varies less from the typical form than any other variety of connective-tissue new-growth. The confusion which surrounds it is due to the fact that the various forms of hypertrophic or hyperplastic cicatrices are classed as keloid or fibro-keloid. The word keloid should be used only in the sense meant by Alibert, for circumscribed patches of shiny, pinkish elevations of the skin from which claw-like processes jut out as do the claws of a crab. Wherever this condition is seen, be the origin spontaneous or due to traumatism, the term keloid should be applied. When hyperplastic or hypertrophic processes invade scars, points of suture, and lines of incision, and are limited to their area, they should be called hypertrophic cicatrices. Should they show a tendency (as they sometimes do) to extend by claw-like out-shoots, then they come within the meaning of keloid.

The Section then adjourned.

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, February 1, 1887.

C. L. Dana, M.D., President, in the Chair.

Dr. C. L. Dana reported a case of

PACHYMENINGITIS HÆMORRHAGICA, WITH LARGE MENINGEAL HÆMORRHAGE PRESSING CHIEFLY ON LEG-CENTRE—RIGHT HEMIPLEGIA, TOTAL PARALYSIS IN LEG, APHASIA, HEMIANÆSTHESIA, CONVULSIONS LIMITED TO ARM AND FACE.

The patient was a woman about sixty-eight years old, and came into the hospital with complete motor aphasia, and unable to give any previous history. She had no paralysis at first, but three days after admission she had a general convulsion, followed by right hemiplegia—total in the leg, and some right-sided anæsthesia. On the second and third days she had a series of brief localized convulsions, involving the face bilaterally and the right arm. These were carefully observed. The movements were clonic, beginning in the muscles of the lower jaw. The other peculiarities were these:

1. The pupils remained small during the convulsions. When wider convulsive centres are discharging, as in general epileptic convulsions, the pupils are dilated.

2. The conjugate deviation of the eyes was at first, and very temporarily, toward the side of the lesion, and away from the paralyzed side. The head also was turned toward this side. When this occurs it is ordinarily spoken of as a paralytic deviation. This does not explain it here, since almost immediately the head and eyes were turned strongly to the opposite and paralyzed side. The speaker suggested that the first deviation is due to an inhibition of the activity of the associated nuclei of the third and sixth nerves that innervate the external and internal recti of the two eyes. There are many facts which tend to show that the first stage of convulsion is a transient paralysis, due to a sudden discharge of inhibition centres. These are of a higher, more developed class than the centres for motor discharges, and would be affected first. We would have then loss of consciousness, inhibition of motion and muscular relaxation; then motor discharges and tonic and clonic convulsions.

3. The temperature on the paralyzed side was one degree higher than normal, and higher by a degree than that of the other side. This is the rule in intra-cerebral hemorrhage and hemiplegia; but the speaker was not aware that it has been established in cortical hemiplegias. In meningeal hemorrhages the temperature is often below normal, according to Minot.

4. The presence of hemianæsthesia.

The patient died on the third day. Post-mortem showed chronic pachymeningitis over both convexities, but more on the left side. On the left convexity there was a very extensive, fresh meningeal clot, pressing upon and flattening especially the upper half of the central convolutions. Brain-substance normal.

CORTICAL EPILEPSY WITH TEMPORARY APHASIA—SYPHILITIC GUMMA COMPRESSING THE LEFT SECOND FRONTAL CONVOLUTION IN ITS LOWER POSTERIOR PART—RECOVERY.

Dr. M. Allan Starr related the history of the case. Charles S——, thirty-two years of age, had always been healthy and a hard worker. He had an attack of sciatica four years ago, and three years ago had a hard chancre. He had never had convulsions or nervous affection. Family history good. During November, 1886, and the first two weeks of December he did not sleep well, was slightly dizzy, his head ached a good deal, chiefly at night. December 15th, while walking with a pail in his right hand, he suddenly let it drop, losing all power in the hand and arm. There was numbness in the hand. He was unable to speak to his companions. He did not feel dizzy nor notice any pain in the head; he did not lose consciousness nor fall. He understood his friends' questions, but could not answer. Power in the hand and arm, and speech returned within half an hour. The next morning he went to work, as well as usual. Two days later a second attack occurred, beginning with a numb feeling in the tips of the fingers, gradually extending up the hand and arm. Then the fingers became rather forcibly flexed and stiff, but by a voluntary effort he could straighten them. No clonic spasms of the fingers, and wrists and elbow were not bent. The numbness and stiff feeling soon extended to the face, which was drawn to the right side with some force. Speech was again lost. No loss of consciousness. The attacks lasted about twenty minutes. Such attacks had occurred every other day, then every day, and finally thrice a day up to January 3d. Examination by Dr. Starr showed slight paresis, and slight tactile anæsthesia in right hand; no affection of face or speech. The diagnosis was reached of gumma in the membranes, resting upon the main surface, giving rise to irritation and consequently to an occasional nervous discharge, but not of sufficient size to cause any destruction. Location of tumor was equally clear; the relative situations of the cortical centres for the arm, face, and for the movements of speech in the lower two-thirds of the anterior central convolution and in the posterior part of the third frontal convolutions were likened to a reversed L. All these centres were irritated during the attacks, the irritation sometimes beginning in one, sometimes in another.

The treatment ordered was, first, inunction of mercury, and, second, iodide of potash daily, in divided doses. He had one attack two days after beginning treatment, but since that time he had had no return of the symptoms. Iodide of potash was still being taken.

DISCUSSION ON DR. STARR'S PAPER.

Dr. Seguin had seen several cases whose symptoms resembled those of the case recorded in Dr. Starr's paper. The prognosis of even non-syphilitic cortical lesions with this symptomatology was not absolutely unfavorable.

One of the cases to which he referred was that of a Cuban who came to his clinic about nine years ago. He had never had syphilis, yet he described epileptic attacks of the true cortical kind, such as have been obtained by experiments upon animals during the last few years. The hand would become numb, and then the seat of a vibratory sensation; finally, contraction would occur in the hand, when the face, and almost simultaneously the leg, would be affected, and he would lose consciousness. According to his friend's account general convulsions then occurred. He had had quite a number of these seizures; yet examination showed no anæsthesia, no affection of the optic nerve, and, so far as the speaker could recollect, no motor impairment. The patient had received a preparation composed mostly of the bromide of potassium, to which a little of the iodide was added. He improved immediately, and four years ago the attacks ceased.

The patient had also been the object of the bracelet experiment. He was a powerful man, and had exerted great force, arresting many attacks in this way. The speaker was satisfied that syphilis was absent, while the amount of the iodide was too small to explain a cure upon the ground of a syphilitic affection.

Dr. Shaw referred to a case seen first four years ago. While at work as a jeweller the patient fell off his bench in a convulsion. The face and the left arm were convulsed; the leg was not affected; sometimes only the side of the face was affected. He had seen many of these attacks limited to the side of the face in his office. The patient complained of numbness in the arm and the side of the face, and the speaker felt sure that the tactile sensibility was not as good upon that as upon the other side. The patient denied syphilis. Upon ophthalmoscopic examination the nerves were found pale, and the visual field restricted in its upper part. There was no change until about six months ago, when, without loss of vision. he was found to have choked disk. This had gone on to atrophy, and the man was now blind; there was no paralysis. From the choked disk, of course, the speaker had now diagnosed a tumor, but he referred to the case on account of the anæsthesia and the spasms and their resemblance to those in Dr. Starr's case.

Dr. Sachs referred to the case of a man who, some years ago, while working upon the capitol at Albany, had fallen some distance, was found unconscious, but recovered. A few weeks later he developed symptoms which alarmed his friends, and he had now some of the physical and nearly all of the mental signs of general paresis; the irregular pupils, the facial tremor, the tremor of the tongue, and the deteriorated mentality. Every three or four weeks this man had an attack of numbness, beginning in the fingers and creeping up the right arm to the face. There never were convulsions.

Dr. Dana thought that cortical epilepsy might develop like idiopathic epilepsy, without an appreciable lesion. He recalled a case, that of a young man who was kicked in the front of the thigh by a horse; clonic spasm of the leg developed, similar to that of cortical epilepsy. Thrilling and numbness of the arm and face followed. In three or four years true hemieleptic attacks, during which he lost consciousness, developed; most of the time he had only the leg convulsions. There was no history of syphilis. Apparently cortical epilepsy was developed, just as true idiopathic epilepsy in other cases.

Dr. E. C. Seguin read a paper entitled

A CONTRIBUTION TO THE PATHOLOGY OF THE CEREBELLUM.

A detailed account of one case was given, and specimens, gross and microscopic, illustrating its pathological anatomy, were shown. Three other cases of cerebellar disease were briefly presented, as card specimens with their anatomical demonstrations. The following is a summary of case one: Male patient, forty-five years old at time of death; a retired officer of the United States Navy. Eighteen years before death illness began with headache, not strictly occipital, and one or more seizures of an epileptiform or apoplectiform character. These were followed by impaired vision and more or less continuous headache—fronto-occipital. Later appeared nystagmus and typical cerebellar titubation; slight slowness of speech. There was no distinct paralysis, true ataxia, anæsthesia, vertigo, or mental impairment. During several years, from 1877 to 1883 or 1884, the only symptoms were slight frontal headache, defective vision, partial atrophy of both optic nerves, nystagmus of varying form, slight slowness and indistinctness of speech, increased patellar reflex, and titubation.

In February, 1885, an epileptiform seizure left behind it partial left hemiplegia without contracture and anæsthesia. Death on April 22, 1885, preceded by a set of distinctly bulbar symptoms; increased dysarthria, dysphagia, salivation, polyuria; also increasing stupor.

Lesions cyst of cerebellum, destroying the caudo-ventral part of the middle lobe—not involving frontal third of the vermis superior, penetrating into the right lateral lobe as far as the nucleus dentatus—not destroying it, and probably exerting only slight pressure upon the floor of the fourth ventricle. There were also found: 1. A small hemorrhagic focus two inches in diameter in the ventral half of the pons on the right side, in the midst of the pyramidal fasciculi. This explained the left hemiplegia, and from it, caudad, could be traced a complete descending degeneration of the right pyramidal tract into its subdivisions in the spinal cord. 2. Very extensive arteritis obliterans of the encephalic vessels, causing numerous—mostly symmetrical—foci of softening in the cerebral hemispheres. The only system-degeneration which could be traced to the loss of substance in the cerebellum was a moderate reduction in the size of the opposite left olive and partial atrophy of the right restiform body.

The author called attention to several conclusions to be drawn from a study of these four cases:

1. As to diagnosis. Tumors of the cerebellum produce very variable symptoms; but one symptom, viz., cerebellar titubation, is, as claimed by Nothnagel in 1876 or 1877, pathognomonic of a destructive lesion of the middle lobe of the cerebellum, more especially its caudo-ventral masses. In Dr. Seguin's cases optic neuritis or atrophy had not failed, which was in marked contrast to his experience with tumors of the cerebral hemispheres, which do not usually cause lesion of the optic nerves (1 to 5 or 1 to 4). Vomiting was a frequent symptom; occipital headache and rigidity of muscles of the back of the head were less frequent, but very valuable symptoms.

2. As to therapeutics, three of the patients had obtained repeated relief from serious symptoms—paroxysms of headache, vomiting, and epileptiform attacks—by the use of iodide of potassium in doses of from thirty to sixty grains three times a day.

3. As to prognosis, two of the patients did not die of their cerebellar disease (both cysts), but of complications; Case 1 of diffused arteritis obliterans and consequent softening in various parts of the brain (including impaired nutrition of the bulbar nuclei); the other case, No. 2, of an acute tubercular meningitis. Consequently we may hope, in a few cases, to cause or to witness an arrest of the cerebellar disease. The disorder in voluntary movements and the already developed lesions of the optic nerves are of course irremediable.

Dr. Bradner spoke by invitation. He had been the attendant in the case of the child to which Dr. Seguin had referred. He had not prescribed the washing out. It had been done by a prominent physician of the place. He had done it a number of times during three weeks, but had then refused, believing that the child had brain disease of some form. He saw the patient first in November. The vomiting was always in the morning. There was no pain connected with it then, although a frontal headache had developed during the last few months.

Dr. Putnam-Jacobi referred to the recent collection of cases by Bernhardt. All cases published previous to 1884 had been collected by Nothnagel. Dr. Seguin's cases tended to confirm Nothnagel's laws. There were many resemblances between the symptoms of cerebellar tumor and those of tumor in other parts of the brain. The peculiar violence of the headache and the choked disk found in most cases of cerebellar disease might, she thought, be due to the increased pressure of a tumor confined by the tentorium. This element had not been commented upon, and she would like Dr. Seguin's opinion upon it.

Another point referred to the fact that the laws formulated by Nothnagel recognize the possibility of complete latency of the tumor, no symptoms at all being present when but one lobe of the cerebellum is affected, such symptoms appearing only when the tumor encroaches upon the central lobe. In one of Dr. Seguin's cases the tumor occupied the lateral lobe. Of course an indirect affection of the central lobe might be present even in such a case.

Dr. Leszinsky referred to a case to which he was called in consultation by Dr. Alexander. The boy had the typical gait of spastic paraplegia; any attempt to stand caused spastic contractures in the limbs. The ankle-clonus was present, and the knee-jerk was exaggerated. Later tremor developed, and paralysis of the abducens, of the fifth, and of the third nerves. Total blindness occurred. The nurse, a graduate of Bellevue, was positive that the child could see nothing. It died in a convulsion. Unfortunately the body was immediately frozen, and the specimen was unfit for sections. The tumor was found occupying one side of the cerebellum.

Dr. Starr had had occasion some time ago to make a collection of cortical lesions from American literature. He had at the same time made a collection of cases of cerebellar disease from the same sources. As the data obtained but corroborated Nothnagel's results, he never published them. But Dr. Seguin having remarked upon the value of corroborative evidence, he would briefly refer to them now. From 1860 to 1884, 160 cases of cerebellar disease were reported in American literature. In only 40 of these were the symptoms and the autopsies described with sufficient accuracy to warrant conclusions. These 40 the speaker had quite thoroughly analyzed. In 4 there were no symptoms; in one of these there was congenital atrophy of the cerebellum, in 2 abscess, and in 1 a large cyst. Of the remaining 36 presenting symptoms there was headache in 36; inco-ordination in 25; vertigo in 20; vomiting in 18; blindness in 14; dim vision in 6; diplopia or strabismus in 7; deafness in 7; facial spasm or paresis in 4; hemiplegia in 9; general paralysis in 4; mental symptoms in 8; stupid, 7; mania, 1; convulsions in 7; sexual desire increased in 2. Males, 23; females, 17; ages, between one and twenty years, 11 cases; between twenty and forty years, 16 cases; between forty and sixty years, 9 cases; over sixty years, 1 case; age not stated in three.

In 2 of the 11 cases in which inco-ordination did not occur the lesion probably involved the middle lobe. In cases where inco-ordination occurred various parts of the cerebellum were involved, but the probability was that the middle lobe was affected in the majority. There were only 2 instances of increased sexual desire. Bernhardt had found but 1 instance in 90 cases of cerebellar tumor, and Nothnagel but two cases. The speaker thought that it might be thrown out as a symptom of cerebellar disease, and regarded as one of accidental occurrence. The escape from vertigo in Dr. Seguin's case was explained, perhaps, by the recent discoveries in the anatomy of the course of the acoustic nerve. This nerve served for the sense of hearing and the sense of space. The centre for hearing is in the pons. Edinger finds the centre for equilibrium in the cerebellum, to which acoustic fibres pass by way of the middle peduncle. From this centre the central tract probably passes onward to the superior peduncle. Dr. Seguin says that the superior peduncle escaped in his case. It is therefore natural that vertigo should not have occurred.

The tendency to rotation was an interesting feature in these cases. There was a tendency to fall or turn forward in 2 cases; the lesion was in both a tumor in the vermis in the anterior part. There was a tendency to fall to the right in 2 cases, in one there being a tumor in the left middle peduncle and in the other an abscess in the same part. There was a tendency to fall to the left in 2 cases, in one there being an abscess in the right middle peduncle and in the other a tumor in the left middle peduncle. A patient of Nothnagel, whom the speaker had seen in Vienna, when getting up in bed had always a tendency to turn to the right side. Nothnagel considered this due to vertigo. It was only present when the patient was erect. The patient felt as though about to fall to the left side, and hence turned to the right. This case had a tubercle of the left middle peduncle of the cerebellum. Nothnagel considered this symptom only produced by affection of the middle peduncle. In the two cases in the table where the tendency was to turn to the right, there was disease of the left middle peduncle; while in the two in which the tendency was to the left, in one the right peduncle and in the other the left peduncle was affected. No rule can therefore as yet be laid down as to the cause of this symptom.

Dr. English had had charge of the case which formed the subject of Dr. Seguin's paper, and he congratulated the Society upon the progress which had been recently made in the diagnosis and treatment of cerebellar disease. Early in 1878 Dr. Seguin had written him a letter, accurately diagnosing this case as seen on autopsy.

Dr. Seguin closed the discussion. He was not surprised to learn of the little boy's fall, as he was a firm believer in the traumatic origin of these conditions. It was very difficult to obtain a history of fall. He could not give an opinion upon the question propounded by Dr. Putnam-Jacobi. In regard to ascribing the vertigo to the acoustic nerve he was not yet certain that the acoustic nerve had cerebellar origin. He thought it would be difficult to trace fibres through the lateral peduncle of the cerebellum, the vermis, and the anterior peduncle.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

PAROTITIS AFTER ABDOMINAL AND PELVIC LESIONS—INDURATION OF PRIMARY SORES IN WOMEN—ACTINOMYCOSIS IN MAN—COCAINE IN DENTAL SURGERY—A NEW SPECIAL HOSPITAL.

London, February 14, 1887.

At the last meeting of the Medical Society of London the greater part of the time was occupied with the reading of a lengthy paper, by Mr. Stephen Paget, on "Parotitis after Injury or Disease of the Abdomen or Pelvis." Mr. Paget is a younger son of the eminent surgeon, Sir James Paget, Bart., and the only one who has entered the profession, his elder brother being a clergyman in the Church of England. He is already known as a rising young surgeon by his published papers on various surgical topics. His recent paper may be regarded as a continuation or expansion of one published by him in *The Lancet* last year, in which he gave particulars of 60 cases of secondary inflammation of the parotid. He now brought forward 101 cases, all of them being secondary to abdominal or pelvic disease or injury. The antecedent diseases or injuries of other organs were distributed as follows: Of the urinary tract, 10 cases; of the alimentary canal, 18; of the abdominal wall, subperitoneal or peritoneal tissue, or peritoneum, 23; of

the generative organs (including temporary derangements, such as slight injuries, menstruation, etc.), 50 cases. Parotitis, when occurring after injury of the extremities, was always part of a general pyæmia. But, when occurring after abdominal or pelvic lesions, it was, in 93 of 101 cases he had been able to collect, an isolated event unaccompanied by any other inflammation. In only 15 of the cases was there distinct mention of "septic symptoms," "septicæmia," or "pyæmia." Thirty-seven cases died, but of these 3 were over eighty, 3 had cancer, 2 had perforation, 2 had strangulated hernia. Among the remaining 27 were cases of acûte peritonitis, severe injuries, septicæmia, or pyæmia. The danger was thus not in the parotitis itself, but in the primary lesion causing it. This form of parotitis had no period of incubation. It had been observed on the first day after the primary lesion, on the nineteenth, and on the intermediate days. In one case it came on on the morning of the day fixed for an operation. When due to abortion or delivery, it seemed to come on later than when due to operations on the generative organs. The onset of this form of parotitis was rarely attended by much general disturbance. Rigors occurred in 4 cases; delirium or puerperal mania in 6. In most cases there was only a slight rise of temperature and no rigor. In only 78 of the cases was the termination of the parotitis recorded. Forty-five of these went on to suppuration. Of this number 24 died and 54 recovered. Thirty-three ended in resolution, with only one death among them, and this was the case of a patient with cancer. Mr. Paget remarked that as to the fatal cases of suppuration, they died, not because the parotitis went on to suppuration, but that this took place because they were going to die. The author concluded by discussing the various theories of the causation of the parotitis in these cases and did not admit that any one of them was entirely satisfactory.

Considerable interest was aroused at the Medical and Chirurgical Society on Tuesday last by the reading of a paper, by Mr. W. E. Cant, entitled "Some Clinical Observations on Induration in the Primary Lesion of Syphilis in Women." The paper was based upon some three three thousand odd cases observed by the author while Resident Medical Officer at the Royal Albert Hospital, Devonport. The observations made extended over a period of between six and seven years. Induration of the primary lesion in women is generally admitted to be rare, but Mr. Cant's observations would show that it may in many cases be found when sought for. In women, he said, induration (when present) was not infrequently diffused a considerable distance into the tissues around, often very widely, not sharply defined from the surrounding tissues, nor circumscribed in the base of the sore itself. The character of the induration therefore differed widely from that of primary sores in men. The typical form of primary indurated sore in men (resembling a disk of cartilage set in surrounding soft structures) was rare in women. Every variety as to the degree of development of induration was met with in women, but in about one-third of the cases it was very slight. In a small number none existed throughout the whole course of the sore. Induration might occur at almost any period of the course of a sore. In only a few cases was it present in the early stage; in many cases it became most marked and developed toward the middle and latter part of the case.

Dr. Drysdale agreed with Mr. Cant that induration was much less common in women than in men, and remarked that the occurrence of induration might be influenced by the different condition of the genital organs in the female. In a hard chancre of the lip in a woman the induration might be "wooden." Even in the male many cases might exhibit but slight induration. As to the situation of the primary sores on the female genitals in his own experience out of 241 cases four-fifths occurred on the labia majora and minora. The initial hard sore might occur on the os uteri. He had not seen one on the vagina. Several speakers joined in the discussion. Mr. Cant, in his reply, observed that he had seen two chancres on the os uteri, one on the vagina, and some on the buttocks.

Mr. Cant's paper was followed by one by Dr. Hebb, in which he related the history of a case of actinomycosis in man, and described the morbid appearances found after death. In the discussion on this paper Dr. Theodore Acland remarked that the disease was not nearly so rare in man as it had been supposed to be. He had himself seen four cases, and about thirty cases of disease of the lung in human beings had been reported in Europe. The disease was very common in cattle.

A well-known dental surgeon, Mr. Morton Smale, has been making some further experiments with cocaine in relation to dental surgery. Previous experiments had not caused him to form a very high opinion of its value, but more recent investigations with stronger solutions have led him to view it more favorably. He now uses solutions of from ten to twenty-five per cent., and has employed it successfully for extractions, torsion of misplaced teeth, removal of live pulp, and to deaden the pain caused by wedging teeth apart for stopping purposes.

We are threatened with another special hospital. It is to be devoted to the treatment of diseases of the throat, ear, and nose, and its promoters have bestowed upon it the designation of "The London Throat Hospital." I understand its medical officers will consist chiefly, if not entirely, of those gentlemen who withdrew from the Hospital for Diseases of the Throat in Golden Square last spring, in consequence of the attitude of the Committee and of Dr. Morell Mackenzie. Six physicians and surgeons then resigned, and four at least of these are about to join the new venture. Rumor has it that they have founded the new hospital as "a rival show" to the old one. One or two outsiders are joining them, and some money has already been collected.

ADMINISTRATION OF QUININE IN BRONCHO-PNEUMONIA.

To the Editor of The Medical Record.

Sir: A recent discussion on "The Administration of Quinine in the Treatment of Broncho-Pneumonia in Children," by the members of the Northwestern Medical and Surgical Society of the City of New York, is remarkable, not only for what it contains, but equally so for what it does not contain. It indicates a decided modification of the views of some of the members, at least, who, in their writings in the recent past, strongly advocate the use of large doses of quinine for the so-claimed antipyretic effect.

On this occasion there was not a single voice raised in favor of giving large doses, while nearly every speaker confessed to the use of tonic doses only. The very great trouble met with in giving, even the tonic doses of quinine, was pictured very forcibly in the "fights" and "rows" necessary to compel the unwilling children to take the bitter drug; and the lamentable part was that, after so much labor, the rebellious stomach would almost certainly reject the medicine. One member had tried rectal suppositories, but another condemned that method as almost useless.

The method that seemed to meet with most favor was to disguise the unpleasant taste in syrup of wild-cherry; but anyone who has tried this combination well knows that it is not so very palatable that "children cry for it." Judging from the discussion referred to, the problem, "How to give quinine to children," would seem to be still unsolved.

I am surprised that the way out of this difficulty did not at once occur to almost every member of the Society. It was a singular oversight; and I am sure no one will be more surprised than they themselves, when they recall

the ease with which the difficulties of giving quinine can be overcome. For some years I have not attempted to give quinine to children by the mouth. The most simple and satisfactory way is by inunction with the *oleate of quinine*. It is an elegant and definite preparation, occasions no struggle in administration, and there is not the least danger of its rejection by vomiting.

BENJAMIN EDSON, M.D.

83 ST. MARK'S AVENUE,
BROOKLYN.

Army News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from February 20 to February 26, 1887.

TESSON, LOUIS S., Captain and Assistant Surgeon. Ordered for duty as Attending Surgeon at Headquarters, Division of the Missouri, and Examiner of Recruits at Chicago, Ill. S. O. 44, A. G. O., February 24, 1887.

BARROWS, CHARLES C., First Lieutenant and Assistant Surgeon. Resignation accepted by the President, to take effect February 17, 1887. S. O. 42, A. G. O., February 19, 1887.

BLACK, CHARLES S., First Lieutenant and Assistant Surgeon. Ordered from Fort Clark, Tex., to Fort Davis, Tex. S. O. 23, Department of Texas, February 18, 1887.

MASON, CHARLES F., First Lieutenant and Assistant Surgeon. Resignation accepted by the President, to take effect March 25, 1887. S. O. 44, A. G. O., February 24, 1887.

Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending February 26, 1887:

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	8	4
Scarlet fever	52	14
Cerebro-spinal meningitis	3	2
Measles	225	28
Diphtheria	82	23
Small-pox	21	2
Yellow fever	0	0

THE CONDITION OF THE LARYNX IN WHOOPING-COUGH.—Dr. Von Herff, while suffering from an attack of whooping-cough, made a series of observations on the appearances presented by his own larynx in this disease (*Deutsches Archiv für klinische Medizin*). He examined his larynx throughout the whole course of the disease, sometimes even during the attacks of spasm. The results of his observations were as follows: Throughout the whole course of the illness a slight degree of inflammation of the mucous membrane of the respiratory tract was seen to exist, extending from the posterior nares to the bifurcation of the trachea. In the earlier stages this inflammation took the form of a slight catarrh, but during the spasmodic stage it was very intense and widespread, and only slowly disappeared during convalescence. The intensity of this inflammation varied in different parts of the respiratory tract. It was specially well-marked over the mucous membrane covering the arytenoid cartilages and the cartilages of Santorini and Wrisberg, but was greatest over the back wall of the larynx between the vocal cords, as well as on the under surface of the epiglottis. The other parts of the larynx remained unaffected, the vocal cords themselves being quite intact. The hyperæmia, however, extended into the trachea, and could be distinctly seen as far down as the bifurcation. It was found that during every paroxysmal attack a small pellet of mucus could be seen lying on the back wall of the larynx, on the level of the glottis, on the removal of which the attack instantly ceased. Further, by irritating this part of the larynx by means of a sound, a spasmodic attack of coughing could be induced, simulating in every way the attacks of whooping cough. Irritation of the under-surface of the epiglottis had a similar, though less marked, effect. On the other hand, stimulation of other parts of the larynx was entirely without effect in producing the characteristic paroxysms of coughing. He is therefore of opinion that the inflammation of the mucous membrane in this interarytenoidal region is specially connected with the peculiar attacks of spasm in whooping-cough.

A SURGEON AND ARTIST.—In the current volume of "St. Thomas' Hospital Reports" there is an article by Mr. William Anderson, Assistant-Surgeon to St. Thomas' Hospital, which give a most interesting outline of the history of art in its relation to medical science. Mr. Anderson is one of the many accomplished members of the medical profession whose art studies form the relaxation and chief pleasure of a laborious scientific career. Few, however, have ever combined in an equal degree the accomplishments of an anatomist and surgeon with those of profound erudition, conscientious research, and refined artistic taste. Mr. Anderson's great work on the "Pictorial and Glyptic Arts of Old Japan" is unique in European literature, and we are glad to see that its high merits have recently been fully recognized by such important organs of opinion as the *Quarterly Review* and the *Times*, as well as by the leading art and literary journals on the continent. On the subject of Japanese pictorial art he may justly claim to be the first living authority, and he has been the pioneer in the study of the pictorial arts of the great schools of the far East, which possessed, until recently, masters like Kanaoka, Motonobu, Tanyu, Okio, Hokusai, and Sosen. The works of these artists, which are still rare in Europe, may fairly compare with those of Cimabue, Velasquez, Snyders, and Landseer. In the present article Mr. Anderson reviews the services rendered by art to science in the elucidation of anatomy and pathology. Beginning with a reference to the anatomical studies of Leonardo da Vinci and Raphael, he passes on to the great work of Vesalius, "Humani Corporis Fabrica," which was illustrated by the pupils of Titian; to the Amsterdam folio on the anatomy of the human body, by Bidloo; to the "Tabulæ Anatomicæ" and other anatomical works of J. Casserius and Spigelius, illustrated by Fialetti; to the finely illustrated "Osteographia," of Cheselden; the "Tabulæ Sceleti," of Albinus; and the "Anatomia Uteri," of William Hunter.—*British Medical Journal.*

THE LAW OF THE DETERMINATION OF SEXES; KISCH'S MODIFICATION OF THE HOFACKER-SAELLER LAW.—When the husband is at least ten years older than the wife, and when at the same time the wife is within the age of highest reproductive power (twenty to twenty-five), there will be a very distinct excess of boys born over girls. This excess will be marked, but less distinct, when the husband is at least ten years older than his wife and she is over twenty-six. When the husband is older than the wife, and she has not attained the age of highest reproductive power, the female births will be in excess. This excess of girls born over boys is most marked when husband and wife are of the same age. Yet when the wife is the elder there is a distinct excess of male births. Dr. Kisch admits that both his own and Hofacker's statistics are not extensive enough to warrant very decided scientific conclusions. His interesting paper is published in the *Centralblatt für Gynäkologie*, January 22, 1887.

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Original Articles.

SYPHILIS AS AN ETIOLOGICAL FACTOR IN DISEASE, ESPECIALLY IN CONNECTION WITH PULMONARY LESIONS OR SYPHILITIC PHTHISIS.[1]

BY WILLIAM HENRY PORTER, M.D.,

PROFESSOR OF CLINICAL MEDICINE AND PATHOLOGY IN THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

MR. PRESIDENT AND GENTLEMEN: Latent syphilis, both of the acquired and congenital variety, as an etiological factor in disease, has occupied my attention for a number of years past, and a large amount of clinical and pathological material has been collected, bearing not alone upon its influence on the pulmonary tissue, but upon every organ and tissue of the body. Pulmonary syphilis is best defined as a condition of the lungs in which there is a progressive thickening of the walls of the air-vesicles, preceded or accompanied by a hyaline metamorphosis of the capillary arterioles. This change is often associated with inflammatory deposits and gummy formations, which, degenerating into cheesy masses, become encapsulated or liquefy, and give rise to cavities. The first condition is best classified as a syphilitic pneumonia, the second as a syphilitic phthisis.

This subject involves many somewhat difficult and apparently contradictory problems. It is hoped that this paper and its discussion may prove of profit not only to the profession, but to humanity at large.

The chief argument is the relative importance of the syphilitic poison as an etiological factor in producing a progressive consolidation of the pulmonary tissue, which, in turn, is followed by a progressive liquefaction of the lung substance.

If the term phthisis is to be limited to tubercular lesions only, then there is no syphilitic phthisis. But if the term phthisis can be applied in its broader sense to a progressive consolidation to be followed by progressive softening with destruction of lung-tissue and the development of cavities, then this paper will clearly illustrate the frequency of syphilitic lesions of the lungs deserving the term phthisis.

The subject requires not only a study of syphilitic lesions in connection with the pulmonary organs, but also in connection with all the visceral organs, so that a pathognomonic histological structure can be clearly demonstrated by which a sharp differentiation can be made between the three lesions which heretofore have been confounded, viz., syphilitic, tubercular, and sarcomatous neoplasms.

The three may be defined as follows:

First. Syphilitic gummata are vascular growths in which the original and newly formed blood-vessels have thickened walls, due to a peculiar hyaline metamorphosis, which, in some instances gives rise to an obliteration of their lumen and the formation of surrounding concentric layers of fibrillated connective tissue and round cells, thus forming a gummy tumor. The characteristic feature of this new-formed tissue is its peripheral vascularity, the vascular walls of which are greatly thickened by this same hyaline metamorphosis. These neoplasms tend to progressively enlarge and form a distinct capsule, while the centre often degenerates and becomes caseous. At other times there is this same hyaline thickening and a permanent dilatation of the lumen of the vessels which causes an increased and irregular nutritive action of the part, which is followed by a general interstitial thickening, the contraction of which causes the frequent pockmarking of the liver.

Second. The miliary tubercles as defined at the present time, are "non-vascular nodules which do not grow beyond a certain size, and which, having attained a certain stage of development, undergo cheesy degeneration," and they now become the seat of septic infection, break down, and rapidly destroy the surrounding tissue.

Third. The sarcoma are composed of embryonic connective-tissue elements, but they do not primarily degenerate, neither do they produce a hyaline thickening of the vessels, but, on the contrary, there is often an abundant development of new and thin-walled vessels, which frequently rupture and give rise to hemorrhagic extravasations, and these may undergo retrograde changes.

From this description it will be seen that the three neoplasms may undergo a cheesy change and liquefaction. If this part only be examined the three might be confounded, but outside of the degenerating centre the sarcoma can at once be excluded.

This brings us to the chief consideration, which is to disprove the histological and clinical identity of syphilitic and tubercular lesions of the viscera, and especially in connection with the lungs or phthisis.

The author's necropsy researches have developed a firm conviction that there is a very great frequency of syphilitic lesions of the internal organs.

At the same time it is generally stated that syphilis is comparatively harmless in its nature, and is often spontaneously cured, or readily yields to treatment.

These two affirmations certainly indicate a discrepancy at some point. The first question to be considered is: How is the poison introduced into the system?

That syphilis is frequently acquired in what might be called the legitimate or venereal way no one will probably question. In fact, some have gone so far as to assert that most young men run through a course of syphilis quite as frequently as they do one of measles, and treat it in the same trivial manner.

This would make from sixty to eighty per cent. of the male population syphilitic, to say the least. If syphilis has a tendency to spontaneous cure, or is easily amenable to treatment and is not contagious in the so-called tertiary stage little harm might come from this primary indulgence. But an extended clinical observation and an abundance of pathological material strongly tends to disprove the harmless nature of the syphilitic poison and establishes a malignancy hardly equalled by any other known disease.

The following histories are frequently obtained: The husband syphilitic, the wife not, abortion follows each conception without any appreciable cause, and without any evidence of the wife being affected.

This has been explained by the poison affecting the placental structure upon the fœtal side only when derived from the father. If the poison originate from the mother's side the maternal side of the placenta only will be affected; if both father and mother be syphilitic the whole structure of the placenta will be involved.

Since noticing this assertion I have had several opportunities for confirming this fact.

[1] Read before the Section on General Medicine and Pathology of the New York Academy of Medicine, February 15, 1887.

One striking example was observed in which the mother gave birth to a child at the seventh or eighth month without any known reason for the premature delivery. Macroscopic examination of the fœtus showed a dropsy of the cord and abdominal ascites. Microscopic examination of the placenta and visceral organs gave positive evidence of a syphilitic lesion, in the shape of marked hyaline thickening of the vessels on the fœtal side of the placenta. The same condition was also well marked in the vessels of the liver, spleen, kidneys, and lungs. There was a well advanced intra-lobular cirrhosis of the liver. The vessels of the placenta and all the fœtal organs gave evidence of being waxy, both upon the application of iodine, and by the methyl-green test.

In this case there was a positive absence of any syphilitic disease in the mother, and she had been perfectly well while carrying the child up to the time of its sudden and unexpected expulsion. Such instances as these, which are frequently observed, are rather strong pathological proof in favor of direct contamination from the father without maternal poisoning.

Clinically, it may be said to originate from the father's side without contamination of the mother by frequently repeated instances such as the following: The husband contracts syphilis, supposes himself cured, marries, and his first child is strong, vigorous, and apparently free from infection. Symptoms of visceral syphilis develop, and each succeeding child shows more and more positive evidence of contamination until the fifth dies of specific marasmus a few weeks after birth. From this time on each conception is followed by an abortion without appreciable cause. During all this time no history of a primary lesion, or secondary, or tertiary symptoms can be discovered in the mother, although repeatedly sought for.

Again, the husband supposes himself cured, but his wife constantly aborts, and without any apparent cause; close examination reveals pulmonary syphilis, or syphilis of some other organ. The husband is brought well under treatment, the wife ceases to abort, and conception is followed by an apparently healthy child, the mother receiving no treatment, as no symptoms are detected in her. The husband ceases treatment, becomes broken in constitution, or dissipated, abortions follow succeeding conceptions.

In these cases treatment of the mother has no effect, but treatment of the husband invariably relieves the symptoms. Such clinical observations point strongly toward the father as the source of the poison without primary infection on the part of the mother.

The large amount of pathological and clinical proof of this nature naturally suggests the probable incurable nature of syphilis and tends to disprove the inertness of the poison in the latent periods and also proves its transmission from father to offspring.

That the surface manifestations can be caused to disappear by treatment is unquestionable, but how many specialists follow their cases through the intermediate period and on to the dead house and then work up the pathological results?

When visceral lesions develop the case naturally falls into the hands of the general practitioner or the pathologist.

To the above methods of contamination can be added all the well-known accidental chances for inoculation, which are by no means few nor far between.

This question of the disease being an acquired or an inherited vice is one of unquestionable importance. A careful study of this point, for a number of years, has led the writer to believe that pulmonary syphilis in adults is a very common disease, and that it is due to either an acquired or inherited taint, the latter being nearly, if not quite, as frequent as the former. The ground for the belief that the disease is frequently inherited is shown by the number of cases in which it appears in young persons under ten or twenty years of age, whose chastity cannot be doubted, and in whom no primary symptoms have ever appeared. In opposition to this view may be urged a primary contagion, passing unnoticed, or a direct transmission by kissing some older infected person; these are outweighed, however, by the absence of primary and secondary symptoms.

Dr. John Ferguson, of Toronto, reported a number of cases[1] where the disease occurred in young children, and where, all other treatment having failed, the symptoms yielded to an anti-syphilitic *régime*, and where the father, at a later period, inquired if his children's condition could have been influenced by his having had syphilis.

All this is proof positive of the transmission of syphilis during its latent period from a father to his offspring without the mother showing any signs of the disease. The latent period of syphilis, which lasts from ten to twenty years, during which there may or may not be exacerbations, succeeds to the active state, and usually occupies that period of life in which the larger number of children are generated, thus probably accounting for the number of cases where positive symptoms are present without any evidence of primary contagion. A positive proof of the occurrence of this disease, in the form of a pneumonia or phthisis, may be found in the fact that these complications yield quickly and favorably to anti-syphilitic treatment. The larger percentage among females, especially among the unmarried and virtuous, seems to favor inheritance. These views are those of a clinician and pathologist, and vary considerably from those advanced by syphilologists. The clinical history of a case of this character is explained by the pathological lesion, and *vice versa*. Whether it be of the acquired or inherited variety may be in doubt, but inheritance from the father's side is in keeping with the biblical prophecy of descent even to the third and fourth generations. The recognition of syphilis in causing and maintaining disease, especially when the pulmonary organs are the point of attack, would indicate that a large number were syphilitic and not tubercular in origin.

The method for determining the characteristic histological lesions of syphilis was as follows. The cases were divided into three distinct classes:

First.—Those in which there was a positive history of a primary syphilitic lesion, and in which positive symptoms of visceral involvement followed.

Second.—Those in which there was a positive absence of primary or inherited infection, and in which no symptoms could be found that would lead to the suspicion of an acquired or inherited syphilitic vice.

Third.—Those in which the history was not absolutely positive in either direction. This third group had to be thrown out, as it would raise the question of other causes for the lesions found.

In the first group all the visceral lesions, whether of the lung, liver, kidneys, brain, or spinal cord, showed a uniform appearance upon microscopic examination, viz., a marked hyaline metamorphosis of the original as well as of the newly formed vessels. Distinct neoplasms were quite common, varying in size from a millet-seed to a small orange. These gummy formations had a sticky feel, with a tendency to liquefy in the centre, and to enlarge and form a distinct and fibrillated vascular capsule. In the capsule the interfibrillated spaces were packed full of corpuscular elements, and were freely supplied with small vessels, the walls of which were thickened and distinctly hyaline. In the soft centre of the gummy neoplasm the bacilli, as described by Lustgarten, were always found.

In the second group this hyaline thickening was never present. There was no tendency on the part of the tubercular neoplasm to form a distinct capsule, and the granulating mass was non-vascular. Having reached a certain size the tendency was to break down and cause

[1] Phila. Med. News, January 17, 1885, p. 66.

further pulmonary destruction. And the bacillus tuberculosis was present.

After studying a large number of cases in this isolated way, and finding a uniform lesion in all, and its absence in all cases when there was no syphilitic taint, the firm conviction has been developed that these pathological changes are positively diagnostic of a syphilitic vice, as the cause of the diseased condition; that by these lesions we can discriminate accurately between syphilitic and tubercular lesions of the lungs. This vascular change has been attributed to other causes, such as alcohol-, tea-, coffee-drinking, etc. Some have even suggested making it a new disease. But when studied in this isolated way, all syphilitic cases showed these lesions, and in no other condition were they to be found, although carefully looked for; this makes them positive evidence of syphilis.

The changes found in the lungs are somewhat similar to those of tubercular phthisis, and caused Niemeyer to remark:[1] "It may be difficult to decide whether the lesion be of a syphilitic origin or not." The lungs may be free, but, as a rule, they are more or less bound to the chest-walls and diaphragm by newly formed connective tissue, so that the pleural space may be completely obliterated. The pleura itself may vary from one-eighth to one-half of an inch ($3\frac{125}{1000}$ to $3\frac{1}{2}$ millimetres) in thickness. The greatest thickening is at the apices. After bisecting the lung the following changes are found: The main lobes, and often the lobules, are separated by distinct bands of newly-formed fibrillated connective tissue, which is not the case in a normal lung. The bronchi, particularly the smaller ones, undergo the same change, while the bronchial glands are indurated and pigmented; the latter, however, is only a coincident lesion. There are numerous cheesy-looking masses which are recognized by a trained eye as gummy formations. Their cut surfaces have a sticky feel and a laminated capsule, which, when they have attained considerable size, is quite distinct. The smaller granules have a similar appearance, and often look as though they could be readily shelled out. These neoplasms may vary, both in size and shape, sometimes occurring as large as a hen's egg, and sometimes so small that they look like the miliary tubercle. They may occur in masses, forming cheesy-looking patches, or they may occur in single round and isolated bodies. These masses are separated by degenerated pneumonia or by an interstitial thickening of the pulmonary substance. The early stage is characterized by a diffuse interstitial thickening of the pulmonary tissue, often associated with a degenerative pneumonia peculiar to this disease. In the latter stages cavities are not infrequent, and these are also found in the apex or high in the superior lobe.

The advanced cases are the ones that are usually found on the necropsy table, while the earlier types are not infrequently associated with intercurrent disease or surgical conditions; but here the histories are very incomplete, often being passed without attracting any attention. A striking illustration of this was found in the diabetic case already published, where, in looking for a tubercular process, a typical pulmonary syphilitic lesion was found. These pathological proofs of the apex—rather than the base and anterior portion of the lung—being the point of invasion are contrary to the ideas of some previous writers, but it has been invariably so in all the cases examined by the writer, both in the post-mortem room and at the clinic. These facts also explain the physical signs which are so marked during life, and substantiate their truthfulness. Macroscopically this lesion is differentiated from the tubercular by the peculiar cheesy and granular gummy formations which have a tendency to encapsulation, and look as though they could be readily shelled out and easily separated from the surrounding pulmonary tissue.

[1] Niemeyer's Text-book of Practical Medicine, vol. ii., p. 771. New York. 1881.

The microscopic appearances are varied and numerous, and the first thing that attracts the attention is the extensive new formation of connective tissue.[1] In many places broad bands are found closely resembling tendon tissue, and intervening between these tense layers there is a universal thickening of the pulmonary tissue, which also involves the vascular walls. The yellow elastic fibres are larger, and consequently appear more abundant. In many of the cases there is little or no pigmentation found which can be traceable to inorganic substance or to blood. The absence of the first, of course, is indicative of the fact that the interstitial thickening is not due to the irritation of carbon, iron, stone, or any of the other inorganic substances, as in the case of some varieties of fibroid induration. The absence of blood pigment, on the other hand, is positive proof that it is not due to chronic congestion or impeded blood-flow. This also dispenses with the idea that the dyspnœa must be due to the stagnation of the blood.

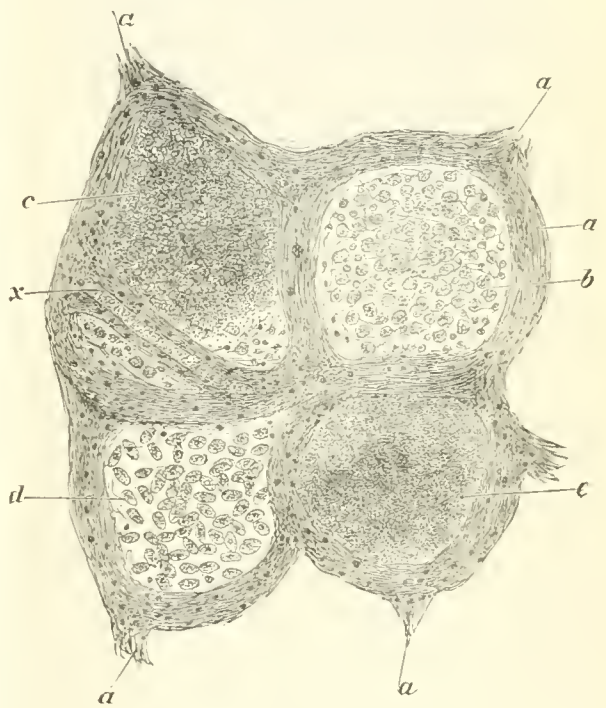

FIG. 1.—Syphilitic Pneumonia. *a*, thickened vesicular wall; *b*, an air-space showing red hepatization; *c*, an air-space showing gray hepatization; *d*, an air-space showing catarrhal desquamation of the epithelial cells; *e*, an air-space showing the degenerative pneumonia of syphilis; *x*, a blood-vessel between two thickened bands of a fibrillated vascular wall.

The thickness of the vascular walls varies from one twelve hundredth of an inch (20.833 μ) to one two hundredth (24.999 μ), but in the majority of the cases they are one eight hundredth to one six hundredth of an inch (31.250 μ to 41.666 μ) (see Fig. 1, *a*). In a number of instances the capillaries were seen in the centre of these thickened bands (Fig. 1, *x*), the walls of which were thickened independently of the vascular tissue. When the vessels were distended with blood, as in Fig. 1, *x*, the thickness of the tissue intervening between the lumen of the blood-capillary and the wall of the air-sac could be measured, and was found to be from one twelve hundredth to one four hundredth of an inch (20.833 to 62.500 μ).

This would naturally impede the free and easy interchange of gases between the two cavities, and would explain why the dyspnœa in this disease was so profound.

In addition, the connective tissue presents four characteristics microscopically:

1. Dense bands of white fibrous tissue with few corpuscular elements.

[1] A portion of this paper and the cuts first appeared in the New York Medical Journal, August 1, 1885, p. 114.

2. A less dense tissue studded with numerous small, round, inflammatory corpuscles, having an average diameter of one one hundredth of an inch (4.166 μ). At other points, this same connective tissue was thickly set with oat-shaped corpuscles one thirteen hundredth of an inch (19.230 μ) long and one eight thousandth of an inch (3.002 μ) broad.

Fig. 2.—Large Gumma, showing the outer portion and cellular infiltration the open spaces represent spots of softening.

3. The same inflammatory basement substance, interspersed with round nucleated corpuscles, one forty-five hundredth of an inch (4.166 μ) in diameter, which, taken alone, looked not unlike a round-cell sarcoma.

4. The thickened bands had a granular and degenerated appearance.

In many of the ultimate bronchi there was marked fibroid thickening, and many of the vesicular spaces were filled with an inflammatory exudation which presented a variety of appearances: 1. The air-spaces were filled with red blood-disks, leucocytes, desquamated epithelium, and fibrillated fibrin identical with that found in the second stage of a lobar pneumonia (Fig. 1, *b*). 2. Others were filled with decolorized round cells, as in gray hepatization of lobar pneumonia (Fig. 1, *c*). 3. Others were filled with large, round, distinctly nucleated epithelium cells, with a diameter varying from one fifteen hundredth to one two thousandth (Fig. 1, *d*). 4. Others contained a granular degenerating material which would not stain (Fig. 1, *e*).

The marked feature of this change was that all four conditions were irregularly intermingled as though in each air-sac it ran its course independently of all the rest, going regularly through the red and gray hepatization; at this point degeneration, rather than resolution, set in. The thickened walls prevent absorption, and the degenerating inflammatory products probably account for the copious expectoration.

This process is best classed as a degenerative pneumonia and one peculiar to syphilis. This peculiar pneumonia, accompanied by dilatation of the bronchial tubes, explains the absence of both dry and moist râles. The dilated and moist condition of the bronchi accounts for the absence of sibilant or sonorous sounds which are so common in the ordinary forms of interstitial pneumonia. This same condition of affairs accounts for the absence of the crepitant and subcrepitant râles, because the walls of the bronchi are not able to approximate each other and cause the sounds.

My opinion has always been that these râles were due to the opening and shutting of the ultimate bronchi, and a careful study of the physical signs and of a number of sections has still further convinced me that this is the way in which these sounds are produced. But I do not care to say that this is the only way in which they are produced, as they are often heard in certain stages of pleuritic inflammations, and there is no point of diagnosis between the two that is practical. The pleuritic râle, however, is very much less frequent.

It is well known that there is no tidal motion to the air beyond the third division of the bronchi. Beyond this point the air is changed by diffusion and by an anatomico-physiological law.

The trachea and bronchi are lined throughout with columnar ciliated epithelium, and the current of motion produced by these cilia is from within outward at the periphery of the lumen, while the central column of air is constantly moving downward.

It is by this action of the epithelium that the major part, if not the whole, of all inflammatory exudations into the air-sacs and smaller bronchi are brought up to the larger bronchi, where they can be influenced by the tidal air. The mass of sputum is pushed up until it reaches the under surface of the true vocal cords, where it irritates the peripheral sensory filaments of the superior laryngeal nerve, through which it is reflected back to the cough-centre, when a deep inspiration and a spasmodic or complete closure of the chink of the glottis follow. This is in turn followed by a forced inspiration with the glottis closed, during which the glottis opens, allowing a sudden escape of a large quantity of air under a very high pressure. The result of this is that the mass of sputum is driven through the rima glottidis into the larynx, mouth, or outside world, according to the force of the inspiratory act. This constitutes what is known as coughing, and is simply a dislodgement of the contents of the superior portion of the trachea. Irritation of the peripheral fibres of the pneumogastric in the pleura or bronchi will produce a dry or hacking cough. A thorough appreciation of these anatomico-physiological laws and their application to pathological conditions is absolutely essential for the selection of proper therapeutic agents.

Professor Thomas E. Satterthwaite first called my attention to the true value of the ciliated epithelium. The large gummata have a peculiar laminated, fibro-vascular, connective-tissue periphery, which tends to encapsulate

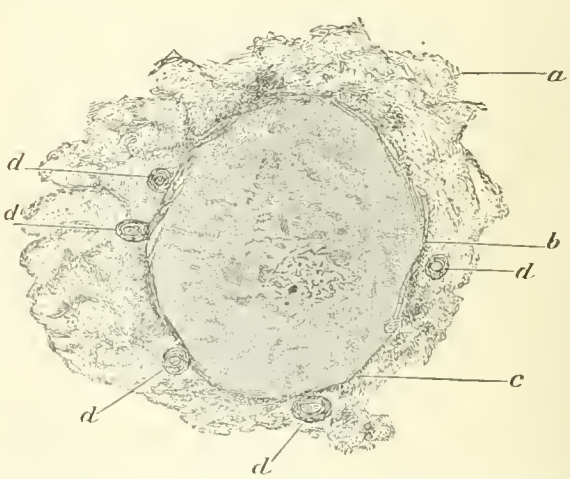

Fig. 3.—Miliary Gumma, showing cheesy centre, fibrillated connective-tissue capsule and hyaline thickening of blood-vessels. *a*, Surrounding pulmonary tissue; *b*, cheesy centre; *c*, sharply defined fibrillated connective-tissue capsule; *d*, thickened capillaries showing hyaline thickening.

and isolate their granular centres. The surrounding pulmonary substance is the seat of a peculiar fibro- and degenerative pneumonia. The capsules are highly vascular, the small vessels having thickened walls from hyaline transformation (Fig. 3, *d*); the centre often liquefies, the contents being discharged through a bronchus, leaving a smooth cavity in the pulmonary tissue. These cavities may contract and form a cicatricial "pock-

mark," or they may remain stationary for months. On the other hand, they may ulcerate and extend, so that at the necropsy we would find small smooth-walled cavities, together with larger ones with ragged walls, or sometimes with walls similar to those occurring with a tubercular phthisis.

Throughout lungs affected in this way small miliary bodies, closely resembling miliary tubercle, are abundant, but they are not opaque or transparent. These bodies I have called miliary gummata. These gummata sometimes coalesce, but at first they are round and isolated. A close study of these, in comparison with miliary tubercle, shows that there is a vast difference between the two. The periphery of the gumma somewhat resembles the adenoid tissue of miliary tubercle, but a high power distinctly shows that its periphery is composed of concentrically arranged fibrillated connective tissue in which numerous blood-vessels ramify (Fig. 3, *b*, *c*). The walls of these vessels, owing to a hyaline transformation, are invariably thickened (Fig. 3, *d*). As a rule, no giant-cells are found in the gumma.

In miliary tubercle the adenoid tissue is more delicate and less perfectly fibrillated; it is full of small round cells and often contains giant cells; the capsules are less vascular and the blood-vessels do not present the hyaline transformation.[1]

Taking the definition of Ziegler as the standard for miliary tubercle, *i.e.*, "a non-vascular nodule (*Knötchen*) which does not grow beyond a certain size, and which, having attained a certain stage of development, undergoes cheesy degeneration," miliary gumma tend to become encapsulated, miliary tubercles to soften and diffuse. Such a striking analogy between these two forms of miliary bodies naturally suggests the following queries:

1. Is not tuberculosis superinduced by syphilis?
2. In the late stages of a syphilitic lung, may we not also have miliary tuberculosis?
3. Have not miliary gumma been frequently mistaken for miliary tubercles?

The first two must be answered in the negative on account of the absence of temperature and of the Koch bacillus tuberculosis. There is, however, no good reason why a tuberculosis should not be developed on a syphilitic lesion, but the writer has not found a single instance where the post-mortem has revealed this.

Before answering the next question definitely, more data are required to prevent confounding the two.

These pathological deductions are the result of eight years' work in this direction, and a careful study of several hundred necropsies.

The rational signs in many respects resemble those of a tubercular phthisis. The patients complain of having had a heavy cold with incomplete recovery, followed by a dry, hacking cough, or one with an abundant mucopurulent expectoration. The sputum is either white and frothy, or thick, purulent, and of a greenish or yellow tinge, as in a true pulmonary tuberculosis. The copious expectoration from the very commencement is explained by the peculiar degenerative pneumonic process. Absorption is prevented by the thickening of the vesicular tissue, and all the inflammatory exudation has to be expelled through the trachea. In miliary tuberculosis there is little or no expectoration until the lung-tissue commences to break down and absorption is active. Early hemorrhages are frequent and often copious, while the dyspnœa is an early and pronounced symptom. These are accounted for by the primary diseased condition of the blood-vessels. But in true tuberculosis hemorrhages do not occur until late in the ulcerative process. Pleuritic pains are common, and there is often great weakness while the general physique remains fairly good—in fact, the emaciation is not at all in proportion to the weakness, and is nothing like that of the tubercular variety. The pains are unquestionably due to the extensive pleurisy so common in these cases. The weakness and nervous prostration without emaciation is apparently due to the inability on the part of the blood to obtain the requisite quantity of oxygen to stimulate the nervous system, and the surcharging of the blood with carbon dioxide (Co_2).

The skin is warm and moist, but there is little or no elevation of the bodily temperature. Night-sweats are frequent and distressing, and the patient complains of cephalalgia and of indefinite and wandering pains in the bones and tissues, which increase at night.

These also are explained by the want of oxygen and superabundance of CO_2. The absence of fever in syphilitic cases and its universal presence in tuberculosis is a striking and diagnostic point of differentiation. It is also clearly explained by the two lesions. In syphilitic lesions the thickening of the pulmonary substance and the marked tendency to encapsulation prevents the entrance of the effete and inflammatory products of the air-spaces getting into the lymph or vascular channels.

In tuberculosis the reverse is true. From the very onset of a miliary tubercle its inherent tendency is to break down and undergo retrograde changes. Now the effete and inflammatory products are taken up by the lymphatic and vascular channels and a true septic condition is developed with its accompanying rise in bodily heat. This abnormally high temperature is one of the earliest and the most positive symptom of tubercular lesions.

In syphilitic phthisis the stomach remains strong and with but little attention will digest well, nearly up to the last. In tuberculosis the stomach is among the first organs to rebel. Were it not for this fact many cases by forced feeding would terminate in recovery which now inevitably terminate fatally.

Dyspepsia and slight jaundice are not infrequent. The urine has a characteristic pale, limpid appearance, which, together with the sallow complexion, often leads to the suspicion of a renal lesion. The urinary examination is usually negative unless there happens to be a coincident renal lesion.

The dyspeptic symptoms and those of jaundice are usually due to similar vascular changes in the liver, and a functional derangement of that organ, and a deficient production of bile, which also accounts for the frequent constipation.

Married females abort without any apparent exciting cause further than the syphilitic taint. Their children, if born, are often plump, but soon die of marasmus. The first child is often healthy, but the subsequent children are delicate. Frequently patients complain of sore throat and of an early loss of hair.

The physical signs are peculiar and diagnostic; the respiratory act is labored and all the accessory muscles of respiration are brought into play, but there is little or no expansion of the chest. The shrinkage of the chest-wall is not apparent early, and in many instances is slight even with extensive pulmonary destruction. Early in the disease palpation reveals increased fremitus, but in the advanced cases it is diminished, owing to the small volume of air entering the lung.

Percussion gives varying degrees of dulness, which is most marked at the apex but diminishes toward the base. The percussion-note is dull and of "wooden quality," and localized areas of dulness are found. Owing to the fact that the small cavities have thin walls and contain considerable air, the dulness is not so great as would be ex-

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[1] This form of pulmonary lesion has been quite extensively described by:
Greenfield, W. S.: On Visceral Syphilis, London Pathological Transactions, pp. 249, 208. London, 1877.
Goodhard, J. F.: Phthisis of Fibroid Forms; History of Syphilis, op. citat., p. 313.
Green, T. Henry: Syphilitic Disease of the Lung, op. citat., p. 331.
Pye-Smith: Tertiary Syphilis affecting Lung, p. 334.
Mohamed, F. A.: Two Cases of Syphilitic Disease of the Lung (early fibroid, op. citat., p. 339.
Godhart, J. F.: Syphilitic Disease of the Lung. London, 1874.
Frouenier: Gaz. hebd. de méd. et chir., 48, 49, 51. Paris, 1875.
Thompson, E. Reginald: Pulmonary Syphilis, British Medical Journal, August 28, 1880.
This disease has been recognized and described from Morgagni's time to the present. A much more extended bibliography could be appended, but this is sufficient to show that the lesion has been recognized by eminent pathologists.]

pected, but, compared with a sound chest, it is decided.

Auscultation yields most positive and peculiar evidence when the rational history is taken into consideration. The inspiratory and expiratory murmurs are prolonged and harsh, especially the former, with a decided intermission between the two. Broncho-vesicular breathing is frequent at the apex.

The peculiar high-pitched and prolonged inspiratory murmur is explained by the thickened pulmonary substance and increased elastic resilience. This also accounts for the short and high-pitched expiratory murmur.

In this respect, the physical signs are just the reverse of those common to emphysema, where, owing to the loss of pulmonary substance and resilience the expiratory murmur is prolonged and high-pitched with a short and slightly increased inspiratory.

Broncho-vesicular and occasionally true amphoric breathing is heard at the apices, and the necropsy reveals the absence of any cavity. But the hardened walls of a lobule of the lung, the cavity of which communicates with a dilated bronchus, practically acts the same as a small cavity would, and explains the amphoric breathing, voice, and whisper. As a rule, crepitant and subcrepitant râles are absent, thus eliminating chronic bronchitis. It is differentiated from asthma and chronic interstitial pneumonia by the absence of the sibilant and sonorous sounds. The vocal resonance is exaggerated over the consolidated portions. The copious inflammatory exudation keeps the bronchial tubes moist and prevents the sonorous and sibilant sounds being developed. The thickened and expanded condition of the ultimate bronchioles explains the absence of the crepitant and subcrepitant râles. There appears to be no other lesion of the lungs in which the physical signs so accurately register the pathological condition.

Another very strong and pathognomonic sign is a peculiar pain and œdema of the sternum and of the tibial crests. Pressure over these regions produces a very peculiar pain, which is quite intense and accompanied by a recoil not easily forgotten when once recognized. Patients often try to avoid giving evidence of this, but as surely fail as though trying to resist the muscular reaction to the electric current. A noticeable feature is that when the sternum is excessively sensitive the tibial crests are less so, and *vice versa*. There is no other disease in which this localized tenderness and œdema of the periosteum is met with. It is never found accompanying a true miliary tuberculosis, but it is exceedingly common in connection with syphilis, and, from this absence in cases of tuberculosis, where the diagnosis was confirmed by the necropsy, and its almost universal presence in cases of syphilis, it may be regarded as pathognomonic of a specific taint. In addition to this, it is always found to disappear when the patient is under an anti-syphilitic *régime*.

The diagnosis is based upon five principal signs and symptoms:

1. The abundant expectoration without any signs of softening of the pulmonary tissue.

2. The weak and debilitated condition without marked emaciation and the good rational history of phthisis.

3. Pronounced dyspnœa without any evidence of a cardiac or pulmonary obstruction to the circulation.

4. The peculiar pain and the reaction to pressure upon the sternum and tibial crests.

5. The ready response to treatment is another element in the diagnosis.

The prognosis depends upon the early recognition and treatment. Syphilitic phthisis may run a very rapid course, but, as a rule, it is quite chronic. Dissipation hastens its progress, especially when alcoholic stimulants are used to excess.

In treating this affection, the liver should first be freely acted upon by cathartic doses of calomel or podophyllin, which in some cases should be frequently repeated. Experience has shown that the mixed treatment yielded better results than when mercury or iodide of potassium alone was used. The combination most successful is one-sixteenth of a grain of the biniodide of mercury, from five to ten grains of the iodide of ammonium, and ten to twenty grains of the iodide of potassium in a drachm of the compound tincture of gentian, three times a day after meals.

Great reliance is placed on the ammonium salt, not perhaps on account of its intrinsic action in syphilis, but from the action which it has in rendering the two others more soluble, capable of easier absorption and assimilation, and in increasing their solvent action upon these newly formed gummatous elements—in fact, its action may be compared to that of trituration on calomel.

This is, of course, only theoretical, although it was taught by the late Dr. Van Buren, and may not be in keeping with the experience of other observers, but there can be no question of its efficacy in the cases in which it has been tried. Patients have repeatedly come under observation in whom one hundred grains of the saturated solution of the iodide of potassium produced no effect, but who showed rapid improvement after a free catharsis and a maximum dose of thirty grains of the combined salts. It may be argued that recovery under the iodide is no sure proof of the existence of syphilis, as these drugs only prevent a waste of tissue and thus might retard an ordinary phthisis. It is, however, pretty generally acknowledged by writers on therapeutics that the chief potency of the potassium salts and iodide is due to their power of increasing oxidation. Upon this property our theory of their action has been based. Turkish and Russian baths are also of great service. It is quite essential to prescribe expectorants which will render the inflammatory exudation as watery and free from mucus as possible, at the same time stimulating the ciliated epithelium-cells, and thus freeing the air-passages of inflammatory products which tend to decompose, act as irritants, and interfere with the aërating space.

The best of food, air, and a total abstinence from all forms of dissipation must be insisted upon. The inherited cases are the more intractable, and will not yield to the iodide of potassium alone.

These deductions are drawn from a large amount of clinical material.

The conclusions may be summed up as follows:

1. *Etiology.*—Pulmonary lesions attributable to syphilis are very common, more so in females than in males, with the maximum number of cases occurring between thirty and forty years of age; it is as frequently, if not more frequently, inherited than acquired.

2. *Pathology.*—The lesion is most frequent at the apex and usually involves both lungs; it is a peculiar pneumonic process in the early stages, while later cavities are formed, and it becomes phthisical in the sense of progressive consolidation, followed by softening and the formation of cavities. There is a strong resemblance, but a positive difference, between syphilitic and tubercular phthisis, and a positive anatomical difference between a syphilitic and a miliary tubercle.

3. *Symptoms.*—These are peculiar and diagnostic.

4. *Diagnosis.*—This rests mainly upon the rational history and physical signs, the extreme dyspnœa, the periosteal tenderness, and the absence of an increased bodily temperature.

5. *Prognosis.*—This depends upon an early recognition of the trouble.

6. *Treatment.*—It must be anti-syphilitic to be of any avail. Many cases are unaffected by iodide of potassium alone, unless under enormous doses, but a rapid improvement follows upon the use of the biniodide of mercury, iodide of ammonium, and the iodide of potassium.

In conclusion, thanks must be extended to Dr. George R. Elliot for his pains in examining the specimens for the bacilli, to Dr. George G. Van Schaick for the drawings, and to Dr. E. B. Brunn, one of the laboratory stu-

dents, for preparing the specimens and examining for the bacilli.

In addition to the foregoing, I would like to state that, from October 1, 1884, to May 15, 1885, I made forty-two necropsies. In eleven of the cases, or 26.19 per cent., there was, in my opinion, a syphilitic condition of the lung—either gummata or cavities. Each was put to the test for the bacilli of tuberculosis, and in every instance they were found to be absent. The last three of the eleven were also put to the double test for the bacilli of tuberculosis and those of syphilis, and in all of them the latter were found in abundance, but none of the former. One case of the forty-two, or 2.35 per cent., had been diagnosticated as tuberculosis. The sputum was found to contain the bacilli of tuberculosis, and the diagnosis was confirmed by the necropsy. To the above a much larger number of necropsies can be added with a similar result.

102 East Thirty-first Street.

CASE OF WORD-BLINDNESS — CLASSIFICATION OF THE FORMS OF APHASIA.[1]

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On May 1, 1884, I was called to one of my stated patients, a lady of about sixty years of age, whom I found naturally anxious about a peculiar experience which had befallen her. The previous afternoon she had taken a long ride in her carriage to Greenwood Cemetery, to visit the grave of her only son, who died three years before, of phthisis. She said that she had enjoyed the ride, and did not feel particularly fatigued by it, but on returning home began to experience a sensation of unusual weariness. She exerted herself, however, then, before going down to dinner, to write an advertisement to come out in the morning paper, for a servant-girl. She was surprised, however, to find that for some unaccountable reason she could not word the advertisement to suit her, and after tearing up some five or six such written attempts, she was obliged to ask her sister to write the notice for her. Soon afterward, while at the dinner-table, a severe pain set in at the upper portion of the left temple, which continued to increase until it obliged her to retire to her room, and not long afterward, to bed. This pain persisted through the night, but did not prevent her from having a fair amount of sleep. She rose at her customary hour in the morning, and but for the persistence of the same pain, though in less degree than on the evening before, she would not have noticed anything unusual about herself, had it not been for the arrival, soon after breakfast, of an applicant in answer to her advertisement. Upon the girl handing her some written recommendations, the lady found herself unable to make anything out of either one of them, and had to call her sister in, who then read them without difficulty. Soon another girl came in, and my patient experienced just the same difficulty in attempting to read her references. She said that her first thought was that something was wrong with her eyes, but on looking around the room and inspecting a number of small articles minutely she was satisfied that she could see and distinguish objects as well as ever. The moment, however, that she turned to the writing, while she knew that she could see the written characters as well as she could see worsted-work, yet not a single letter conveyed any idea to her mind of its character or meaning. She thereupon took up a newspaper, and at once recognized that something peculiar had happened to her, for she was totally unable to read a word in it. The separate letters could be seen, but an indescribable blur, as she thought, rendered it all indistinguishable, whereupon I was sent for to explain the difficulty.

I was much interested, of course, in the patient's story, for nothing could have been better described or expressed in words. There was neither hesitancy nor thickness in her articulation, nor confusion in diction or thought, but, on the contrary, she detailed her case with a peculiarly good choice of terms. "What is it, doctor, that makes that newspaper so illegible to me? I see that there are words there, but I am wholly unable to tell what they are," were some of her remarks. At first I directed my questions so as to avoid increasing her alarm and excitement, and in time found that she had not experienced another symptom except the above-mentioned pain and her inability to read or write. She felt no numbness or tingling, either in the face or extremities, nor any loss of power, her grasp being the same as usual in each hand, while no difference was perceptible to her between either of the lower extremities in walking. The use of the hands for sewing, buttoning, or tying, and for holding a pencil for writing, seemed as good as ever. There was no difference observable in the vision of the two eyes—no specks, nor mists, nor colored images; no marked difference in hearing on either side, nor any other symptoms referable to the ears; and there was no dizziness whatever. The face showed no distortion, either, when the patient was speaking or laughing. Examination of the radials showed them to be hard and tortuous, and the pulse was of high tension and slightly quickened. I may remark here that a brother of the patient, a few years her senior, had a slight hemiplegic attack, with aphasia, some seven years ago, from which, however, he has quite recovered.

At my first visit I was soon obliged to desist from experimenting with my patient's inability to recognize written or printed words or figures, for the plainer this strange disability became to her by my tests, the more she was inclined to become distressed by it, and to press for an explanation, so that I feared the effects of excitement upon her cerebral circulation. At my visit the next day the pain in the temple still persisted, and was uniformly described as running along a line which corresponded to the temporo-parietal suture. Some days afterward it was noticeable that she occasionally miscalled words, of which, however, she immediately corrected herself. On cautiously testing her again, I found that her word-blindness at the end of the week was complete. The largest letters, like the heading of the New York *Herald*, and figures, were as unrecognized by her, when separately pointed out, as the smallest. With the exception, however, just mentioned, her spoken language was that of a well-educated woman who had learned to express herself fluently and well.

Her recovery from this condition began in about two weeks and progressed gradually until in three months she could both read and write, especially the latter, with tolerable facility. When she began to write again, however, it was in a very small hand, but in time she quite recovered her ordinary handwriting. Since then she has shown little or no change, except a marked increase of restlessness and impatience. She now writes all her own letters, but says that whereas she used to be a good correspondent, the task of answering letters has become very irksome. Reading, however, she finds more difficult than writing, for she can read aloud only slowly; while reading to herself, she says, soon fatigues her.

A history like this goes far to support Charcot's recent classification of aphasia into sensory and motor forms, instead of the former vague and inaccurate terms of amnesic and ataxic aphasia, because it shows a derangement of speech complete in itself and yet limited to the impressions of one special sense alone, viz., that of sight. Words reached the brain through the ear as well as ever, and therefore conversation was so perfect that the patient only accidentally learned that all language on paper was for her impossible. The eye could not "speak" a word to the consciousness. To this sensory defect of

[1] Paper read before the Neurological Section of the New York Academy of Medicine.

speech the term word-blindness has been given. But quite parallel to this case of sight aphasia we may have a person whose brain can see words perfectly but cannot hear words, although it can hear everything else. Examples of word-deafness, indeed, are even more curious than examples of word-blindness. Thus Broadbent relates the case of an intelligent and well-educated patient who became speechless from a syphilitic neurosis, but who evidently could read his newspaper, as he showed by going once to the nurse, in much excitement, to point out the announcement in the paper of the failure of a firm with which he had business relations. When asked to read aloud, he complied readily, but the result was gibberish, which his defect, however, prevented him altogether from perceiving. A sentence which read, "The Odessa line is again working properly," he read, "The assoil lens a puft puff miss corres povety," and so on, reading seriously and steadily, quite unconscious of the absurdity of his utterances. When trying, also, to copy a sentence, as he wrote each letter, he *named* aloud the letters always wrongly, although he *wrote* them correctly. In this case, therefore, the sounds which the brain had been taught to *hear* as words no more reached the consciousness as words than the written forms which the brain had been taught to *see* as words were perceived as such by my patient. That the defect in either case is something very different from amnesia or forgetfulness is proved by the fact that the *mind* has not forgotten a single word, only its equivalent "eye" or "ear" symbol, as the case may be. Why, therefore, the foreign language in which the patient with word-deafness talks to himself is not recognized by him as such is because the eye being still in perfect word use, and hence the meaning of what he reads being as intelligible as ever, he does not suspect that the ear is giving him no word-sound at all, so that he can neither articulate words to others nor himself recognize that the noises which he makes are not words. For it must be remembered that neither sounds nor forms make words; this is done wholly by the consciousness, and it does this out of sensory registrations in themselves specifically unlike. Thus, the sound of the word "man" is as different from the written word "man" as a strain of music differs from a painting. Moreover, it is quite probable that modern progress has enlisted another sensory, and correspondingly distinct registry of words in brain cells related to the sense of touch in the case of the blind who are taught to read with their fingers, and therefore we can conceive of a sightless aphasic who, by the appropriate lesion in his brain, might as suddenly lose his "touch" words as "sight" words are lost in word-blindness and "ear" words in word-deafness.

Such instances establish, at any rate, the fact of purely sensory aphasia, or derangement of speech from damage to groups of sensory cells which have been made to store up each their own kind of impressions, which to the consciousness represent words. Unfortunately, such brain-impressions cannot be made hereditary, like the sounds which animals utter, because it was none of the original business of those cells to have anything to do with speech, and their final perfection of training in word-registration is the sole effect of education, quite as special in its way as that of the gustatory sense in the German wine-tasters who with a mere sip will tell at once the vintage year of more than a dozen samples of hock. However, the recent progress of the pathological anatomy of aphasia, in spite of many difficulties, enables us now to locate pretty definitely the seat of word-blindness to be in lesions of the angular gyrus and its adjacent parts, or the visual centre, while in word-deafness we may look for signs of injury about the acoustic centre in the first and second temporo-sphenoidal convolutions, or in the track of their respective conducting nerve-fibres. It is an interesting observation which goes to prove that nerve-cells are taught word-language only by special effort or training, that facts of disease seem to indicate that articulate speech is a development from gesture speech, for the only explanation why aphasia is so generally associated with paralysis of the right, and not of the left, side of the body, is that the use of the right hand first for expressive gesture led to the employment of the contiguous motor centres in the left brain for the tongue, lower jaw, and face to utter sounds along with the movements of facial expression. That the corresponding centres of the right brain, however, can be taught speech equally well with those of the left brain, is proved by instances of complete loss of speech with paralysis of the left side of the body in left-handed persons, a perfect example of which I had not long ago in a left-handed patient of mine.

But clinical experience shows another and a much more common form of speech derangement whose characters cannot be referred to the sensory or receptive functions of the mind. One of the oftenest-occurring kinds of aphasia is where the patient loses all power to address others, for he can find no words come to his lips if he attempt to talk, or to his hand if he attempt to write, and even if he try to gesticulate he frequently makes the wrong movement with head or hand to what he intended. Yet, though he cannot address others, he still can be addressed, for he can understand all talk *to* him, and can himself read either print or writing, sometimes being even able to recognize the handwriting. In him, therefore, it is plain that the sensory mechanism of speech is intact, for he can both hear words and see words—but he cannot *use* words. The distinctive feature of this form of aphasia, therefore, is inability to work the mechanism of expression. A few words may be left to the patient's tongue, but they are mere sounds, and are often used over and over again without sense, like Broca's patient, who said *tan tan* to every question for twenty-one years.

This loss of power of expression is now properly termed motor aphasia, as it corresponds essentially to the motor or "out-going" element of nerve-function, just as sensory aphasia corresponds to the receptive, or in-coming, element. In distinction, therefore, from the receiving of impressions, as in listening or in reading, all mental acts connected with language which demand the putting forth of effort may be properly classed as belonging to the motor department of speech, for they show that the mind has first received the materials or sensory symbols of ideas, and constructing ideas therefrom, has then sent them forth. All *speaking*, therefore, whether by word of mouth or by handwriting, or by a wink of the eye, is a motor act which has as distinct a motor nervous mechanism as winking itself, which can be done only by a motor nerve acting on the palpebral muscles. It is moreover familiar to everyone that we receive thoughts by ear or by eye much more readily and quickly than we can express them in turn to others, which shows that the two processes are distinct, and not interchangeable. So that out of any five persons receiving equally clearly just the same idea there would be found a great variety of faculty or power for expressing it afterward, while disease shows that one process may be destroyed without the other being affected.

But between these two kinds of aphasia, namely, word-deafness and word-blindness on the one hand, and paralysis of expression on the other, we have a puzzling series of mixed cases with most varying degrees of the symptoms of each of these two kinds. Thus, cases are recorded (Trousseau) in which the patients could not utter a word, but could write as well as ever. Here there was motor aphasia, but limited to only one mechanism of out-going speech, *i.e.*, the mouth, without affecting expression by the hand. It is curious that motor speech is sometimes intact in word-blindness, even when the expression is by writing, for cases are recorded (Broadbent) of patients writing correctly while they could not read anything—not only printed characters, but what they themselves had just written. This fact can be explained

only by admitting that when one learns to write, which is long after he has learned to speak, he teaches the art of writing to new nerve-cells which are different from those which ordinarily register word-forms, and which, therefore, may remain in working order when the visual cells are paralyzed.

In addition to these forms of speech derangement, we have still others, the most important of which is *paraphasia*, in which the patients are constantly using wrong words, and others, again, in which entire classes of words, most commonly nouns, are lost. Some of these cases I think, can be best explained by admitting a third element in speech, which would correspond to the ganglionic centre of a simple nerve-arc. For just as we have derangements of sense registration of words, or sensory aphasia, and derangements of expression by words, or motor aphasia, so we may have derangements of recognition of words by the consciousness, or centric aphasia. Parrot talk, for instance, has but little of the centric element in it. A higher example of the same sort of words without thought is found in our committing to memory a passage just for the sake of its words, although we have its meaning perfectly in our minds. The degree, in fact, of our recognition of the words which we use is so various on different occasions, that we speak of not realizing sometimes what we have been saying. We can therefore conceive of the mental recognition of words depending upon the vividness of the impression with which they have been registered in the nerve-cells or centres nearest related to the consciousness, and which impressions, in turn, may fade in disease until the consciousness cannot perceive them at all, and hence cannot use them. Meanwhile the lower sensory mechanism still retains them, for if you ask these patients to repeat the words after you, or to copy by dictation, they may be able to do so quite readily. Hence, any indistinctness of the impressions on these higher speech-centres would result in the consciousness often mistaking them, and thus producing paraphasia.

Losses of nouns, on the other hand, occur like Bergmann's case, who had to use a paraphrase for every noun, as for scissors, "that with which one cuts," or for window, "that through which one sees." This interesting form of aphasia plainly suggests that language is acquired, so to speak, in successive layers of specific impressions, those classes which on account of the constitution of the mind are registered first remaining the longest, and those which are registered last fading away the soonest. For there is this fundamental difference between verbs and nouns, that verbs are subjective while nouns are objective. Now, subjective words are associated in the consciousness, from the first, with some inner experience, and hence will be much more deeply impressed than those which are rather associated with external or objective impressions. Thus, the consciousness that I see, I hear, or I feel, not only long precedes the recognition of what *thing* I see, or hear, or feel, but the event itself is much more deeply impressed as an idea than the object of the event, which often does not till long afterward receive a name, and thus become a noun. Even yet, in English, the sense of touch is but imperfectly supplied with its distinctive nouns, for while we can say, I see a blaze, or I hear thunder, instead of, I see the appearance of a blaze, or I hear the sound of thunder, we cannot say I feel a fire, or I feel an ice, but are obliged to use some paraphrase, just as Bergmann's patient had to paraphrase every objective term. Nouns, or the names of things, therefore, are more external to the consciousness than verbs, which, instead of being the names of things, are the terms which denote events in experience, *i.e.*, either perceptions or actions. Nouns, therefore, in proportion to their objectivity, partake of the nature of pure names, like proper names, which, as everyone knows, are the last words to be learned and the first to go. That words, indeed, are not learned haphazard in human speech, however, they may be by parrots, but rather by classes, in obedience to mental laws (and hence, can be lost by classes), is confirmed by Ogle's observation that grammatical form is always observed by aphasics in the few words that remain to them—substantives are used in the place of substantives, verbs for verbs, numerals for numerals. Thus, a patient of Broca employed *trois* to express any number, but corrected what he said by holding out the proper number of fingers at the same time. A patient of Dr. Broadbent also possessed only one name for a locality, namely, Burlington, where she had lived as a child, and she used this when she wished to name any place whatever. Kussmaul, it is true, speaks of an Agrammatic aphasia in which the parts of speech are confused, but his instances of the kind belong rather to the category of brain lesions which destroy speech by first destroying thought itself, and in which the patients can hardly be termed aphasic, any more than we can so call speechless, though not wordless, idiots.

Cases of partial, and yet specific, aphasia, like that of my patient here detailed, are interesting on account of the light which they throw upon the cerebral mechanism of speech itself. It is doubtful if the labors of generations of metaphysicians could show us how the mind acquires words, or thinks in them, with anything approaching the demonstration that is afforded by some examples of derangements of speech by disease. Thus, it would scarcely have been surmised by any train of *à priori* reasoning that the faculty of speech was divisible into so many distinct elements or factors as the histories of some aphasics prove. One would as little expect an artist suddenly to lose all power of representing a man while he could still paint a horse as well as ever, as to find a person who wakes some morning with all his nouns gone, or else of a scholar who in an hour becomes as illiterate as a savage who has never seen a written or printed word. But the literature of aphasia abounds with cases which read not unlike careful experiments made for the purpose of analyzing the different mental elements of language separately, so as to enable us to reconstruct the whole with that kind of certainty which only experimental tests can afford.

A CONTRIBUTION TO THE STUDY OF DISEASES OF THE UVULA.

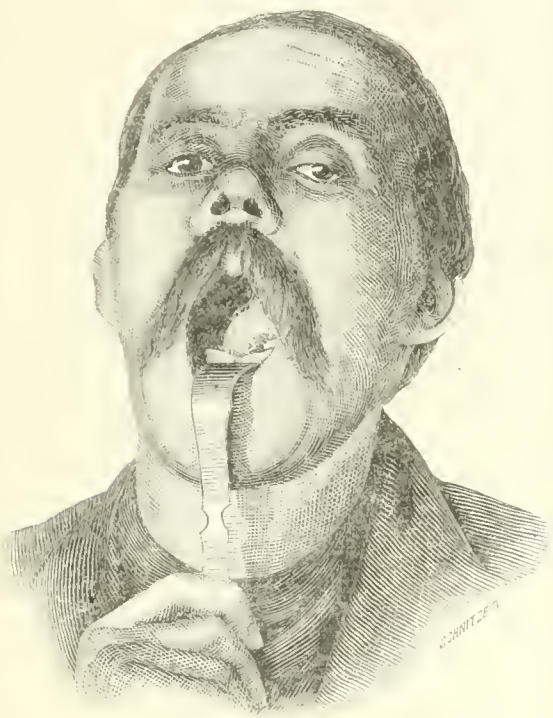
By WENDELL C. PHILLIPS, M.D.,
NEW YORK.

Primary disease of the uvula is rarely seen. Most diseased conditions of the organ are either due to extension of disease of the surrounding tissues, or are local manifestations of constitutional disease. For instance, acute inflammation of the uvula, or uvulitis, is usually due to extension of general inflammation of the pharynx. Œdema is never primary. Chronic elongation is the result of chronic pharyngitis. Lupus does not primarily affect the uvula. Papillomas are occasionally seen, but are usually dependent upon syphilis or tuberculosis. Anæsthesia, hyperæsthesia, spasm, and paralysis are always due to external causes. These, in conjunction with certain congenital conditions occasionally seen, complete the list of diseases in which the uvula may be involved. And it may readily be seen how exempt this organ is from the primary manifestation of disease. A case of angioma primarily developing in the uvula has recently come under my notice, and, after patient research, I am led to believe that no similar cases have previously been reported.

John S——, aged thirty-nine, married, plasterer, was sent to the Throat Department of the Manhattan Eye and Ear Hospital by Dr. George F. Carey, July 31, 1885. For two months he had experienced some difficulty in swallowing, and at that time was taking only very soft or liquid food. He had been gradually losing flesh and strength, and his general appearance was haggard and anæmic. He had a chancre two years ago, and one year ago had an operation for urethral stricture.

The uvula was greatly enlarged in every direction, but more especially in length, it being two inches long. The diameter was five-eighths of an inch, terminating in a bulbous mass considerably larger. When in repose this mass hung well down behind the base of the tongue, but caused him very little unpleasantness, except when eating. With slight effort he could force the tumor forward upon the tongue. Numerous small, dark-blue, apparently venous dilatations were visible over the entire surface of the growth. The man was positive that the condition had not existed more than two months. Supposing the disease to be of specific origin, he was given the mixed treatment with tonics.

About this time the tumor was photographed by Dr. George H. Fox. Owing to the great length of the growth and the irritability of the patient's throat it was found impossible to get a good photograph of the entire mass.



The illustration above shows the base of the tumor fairly well and slightly tilted forward upon the tongue. The view given is really from below upward.

During July and August the specific treatment was faithfully followed. His general health improved slightly, but the tumor gradually enlarged. The same conditions also began to appear on the surface of the left velum.

November 6th.—Still increasing.

December 1st.—Specific treatment was abandoned. The tumor was still increasing. During January, February, and March, 1886, he was seen at short intervals, and the growth was treated locally. It was now two and one-half inches in length and interfered greatly with deglutition. It was evident he could not live much longer in this condition, as he was failing rapidly. Consequently an operation was decided upon.

May 4th.—The entire growth was removed with the galvano-cautery. The hemorrhage was very slight. He made a good recovery, and was discharged from the hospital, May 10th.

July 15th.—Returned. He had gained twenty pounds of flesh, and had steadily improved.

October 1st.—He was working steadily at his trade, and gave no evidence of a return of the disease.

The tumor was taken to Dr. T. Mitchell Prudden, who made the microscopical examination. He made the diagnosis of *cavernous angioma* of the *uvula*. The following is his report, viz.:

"*Tumor of the uvula, from Dr. W. C. Phillips.*—The irregularly pear-shaped tumor is roughly nodular on the surface and considerably shrunken by the preservative fluid. The tumor-mass consists for the most part of a congeries of larger and smaller irregular-shaped cavities lined with endothelium and filled with blood. Between these blood-cavities are bands of connective tissue, dense and firm in texture. The muscle-fibres of the uvula are crowded apart by the new-formed blood-cavities, and lie scattered singly and in groups in the connective-tissue bands or partitions. The mucous glands are crowded out of place and moderately hypertrophied. While most of the cavities are filled with simple, clotted blood, some of them are partially, and in a few cases nearly, completely filled with parietal thrombi, which have only central lemma filled with blood. The whole is covered by the normal mucous membrane of the part. The anatomical diagnosis is, accordingly, *cavernous angioma* of the *uvula*. T. Mitchell Prudden."

A CASE OF DEFORMITY OF THE RIGHT HAND, IMPROVED BY PLASTIC OPERATIONS.

By GEORGE WACKERHAGEN, M.D.,
BROOKLYN, N. Y.

On February 14, 1884, Carrie M——, aged fifteen years, a resident of Dutchess County, N. Y., working at her occupation of laundress, caught the middle finger of her right hand in the revolving cylinders of a steam mangle. Before the machine could be reversed the whole hand had been drawn between the rollers and exposed for several minutes, not alone to the great pressure and lacerating force of her voluntary resistance, but also to the boiling water and steam.

Surgical aid was at once obtained and such attention given the case as was demanded. In the summer of 1885, about eighteen months subsequent to the accident, she came, by consultation with Dr. Thomas J. Barton under the notice of the writer. The hand being entirely helpless, a series of operations was designed to produce a more useful member.

Fig. 1.

Fig. 1 gives some idea of the relative position of the fingers, but the amount of cicatrix and the firmness with which all parts of the palmar surface were agglutinated cannot be represented. The lacerating forces and scalding had stripped the soft tissues of the palm "to the bone." The healing by granulation and cicatricial contraction, unopposed by a similar force on the dorsum, had flexed the fingers and coalesced the whole front of the hand, including the thumb, in one firm cicatrix. The deformity was further increased by a fracture of the fourth and fifth metacarpals, with forward angular displacement of the fragments, and dislocations at both articulations of the first phalanx of the fifth row.

Under ether anæsthesia **V**-shaped incisions were made in the scar opposite the index, middle, and ring-fingers, and extension nearly to a right angle made possible. The little finger being so hopelessly disabled, its phalanges were dissected out from the scar, and whatever sound in-

tegument could be obtained from it utilized to improve the condition of its fellows.

Suitable dressings being applied, careful instructions were given concerning the manipulations of which the post-operative treatment should consist in such a case. These directions were but poorly executed, as was learned at the next visit on December 1, 1885, when the condition was essentially unchanged. (It will be noted that the patient and operator lived widely apart.) At this time the patient being again anæsthetized, a second operation was done. The first step consisted in thoroughly removing all scar-tissue. The viciously united metacarpals, with the useless ring-finger, were dissected away without loss of the normal integument of the dorsum, which was drawn around to cover the palmar surface of the first and second metacarpals. The cicatricial tissue was now entirely replaced by normal integument. Instruction concerning passive movement of the two remaining fingers being repeated, the patient was not seen again until March, 1886, when marked improvement was noted. Both active and passive movements were greatly facilitated, and the nutrition of the fingers was much better, the circulation being re-established and maintained to a natural degree.

Most of the disability was now caused by the immobility of the thumb, consequent upon its adhesion to the side of the index-finger. To correct this, a skin-flap was formed from the adjacent portion of the back of the hand and index-finger (Fig. 2), which was brought forward to form a palmar surface and ball of the thumb.

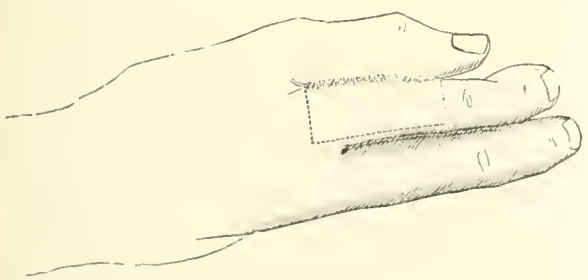


Fig. 2.

The deficiency thus produced was supplied by completely covering the freshly cut surface with small grafts from the arm. Every one of these united.

The hand resulting from this series of dissections and patchings is a very useful member (Fig. 3), and with use

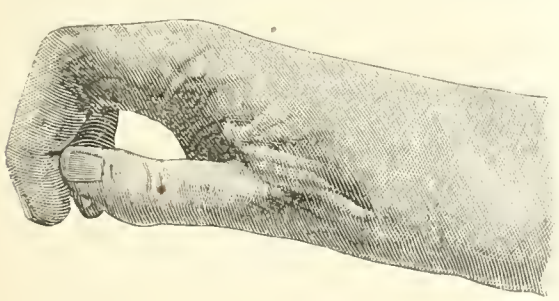


Fig. 3.

is becoming adept at prehension and ordinary manual functions, there being considerable motion and strength in both fingers and the thumb.

A Simple Test for Butter.—There is a qualitative test for butter so simple that any housewife can put it into successful practice. A clean piece of white paper is smeared with a little of the suspected butter. The paper is then rolled up and set on fire. If the butter is pure the smell of the burning paper is rather pleasant, but the odor is distinctly tallowy if the butter is made up wholly or in part of animal fat.—*Scientific American.*

Clinical Department.

SOME THOUGHTS ON TYPHOID FEVER AND ITS TREATMENT.

Dr. B. F. Ludlum, of Marion, Ind., writes that his interest was excited by a statement made by Dr. Baruch in an article in The Medical Record concerning the mortality in this disease. The author said: "If we appreciate the enormous mortality of typhoid fever, as gathered from the reports of our city Board of Health, we must acknowledge that this disease is a scourge in New York City." He then gives figures showing an average mortality during the past ten years of 41.28 per cent., and during the autumn of 1886 of 34.68 per cent. Dr. Ludlum continues: "These certainly are alarming figures of fatality, and remind me of the declaration I heard an old man make, soon after I entered civil practice, that 'We think here when the physician pronounces his case typhoid fever the patient had better make his will.'

"I was congratulating the medical profession that in its advances it had almost blown away the wonderful dread of typhoid fever and placed it nearly alongside of rheumatism as regards its mortality. After treating fifty or sixty cases in Warren County, O., without any proving fatal, I was accustomed to tell the patient and friends that we expected our typhoid fever cases to get well, and it always turned out so, until after I had treated one hundred cases.

"On my first day of practice I was introduced to a case of typhoid fever. Having a terrible dread of this disease, I threw all my energy into the study of the case. In all my reading and conversation with other physicians, the burden of the matter was the uncontrollable diarrhœa and the lesion of the bowels. Reasoning from these as facts, I determined to direct all my efforts to allaying the excitability of the stomach and bowels by not only not giving cathartics or emetics but by using every means of restraint that I could command to prevent nausea or diarrhœa. I usually found the Dover's powder or some other opiate and subnitrate of bismuth quite efficient, yet when these did not bring the desired result I took such other medicines as met the indication to allay irritability of stomach and bowels. Ordinarily I gave turpentine in emulsion, so that from twelve to twenty drops of the drug would be taken in twenty-four hours in four to six doses, or, if the turpentine was not agreeable, I gave muriatic acid mixture in about the same dose, combined with five or six drops of the nitric ether. For tympanitic distention of the colon I used embrocations of lard and oil of turpentine over the abdomen, also the hop poultice, steamed over boiling water or vinegar.

"My observation from first to last in regard to this fever has been that the general tendency of the disease is of a depressing nature, and therefore, if any medicine that depresses the system is given, it lessens the vital forces, weakens the nervous system, and is one of the means of opening the excretory ducts of the alimentary canal to flood away the life by irritation and depression, and this at the very time when every atom of strength and nerve-force and every available drop of blood is called for to carry the patient through the weeks of time when there is but little appropriation of aliment to the weak organs to make blood or recruit the failing powers of life.

"I never could find time to give attention to the matter of antipyretics, and had no inclination to until something was advocated that gave better results than I was obtaining by my common method of treating this fever. It was a more ancient idea that fever was the disease, and was the matter in hand to be treated, while there has been a later and not less authoritative doctrine that fever is only a symptom of disease.

"The older doctors bled, gave tart. antimony, veratrum, etc., to reduce the pulse and fever, and also produced ptyalism for the same purpose, and, as they expressed it, to break up the fever; and, when the patient had constitution enough to stand the treatment, they usually did so. Seeing that homœopathists had better results by almost no treatment, as they thought, gradually they abandoned the heroic plan and went to the other extreme, viz., the expectant, which really brought better results. A plan of mild treatment, one which will permit small doses of non-irritant antiseptics and non-irritant hæmostatics, and small doses of tonics that will strengthen and tone up the system, has proved to be of greater value. Milk is probably the best aliment for most cases. I am positive that for safety and effectiveness as an antipyretic there is nothing equal to moderate draughts of cold water, given frequently. It will invigorate every time, as well as reduce fever. It is a thin beverage, but it will keep a man living a long time. Another thing of first importance is, have good nursing."

COCAINE IN ACUTE GASTRITIS.

Dr. J. Emmet O'Brien, of Scranton, Pa., relates the case of a young girl who, after an unsuccessful attempt at suicide by laudanum, mixed a box of "Rough on Rats" in water, and drank an unknown quantity of it at intervals during a half hour. When first seen she was in frightful agony, and the diagnosis of arsenic poisoning being quickly made, the stomach was emptied by ipecac and sulphate of zinc, and large quantities of dialyzed iron and lime-water were given. Dr. O'Brien gave two grains of morphine hypodermatically in divided doses during the night, and kept the woman anæsthetized by means of chloroform and ether for twelve hours. When conscious, the patient would take nothing unless assured that it was poison. Whenever the anæsthetic was withdrawn the patient would try to dash her brains out, and tore at her abdomen, raving about her stomach. Three persons could with difficulty hold her when not profoundly under the influence of ether. Twelve hours after the poison had been taken the girl was still in terrible agony, and showed signs of collapse. On the suggestion of Dr. Gunster over half an ounce of a four per cent. solution of cocaine hydrochlorate (about ten grains of the drug) was then administered, the supposition being that all the arsenic had been vomited or neutralized, and that gastritis was now the condition calling most loudly for relief. In a few moments the patient ceased to complain of her stomach. The mania subsided, and the patient became controllable, so that it was possible to discontinue the anæsthetic. The pulse, which had been failing, grew stronger, and the woman was soon able to walk with assistance. The mania and hallucinations continued in mild form for some hours. The patient was removed to the Lackawanna Hospital, where brandy and digitalis were given, and she recovered completely. According to the analysis of Mr. Lorenz, an apothecary of Scranton, "Rough on Rats" contains sixty-five per cent. of arsenic. Another girl, who afterward took some of the same preparation, died within a few hours. The treatment in this case was not known.

THE TREATMENT OF CONSTIPATION.

Dr. George T. McCoy, of Columbus, Ind., contributes the following: "Having read the article on 'Constipation' in The Record of March 5th, I wish to offer a suggestion. Instead of an 'enema of olive-oil and water' or the 'compound aloin pill,' use suppositories of aloin, gr. $\frac{2}{3}$; ext. belladonna, gr. $\frac{1}{4}$; strychnia, gr. $\frac{1}{30}$; butter of cacao, q. s. About two years ago I commenced treatment of simple constipation by the use of suppositories, and have no hesitation in saying that it has given more satisfaction both to patient and physician than any other method of treatment. Of course, this includes 'obedience to physiological law.' Many cases of constipation in this latitude are simply local diseases —'paralysis from over-distention'—and when complicated by piles the suppositories are of great benefit.

"I use the same treatment in many cases of constipation among infants, using nux vomica instead of strychnia, and making strength of suppositories to agree with age, etc. A suppository of the strength of the above will seldom fail to produce a free evacuation, devoid of any unpleasantness, after which strength and frequency should be gradually lessened. Through the courtesy of Parke, Davis & Co. in preparing samples, I have been able, in several cases, to relieve this most distressing ailment even when it had existed for 'half a lifetime.'"

Progress of Medical Science.

Salicylate of Ammonium in Typhoid Fever and other Febrile Diseases.—Dr. J. R. Barnett, of Wisconsin (*Journal of the American Medical Association*), impressed with the idea of the inadequacy of quinine in typhoid and remittent fevers, advocates the use of salicylate of ammonium, which he regards as a safe and efficient antipyretic. From a rather limited number of observations he believes that the following conclusions may be provisionally accepted: Salicylate of ammonium is to be ranked among the most efficient of the antipyretics. As an antipyretic in all fevers characterized by extreme adynamia it ranks among the safest, owing to its ammonium base. It is stimulant as well as antipyretic, and thus of itself fulfils indications otherwise only met by a combination of remedies. It is an agent of wide germicidal powers, being promptly efficient in affections of great etiological and pathological differences, each confessedly arising from its own proper specific infecting micro-organism. As a remedial agent in typhoid and remittent fevers it is unsurpassed, aborting them at the outset, under favorable conditions, and greatly mitigating their severity and danger under circumstances less favorable. It is entitled to confidence in the treatment of pulmonary inflammations, either idiopathic or septic, and probably eliminates the dangerous factor, embolism, with greater certainty than any other curative agent. It is the most efficient known remedy in puerperal septicæmia, and probably also in most septic inflammations of non-puerperal origin. It is worthy of a trial in non-tubercular cerebral meningitis, as it gives some promise of relief in an affection which has hitherto resisted, if not resented, all modes of medical treatment.

Treatment of Ciliary Blepharitis.—Dr. Gorecki divides the treatment of this affection into four parts: First, the treatment of the cause; secondly, that of the local symptoms; thirdly, that of the general constitution; and, lastly, hygienic treatment (*Recueil d'Ophthalmologie*). In young and adult men the cause of blepharitis is, in many instances, defective discharge of their functions by the lachrymal passages. One eye weeps, the lids become congested, the bases of the cilia become red, an abnormal secretion forms along the edges. In such cases the permeability of the lachrymal passages must be restored. In other cases some anomaly of refraction or of accommodation is the exciting cause, and the effects become particularly well marked when the patient is much engaged in writing or in reading. In such cases appropriate glasses must be prescribed. The local treatment should never be irritating. In most instances topical applications should be made by the surgeon himself. As a rule, ointments are not well borne at the outset. They should only be applied when the eyelids are not irritable, and their use should be suspended as soon as they seem to cause any irritation.

When ulcers or an eczematous condition is present, which is of not infrequent occurrence in children, the crusts and scales should be removed by a hot starch poultice. The cilia should then be thoroughly cleansed, especially at their bases, with warm water containing four or five per cent. of boric acid, or one-half per cent. of carbolic acid, or use may be made of an infusion of chamomile; and, lastly, the surgeon should himself touch the base of the ulcers with the point of a pencil dipped in a solution of nitrate of silver containing two or three per cent. of that salt, and the same may be applied to the roots of the cilia, water being subsequently applied freely to wash away any excess of caustic. This last proceeding should be adopted every, or every other, day, according to the condition of the lids. In the case of dry blepharitis, with branny scales at the base of the cilia, with neither scabs nor ulcers, hot, slightly antiseptic fomentations should be applied. Pomades composed of mercury nitrate, or with acetate of lead, are given in all books, but are of little service. A solution of perchloride of mercury, one part in two thousand of water, and twenty parts of glycerine, may be applied; and calomel may be dusted over the surface of the edges of the lids. The general treatment may consist in the administration of small doses of calomel internally in eczematous infants. Arsenic is very efficacious in adults. Salt-water and sulphuretted-water baths should be prescribed with care, and only after due consideration. The general hygienic treatment is of great importance. The patient should live in pure air, should avoid a sandy or dusty soil, should smoke only in the open air, and should take little or no alcohol. Attention should be paid to the bowels; and vegetable tonics may be taken.

Syphiloma of the Heart.—At a late meeting of the London Pathological Society Dr. W. Pasteur showed a specimen of syphiloma of heart from a woman aged thirty, who was taken to Middlesex Hospital *in articulo mortis*. She was probably a prostitute. None of the ordinary signs of syphilis were visible except in the heart. The liver had a peculiar marbled appearance. There was some recent lymph on the surface of the left ventricle, which was hypertrophied and dilated. Grayish opaque patches of varying size and distribution were seen in the wall of the ventricle and septum. At least one-half of the ventricle was diseased. The right ventricle was less diseased. The patches were ill-defined and translucent at the edges. There were milky-looking patches on the endocardium. Microscopical sections showed infiltration of corpuscular growth, which was very vascular at the margin; the nuclei were spherical and distended. In some of the vessels of the heart doubtful evidences of peri-arteritis were to be seen, and possibly also of endocarditis. The liver showed numerous accumulations of small round cells, like that met with in some forms of interstitial hepatitis of congenital syphilis.—*The Lancet*, January 1, 1887.

Diagnosis and Treatment of Gonorrhœal Cystitis.—The following are the conclusions of an article on this subject by Dr. Ernest Desnos (*Bulletin Général de Thérapeutique*, November 15, 1886): 1. Gonorrhœal cystitis has its seat in the cervical portion of the bladder; it always exists together with a deep urethritis, but the latter alone cannot give rise to all the symptoms of cystitis. 2. In the commencing stage of gonorrhœa there may be a frequent desire to urinate, but the short duration of this symptom and the absence of other characteristic signs suffice to exclude a diagnosis of inflammation of the bladder. 3. In chronic cases the differential diagnosis between gonorrhœal and tubercular cystitis is sometimes impossible, especially when the latter supervenes upon an old gonorrhœal inflammation. 4. A certain number of cases, called cystalgia or neuralgia of the neck of the bladder, are nothing else than incompletely cured cases of gonorrhœal cystitis; but at times, even after a complete cure, a certain painful sensation persists for a very long period. 5. The treatment o acute cystitis by means of emollients is rarely successful and merely prolongs the disease; even in the acute stage, applications of nitrate of silver should be made to the neck of the bladder; a smart reaction is manifested the first time, but improvement rapidly follows. 6. In chronic cases, washing out the bladder is of little use, and may even cause an acute exacerbation; in such cases general treatment is a good adjuvant to the indispensable local treatment. 7. This local treatment should consist in direct instillations of certain remedies to the neck of the bladder. 8. Sublimate solution, in the strength of 1 to 250 or 1 to 500, causes severe and prolonged pain, and its effects are slower than those of nitrate of silver. 9. Iodoform dissolved in oil or suspended in glycerine is not painful, but its effects, although in the main satisfactory, are slow and uncertain. 10. Hydrochlorate of cocaine quiets the pain only for a very short period; but when applied to the neck of the bladder some minutes before the instillation of a caustic, it causes a very sensible diminution of the pain of the latter. 11. From all points of view, however, nitrate of silver possesses an incontestable superiority over all other therapeutic agents.

Intermittent Albuminuria.—Dr. Mareau relates, in the *Revue de Médecine* for October, 1886, a case of an apparently healthy boy who had intermittent albuminuria. The child had never been ill until he reached the age of eight, after which time he had measles and typhoid fever. The author raises the question, without solving it, whether there is actually such a thing as physiological albuminuria, or whether the affection should be regarded as the result of a pathological process, however slight. He concludes his study of the case with the following considerations: 1. There exist forms of albuminuria, of unknown nature, which are compatible with a state of health. 2. The chief characteristics of these forms are that they are intermittent or transitory, and that the amount of albumen is never or very rarely large. 3. The intermittent albuminuria, in the case of the boy in question, was more marked after meals than at any other time of the day. 4. The influence of food upon the albuminuria was especially accentuated by the evident traces of albumen. 5. The slight trace of albumen which was observed in the case of the boy, in the urine passed the first thing in the morning, was without doubt attributable to the effects of the evening meal, for he urinated but once in the evening on retiring, and then not again until morning. 6. The attack of measles from which he suffered had no effect in increasing or diminishing the amount of albumen excreted. When, by reason of the fever, the boy could not eat as usual, the albuminuria was most noticeable in the early morning; but during convalescence, when he began to take his ordinary meals, the albumen reappeared, as usual, after each repast.

Charcot's Joint Disease.—At a recent meeting of the Berlin Medical Society a discussion took place upon tabetic arthropathy. Dr. Rotter described the clinical and anatomical features of the disease, with a view of proving its distinct identity and the dependence of the articular changes upon nerve disorder. Professor Virchow followed in a long and careful speech, in which he acknowledged the similarity of the affection to rheumatoid arthritis, and traced the development of the pathological changes in the joints from hyperplasia of the cartilaginous investment, followed by regressive change and atrophy, ossification of the medulla leading to eburnation, hyperplasia, and ossification of synovial fringes, and ultimately of ligamentous tissues. These changes, he declared, were hardly to be regarded as inflammatory; but, although he admitted their dependence upon disordered nerve influence, he maintained that in each case there must be a local determining cause also at work.

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BREHMER'S VIEWS ON THE CAUSATION OF PHTHISIS.

DR. HERMANN BREHMER, of Gürbersdorf, is the widely-known medical director, as he was also the founder, of one of the largest and most successful "institutes" for the treatment of pulmonary consumption ever established. His experience with patients afflicted with phthisis in its various stages is necessarily a very large one. Accurate observation of persons, as well as their diseases, has always characterized the work of Brehmer. For these reasons the conclusions reached by him are of more than ordinary interest to the practitioner. It is, after all, quite as much the individual as the pathological conditions that may be hidden away in his interior, which concerns us as physicians.

Brehmer does not fully accept the far-reaching generalizations of Koch and his followers. In his latest publication, entitled "Die Oetiologie der Chronischen Lungenschwindsucht vom Standpunkt der Klinischen Erfahrung," the author tells us that he has commonly found the lungs of sufferers from phthisis abnormally large, when compared with the size of the abdominal organs and the heart. In this respect he follows the elder Rokitansky, who long ago described a disproportion in the relative size of the organs named. Now, in individuals subject to the peculiarity mentioned pulmonary circulation is always below par. The parenchyma of their lungs is constantly in a condition of malnutrition. Gaseous interchange is less active than normal.

A *locus minoris resistentiæ* is easily established in the lung-tissue. Hence the predisposition to pulmonary mischief.

Flat-breasted persons' lungs are by no means smaller than normal, on the contrary, they are large and unduly elongated. There is more actual, but less potential, parenchyma in such lungs. It will be found that the heart is comparatively small, with a reduced working capacity. A still further cause of diminished blood-supply for the lungs is often present in the shape of pulmonary arteries of lessened calibre. These three factors, then—namely, large lungs, a small breast, and contracted pulmonary arteries—will co-operate in such a way as to make pulmonary malnutrition an inevitable consequence. Without this anatomical predisposition to phthisis the bacillus tuberculosis is almost powerless for evil.

Individuals with large and vigorous heart, with relatively small lungs, and with normally proportioned abdominal viscera do not acquire phthisis. The disease is, therefore, not contagious in the sense usually given to that word when employed to qualify other maladies.

Whatever, then, leads to impaired nutrition may equally predispose to phthisis. Heredity is naturally of considerable moment in this connection. It is frequently observable that unduly prolonged lactation in a mother will imperiously affect the nutrition of subsequently born children. Brehmer gives examples showing clearly that in large families the later-born children are much more liable to consumption than the earlier ones. Faulty nutrition in infancy may lead to actual structural changes of the heart, lungs, and abdominal organs in the direction pointed out above. The author contends that he is thus able to say with great probability which members of a given family are liable or not to phthisis. But perhaps this is only equivalent to saying, though Brehmer does not say it, that persons having the phthisical *habitus* carry with them constantly a soil favorable to the development of accidentally introduced tubercular bacilli. The author certainly does not dwell on this particular point explicitly enough to convince the Kochites of the fallacy of their reasoning.

Nevertheless, it is extremely interesting to follow the author in his account of some five hundred cases of consumption, showing the rather intimate relationship of phthisis to conditions of mental disturbance, epilepsy, deaf-mutism, and the like. The *ultima causa* of these morbid states is claimed to be always an impairment of nutrition. It must be admitted that Brehmer puts his case very forcibly before us. And though his views do not compel acquiescence, they furnish abundant food for reflection, even if they only show that phthisis is a study not yet exhausted, and that the discovery of the bacillus tuberculosis has not made unnecessary continued efforts to obtain still more knowledge regarding so many-sided a subject.

THE DOCTOR'S HORSE.

A CORRESPONDENT asks us to furnish some general advice regarding the purchase of a horse for the country practitioner.

We are much flattered by the request. It is in a measure an admission that THE MEDICAL RECORD can and does discuss all topics of contemporaneous medical interest in a manner which displays certainty of information, soundness of judgment, and brilliancy of literary gifts.

We confess that the doctor's horse is something that seems at first a little outside of the regular lines of scientific inquiry. It will be at once admitted, however, that this noble animal forms a very important item in actual medical practice. It is not only the doctor's means of transportation, but of recreation, conversation, and speculation. Experience shows that next to an interesting case the doctor will talk about his horse with the greatest actual feeling and copiousness. Such a state of things is natural, since next to his professional education the doctor's horse is the most essential thing for his getting along. What avails the transcendent skill of Dr. A while Mrs. B lies in the throes of a crossed presentation ten

miles away, and no horse? At such times the text-books on obstetrics give place beside the Arab steed which each good physician thinks he possesses. And as the mud-splashed gig lightly skims the earth, with the doctor over the seat, and ergot and ether under it, one knows that the doctor's horse is better than a medical course, for it is a medical courser. But the horse in question is not always a pleasure or a help. Balzac once said that, "It was more necessary for the doctor to have a carriage than to cure his patients," a bit of irony in which there is truth enough to cause much pain. The young man who is just beginning to make some progress thinks that he must buy a horse and carriage, to keep up appearances of continued prosperity, and the new establishment keeps him poorer than ever.

We venture the opinion that Balzac's view is not quite true nowadays, and that this setting up an establishment which one can ill afford is both poor policy and poor morals. It is a great many years since Pascal observed that, "If physicians did not have their cassocks and their mules, they would not have duped the world, which cannot resist this show!" Those who succeed in the present day by virtue of their show are deemed quacks, and their success is of a kind that kills self-respect and can have no attraction for honest minds.

Perhaps our correspondent, who seems to be mainly anxious to know how he can get a three hundred dollar horse for fifty dollars, will be disappointed in getting only a homily like the foregoing. We will give him, however, a few practical hints, or, as such things are now in vogue, some "Don'ts" for the Doctor's Horse. Don't, for example, buy a white horse, for that is the color of Death's; and don't buy a black horse, for that is the color of the devil. If you live among the mountains, don't buy a heavy horse; if you live in the city, don't buy too light a horse. If you are a young man, with bills to pay, don't buy any horse at all.

MEDICAL EDUCATION AMONG THE NEGROES.

We have read with interest an account of the recent commencement of the Meharry Medical College, located at Nashville, Tenn. This institution has been in operation about eleven years, and has graduated some sixty men. It now has a Faculty of ten, two laboratories, and a roll of over fifty students, all from the colored population. The people of that section seem to be taking great interest in the cause of the professional, as well as the general, education of the negro, if we can judge from the names of those who honored the commencement exercises with their presence. All of the prominent State and local officials and representative men of the city were on hand. The addresses delivered by the students themselves would have done credit to any of our Northern students. Certainly these young men have opened before them a wide field of usefulness.

Here in the North the problem of how to educate the negroes has never been beset with any practical difficulty. In our large cities separate schools have sometimes been established under the control of local educational boards. No attempt has been made to establish separate technical schools. The colored man has had free access to any of our academical or professional institutions, and has stood, like all others, solely on his own merits.

In the South, however, where the colored population is so great, the question has been a most serious one. Separate technical schools have been established, and most wisely, too. Those acted with the greatest discretion—we think—who established the Meharry Medical College. The negro has had a past with which we are unfamiliar. That this past must contain a wonderful medical history no one can deny. It follows that no class so well as the negroes themselves can unravel this history, after they are properly trained. Back to the "land of Ham" must we go, as the Meharry salutatorian said, "for the first tracing and earliest cultivation of the healing art."

Furthermore, we may express pleasure that in sending forth the graduates of Meharry College to labor in the great field of medicine their instructors have not coddled them, but put them on their mettle. Said one of the speakers to the departing class: "The future depends not upon the color of your skin, but upon the force of your brain, your capacity for toil, and the comprehension you have of your profession." No better advice could have been given.

THE CURE OF COLD ABSCESSES BY IODOFORM INJECTIONS.

The treatment of cold abscesses has long been a subject of dispute among surgeons, some advising immediate evacuation of the pus with scraping of the walls of the cavity, others counselling non-interference. The expectant plan is the one generally followed and often ably advocated by the more conservative surgeons, especially those who have the greatest experience in the treatment of chronic joint disease, but it is not the one favored by the majority of general surgeons. The former contend that those abscesses do little or no harm if left to themselves; either they open spontaneously, usually without causing any pain or exciting any marked febrile disturbance, or the fluid portion of the pus becomes absorbed and the abscess disappears without giving rise to any constitutional disease whatever. The general surgeon, on the other hand, maintains that the presence of pus is always an evil, and that the chance of constitutional infection is an ever-present danger which more than counterbalances the slight inconvenience or risk of an operation.

Within a few years a new method of treatment of cold abscesses has been largely adopted, which is simple, easy of performance, and apparently devoid of risk to the patient. We refer to the use of iodoform injections. Although this plan has been employed for some time on the Continent, it has not as yet been adopted to any great extent by American surgeons, and is, indeed, we believe, not very generally known among us.

It consists simply in the evacuation of the abscess by means of an aspirator, the largest-sized needle being used, and in the subsequent injection of a solution of iodoform in ether. A four or five per cent. solution is the one more commonly used for abscesses of large or moderate size, but occasionally the strength is increased to ten per cent. when the abscess is of very small dimen-

sions. The quantity of solution to be injected varies according to the circumstances of the case, though, in view of the danger of exciting toxic symptoms, it is generally recommended that not more than a drachm of iodoform should be used. The ether holding the iodoform in solution finds its way into every pocket and sinuosity of the abscess cavity, and there deposits a film of iodoform. Some little attention is necessary after the injection has been made, as the ether is rapidly volatilized by the heat of the body, and may cause an unpleasant degree of distention of the abscess cavity. If this occur it may be necessary to introduce the needle of a hypodermatic syringe in order to give exit to the gas. Ordinarily, however, the patients suffer little inconvenience, and are able to go about as usual after the operation.

The experience of those who have employed this mode of treatment has been that one injection is often sufficient to effect a definite cure of the abscess, provided, of course, that it is not directly connected with a centre of disease in a bone or joint which is constantly secreting pus. Sometimes, however, it is necessary to repeat the operation two or more times. The chief inconvenience of this method is the pain which it causes. This is usually pretty severe, and is sometimes so great that the patients prefer to renounce all treatment than to submit to a second trial of the injections. Attempts have been made to find some less irritating substance as a substitute for the ether, but they have not hitherto been very successful.

It is not in the treatment of cold abscesses alone that the iodoform injections have been employed, but they have been used with benefit also in tubercular bone and joint affections. We referred to this method some years ago, when it was first proposed, and we expressed then the hope that experience would demonstrate its utility. And now, if the reports of a number of competent observers in different countries are to be credited, the measure must be accepted as a valuable addition to the therapeutics of tubercular abscesses and joint disease.

POISONING FROM EATING LIVER.

Dr. Carl Lohmeyer, in a learned article in the *Berliner klinischer Wochenschrift* of January 24th, describes the results of eating the apparently healthy liver of a calf. Very few cases of liver-poisoning have ever been reported, and hence this has some special interest. A certain family obtained the liver and other meat from a calf killed the same day. The liver was salted and put in a cool place; next day it was cooked and eaten at a midday meal. The nine persons who partook of it were taken ill very soon afterward. The symptoms were those in the main of cholera nostras. There was also with the profuse diarrhœa a great deal of vertigo, injection of the conjunctiva, and reddening of the face and neck. All the patients recovered in a few days. Investigation showed that the liver was yellower than normal and injected with bile; microscopic examination revealed evidence of an acute hepatitis, just beginning. Tests made by inoculation and feeding failed to give any results upon other animals. There was no evidence of putridity, and other portions of the same animal were eaten with impunity.

The meal which was eaten had been cooked for a long time, and hence any micro-organisms must have been either killed or had their vital energies so reduced as to be innocuous. The result of the study of this case, therefore, led to the conclusion that the symptoms were produced by a septic, chemical virus, which might itself have been the product of micro-organic life.

Cases in which the liver of young animals is diseased in the way discovered by Lohmeyer are very rare, but some instances have been reported.

A NEW THEORY OF MENSTRUATION.

The physiology of menstruation is in a tolerably satisfactory condition, and it seems somewhat a work of supererogation to furnish any new theories about it. The older view of Pflüger, that the mucous membrane of the uterus is thrown off and the surface freshened for the reception of the ovum, has been generally abandoned, and almost all writers are content now with the view that with the approach of the menstrual period a decidua menstrualis is developed for the reception of the ovum, which decidua degenerates and is thrown off if the ovum is not impregnated. Though associated with ovarian activity, this act is, in fact, part of the rhythmical vital processes of the body. As the heart beats, the lungs expand, and all organic muscular fibre moves in a regular cycle, so does the uterus go through its monthly trophic change.

Dr. Arthur Johnstone, of Danville, Ky., has advanced the theory that this monthly process is not so much trophic and vascular as it is secretory and glandular. The endometrium, he claims, is really composed of lymph or adenoid tissue, and menstruation is to it just what the lymph-stream is to the lymph-gland or the blood-current to the spleen.

The explanation for the occurrence of the phenomenon of menstruation in women only, and in some of the higher apes in a partial way, is thus explained: "In two of the ruminants I have shown that nature has supplied this tissue with an abundant lymph-stream, which in the unimpregnated state washes away the ripe material to the general circulation exactly as it does any other lymph corpuscle. But in woman, where, on account of its erect position, the uterus has to depend on the tonicity of its own fibres for the preservation of its shape, no such thing as loose tissue of the lymphatic net-work can be depended on. So to preserve the integrity of the uterine wall, the emulgent stream is poured into the cavity of the body and got rid of by the vagina."

All of which appears to us to be rather vague. Mr. Lawson Tait seems to draw from the views of Dr. Johnstone and of Mr. Bland Sutton evidence favoring the discarded hypothesis of Pflüger, to which we have referred. "We have now," he says, "an explanation of the familiar fact that impregnation and menstruation seem to have a clear relation as to coincidence, the plain fact being that an impregnated ovum adheres only to a surface denuded of epithelium. When desquamative salpingitis has destroyed the tubal epithelium, the ovum may be impregnated in the tube, and may adhere to the exposed surface, and the dreadful issue of tubal pregnancy results."

At least, it is something to learn that tubal pregnancy is caused by desquamative salpingitis. But as for the new theory of menstruation, it can hardly be accepted as yet.

THE TRANSPLANTATION OF A TENDON FROM AN ANIMAL TO MAN.

We have noted in these columns from time to time the attempts, sometimes successful and sometimes not so, made to transplant various tissues, skin, bone, etc., from animals to man to supply corresponding parts lost by disease or removed by the knife of the surgeon. The most striking experiment of this nature is that of supplying a missing eye by one removed from an animal. But possibly the more useful, and certainly the more successful, of these has been the grafting of the less complex tissues, such as bone and skin.

In a recent communication to the Société Médico-pratique, of Paris, Dr. Peyrot relates two instances of the transplantation of tendons. The first case was that of a young man who had received a wound of the middle finger, severing the flexor tendon at the junction of the first and second phalanges. The finger was in a state of forcible extension, and posterior luxation was threatened. This condition had existed for six months, and it was impossible to approximate the ends of the severed tendon by suture. The operator removed from a young dog a piece of one of the flexor tendons of the paw, and, having freshened the ends of the divided tendon in the patient, united them, by three sutures, to each extremity of the transplanted tendon. The wound healed without suppuration, and when the patient left the hospital he was able to execute feeble movements of flexion of all the phalanges of the injured digit.

The second case was that of a young child who had received a similar wound, dividing the flexor tendon of the middle finger at the level of the metacarpo-phalangeal articulation. The ends of the severed tendon were found with difficulty, and were then united to a piece of tendon removed from a dog, as in the first case. The operation was not a success, however, as the foreign tissue sloughed away.

The insertion of a tendon would clearly be required only when there has been an actual loss of tissue, or when the separation has existed for so long a time that reunion by direct suture is impossible. But when such a condition exists, the success obtained by M. Peyrot in his first case would seem to warrant the attempt to supply the defect by the insertion of a tendinous graft from one of the lower animals.

THE SURGICAL TREATMENT OF CERTAIN LIVER DISEASES.

Dr. George Harley has recently published in one of the London journals some observations on hepatic phlebotomy, together with the puncture of the capsule of the liver in certain affections of that organ. He admits that it is no new procedure. It was done in India nearly forty years ago, and has been practised in London for the last two decades. At first a large tube, the size of a No. 12 male catheter, was used. On account of the resulting hemorrhage the size of the tube was gradually reduced, until now an ordinary aspirating-needle is used.

Naturally, many different physicians have tried this procedure, and many of them have recorded their disappointment at their results. Dr. Harley calls attention to the fact that this operation, like all others, has its limitations and essential conditions of success. Disappointment has resulted from a lack of regard concerning the vascular distribution in the liver and the relations of the site of puncture to the interior of the anterior abdominal wall. In Dr. Harley's hands no failure has resulted from an experience of twenty years. He uses an exploring-trocar about seven inches long. This is attached to an ordinary syringe of a drachm capacity, which exerts an aspirating force.

If this exploratory puncture reveals the presence of pus, and it flows with difficulty, the above instrument is replaced by a larger one, which is connected with a rubber ball and siphon arrangement. By this means the drainage of the pus is facilitated, and an excess of aspiration prevented. If the liver-tissue happens to be softened, as the result of pathological change, there is danger of withdrawing through the needle softened liver-tissue, unless great care be taken not to make the suction-force too great. The large vessels should be avoided. The site of puncture should be such that after the withdrawal of the needle the wound in the liver can, by means of firm pressure with an abdominal pad, be brought into close apposition with the anterior abdominal wall. The wound in the skin is simply covered with a small piece of sticking-plaster.

The operation is contra-indicated whenever the liver is affected by cancerous, fatty, or waxy changes. In congestive hepatic hypertrophy the puncture of the capsule of Glisson seems to give some relief.

THE SEPARATION OF THE LICENSING FROM THE EDUCATIONAL FUNCTION, IN MINNESOTA.

Minnesota has for four years had a law regulating medical practice, which law has accomplished a great deal in elevating the status of the physicians of that State and in protecting the public from charlatanry. The law was defective in some points, however, and has now been superseded by another, which seems to contain almost all the desirable features of good medical legislation.

Dr. Perry H. Millard writes us that the main features of this law are: 1. The appointment of a Board of Examiners by the Governor. 2. No member can serve to exceed two terms in succession. 3. Two members are to be homœopaths. 4. All persons hereafter commencing the practice of medicine in the State must pass an examination upon the different branches. 5. Before entering upon said examination they must produce evidence of having attended three courses of lectures, if date of diploma is later than 1887. 6. Power is given the Board to refuse or revoke license for unprofessional, dishonorable, or immoral conduct. 7. No member of any existing medical faculty eligible to appointment upon new Board.

The last section is an especially satisfactory one, since it divorces entirely the licensing from the teaching power.

This is what we are needing in New York State, and the lukewarm support which the present bill at Albany receives is due to the fact that it is felt, after all, to be a medical-college affair.

A NEW BUILDING FOR THE WOMAN'S MEDICAL COLLEGE OF THE NEW YORK INFIRMARY.

A CALL has been issued for a public meeting, to be held at Chickering Hall, Monday, March 14th, in the interests of a new building for the Woman's Medical College of this city. Mr. D. Willis James will preside, and speeches are to be made by Drs. William H. Draper, Emily Blackwell, J. West Roosevelt, Mary Putnam-Jacobi, and Mr. Joseph H. Choate. The call for the meeting has been signed by a large number of well-known public citizens.

Already a considerable sum of money has been subscribed, and it is hoped that a fund of $100,000 will be obtained. The Woman's Medical College of this city has won a deserved reputation for being conscientious and thorough in the education of its students. Its work has been handicapped by the lack of funds and of a suitable building; so that although New York, by virtue of its vast clinical opportunities, should be the centre for the medical education of women, it, in fact, barely holds its own with smaller cities.

FAITH-CURES AGAIN.

REV. DR. J. H. BUCKLEY returns to his attack upon the faith-curers in the March *Century*. He brings further evidence to show that there is nothing supernatural in their work, but that it is entirely similar to the cures made by spiritualists, voudoos, and magnetic healers.

On one point alone we think that Dr. Buckley has failed to lay sufficient evidence, and that is the evil which this sort of thing eventually works. The physician, over and over again, comes across illustrations of failures of the faith-curer, and he observes that the effect upon the patient's mind is bad. The will-power of one who has once been hypnotized is enfeebled, often permanently; and the process of faith-cure is a form of mesmerism. Persons benefited for a brief time through the stimulus of emotional excitement relapse into a worse state than before. It is a kind of emotional intoxication, and the mind suffers from it as from all morbid stimulants. So far from faith-curing and magnetic healing taking away the work of the physician, it actually adds to it; and nothing probably would give a larger field for the work of the neurologist and alienist than a wide-spread indulgence in faith-curing.

THE EMBALMING OF BODIES AND PRESERVATION OF SUBJECTS FOR DISSECTION.

IF we cannot save our patients, we can at least preserve our subjects. This is the text upon which Professor S. Laskowski, of Geneva, writes, in a memoir crowned by the Academy of Sciences of Geneva.[1] His work is an interesting one; and as the main facts contained in it can be easily condensed, we venture to present them to our readers.

Professor Laskowski reviews first the history of embalming. Of ancient nations the Egyptians, as is well known, reached the greatest perfection in its practice. But, after all, their methods were crude and empirical, and their success depended chiefly upon the remarkable dryness of the climate.

The Egyptians simply eviscerated the body, stuffed it with aromatics, and bandaged the body with cloths saturated with gums and aromatic substances. The body was thus preserved long enough for dissection to take place, when putrefaction became impossible.

Embalming was resorted to again in the middle ages, when bodies were again eviscerated, and the limbs and trunk cut into. Balsamic substances were then inserted and the wounds sewed up.

It was not until the present century that embalming and the preservation of subjects was undertaken by means of injections into the vessels. Dr. Franchina, of Naples, and, at almost the same time (about 1835), Lauth, of Strasbourg, conceived the idea of forcing preservative fluids into the blood-vessels. This plan has been followed with various modifications ever since. Franchina first used a five-per-cent. solution of arsenious acid. This preserved the subject, but made it very poisonous, and rendered dissection not free from danger.

Gaunal, of Paris, devised a method which was successfully followed for some time. It consisted in placing the subjects for two months in a solution composed of nitrate of potassium, 1 part; chloride of sodium, 2 parts; alum, 1 part. Later he substituted arterial injections of a saturated solution of neutral sulphate of alum. Subsequently, various solutions containing zinc, sulphite of soda, corrosive sublimate, etc.

None of these, according to Laskowski, were free from objections, and he announces as the ideal injecting-fluid a solution first devised by himself in 1864. This solution consists simply of glycerine of second grade in quality, 100 parts; carbolic acid, 5 parts. Of this from four to six litres are used at a cost of about eight francs. A somewhat cheaper fluid which answers very well is glycerine ambrée, 100 parts; alcohol (or water), 20 parts; carbolic acid, 5 parts; crystallized boric acid, 5 parts. Cadavers injected in this way remain free from decomposition for several months. Even if decomposition has already begun, the injection will stop it, and preserve the body.

Professor Laskowski claims that by modern methods the embalming of the body can be done much more perfectly than was the case in ancient times. Embalming, however, is now, as in ancient times, a luxury which few can afford, and its success calls for a great deal of technical skill. The fluid used consists of 7 litres of pure glycerine, 250 grammes of carbolic acid, 500 grammes of chloride of zinc, 1 kilogramme of absolute alcohol, and 250 grammes of corrosive sublimate. Some special manipulations are required in order to mix these ingredients properly. After it is made, such essences and tinctures are added as may be desired to produce agreeable odor and color.

The vessels are injected with this fluid, the greatest possible care being taken not to rupture any vessels. Flannel bandages saturated in the solution are also bound about the limbs and trunk. Bodies so prepared and exposed to the air in vaults have been preserved for twenty years. In one case a body so embalmed and buried was examined eighteen months later, and very little change was found.

[1] L'Embaumement la Conservation des Sujets et les Preparations Anatomique, par Le Docteur S. Laskowski. Genève—Bale—Lyon: H. Georg, 1886.]

News of the Week.

The Medical Department of the University of New York held its Annual Commencement on March 8th, and graduated a class of 151. The address to the graduates was delivered by Rev. Dr. John R. Paxton.

Cholectomy.—Professor Langenbach has recently reported a successful removal of the gall-bladder, which was diseased and full of gall-stones.

Thoracic Lung Hernia.—A strongly built child, eight months old, suffered from whooping-cough, and after one of the paroxysms developed a protrusion in the mammary line between the sixth and seventh ribs. This was found to be an actual hernia of the lung. The case was reported by Dr. Adler to the Berlin Medical Society.

An Increase of Local Temperature over the Spleen has been found by Dr. Montefusco, of Naples, in variola. This local increase is about 1° C. higher than the cutaneous temperature elsewhere, and varies with the course of the fever.

The Long Island College Hospital held its Twenty-eighth Annual Commencement on March 2d, and graduated a class of thirty. This excellent institution continues to prosper, despite of the nosological inversion under which it suffers. It is a college—not a hospital—which holds the commencements. Some day we trust the topsy-turviness will be corrected.

Twenty Years in Prison for Blowing up a Physician.—The Maine method of dealing with doctors who are out when a patient calls is described by the *Lewiston Journal* as follows: "A physician in Monson went out of town when a certain person's child was sick. The child died; the father thereupon blew up the doctor's office with dynamite, saying that he did it for revenge—claiming that if the doctor 'had staid at home and attended to his business' his child would have lived. The doctor is sufficiently 'blown up' for his sins, but to have his office blown up is carrying things beyond physiological limits. The Maine dynamiter was sent to prison for twenty years."

A Pathognomonic Symptom of Tubercular Meningitis.—Dr. J. D. Skeer, of Chicago, writes us on the above subject, regarding which an editorial appeared in The Record of some weeks ago. At that time we made the suggestion that syphilis, as well as tuberculosis, might possibly produce some such appearance of the pupil as Dr. Skeer describes. The point at least was worth consideration. We regret that Dr. Skeer misconceived our meaning, and has chosen to think that it implied anything regarding his own family.

Dr. W. S. Searle, the attending physician of the late Henry Ward Beecher, is a native of New Hartford, Oneida County, N. Y. He graduated in the arts at Hamilton College with high honor in 1855, and in medicine at the University of Pennsylvania in 1859. He is a member of no school especially, but although ranking among the homœopathists does not belong to any of their societies. He is a regular, but liberal in every particular. He is the author of one or two monographs of value.

It is a Consumptive Locality.—It is hard to please everybody. We ventured to state, a few weeks ago, on the authority of a correspondent from that place, that Tarborough, N. C., was quite free from consumption, and getting to be quite a health-resort. A physician from that town writes that our note "does the physicians of the place great injustice." Tarborough, he says, does have phthisis, and has its share. In reference to this statement, we beg to remove Tarborough from the heights of salutary greatness upon which we placed it, and we withdraw the unjust remark of calling the town healthy. We shall be willing, if this is not sufficient, to concede that Tarborough is rank with miasmatic disorder and that its streets re-echo to the hollow coughs of innumerable home-bred consumptives. We express remorse at having suggested that Tarborough was a place worth living in, and hope that we have now done full justice to it and its able faculty.

Temperance and Drug-stores in Kansas.—Dr. J. M. Evans, of Chillicothe, O., writes: "It is doubtless true that some unscrupulous druggists in Kansas have violated the spirit of their prohibitory laws in the sale of liquors; but every intelligent reader of your excellent journal knows that your quotations from the Oswego City *Free Press* are overdrawn, and that the representation that the drug-stores throughout the State of Kansas are taking the place of the open saloon is not true." Our correspondent concludes with some animadversions upon The Medical Record, which, as they do not bear on the argument, we venture to omit.

Dr. John G. Westmoreland, of Atlanta, Ga., died on March 3d, in the seventy-second year of his age. Dr. Westmoreland graduated in medicine at Augusta, in 1841. In 1855 he founded the Atlanta Medical College, and continued to hold a prominent place in medical circles of that city until his death.

The Overcrowding of the Profession in the Australasian Colonies.—The *Australasian Medical Gazette* says that the number of medical practitioners arriving in the colonies each year is very much in excess of the proportion it should bear to the increase in the population, when a due prospect of success is considered. It says that local schools are turning out an excess of young medical men. Medical overcrowding is evidently an affection characteristic of growing countries.

Hebrew Physicians in New York.—A writer in the *Mail and Express* states that there are nine hundred Hebrew physicians in New York. This would make about one-third of the total number.

Successful Tracheotomies.—Diphtheria is epidemic in Hamburg, and in the past year tracheotomy was performed 157 times at the General Hospital, with 69 recoveries. This goes ahead of intubation.

A Heart-tonic in Adynamic Fevers.—Cocaine is recommended as a heart-tonic and stimulant in low adynamic fevers. The dose is gr. ¼.

Phthisis and Race.—Dr. William Pepper's study of phthisis in Pennsylvania shows that this disease prevails (in Philadelphia) more among the foreign-born and negroes than among the native whites; but less among the Jews than among the general population.

A Controversy in the Surgeon-General's Office at Washington.—The daily papers state that Surgeon-General Moore and the Secretary of War are at odds over the question of who controls the office. It is said that the Secretary, without consultation with the Surgeon-General, sent Dr. Huntington to San Diego, Cal., and placed in his stead at the Surgeon-General's office, Dr. Greenleaf, of Chicago, a gentleman personally distasteful to Dr. Moore. The Surgeon-General remonstrated, and has now appealed to the President.

Celebrity No. CCCCXCII.—Under the title of "Celebrities at Home, No. CCCCXCII.," the London *World* gives an interesting sketch of Mr. Ernest Hart in one of its recent issues. Mr. Hart was at one time an ophthalmic surgeon, but gave up practice to assume the editorship of the *British Medical Journal*. He is a devotee of Japanese art, and has a large collection of Japanese bric-à-brac. "The secret of his vast capacity for work," we are told, consists "in love of order, his power of organization and his extensive utilization of short-hand." Mr. Hart well deserves the distinction to which he has attained.

Lady Dentists.—The committee of the National Dental Hospital of London have resolved to admit registered lady medical students to the practice of the hospital.

A National Association of Genito-urinary Specialists has been organized.

The Ten Most Useful Books.—*Technics* asks its readers what are the ten most useful books, and the ten most useful remedies for the general practitioner. For the former list there may be suggested, the Bible, Shakespeare, Hippocrates, Pickwick Papers, Schopenhauer, the U. S. Dispensatory, standard works on General Medicine, Surgery, Obstetrics, and, finally, a bound series of The Medical Record!

The International Medical Congress.—The item appropriating $50,000 for the Congress was placed in the Sundry Civil Appropriation Bill, and was therefore, we presume, passed. If so, this sum will be a great help in promoting the success of the Congress. Several steamship lines have reduced rates to $80, $90, and $100 for the round trip across the Atlantic.

After-treatment in Iridectomy and Cataract Operations.—Dr. J. J. Chisolm, of Baltimore, now simply secures the lid of the eye operated upon with isinglass plaster, the other eye being left untouched. The patient is treated simply as if he had a cornea-wound.

"The New Quinine."—The much advertised nostrum "Kaskine" has been analyzed by Dr. F. B. Power and Dr. Bennett F. Davenport, at the request of Dr. Fr. Hoffmann (*Pharmaceutische Rundschau*). It was shown a year ago to be nothing but granular sugar. Now it is found to contain a minute trace of quinine. Each pellet contains about $\frac{1}{1000}$ of a grain.

The Title of "N.C.S.D."—A man recently appeared before the Rhode Island Legislative Committee to testify as to the benefits of quackery and the need of giving everyone a chance to practise medicine. His name was "Baxter, N.C.S.D.," which letters were found to stand for "Natural Common Sense Doctor." In his opinion diplomas did not amount to a row of pins, as they could be purchased in Philadelphia not long ago for $5 a bushel. He believed the law should provide that everybody who practised medicine should be placed under bonds to do as he agreed, and if a failure to do so occurred, the money should be refunded. If the doctor agrees, or assumes, to effect a cure, and the patient dies, the doctor should pay back all the money he has received, and pay funeral expenses. All of which seems to show that Mr. Baxter was modest in calling his common-sense natural—it is nearer supernatural. But he was not far out of the way in his estimate of the diplomas at present obtainable.

Death in the Bridges.—In 1857 sixty persons were killed on the Great Western Railway, at the Des Jardines canal bridge. In 1867 forty-eight persons were killed by an accident on a bridge on the Lake Shore road. In 1876 seventy-five persons more were killed on the same road, at Ashtabula. In 1878 the Tay bridge accident cost the lives of ninety persons, and recently, at the White River bridge, over sixty (?) persons were killed.

The American Veterinary College held its Twelfth Annual Commencement on the evening of March 4th, when a class of forty-four was graduated.

Meat and Tuberculosis.—The New York Academy of Veterinary Science and Comparative Pathology, a society with a rather heavy name for its light membership, held a meeting in this city last week. Some resolutions were presented which are in the line of present work of preventive medicine. They stated that during the past year 37,330 deaths had occurred in New York City, and of this number 16,000 were those of children under five years of age. The Academy believe that many of the deaths were caused by diseased meat and adulterated milk. There were only four milk inspectors and one meat inspector, and the Academy urged the establishment of public abattoirs where cattle could be examined before and after being slaughtered, and also for the establishment of milk depôts for the examination of milk. The number of inspectors should be increased, and every candidate should first be examined by a commission, to consist of one member from the Board of Health, one from the Microscopic Society, and one from this Academy. An amendment was added to compel every veterinary surgeon to report to the Board of Health all contagious diseases of animals that might come under his notice.

We Learn that Dr. D. B. Simmons, who recently visited this country, received a genuine ovation upon his return to Yokohama. Dr. Simmons has practised medicine in Japan for over twenty years and has been connected with the organization and development of the important governmental sanitary work in Japan, besides conducting a large hospital, teaching, writing, and practising.

Reports of Societies.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN PRACTICE.

Stated Meeting, February 15, 1887.

WESLEY M. CARPENTER, M.D., CHAIRMAN, *pro tem.*

SYPHILIS IN RELATION TO VISCERAL LESIONS AS A CAUSATIVE AGENT, ESPECIALLY IN PHTHISIS.

DR. WM. H. PORTER read a paper on the above subject (see p. 285).

DR. FRANCIS DELAFIELD was invited to open the discussion, and said that he had listened with interest to the paper, but found some difficulty in discussing it because of the few points on which he should be disposed to agree with its author. The poison of syphilis certainly sets up inflammation in many different parts of the body, and, roughly speaking, the effects could be classed as acute, subacute, and chronic. There was nothing special concerning the acute process to distinguish it from acute inflammation due to other causes. The subacute inflammation was characterized by the production of granulation-tissue, practically, which was short-lived and had a disposition to necrosis and cheesy degeneration, and might arrange itself into gummy tumors. With this production of granulation-tissue there were, regularly joined, changes in the walls of the arteries, and also acute endarteritis with a tendency to obliteration of the vessels. Besides, there was chronic inflammation, the result of syphilis, and the prominent feature of this was the formation of new connective tissue, with the same changes in the blood-vessels.

When it came to the lungs it seemed to him that these conditions could be found there. There might be acute lobar or broncho-pneumonia which, anatomically, did not differ from the pneumonias due to ordinary causes. There was a chronic form of inflammation of the lung in which the chief change consisted in the production of new connective tissue, and it followed either the type of broncho-pneumonia or interstitial pneumonia, involving principally the root of the lung. With either of these, gummy tumors might be present or absent. That was all that he knew about syphilitic lesions of the lungs; and if the illustration presented represented the typical form of pulmonary syphilis which the author of the paper wished to describe, he should suppose it was an exceedingly good one of chronic miliary tuberculosis. While it was seemingly ungrateful and apparently discourteous to discuss in this manner the conclusions which had been formed as the result of long observation and careful study, yet these conclusions were so entirely erroneous, and so likely to do harm instead of good, that at the risk of the apparent discourtesy he must express his own opinion without reserve.

DR. W. H. DRAPER said that he found himself substantially in the position described by Dr. Delafield. He was not at all convinced, from an anatomical stand-point, that many of the cases described by Dr. Porter were not cases of tubercular phthisis. But it was from a clinical stand-point, especially, that he would be inclined to differ with the author of the paper. He thought it was impossible to make any such differentiation, clinically, as had been made between syphilitic and tubercular phthisis; for the reason that the clinical history of tubercular phthisis varies so much, and he was sure that the experience of anyone who had seen much of tubercular phthisis would readily recall cases in which the clinical picture given of syphilitic phthisis could be reproduced.

In other words, the febrile history of tubercular phthisis differs very markedly in different cases. So also does the amount of dyspnœa and all the physical signs of tubercular phthisis.

His own clinical experience in phthisis with relation to syphilis was very limited. About ten years ago he was called to see a woman who had contracted a chancre of the lip from her husband. She had marked syphilitic fever and the typical evolution of the syphilitic disease. Within two months from the time of the development of the chancre he discovered signs of pulmonary disease in the right lung, which progressed rapidly and presented the prominent symptoms of tubercular phthisis, of which she died at the end of eighteen months. He believed it to be a case of tubercular phthisis, and was of the opinion that all syphilographers agreed that the phthisis which follows syphilis is tubercular in character. Most syphilographers also mention the fact that syphilis is a determining cause of tubercular phthisis. He had not seen any other case in which the relation was so marked as in that just related.

DR. F. N. OTIS had been much interested in Dr. Porter's elaborate paper, but he was surprised at the outset to learn that Lustgarten's claim in regard to the discovery of the bacillus of syphilis was supported by Dr. Porter's investigations. The observations of MM. Alvarez and Tafel (undertaken at the suggestion of Professor Cornil, of Paris, for the purpose of testing the validity of this alleged discovery) were published in the "Bulletin of the Academy of Medicine of Paris," for August 4, 1885, and were there claimed by Professor Cornil to have proved that the bacilius in question was not peculiar to syphilis. That while it was often found in the secretions of syphilitic lesions, it was also found in the normal smegma and in other secretions of the genital organs of both sexes—not syphilitic, and more recent observations by other investigators have further disproved Lustgarten's claims.

Lostofer and Klebs, who preceded Lustgarten in the alleged discovery of the true pathological principle of syphilis, each claimed to have discovered the peculiar micro-organism in the tertiary lesions of syphilis, which through numerous experiments by inoculation had been previously shown to be free from a contagious element. The rediscovery of this element in Lustgarten's bacillus again raised the question, and the subsequent elimination of this bacillus of Lustgarten left the question resting on the negative results of inoculation previously alluded to. It seemed to Dr. Otis, however, that the statistics of M. Alfred Fournier, in his work on "Syphilis and Marriage" (Paris, 1880), at last had settled this important matter beyond a question, and made it necessary for future discoverers of the specific bacillus of syphilis to confine this micro-organism to the lesions and secretions of the active period of syphilis. Fournier cites 87 consecutive cases, occurring under his own observation, where men who had had syphilis married within an average of five years from the date of the acquirement of the disease, and who never communicated to their wives the least suspicious phenomenon; and, moreover, these 87 produced among them 156 absolutely healthy children. Thirty-six out of this number of men who had been thus proved to be free from any power to transmit syphilis, either by direct contact or by heredity, were subjects of late or tertiary lesions after marriage, some before and some after the birth of children. These lesions comprised almost all the varieties of the sequelæ of syphilis. This enormous mass of evidence, consisting of 87 authentic consecutive examples, involving prolonged observation of 330 individuals by a competent observer like M. Fournier, may, Dr. Otis claimed, be accepted as settling in the negative the question as to whether or not there is a contagium in the tertiary lesions of syphilis.

Another important question was raised by Dr. Porter, one which had long been a subject of controversy in the medical profession, and that is in regard to the manner in which syphilis is transmitted by heredity. Dr. Porter claimed that the product of conception might be infected by the father alone, the mother escaping entirely. This view, Dr. Otis was aware, is upheld by various authorities,

and apparently trustworthy clinical observations have been adduced which would seem to support it; but he believed it to be a fact that could be generally accepted, that as many cases of syphilis could be brought forward in which the disease had run its course through the active stage without being discovered as there were in which the child had been apparently infected by the father, the mother having escaped. He believed it would be found that in all these cases the mother has had syphilis, but in a form so light as to have escaped observation.

In all the recent leading works on syphilis it is distinctly stated that the natural secretions do not contain the contagium of syphilis, and among these natural secretions the *semen* is especially mentioned. If this be the fact, it would be interesting to know how the male has access to either the ovum or the placenta.

He would claim, then, that under all circumstances syphilis must be first communicated to the mother before the child can have the disease.

With regard to the cases which constituted the subject of the paper, Dr. Otis would designate it as syphilis of the lung rather than syphilitic phthisis. The conditions in syphilis of the lung do not differ in many instances from the results of ordinary pulmonary phthisis, because there is not necessarily anything characteristic in the pathological conditions, as there is nothing specific in the macroscopic appearances in either. Virchow has stated that even in a case where syphilitic gumma were present in the other organs, and he considered the lesion in the lungs syphilitic, the pathological appearances were doubtful. The term phthisis usually implies a tuberculous affection, and suggests a treatment quite opposite to that which we should employ in a case of syphilitic disease of the lung in the tertiary stage. The occurrence of any disease of the lung, as well as of any other organ, resisting ordinary measures in a person once the subject of syphilis, should suggest syphilis as a possible cause of the trouble, and the test of treatment, especially if emaciation is not present, should be applied. The concurrence of late syphilitic lesions at other points constitutes one of the most important aids to a correct diagnosis, and warrants the administration of anti-syphilitic measures to the same extent as if no pulmonary disease were present, it occasionally happening that on the bare suspicion of phthisis mercury and the iodides are either withheld or greatly modified.

Dr. R. W. Taylor spoke from a clinical rather than a pathological stand-point. He thought that it was peculiar to all pathologists and anatomists whose arenas were the microscope and the dead-house to paint terrible pictures of the malignancy of syphilis. He was not one of those who depreciated the malignancy of the disease, but at the same time it was undeniable that very many cases ran a benign course under proper treatment, and the converse was true that the disease would run a severe course if no remedies were taken. There were three essentials to a benign course or a cure of syphilis: 1, A good constitution; 2, a docile patient; and 3, a good doctor.

There were, however, some cases similar to that related by Dr. Draper. In 1872 he saw one in which the patient had been committed as one having small-pox. The disease pursued its course uninfluenced by treatment. After the patient had been out about two weeks he had an attack of what seemed to be broncho-pneumonia, and died in the sixth week of his illness.

Other and similar cases, where the patients have undergone treatment, have been observed. But that the disease did occur, scattered throughout the lungs, and had been cured, he thought the following case would prove. In the spring of 1876 he saw a young Hebrew who was laid up with rheumatic pains and roseola. He had had a urethral chancre. He went through the stages of syphilis during the summer, and early in the next winter he caught cold, as he thought. His breath was short, emaciation followed, his appetite waned, and he sought the advice of a physician. There was slight dulness at the right apex, with rough respiration, and a similar condition at the apex of the left lung, though not so marked. Dr. Taylor regarded the lung trouble as one due, in a measure at least, to syphilis. Dr. W. H. Thomson saw the patient and gave the opinion that it might be due to more than one condition; possibly pulmonary, and possibly produced by the former disease. He diagnosticated localized pleurisy, with peri-bronchitis at the apex on the right side, and a less degree of the same conditions at the left apex. The mixed treatment was continued, and in February, one month after the consultation with Dr. Thomson, there was a marked improvement. During the next summer his health was good, and Dr. Thomson again examined the patient and reported that he found no evidence of the morbid process; and six months afterward Dr. Loomis said that he was unable to detect any pulmonary disease.

According to his experience, then, there were two classes of cases: 1, That of which the first case mentioned was an illustration, acute in character; and 2, that where localized deposits exist in the lungs, pursue a chronic course, and under treatment improve or are cured.

With regard to one point he was totally in discord with Dr. Otis, and that was as to the statement that a mother in order to have a syphilitic child must necessarily be syphilitic.

Dr. F. R. Sturgis regarded the term "syphilitic phthisis," as a very unfortunate one, as there was nothing clinically to distinguish it from ordinary tubercular phthisis. He thought that it would have been better to have recognized this fact, to have recognized that there may be gummatous infiltration of the lungs, and to have dropped the terms pneumonia and phthisis entirely. Then we could speak of a diffuse and a circumscribed gummatous infiltration.

There was one point at which he thought that Dr. Porter was defective in his reasoning. Undoubtedly the hyaline changes mentioned were found in these syphilitic lungs, but would Dr. Porter be prepared to say that in every case in which it was found it was due to syphilis? Probably he would not be willing to take that position. Without question there were hyaline changes, apart from syphilis, and attended by breaking down of tissue. If so, the whole fabric upon which the paper had been built fell to the ground. A syphilitic subject may have broncho-pneumonia, or phthisis, etc., the same as other persons, and when this complication does exist it is extremely unfavorable for the patient.

With regard to the question of a bacillus. If all were in accord with Lustgarten, Dr. Porter's case would be a very strong one. But is there a bacillus that produces syphilis? Lustgarten's is questioned. All know how Lostofer's corpuscle came to naught, and how others have been disproved. Lustgarten's remains as the only one entitled to consideration, and by many syphilographers this is not accepted. Because bacilli are present it does not necessarily follow that they are due to syphilis, or that they cause it.

Again, with reference to treatment, this by no means proves that a given lesion is syphilitic or non-syphilitic.

Concerning the syphilitic child without the syphilitic mother, he thought that the great preponderance of evidence was in favor of the view that infection of the child without infection of the mother does not occur. Indeed, the only case that really supported the view that the child can be infected by the father alone was that reported by Dr. Taylor, and even that had some points at which doubt might arise.

Dr. E. B. Bronson directed attention to one symptom on which the reader of the paper had laid special stress; namely, tenderness, pain, and œdema over the sternum and tibia, a symptom to which Dr. Bronson believed an undue amount of importance had been attached. He had yet to see a case in the late stage of syphilis in which it was present.

Dr. H. Biggs said that altogether too much importance had been attached to the presence of Lustgarten's bacillus, as the evidence that it had any bearing on the existence of syphilis was very slight. It had been found in the vesicles of herpes by several observers, was present in the tissues in only very small numbers indeed, and it seemed to be accidental rather than otherwise, and the bacillus was absent in syphilitic pharyngeal and laryngeal affections.

With regard to the absence of tubercle bacilli, he could not help believing that Dr. Porter's observations had been erroneous. It was very rare that tubercle bacilli were absent in cases of tubercular phthisis, and he would not attach very much importance to the microscopical observations, because the staining reaction of the bacillus of Lustgarten and that of the tubercle bacillus were very similar; so much so, that he thought Dr. Porter had mistaken the one for the other.

As to the clinical history, he had had quite a large number of cases under observation at the workhouse on "the Island," which were undoubtedly in syphilitic subjects, and no better results had been obtained by specific treatment than by the treatment commonly adopted in pulmonary tuberculosis.

Dr. Porter, in closing the discussion, said he was well aware that many of the microscopic appearances, which he had described as being rather characteristic of the syphilitic lesion, were similar to those described in connection with the tubercular process. In the tubercular cases, however, he had been unable to find the peculiar hyaline degeneration which he had seen in the syphilitic cases, and had, therefore, come to regard it as rather characteristic of the latter affection, and, finally, that it was absolutely diagnostic of the syphilitic taint.

With reference to the bacillus of Lustgarten, he had not been a very positive believer in its value, but to eliminate any doubt he had had the specimens examined by those who were familiar with the bacillus, and they had reported that those present were not the bacilli of tuberculosis. If tubercular, of course they would exclude syphilis; or they might not necessarily exclude that disease. For a bacillus, stained according to Lustgarten's method, was always found in the centre of the masses called gummatous tumors, and it was this fact that seemed to go toward establishing the belief that, in many cases, the child could become syphilitic through the father without infection of the mother. Again, very many of the cases responded to anti-syphilitic treatment, not having improved under the forms usually employed in the treatment of pulmonary tuberculosis.

The Section then adjourned.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, January 26, 1887.

T. Mitchell Prudden, M.D., President, in the Chair.

The President announced, as

THE COMMITTEE ON MICROSCOPY

for the ensuing year, Drs. G. C. Freeborn, W. H. Porter, and J. S. Thatcher.

Dr. W. H. Porter presented

A HEART WITH A DOUBLE MITRAL ORIFICE,

probably congenital, but he had been unable to find mention of this peculiar malformation.

There were two other interesting features in the case. The man was admitted into the Chambers Street Hospital, where the diagnosis of uræmia was made, and he was transferred to Bellevue Hospital, where it was recorded that he had considerable serous and blood-stained discharge from both ears, and the diagnosis of

FRACTURE AT THE BASE OF THE SKULL

was made, although there was no paralysis. Death occurred a few hours afterward. The autopsy did not reveal any fracture whatever of the skull.

The other interesting fact was that the man had

A DEEP URETHRAL STRICTURE,

which illustrated one reason for not treating these strictures by internal urethrotomy; that is, the stricture was upon the *floor* of the urethra; the roof of the urethra was normal.

Dr. Porter also presented a microscopic section, made from the cortex of the brain, that showed

A SINGLE MILIARY ANEURISM

very distinctly; the globular swelling involved the whole diameter of the little vessel.

CHRONIC PACHYMENINGITIS—ACUTE LEPTOMENINGITIS.

Dr. L. Emmett Holt presented specimens taken from a female child, twenty months old, with the following history:

The patient was one of a pair of twins, the mother and the other twin having died of tuberculosis. She had always been delicate, and in August, 1886, had a febrile attack, lasting nearly two weeks, with a temperature ranging from 102° to 105° F., for which no explanation could be found. There was a moderate amount of albumen in the urine, but no casts. The fever gradually subsided, not being influenced in its course especially by any of the agents employed. There were no marked cerebral symptoms. Ever since that time the child had remained in a rather dull, listless condition, but not particularly drowsy, and gave no signs of pains in the head or elsewhere. She did not thrive, her weight remained stationary, and her tissues were soft and flabby. She was frequently examined with the idea of the possible development of tuberculosis, but no signs could be found in the lungs to indicate disease of any character. Only two prominent symptoms were present—an irregular febrile movement and an enlarged spleen. The evening temperature generally touched only 100° or 101° F., but every week or two a sudden elevation to 104° F. would occur without assignable cause. This was true of the three months preceding her death. The spleen could easily be felt below the ribs.

Quinine was tried in full doses without benefit; then mercurials, by inunction, and later by the stomach, with the idea of a possible syphilitic element in the case. Improvement seemed to follow this plan for a time, and the enlargement of the spleen sensibly diminished, but these changes for the better were but temporary.

Four days before death very marked cerebral symptoms developed. The temperature rose steadily from 101° to 104°, then to 105½°, and finally, on the day before death, to 108° F.

The respirations became irregular, shallow, and finally typically Cheyne-Stokes; pupils equally contracted; slight rigidity of the muscles of the upper and lower extremities, but no paralysis; abdomen tympanitic; stupor increasing to coma, and then death without convulsions, either local or general, and with no focal symptoms at any time during life.

Autopsy, forty-eight hours after death.—Body small, poorly nourished; fontanelle open, ¾ × 1 inch in size. Head: Pretty strong adhesions between dura and pia over frontal lobes, especially of right side. Inner surface of dura over about one-half its extent, and most abundant near the median line at convexity, covered with jelly-like lymph of a yellowish-green color, fully one-fourth inch thick. Beneath this recent deposit a pretty tough false membrane was present, which again was separated from the dura by a thin clot partially organized, but not completely discolored, and covering an area

about half the size of one's hand. The false membrane could be demonstrated as far as midway between the sagittal suture to the base of the skull. Over the left side of the convexity a very thin false membrane existed, not nearly so extensive, but no clot or recent lymph was present. The superior longitudinal sinus contained a firmly organized thrombus, which was not adherent. The pia over the whole convexity, and over the base to a less degree, was covered with recent lymph and pus, very abundant everywhere, giving the brain a greenish appearance. The brain-substance to the naked eye showed no changes; the ventricles were empty, and no tubercles were seen anywhere. Chest: Lungs and heart normal. Spleen: Weight one and one-eighth ounce; firmer than usual; size about normal. Liver normal. Kidneys showed marked cloudy swelling both to naked eye and to the microscope, but no further changes; weight three ounces. Intestines showed old thickening of the mucous membrane, but no evidence of recent inflammation. No tubercles in any viscus.

The case was of interest chiefly from the clinical history and the indefiniteness of the symptoms until a few days before death.

No symptoms were observed during life which corresponded to the meningeal hemorrhage that was found at the autopsy.

Dr. W. R. Pryor presented the fundus of a uterus, to which was attached

A TUMOR FORMED BY PYO-SALPINX.

It was removed on the 11th inst. by Dr. H. Marion Sims from a woman who had been suffering from the symptoms belonging to pelvic cellulitis. The growth was sessile, and necessitated amputation at the internal os. Patient died of peritonitis, the result of constriction from old bands, two and a half days after the operation.

There were several pus-cavities in the tumor; one was nearly ready to rupture through the peritoneal covering. The largest cavity was, probably, connected with the Fallopian tube, although it had nothing whatever to do with the mucous lining of the tube. It was a cavity filled with pus. Under proper precautions some of the contents of this cavity were withdrawn for experimental study, with reference to bacteria, and were submitted to Dr. Prudden.

The President said that the cleanliness with which the removal of the fluid was done was proven by the fact that not a single putrefactive bacteria showed itself in any of the cultures that were made. He examined the fluid with special reference to the presence of suppurative bacteria, particularly the staphylococcus pyogenus aureus, but none were found.

Here, then, was

AN ABSCESS WITHOUT SUPPURATIVE BACTERIA.

But the abscess as found was an old one, and probably when acute the suppurative bacteria were present and started it, and then died, the suppuration continuing. The suppuration continued because the cavity was lined throughout with granulation tissue that doubtless originated in an acute process. Cases of this kind would seem to be of practical interest and importance surgically, because of the possibility that such a purulent fluid as this might gain access to the peritoneal cavity without the establishment of a septic inflammation, as, judging from the absence of bacteria, there would be no probability of its doing in this case.

Dr. J. W. Roosevelt presented a specimen of

MALIGNANT STRICTURE OF THE ŒSOPHAGUS WITH CONTRACTION OF THE STOMACH,

removed from the body of a woman, forty-nine years of age. The previous history was that of chronic gastritis. She never vomited blood. About six months before death the pain from which she had suffered disappeared entirely. The constant vomiting of food was almost the only symptom. The small-sized stomach-tube could not be introduced. After that she was rather constipated, this peculiar vomiting continued, and she lost flesh; but, on the whole, the patient did very well. Two weeks before death a small sound could not be passed through the stricture, yet the woman drank fluids and retained them, even as much as a quart at a time, but within half an hour or so the water would be regurgitated, practically unchanged. She lived on milk, however, taking solid food occasionally, which would return within two or three hours after it had been swallowed.

At the autopsy the œsophagus for nearly its entire length was found dilated to about the size of a quart champagne bottle. The stricture consisted of a ring of nodules surrounding the cardia, and the stomach was a little less than six inches in length and two inches in diameter. There were no secondary deposits.

TELANGIECTATIC SARCOMA IN THE MESENTERIC GLANDS—INTRACANALICULAR FIBROMA OF THE MAMMÆ—MYOMA OF THE STOMACH—FIBROMA OF THE UTERUS—FOLLICULAR CYST OF THE OVARY—CHRONIC INTERSTITIAL OÖPHORITIS—HEALED FRACTURE OF THE RIBS—PERFORATING ULCER OF CORNEA WITH PROLAPSE OF IRIS.

Dr. Ira J. Van Gieson presented specimens removed from an adult well-nourished dog.

The two lowermost mammary glands on the right side were replaced by dense, mottled, brownish-white masses, two by three centimetres in diameter. The remaining glands on the right side contained similar masses, but smaller. Contents of thorax normal. On the inner surface of the second, third, fourth, fifth, and sixth ribs there were a series of slightly projecting nodules at the junction of the anterior and the middle thirds. The intestines were normal. The mesenteric glands were swollen and soft. In the stomach there were two dense, white, distinct masses in the muscular coat elevating the mucosa. The liver was fatty in spots. The kidneys and the spleen were normal. In the uterus there was a mass of tissue, attached by a narrow pedicular base to the anterior wall, corresponding to the shape of the uterine cavity and nearly filling it. The left ovary was cystic; the right ovary was shrunken and hard. On both sides the eyelids were glued together. There was pus between the lids and the cornea. There was a perforation of the cornea near the centre on both sides. The brain was normal.

Microscopical examination.—In the mesenteric glands there were a large number of blood-vessels, with thin, delicate walls, surrounded by rather closely packed clusters of small spheroidal cells. The cells nearest the walls of the blood-vessels were cuboidal. Sections of the mammary glands showed a growth of new connective tissue in the ducts, and extending into the acini as pediculated masses. The process was developed to a moderate degree only, and many acini, although slightly dilated, were free from such masses. Scattered through the section were collections of pigment of hematogenous origin. The masses in the stomach consisted of rather loosely packed, smooth muscle-fibres. The tissue in the uterus was composed of fibrous connective tissue covered with epithelium. The left ovary was changed to a fibrous shell enclosing a granular mass of detritus. The right ovary was reduced to a dense mass of connective tissue containing blood-vessels. The nodules on the ribs were caused by the non-apposition of the two ends of the ribs, which have been fractured at these points.

The President remarked that the specimens were especially interesting with reference to the existence of intracanalicular fibroma, which was of infrequent occurrence, and when present was very liable to be mistaken for carcinoma. The case was furthermore interesting on account of the large variety of tumors present.

Dr. Porter remarked that dogs were very liable to sarcoma.

The Society then went into executive session.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

HOMŒOPATHY IN THEORY AND PRACTICE—THE HUNTERIAN ORATION—MEETING OF THE MEDICAL COUNCIL—THE TEETH AND LOCOMOTOR ATAXY—HYPERPLASTIC SYPHILITIC LARYNGITIS — MALIGNANT GROWTHS OF UPPER JAW—GUY'S HOSPITAL.

LONDON, February 19, 1887.

OPEN war has just been again declared against the homœopaths. The renewal of hostilities is due to a disturbance which has just taken place at the Margaret Street Infirmary for Consumption. This institution is somewhat unique, being more of the nature of a dispensary than of an infirmary, and there is an arrangement whereby the honorary staff visit the patients at their own homes. The fracas has arisen from two of the medical officers practising homœopathically and prescribing homœopathic remedies for the patients. How the other members of the staff should have ascertained the latter fact is somewhat mysterious, unless they either made it their business to spy into the case-books of their colleagues or, perchance, condescended to interview the dispenser in search of information. Neither of these would be in accordance with ordinary professional etiquette, which would lead a physician or surgeon to a public institution to attend to his own patients and not interfere concerning those of his colleagues. The prescribing of homœopathic remedies, however, does not constitute the whole of the offence of the two gentlemen in question. The root and branch of their offending is that they openly call themselves homœopaths, have their names in the "Homœopathic Directory," and that one of them is on the staff of the Homœopathic Hospital. It is difficult to imagine how the latter could ever have got elected on the staff of the Margaret Street Infirmary. Of late years a good deal of tolerance has been exhibited as regards the use of homœopathic remedies. The writings of Ringer and Brunton have, it is said, done much to familiarize the profession with many so-called homœopathic medicines. Of late years, also, many of the disciples of Hahnemann have abandoned the principle of giving infinitesimal doses, but administer as large, or larger, doses as the "allopaths." It is therefore somewhat hard to say where allopathy ends and homœopathy begins, but the tendency has been to restrict the appellation of "homœopath" to those who assume the term and thereby cut themselves off from their brethren as a separate sect. Provided a doctor does not do this, he may, as a rule, prescribe what he likes without exciting odium among the regular practitioners. Unless he openly avows his conversion to their tenets, however, the homœopathists may be down upon him for "stealing their remedies!" They assert that Dr. Ringer, in his "Handbook of Therapeutics," has derived much of his information from homœopathic works, and the same thing is now being said about Dr. Brunton and his recent book. The termination of the Margaret Street episode is slightly amusing. The two homœopathic physicians declining to recede from the position they had taken up, a special general meeting of the governors was called, at which a resolution was moved calling upon them to resign. This was not carried, but an amendment moved by Dr. Dudgeon was successful. The homœopathists therefore remain masters of the field. It is understood that nearly all the remaining members of the staff will resign, and many members of the committee also. The curious spectacle will then be presented of a public medical institution—carried on for years by means of voluntary services rendered by regular practitioners—actually falling into the hands of a few homœopaths to manage according to their own sweet will.

A large audience assembled at the College of Surgeons on Monday to hear Mr. Savory deliver the Hunterian Oration. As was befitting the occasion, the President of the College commenced his oration by eulogizing the memory of Hunter. After referring to the numerous discoveries on which John Hunter's fame rests, Mr. Savory said we must admit that Hunter was neither dexterous as an operating surgeon nor what we should now term a well read man. His greatness was that he was a "philosopher in surgery." His passion for collecting was well known, but he did not collect at hap-hazard merely to fill his shelves. "I believe," said Mr. Savory, "that even the objects found there, which appear most foreign to the subject of his thoughts and work, were not introduced from mere idle fancy, but for the purpose, either at once clearly or dimly seen or at least conceived possible, of throwing light, in some way, upon the great questions of which his mind was full." Mr. Savory claimed for Hunter that he introduced the scientific spirit into surgery, and that from his time downward we could trace his influence upon the scientific study of surgery. To the practice of surgery, principles were what grammar is to language. Men might talk without grammar, and practise surgery with little or no knowledge of its principles; but if unexpected difficulties arose, principles might, hinted the orator, be found useful. As the art of surgery advanced there was a danger of its principles being less studied, and it might be asked whether surgery itself, as a science, might not be in danger from the extension of surgery as an art? Referring to the argument that as surgery advances, and the art grows more extensive, it becomes impracticable for anyone to entertain the whole of it, Mr. Savory referred to the law of the division of labor and the question of specialism. As to the latter, he said he had no word to utter in disparagement of that form of it which consisted in a man first of all studying the principles and practice of surgery as a whole, and then, at length, devoting his attention more especially to the cultivation of some particular department of it. But he denounced that exclusive form of specialism which consisted in the practice of some portion of surgery without adequate attainment in, or continued study of, surgery as a whole. This was a false, as the former was a true, application of the law of the division of labor. Speaking of the rival claims of literature and science, Mr. Savory remarked that each had its place, and it was unfortunate that we should grow indifferent to those branches of knowledge we did not possess, and still worse if, instead of spending our spare time in studying them, we employed it in denouncing or expressing contempt for them.

The General Medical Council met on Tuesday last, their numbers augmented by five, being the number of the members elected by the profession at large. Owing to deaths and resignations, many new faces were seen besides those of the elected members. Being the Jubilee year of the Queen's accession to the throne, the President thought the occasion opportune for giving an address on the progress of medicine during the last fifty years, and his fellow-councillors had no choice but sit and listen to what they probably knew as well as Sir Henry Acland, K.C.B. The inspection of examinations was then discussed and determined on. The workings of the conjoint schemes in England and Ireland were considered at some length.

At this week's meeting of the Pathological Society Dr. Hale White drew attention to the case of a man suffering from locomotor ataxy in whom a tooth had fallen out. Dr. White referred to several similar cases placed on record, in some of which all the teeth had fallen out from the upper jaw. Several speakers corroborated Dr. White's statements. Mr. F. G. Bennett spoke of the falling out of teeth occurring in connection with gout or imperfect nutrition. Mr. Bland Sutton referred to some cases of falling out of the teeth in carnivorous animals suffering from softening of the cord and perforating ulcers. At the same meeting of the society.

Dr. Semon showed (for Dr. Jacob, of Leeds) some photographs of, and microscopical specimens from, a remarkable case of hyperplastic syphilitic laryngitis.

The meeting of the Medical Society, on Monday evening, was wholly occupied in the discussion of two papers on malignant growths of the upper jaw. One, by Dr. Servais, of Antwerp, described two successful cases of removal of the entire upper jaw for cancerous growths involving the two superior maxilla. The other, by Mr. Jessett, gave the history of a case in which Mr. Jessett had removed both upper maxilla for a sarcomatous growth. The operation was successful, and Mr. Jessett brought the patient before the Society to show her present condition five months after the operation.

Some forty-nine thousand pounds have been subscribed toward the fund of one hundred thousand pounds being raised for Guy's Hospital. Another ten thousand pounds has been given conditionally, so there seems now some prospect of the whole sum being collected.

OUR PARIS LETTER.

(From our Special Correspondent.)

THE DEATH OF PROFESSOR BECLARD.

PARIS, February 16, 1887.

I REGRET to report the death of Dr. Béclard, Professor of Physiology and Dean of the Paris Faculty of Medicine, which took place on the 9th inst., after only a few days' illness, at the age of sixty-nine. It is only a little more than a week ago that the learned Professor presided over a banquet offered to Dr. Farabeuf to celebrate his nomination to the Professorship of Anatomy at the Paris Faculty of Medicine. It was on leaving this fête that he was seized with an attack of pneumonia which carried him off so quickly. He was the son of the celebrated Anatomist of that name, whose theories are still respected in the learned world. After having finished his medical studies, he was appointed interne at the Asylum of Charenton where he devoted three years to the study of cerebral diseases. He took his degree in 1842, and three years afterward was promoted to Agrégé of Anatomy and Physiology. In 1851 he began with the works of his father on the elements of general anatomy which, however, had not been completed at his death. He was the author of many important works, all bearing on the subjects of his predilection, viz., anatomy and physiology. A volume entitled: "Notices and Portraits," contains panegyrics of distinguished members deceased, pronounced by him at the annual meetings of the Academy of Medicine in his capacity of Perpetual Secretary. It was thus that he pronounced the eulogies of de Blainville, Delpech, Villermé, Gerdy, Rostan, Velpeau, Trousseau, Louis, Andral, Claude Bernard. As a panegyrist he was scarcely equalled, not only for his erudition but for his impartiality. At the death of Professor Longet in 1871 Dr. Béclard was appointed his successor in the Chair of Physiology but he had already been member of the Academy of Medicine since 1862, when in the same year he was elected Annual Secretary, and his re-election took place every year till 1873, when on the death of Dubois, of Amiens, he was appointed Perpetual Secretary. In 1868 he was designated with Axenfeld, by the Academy of Medicine, to draw out a report on the progress of medicine in France, which was highly appreciated. In 1881, on the resignation, for political reasons, of Professor Vulpian from the Deanship of the Paris Faculty of Medicine, Professor Béclard was nominated his successor. This appointment caused some disaffection among the professors of the Faculty, as it was considered an act of favoritism on the part of Paul Bert, who was then Minister of Public instruction. When, however, these hostile feelings had passed away the most amicable relations existed between them to the day of his death, owing in a measure to his affable and benevolent disposition, although he performed the functions of his office in a most satisfactory manner.

He soon became popular among the professors and students, as he always took a personal interest in the well-being of the latter. He was rather reserved, and avoided as much as possible all public meetings or manifestations, and yet he presented himself as a candidate for the Senate in 1876, but failed. In 1886 he was nominated Commander of the Legion of Honor in recognition of his innumerable services to science and through the latter to humanity. His obsequies took place on Saturday last. The lower part of the great amphitheatre of the Faculty of Medicine was converted into a chapel where the body, which was enclosed in a coffin, was placed on a catafalque which was completely covered with wreaths and flowers. The court-yard and principal entrance were entirely draped with black, which presented a most imposing scene. The funeral service was performed at the Church of Saint Sulpice which, notwithstanding its large size, was so full that many persons had to remain outside. After the service, the procession, composed of more than two thousand persons, continued its course to the cemetery of Père Lachaise, where he was interred in the family vault. The chief mourners were MM. Henry Béclard, his son, and Ferrus, his brother-in-law. The pall was held by MM. Berthelot, Minister of Public Instruction; Liard, Director of Superior Education; Gréard, Vice-Rector of the University of France; Brouardel, Assessor of the Faculty of Medicine; Sappey, President of the Academy of Medicine; Peyron, Director of Public Assistance.

Immediately behind the funeral-car followed the family of the defunct, then came the professors and agrégés of the Faculty of Medicine wearing their official caps and gowns, which were of red, purple, black, yellow, orange, according to the Faculty that they represented, and which had a very picturesque appearance. Next in succession were the delegates of various societies, among whom were some lady-students, twenty-four in number, who bore on their shoulders a magnificent wreath of white camelias, white lilacs, and white hyacinths, which was very much admired. When the procession started from the School of Medicine, the deceased having been a Commander of the Legion of Honor, military honors were paid by a battalion of infantry commanded by a colonel.

At the meeting of the Academy of Medicine yesterday the President announced the death of Professor Béclard, and after having read the oration pronounced by him over the tomb of the deceased Academician the proceedings were at once closed as a mark of respect to the memory of the much esteemed Perpetual Secretary of the Academy.

The lamented death of Professor Béclard causes several vacancies, among which are the Deanship of the Paris Faculty of Medicine and the Perpetual Secretary of the Academy of Medicine. For the former Professor Brouardel would seem naturally designated, as he has been Assessor to the Faculty for many years and is known to possess the qualities requisite for such a position. As regards the Perpetual Secretaryship of the Academy of Medicine it will only be declared vacant at the meeting of next week, and according to the rules of the Academy the election cannot be made till a month after.

FATAL TOBOGGANING ACCIDENT.—The horrible and fatal accident which occurred in Rutland recently, by which a young man lost his life, can hardly fail to dampen a little the prevailing craze for tobogganing. The terrific speed at which the toboggans go when descending the slide makes the lives of those coasting entirely dependent on the security and perfect condition of the icy trough.

ATROPINE IN PULMONARY HEMORRHAGE is recommended by Dr. R. Hausmann, of Meran, in doses of 0.0002 to 0.0003 gramme subcutaneously.

Army News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from February 27 to March 5, 1887.

GREENLEAF, CHARLES R., Major and Surgeon. Ordered for duty in the office of the Surgeon-General of the Army. S. O. 41, A. G. O., February 18, 1887.

HUNTINGTON, D. L., Major and Surgeon. Will be relieved from duty in the office of the Surgeon General, to take effect March 1, 1887. S. O. 41, A. G. O., February 18, 1887.

HUNTINGTON, DAVID L., Major and Surgeon. Ordered for duty at San Diego Barracks, Cal., and granted leave of absence for one month, from March 1, 1887. S. O. 45, A. G. O., February 25, 1887.

WHITE, ROBERT H., Captain and Assistant Surgeon. On being relieved by Major Huntington, to proceed to Angel Island, Cal., and report to commanding officer for duty at that post. S. O. 45, A. G. O., February 25, 1887.

GRAY, WILLIAM W., Captain and Assistant Surgeon. Leave of absence for seven days is extended twenty-three days. S. O. 13, Department of Dakota, February 21, 1887.

Medical Items.

RHEUMATISM AND RHEUMATOID AFFECTIONS.—The indefiniteness of our conceptions concerning rheumatism was the theme of an interesting discourse by Professor Immermann at the recent meeting of the German Association of Naturalists and Physicians (*Philadelphia Medical Times*). Immermann regards the morbid process characterized by the classical phenomena of fever, articular inflammation, and peri- or endo-carditis as an infectious disease. A number of other less characteristic affections may be included under the adjective "rheumatic." Among these is acute endocarditis without joint-affections. In these cases a recurrence is sometimes accompanied by a joint-inflammation, showing that the former attack was also rheumatic, although one of the most pathognomonic manifestations was absent. Acute sero-fibrinous pericarditis is also sometimes seen, in which, in spite of the absence of other symptoms, rheumatism may be diagnosticated. The presence of valvular lesions of the left heart in such cases, indicating preceding endocardial inflammation, is an almost certain evidence of the rheumatic nature of the attack. Certain forms of what Immermann terms *masked rheumatism* may also be often recognized. One of the most frequent of these is neuralgia, most frequent in the trifacial and sciatic nerves. They may be accompanied or not by fever. They occur in persons who have previously suffered from classical rheumatic attacks, or are accompanied by endocarditis or followed by joint-inflammation. A peculiar form of masked rheumatism is the spastic. Contraction or stiffness of muscles, especially of those in the area of distribution of the spinal accessory nerve, comes on suddenly, accompanied by fever and pain in the affected muscles. The stiffness of the neck-muscles may simulate an attack of cerebro-spinal meningitis. The absence of an epidemic of the latter disease and the prevalence of rheumatism at the time will help in making a diagnosis. Salicyl compounds and antipyrin are specific in their influence upon true rheumatism, and may be used as diagnostic aids, just as the iodides are sometimes relied upon to make a diagnosis of syphilis. Gonorrhœal and scarlatinal joint-affections, purpura with joint-complications, the so-called *peliosis* or *purpura rheumatica*, the articular affections in individuals suffering from bronchiectasis, rheumatic tetanus, Landry's paralysis, acute anterior poliomyelitis of adults, sporadic acute polyneuritis, and beriberi, may be for the present classed as *rheumatoid* affections, in order to distinguish them from true rheumatism, from which they differ in clinical history as well as in treatment. The painful affections resulting from "taking cold" should be designated, as suggested by Erb, as "refrigeratory," and not as "rheumatic."

SOME EXPERIMENTS WITH TUBERCLE BACILLI.—Dr. de Toma arrives at the following conclusions from a series of experiments made to determine certain points concerning the tubercle bacillus. The first question was how long dried tuberculous sputum can retain its specific virulence. He says that the sputum may remain virulent for nine or ten months if thoroughly dried and kept free from moisture at a temperature of 77° F. When transplanted to blood-serum such sputum will result in fresh virulent cultures of the tubercle bacillus. In a temperature of from 86° to 95° F. the sputum loses some of its specific activity in about two months, and becomes inert when kept for a month in a temperature of 122° F., or for an hour in one of 176° to 212° F. The second question was what are the means of entrance of the tubercular infection into the organism, and especially whether the specific bacillus can be introduced by inhalation. He finds that the artificial inhalation of pulverized tuberculous sputum may, indeed, cause a tubercular infection, but only under certain circumstances, when the system is weakened by fasting or long confinement, or when there is a solution of continuity in the mucous membrane of some portion of the respiratory tract. The last point to determine was the paths by which the bacilli were transported in the body after having once gained admittance. The author says that the bacilli begin to grow and increase in number at the point of inoculation, and are thence carried to other parts in the lymph-current. Very probably, however, the wandering cells, which take up the bacilli and their spores, play a not unimportant rôle in the generalization of tuberculosis. The bacilli are found most plentifully in the young tubercles, and their number decreases directly in proportion to the age of the latter.—*Allgemeine Medicinische Central-Zeitung*, October 2, 1886.

SYPHILITIC INFECTION BY THE RAZOR.—Prof. Fleischer has recently reported a case occurring in his practice where a man had contracted syphilis from an infected razor in one of the best hair-dressing establishments in Kief. The local medical society thereupon decided to call the attention of the sanitary authority to the subject, in the hope that it would make regulations to obviate a repetition of such an occurrence. Another case of the same kind has also been published lately. It was that of a soldier, who had been infected with a primary sore of the chin from being shaved in a public shaving establishment in Tiflis. This case was shown to the Caucasian Medical Society by Dr. Chudnovski.—*The Lancet.*

THE HAIRS OF OUR HEAD NUMBERED.—A German inquirer has, it is stated, taken four heads of hair, of equal weight, and then proceeded to count the individual hairs. One (red) was found to contain 90,000 hairs; another (black), 108,000; a third (brown), had 109,000; and the fourth (blonde), 140,000.

ARE LUPUS AND TUBERCULOSIS IDENTICAL?—The view establishing the identity of lupus and tuberculosis has been accepted by many pathologists. Dr. Schwimmer, of Budapesth, at the recent Berlin Congress, strongly opposed it, mainly for clinical reasons. He said that the affection known as tuberculosis of the skin is a very rare one, while lupus occurs frequently (*The Therapeutic Gazette*). Among 2,400 patients, Schwimmer found 90 cases of lupus, but only 5 cases of pronounced tuberculosis of the skin. The clinical diagnosis in the latter affection is based on the bacterial

proofs. In all of these 5 cases there was a rapid disintegration of the nodes. Besides, it is found that this affection invariably proceeds from the mucous membranes; while lupus appears on the epidermis, away from the mucous membranes, which, as a rule, this affection does not implicate. True, there have been observed cases of lupus on mucous membranes, but their number was very limited, and, besides, it is questionable whether the diagnosis was a correct one. Then, the impression produced by the lupoid affection upon the general system is also to be taken into consideration. Tuberculosis, on the other hand, is a general disease; therefore it is not remarkable that lupoid patients sometimes become also tubercular. Hence we can look upon tuberculosis in a lupoid patient as a matter of mere coincidence. The author detailed two cases in which the clinical history went far in showing that the skin-affection present was lupus, and that the coexisting tuberculosis was an additional acquisition, having no relation with the lupus. Among 90 lupus patients, Schwimmer found sixty-eight per cent. constitutionally untainted; in fifteen per cent. only he found a hereditary element. These facts speak against any etiological relation of the two diseases. Besides, it is at least singular that this relation, if actually existing, should not have been observed sooner. Schwimmer knows 33 cases of lupus, of which 15 have for the last twelve years been under his observation, and of which not a single case showed the slightest symptoms of tuberculosis. As a last support of his view Schwimmer advances the bacterial fact entering into the question. Many observers allege that in lupus but few, and but rarely, tubercle-bacilli are found. It is to be remembered that the tubercle-bacilli have a great resemblance to those found in lepra, both as far as form and chemical reaction go. Schwimmer shares the view of Professor Babes, that the differentiation of the single bacillus is a matter of utmost difficulty. Hence Schwimmer cannot be induced to look upon lupus as an affection either identical with or predisposing to tuberculosis. In the discussion which followed, Doutrelepont, Lassar, Lewinski, and Lewin, all opposed Schwimmer. Kaposi, of Vienna, alone upheld the latter's view. His remarks were introduced by what appeared an especial hit against the bacteriological school. "If the gentlemen," said the Viennese authority, "have microscopical evidences of the identity of lupus and tuberculosis, we cannot help that. But, above all, the clinical features of an affection must be considered; for we are practitioners, and not biologists. Otherwise we will be led toward false diagnoses."

Peroxide of Hydrogen in Pertussis.—Dr. B. W. Richardson uses the following formula, and thinks there is nothing quite so good as it in whooping-cough:

℞. Hydrogen peroxide (ten per cent.).. ℥ vi.
Glycerini..... ʒ ss.
Aq. destillat.....ad ʒ iij.
Sig.— ʒ ss. at a dose.

The Discoverer of Saccharin.—Professor Ira Remsen, of the Johns Hopkins Laboratory, writes to the *New York Times* to say that saccharin was discovered by himself, or rather by Fahlberg while working under his directions and with him. Professor Remsen says: "In all his statements regarding the substance in question he (Fahlberg) strives to make the impression that the discovery is his, and in most references to it in print he is given sole credit. I think it is time that I protest in the interest of truth and justice. Fahlberg carried out my directions and deserves credit for this, and for this alone. He did not make the discovery and would never have made it if he had been left to his own resources. The sulphinide saccharin belongs to an entirely new class of compounds which are now under investigation in this laboratory. Some of the other members of the class are sweet, while some are intensely bitter. One is sweet, and bitter-sweet when applied to the tip of the tongue, and bitter when applied to the base of the tongue. These substances have nothing in common with sugar, except the sweet taste. Finally, other sweet substances beside the sulphinides have been made from coal-tar and have long been known, but the world has not been excited over them, and there is, in my opinion, no occasion for getting excited over this latest example of the kind."

Effect of Iron on the Composition of Milk.—Dr. Mendes de Léon has made a number of researches and observations on the supposed effect of taking iron on the composition of the milk secreted. He finds that milk always contains a minute quantity of iron, which differs in different species of animals, cow's milk, for example, being richer in iron than human milk. He gave various preparations of iron to a healthy multipara and analysed the milk, but was unable to detect any increase in the iron it contained, so that it would appear that iron given to the mother does not act on the child by passing into its system, but that it may act by improving the general condition of the mother, and thus causing her to secrete better milk.

The Diet of Centenarians.—A writer on this topic holds in a contemporary that "the rules of life laid down by Cornaro are probably perfect," and he intimates that, in his opinion, "twelve ounces of solid food and sixteen ounces of liquid appear to be the maximum requirements of age." The solids ought, he thinks, to be made up of one-third animal food, chiefly flesh, and two-thirds vegetable nourishment. He dislikes fruit and fish, and says that salt and sugar should only be used sparingly. He also deprecates the too copious use of milk as well as of drugs, and after adding that industry of some kind should be practised, he gravely points out the valuable medicinal properties of port wine. The latter is certainly more suited to advanced life than is almost any other form of stimulant.

Ethereal Oxygen.—Dr. Richardson writes in *The Æsclepiad:* "Ethereal oxygen is a compound I have recently invented for inhalation. I place in a Wolff's bottle, with an inhaling mouthpiece attached to one neck, two ounces or more of ozonic ether, the ethereal solution of peroxide of hydrogen. To this I add, gradually, solution of permanganate of potassa—eight grains to one ounce of water—by the other neck of the bottle, and then cork that neck. As the fluids commingle, oxygen gas and ether vapor are given off freely, and can be inhaled from the mouthpiece. The compound of gas and vapor, anæsthetic, antispasmodic, and respirating, is applicable to a large class of cases of disease, such as pertussis, asthma, and phthisis. I doubt if I ever added anything more useful to practical therapeutics than ethereal oxygen."

M. Greville and the First Use of Chloroform.—"I went yesterday (1848)," says Mr. Greville, in his recently published journal of "The Reign of Queen Victoria," vol. iii., p. 110, "to St. George's Hospital, to see the chloroform tried. A boy, aged two years and a half, was cut for a stone. He was put to sleep in a minute, the stone was so large and the bladder so contracted, the operator could not get hold of it, and the operation lasted above twenty minutes. . . . A curious example was shown of, what is called, the *etiquette* of the profession. The operator could not extract the stone, so at last handed the instrument to Keate, who got hold of the stone; thereupon the first surgeon begged to have the forceps back that he might draw it out, and it was transferred to him; but, in taking it he let go the stone, and the whole thing had to be done over again. It was accomplished, but not, of course, without increasing the local inflammation and endangering the life of the child. I asked Keate why, when he had got hold of the stone he did not draw it out. He said the other man's 'dignity' would have been hurt if he had not been allowed to complete what he had begun."

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Original Articles.

REPORT OF ONE HUNDRED AND TWENTY-FIVE LAPAROTOMIES, WITH OBSERVATIONS ON THE USE OF HOT WATER WITHIN THE PERITONEAL CAVITY DURING AND AFTER LAPAROTOMY TO PREVENT SHOCK — TREATMENT OF SEPTIC PERITONITIS AND INTESTINAL OBSTRUCTION BY THE USE OF PURGATIVES, ETC.[1]

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ABDOMINAL surgery has made rapid progress in the past ten years, and it has excited much interest. It has for some time past been the popular topic at society meetings, and much space in medical journals has been given up to articles on abdominal surgery.

To those not particularly interested in special surgery this has become rather tiresome, and many conservative advocates have arisen and entertained us with lengthy polemical articles based upon their opinions rather than on actual experience. Some of these articles are written in a most melancholy and dolefully prophetic strain, and I have no doubt but that they make sweet harmony on the sympathetic chords in the most conservative of conservatives and the most unfortunate of unsuccessful operators; but in medicine, as in all other things, human progress and success meets with opposition.

All must admit that progress and success come from enthusiastic and persistent devotion to one subject. When success forces the subject to become the topic of the day, the fashion, it is pretty certain to be carried too far, and mistakes and excesses will be committed by the rash and incompetent; but this is only human nature, and should not result in condemning what is good, as well as what is bad in the work. After all, success is the crucial test.

At the risk of being tiresome and more or less personal, I will give a short summary of my work in abdominal surgery, and touch briefly on one or two practical points.

Previous to November, 1882, except as an assistant to the late Dr. J. Marion Sims, I had done very little work in abdominal surgery, having operated only seven times—six ovariotomies and one Batty's operation for removal of the ovaries for local pain in a bedridden patient. I lost one of the ovariotomies and the Batty from septicæmia; the others recovered.

November 19, 1882, I did my first laparotomy in Bellevue Hospital. Since then I have kept a record of all cases. I have never, in a single instance, refused to operate where I thought there was a chance of saving or even prolonging life. On the contrary, I have undertaken several cases that were hopeless, and now, with my increased experience, would probably not try an operation in similar cases.

Of the 125 laparotomies done since November 18, 1882: In 1882, 2 cases; in 1883, 7 cases; in 1884, 14 cases; in 1885, 47 cases; and in 1886, 55 cases—or 125 cases in all. Of these, 12 died; but 3 of these 12 were suprapubic hysterectomies, and 1 a very bad case of general suppurative peritonitis. Excluding the hysterectomies and general peritonitis, I have 116 with 8 deaths, or a death-rate a little less than seven per cent. The 125 cases can be classified as follows:

Seventy-four removals of uterine appendages, 5 deaths. Nearly fifty per cent. of these were genuine cases of pyosalpinx, many of them complicated by pelvic abscesses. All five of the deaths were complicated cases. In the last 37 cases only 1 died.

Twenty-six ovariotomies, 3 deaths. The three were complicated cases—one gangrenous, one suppurating, and the third had been tapped eleven times, and died of exhaustion on the fourth day.

Seven suprapubic hysterectomies, 3 deaths. One that died was a cancer case; another was a fibrocystic myoma that weighed fifty pounds; in the third two large myomata had to be enucleated from the broad ligaments. All three died of shock.

Eighteen miscellaneous laparotomies, 1 death. One nephorectomy (suppurating), 1 perityphlitis, 8 ventral herniæ, 2 intestinal obstruction, 1 extra-uterine pregnancy, 2 permanent drainage of tubercular peritonitis, 1 exploratory for cancer, omentum, etc.; 1 for gall-stones, 1 for general acute suppurative peritonitis.

So far I have never yet lost a simple case. All of those that died were complicated cases; nor have I had any accidents from hemorrhage. Although five of the twelve deaths were from shock, none died on the table. Almost exactly one-half of these cases were done in Bellevue Hospital, some of them in the general ward; and of 64, 7 died—2 of these were hysterectomies, 1 acute general peritonitis; excluding these, there were 4 deaths in 61 hospital cases, or about seven per cent.

Much of my success was due to the excellent assistance that I have had from the different house-physicians in Bellevue, and to my three regular assistants that I have had for the past two years—Dr. Crandall, Dr. R. A. Simpson, and Dr. R. H. Wylie.

An examination of the tabulated cases shows a steady improvement.

In 1883,	5	cases	of	removal	of	appendages with 1 death.
" 1884,	10	"	"	"	"	" 1 "
" 1885,	23	"	"	"	"	" 2 deaths.
" 1886,	36	"	"	"	"	" 1 death.

with no deaths in the last 27 cases.

Thirty-six cases in one year may seem large, but most of these were sent to me by other doctors for operation. Unless the case is easily made out as one in which an operation is the only way of effecting a cure, I do not undertake the operation without giving the patient the benefit of the doubt, by keeping her under observation and local treatment for a sufficient time to give a fair test of other methods of treatment.

Repeated attacks of local peritonitis, or a constant burning pain over the appendage, which is at times rendered rather worse than better by any form of local treatment, is perhaps the most reliable indication that removal is the only way of giving relief.

This report does not include cases operated on this year (1887).

The first fourteen cases of Table I. were fully reported in my paper on "Disease of the Fallopian Tubes," in THE MEDICAL RECORD, January 24 and February 7, 1885.

[1] Read before the Medical Society of the State of New York, February 2, 1887.

TABLE I.

No. of case.	Date of operation.	Age.	Married or single.	Number of children.	Number of abortions.	Number of tappings.	Diagnosis.	Operation.	Drainage.	Results.	Remarks.
1. Hospital	May 26, 1883.	32	M.	2	2	.	Pyosalpinx.	. .		Recovered.	
2. Hospital	June 25, 1883.	25	M.	..	.	.	Pyosalpinx.	. .	.	Recovered.	
3. Hospital	October 28, 1883.	27	M.	2	..	.	Catarrhal s.	. .	..	Recovered.	
4. Hospital	December 8, 1883.	31	M.	2			Pyosalpinx.	. .		Died.	
5. Private	December 3, 1883.	23	S.	..			Catarrhal s.	. .		Recovered.	
6. Hospital	November 17, 1883.	29	M.	1	.	.	Hydrosalpinx.	. .	..	Recovered.	
7. Hospital	March 3, 1884.	28	M.	..			Hydrosalpinx.	. .	..	Recovered.	
8. Private	March 13, 1884.	27	M.	..	1	..	Catarrhal s.	. .	..	Recovered.	
9. Hospital	March 20, 1884.	27	M.	..		..	Pyosalpinx.	. .	..	Died.	
10. Private	May 1, 1884.	25	M.	..	.	.	Pyosalpinx.	. .	..	Recovered.	
11. Hospital	October 9, 1884.	30	M.	1	.	.	Pyosalpinx.	. .	..	Recovered.	
12. Private	October 20, 1884	28	S.	..			Catarrhal s.	. .	..	Recovered.	
13. Hospital	November 29, 1884.	26	M.	1		..	Pyosalpinx.	. .	..	Recovered.	
14. Hospital	December 8, 1884.	31	M.	3	2	.	Pyosalpinx.	. .	..	Recovered.	
15. Hospital	January 19, 1885.	28	M.	7	4	.	Catarrhal s. and degenerated ovaries.	. .	..	Recovered.	
16. Hospital	February 2, 1885.	35	S.	..	..		Catarrhal s. and cystic ovaries.	. .	..	Recovered.	
17. Hospital	February 28, 1885.	29	W.	3	3		Pyosalpinx.	. .	..	Recovered.	
18. Hospital	April 2, 1885.	50	S.	..	.	.	Catarrhal s. and atrophied ovaries.	. .	..	Recovered.	
19. Hospital	April 6, 1885.	27	M.	2	..	..	Catarrhal s. and cystic ovaries.	. .	.	Recovered.	
20. Hospital	May 1, 1885.	23	S.	..	.	..	Pyosalpinx ovaritis; abscess.	. .		Died.	
21. Private	May 9, 1885.	50	M.		..	..	Hypertrophied tube; fibro-cystic ovary.			Recovered.	
22. Private	May 17, 1885.	25	S.	..	..	..	Catarrhal s.; fimbriæ adherent.	.		Recovered.	
23. Hospital	May 20, 1885.	21	S.	..	..	..	Catarrhal s.; left ovary cystic.			Recovered.	
24. Hospital	June 4, 1885.	29	M.	..	4	..	Catarrhal s.; fimbriæ adherent; small ovarian cyst.			Recovered.	
25. Hospital	June 17, 1885.	26	M.	1	1	..	Catarrhal s. and occluded tubes.	..	..	..	..
26. Private	July 2, 1885.	38	M.	1		..	Submucous fibroid.	Uterine appendages removed.	No.	Recovered.	Three weeks after operation the fibroid sloughed, and was removed per vaginam with forceps.
27. Private	October 5, 1885.	27	S.	..	.		Prolapsed and adherent left ovary.	Only left ovary removed.	No.	Recovered.	Constant pain, practically bedridden; under constant treatment for six years.
28. Hospital	October 11, 1885.	32	M.	3	1		Pyosalpinx ovaritis.	Removal of appendages complete.	Yes.	Recovered.	Adhesions; tubes occluded and enlarged.
29. Hospital	October 19, 1885.	41	W.	1	..		Pyosalpinx ovaritis.	Removal of appendages complete.	Yes.	Recovered.	Adhesions; tubes occluded and enlarged.
30. Hospital	October 28, 1885.	21	S.	..	.		Cystic degeneration ovaritis.	Complete removal of appendages.	No.	Recovered.	Local pain; inability to work; frequent epileptiform convulsions.
31. Private	November 4, 1885.	43	W.	2	..	..	Had been treated for extra-uterine fœtation.	Complete removal of appendages.	Yes.	Recovered.	Right tube contained three pints of fluid; left, obliterated; no signs of fœtus.
32. Hospital	November 7, 1885.	17	S.	..	..	..	Cystic degeneration of ovaries.	Removal of appendages complete.	No.	Recovered.	Well-marked hystero-epilepsy.
33. Hospital	November 12, 1885.	22	M.	1	1	..	Pyosalpinx; ovaritis; pelvic abscess.	Removal of appendages complete and sac of abscess.	Yes.	Recovered.	Abscess size of orange.
34. Private	November 16, 1885.	23	M.	..	..		Cystic degeneration; ovary as large as a lemon.	Removal of appendages complete.	Yes.	Died.	Ovarian hæmatocele as large as an orange; hystero-epilepsy of seven years; mind affected; died a raving maniac on fourth day after operation.
35. Private	November 28, 1885.	27	M.	1	..	..	Pyosalpinx.	Removal of appendages complete.	Yes.	Recovered.	Tubes indurated, occluded, and adherent.
36. Hospital	December 10, 1885.	32	M.	..	1		Ovaritis.	Removal of appendages complete.	No.	Recovered.	Left ovary enlarged and adherent; tubes adherent, not occluded.
37. Private	December 23, 1885.	26	S.	..	1	..	Fibroid degeneration of ovaries.	Removal of appendages complete.	No.	Recovered.	Ovaries double their normal size; adhesions; intense local pain; fear of insanity.
38. Private	January 28, 1886.	39	M.	3			Pyosalpinx; ovaritis; pelvic abscess.	Removal of appendages complete.	Yes.	Recovered.	Pus, nine ounces—three in the right and six in the left; extensive adhesions.
39. Hospital	April 3, 1886.	22	M.	1		..	Pyosalpinx; ovaritis.	Removal of appendages complete.	Yes.	Recovered.	Large, adherent, and occluded tubes.
40. Private	April 7, 1886.	27	M.	..	1	.	Pyosalpinx; ovaritis.	Removal of appendages complete.	Yes.	Recovered.	Ovaries as large as lemon; tubes adherent and occluded.
41. Private	April 10, 1886.	28	S.		1		Cystic degeneration of ovaries.	Removal of appendages complete.	No.	Recovered.	Tubes normal; ovaries enlarged; local pain well marked; hystero-epilepsy.
42. Hospital	April 19, 1886.	32	S.	..	.	.	Uterine fibroids.	Appendages removed.	No.	Recovered.	There were several fibroids which were very painful.
43. Private	April 21, 1886.	27	M.	.	1	.	Pyosalpinx; ovaritis.	Removal of appendages complete.	Yes.	Recovered.	Ovaries size of orange; tubes, large as wrist, adherent and occluded.
44. Private	May 3, 1886.	30	S.	..	..		Prolapsed and adherent left ovary.	Only left ovary removed.	No.	Recovered.	Intense pain over left ovary; bedridden.
45. Hospital	May 5, 1886.	22	S.	..	..		Atrophy of left ovary; right, normal.	Only left ovary removed.	No.	Recovered.	Left ovary the size of a bean; severe and constant local pain; bedridden.
46. Hospital	May 10, 1886.	28	M.	..	..	..	Pyosalpinx; ovaritis.	Removal of appendages complete.	Yes.	Recovered.	Tubes adherent and occluded.

TABLE I.—*Continued.*

No. of case.	Date of operation.	Age.	Married or single.	Number of children.	Number of abortions.	Number of tappings.	Diagnosis.	Operation.	Drainage.	Results.	Remarks.
47. Private.....	May 12, 1886.	33	M.	..	..	..	Pyosalpinx; ovaritis.	Removal of appendages complete.	Yes.	Died.	Quart of bloody fluid in two sacs; dense adhesion; marked indications of intestinal obstruction.
48. Hospital.....	May 20, 1886.	30	S.	1	..	..	Prolapsed, slightly adherent ovaries.	Laparotomy; appendages loosened and returned.	No.	Recovered.	Tubes and ovaries apparently normal; were returned.
49. Hospital.....	May 20, 1886.	33	M.	..	1	..	Pyosalpinx; ovaritis.	Removal of appendages complete.	Yes.	Recovered.	Tubes size of thumb, adherent and occluded.
50. Hospital.....	May 26, 1886.	45	S.	..	..	..	Pyosalpinx; ovaritis.	Removal of appendages complete.	Yes.	Recovered.	Tubes as large as thumb, adherent and occluded.
51. Private.....	May 27, 1886.	34	M.	..	..	.	Hydrosalpinx.	Removal of appendages complete.	Yes.	Recovered.	One tube size of orange; both adherent and occluded.
52. Private.....	May 29, 1886.	33	S.	..	..	..	Typical cystic degeneration of ovaries.	Complete removal of appendages.	No.	Recovered.	Ovaries were bags of small cysts; constant local pain: confirmed invalid; fifteen years under treatment.
53. Hospital.....	June 3, 1886.	45	M.	9	3	.	Prolapsed, adherent ovaries.	Complete removal of appendages.	No.	Recovered.	Constant, intense pain; unable to walk or work.
54. Hospital.....	June 3, 1886.	23	M.	..	1	..	Pyosalpinx; ovaritis; pelvic abscess.	Removal of appendages complete.	Yes.	Recovered.	Tubes adherent and occluded; left ovary centre of a pelvic abscess.
55. Private.....	June 3, 1886.	33	S.	..	..	..	Prolapsed, adherent ovaries.	Complete removal of appendages.	No.	Recovered.	Local pain, confirmed invalid for eight years; six years in bed.
56. Private.....	June 12, 1886.	21	S.	.	..	..	Cystic degeneration; ovaries prolapsed and enlarged.	Removal of appendages complete.	No.	Recovered.	Local pain; bedridden for three years; hystero-epilepsy.
57. Private.....	June 19, 1886.	32	M.	..	5	..	Pyosalpinx; degenerated ovaries.	Removal of appendages complete.	Yes.	Recovered.	Cysts held a quart of dirty fluid; tubes occluded and distended.
58. Private.....	October 4, 1886.	21	S.	..	..	.	Hystero-epilepsy; prolapse of ovaries.	Removal of tubes, ovaries, and pampiniform plexus.	No.	Recovered; no temperature.	Four months after operation had no menstruation nor convulsion.
59. Hospital.....	October 4, 1886.	30	M.	1	..	..	Salpingitis; ovaritis; pelvic abscess; pyosalpinx.	Removal of appendages and sac of abscess.	Yes.	Recovered; highest temperature 100°.	History of severe local peritonitis; abscess of several ounces, involving tube and ovary.
60. Private.....	October 13, 1886.	23	S.	..	..	..	Cystic ovaries; intense local pain; bedridden; invalid for years.	Removal of tubes, ovaries, and pampiniform plexus.	No.	Recovered; no temperature.	Three months after operation much improved; up and about; no pain.
61. Hospital.....	October 16, 1886.	25	M.	2	5	..	Salpingitis; ovaritis; pyosalpinx.	Removal of appendages.	Yes.	Recovered; highest temperature 99⅖°.	History of local peritonitis: tubes indurated and size of thumb.
62. Hospital.....	October 21, 1886.	32	M.	1	..	..	Enlarged and prolapsed ovaries, size of a lemon.	Removal of appendages; small ovarian tumor.	No.	Recovered; highest temperature 101°.	Three years an invalid; severe pelvic pain.
63. Private.....	November 4, 1886.	30	M.	1	..	..	Pelvic abscess and pelvic tumor, part of ovary.	Removal of abscess sac and cystic ovary.	Yes.	Recovery complete; no temperature.	Abscess due to suppuration about pedicle of a former operation; part of ovary was left in first operation, three months ago.
64. Hospital.....	November 15, 1886.	27	W.	..	..	..	Disease of tubes and ovaries; hydrosalpinx.	Removal of appendages.	No.	Recovered; highest temperature 99¾°.	Both tubes distended, size of wrists, with clear fluid.
65. Hospital	November 15, 1886.	31	S.	..	..	1	Pyosalpinx; pelvic abscess, double.	Removal of appendages and sack of pelvic abscess.	Yes.	Recovered; highest temperature 103⅕°. eighth day.	One abscess, involving left tube and ovary, held six ounces pus; right side three ounces.
66. Private.....	November 18, 1886.	31	S.	..	..	..	Ovarian neuralgia.	Removal of right ovary and tube; left tube had been previously removed.	No.	Recovered; no temperature.	Six months ago left ovary was removed for neuralgia, causing complete invalidism; pain came on in right two months later; fibroids in uterus and in the ovaries found on last operation; patient completely recovered.
67. Private.....	November 21, 1886.	33	M.	..	..	..	Fibroma of uterus; intense local pain.	Removal of tubes, ovaries, and pampiniform plexus.	No.	Recovered; no temperature.	Had been under constant treatment eight years; wore pessary most of the time.
68. Private.....	November 27, 1886.	25	M.	..	..	..	Salpingitis and ovaritis; pyosalpinx.	Removal of both tubes and ovaries.	Yes.	Recovered; highest temperature 101°.	Two attacks of peritonitis, last due to stem pessary; complete invalid.
69. Hospital.....	November 29, 1886.	26	M.	..	..	.	Pyosalpinx.	Removal of appendages.	Yes.	Recovered; highest temperature 99¾°.	Extensive adhesions to intestines, etc.; enlarged and hardened tubes.
70. Private.....	December 6, 1886.	31	S.	..	..	..	Prolapse of both ovaries; intense pain for years.	Removal of tubes, ovaries, and pampiniform plexus.	No.	Recovered; no temperature.	Small fibromatas on uterus and ovaries; the latter large and very hard.
71. Private.....	December 8, 1886.	22	S.	..	.	1	Pelvic abscess and fibroid tumor.	Abdominal incision.	Yes.	Recovered; highest temperature 100°.	Two more ounces of pus evacuated; three weeks later, large abscess was drained by vagina.
72. Private.....	December 11, 1886.	..	M.	..	..	..	Salpingitis; ovaritis; pyosalpinx.	Removal of both tubes and ovaries.	Yes.	Recovered; highest temperature 100½°.	Several attacks of peritonitis; bedridden for five years; history of gonorrhœa.
73. Hospital.....	December 13, 1886.	35	W.	..	..	..	Pyosalpinx; fibroids.	Removal of appendages and a small fibroid.	Yes.	Recovered.	Tubes enlarged, filled with pus, very adherent; small fibroid had to be removed to secure pedicle.
74. Private.....	December 18, 1886.	50	S.	..	..	..	Fibroma of uterus; intense pain; bedridden; menorrhagia.	Removal of tubes, ovaries, and pampiniform plexus.	No.	Recovered; no temperature.	Invalid for many years, unable to go about; intense pain, treated for peritonitis.

TABLE II.—*Ovariotomies.*

No. of case.	Date of operation.	Age.	Married or single.	Number of children.	Number of abortions.	Number of tappings.	Diagnosis.	Operation.	Drainage.	Results.	Remarks.
1. Bellevue Hospital.	November, 1882.	21	S.	..	..	..	Adherent ovarian cyst.	Ovariotomy.	Yes.	Recovered.	Genuine fibro-cyst of ovary, size of a man's head; every part of the tumor firmly adherent.
2. Private	December 18, 1882.	32	W.	1	1	..	Multilocular ovarian tumor.	Ovariotomy.	No.	Recovered.	Size of full term; double multilocular ovarian tumors.
3. Bellevue Hospital.	April 10, 1884	33	M.	..	..		Ovarian cyst; suppurating.	Removal of part of cyst and drainage.	Yes.	Recovered.	Large suppurative cyst; very adherent.
4. Bellevue Hospital.	May 22, 1884.	23	M.	1	1	1	Parovariancyst.	Laparotomy; partial removal.	Yes.	Recovered.	Supposed to have been cyst of broad ligament and was tapped; it refilled.
5. Private	November 19, 1884.	32	M.	2		.	Pelvic hæmatocele and ovarian tumor.	Ovariotomy and removal of hæmatocele.	Yes.	Recovered.	Hæmatocele of two years' standing; rapid development of ovarian cyst, twenty pounds.
6. Bellevue Hospital.	December 6, 1884.	62	W.	7	2		Ovarian cyst.	Laparotomy enucleated.	Yes.	Recovered.	Parovarian pedicle of whole width of broad ligament; extensive adhesions.
7. Bellevue Hospital.	February 9, 1885.	17	S.		..	1	Suppurating ovarian tumor.	Ovariotomy.	Yes.	Recovered.	Hectic fever from suppurative peritonitis; case complicated by pelvic abscess; no pedicle could be secured; stump secured into external wound.
8. Bellevue Hospital.	March 28, 1885.	30	M.		2		Suppurating pelvic cyst.	Ovariotomy.	Yes.	Recovered.	About two quarts of albuminous fluid and pus were evacuated.
9. Private	April 11, 1885.	50	M.	6	.	8	Multilocular ovarian cyst.	Ovariotomy.	Yes.	Recovered.	Some adhesion; patient weak, but recovered without a bad symptom.
10. Private	May 10, 1885.	40	M.			..	Ovarian tumor?	Ovariotomy.	Yes.	Recovered.	Fibro-cystic tumor of left ovary, with very thick walls and attached uterus; large stump was secured externally.
11. Bellevue Hospital.	May 26, 1885.	24	M.	..	4	..	Ovarian cyst?	Ovariotomy.	No.	Recovered.	Small simple cyst of left ovary.
12. Private	June 6, 1885.	26	M.	1	..		Ovarian tumor.	Ovariotomy.	No.	Recovered.	Twenty-five pounds; no adhesion.
13. Private	September 26, 1885.	41	W.	1	..	..	Ovarian tumor.	Ovariotomy.	No.	Recovered.	Papillomatous lining; weight sixteen pounds.
14. Hospital	October 1, 1885.	62	W.		..	..	Simple ovarian tumor.	Ovariotomy.	No.	Recovered.	Weight twenty pounds.
15. Private	November 25, 1885.	55	M.		.	6	Multilocular ovarian tumor.	Ovariotomy.	Yes.	Recovered.	Weight forty pounds; unable to sit up; very feeble; general anasarca; pulse 125 to 140.
16. Private	December 18, 1885.	30	M.	1			Gangrenous dermoid cyst.	Ovariotomy.	Yes.	Died: 26 hours, of shock.	Cyst firmly adherent, and when opened fetid gas freely escaped; patient feeble with hectic fever.
17. Hospital ...	February 15, 1886.	36	M.	3	3	10	Multilocular ovarian tumor.	Ovariotomy.	Yes.	Recovered.	Weight thirty pounds; extensive adhesion; patient very feeble, and nearly died from exhaustion.
18. Hospital	March 28, 1886.	30	M.	1		..	Suppurating ovarian cyst.	Ovariotomy.	Yes.	Recovered.	Weight six pounds.
19. Hospital	April 24, 1886.	64	M.	5		11	Multilocular ovarian cyst.	Ovariotomy.	Yes.	Died of exhaustion 5th day.	Weight forty-three pounds; extensive adhesion; patient very feeble, cannot lie down, and too weak to sit up.
20. Private	April 26, 1886.	42	M.	3	.	.	Multilocular ovarian cyst.	Ovariotomy.	No.	Recovered.	Weight sixteen pounds.
21. Private	May 8, 1886.	30	M.	2			Fibro-cystic tumor of uterus.	Ovariotomy; removal of part of tumors.	Yes.	Recovered.	Large cyst filled with papilloma, and a large adherent fibro-cyst of the uterus; one on either side of pelvis.
22. Bellevue Hospital.	October 27, 1886.	49	S.	..		..	Multiple cysts and peritonitis.	Six cysts, size of oranges, removed.	Yes.	Recovered.	Two distinct attacks of peritonitis; chronic peritonitis; character of thin walled cysts doubtful.
23. Private	October 29, 1886.	53	W.	..		4	Multilocular ovarian tumor.	Ovariotomy.	Yes.	Died; 10 days; exhaustion.	Eighty-pound tumor; suppurating; hectic fever; pulse 140; very feeble; pus discharging from last tapping.
24. Private ...	November 6, 1886.	43	M.	..	.	6	Multilocular ovariao tumor.	Ovariotomy.	Yes.	Recovered after septic peritonitis.	Sixty-four pound tumor; adhesion to all organs; hot water used to prevent shock; septic peritonitis treated by moving bowels; recovered.
25. Private	November 16, 1886.	42	M.	1			Complication abdominal tumor; sarcoma?	Ovariotomy and removal of large sarcoma.	Yes.	Recovered after septic peritonitis.	Fifteen-pound tumor, ovarian cyst and adherent sarcoma filling whole pelvis; no pedicle; hemorrhage; irrigation of abdominal cavity prevented shock.
26. Private	December 2, 1886.	33	M.	..	.	..	Ovarian tumor.	Ovariotomy and removal of myxomatous mass and fluid from peritoneum.	Yes.	Recovered.	Left ovary size of orange, and filled with jelly-like mass; several gallons of fluid in peritoneum; right ovary had burst, and myxoma had escaped into peritoneum; omentum, and all other organs studded with myxomata; recovered without temperature; drainage kept up for two weeks.

TABLE III.—*Hysterectomies.*

1. Hospital	January, 1883.	63	S.	..	.	.	Epithelioma of the endometrium of fundus uteri.	Hysterectomy, supra-pubic; stump intraperitoneal.	Yes.	Died of shock.	Patient very fleshy and feeble, and confirmed opium habit; died of secondary shock or atropia, given by mistake, in twenty-six hours after operation.
2. Bellevue Hospital.	February 25, 1885.	49	M.	8	1	..	Fibro-cystic myoma tumor, fifty pounds.	Hysterectomy, supra-pubic; elastic ligature externally.	..	Died in 4 hours; shock and hemorrhage.	Tumor fifty pounds; very vascular; small cysts; broad ligament spread out over it; elastic rubber ligature cut and caused severe hemorrhage under the tumor during the operation.

TABLE III.—*Hysterectomies—Continued.*

No. of case.	Date of operation.	Age.	Married or single.	Number of children.	Number of abortions.	Number of tappings.	Diagnosis.	Operation.	Drainage.	Results.	Remarks.
3. Private	April 22, 1885.	27	S.	..	..	..	Fibromata, eight pounds.	Hysterectomy, supra-pubic; wire suture; stump externally.	No.	Recovered rapidly.	Not very vascular; attached to left cornea; only part of uterus and left tube and ovary removed.
4. Private ..	June 8, 1885.	44	M.	1	..	..	Multiple fibromata, fifteen pounds.	Hysterectomy, supra-pubic; wire; stump externally.	..	Recovered.	All of uterus and both tubes and ovaries removed; highest temperature 100°.
5. Private ...	October 10, 1885.	38	M.	..	..	..	Vascular myomata? Very elastic; uterus carried entirely out of reach by vagina.	Hysterectomy, supra-pubic; wire; stump externally.	Yes.	Died in 72 hours from shock.	Large as full term; both tumors under broad ligament and had to be enucleated to secure pedicle.
6. Private	November 26, 1885.	44	M.	1	..	..	Adeno-sarcoma of the endometrium; uterus size of five months' pregnancy.	Hysterectomy, supra-pubic; wire; stump externally.	No.	Recovered.	Patient had been curetted many times, and diagnosis of sarcoma made positive; recovered with very little reaction; highest temperature 100°.
7. Private	September 21, 1886.	44	M.	..	.	..	Multiple myomata; uterus inaccessible from vagina.	Hysterectomy, supra-pubic; wire; stump externally.	No.	Recovered.	Severe hemorrhages, and uterus could not be reached; highest temperature 100°.

TABLE IV.—*Laparotomies.*

1. Private — Removal of kidney.	August, 1883.	..	..	..	.	..	Pyelonephritis; Dislocated kidney.	Laparotomy; removal of kidney.	No.	Recovered.	Intense pain after exercise; kidney filled with abscesses; one of an ounce; pyelitis; complete recovery.
2. Hospital—Ventral hernia and pelvic abscess.	March 18, 1885.	34	M.	3	..	..	Large ventral hernia and pelvic abscess.	Laparotomy; removing abscess and closing hernia.	No.	Recovered.	Drainage-tube had been used; the centre of the abscess was the pedicle ligature of ovariotomy two years before.
3. Hospital—Tubal pregnancy.	June 17, 1885.	29	M.	2	1	..	Tubal pregnancy of left side.	Laparotomy; removal of fœtus, placenta, and tube.	Yes.	Recovered.	Left tube distended by placenta, and fœtus four months' size; suppurating; extensive adhesions; patient had hectic fever.
4. Private—Ventral hernia following laparotomy.	June 24, 1885.	33	M.	1	..	.	Small hernia after laparotomy.	Laparotomy and sewing up hernia.	No.	Recovered.	Hernia, result of laparotomy and drainage-tube.
5. Hospital—Intestinal obstruction.	June 28, 1885.	25	W.	1	..	.	Intestinal obstruction.	Laparotomy and loosening adhesions of sigmoid flexure.	No.	Recovered.	Bands of adhesion, resulting from peritonitis, caused intestinal obstruction.
6. Hospital—Perityphlitis.	August 24, 1885.	22	Male.	..	.	.	Perityphlitis.	Laparotomy.	Yes.	Recovered.	Abscess contained gas and ten ounces of pus; opened and drained; recovery complete in three weeks.
7. Hospital—Exploratory incision.	October 23, 1885.	74	W.	..	..		Abdominal dropsy from cancer of liver.	Laparotomy and drainage.	Yes.	Recovered.	Opened and drained.
8. Hospital—Ventral hernia following laparotomy.	November 19, 1885.	25	M.	..	.		Small hernia after laparotomy.	Laparotomy and sewing up hernia.	No.	Recovered.	Drainage-tube had been used in laparotomy one year previous.
9. Private—Ventral hernia following laparotomy.	November 23, 1885.	37	M.	1	.	..	Large ventral hernia after laparotomy.	Laparotomy and sewing up hernia.	No.	Recovered.	Hernia followed laparotomy and use of drainage-tube.
10. Private	November 27, 1885.	29	M.	3	..	..	Large ventral hernia after laparotomy.	Laparotomy and sewing up hernia.	No.	Recovered.	Hernia followed laparotomy, two years before, and use of drainage-tube.
11. Hospital—Umbilical hernia, irreducible.	January 21, 1886.	47	..	4	5	..	Large irreducible umbilical hernia of several years' standing.	Laparotomy; reducing and sewing up hernia.	No.	Recovered.	Very fat woman; hernia size of cocoanut; skin ulcerating; painful; several years' standing.
12. Private—Ventral hernia following laparotomy.	February 4, 1886.	29	M.	3	..	..	Small ventral hernia after laparotomy.	Laparotomy and sewing up hernia.	No.	Recovered.	Hernia followed laparotomy and use of drainage-tube, six months ago.
13. Hospital	February, 1886.	30	W.	1	..	.	Very large ventral hernia after laparotomy.	Laparotomy and sewing up hernia.	No.	Recovered.	Second operations; about all of the intestines and part of the stomach hang out; the ring and mass reaches half-way to knees.
14. Hospital—General peritonitis.	March 20, 1886.	36	M.	2	..	.	General acute septic peritonitis.	Laparotomy; washed out and drained.	Yes.	Died.	Peritonitis due to bursting pyosalpinx; patient in very bad condition; large gangrenous abscess evacuated; pulse 150, and patient very low.
15. Hospital—Tubercular peritonitis.	April 12, 1886.	32	M.	3	..	..	Abdominal dropsy from tubercular peritonitis.	Laparotomy and drainage; permanent.	Yes.	Recovered.	Opened and drained; general condition much improved by the operation.
16. Hospital—Tubercular peritonitis.	May 26, 1886.	54	M.	5	..	..	Abdominal dropsy from tubercular peritonitis.	Laparotomy and permanent drainage.	Yes.	Recovered.	Opened and drained.
17. Private—Intestinal obstruction.	October 10, 1886.	50	M.	3	1	.	Intestinal obstruction.	Laparotomy; tying and cutting strong band of adhesion.	No.	Recovered.	Peritonitis ten years ago from sounding to diagnose fibroid tumor; complete obstruction for four days; band of adhesion size of lead pencil, completely occluded ileum; recovery complete.
18. Private — Exploratory incision.	December 21, 1886.	35	..	..	..	..	Perforating gall-stone.	Laparotomy; sac not opened.	No.	Recovered.	Fundus of gall-bladder drawn backward, and adherent walls thickened; stone out of reach posteriorly; sac not disturbed.

I have selected two cases that I have recently had to give in detail, so as to practically illustrate what I wished to say about the use of hot water within the peritoneal cavity, during and just after operating, to prevent shock, and the use of enemas and purgatives to prevent intestinal obstruction, and in the treatment of septic peritonitis.

Mrs. C——, from Central New York, aged thirty-eight, married; never pregnant; family history good. Her mother died from the bursting of some kind of abdominal tumor. About four years ago she had a pain in the side and soon noticed swelling of the abdomen. Medicines were given to absorb it, but it grew larger, and more than three years ago it was tapped. Since then she was tapped at intervals four times, and about one hundred pounds of fluid drawn off. Dr. Kay, who had recently taken charge of her case, refused to tap her, and she decided to come to New York.

When I first saw her she was enormously distended by a multilocular ovarian cyst. The ribs were lifted up, and the lungs so compressed that breathing was difficult. Her general health seemed to be fair.

November 6, 1886.—I operated by the median incision. The tappings had caused very firm adhesion to the parietal peritoneum, and it was quite difficult to obtain a point to begin separating the tumor.

After considerable fluid was drawn off, but before general enucleation was attempted, to prevent loss of blood from the adhesions and from the inside of the tumor, which was semisolid and vascular inside, the left hand was passed down to the pedicle, and it was clamped with strong pressure-forceps. This procedure certainly had a marked effect in lessening the loss of blood. Sixty-four pounds of fluid and solid matter were removed.

The tumor was adherent to nearly everything in abdominal cavity; the omentum was tied off, and several points tied in the cavity near the liver and stomach, and deep in the pelvis. After the pedicle was tied and the tumor removed, the oozing was checked by the free use of hot-water irrigation to the whole peritoneum, by means of a large fountain syringe, with a rubber tube of large lumen attached.

I noticed that not only was the bleeding checked by the hot water, but that the indications of shock, which were present to an alarming extent, that is, very feeble heart's action, cold perspiration, etc., were at once relieved by the hot water. Some time was taken to sew up the wound and get her ready for bed, and as there was some return of the symptoms of shock, a gallon of hot water—105° to 110°—was allowed to flow into the closed abdominal cavity by means of the glass drainage-tube that had been inserted, and this was squeezed out and another gallon allowed to flow in and emptied out.

The result was magical. After this the symptoms of shock did not return, and at no time was there a subnormal temperature.

After this she did well until the third day, when the gradual rise of temperature and marked tympanites indicated septic peritonitis.

A turpentine enema was given. Very little flatus and no fecal matter passed; but soon the temperature in the axilla reached 104°, and frequent vomiting of coffee-colored fluid began, and pulse ran up to 140, and there was a slight, irritating cough. Her condition seemed hopeless. Knowing from experience that septic poison is nearly always modified by a free movement, and firmly believing that intestinal obstruction exists in some of these cases from lymph adhesions, necessarily so numerous and extensive, I determined to try and secure a movement by means of a quick purgative.

A full-sized seidlitz powder was given, and supplemented an hour later by an ox-gall enema. A copious brownish-colored liquid movement was the result. After this the vomiting ceased. Nutritive and stimulating enemas were given every three hours, and small quantities of kumyss given by the mouth. The drainage-tube worked well, and large quantities of bloody serum were drawn off three or four times each day. She made a slow but steady recovery, and went home well in seven weeks.

Mrs. H——, of Michigan, forty-two years of age, married; one child eight years of age; no miscarriages. Was always a delicate woman, but had no special sickness until last spring, when she had some pain at menstruation, followed later by dragging pains and a fulness about the pelvis. In July last she was six weeks in bed from a prolonged and very severe attack of general peritonitis. When convalescing she noticed an abdominal tumor, which has lately grown very rapidly, until she is now as large as in the eighth month pregnancy. Examination reveals the pelvis filled with a semisolid, elastic tumor, crowding down in the pelvis almost to the anus. The abdomen is filled with what seems to be an irregular-shaped cystic tumor. Sarcoma was diagnosed, and very little hope given for its removal by an operation.

November 17, 1886.—The patient is a delicate woman, with pulse over 100, and has a slight rise of temperature every night. When the abdomen was opened, a cystic tumor the size of a man's hat was found firmly matted in the omentum and intestines. The adhesions were carefully separated. Several times it was necessary to darn up the torn peritoneal coats of the intestines, a method of stopping bleeding points on the intestines that I greatly prefer to any other. The sutures are passed superficially with a flat, smooth needle, and the bleeding points darned up. The cyst was multilocular, with walls of varied thickness filled with thin, clear fluid. There was no pedicle, the tumor being fed from the adhesions to omentum, intestines, etc. Beneath, and somewhat adherent to the cystic tumor, but in every way distinct, was a vascular solid tumor, completely filling the pelvis. The uterus was adherent to its anterior and upper surface, but was not a part of it. The broad ligaments, with the tubes, were spread out and adherent over the tumor, but were not much enlarged, and were not pedicles. The left ovary was enlarged and cystic, the right was missing, and may have been the cyst above, but this had no direct connection with the broad ligament or tube.

The pelvic tumor was rapidly and boldly separated and removed, every effort was made to remove it intact and completely. It burst, and several ounces of thin, yellowish fluid, resembling pus, escaped. The main attachments of the tumor were in the bottom of the pelvis, and the bleeding was very profuse; the pelvis rapidly filled with blood and obscured the bleeding points. By rapid sponging and the use of several powerful pressure-forceps the principal bleeding points were tied. The whole peritoneal cavity was irrigated with hot water—110°. This not only cleansed the cavity of dirty fluid and blood, and stopped the oozing, but acted in a wonderful manner upon the condition of shock. In this, as in the other case, hot water was forced into the drainage-tube and allowed to run out before placing her in bed. Although her pulse was 140, and very feeble, there was no subnormal temperature and very little sweating. Enough morphine was given to relieve pain and prevent restlessness, and nutritive and stimulating enemas were given every three hours, beginning directly after the operation. Some bloody serum was regularly drawn from the drainage-tube. The second day small quantities of kumyss and pancreatinized milk were given by the mouth. On the third day there was some tympanites, with rise of temperature to 103°. Turpentine enema was given; but spinach green, almost incessant eructations began, and her pulse was 150 to 160. A seidlitz powder was given and supplemented by an enema. A large, dark, watery stool was secured, and the vomiting ceased. By nutritive enemas and careful feeding she gradually recovered, and in four weeks was sitting up. She was about as low as I have ever seen anyone, and yet rally and live.

Up to date there are no signs of a return of the sarcoma.

These two cases fairly illustrate what I wish to bring before the Society.

First.—That hot water cannot only be safely used to wash out the peritoneal cavity, and that it is a simple and efficient hæmostatic for oozing points too numerous and small to tie; but that in prolonged operations, and immediately after the operation, free irrigation of the peritoneal cavity with water at 105° to 110° is a powerful and efficient agent, it lessening, if not preventing, the effects of shock. Towels wrung out in hot water have been used to protect the intestines when turned out of the cavity; but I do not know that hot water irrigation of the peritoneum for shock has ever before been suggested. The temperature of the hot water must not exceed 110°, or it may cause shock.

Second.—That the tympanites and vomiting and other symptoms supposed to be due to septic peritonitis after laparotomy, are best overcome by enemas, and if these fail, by a quick purgative. That in these cases, at least, the bowels should be moved, and not kept constipated, as has been generally practised. That it is probable that in many cases the persistent and exhausting vomiting may be the direct result of intestinal obstruction, the result of bands of adhesions constricting the intestines. For a long time I have seriously doubted the existence of septic peritonitis in some cases where the vomiting preceded the rise of temperature and other symptoms of sepsis. By experience I have found it best to move the bowels whenever indicated by tympanites or vomiting, even during the first twenty-four hours after the operation—of course, making a distinction between these symptoms and those due to the effects of ether. The vomiting from ether is likely to be preceded by marked nausea, and is usually violent and gagging in character, while that from obstruction is passive and more like eructation. The quantity vomited is large, and at first brownish colored, and attended with extreme exhaustion and marked tympanites. Without doubt the opium treatment taught by Dr. Alonzo Clark has proved to be the best plan for limiting local peritonitis, and when carefully carried out may prevent death in some cases of general peritonitis; but I am certain that it is not best suited for septic peritonitis following laparotomy. I usually give enough opium or morphine to relieve pain and restlessness, and keep the respiration down to 16, or even 12 in some cases. But when tympanites or eructive vomiting begins, I at once move the bowels by turpentine or ox-gall enemas, or by a seidlitz powder or Rochelle salts.

I took the hint from a remark of Mr. Lawson Tait, that a brisk purgative would cure septic peritonitis, but the method of effecting it and the explanation as to preventing intestinal obstruction are my own.

Leprosy in Norway.—Dr. Herman Mynter, in 'the *Western Medical Press*, gives an interesting account of a visit to St. Jurgens, the great hospital for lepers in Norway. Regarding the prevalence of this disease he writes: "While in the middle ages the gallows were erected outside the walls of every city to hang every leper who dared to enter, large hospitals are now maintained to take care of these unhappy creatures. A new law has lately entered into force in Norway by which the government has the power to force all lepers into the hospitals, but the opinions about its necessity seem to be divided so far. Leprosy has for years been on the decrease in Norway, from 2,113 cases in 1856 to 1,630 in 1879; possibly on account of the greater civilization and the better knowledge in the population of the disease and of the necessity of its early treatment, possibly on account of the isolation of the infected. The people commence to understand that the earlier the treatment is commenced the better is the prospect of recovery, or, at any rate, such an amelioration of the symptoms that it may be called recovery till a relapse occurs."

THE MEDICATION OF NERVES AND ITS APPLICATION IN THE TREATMENT OF FACIAL NEURALGIA AND OTHER PAINFUL NERVOUS AFFECTIONS.

Being a New Mode of Inducing prolonged Neural Anæsthesia by Pressure applied directly above the Anæsthetic Zone, and consequent Occlusion of the Subjacent Capillaries.[1]

By J. LEONARD CORNING, M.D.,

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More than fifteen months since, I succeeded in demonstrating, beyond question, that, in order to prolong the local anæsthetic effects of cocaine, it is necessary to keep the drug in protracted contact with the filaments of the sensory nerves. I have been able to find, in the whole range of medical literature, not a single instance in which this physiological fact of cardinal importance was demonstrated previous to the publication of my first paper. The desultory attempts previously recorded were both scientifically and practically barren of result, and for this reason, that, owing to the slovenly and unscientific manner in which they were conducted, the possible sources of error arising from the effects of local anæmiation of the nerve-filaments or pressure upon the nerve-stems were not eliminated. As a consequence of the lack of knowledge concerning the true physiological *modus operandi* of the drug previous to the publication of my first paper, there was afloat in medical literature much slovenly generalization. Looking back to those days, one can recall to mind all manner of fantastic attempts to explain the peculiar effects of the drug; thus one observer believed that its anæsthetic influence was owing to local anæmia; yet another maintained that it exercised some occult influence upon the chemical constitution of the blood; while some were not wanting who expressed confidently the conviction that the effects observed were the result of hyperæmia. Some there were, it is true, with a large meed of physiological perspicuity, notably Hall, and those who worked with him; but it is none the less true that whatever may have been attempted with bandages or clamps, previous to the publication of my first paper, no true physiological principle had been demonstrated which might lead up to a comprehensive method, which might afford practical aid to surgeon and physician alike. The best proof of this is seen in the fact that methods developed by myself constitute the only comprehensive system of inducing prolonged local anæsthesia to be found in medical literature to-day. And again, this same system is the only one which has promised and achieved matters of magnitude in neurological medicine and surgery alike. These achievements are not the result of the empirical use of bandages, clamps, rings, and the like, but they are rather the result of the application of the law which I was the first to enunciate in all its simplicity, viz., that to prolong the anæsthetic effects of a local anæsthetic it is only necessary to keep the drug in permanent contact with the nerve. All this seems trite to-day, and I should not have referred to it, but for the fact that certain individuals would link my destiny, scientifically speaking, with that of clamps and bandages—appliances which, used at first by myself with a view to the elucidation of sound theory by the rigid application of the laws of induction, had subsequently become merely the instruments for carrying out certain phases of the method, which the knowledge thus gained made possible.

How little the carrying out of the law already referred to is dependent upon the use of clamps or Esmarch bandages I now propose to show; and I shall do this, not with a view to the display of scientific acumen, but rather because I believe that what I have to say will prove of some practical value alike to the scientific physician and his client, who may chance to be a sufferer

[1] Read before the Medical Society of the State of New York, February 1, 1887.

from some painful neural difficulty, defying ordinary methods of treatment.

To begin, then, it must now be clear to those who have bestowed any attention upon the subject, that the longer we are able to expose a nerve or its branches to the influence of a medicinal substance, the greater are the chances of setting up chemical changes of sufficient profundity to insure permanent cure. Prolonged local anæsthesia, or some other form of protracted local medication, is therefore in order in the treatment of a large number of painful neural affections. One of the most common and atrocious forms of nerve-pain is facial neuralgia, particularly when it occurs in advanced life; and yet, heretofore, these same face-pains have been among the most obstinate difficulties to cure in the whole range of neurological medicine. I long since saw in these pains a field well adapted to the use of prolonged local anæsthesia; but I also soon ascertained that the means at hand for keeping the anæsthetic in contact with the nerve-filaments—bandages, rings, clamps, and the like—were not applicable to any extent about the face. I was therefore reduced to the necessity of developing some new method of application, in order to meet these unwonted exigencies. Without premising further, I will give an account of this method; here it is:

1. I first introduce the anæsthetic (cocaine) into the skin by means of the electro-chemical method described by me[1] some time since, or by means of the hypodermatic syringe.

2. When the area in question has been well saturated with the medicament, I cover it with a piece of fine wire gauze.

3. By means of a T-shaped block of wood and an appropriate elastic strap (Fig. 1), uniform pressure is main-

Fig. 1.

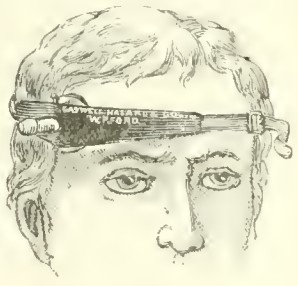

Fig. 2.

tained upon the wire gauze. Fig. 2 shows this simple apparatus in position, when applied to abolish pain in the region of the temple.

With this appliance I have succeeded in inducing cutaneous anæsthesia of one hour's duration on the forearm, and of nearly two hours' duration on the forehead.

The physiological principles involved in this mode of treatment are easily apprehended. When we press upon the tissue above the anæsthetic zone, we simply cause occlusion of the subjacent capillaries. The object of the wire gauze is to distribute the pressure at given intervals throughout the anæsthetic zone. By this means we avoid pressing out the anæsthetic from the tissues, which transpires if we press directly upon the skin with a perfectly smooth surface. Now, by interposing the fine wire gauze, we occlude the subjacent capillaries without pressing out the anæsthetic. This mode of inducing protracted local anæsthesia is far more effective than that involving the use of clamps, rings, and the like. It is also much more universally applicable than are those devices or the commonly employed bandages. For the purposes of neural medication it possesses all the requisites of an ideal technique, being at once universally applicable and wonderfully simple. In surgery it can render little assistance, its chief field of usefulness being, of course, confined to neurology. In this latter field of practice, however, it has unquestionably a brilliant future. I have employed this mode of treatment in various forms of neuralgia, particularly in those varieties occurring about the face. In two cases of occipital neuralgia a cure was effected—in one instance, after one application; in the other, after two applications. It is in those most distressing neuralgias of the supra- and infra-orbital nerves, however, that it has yielded the most brilliant results. In two such cases, which had failed to yield to all other kinds of treatment, I have been able to effect cures. These favorable results I attribute in great measure to the prolonged exposure of the nerve-filaments to the analgesic influence of the medicament.

Where the pain extends throughout the lower portion of the face, and particularly over the cheeks of thin persons, it is difficult to press the wire gauze against the integument with sufficient precision to cause an occlusion of the subjacent capillaries. Under these circumstances I am in the habit of tamponing the space between the teeth and the inner surface of the cheek. This I accomplish by the aid of ordinary cotton-batting. The technique itself is simple enough. The space between the alveolar process of the upper jaw and the cheek is first to be carefully filled out with small pieces of cotton-batting, and the like process is then to be repeated for the lower jaw. The patient is then told to close his jaws, and the anæsthetic may now be introduced and the wire gauze adjusted over the medicated territory and pressed thereupon with perfect facility. The coaptation of the various mechanical features involved is, under these circumstances, all that could be desired.

I have been thus explicit in describing this otherwise simple technique, because experience has taught me that where there is not some inherent mechanical aptitude mistakes may be committed in affairs even the most simple. I know, too, that it is quite as arduous a task, and often, indeed, a far more difficult one, to show just how a remedial agent should be employed under different conditions, than even to discover it.

Finally, I would observe in this connection that where it is a question of medicating deep-seated nerve-stems, as in sciatica, the nerve should be flooded with the anæsthetic before applying the bandage above the seat of injection. I have recently referred at length to this point in an article published in the New York *Medical Monthly*. And when I speak of flooding the nerve, I do not mean the injection of 30 or 40 minims of fluid into the contiguous tissue, but at least from 100 to 200 minims of a one-half to two per cent. solution (of cocaine), according to the susceptibility of the individual to the physiological effects of the drug, and according to the profundity of the chemical impression which it is desired to produce upon the diseased nervous filaments.

I will merely add that I have sometimes re-enforced the influence of the cocaine upon the nerve-filaments by the supplementary introduction of a certain amount of chloroform or ether into the anæsthetic zone. Under ordinary circumstances such a procedure would be intensely painful, but as thus employed there is no inconvenience to the patient.

These, then, are the principal points involved in this plan of treatment, a mode of procedure which, while constituting a radical departure in principle, is eminently simple and effective. In presenting them thus explicitly to this Society, I am guided by the unpleasant realization that, while neuro-pathology has made, altogether, excellent progress, neuro-therapeutics have remained in the background. This state of things is certainly to be regretted by every practical physician; for if it be the duty of the practitioner to make a brilliant diagnosis, it is equally incumbent upon him to cure his client. It is in this spirit, then, that I have presumed to present these considerations to the representatives of the medical profession of the State here assembled.

[1] See The New York Medical Journal for November 6, 1886.

ICHTHYOL.

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ASSISTANT VISITING PHYSICIAN NEW YORK SKIN AND CANCER HOSPITAL; ATTENDING DERMATOLOGIST DEMILT DISPENSARY, ETC.

THE first public mention of ichthyol was made by Schrötter,[1] a chemist of Hamburg, who described, in an article published in 1882, its origin, manufacture, and peculiarities. He had suggested its use in dermatology to Unna, who received it favorably, and reported, a few months later, the results which he had obtained, stating that it did not act injuriously on the skin. Unna[2] described the preparation as being tar-like in appearance, but yet having nothing in common with any of the tars, either in its odor or in its physical properties, and as containing a considerable proportion of sulphur, equal in amount to about ten per cent. ungt. sulphuris. In using it he had commenced with a five per cent. application, but had gradually increased the strength to fifteen and twenty per cent., and though he spoke conservatively in regard to it, yet he seemed to think well of the results obtained in about thirty cases of eczema and some few of psoriasis.

In 1883 Baumann and Schotten[3] entered fully into the chemical nature of ichthyol. In regard to its manufacture, they quote Schrötter (*loc. cit.*), and describe it as being the result of the action of concentrated acidum sulphuricum upon a clear, yellowish-brown oil, obtained by distilling a bituminous mineral found in the Tyrol, which, according to v. Fritsch, contains the fossilized remains of prehistoric fishes and marine animals. The product obtained was neutralized with soda, and going through further manipulation resulted in the preparation already mentioned. From its being, however, a natrium compound, it had to be distinguished from the original ichthyol, and for that purpose, Unna in an addendum to Baumann and Schotten's article (*loc. cit.*) proposed for it the name of "Ichthyolsulfonsaures Natrium," or, as it is now termed, "Natrium Sulfoichthyolicum." A short time after, another compound, the ammonium, was made, and this latter and the natrium one are the two forms in which it is used in dermatology. Since the publication of Unna's first article, the ichthyol preparations have gained a gradual and more extensive use. This is especially the case in Germany, where they have been prescribed not only for diseases of the skin, but also in rheumatism, neuralgia, etc., and if we form our opinions in regard to them from the literature so far existent, we must believe that the results to be obtained are simply marvellous.

The majority of the articles on ichthyol emanates from Unna, who praises it in ever higher and higher terms, so that we are almost led to regard it as a panacea for all dermatoses; yet in this he is followed by quite a number of others. Among these are Küssner,[4] in Halle; Edlefern,[5] in Kiel; Lorenz,[6] Ackermann-Weimar,[7] who separately have used it in all forms of eczema, acne, erysipelas, ambustio, etc., both externally and internally, and also to a small extent hypodermatically. Their opinions in regard to it are all equally good, and they seem to be unable to sufficiently extol its value. In 1885 Unna[8] claimed to have cured a case of leprosy by means of it; while Schweninger,[9] after praising its properties, extends its use to a large number of diseases ranging from lumbago to the acute exanthemata. Cascarina[10] also, in Italy, reports good results; yet it is striking to a dermatologist not to find, until after this latter's article, any recognized specialist in his department, with the exception of Unna, contributing something to the literature of ichthyol. In 1886 Shoemaker, however, gives his experience, and Unna again publishes a voluminous article[1] on the subject, and gives at length the results obtained from its use. Unna had, previous to this, abandoned the natrium combination in favor of the ammonium sulphoichthyol, having found this latter to be much the better.

In this last publication Unna places the ichthyol compounds in a class of reducing agents, which contains pyragallol, chrysarobin, etc., and whose chief action is deprivation of oxygen. It is through this action that it causes hornification of the epithelium of the rete, when locally applied to the skin. When used in weak doses this inherent quality is exemplified in the deeper portions of the cutis by a diminution in the size, by a shortening and a narrowing of the arteries, veins, and capillaries. According to Unna these phenomena, taking place in the blood-vessels, are due to a process which is strictly analogous to the hornification occurring upon the external surface, the diminution in the size of the vessels being persistent, and not the result of a temporary muscular contraction. The cause of this he places in the endothelia, which, accustomed to an overabundant supply of oxygen from the blood, become dry and shrunken, when it is diminished, in the same way as do the cells of the stratum spinosum. On the other hand, when applied in strong percentages its action is the contrary, inflammation being the result. These effects likewise follow the internal use of the drug.

This view of the action of ichthyol upon the blood-vessels is one which is, however, rather questionable. It is a well-recognized and acknowledged fact that the arteries and veins owe their power of contracting to the action of the unstriped muscular fibres in their middle coats, and not to their endothelial lining, so that it is perfectly inconceivable how a shrinkage of the endothelium could produce either a temporary or a permanent narrowing of the lumina of these vessels, since, to do this, it would have to possess the power of shrinking, and of remaining shrunken to such an extent as to entirely overcome and to resist the action of the muscular coats. As far as the capillaries are concerned, they have no muscularis, but are formed only of endothelial cells, and do vary in calibre through the contractile movements of the protoplasm of these cells (Landois).[2] But is it probable that under the influence of ichthyol these protoplasmic movements can be entirely stopped, and that the lumina of the capillary can remain unchanged, regardless of the continually varying movements in the circulation of the blood? If there were a satisfactory explanation of the causation of this it might be more acceptable; but such a one is not given. For it is claimed that, when locally applied, ichthyol produces endothelial shrinkage by diminishing the overabundant supply of oxygen obtained from the blood. Yet the endothelium can get its oxygen from the blood alone, so that a diminution of oxygen can only result from a smaller or a vitiated blood-supply, conditions which demand either narrower vessels, or vessels filled with impure blood. Consequently, to diminish the oxygen, vascular contraction must either occur primarily, or there must be some cause which prevents proper oxidation of the blood. But it is stated that the vascular contraction was the result of endothelial shrinkage produced by limiting the oxygen supply, that is, was secondary, and no mention is made of any change in the blood itself. Consequently, according to this theory of the action of ichthyol, the endothelial changes cause, and are caused by the deprivation of the overabundant supply of oxygen; in other words, they are both cause and effect—an impossibility. Similar objections can be advanced in regard to its action when administered internally. It is claimed that the ichthyol has a peculiar affinity for those particular portions of the vascular apparatus which are

[1] Schrötter: Monatssch. f. prakt. Dermat., 1882.
[2] Unna: Ibidem.
[3] Baumann u. Schotten: Monatssch. f. prakt. Dermat., 1883.
[4] Küssner (Report. by Prof. Binz): Auf d. vier. Congresse f. inner. Med. in Wiesbaden, vols. viii.–xi., April, 1885.
[5] Edlefern: Ibidem.
[6] Lorenz: Das Ichthyol, etc., Deutsche Militärärzt. Zeitung, 1885.
[7] Ackerman-Weimar: Mittheil. ü. d. Ichthyol, Correspondenzblatt. d. Allg. ärzt. Vereins v. Tübingen, 1885.
[8] Unna: Monatssch. f. prakt. Dermat., 1885.
[9] Schweninger: Notiz ü. d. Ichthyol, Charité Annalen, xi. Jahrg. Berlin.
[10] Cascarina: La Rassegna delle Scienze Med. Modena, 1886.

[1] Unna: Ichthyol u. Resorcin. Hamburg u. Leipzig, 1886.
[2] Landois: Lehrb. d. Physiolog. d. Mensch. Wien u. Leipzig, 1886.

the seat of congestion, relieving it by means of its reducing action upon the endothelium. It would be pertinent, however, to ask how, in congestion, in which there is always poor oxygen supply, the ichthyol can possibly exert any influence, since it acts only on the endothelium, which is overabundantly supplied; and under these conditions how can a still greater diminution of a poor supply of oxygen be followed by a shrinkage of the endothelium? Besides, we are asked to imagine a reducing agent circulating in the blood, and yet exerting no influence upon the red blood-corpuscles, the carriers of the oxygen; and a still more important fact, whether the ichthyol undergoes any change in the passing from the stomach and the intestines to the blood, is not considered or mentioned.

It can thus be seen that the theory advanced, explanatory of the action of the ichthyol preparations, is scarcely acceptable. Possibly future investigations will be able to demonstrate the manner in which they act, but it does not seem at present justifiable to accept the conclusions so far given, which, besides, appear to be based to too great an extent upon *à priori* reasoning.

But to return to the practical side of the ichthyol question. Unna found unlimited use for it in all forms of rosacea, both when given internally and when applied locally. The strength of the application had to be varied according as the affection was indolent and irritable. It also rendered invaluable service in all the manifestations of acne, being superior to everything else when given internally, since, according to his view of its action upon the blood-vessels, it remedies all congestive disturbances of the inner organs.

He found it also especially useful in the treatment of eczemas of a neurotic type, but not to such a great extent in the parasitic forms of the disease. He states, however, that its continuous use in these cases is not advisable, but it should only be applied when new patches appear, other treatment being substituted for the ichthyol when these have dried up. It would, however, seem very doubtful, according to this, to which to ascribe the cure of the eruption—to the ichthyol or to the other treatment. Only the best results were obtained in intertrigo and furuncles, especially of the head, when the drug was used in ten to fifty per cent. ointment, or in a mixture with an equal part of a potash soap. The same beneficial action was exerted in lichen urticatus, prurigo, urticaria, erythema multiforme and nodosum, zoster, herpes, and dermatitis herpetiformis. In erysipelas he recommends a twenty to fifty per cent. ointment, in erysipeloid a five per cent. watery solution. Also as an adjuvant in the treatment of lupus, sycosis, and psoriasis. In addition he enumerates keloid, condyloma acuminata, burns, lepra, cicatrices, seborrhœa, and ichthyosis.

The exceeding praise bestowed upon these ichthyol preparations, both by Unna and the other writers mentioned, induced me to prescribe it and to test it in those forms of cutaneous disease specified by them. To that end I have used it extensively during the last ten months in Dr. L. D. Bulkley's service at the New York Skin and Cancer Hospital, in my clinic at Demilt Dispensary, and in private practice. The results obtained were, however, not entirely as favorable as I was led to expect, but yet for certain classes of cases it proved to be of the greatest value. There were, though, objections to it, which, to a certain extent, were of some consequence, such as smell, taste, etc., and even in dispensary practice it required some persuasion to induce a patient to continue for a length of time its internal and external use. Its beneficial effects were also found not to be as extensive as Unna reported, for in some diseases mentioned by him it was tried for many weeks without any benefit, while it rendered others worse. The strength of the application had to be also much diminished, and only rarely was a ten per cent. one borne. In the large majority of cases when that strength was reached or exceeded the patient complained of its causing a considerable amount of pain and burning, and if persisted in, inflammation resulted. Internally it was for the most part well borne, but especially by children. In adults it was frequently entirely rejected by the stomach, while it nauseated others or caused loss of appetite. In only two cases did it seem to relieve portal congestion, and it had no effect whatever on ordinary congestive dysmenorrhœa. In these cases other remedies had to be used to obtain amelioration of the symptoms present. The dose given internally usually began with three drops, and was increased to eight or ten. It was administered in pill form, in gelatine capsules, and in combination with various syrups. Externally it was used in the form of ointment, in aqueous and in alcoholic solution. Both the ammonium and the natrium sulphoichthyol were prescribed, but the best results were obtained from the natrium combination.

Among the diseases which it was expected would be especially benefited by the ichthyol preparations were those depending upon disturbances seated in the sebaceous glands. They were consequently prescribed in many cases of acne simplex and acne indurata. In acne simplex of the face, either acute or subacute in character, the natrium compound was of no benefit. It was given internally in pill form and in capsules, beginning with four drops and increasing to six or eight drop, and externally as a three to five per cent. and ten per cent. solution, with aqua rosæ or with alcohol. Its use was kept up for one, two, and three months, but during that time there had not only been no change nor improvement in the general character of the eruption and in the patient's condition, but in some cases there was a decided increase in all the symptoms present at the first visit. Yet, when the ichthyol was discarded and other treatment was substituted, the cutaneous affection and general condition progressed satisfactorily in every way. The ammonium combination was also used in some cases of acne simplex which had existed for many years, and which were associated with seborrhœa oleosa of a severe type, the skin of the face being thickly studded with comedones, small papules, and pustules, the patients suffering from constipation and dysmenorrhœa. Persistent use, in increasing doses and strong percentages, produced, however, no amelioration of the conditions present, which remained unchanged until other means for their removal were employed.

In acne indurata the natrium ichthyol was also useless, but the ammonium preparation rendered good service. When applied in five to eight per cent. aqueous solution on the skin of the face and neck, which was the seat of large, deeply situated, indolent lesions, showing no signs of activity but requiring a week or more to run their course, it seemed to arrest their development, to remove the inflammatory symptoms, and beyond a dark red stain marking their former site, to cause their disappearance. This the ichthyol produced quite rapidly, but its continuous use did not, however, prevent the reappearance of new lesions, nor did it in any case bring about a cure, notwithstanding that its internal administration was also kept up for a length of time. It likewise proved to be very serviceable in those cases of acne of the chin seen especially in women, and which are usually so obstinate to treatment. In this class of cases it frequently removed the lesions entirely and effectually.

The effect which the ichthyol preparations exhibited upon inflammation, which was more particularly noticeable in the cases of acne indurata mentioned above, is explained by Dr. Unna as being the result of the narrowing of the blood-vessels. That does not, however, seem to me to be a satisfactory explanation, since it makes the inflammatory conditions entirely dependent upon the blood supply, and leaves altogether out of sight the cause of the inflammation, to which the increased vascular activity is always secondary. An inflammatory process does not originate by increased blood supply alone, but there must be some primary factor which gives the impulse and brings about the vascular changes, and it

would seem more rational to ascribe the cessation of the inflammation to the action of ichthyol upon this primary cause than to the narrowing of the vessels. The inadequacy of the theory is furthermore well exemplified in erysipelas. Its cure under the use of ichthyol is also described as resulting from the vascular shrinkage, while no mention is made, and no account seems to be taken, of the possible effect which ichthyol might have exerted upon Fehleisen's coccus present in the lymphatic and connective-tissue spaces of the corium. It must be granted that ichthyol does effect favorably some inflammatory processes, but I have not found that it did, so far, all, a fact which would also militate against the diminished blood-supply being the absolute and only cause of the subsidence of the symptoms, and for this reason, and also basing my views upon what is known at the present day of the causes of inflammation it does not seem possible to accept the theory in question.

It was stated that in rosacea the ichthyol preparations could be applied most liberally and with the best results, but yet I have to record a failure from their use by me. Both the natrium and the ammonium combinations were prescribed, following the comparative essay which was made for all the diseases in which its effect was tried. They were given internally and applied externally, in doses of from gtt. v. to x., and in aqueous solution, and in form of ointment from three to ten per cent. The treatment was kept up in some cases for three months, and yet absolutely no change was observed in the dilated condition of the capillaries, which were just as prominent and evident as before. When acne pustules were present, constituting acne rosacea, they were, however, removed by the ichthyol and the skin became smooth, but the redness remained. Yet, when we compared these results with those obtained from the treatment generally followed, the use of ichthyol offered not the least advantage, for without it the acne lesions could be removed as rapidly as with it, while the dilated vessels could be destroyed, and the redness be caused to disappear in much less time than was taken for the experimental use of the ichthyol preparations.

In regard to eczema, the most varied results were obtained, and its efficacy was in a large number of the forms of this affection questionable. Unna (loc. cit.) makes two divisions of eczema—the parasitic and the neurotic—a classification which I cannot say is borne out by my experience in the many hundred cases of this disease treated yearly by me. Yet, for the sake of testing the benefit to be derived from ichthyol, I followed as closely as possible the description given of the neurotic cases. Several, in which the eruptions occurred in rather circumscribed patches studded with papules, vesicles, etc., situated around both wrists, ankles, and knees, characterized by acute recurrent outbreaks after the process had seemed to have disappeared entirely, were given the ammonium ichthyol internally, and were treated with it locally. Though its use was kept up in one case for four months, in another for three months, and in a few others for varying lengths of time from one to two months, no benefit was derived. The new patches dried up rapidly from its use, it is true, but recurred again without seeming to care in the least about the internal effect of the ichthyol, and not until other treatment was substituted for it could the process be brought to a standstill.

In that class of cases termed parasitic its use was also a limited one. It benefited some temporarily, while others were entirely uninfluenced by it. In acute pustular or vesicular eczema it was not tried, nor in the chronic squamous form of the disease. But in chronic eczema rubrum and in acute outbreaks upon chronically thickened areas of skin, especially when situated upon the legs, depending upon a varicose condition of the veins and associated with those ulcerations known as varicose, ichthyol gave at times marvellous results. The natrium preparation produced here also the best effects, while the ammonium ichthyol caused, even in very weak percentages, pain, burning, and an increase in the inflammatory symptoms. Its advantages were seen more especially in its keratoplastic action, which was very marked in those cases, which, having been brought to a certain point in healing, yet resisted for weeks every attempt made to bring about the formation of solid horny epidermis over the weeping surfaces. In these cases a three to five per cent. aqueous solution of the natrium ichthyol gave immediate benefit, and often after two or three days' use these patches of eczema rubrum were found entirely dry and covered over with epidermis. The same beneficial effect was exerted by the ichthyol upon small superficial ulcerations associated with this condition of eczema rubrum, and one feature was noticed which spoke strongly for the keratoplastic action of the drug, viz., the granulations filling up the base of the ulcer were rapidly covered with horny epidermis, so that there very often resulted a depressed cicatrix, the level of which was that of the height of these granulations previous to the application of the ichthyol.

In the seborrhœa oleosa, situated so frequently around the alæ nasi and upon the cheeks, and accompanied by a considerable amount of congestive redness, the ammonium ichthyol gave very good results, but only when used alternately with other treatment. I had observed in several cases that its use was followed by considerable improvement for the first few days or a week, but after that remained in *statu quo*. If the strength of the application was increased a slight benefit again ensued, but ceased again after a few days, and it occurred to me to stop its use for a short time and then to reapply it. Its good effect was readily manifested by this manner of proceeding, and consequently I continued its use as an alternate application, either every other day with another lotion, or one week ichthyol, one week the other. The explanation of this I would find in the keratoplastic properties of the ichthyol, which, causing a greater and denser formation of epidermis to take place, prevented materially the action of the drug upon the tissues below, so that it was necessary to either increase the strength of the application in order to produce an effect, or to remove by other means the dense horny layer, and thus allow the ichthyol to act upon the fat-glands, etc. I can only add that when it was used in this manner the results obtained were all that could be wished for.

In intertrigo the action of the natrium preparation was remarkably satisfactory, but that of the ammonium was not so good. It was used quite frequently in this affection, which is so common among children, and after a very few days, instead of the bright red, moist surface so characteristic in the inguinal region, and on thighs, buttocks, and abdomen, there was found a dry, slightly reddened skin, or one which was entirely normal. There was no distinction in regard to the age of the patients for whom the ichthyol was prescribed, but the same beneficial effect was obtained in babies a few weeks old and also in adults. In these cases an ointment of the strength of two to ten per cent. was invariably used.

In dermatitis in general, but more especially in those forms which were septic in their origin, and in panaritium, the ichthyol preparations were exceedingly useful both in allaying the pain and in stopping the process.

In burns of the first and second degree the natrium compound gave remarkably quick and good results, removing the pain and soreness and hastening the formation of new epidermis. In several cases in which the skin of the entire hand and arm had been raised up, forming large bullæ, while here and there were patches of variable size on which it had been completely destroyed by boiling lard or steam, the application of an aqueous solution (five per cent.) not only brought about a rapid subsidence of all pain and inflammatory symptoms, but absolute healing resulted in from five to ten days.

In urticaria the advantages claimed were not found.

I only used the ichthyol in chronic cases of this disease, since the acute attacks not only get well of themselves, but their cure is a matter of such ease that their being benefited by ichthyol would prove nothing. It was prescribed, however, for those patients who had been suffering for some time with constant daily recurrent attacks, which could not be traced to either animal parasites, improper food, or any special gastric or intestinal disturbance. Its use was both external and internal, but though in some cases immediate relief was obtained, yet the urticaria returned again in a few days after its administration was stopped, notwithstanding that it had been taken by some patients for one, two, and three months. In other cases no effect whatever was obtained.

The ichthyol treatment was not found to give better results in ichthyosis than other preparations, and while in pruritus its effect was at times very good, yet at others it was absolutely nil.

As an adjuvant in the treatment of lupus, the natrium compound acted remarkably well. After the use of argentum nitricum, or the sharp spoon, the application of a five per cent. ointment—a stronger one was not borne—not only gave the patient great relief, but also brought about a speedy cicatrization of the surface.

The effect of the ammonium compound on cicatrices was also very satisfactory. It softened the dense and hypertrophied ones, caused a great diminution in their size, and allowed a return of a certain amount of natural pliability to the skin. As a rule, a five per cent. ointment was used, and though a portion of the good result was undoubtedly due to the rubbing, yet the advantage of the ichthyol was seen in the more speedy improvement than when massage alone was used. Naturally in an exclusive dermatological practice there is very little opportunity for treating rheumatism or neuralgia, or any of the other general maladies for which ichthyol has been greatly extolled, and though it was used in a few cases in which these affections were coexistent with the skin disease, and gave immediate and most marked relief of the pain, yet owing to the limited test made, I would not venture to draw any conclusions, either *pro* or *con*.

The trial and testing of the ichthyol preparations, the results of which have just been detailed, were not limited to a few cases, but they were prescribed for a large number, in order that warrantable conclusions might be drawn, and I have omitted mentioning affections such as keratosis palmaris et plantaris, psoriasis, erythemata of neurotic origin, etc., in which it was used only once or twice, and in which the results were variable, since I did not consider the number of cases allowed a decision to be made. When, however, a general review of the results obtained from ichthyol in my hands is made, it must be evident that they are far less favorable than those published in the foreign literature, and instead of its applicability to cutaneous disease being almost universal, there would seem to be, on the contrary, rather a limited use for it, and one which, outside of certain special forms of eruptions and functional disturbances in and on the skin, offers not only no advantages over, but is much inferior to, other and older methods of treatment. For those special classes of cases I must unquestionably praise its efficacy, but further than that my results do not allow me to go.

The latest religious sect in Russia has been founded on the dogma that it is a sin to let a fellow-member suffer the martyrdom of disease. Accordingly, when anybody falls sick, one of the believers goes to him and chokes him to death. The person commissioned for the deed is clad in red clothes, and is known as "the red death." Unfortunately, they do not confine their delicate attentions to the members of the sect alone, but, impelled by a broad charity, seek to cure in their peculiar way anyone, whoever he may be, who has the misfortune to become ill.

Clinical Department.

INTUBATION OF THE LARYNX—RECOVERY.

Dr. A. Caillé, Attending Physician for Diseases of Children at the German Dispensary, New York, writes: "On the evening of February 3, 1887, I was requested, by Dr. C. F. Kremer, of this city, to intubate in a case of diphtheria with progressive laryngeal stenosis. The patient, a girl five years of age, came under observation January 25th, after having suffered for several days. The first croupous symptoms set in January 27th; corrosive sublimate, in small doses, was administered internally, and inhalations of a mixture of boracic and salicylic acid solutions ordered. Moderate dyspnœa and cyanosis persisted for a week, during which time shreds of membrane were expectorated daily. On February 2d there was an increase in the dyspnœa and cyanosis. The patient was found in her mother's lap, with cold, clammy skin, cyanotic countenance, and hardly able to struggle for want of strength. Respiration was extremely laborious and slow, with deep recession of the chest-wall at each inspiration; pulse weak, exceeding one hundred and fifty beats per minute, and intermitting at each respiratory atttempt.

"Râles present all over thorax, and no appreciable respiratory murmur. Inspection of the pharynx showed two small diphtheritic patches on the posterior pharyngeal wall. After introduction of a proper-sized tube, which was accomplished without difficulty, a large quantity of watery mucus streaked with blood was expectorated, whereupon the child ceased coughing and breathed with great ease. On removal of the gag and string the patient asked for water in a hoarse whisper, but every attempt to swallow provoked an attack of coughing.

"Twenty minutes after the introduction of the tube the child showed a good color, satisfied expression, was placed in bed and soon went to sleep. In order to avoid a possible pulmonary complication, rectal alimentation was decided upon. An enema was given every three hours. Not a particle of nourishment was swallowed as long as the tube remained *in situ*, *i.e.*, four days.

"On the morning following the operation the temperature was normal, pulse slow and somewhat feeble, with good pulmonary resonance, vesicular breathing, and moist râles all over the lungs.

"On attempting the removal of the tube, in the afternoon of the fourth day, it was found firmly fixed in the larynx by a fold of mucous membrane from the laryngeal surface of the epiglottis, probably œdematous, which had to be pushed aside by the finger before removal of the tube was possible.

"For about an hour after this every attempt to swallow provoked an attack of coughing. On the following morning I made a laryngoscopic examination, which revealed a hyperæmic condition of the epiglottis and vocal cords, but no decubitus. I was not able to obtain a good view of the trachea. A diphtheritic patch was still present on the posterior pharyngeal wall, which remained visible for several days. The child made an excellent recovery and is perfectly well at the present time.

"I am permitted to state, in behalf of Dr. Krémer, who has had an extended experience in the treatment of similar cases, that 'the complete relief afforded by the intubation in this case, and the absence of the necessity of any after-treatment, impressed him very favorably with the O'Dwyer method.'

"Comparing the utility of this method with tracheotomy, it is the opinion of the writer, based upon an experience in twenty-one cases with five recoveries, in all of which the latter operation was resorted to, that intubation is preferable to tracheotomy in many cases of laryngeal stenosis.

"In conclusion, the following suggestions are sub-

mitted: 1. Intubation should, as a rule, not be resorted to before actual cyanosis has set in. In the treatment of 'croup' good judgment as to the proper time for active interference is essential. 2. The thread attached to the tube should be as long as possible so that it may be grasped before it gets out of sight, in the event of its having been slipped into the œsophagus. 3. The calibre of the tube could be enlarged, and the advantage of weight retained, by adopting a metal of high specific gravity—viz., platinum, specific gravity 21.5—for its construction, thus facilitating expectoration of false membrane. 4. The danger of pulmonary complication arising from the possibilty of the entrance of foreign substances into the larynx should be avoided by resorting to rectal alimentation or feeding per stomach-tube, after intubation. 5. Dr. Denhard's modification of the gag is worthy of recognition, as it enables the person holding the child's head to control the gag, and avoids displacement of the latter."

PECULIAR EFFECT OF COCAINE.

Dr. J. W. Stickler, of Orange, N. J., reports the following: "On January 21, 1887, a patient came to me, presenting a small cyst in connection with the extensor tendon of the middle finger of the left hand.

"After introducing into the cyst about five drops of a twenty per cent. solution of cocaine, I opened the sac and evacuated its semi-fluid contents. In less than half an hour the finger began to swell, and in less than two hours the swelling was extreme. Very soon systemic disturbance became manifest in the following symptoms: dizziness, headache, pallor of skin, nausea, and diarrhœa. During the first night the patient slept but little.

"January 23d.—Finger swollen, tender to touch, somewhat painful, red and hot, but not œdematous. Same constitutional condition as previous day.

"January 24th.—Finger has same appearance as on the 23d; no œdema; the hand somewhat swollen and slightly œdematous. Diarrhœa has ceased. Nausea slight when patient sits up or walks. Still complains of dizziness.

"January 25th.—No change in the appearance of the finger, but the hand is more swollen. No evidence of suppuration. Patient able to sit up without suffering from either nausea or dizziness.

"January 26th.—The swelling of the finger is somewhat diminished, although it is still tender, and somewhat painful. The general disturbance has disappeared, but the appetite is greatly impaired. After the last date the swelling subsided quite rapidly, so that by the last of the month the use of the joint was regained.

"As has been said by others who have written concerning the effect of cocaine, congestion is of frequent occurrence, but I have witnessed only this one instance of alarming congestion following the hypodermatic use of the drug. I call the condition 'congestion,' because the enlargement of the finger reached its utmost limit in about two hours after the use of the cocaine, and the finger had about the same appearance as would have been produced by constriction of the part with an elastic band.

"The systemic disturbance was also more pronounced than is usual. I am, therefore, led to believe that the hypodermatic use of strong solutions of cocaine is attended with considerable risk, unless it is known prior to its employment just how susceptible the patient may be to its influence."

MANAGEMENT OF TEDIOUS LABOR FROM RELAXED ABDOMINAL WALLS.

Dr. H. L. Ellis, of Brooklyn, writes: "In those very common and vexatious cases of labor in multiparæ, where the abdominal walls are lax, the pains nagging, and progress *nil*, and yet where no obstruction or malpresentation exists, I employ an expedient so simple, safe, and effective, that, at the risk of learning that my device is old, I will describe it. To me it is new; nor have I seen it mentioned. If one will watch the abdomen in these cases he will notice that it is giving not only no assistance, but no support to the uterus, and that, as a result, there is practically no *vis a tergo*, the force of the uterine contractions being almost equally dissipated in every direction. To furnish the necessary resistance, I girdle the patient's abdomen with a strip of elastic webbing, eighteen inches wide by four feet long, having several transverse rows of eyelets in one end, and a row of hooks in the other. This I apply snugly in an interval between the pains. The *next* pain almost invariably leaves the girdle from one to two inches slack. I then advance the hooks till all is again snug, and so on; my experience being that from four to six pains accomplish delivery. It is noticeable that these are *good* pains, often the first the patient has had, and are, I believe, the direct result of the support and resistance supplied by the girdle. I believe, too, that when this manœuvre is resorted to, the uterus does not become so exhausted, and hence is not so liable to subsequent relaxation and hemorrhage. A good substitute for the elastic webbing is a stout towel, fastened with four safety-pins. It is easily applied, supplies a firm, evenly distributed pressure, is readily regulated, and, I believe, will safely and speedily end many an anxious vigil."

AN OBJECTIVE PERCEPTION OF CORRIGAN'S PULSE.

Dr. E. Meierhof, Attending Physician, Out-door Department, Mount Sinai Dispensary, communicates the following: "Generally speaking the pulse is a subjective phenomena, but recently I had an opportunity to observe the pulse by the eye. A patient having marked cardiac disturbance involving both mitral and aortic valves came under observation. An examination of the radial and carotid arteries revealed the condition frequently observed in aortic disturbance, the so-called water-hammer pulse of Corrigan. Continuing my examination it occurred to me to use the ophthalmoscope to see if any disturbance of the branches of the arteria centralis retinæ could be observed, although the patient did not complain of any disturbance of the visual organs, nor did there appear any. In the erect image it was observed that with the synchronous movements of the carotid artery the main branches of the retinal artery made marked excursions in contracting and dilating, the movements resembling those made by whip-cord when cracked; the undulations naturally being from the trunk of the artery outward to its branches. The examination was made three times at intervals of five days. The patient when first seen was ordered digitalis, etc. At the third visit, which was at the end of two weeks, the undulatory movements referred to were unobservable, but while the radial pulse did not show the same amount of disturbance as was first observed, the carotids were still noticeably disturbed, the difference no doubt being due to the difference in the size and situation of the vessels. What benefit such an observation can have in dealing with disorders of the circulation I am at present unprepared to answer, but it demonstrates the growing utility of the ophthalmoscope in general practice for observing not only disturbances of the cerebro-spinal nervous system, but also those of the circulation. It is possible that some means may be discovered or invented to determine the condition of the blood through the medium of the vessels of the fundus oculi, the walls of which are transparent. One of the first observations made of the fundus oculi in connection with the circulation was due to embolism of the arteriæ centralis retinæ. A case under recent observation revealed the coincidence of endocarditis and muscular rheumatism, thus showing also that the circulation plays a direct and important factor in disturbances of the eye."

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THE EARLY DIAGNOSIS AND REMOVAL OF TUMORS OF THE BLADDER.

VESICAL neoplasms are generally admitted to constitute a variety of tumors of difficult diagnosis, at least in their incipience, of great gravity to the patient, and frequently of considerable perplexity to the surgeon. Dr. Guyon, in a recent communication to the *Progrès Medicale*, shows that an early diagnosis is sometimes possible, and should be followed by immediate removal of the offending growth. Although we are disposed to doubt the propriety of calling excision a "radical cure" in cases of malignant new-formations, we gladly admit that early interference is based on sound surgical principles and constitutes far better practice than the fatal policy of procrastination.

According to Guyon, hæmaturia, when persistent and uninfluenced by the external conditions of the patient, such as bed-rest, hygienic surroundings, and appropriate treatment, justifies the diagnosis of a neoplasm seated somewhere in the urinary passages. In the particular case forming the basis of his remarks, Guyon also emphasizes the absence of frequent micturition. An important aid toward localizing a new-formation the French surgeon finds in the presence or absence of symptoms allied to renal colic. Whenever the kidney becomes the seat of destructive lesions producing hæmaturia, painful symptoms occur; but when tumors invade it, little or no discomfort is felt.

As a further diagnostic point, Guyon asserts that when a kidney increases in volume it becomes movable. This gives rise to a new physical sign, which he has named *ballottement rénal*. In order to ascertain its presence, bimanual exploration is necessary.

Two fingers are placed behind, above the ilium, and by a succession of little shocks the attempt is made to force the kidney against the other hand placed lightly over the antero-lateral abdominal region, which corresponds to the location of the organ to be examined.

In order to accurately localize a vesical neoplasm, conjoined manipulation is always essential. The bladder is completely emptied, and, with one finger in the rectum, the surgeon's other hand forcibly presses down the supra-pubic region. For the internal exploration of the bladder Guyon employs only soft instruments, which are without danger to the patient. Finally, to convince himself that the blood comes from the bladder, he recommends the following simple procedure: First, empty the bladder, then wash it several times until the injected fluid returns clear, and now direct the patient to empty the bladder himself, at the same time assisting the manœuvre by gentle pressure. If bright-red, sanguinolent fluid appears, the source of the blood is sure to be in the bladder.

In Guyon's case the microscopical examination of the urine was entirely negative, and he thinks this is generally so in recent tumors. We cannot accept this statement, believing that the character of the growth, and especially its consistency, will influence the point in question. In the very soft and friable neoplasms histological elements appear early in the urine, whereas in the opposite forms they may be missed, even at a late stage of the disease. The age of the growth is of only secondary moment in this connection.

From this brief description of the essential points in Guyon's method of early diagnosis, it will be seen that it is applicable to many cases, but also that it will not succeed in all. All the symptoms mentioned by him may, indeed, be observed in tuberculosis of the bladder, and some of them may be absent in cases of very small, hard growths.

As regards the operative procedure of the French surgeon, it consists in simple ablation, followed, when necessary, by excision of the vesical wall. Guyon, in carrying out excision, proceeds from within outward, claiming that this is a better method than that of Sonnenburg and Antal, because it permits the surgeon to perform a "regular and complete dissection" without any danger of separating the bladder from its anatomical connections.[1] But excision is only necessary in those cases where the malignant tumor is already surrounded by a zone of infiltration. Guyon has found, however, that such infiltration occurs earlier than is generally supposed. And it is precisely in this circumstance that he finds the justification for the earliest possible interference consistent with scientific accuracy of diagnosis.

In all those cases where the tumor is not surrounded by infiltration, Guyon simply removes the projecting portions, then scrapes the base, and, after cauterization, closes the vesical wound with catgut sutures cut short and allowed to remain.

THE MORTALITY OF TYPHOID FEVER IN NEW YORK.

WE have received a number of letters from correspondents in different parts of the country, expressing surprise at the high rate of mortaltity from typhoid fever in this city. Some suggest special modes of treatment, the adoption of which they think will be of service in reducing the high death-rate of the disease, while others kindly intimate that if "New York doctors were less scientific and more practical, a diagnosis of typhoid fever would not always be equivalent to a death-sentence."

These letters have been called forth by a paper read before the Section on Practice of the Academy of Medicine, and published in THE MEDICAL RECORD of January 8, 1887. The writer gave the mortality-rate for the

[1] Sonnenburg, of Berlin, and Antal, of Buda-Pesth, performed resection of the bladder by cutting down upon it from above, and thus opening the peritoneal cavity. Sonnenburg stitched the cut ureter to the abdominal wall.

past ten years, based on the statistics of the Board of Health for that time. These statistics showed that there were 7,712 cases reported, of which number 3,184, or 41.28 per cent., died.

These figures, we feel compelled to say, are misleading, and do not indicate, even approximately, the actual mortality of the disease. The statistics of the Board of Health are necessarily accurate, excluding errors of diagnosis, as regards the number of deaths from a given disease, but they are notoriously inexact as far as concerns the number of cases actually occurring. And the same holds true, though not to so great an extent, concerning the birth-rate. The reason why the figures are inexact is not through any fault of the Board of Health, but is simply the fact that physicians do not report their cases. Many physicians who ordinarily report cases of contagious diseases do not consider typhoid fever sufficiently contagious to warrant a report, and many others do not report any cases, unless they anticipate a fatal issue. Indeed, instances are by no means rare of a report of a contagious disease being withheld until just before the death of a patient, when, in order to escape the possible danger of an enforcement of the penalty for non-compliance with the law, the Health Board is notified.

That this is so, a little reflection will convince anyone, for it is very evident that there must have been an average of more than seven hundred and seventy-one cases of typhoid fever per annum in this city during the past decade. And it therefore follows that the mortality of the disease is not so high as these figures would lead one to suppose.

SEXUAL DISORDERS AND SYSTEMATIZED QUACKERY.

The increased number of quacks and quack-agencies in this city appealing to victims of sexual troubles and of venereal disease, and the boldness and offensiveness of their advertising methods, are working an injury which demands more than ordinary notice. In late years the older methods have changed, and, from a business point of view, improved, and it has become the practice for these quacks to work under the guise of agencies or companies. They have "laboratories," consultation-rooms, and most elaborate methods of advertising by circulars, hand-bills, and through the lower grades of newspapers. So complete is the system that there is hardly a young man or growing youth in the city who does not get hold of some disgusting, or, to him, terrifying notice, picturing the horrible results of self-abuse and seminal losses. Thousands are thereby frightened into a mental state half approaching insanity. Many of them go or write to some of these advertising firms, put themselves under treatment until every spare penny has been wrung from them, without, as a rule, any good being done. On the contrary, an increase in their troubles often results, and even a permanent state of mental and nervous depression is brought about.

The young man once in the toils of these unholy "agencies" is subjected to influences tending to keep him there. There seems to be a list kept of those applying at one place which is circulated among quacks all over the country. Consequently the once victimized party is in constant receipt of new circulars describing the virtues of new "pearls," or pills, or special apparatus. Many of the circulars contain grossly inaccurate descriptions and illustrations of the sexual apparatus, the bladder, stomach, brain, etc.

We have before us a specimen circular, depicting with equal force the despairing future of the masturbator and the unequalled virtues of a certain suppository. It has also cheap wood-cuts of "a brainless child born of a masturbator," a hydrocephalic child with the same ancestry, and of a half-naked man behind the bars of a cage, representing a person "made insane by self-abuse!" No words can tell the agony, the shame, the despair, which such publications cause in a large class of half-educated youths who get hold of them.

A young man, subsequently found to have a fine physique, no actual sexual weakness, and to be suffering only from two or three emissions monthly, wrote to a physician: "Although I am able to work, yet every day the constant thought of my condition, my blasted and miserable life, is with me always, and keeps me in a constant despairing state of mind."

This is the "state of mind" which it is the aim of the quacks in question to produce to as large an extent as possible. The more morbidness and despair, the more money in their pockets, for they fatten on the distress of their victims. Here is the foulest possible prostitution of medicine, a systematized attempt to create disease and then get money from it.

These individuals and companies do not confine their practice to sexual troubles, but plaster the telegraph poles and other places with announcements of "swift cures" for "private diseases," and send circulars advertising cures for all kinds of chronic troubles. Blanks are furnished, to be filled out with information regarding the person and the disease; descriptions of how to send urine by mail, price-lists for different sets of pills, or different courses of treatment, are also furnished.

In fine, these establishments have become a public nuisance to the intelligent community, and a serious public harm to those unable to judge of their merits and honesty.

THE DEMONSTRATION OF ISOLATED TUBERCLE-BACILLI.

Biedert has for years been engaged in studying tubercle-bacilli, mainly from a practical and clinical stand-point. He has recently published in the *Berliner klinische Wochenschrift* a method for the detection of these microbes in cases where they occur in such small numbers that the ordinary processes now in vogue may fail to reveal their presence. It is scarcely necessary to point out the importance of detecting even the smallest number of the bacilli in question. Those who are convinced of the correctness of Koch's views regarding the specific nature of tuberculosis will require but a single bacillus to give them the clue to a suspected case. The unbelievers, on the other hand, will fail to be convinced by the demonstration of myriads of microbes. For the believers, then, a single bacillus will speak as plainly as countless numbers could, since it has not yet been clearly shown that their abundance signifies anything more than their presence in very small proportions. In either case we are told to assume a specific tubercular process. But more than this we are not yet at liberty to infer.

Biedert proceeds as follows: He takes about a table-

spoonful of the suspected sputa, and adds thereto twice that quantity of water and fifteen drops of a strong solution of soda.[1] This mixture is boiled until it becomes quite fluid, and then diluted with about two ounces more of water. After being again boiled the mixture is nearly homogeneous, and free from lumps and particles. If on cooling a thin fluid does not result, more water may be added. A conical vessel now receives the mixture, and after two or three days the supernatant fluid, having deposited its bacilli, can be decanted. The sediment, after energetic stirring, can now be examined in the ordinary manner. A practical point deserves notice in this connection. The addition of soda to the expectorated matter renders its albumen soluble, and after drying the film may scale off the glass during immersion in the staining fluid. To obviate this, Biedert advises that a little fresh egg-albumen be added to the drop of sediment which is to be spread on the glass. It may then be safely dried and passed through the flame as usual. It may be here stated that this new method is not available for sections of tissue.

Biedert regards his process as an eminently trustworthy test for bacilli. It certainly does away with the tedious and time-robbing method of examining numerous cover-glass specimens. For practical purposes it may be well to collect the sputum of several days, especially where expectoration is scanty.

Biedert says, in proof of the success of his method, that sputum examined in the ordinary way may show very few bacilli, whereas the same sputum, subjected to the above treatment, will be found to fairly teem with them. The most favorable time for examining the mixture is after two or three days' standing. After that period no further increase in the number of bacilli is found. As a further proof of the utility of his method, Biedert says that if he mixed a tablespoonful of sputum, known to be without bacilli, with a single drop of tubercular sputum, specimens prepared in his way invariably gave positive results.

It is surely not too much to say that the great majority of physicians nowadays attach a certain amount of value to the discovery of tubercle-bacilli in the sputum of patients having chronic lung-trouble. By all these Biedert's method will be received as a welcome addition to practical bacterioscopy.

[1] In a later issue of the Berliner klinische Wochenschrift (No. 2, 1887), Biedert states that seven to eight drops are usually sufficient, since fifteen drops occasionally interfere with the ready staining of the bacilli.

THE WORKING-TIME OF THE PHYSICIAN.

Statistics have at various times been published showing the mortality-rates among physicians and the causes of death. But we have met with no such careful analyses of the life-history of the medical body as have been furnished by Dr. Friedrich Böhm regarding the physicians of Bavaria (*Münchener med. Wochenschr.*, No. 4, 1887).

In the year 1886 there were in Bavaria 1,787 physicians. The average age of these was 45.3 years. In cities of 10,000 inhabitants the age was somewhat higher—viz., 48.7, while in the country it was 44.3. This fact is due probably to older physicians moving to the city after having accumulated sufficient means or earned sufficient reputation to enable them to do so.

The average age of physicians in 1863, twenty-three years before, was 24.7 years; and the decline is due to the relaxation in requirements, which has brought a larger element of young men into the profession.

This is shown in another way. From 1854 to 1886 the percentage of physicians between the ages of twenty-four and forty has steadily risen from 27.4 (in 1854) to 44.1 per cent. (in 1886). The proportionate number of physicians between the ages of forty and sixty—in other words, the working-time of physicians—is not in such narrow limits now as formerly. Among 1,000 doctors there are 441 between the ages of twenty and forty, 394 between forty and sixty, and 165 above the age of sixty.

The youngest age at which medical men are found in Bavaria is twenty-four, and the age of those beginning practice ranges from twenty-four to twenty-six years. Twenty years ago the age was from twenty-five to twenty-eight. This is all in most extraordinary contrast with the state of things in this country, in which the average age of medical college graduates is certainly not over twenty-three years, while many are graduated who have barely passed their majority.

The average duration of life of the physician is not given, but the figures collected show that of 100 physicians starting in practice 63 die before the fiftieth year, 82 before the sixtieth year, and 90 before the seventieth year. Only ten per cent. of those who start out in medical life, therefore, reach the allotted period of threescore years and ten.

This is not a very good showing, but it is an improvement on the state of things thirty years before, when, according to Dr. Böhm, only five per cent. reached the period in question.

SHALL PHYSICIANS PAY FOR THEIR MEDICAL SERVICES.

In the Annual Address before the American Dermatological Association, made last year by the President, Dr. Edward Wigglesworth, some sentiments were expressed which will be likely to arouse discussion and protest. He says:

"The day has gone by for remitting fees to clergymen, or even to other physicians. The necessity for such a condition of things, due to the mutual relations of the single parson and the two physicians of country villages, a century ago, has gone forever. The members composing the medical profession furnish to-day a gratuitous clientèle enough to occupy the whole time of the best specialist, who is naturally the adviser selected, and thus to ruin him financially. If he does not in return ask advice from each of those he has treated, and he cannot, even if he would, of all—then where is the *quid pro quo* upon which the whole absurdity is based? The particular one whom he does select as his family-physician makes, naturally, more visits to the family of the specialist than the latter is likely to return, and should be remunerated accordingly. Business is business, and exactness in money matters promotes good feeling. In Boston, I rejoice to say, the specialist pays his family-physician, and feels for him a warmer regard and a more

cordial appreciation in consequence, while at the same time preserving his own self-respect."

Dr. Wigglesworth appears to think that the physician should not be expected to render a service unless there is a *quid pro quo*. This is placing our profession upon a mercantile basis with a vengeance. It has been taught in days gone by that there was something above trade in the practice of our art; and one of the best evidences that we were more than a guild of tradesmen has been the fact that our professional services were to be freely and gladly extended to all brother-practitioners of medicine. The sentiment which prompts physicians freely to extend mutual help will, we trust, never die out among the mass of the profession, whatever may happen to the specialists.

The view advocated by Dr. Wigglesworth is a plain announcement of the fact that the specialist expects to be paid when a general practitioner goes to see him, and that he, the specialist, expects to pay his family-physician.

A case in which this subject acquired a curious medico-legal importance recently came up in St. Louis. The late Dr. Van Studdiford, an old, wealthy, and retired physician, during his last illness called in Dr. Waldo Briggs. The case was difficult and arduous, calling for attendance at all hours of the day and night. After the patient's death, Dr. Briggs (after consulting with professional friends) presented a bill of $500, which was allowed by the Probate Court. Against this the widow and family appealed, basing their action mainly upon the ground that it was "not customary for one practitioner to charge another." The Court decided in favor of Dr. Briggs.

SURGERY IN TEXAS.

We have received the report of the Special Committee on Surgery, appointed by the State Medical Society of Texas, Dr. George Cupples being chairman and reporter. It makes a quarto of seventy-two pages and embraces the tabulated statistics regarding 4,293 operations performed by Texas surgeons. The report is a valuable one; it represents an immense amount of intelligent labor, and cannot fail to be a stimulus and benefit to the very wide-awake practitioners of the Lone Star State. The statistics show good, and even brilliant results in most lines of surgery. In amputations of the thigh the number of cases is 132, with 50 deaths; those of the leg are 166, with 27 deaths; those of the arm, 65, with 63 deaths; and those of the forearm, 66, with 2 deaths. These figures are even better than those, for example, of Max Schede, in which the operations are done with every possible antiseptic precaution. It must be remembered, however, that as the statistics collected by the Texas Committee are voluntarily contributed, it is quite possible that all the bad cases are not reported. The report shows that the Texas surgeon is quite able to cope with all varieties of surgery, even the most difficult.

ON FALSE LOCOMOTOR ATAXIA.

Locomotor ataxia is one of the best known of the chronic special diseases. It has indeed been so extensively written upon and so widely advertised that an undue tendency apparently exists to see locomotor ataxia in all cases showing ataxia and sensory symptoms.

Recent researches have shown that a good many cases showing the signs of locomotor ataxia were really not this disease, but were the result of poisons, of neuritis, or the indication of some brain disorder. Some of the apparent cures of locomotor ataxia are explained on this theory.

In a thesis for the doctorate in medicine (Paris, 1885), M. Leval-Picquechef has collected the numerous cases of false locomotor ataxia, or pseudo-tabes, and analyzed them. The results reveal in an interesting way the large number of causes, many of them quite common, which may produce a clinical picture a good deal like that of posterior spinal sclerosis.

The symptoms of locomotor ataxia have been produced by a sarcomatous tumor affecting the posterior spinal roots (Bennett), by small tubercular masses in the posterior columns (Topinard), by an arachnitis with a superficial marginal sclerosis of the cord (Ribail), and even by a diffuse sclerosis localized especially in the posterior columns. Posterior sclerosis is also produced by ergot poisoning and by pellagra. But apart from these, the symptoms of locomotor ataxia may be caused by various intoxicants, by infectious diseases, in diabetes, and in certain neurasthenic states.

Pseudo-tabes is produced as the result of alcoholic intoxication, and is one form of alcoholic paralysis. It occurs in adult life as the result of long-continued excesses in alcohol of any form, rum and brandy being the kinds most commonly used. It has been noted, so far, oftenest in England and Germany. It develops most frequently in women and in the better classes of society.

Lead in very rare cases causes a condition of pseudo-ataxia. The same occurs from poisoning by sulphide of carbon. Jaccoud, Berbes, and lately Ross, have mentioned instances in which workmen exposed to the vapor of this substance developed temporary ataxia.

Arsenic also has been known to cause pseudo-tabes, both when taken medicinally and even when absorbed into the system from poisonous wall-paper.

There seem to be hardly any of the severer infectious maladies which may not cause as a sequel the development of pseudo-tabes. The most frequent cause, however, is diphtheria. Of the eruptive fevers small-pox and measles have been followed by pseudo-tabes, while pneumonia, erysipelas, and typhoid fever have produced paralytic troubles closely resembling it.

It has for some time been known that in diabetes the knee-jerk is often abolished, and that the patient may suffer intensely from neuralgic pains. Very well-developed forms of pseudo-tabes have also been observed by Raymond, Dreyfus, and others. Since glycosuria sometimes appears in true tabes dorsalis, the diagnosis is not always easy.

American observers have asserted that pseudo-tabes may occur in cases of neurasthenia or spinal congestion. Dr. Leval-Picquechef cites an observation by Kowalensky on tabes dorsalis illusoria, and one by Huchard and Féré in support of this view.

In pseudo-tabes the cause of the symptoms is probably in almost all cases a multiple neuritis. The disease is characterized by its rapid evolution and in the complete

recovery which follows. The immobile pupil, disorders of the bladder, and rectal centres are not present, while there is usually some motor paralysis, which is not the case in true tabes.

CATHETERIZATION OF THE TRACHEA AND BRONCHUS.—Many will yet remember the fierce controversy in medical circles, raised by the late Dr. Horace Green, over the question of the direct medication of the trachea and bronchi, by carrying medicated solutions beyond the glottis. Dr. Green proved that it could be done, but his treatment was too heroic, and fell into disuse with the invention of powerful spray apparatus.

The discovery of cocaine took away the great practical obstacle to the application of this method, and of late it has been revived again by Reichert, of Rostock. This physician described his apparatus in the *Deutsches Archiv für klinische Medicin*, and showed it at the last meeting of the German Congress of Naturalists and Physicians. By its means he injected directly into the trachea and bronchi solutions of chloride of zinc, salicylic acid, menthol, and olei menth. pip. Dr. Schäffer, of Bremen, confirmed his results.

In are cent issue of the *Berliner klinische Wochenschrift*, No. 7, Dr. Landgraf, an assistant at Professor Gerhardt's clinic, describes an experience in the catheterization of the trachea which shows that this procedure is not difficult, and that it may have a considerable range of therapeutic usefulness. A man, fifty-two years of age, presented himself at the clinic suffering from symptoms of left-sided bronchial stenosis. He had attacks of coughing followed by dyspnœa of a severe character, and physical signs of interruption to the passage of air into the left lung. The man had had syphilis, and the diagnosis lay between a syphilitic gumma pressing on the bronchus and an aneurism. Antisyphilitic and all other treatment failed to make any impression on the symptoms. It was therefore finally decided to catheterize the trachea, and, if possible, the bronchus. The larynx was anæsthetized by pencilling it with a twenty per cent. solution of cocaine, and a ten per cent. solution of the same drug was sprayed into the trachea. A catheter was then introduced with the greatest ease, and was pushed down for the distance of 28.5 ctm. (over eleven inches), when an obstruction was felt. At a subsequent trial it passed the obstruction and was introduced for a distance of 32 to 36 ctm., measured from the incisors. This procedure was repeated several times weekly.

The relief caused was enormous. The patient had no more attacks for a month, and was rejoicing in his prospective recovery when an attack of unusual severity seized him and he died.

The autopsy showed the presence of an aneurism of the descending aorta compressing the left bronchus.

Dr. Landgraf thinks that though the relief caused by the catheterization was so temporary, it at least showed how well it is tolerated and how easily it may be carried out, and he suggests the wider extension of the practice of direct medication of the sub-laryngeal air-passages.

THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF TENNESSEE held its twelfth Annual Commencement on February 22d, and graduated a large class.

News of the Week.

THE IZARD COUNTY MEDICAL SOCIETY has condemned the present medical laws of Arkansas, and declares them to be a total failure, and declares that it will not accept the legal certificate of registration as any evidence of the physician's qualification to practise medicine.

A MEDICAL PROFESSOR WITHOUT SHAME.—According to the *Indiana Medical Journal*, the professor of surgical anatomy in a physio-medical college in Indianapolis announces in the daily papers that he possesses a remedy which "will cure membranous croup every time, and is the only thing that will." The formula is as follows :

Tr. sanguinaria	drachms iv.
Fl. ex. spikenard	drachms ij.
Oil pennyroyal	gtt. ij.
Simp. syr. (heavy).	q. s. ad ounces iv.

Mix.—Dose for a child of one year, ten drops, and add five more for each additional year. Give every half-hour, hour, or two hours, as the urgency may require.

THE SOCIAL AND POLITICAL ADVANCE OF THE PHYSICIAN.—The *Saturday Review* announces that the medical men of England are advancing in social position and political importance. This fact is indicated by the increasing number of physicians yearly commissioned as magistrates and elected to Parliament. *The Lancet* treats this information with a mixture of mild disdain and incredulity. To an American the social position of the average English doctor appears a very poor, not to say intolerable one, and if it is improving we are glad to hear of it. The English country doctor, however, is now more highly esteemed, not, as it seems, because he knows more, but because, owing to the extension of the franchise, "he has come into the possession of political power."

MANHATTAN EYE AND EAR HOSPITAL VERSUS MANHATTAN HOSPITAL.—The General Term of the Supreme Court has ordered unanimously that the so-called Man hattan Hospital, in Manhattanville, formerly the Manhattan Dispensary, shall not use its name of Hospital, because there is danger of confusion arising from the use of the two names, Manhattan Hospital and Manhattan Eye and Ear Hospital.

THE LONDON THROAT HOSPITAL, for diseases of the throat, nose, and ear, was opened on February 14th last, at 204 Great Portland Street, W., under the general supervision of a General Committee, associated with an Executive Committee which shall include the medical staff that will preside over the management of the hospital directly. The promoters of this hospital were lately members of the medical staff of the Hospital for Diseases of the Throat, Golden Square, where they served as medical officers and teachers for many years. The chief object of this institution will be the free treatment of the sick and necessitous poor, and it will be the aim of the management to avoid a system of pauperizing the people, by requiring small weekly payments from those patients whose earnings will enable them to contribute toward the hospital expenses. At the head of the medi-

cal staff stands the name of W. McNeill Whistler, M.D., M.R.C.P., well known here, not only from the fact that he was born in the United States, but because of his meritorious writings on the special diseases in which he has made himself an authority. Among his associates is Edward Woakes, M.D., whose writings on diseases of the ear are also well known. The medical staff has seven members.

A Medical Microscopical Society in Brooklyn.—A meeting of Brooklyn physicians interested in microscopy was held at the house of Dr. Herbert Fearn, 196 Clermont Avenue, Brooklyn, on Wednesday evening, February 16, 1887, for the purpose of organizing as the Medical Microscopical Society of the City of Brooklyn. The specific object of this society will be the consideration of medical microscopy. Meetings will be held on the first Wednesday evening of each month. The following officers were elected: William H. Bates, M.D., President; Arnold Stub, M.D., Vice-President; Frank M. Hoyt, M.D., Secretary; Henry D. Bliss, M.D., Corresponding Secretary; Albert Brinkman, M.D., Treasurer.

This is the Season when the history of medicine is reviewed from the earliest time to the present day by eloquent commencement-orators. It is a period when thousands are refreshed with the story that medicine is the noblest and grandest of professions, and when the young medical graduate is surprised by being told that he is just on the threshold of a new career in which he is destined to hush the groans of millions with the joy of health.

An Opinion on Dr. Mathews Duncan.—Mr. Tait, writing to the *British Medical Journal* regarding the Liverpool Hospital quarrel, says of Dr. Duncan, what we believe is more of a compliment than he intends. He says of him: "Dr. Duncan's views are warped by a belief which I respect as honest, but regard as wholly mistaken and most unfortunate for 'good gynecology.' This belief is to the effect that the majority of women who give a detailed, sequent, and consistent story of pelvic suffering, 'have nothing the matter with them.' This has passed into a by-word, and has immensely diminished Dr. Duncan's sphere of usefulness in the practice of medicine." We venture to say that Dr. Duncan holds no such extreme view as represented, and that if gynecologists with pet operations dominating their minds were to absorb a little of Dr. Duncan's conservatism their sphere of usefulness would be greatly enlarged.

The Fifty-fifth Annual Meeting of the British Medical Association will be held in Dublin on August 2, 3, 4, and 5, 1887, under the presidency of Dr. Withers Moore. An address in medicine will be delivered by W. T. Gairdner, M.D., F.R.C.P.Ed. An address in surgery will be delivered by Edward Hamilton, M.D. An address in public medicine will be given by the Rev. S. Haughton, M.D., F.R.S., D.C.L.

Physicians Intending to be Present at the International Congress.—Among the list of gentlemen announced by Dr. D. J. Hamilton as intending to be present at the International Congress, we find among surgeons: Mr. T. Bryant, Mr. C. Heath, and Mr. Jonathan Hutchinson, of England. Among gynecologists and obstetricians: Mr. Lawson Tait, of England; Professor Gustav Braun, of Vienna; Professor Hegar, of Freiburg; J. Amédée Doleris, of Paris. Among neurologists and alienists: Drs. J. Althaus, G. H. Savage, D. Hack Tuke, D. Ferrier, H. C. Bastian, Sir J. C. Brown, William J. Mickle; A. Eulenburg, of Berlin. Among dermatologists: Dr. George Thin, of London; Hans von Hebra, Neumann, and Kaposi, of Vienna; P. E. Unna, of Berlin. Among general physicians: Drs. B. W. Richardson, Charles West, Eustace Smith, George Johnson, Sir E. Sieveking, N. T. H. Waters, J. S. Bristowe, Pye-Smith, of England; Professor Dujardin-Beaumetz, of Paris; Drs. Lewin, Gusserow, and Veit, of Berlin. Chiari, of Vienna, is also down as intending to be present.

French Surgical Congress.—The third meeting of the French Surgical Congress will take place in Paris in April, 1888, at a date which will be announced shortly, under the presidency of Professor Verneuil. The following questions are arranged for debate at the Congress: 1, On the Treatment of Gunshot Wounds of the Visceral Cavities; 2, On the Value of the Radical Treatment of Hernia as a Permanent Cure; 3, Chronic Suppuration of the Pleura, and its Operative Treatment; 4, Recurrence of Tumors after Operation (Causes and Prevention).

The Antiseptic Treatment of Summer Diarrhœa.—In an article on the above subject in the New York *Medical Journal*, Dr. L. Emmet Holt claims superiority for the antiseptic method of treating diarrhœa, and recommends especially salicylate of soda and naphthalin in the disease. There appears to be something of a *non sequitur* in the conclusions, since salicylate of soda is not especially antiseptic, ranking very low in Miguel's scale.

Changes in the Professorial Staff of the Paris School of Medicine.—M. Dieulafoy, Professor Agrégé at the Paris Medical Faculty, has been elected Professor of Medicine in place of M. Peter, who is appointed to another chair. M. Farabœuf, Director of the Practical School of Dissection, has been chosen to succeed M. Sappey in the Chair of Anatomy. M. Gariel, Professor of Medical Physics, has been appointed to the Chair of Physics in place of M. Gavarret. A law recently passed ordains that no professor of medicine shall continue in office after the age of seventy. MM. Sappey and Gavarret have attained that age. M. Pajot, in terminating his course of lectures at the Clinique de la Faculté de Médecine, announced that he preferred retiring from office before reaching the age of seventy. In the midst of the applause which followed M. Pajot's speech, a curtain was drawn aside, and a bust of the Professor placed on a pedestal, draped in velvet and gold, was discovered. M. Peyron, Director of the Assistance Publique, then came forward to thank M. Pajot, in the name of the poor of Paris, for the devoted kindness which he had shown toward them for forty-five years.

The Physiology of Opium-narcosis.—M. Liebermann, in a monograph upon opium-smoking, states the conclusion that the deep narcotic sleep of opium is due to severe cerebral congestion.

Rush Medical College held its forty-third Annual Commencement on February 15th and graduated one hundred and thirty-four students.

The Medical Association of Georgia meets at Atlanta on April 20th.

The Medical Department of the University of Louisville held its fiftieth Annual Commencement on March 1st. Its graduating class numbered eighty-seven.

The New York City Board of Health.—The appointment of Mr. James C. Bayles as President of the Health Board has met the general approbation of non-partisan citizens. Mr. Bayles is a sanitarian and not a politician.

Bellevue Hospital Medical College.—The twenty-sixth Annual Commencement of this college was held on Thursday last, when a class of one hundred and thirty-four was graduated. The exercises were pleasantly varied by an adjournment to Delmonico's, where a supper was served and speeches made.

Sewer-gas and Malaria are said to pervade the chambers of our multiple-million-dollar Capitol at Albany.

Died from Diphtheria.—Dr. E. L. Andrews, a young physician of West Farms, N. Y., died last week of diphtheria contracted from a patient. We have recently learned of three physicians of this city who suffered from diphtheria contracted in their practice, but who have fortunately recovered.

Vaccination against Snake-bites.—Professor Sewell, at the University of Michigan, Ann Arbor, has been carrying out some experiments in Pasteurization, taking for his subject the virus from the sacs of rattlesnakes. By attenuation and cultivation he has succeeded in protecting pigeons and rabbits by inoculation, so that they will withstand inoculation of five or six times the strength of uninoculated pigeons or rabbits.

The International Congress.—Mr. Lawson Tait has been elected one of the Vice-Presidents of the International Congress. We learn that Congress appropriated $10,000 for the International Medical Congress.

The Bequest of a Medical Editor.—The late Dr. Wakley, editor of *The Lancet*, has bequeathed to the University College Hospital of London, for and on behalf of the Hospital, his freehold residence, Heathlands, Longcross, Chertsey, and eight acres of land, for the purposes of a convalescent home for patients from this hospital, as a memorial of his late father, Thomas Wakley, Esq., M.P., the founder of *The Lancet*, the home to be called the "Wakley Convalescent Home." He also bequeathed £1,000 to be expended in the maintenance of the convalescent home, at the rate of £200 per annum.

Beriberi on the Isthmus of Panama.—A case of beriberi, originating at Panama, has been observed in Paris by Dr. P. Marie.

The Results of New York City Baby-farming.—The city has been trying the experiment of putting the infants brought to Randall's Island Hospital out at various homes in the country at Mount Vernon. Fifty or sixty infants are being cared for in this way; so far, with a reduction of mortality from thirty to about five per cent.

Prosecuted for Skin-grafting.—An extraordinary case of prosecution and persecution has recently occurred in the Atlanta, Ga., courts (*Atlanta Med. and Surg. Journal*). On August 30, 1886, in the presence of Drs. Hardon, Westmoreland, and Howell, Dr. Henry Wile, of that city, proposed to a boy of thirteen years to submit to the removal of some small skin-grafts from his arm to be placed upon an extensive ulcerated surface on the head of his cousin, a little girl somewhat younger, whom he had accompanied to the office. The boy readily consented, and minute grafts were excised without causing him any inconvenience. In the afternoon of the same day the father of the boy went to the office and charged Dr. Wile with having cut "his son's arm to pieces." He subsequently swore out a warrant charging him with assault and battery. Upon trial the case was promptly decided in favor of Dr. Wile.

The Late Professor Schroeder died of a cerebral abscess. It was well circumscribed and might have been reached and opened by a surgical operation, but the combined skill of Berlin's best physicians, including Professors Westphal, Gerhardt, Leyden, and von Bergmann, could not reach a positive diagnosis. Professor Schroeder six years ago had an attack of ophthalmia and erysipelas from a septic matter which got in his eye. He recovered, but from that time, however, he had been subject to attacks of giddiness and syncope, which were attributed to weakness of the heart. Last winter he was again attacked with serious illness, and he was sent to Nice. In November last year threatening symptoms again made their appearance, but he rallied, until fourteen days before his death symptoms of serious brain disease confined him to his bed. The diagnosis lay between cerebral abscess, cerebral tumor, and meningitis, but no nearer decision could be reached. Death occurred and the autopsy was conducted by Professor Virchow, and reported on by him before the Berlin Medical Society on the 9th ult. In the posterior part of the right cerebral hemisphere was an encapsuled abscess, about the size of a walnut. This had broken through toward the right ventricle, causing sharp hemorrhage and acute inflammation. In the mediastinum, also, near the right lung and the œsophagus, remains of a smaller abscess were found. No other trace of disease was discoverable.

The Public Meeting for the Purpose of Raising Funds for a building for the Woman's Medical College of the New York Infirmary, held on Monday last, was well attended and was successful in every particular. Already the sum of $15,000 has been subscribed.

The Journal of Laryngology and Rhinology is the title of a new monthly devoted to the specialty indicated by the title. It is edited by Dr. Morell Mackenzie and Dr. R. Norris Wolfenden. The first number, published in January, makes a very creditable appearance, both as regards contents and mechanical make-up. We extend our welcome to this new aspirant for professional favor.

The "Sacramento Medical Times" is the title of a new medical monthly published at Sacramento, Cal., and edited by James H. Parkinson, L.R.C.S.I. Sacramento has not been much heard of in medical circles, and we are glad to find that it is to have an organ

Reports of Societies.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, March 3, 1887.

CHARLES CARROLL LEE, M.D., VICE-PRESIDENT, IN THE CHAIR.

DR. WM. H. THOMSON read a paper on

THE PATHOLOGY AND TREATMENT OF EPILEPSY,

based on notes of sixty consecutive cases in private practice. The definition of a disease should include the most invariable features of the affection; the essential must never fail to be present. He did not consider epilepsy as necessarily a convulsive disorder. He gave the following definition:

Epilepsy is a disease characterized by sudden and temporary loss of function on the part of one or more cerebral centres, an attack being induced by an afferent impression in every case.

The essential and invariable element in epilepsy is suddenness. It is the single truly sudden disease. Other diseases may be rapid in their attack, but never sudden in the sense that epilepsy is. Among the neuralgias, angina pectoris may be an exception. Therefore all recurrent symptoms, whether sensory or motor, which are characterized by suddenness are ominous, because suggestive of epilepsy. Consequently *petit mal* was more real, as well as more objectionable, than *grand mal*.

Dr. Thomson then reviewed some of the theories that have been advanced with reference to epilepsy, as Hughlings Jackson's theory of the explosive discharge of nerve-cells from increased functional activity or increased nutrition; disturbance of Nothnagel's convulsive centre in the medulla; Robertson's upward discharge from this centre; Gowers' involved theory, etc. The conclusion reached was, that all normal motor phenomena, except the purely voluntary, were directly regulated by the sensory department of the nervous system in all those respects which imply regulation of degree of the motor forces and regulation of the time of their liberation and the channels through which these are liberated, whether singly or co-ordinated.

Given a moderate restraint of nerve-cells and -centres by each other, and we have the status of bricks in an arch; but withdraw one brick and the arch may behave as if shaken by an earthquake, when the disturbance all came from the sudden loss of the function of one brick.

The objection to the explosive sensory-motor theory was that it required more than one mechanism for the production of the same effect. The answer to the claim that Hitzig has produced epilepsy by limited motor excitation alone, and that it has been caused by irritation of the cortical motor area alone, etc., was that we do not get rid of the sensory-motor relations when the cranium is entered.

As to the *treatment of epilepsy*, Dr. Thomson emphasized the great importance of *perseverance*, for many obstinate cases had finally yielded. The first indication was to *improve nerve-nutrition*, and the most efficient agent that could be employed for this purpose was *cod-liver oil*. The prophylactic influence of this remedy was very noteworthy with reference to nervous diseases occurring in neurotic families, and particularly epilepsy.

The next remedy recommended for nerve-nutrition was *phosphorus;* the syrup of the hypophosphites (U. S.) acidulated by the addition of one-fifth part of dilute phosphoric acid.

Total exclusion of butcher's meat for two years should be insisted upon; animal diet predisposes to convulsions and convulsive diseases.

Check rapid eating, because of the liability to irritate the convulsive centre in the medulla through the influence of crossing nerve-fibres.

The *bromides* are the most efficient remedial agents for the control of the attacks. These are to be aided by remedies which prevent them from impoverishing the blood, and they may be assisted very materially in producing their peripheral action by the use of the *red-pepper or mustard pack* before going to bed. Add a teaspoonful of red pepper to a pint of hot water, and wrap the body in flannel wet with a solution of this strength.

When muscular twitchings of the face occur during sleep, he regarded them as evidence of persistent cortical irritation, and advised the use of corrosive sublimate in doses of $\frac{1}{24}$ of a grain.

When symptoms referable to the digestive tract were present, *belladonna* with *oxide* of *zinc* should be used, pushing the belladonna to the production of its physiological effects.

When foul breath accompanies the gastric disturbance, *resin* of *turpentine* should be given as an antiseptic with belladonna.

The continuous use of *chloral hydrate* was beneficial. *Digitalis* was indicated when epilepsy was characterized by symptoms belonging to the genito-urinary tract, or by vascular symptoms.

The discussion was opened by DR. L. PUTZEL, who, from a clinical stand-point, thought that the claim that epileptic attacks were always sudden could not be sustained, as it was not at all infrequent for prodromata, gastro-intestinal, mental, or otherwise, to precede the outbreak for two or three days. The suddenness of the attack could not be regarded as characteristic and the essential of epilepsy.

He had always understood that Jackson's theory referred to the explosive discharge of nerve-cells, not implying that it is limited to the motor nerve-cells. According to Jackson the visual disturbances in migraine are really epileptiform, and he claims that migraine belongs to that class of disorders. This proves that he does not limit the explosive discharge to the motor cells. Furthermore, Dr. Putzel could not understand what there was that led Dr. Thomson to believe that sensory impulses inhibit motor impulses; for a sensory impulse is generally a stimulus that sets a motor impulse into activity.

He thought that the paralytic attacks of *petit mal* were rare. The paralytic conditions were usually seen after severe motor convulsions, and were then probably due to exhaustion.

The pleural epilepsy which had been referred to by Dr. Thomson, produced by injections into the pleural cavity, did not strike him as valuable for the purposes of argument, because there was nothing to prove that the convulsions were epileptic. He did not think that the single manifestation of anything was epileptic; it was epileptiform, but not until it had been developed several times could it be regarded as true epilepsy. Convulsions from teething, which were probably due to local irritation, were not epileptic, but epileptiform, although the mechanism was probably similar to true epileptic attacks. In the one, however, there was a purely local lesion, which gave rise to reflex action by general brain-discharge; while there was in the other case some unknown condition of the brain itself, probably in the higher centres, which was the fundamental lesion—if what cannot be seen may be called a lesion—of epilepsy.

With regard to belladonna, he had used it in nocturnal epilepsy chiefly, in conjunction with the bromides. He agreed with Dr. Thomson that the disease was one of impaired nutrition, and therefore he prescribed cod-liver oil.

DR. PUTNAM-JACOBI referred to the question of rapid mastication, in connection with Lauder Brunton's directions that the fainting person be induced to sip cold water for the purpose of arousing him from syncope. According to Gowers the aura, in about one-fifth of the cases of epilepsy, is of the special senses, which indicates that the lesion is cortical. The statement made by Dr.

Putzel concerning paralytic conditions seemed to be contradicted by Gowers, who cites one or two cases in which there was a sudden loss of motor power.

Dr. W. H. Draper said that he had listened to Dr. Thomson's paper with much pleasure, though he could not say that the author had thrown much light on an obscure subject by his ingenious theory, or that he had seriously shaken existing hypotheses as to the pathology of epilepsy. He believed that it was generally admitted that a large proportion of attacks probably had their origin in the convulsive centres of the cerebral hemispheres, and it was thus easy to account for the temporary aphasia and other transient psychical and sensory auras which sometimes preceded or even occurred without the motor discharge.

The question of the determining cause of the phenomena of an epileptic attack, whether it is the result of vaso-motor spasm or not, is still undecided; and Dr. Thomson's hypothesis that it is a withdrawal of the control which the sensory functions of the nervous system exert over the motor functions does not appear to make the cause more clear. Dr. Draper agreed with Dr. Putzel in believing that it was not right to regard convulsions of peripheral origin, like the convulsions of dentition and gastro-intestinal irritation, as the exact parallel, pathologically, of idiopathic epilepsy, except in so far as they might both involve a sensory cause. He cordially concurred in what Dr. Thomson had said in regard to the treatment of epilepsy, and especially as to the importance of improving the nutrition of the nervous centres by cod-liver oil and tonics. He thought that, next to this, the most important point in the management of the disease was a careful study of the possible peripheral irritations which might provoke the attacks. These were very often found in errors of diet. He could not agree with Dr. Thomson, however, in what he had said about the exclusion of animal food from the diet of epileptics. On the contrary, he had been inclined to believe that the gastro-intestinal irritations which were the exciting causes of epileptic seizures were much more likely to follow the indigestions caused by overfeeding with the carbo-hydrates and fermented liquors. He preferred a diet of milk and animal foods for his patients, and had had excellent success in diminishing the frequency of the seizures by regulating the diet upon this principle. The next important point in the treatment of the disease was, of course, the administration of some drug which would diminish the extreme irritability of the convulsive centres; for this purpose no remedy had yet been discovered which equalled in certainty and in power the potassic bromide. Yet, despite all these measures, the experience of every physician would recall cases in which every form of treatment failed to control the disease, cases in which the patients preferred to have their fits rather than suffer the self-denials imposed by dietetic restrictions, and especially the misery of mental and physical hebetude caused by large doses of the bromides.

Dr. E. D. Hudson thought that the most plausible explanation of an epileptic attack was found in an initial condition of cerebral anæmia, due to spasmodic contraction of the cerebral vessels, that gives rise to disturbance of the equilibrium of the nerve-force. He believed that convulsive attacks might become true epilepsy if allowed to persist. The best remedies at our command are the bromides.

Dr. Thomson said he never intended to imply that epileptic attacks had no prodromata. But a prodroma was not an attack. His reference was to the actual steps in the attack, and in those epilepsy was to be distinguished from all other diseases by its suddenness.

With regard to Hughlings Jackson's theory, he would say that he had understood that, while its author does not refer to motor discharge only, he specially dwells upon the motor discharge as the cause of the convulsive attack.

As to a sensory influence being stimulating in character, he should regard it as regulating the character by some kind of withdrawal or directing of motor impulse.

With reference to confounding all convulsions with epilepsy, his own observations had led him to the conclusion that he was unable to distinguish between convulsions of epilepsy in children and epileptic attacks occurring in dentition. He would be exceedingly obliged if either Dr. Putzel or Dr. Draper would tell him what an epileptiform convulsion was.

Dr. Draper said that, in saying that a convulsion was epileptiform, he simply conveyed the idea that it had the form of epilepsy, but not the substance or nature of it. He thought there was an essential difference between epilepsy in its most aggravated form and an epileptiform spasm as the result of either extreme peripheral irritation or extreme central excitability.

Dr. A. D. Rockwell then read a paper on

THE VALUE OF ELECTRICITY IN THE TREATMENT OF EPILEPSY,

in which he said that, if he were asked whether, under any circumstances, electricity alone was capable of curing epilepsy, his answer necessarily would be, exceedingly doubtful. Although he had never heard of a case that had been cured by electricity, he was not prepared, by any means, to say that such a result was impossible, or even highly improbable. If, however, he should be asked whether or not electricity was of any value in the treatment of epilepsy, he would unhesitatingly and confidently say that it was. He felt warranted, from his own experience, in going even further than that, and was willing to say that in a certain proportion of cases in which the patients fail to receive more than temporary benefit from the bromides they may recover entirely when this plan of treatment is re-enforced by the judicious and persistent application of electricity. What this proportion is must be a question for further and more general investigation.

Epilepsy is not, like chorea, frequently self-curative, and the books and journals say that benefit attends the use of a score or more of different remedies. Many of them are undoubtedly of value in treating the disease, and in some cases effect an absolute cure. Electricity has been found to act favorably upon the epileptic seizures; but what should more especially entitle it to consideration was its peculiar efficacy associated with other and more generally approved remedies, after these remedies alone had failed to give more than temporary relief.

The suggestion that the best results will be obtained in the treatment of epilepsy only when we call to our aid every measure that tends to develop vital power is one which commends itself to all. It is not alone, therefore, on the theory of the special influence on the nervous centres, or on cerebral circulation, that we employ electricity as an adjuvant to the bromides, but also because of its undoubted powerful constitutional effects. Above all, it is a *tonic*, and yet its therapeutical range is sufficiently wide to include both stimulating and sedative effects.

Therapeutically speaking, there are indications for the use of electricity in epilepsy other than those which call for its general tonic influence or its effects on the circulation.

An important indication for its use is the hyperexcitability of the nerve-cells in epilepsy. By submitting theoretical considerations to practical tests he had been convinced that this hyperexcitability, in some cases, has been held in check by the action of the galvanic current as readily as by the bromides. In several cases of *petit mal*, especially, he had observed that applications of the galvanic current to the cervical ganglia of the sympathetic produced precisely the same effect, in interrupting temporarily the frequency of the paroxysms, as did the bromide of potassium.

An illustrative case was cited, in which treatment, electrical and medicinal, was persevered in for fifteen years, and up to this date, nearly four years from the last epileptic seizure, the patient—a woman who was twenty-six years of age when the first attack occurred—had been entirely free from even a suggestion of epilepsy. From being hysterical, passionately unreasonable, and personally unattractive, the graces characteristic of the best feminine type had been either restored or come as a new growth. Three other cases also were reported, in which electricity, combined with other measures, had produced markedly good results.

Dr. Rockwell then presented the unsatisfactory side of the picture. The total number of cases of epilepsy which he had treated, with especial reference to the value of electricity, since 1874 was twenty-eight. All were in private patients. Ten abandoned treatment too quickly to be worthy of the slightest consideration in a statistical estimate of the value of any remedy. In three cases the treatment was persisted in sufficiently long to enable him to give electricity a fair trial, and he was compelled to admit that it seemed in no way to aid the bromides in controlling the disease. It was to be noted that in two of these three cases the seizure occurred in the daytime and while awake, and in the other the attacks took place both night and day.

Eight other cases, of which he had records, were under observation from six weeks to nine months. In all of them good effects of the treatment were manifest in a greater or less degree; and in two of them, one of which was under observation seven and the other nine months, the notable improvement was unquestionably due, in part at least, to electricity. Four of the remaining seven cases appeared in the present paper, and the others had been recorded in THE MEDICAL RECORD, April 6, 1878.

The conclusions which Dr. Rockwell had reached, after making observations for thirteen years, were :

First.—Electricity possesses a certain value in the treatment of epilepsy. It is not known, nor is it claimed, that used alone it can ever cure epilepsy. When, however, it is used in connection with the bromides its value is unmistakable, and a certain number of patients recover who otherwise would remain uncured.

Second.—The good effects of electricity are seen especially in cases in which the attacks occur in the night, although day attacks have been successfully controlled.

Third.—Central galvanization and general faradization have been the most efficacious methods employed.

Fourth.—When electricity fails to either cure or aid the cure, it is often efficacious, by the method of general galvanization, in affording grateful relief from undefinable nervous symptoms recognized under the term neurasthenia.

Fifth.—The tolerance of bromides can be increased and bromic acne diminished by the systematic use of electricity.

Sixth.—Electrical treatment must be administered with care and judgment. All interruptions of the current should be avoided in central galvanization, as the shock is liable to hasten rather than prevent an attack.

DR. W. H. THOMSON said that he had not had any experience in the use of electricity in the treatment of epilepsy, but he could understand that it might be serviceable as a peripheral irritant, the same as the mustard-pack.

DR. E. D. FISHER had not used electricity for the purpose indicated, but the principle of peripheral irritation would be that upon which he would employ it.

DR. ROCKWELL said that he did not lay very much stress upon the peripheral irritation, for to produce that the faradic current should be used. The galvanic current was what he had relied upon, on account of its influence on the nerve-centres, and it does not apply to the periphery.

The Academy then adjourned.

SECTION IN OBSTETRICS.

Stated Meeting, February 24, 1887.

E. L. PARTRIDGE, M.D., CHAIRMAN.

DR. MALCOLM MCLEAN read a paper on

RUPTURE OF THE UTERUS,

in which he analyzed the subject with special reference to the performance of laparotomy.

What shall be done to save the life of the woman when rupture of the uterus occurs? This question had been discussed by many, and among them Dr. Harris, of Philadelphia, in a paper published six years ago; and the answer was, practically, to open the abdomen as promptly as possible, whether the child has been delivered or not. The performance of laparotomy was the key-note to the radical treatment of this accident.

Dr. McLean then studied the etiology, the pathological anatomy, the symptomatology, the diagnosis, the prognosis, and the treatment of rupture of the uterus, occurring at full term of pregnancy or during labor. He was inclined to place the frequency of its occurrence at a higher figure than Dr. Harris had, who recorded it as one in four thousand, and he did this because he believed that rupture occurred in a considerable number of cases in which it was either unrecognized or was never made known. In other words, he believed that its occurrence was more frequent than the statistics of published cases would lead us to believe. The majority of cases occurred in primiparæ. He had met with two traumatic and two spontaneous ruptures. It occurred most frequently at the junction of the body and the neck.

The characteristic symptoms were sudden cessation of labor pains, recession of the presenting part, shock, external hemorrhage, and the presence of the fœtus in the abdominal cavity.

Dr. McLean gave the details of his cases, in one of which recovery took place. There was sudden cessation of pain, he prepared to deliver with the forceps immediately, but found that the head had receded, and he then introduced his hand into the uterus, when he found that the child had escaped, except the head and one arm. He seized the head, and, with only a moderate amount of traction, was able to draw the child back so that he could grasp one thigh, when he performed version and delivered rapidly. He then delivered the placenta. The uterus contracted readily and firmly. The laceration was probably subperitoneal. The shock was slight. A large hæmatocele quickly formed upon the right side of the uterus. Thorough antiseptic treatment was instituted and maintained, and the woman finally made a good recovery.

The author of the paper then addressed himself to the consideration of the question, What shall be done to save the woman's life when rupture of the uterus has taken place? At this point special reference was made to the recent discussion held in the London Obstetrical Society, the general tenor of which was that, under all circumstances, it was advisable to perform laparotomy, even though afterward the child was delivered through the natural passages.

While Dr. McLean believed that there were many cases in which laparotomy was the operation that should be performed, he also believed that delivery through the natural passages should not be thrown out of consideration entirely, and that in cases of incomplete rupture delivery by the vagina should be attempted, even if it became necessary to perform laparotomy afterward.

In cases in which rupture occurred before dilatation of the os was complete, or in which liquor amnii had escaped into the peritoneal cavity, or in which loops of intestine had entered the uterine cavity, etc., we should be ready to perform laparotomy, and, under some circumstances, Porro's operation. Dr. McLean pre-

sented the specimen, from one of his cases, in which the placenta was found hanging in the rent.

Dr. C. C. Lee was invited to open the discussion, and said that he thoroughly agreed with the spirit underlying Dr. McLean's paper, in which he had taken the position, if he had understood him correctly, that, given a case of rupture of the uterus, it was best to assume it to be incomplete until proved to be complete, and that it was better, if the membranes be intact, not only to attempt to deliver through the natural passages, but to persist in the effort rather than expose the woman to the additional shock incident to laparotomy. But, judging from his limited personal experience and from the experience of others, he should think that Dr. McLean's successful case was a very remarkable one indeed, and that his views would apply to an extremely small number of cases. He believed that as rupture of the uterus occurred in actual practice, the procedure adopted by Dr. McLean in his case would be almost impossible. There was no doubt that, when the woman was suffering from shock, the additional shock from opening the abdominal cavity was terrible to assume. But, when death was so nearly certain as it was under these circumstances, desperate measures were justifiable and demanded.

When the head cannot be reached readily with the forceps, or version cannot be performed promptly, he believed that more harm would be done by persistence in these operations than would come from laparotomy. Dr. Lee then referred to two reported cases in which laparotomy was performed successfully under very unfavorable circumstances.

If the patient was *in articulo mortis*, he thought that most surgeons now would attempt to deliver the child in a manner different from that indicated by Dr. McLean, and he could not share in the deprecation which the author of the paper had brought against the plan of treatment generally approved of in this and other countries.

Dr. W. T. Lusk continued the discussion, and said that he had seen three cases of spontaneous rupture of the uterus. In the first the child did not escape into the abdominal cavity, and delivery was accomplished with the forceps. The woman died within twenty-four hours. He thought that, in this case, it would not have been of much service to have performed laparotomy. On the other hand, laparotomy would not have contributed toward the death of the woman.

In the second case he made a fatal mistake. He went to the hospital and saw the woman, who had been brought in from the street, and she was in excellent condition. Labor, however, did not progress. The child did not escape into the abdominal cavity, and it was delivered by version. The woman had a good pulse after delivery, and everything seemed to be in her favor. But she died within twenty-four or thirty-six hours, and at the autopsy her abdominal cavity was found filled with blood. Dr. Lusk believed that, with all the favorable conditions, if he had opened the abdomen and sutured the uterus—certainly, if it could have been sutured as it would be to-day—the woman's life would have been saved.

In the third case the accident was not recognized during life. The rupture did not extend through the peritoneum. An immense hæmatoma formed, and from this death occurred by septicæmia. In this case, had the condition been recognized early enough, removal of the cloths and introduction of a bent drainage-tube might possibly have saved the life of the patient.

He did not think that there was a great deal of relevancy in discussing the question of laparotomy when the child had partially escaped from the uterus. For the one thing which it was desirable to avoid was enlarging the rent in the uterine wall, and additional rupture would almost certainly occur in attempts to effect delivery by the vagina. Under such circumstances, then, it was preferable to make the abdominal section. Even if only a part of the child had escaped, and it could be readily delivered and the mother was in good condition, he should feel better after he had made the abdominal section and closed the rent in the uterus than he would to leave it practically to nature. Still, there were eight or ten cases on record which sustained the view set forth by Dr. McLean. These had occurred since the advent of Felsenreich's bent drainage-tube.

Dr. H. T. Hanks thought that when one fact was considered in Dr. McLean's case, it would not seem so surprising that the woman recovered, and that fact should always be before us, namely, that the rent in the uterus *closed quickly after the child was delivered.* The uterus was not prevented from contracting. But had it been like a case in his own experience, where there was no contraction of the rent about his hand, he would not expect that the woman would get well.

Given a ruptured uterus, the child in the abdominal cavity, the membranes ruptured, the rent so large that the uterus would not contract fully and thoroughly, there would be great danger in allowing it to remain without operative interference. But if the rent was low down and the fœtus dissected for itself a cavity, as it were, by pushing up the peritoneum, the probabilities were that the woman might recover.

In the great majority of cases of rupture of the uterus the woman will die if treated in the old way. Hence if the rent was large and the child was in the abdominal cavity, he would perform abdominal section and suture the uterus, or, if necessary, perform Porro's operation.

Dr. E. H. Grandin said he had thought that, should he meet with a case of rupture of the uterus, he would do just what Dr. McLean did, and try to deliver by the natural passages, and, if he did not succeed, he would, in accordance with the teachings of those who have had experience, resort at once to laparotomy, as he would in the presence of symptoms suggesting abdominal hemorrhage. He could not help thinking, however, that Dr. McLean's success in his case was exceptional. If the uterine suture could not be used, he would perform Porro's operation.

Dr. Boldt had had one fatal case of rupture of the uterus. He favored laparotomy when the rent was large or was high up, provided the woman was not suffering from shock.

The Chairman had seen two cases, in both of which laparotomy was performed, and both terminated fatally. The operations were performed under reasonably favorable circumstances, although there was considerable shock and evidence of extensive hemorrhage. One woman lived three days, and died of peritonitis; the other lived more than twenty-four hours, and died of shock. Dr. McLean had brought out an important point when he spoke of too prolonged use of the forceps. He regarded liquor amnii as far more irritating than blood, although, of course, it was not desirable to have blood enter the peritoneal cavity. It did not seem to him that the condition of shock need be considered very much as a contra-indication to laparotomy, for laparotomy could not add very much to it in most cases.

Dr. McLean had been very much interested in the discussion, particularly as it had appeared that his sentiments had not been understood fully. He had intended to use language which was so plain that it could not be misunderstood. Dr. Boldt had assumed that his paper was a protest against laparotomy, whereas he wished to protect the woman from unnecessary laparotomy and to give her its full benefit in all cases where it was required. He argued in favor of delivery through the natural passages because of the growing tendency of modern discussion to rule out of consideration all such interference. The London Obstetrical Society, composed of representative men, had given its support to the doctrine that it would be malpractice to attempt to deliver through the natural passages, even if the child was small, had not entered the peritoneal cavity at all, and the rupture was incomplete; but that laparotomy should be performed

under all circumstances, even if afterward delivery of the child was effected through the vagina.

He had simply wished to reverse the argument, and would say that, if we could, we should deliver the child by the natural passages, even if we had to perform laparotomy afterward.

There were cases in which rupture occurred before dilatation of the os had taken place, or in which there would evidently be great difficulty in effecting delivery, or the intestines were in the uterine wound, or there was evidence that liquor amnii had escaped into the peritoneal cavity, etc., and in such cases we should be ready to perform laparotomy, and, under some circumstances, Porro's operation.

But, in cases of rupture of the uterus in which the peritoneal cavity was not invaded, and in which the early operation of delivery through the natural passages could be done under thorough antiseptic precautions, he believed that this method gave fully as good opportunity for the woman to recover as did laparotomy; indeed, better. If the membranes were intact, except at the point where their original rupture was, it was evidence that the peritoneal cavity had not been invaded by anything except blood, and under those circumstances he did not believe that it was desirable to open the abdomen.

The Section then adjourned.

Correspondence.

A COUNTRY DOCTOR OF A HUNDRED YEARS AGO.

To the Editor of The Medical Record.

Sir: In the spring of 1773 Dr. Samuel White began practice in the infant town of Newbury, Vt. He was twenty-three years of age, but had devoted already six years to preparation for his life-work. He had received a common school education, some instruction in Latin, and had spent four years under the tuition of Thomas Brickett, M.D., at Haverhill, Mass. He had practised nearly two years in his native village of Plaistow, N. H., before he was influenced by friends to join them at Newbury. Only rough outlines remain of the heroic and adventurous side of his long, active, honored life. His own records suggest a little, the private journal of a contemporary tells more, and imagination can fill in many details. From Newbury to Canada, along the Connecticut River, he was for many years "the doctor," and his practice extended widely on either side. He visited in Corinth, Bath, Haverhill, Newbury, Mooretown (Bradford), Barnet, Piermont, Upper Coos, Lyman, Peacham, Ryegate, Topsham, Gunthwaite (Littleton), Landaff, Morristown, Apthorpe (Lisbon), Wentworth, Coventry, Rumney, Groton, and Riverlamoile. He travelled often, in the winter, upon snow-shoes, crossed unbridged streams, made his way through uncut forests and roadless wildernesses. He responded always to the call of the poor, and gave freely his services to those who could not pay without hardship.

He has left two worn and time-stained books[1] of three hundred and sixty manuscript pages, and ample evidence of "Liber No. 3." In these are entries from 1773 to 1790, not always chronological in arrangement, and very likely not complete for the time they include, but presenting an interesting picture of Dr. White's practice. They are written in a hand like copper-plate, and contain the record of the rides or walks the doctor took, of the drugs he exhibited, the teeth he pulled, the bloodletting he did, and of the sums he charged and collected years after, or often not at all.

The visit and each item of treatment are entered separately. For instance, after a series of visits and doses to Abial Chamberlain, who seems to have been sickly, occurs the entry:

"Sept. 10th 1784. To visit 2/ Physic 1/ Emet 1/ Bleeding 1/ Sal Nitre 1/—6."

The least charge for a visit is one shilling, and the greatest—to Upper Coos—is sixty shillings. While commonly each place had its own uniform rate for a visit, occasional great variations are noticeable, for reasons which do not appear; but the weather, the difficulty of travel, the urgency of the call, and the poverty of the patient may have been factors, as well as the custom of clubbing together of several families to pay for the doctor's visit. The variations occur frequently in the same account: To Corinth charges were all the way from one to twenty shillings; to Haverhill, two to six shillings; to Apthorpe, two, three, and twenty-seven shillings; and in Newbury, his home, one to four shillings. Medicine was usually one shilling for each potion, occasionally two shillings; bleeding was always one shilling; tooth-pulling, one shilling; dressing a wound, one shilling; lancing a sore, one shilling; setting an arm or leg, six shillings; "Attendance on your wife's Travel" was twelve shillings.

These two books show accounts of about two thousand five hundred pounds, many of which have no credit side; many of the larger accounts ran six and eight years, and then were settled by notes of hand; and, indeed, this mode of settlement seemed applicable to accounts long or short, large or small. In one case the doctor took a yoke of steers to balance an account of £5, and a watch, at another time, to close up a £6 account. From an entry of seven dollars as £2 2s., it appears that the dollar was equal to six of the twenty shillings that make a pound, or a shilling was the present New England shilling of 16⅔ cents.

In his materia medica the good doctor had a wide range. One hundred and fifty-two remedies are noted in his books. Of this number thirty-six are used but once, ten twice, and eleven three times. It was his satisfying custom to give medicine; and among the simple folk of his remote time and place, doubtless discontent would have prevailed, and the accounts would have run on for two or three years longer if, when the doctor came, nothing happened. But no charge of neglect can be based upon his records; of 4,271 visits, only 181 were unadorned by the exhibition of some drug. As he has left account of 8,471 doses, or operations, in his 4,271 visits, and as 1,630 of the doses were physic, the patients must have had every reason to be satisfied. The physic, which appears once in every five administrations of medicine, was no doubt a liver-coercing, peristalsis-stimulating mixture of potent drugs, kept in a well-known jar, from which it could, in his absence, be doled out to the regular customers by some member of his household. Next to physic he relied upon camphor, to the extent of 994 doses. Then followed 650 doses of valerian, 444 of cream tartar, 288 of balsam or cortex of Peru, 275 of myrrh, 262 of tartar emetic, 258 of rhubarb, 244 of "bitters." He gave 228 "vomits," 148 doses of antimony (crude or wine), 137 of lavender, 136 saline draughts, 116 doses of "contraery," 93 of calomel, 83 of assafœtida, and 81 of chamomile. He used, during the period of his books, guiacum, jalap, magnesia, castor, silla and sapo pills more than fifty times each; and paregoric, liquor laudani, cascarilla, gum arabic, oil of amber, elixir vitriol, elixir salutis, annis seed, gum ammoniacum, aloes, cinnamon, licorice, pectoral balsam, and sweet spirits of nitre twenty or more times each. Among his remedies were pill cochiæ, pill rufi, pill æthiops, pill cathartic, sapo pills, female pills, mercurial pills; Hooper's, Anderson's, and Locker's pills; elixirs vitriol astma, solutis, proprieta, stomatica. Less familiar than most of these are the names, as they occur in his books, of sago permeum, sp. sal c.c., ens veneris, Roman vitriol, flos bolostinos, lac ammoniac., mellilot, cinnabar, sal tartar, "contraery," sal mirabile, oculi cran-

[1] These books were examined through the kindness of Hon. A. S. Batchellor, of Littleton, N. H.

corum, spirit hierapic., flos benjamin, crocus, pickleura, calibietes, vorsena, sal cor cerebrini, winter bark, hat case. British oil, Bateman's drops, Thurlington's drops, and Hooper's pills display their ancient labels and credentials to-day.

The doctor practised venesection, it would seem, without excess. Five hundred and four bleedings he puts down, at one shilling each—about a hogshead full of blood. He attended to it, to some extent periodically, and often there occurs a series of entries of the same date; and many times appears "To bleeding two," and occasionally "To bleeding three." In the account of Mr. Thomas Homer, of Mooretown, are these entries:

April 25, 1785. Bleeding two.
May 4, 1785. Bleeding.
May 9, 1785. Bleeding.
June 9, 1785. Bleeding.
July 3, 1785. Bleeding.

A few mild doses were interspersed, and recovery perhaps took place, as pulling a tooth was charged on November 26th of the same year.

Dr. White's biographer, in the journal cited, attributes to him great skill and repute as a surgeon, but these records of his earlier practice give little indication of extended surgical work. They note the pulling of seventy-six teeth, the dressing of fifty-seven wounds, the setting of ten arms, three legs, and one "bone," and mention only seven cases of confinement. They do, however, give striking glimpses of the vigorous courses of treatment which our sturdy ancestors could undergo before either disease or patient succumbed.

Major Jothan Hayward, for instance, upon May 29, 1784, had "vomit, physic, bleeding."

Moses Moore seems to have furnished a difficult case. His treatment was: On

November 4th. Physic, calomel.
November 10th. Physic, two portions.
November 11th. Physic.
November 12th. Physic, two portions.
November 15th. Physic.
November 16th. Two dozen sapo pills.

Mrs. Colonel Robert Johnston, it appears, was confined upon October 13, 1787. For six days all went well; at any rate, neither visit nor medicine is recorded, until the exhibition, upon October 19th, of physic, saline draught, followed and continued,

October 20th, by Physic.
October 21st. Physic.
October 22d. Physic, two blister plasters.
October 23d. Physic.
October 24th. Two portions, physic.
October 25th. Camphor.
October 26th. Valerian.
October 27th. Physic.
October 28th. Physic.

The treatment ceases until November 16th, then physic.

November 17th. Physic.
November 20th. Emetic.
November 21st. Physic.
November 22d. Valerian,

and, unfortunately, now the record runs over into missing "Liber No. 3."

Abial Chamberlain had a severe illness, which began April 23d and terminated May 14, 1784. The internal evidence, the increasing frequency and sudden cessation of the visits, and the opening of an account later with the Widow Chamberlain, would lead to the conclusion that Mr. Chamberlain's illness at this time terminated in death, were it not that some five months later the physic, emetic, bleeding, and nitre were administered to one Abial Chamberlain. So, without historical information, not at hand, the result remains matter for speculation. During this period of twenty-two days Mr. Chamberlain was bled three times, took four emetics, and had two blister plasters applied; took six doses of cream of tartar, five of physic, five of wine of antimony, four of tartar emetic, two of British oil, two of camphor, one of calomel, one of Bateman's drops, and one of Thurlington's drops. The last medicine given, upon May 14th, was tartar emetic, and the visits ceased.

The good doctor's useful career continued many years, and upon February 26, 1847, he died, at the ripe age of ninety-seven.

EDWIN J. BARTLETT, M.D.
HANOVER, N. H.

ROUGH-AND-READY COUNTRY EXPERIENCES.

To the Editor of The Medical Record.

SIR: I have read the experiences of several country doctors of late in THE RECORD. I would not wish to reproach my city brethren with a lack of the rough-and-tumble experience of a country doctor. I am inclined to congratulate him, rather, on his more fortunate choice in locating where tall towers cast their shadows instead of sylvan shades. We beguile many lonely hours, astride of the lagging-footed saddle-horse, with THE RECORD, our only companion—its advertising leaves in tatters, used to put up powders where even an old newspaper is not procurable.

When I entered practice it was in the hills of West Virginia. Was called with another physician to amputate an arm, patient living nine miles away. It turned out neither of us had more instruments than a small curved bistoury and a scalpel, with some needles and silk. Not to be balked (as we were much in need of the fee), we borrowed a pocket-knife of a friendly machinist, wrapped the handle with newspaper, and went on rejoicing. My friend administered an anæsthetic while I amputated, three inches below the elbow, an arm as large as an ordinary man's calf. We now discovered that we had forgotten to bring a bone-saw, which discovery had been prearranged. Called for and got a rusty hand-saw, which rattled over the bones until the sweat poured down from the face of the operator like rain. Patient made a rapid recovery, which fact alone saved us from the wrath of "regulators," who threatened us, should our patient die, with a hemp cord.

While living in a Colorado mountain-town I started, at 4 P.M., one November day, through a foot of snow, with thermometer 10° below zero. Rode forty miles on horseback, crossing the range, which was fast blocking up with snow. Reached patient at 2 A.M., too benumbed to get off my horse. Exhaustion brought on copious watery stools. Braced up on a glass of brandy and reduced dislocated shoulder. The three following days made round-about trip of one hundred and sixty miles, crossing range again. Reached home and was sick a week. Physicians who had been in the mountains years refused to go; but I was a green mountaineer, and did not know the dangers of such a trip until afterward, and the largest fee of my life was irresistible—just $100.

Here in the Southern Ohio hills I was last fall called in haste six miles. I was caught on the road in my buggy with my four-year-old boy. Hurried on for four miles through mud and cold rain. Took harness off and climbed onto my wet horse, bareback (leaving my child at a farm-house), and rode and swam up a creek-flooded road for two miles—saw the complacent face of an aged lady who "had had a pain in her side."

Rode and swam back to buggy and drove through cold wind, wet and chilled through, until near home, after dark; got stuck in a mud-hole; broke single-tree; horse ran away; dropped boy in mud-hole, head up; and ran horse into a bank. Respectfully,

L. HOWE, M.D.
WELLSTON, O.

A GERMAN MEDICAL SOCIETY has recently been organized in Philadelphia. Dr. F. H. Gross, of the German Hospital in that city, was the first chairman of the society.

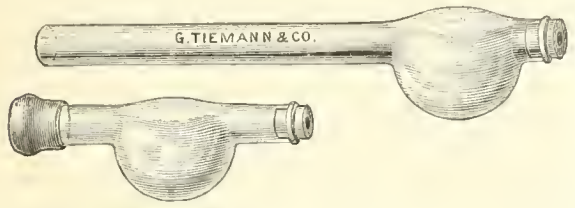
New Instruments.

A NEW ARTIFICIAL LEECH.[1]

By HENRY FLOOD, M.D.,

ELMIRA, N. Y.

I HAVE for some years been in the habit of using the leech in the treatment of many diseases, and have had considerable trouble in obtaining any which were sufficiently active. For nearly a year I have endeavored to overcome the difficulty by using artificial leeches. I first tried a glass tube, closed at one end, from which the air had been expelled by the vapor of ether, but I found that the ether hastened the coagulation of the blood and impeded its flow. There was also no way of regulating the suction-force, which would be either so light that it would not



draw blood, or so strong that it would cause pain and often injure inflamed tissues. I then used an instrument made after the plan of Heurteloup's artificial leech, which also on trial was found to be very unsatisfactory. Finally, I adopted the plan of using a glass tube attached to an aspirator. With an aspirator a suction-force sufficient to draw blood can be produced, and the instrument may then be stopped before the pressure of the tube on the tissues becomes painful. I found that a glass tube from one-half to three-quarters of an inch in diameter, attached to an aspirator, worked very well, and could be applied to almost any surface. The objection, however, was that the calibre of the aspirator tube was so small that it became easily stopped with coagulated blood, and another objection was that considerable time and patience were required to remove the dried and coagulated blood from the aspirator. I have made some leech tubes, shown in the accompanying illustration, which, after an experience with them of several months, have given satisfaction in every detail. This leech consists of a glass tube with a bulb of a capacity of one fluid ounce. The mouth of the tube is made broad enough to prevent constriction of the tissues, and is covered with a rubber band, when necessary, in order to protect the inflamed tissues from injury by the hard surface of the glass. Two sizes are made; one with a short neck, for use on external surfaces, and the other with a long neck, to be applied to the uterus, tonsils, or other surfaces in the interior of cavities. The distal end is constructed so as to fit the screw on the end of the aspirator tube. The advantages of this instrument are that it can be attached to any form of aspirator, and that the blood will soil only the leech tube, which can be readily cleaned. The opening in the tissues can be made by one or two incisions with a sharp-pointed lance, or with one of the circular scarifying instruments which are in the market. The only times that I have not drawn a satisfactory amount of blood were when the incisions were too superficial. This instrument makes artificial leeching very simple. It is cheaper than the natural leech, always ready for use, and is always sure to withdraw blood in a satisfactory manner, and in sufficient amount.

THE ROYAL COLLEGE OF PHYSICIANS OF LONDON has received a legacy, by the will of the late Dr. Gavin Milroy, of £2,000 for the endowment of a lectureship on public health and sanitation.

[1] Presented at a meeting of the Medical Society of the County of Chemung, December 21, 1886.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from March 6 to March 12, 1887.

ALDEN, C. H., Major and Surgeon. Ordered for duty at United States Military Academy, West Point, N. Y., August 28, 1887, relieving Lieutenant-Colonel Andrew K. Smith, Surgeon, who will then report by letter to the Surgeon-General. S. O. 52, A. G. O., March 5, 1887.

CARTER, WILLIAM F., Captain and Assistant Surgeon. Granted leave of absence for one month on Surgeon's Certificate of Disability. S. O. 25, Department of Texas, February 24, 1887.

MCCREERY, GEORGE, Captain and Assistant Surgeon. Leave of absence extended one month. S. O. 52, A. G. O., March 5, 1887.

JOHNSON, R. W., Captain and Assistant Surgeon. Ordered for temporary duty at United States Military Academy, West Point, N. Y. S. O. 51, A. G. O., March 4, 1887.

EDIE, GUY L., First Lieutenant and Assistant Surgeon. Granted leave of absence for one month, to take effect about March 1, 1887. S. O. 27, Department of Texas, February 28, 1887.

Official List of Changes in the Medical Corps of the United States Navy for the week ending March 12, 1887.

BRADLEY, GEORGE P., Surgeon. Detached from Naval Hospital, Philadelphia, Pa., and granted six months' leave.

STEELE, JOHN W., Passed Assistant Surgeon. Ordered to Naval Hospital, Philadelphia, Pa., without delay.

Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending March 12, 1887:

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	5	4
Scarlet fever	44	11
Cerebro-spinal meningitis	4	4
Measles	177	29
Diphtheria	108	57
Small-pox	14	1
Yellow fever	0	0

POSSIBLE DANGER FROM PEPSIN.—It is suggested by Dr. Wood (*Therapeutic Gazette*) that in ulcerated conditions of the bowels or stomach pepsin may enter the blood and cause septicæmia. Dr. E. Chenery reports a case which he thinks confirms this view.

PHOSPHORUS IN INTERMITTENT FEVER.—Dr. Soshinski recommends phosphorus very highly in intermittent fever. He gives five drops of the oil of phosphorus, well diluted, three times a day. He states that he has been in the habit of prescribing it for all his cases during the past five years, and has had excellent results from its use.

AGAINST PASTEUR.—Up to November 1, 1886, France gives the following hydrophobia statistics for the year: Persons dying from hydrophobia *assisted* by Pastorian treatment, 14; persons dying without the assistance of Pastorian treatment, 17; total, 31. The annual average of such deaths in France has heretofore been 27.—*Science Libre.*

Wet-Nursing in Paris.—The following quotation from a Parisian correspondence appears in *Gaillard's Medical Journal*, and will be read with interest in view of the attention recently given to the subject in our city: "These peasant matrons have been spoiled by the upper classes, where they are indulged to an extent that defies description. They are decked out as for a feast; they rule the household, in return for which they give what the mother is apparently unwilling or unable to give, and what old-fashioned folks still persist in considering the sweetest joys of maternity. Thackeray made Becky Sharp French by the mother's side. It proved his acumen; had he done otherwise, English readers would have been inclined to tax him with exaggeration in depicting his heroine as utterly indifferent—nay, sick and tired—of her pretty son because he interfered with her enjoyment of society. In Paris, however—and in the large provincial centres, whose chief delight it seems to ape Paris—the Becky Sharps are in a majority. The statistics of last year's births for the city of Paris amount to 62,000. Out of these, 17,000 were despatched to the country. I may safely defy anyone curious in these matters to take a six hours' stroll through one or two of the best or second-best quarters of Paris, and to find more than one well-dressed mother out of every thirty unflanked by a wet-nurse. He can easily try the experiment for himself, seeing that there is a difference in the costume of the mere nurse-maid and the wet-nurse. The latter is got up very theatrically and prettily, with a wreath of beautiful ribbons round her exquisitely embroidered cap, two long streamers of the same ribbon floating in the wind, a handsome dress and ample cloak, often lined with silk, and a lace apron. She is part of the show of a fashionable entertainment in Paris. If my observer has done this, if he calculates the 17,000 infants gone to the provinces, and jots down a computation based upon the fraction of the remaining 45,000, he will arrive at the conclusion that probably about one of every ten mothers nurses her own baby."

A Solution of Salicylate and Iron used for Rheumatism in New York Hospital is made as follows:

℞.	Acid. salicylic	℥j.
	Ferri pyrophosphat	gr. v.
	Sodii phosphat	gr. j.
	Aquæ	℥ ss.

M. Sig.—One drachm every two hours.

A Plethora of Doctors.—It would appear that this country is not alone in the overcrowding of the medical profession. Spain is suffering from the same cause, and a young physician's prospects there are about as uncertain as they are here. They seem to be wiser there, however, as it is stated that the number of medical students is decreasing at a very rapid rate, only twenty men having matriculated in the medical department of the University of Madrid in the fall of 1886.

Duhring's Treatise on Diseases of the Skin has been translated into Russian. French and Italian translations of the same work were made some time ago.

A Practical Surgical Hint.—Dr. John F. Lockwood, of Batavia, Ill., writes that a young man came into his office having severed the radial artery in the wrist. His brother, who accompanied him, controlled the hemorrhage from the proximal end by means of pressure while the writer occupied himself with the distal end, and endeavored to seize the bleeding points. He was unable to find these readily because of the constant oozing of blood which obscured the field of operation, and sponging was of little avail. It then occurred to him to blow away the blood, which he did, and found that by this means he could keep the wound so free that the ends of the arteries were readily found and tied. He says that with a little care there need be no spattering of blood, but that a well-directed stream of air simply clears it all away from the wound.

Treatment of Erysipelas.—For the treatment of erysipelas Dr. Archangelski has tried a number of applications, and finds that their comparative efficiency is represented by arranging them in the following order: (1) benzoic acid; (2) tincture of iodine and turpentine, as ointment; (3) sulphate of copper; (4) sulphate of iron; (5) oxide of zinc; (6) naphthalin; (7) solution of perchloride of mercury, 1 to 300; (8) chloride of zinc; (9) iodoform.

Bicarbonate of Soda in Tonsillitis.—The treatment of tonsillitis by frequent local applications of carbonate of soda, which has been practised and recommended by Dr. D. Juan Giné, has been put to a series of tests by another Spanish physician, Dr. D. Rovira y Oliver, who deduces from them the opinion that, though it is often beneficial in cases where the parenchyma of the tonsil is affected, it is of much less value than many other applications in cases which are merely superficial and catarrhal.

A Good Dentifrice.—Precipitated chalk forms the best basis for a tooth-powder, to the base of which may be added pulv. saponis and ol. eucalypt., a drachm of each; and, if there is no objection to the taste, half a drachm of carbolic acid.—*The Lancet.*

Measure of a Man.—Broca formulates the rule that the body should weigh as many kilogrammes as it measures in centimetres, after deduction of the first metre, *e.g.*, a man who measures one metre, eighty centimetres —180 ctm.—should weigh eighty kilos. If he weigh more or less, he is too stout or thin. As man increases in years he decreases in weight, and there is a compensating decrease in height.

Curious Action of Remedies at a Distance.—M. Jules Voisin has made two highly interesting experiments, at the Salpêtrière Hospital, on hysterical patients on whom he studied the action of telepathic remedies (*médicaments à distance*), such as metals and the magnet. He explained the phenomenon of various changes of personality presented by one of his patients, M. V——, the same individual who was experimented on by MM. Bourru and Butot (see Congress of Grenoble, 1885, and Société de Biologie, 1885). M. Voisin's experiments were made with corked and sealed phials of an opaque color. He was himself ignorant of the contents of these phials, and was careful not to utter a word in the patient's presence. He threw the subject into a lethargic, somnolent, and cataleptic state, but obtained no result under these conditions. When M. Voisin made his experiments on any patient in a waking state, the latter immediately fell into a hypnotic state, and exhibited symptoms of disturbance —nausea and vomiting. If the name of a drug, of which the effects are well known, or the effects of any medicament whatsoever were mentioned, during the state of hypnotism, the patient immediately manifested the physiological effects of these remedies. Suggestion and unconscious suggestion were thus manifested. In another series of experiments M. Jules Voisin observed, during one of the three phases of somnolence (lethargy, somnambulism, catalepsy), the state of one of his subjects, V——; he was not affected by the magnet. In the waking state no effect took place unless the magnet was seen by the patient, when it induced an attack, probably through suggestion. Gold and mercury caused redness and blisters if V—— was aware of their presence; these results were obtained likewise during somnambulism. By suggestion, the effect of metals was destroyed or produced without their presence, and if the contact of metal took place without the knowledge of V——, when he was awake, no effect occurred. General sensibility, sensory and motor sensibility, and the psychical state were affected by suggestion. M. Jules Voisin therefore believes it possible that the phenomenon of change of personality, as described by MM. Bourru and Butot, represents the last stage of an hysterical attack.—*British Medical Journal.*

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ON BACTERIA IN ICE, AND THEIR RELATIONS TO DISEASE, WITH SPECIAL REFERENCE TO THE ICE-SUPPLY OF NEW YORK CITY.

AN EXPERIMENTAL STUDY FROM THE LABORATORY OF THE ALUMNI ASSOCIATION OF THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.

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OUR knowledge of the dangers of impure water has become much more precise since we have learned that many common and fatal diseases are caused by tiny vegetable organisms, called bacteria, which such water may contain. As the questions relating to a pure ice-supply are for the most part identical with those relating to the water-supply, in so far as ice is used for drinking purposes, it seems necessary to look for a moment, before passing to the immediate subject of this investigation, at the new methods of water-analysis and the practical advance which their application has brought about.

It was formerly the practice, whenever the fitness of a water-supply for drinking and culinary purposes was called in question, to subject the water, when this was feasible, to a careful chemical examination, and a vast amount of learning and technical skill has been expended in arriving at accurate methods of analysis. But the great difficulty with the simple chemical analysis of water has always been to know exactly what significance to attach to its results. The presence of a considerable amount of organic matter in water, particularly if this could be shown to be of animal origin, has been regarded as a sufficient evidence of its unfitness for drinking purposes. Not because organic matter is in itself unwholesome, but because in the forms of water-contamination it usually signifies decay, putrefaction, or the presence of animal excretion.

More recently, since certain diseases as well as all putrefactions have been shown to be caused by bacteria, the presence of organic matter in drinking-water has been looked upon as indicative of the presence or of the action of these organisms, and in this way furnishes a criterion of the probable salubrity of the water. But chemical examination can determine only inferentially the presence of bacteria. The new methods of research, however, by which it has been shown that certain diseases, such as consumption, typhoid fever, and cholera, are caused by the presence and action in the body of certain species of bacteria, are directly applicable to the analysis of water. Thus it is no longer necessary to *infer* the presence of bacteria in a given sample of drinking-water from its organic contents, but the bacteria may be actually seen, counted, and their species and actions on the animal body definitely determined. The new method of water-analysis, by which its living bacterial contaminations are determined and studied, is called the *biological analysis.*

It should not be inferred that the biological has superseded the chemical method of water-analysis, but, so far as we can at present judge, it forms a very important addition to it. Indeed, it may be said that, so far as our knowledge of a certain class of bacterial diseases, such as typhoid fever and cholera, is concerned, the biological analysis is the more important; but that this is true in all cases it would certainly be premature to say. For it is already known that in some cases the results of chemical and biological analysis do not coincide. A chemical analysis may, for example, show so large a degree of organic contamination as to render utterly unfit for potable purposes water which at the moment contains comparatively few bacteria. So that it would seem that, in many cases at least, the two methods, mutally supplementary, should go hand in hand.

There are, of course, many cases in which a careful scientific analysis of water is entirely superfluous. When the water is bad-smelling, or when it is obvious that it is mixed with animal excreta, even though it should look clear and colorless, an ordinary common-sense of decency and cleanliness, to say nothing of the danger of incurring disease, should lead to its avoidance for drinking purposes, without some efficient purification. This seems obvious enough; and yet a very little attention to the matter will reveal to the observer instances, sometimes on a large scale, of almost incredible filthiness and foolhardiness in the use of evidently impure water by families and communities which fancy that they are civilized.

A direct microscopical examination of water for the presence of bacteria is impracticable, first. because the individual organisms are so exceedingly minute that it would be almost impossible to examine completely any considerable quantity of water; and, second, because in this way, even if the bacteria could be all seen and counted, we should be unable to determine which of them were living, and as it is only living bacteria which are capable of inducing disease it is these alone which are of sanitary importance.

The new methods of biological analysis of water are very simple in principle, but require for their execution considerable patience, care, and experience.

The biological method is briefly as follows: In the first place, all the vessels and instruments which will come in contact with our water and the food which we prepare for the nourishment of the bacteria are completely freed from all living germs, which are almost omnipresent in the air and on the things we touch. This is usually done by prolonged heating or steaming. Thus freed from all living things, no matter how small, our materials are said to be *sterilized.* The food which we prepare for the bacteria in water-analysis is usually beef-tea, with a little pepton and common salt and enough gelatin to make it moderately solid when cold. This is called the nutrient gelatin, or culture-medium, and it is poured into glass test-tubes, a few teaspoonfuls in each.

In this medium most of the bacteria which are commonly found in water will readily grow. It is clear and transparent and usually slightly yellowish in color.

Now, one of the prominent characteristics of these lowly organisms, the bacteria, is their capacity, under favorable conditions of nutriment and temperature, of rapid and enormous increase in numbers. This occurs by the slight enlargement of the individual bacteria and their division across the middle into two. These two then each again divide, and so on until within a short time an almost innumerable number of new individuals are produced from the original germ, each one the exact counterpart of its ancestors. It is estimated that, if the conditions are favorable, a single bacterium by this process of growth and subdivision may give rise to more than six-

teen and a half millions of similar organisms within twenty-four hours. But so minute are most of these that at an average estimate the whole of these sixteen and a half millions would occupy a space less than the sixteen-hundredth of a cubic inch.

When a water-analysis is to be made, the nutrient gelatin in one of the tubes is melted by gentle heat, and thoroughly mixed by shaking with a measured quantity of the water to be examined. In this way the bacteria contained in the water, always an unknown quantity and of course quite invisible, are evenly distributed through the gelatin. To insure accuracy, duplicate analyses are always made. The quantity of water used is usually one cubic centimetre, and this is taken as the standard quantity in which the bacterial content is expressed.

It should be remembered, in studying the results of the analyses which are to follow, that one cubic centimetre (1 c.c.) of water is a little less than one-third of a teaspoonful.

The portion of gelatin mixed with the measured quantity of water is now poured out onto a sterilized glass plate, and is spread upon it in a thin, even layer. The plate while this is being done rests upon a level surface kept cool by ice, so that the gelatin soon solidifies. The plate with its gelatin-layer is now put into a clean glass saucer, covered so as to be free from dust, and set away in a moderately warm place.

Now, the single bacteria which are evenly distributed through the gelatin commence to grow, but as they are each inclosed by a solid wall of the nutrient gelatin they grow in a little heap or mass, which is called a "colony." In the course of from two to four days these colonies, each now containing thousands of individual bacteria, have become large enough to be readily visible to the naked eye, or with the aid of a low-power magnifying-glass. We have now only to count these colonies and we know exactly how many living bacteria were present in the one cubic centimetre of water used for analysis, because each visible colony is the result of the growth on the spot of a single invisible bacterium which was caught here by the solidifying gelatin. Of course, if two or more bacteria chance to have clung together when the water was mixed with the nutrient gelatin, our estimate of the number of original germs will be too low, but if the mixture was carefully made this so seldom occurs that the experimental error is slight.

To facilitate the counting of the colonies, a glass plate ruled off into equal squares is usually placed over the gelatin-film, so as not to touch it; and thus, if we do not count all the colonies, we can count those found under several of the squares, and then, by multiplying the average number under the squares which are counted by the whole number of squares, we find the number of colonies, which is the same as the number of living bacteria in the volume of water analyzed.

If we wish to study these bacteria further, which is sometimes of the utmost importance, so as to identify their species, study their effects on animals, and find out whether or not they are disease-producing or pathogenic, we put the glass plate under the microscope, and with a fine, sterilized platinum wire set in a glass handle we take out a minute portion from one of the colonies and put it into a fresh tube of nutrient gelatin, where it will grow until a sufficient quantity of the material is produced for experimentation. Thus, no matter how many different species of bacteria were growing side by side on the gelatin-plate, we can take out under the microscope a little of each by itself and transfer to separate tubes, and thus get what are called "pure cultures" of all the separate species.

It is always a matter of surprise to one unaccustomed to such an exceedingly delicate mode of water-testing to find what large and varying numbers of these living organisms ordinary water may contain. We usually congratulate ourselves that in New York we have an especially excellent and pure water-supply, and this is in a certain sense true. But a series of thirty-two analyses of the Croton water, as it is delivered through one of the faucets at the College of Physicians and Surgeons on different days during October, November, and December, 1886, and January and February, 1887, shows the lowest number of living bacteria to be 57 to the cubic centimetre; the highest, 1,950; while the average in the thirty-two analyses is 243.

Now, when the first accurate biological analyses of water were made, and the very large numbers of living bacteria which it often contains were noted, it was thought, since certain diseases, and particularly typhoid fever, had been frequently shown to be associated with bad and sewage-contaminated drinking-water; and, furthermore, as typhoid fever and several other diseases were known to be caused by bacteria, that any water which was proved to contain a considerable number of living bacteria was unfit for drinking purposes.

But as our knowledge on this subject has gone on increasing, we have learned that this view must be very materially modified. Bacteria are almost everywhere present, sometimes in enormous numbers, in soil, air, and in parts of the human and animal body which are directly or indirectly in communication with the air or with foods introduced from without. By far the larger proportion of bacteria are, so far as we know, perfectly harmless. Their rôle in nature is to tear down organized bodies into their simpler constituents, a small part of these being used for their own nutrition and growth while the larger part is given up to other organisms for their life purposes. The bacteria are thus indispensable and omnipresent factors in the working out of the organic processes of nature. It still remains true, however, that a certain number of species, which can live in water as well as elsewhere, can and do produce deadly diseases, and are responsible for some of the most frightful epidemics.

Recent researches[1] have shown that there are certain species of bacteria which find in water of the purest kind, even in distilled water, when once they get a footing there, most favorable conditions for their growth and proliferation, so that it is always necessary to make an analysis of water immediately after its collection, lest we should get as the result of analysis, not the number of bacteria originally in the water, but this number plus those which have grown since it was taken from its source.

Thus Cramer,[2] in Zurich, found that the bacteria in the city water increased in number two thousand seven hundred times in a few days. Leone[3] found that Munich water, containing, when freshly drawn, only five living bacteria per cubic centimetre, after standing for five days held more than half a million. This fact has been confirmed by numerous observers.

These bacteria, which can proliferate in water to an almost incredible extent, and which may be called, *par excellence*, "water-bacteria," are not, so far as is at present known, capable of producing disease in man; but, on the other hand, they have not for the most part been sufficiently studied, so that we can safely assume that they are harmless if taken into the body in large numbers.

Furthermore, some of the bacteria which are known to be the cause of disease in man can grow and increase in number in water, and particularly, as Frankland[4] has shown, in sewer-water, which contains a considerable quantity of organic material which may serve as food.

It is of great importance to know whether the source from which the water to be examined is taken is stagnant, or whether water is running away from it and a fresh supply is flowing in or filtering in through the soil. This is particularly important in wells and lakes; for it is found that a well which has been undisturbed for a time may contain a vastly greater number of bacteria than after a vigorous pumping from it. In a flowing stream, to which a large quantity of pure fresh

water is constantly being supplied, this increase of water-bacteria from stagnation is not so important a factor.

Thus it will be seen that the biological analysis of water, important and precise as it is, and apparently leading us directly to the source of many outbreaks of infectious disease, is, after all, beset with many difficulties as soon as we come to the exact interpretation of its results.

At present, the simple statement that a given sample of water contains a large number of living bacteria affords little more just ground for its absolute condemnation than we should have for saying that all flowering plants are unfit for food because a certain number of them are powerful poisons. When we have before us the numerical results of the biological examination of a given water, the real problem still lies in determining what significance should be attached to them. To solve this we must carefully weigh all the general considerations and facts set forth above. We must find out whether a considerable proportion of the bacteria in the sample are or are not the, at least relatively, harmless water-bacteria which may have grown there; whether the water has been stagnant, or other conditions have existed favoring their increase. We must, above all, find out, if possible, whether there has been a chance for the pollution of the water with sewage or excrementitious matter of any kind. If this be the case, and large numbers of bacteria, not the relatively harmless water-bacteria, be present, we may justly infer that the natural processes of water-purification have not been acting or efficacious, but that the conditions have been favorable for the prolonged existence of the sewage-bacteria, and, among these, of disease-producing forms.

A great variety in the species of bacteria present in a water is rather indicative of sewage-contamination.

Finally, bearing in mind that even very pure spring-, river-, lake-, and well-water may, and frequently does, contain considerable numbers of bacteria, and also that our present knowledge of the disease-producing powers or harmlessness of these ordinary bacteria when taken in large quantities is still very meagre, it seems safe to say in general, for the sake of having some sort of temporary standard until increased knowledge shall give us a more exact one, that any water which contains more than fifty to one hundred living bacteria to the cubic centimetre should not be used without some kind of purification, such as boiling, filtering, etc.

Of course, this number is fixed upon somewhat arbitrarily, and with the sole intention of indicating in a general way what from a bacteriological standpoint may be regarded as a safe rule. Fraenkel, who writes with the approval of Dr. Koch, assumes that good drinking-water should not contain, at most, more than fifty living bacteria to the cubic centimetre. It should always be remembered that absolutely pure water contains no bacteria at all; that which has just been said applies only to apparently pure water. If water is known to be either immediately or remotely polluted with sewage or human or animal excreta, it should under no circumstances be used for drinking purposes without filtration, or some other efficient form of purification, whatever the number of bacteria which it may contain. In any case in which sewage-contamination could be positively excluded from the position and surroundings of the source of the water, so far as our present knowledge goes, the limit of safety might be placed considerably higher.

It is very well known that, by a suitable system of filtration, water which contains so large a number of bacteria as to be entirely unfit for potable purposes may be rendered entirely wholesome; and one of the great practical advantages of the biological and chemical analysis of water consists, not only in the power which it gives us to determine whether or not a given water is fit for use, but also, if filtration is called for, we are thereby enabled to determine positively whether or not the chosen method and practice of filtration is really efficacious.

The so-called spontaneous purification of water by sedimentation or exposure to air will be considered below in so far as it concerns our present theme.

All of the above data concerning bacterial water-contaminations and water-analyses apply equally to the problems which ice-impurities present, to which we now turn.

The biological analysis of ice is conducted in precisely the same way as the biological analysis of water, except that the piece of ice to be examined must first be carefully cleansed and then melted. The details of the ice-analyses made by the writer, are as follows: A number of small glass beakers, one for each specimen of ice, were carefully sterilized by heat. A piece of ice about one inch in cube was cracked from the sample lump, and put into one of the sterilized beakers, where it was repeatedly rinsed with boiled distilled water, which by analysis was found to contain no living bacteria. The last rinsing-water was finally drained off, and the beaker set into a hot-water bath until a small portion of the ice was melted; the remaining ice was rinsed with this melted portion, which was then poured off. This operation of rinsing in its own meltings was repeated. It may be safely assumed that in this way the remaining small fragment of ice was entirely freed from any external contamination. Now enough of this for analysis was allowed to melt, and immediately a measured quantity of the water, either one cubic centimetre or one-half this quantity, was mixed with the nutrient gelatin and plate-cultures were made as described above. Duplicate analyses of either of the above quantities were made for the purpose of control; the smaller quantity was used only when there was reason to suspect that the ice contained many bacteria, as in this case the counting of colonies in a larger dilution is more readily and accurately done. In every case the water from the melted ice was used within five minutes of its melting, so as to preclude the possibility of an increase in the number of bacteria, as mentioned above.

It should be stated here that samples of ice which contained evident gross impurities, such as grass, straw, particles of sand, leaves, etc., were in all cases rejected as not fairly representative for analysis. Such ice is ordinarily carefully excluded from the harvest by the more responsible companies, but sometimes, particularly when the crop is short, as was the case during the last winter, does not infrequently find its way to the doors of consumers.

It is a popular belief that water in freezing purifies itself, so that water which would be unpalatable and seem unfit for drinking purposes may be regarded as quite pure when frozen. This belief is to a certain extent true, or, rather, rests upon a basis of truth; for, as is well known, coarser foreign particles may be to a certain extent thrown out in the act of freezing, and the same is true in more marked degree of certain inorganic salts, coloring materials, etc., held in solution. The beautiful clearness and sparkle of well-formed ice tends to confirm the belief that the act of freezing is a very perfect purifying agency. It has, however, been shown that, so far as organic matter in solution is concerned, freezing by no means entirely purifies the water.

As is well known, the vitality of quite highly organized beings, such as toads, frogs, worms, etc., is said to be not infrequently retained during a prolonged enclosure in ice, and stories of a more or less sensational nature concerning the discovery of such beings in ice are common enough in the newspapers. But these are exceptional cases, interesting only as facts in biology, and have no practical bearing whatever upon the purity of ice in general.

In regard to the bacteria, it should be remembered that they are so exceeding minute that they may exist in water in enormous numbers without in the slightest degree impairing its clearness and transparency. Thus a series of experiments on the typhoid-fever bacteria by

the writer showed that more than one and a half million of these organisms may be diffused through a tablespoonful of perfectly clear distilled water without in the least appreciable degree impairing its transparency as it is held to the light in a thin-walled glass tube half an inch in diameter. By passing a beam of light from a lens through the tube the faintest opalescence was detected.

The literature on the subject of the effect of cold on bacteria is not extensive, especially by the use of the modern methods. These enable us not only to tell whether or not all of the bacteria exposed to cold are destroyed—which was about all the older methods could do [5]—but they enable us to tell just how many are killed by a given exposure, and what species are most vulnerable, either in a mixture or in pure cultures.

It was shown by Cohn,[6] more than a decade ago, that certain bacteria were capable of retaining their vitality after an exposure of several hours to a very low temperature, in one case to 0° F., and similar observations have been repeatedly made.

Pengra,[7] in 1884, apparently by the method of simple microscopical examination, concluded that as regards bacteria in water there may be a purification of about ninety per cent., but his method of working would suggest the possibility that a part, at least, of this purification might, in his experiments, be due to the simple sedimentation of the bacteria before or during the freezing.

In a recent report to the State Board of Health of New York, on the purity of ice from several sources, by James T. Gardiner,[8] experiments made by Hailes at his request showed that ice may contain considerable numbers of living bacteria. This general observation has been repeatedly made.

The first complete and accurate series of biological analyses of ice were made in Berlin, Germany, less than a year ago, by Fraenkel.[9] His experiments show that while the number of living bacteria contained in a given sample of water is often greatly reduced by freezing, sometimes as much as ninety per cent. in three or four days, yet that the resulting ice may still retain large numbers when the water is greatly contaminated with them.

Experiments showing the Effect of Freezing on Separate Species of Bacteria.—In order to find out exactly what the effect of freezing is on isolated species of bacteria suspended in water, a series of laboratory experiments was carried out by the writer as follows: A large number of test-tubes were plugged at the mouth with cotton and thoroughly sterilized. These were divided into sets, and into each tube of the different sets was put about five cubic centimetres of sterilized water which had been mixed with a small quantity of a pure culture of some well-defined species of bacteria. Before these mixtures were put into the tubes the number of bacteria contained in one cubic centimetre of the water was determined by the usual method of water-analysis. Duplicate analyses were made, to insure accuracy. Into each set of tubes a different species of bacteria was introduced. In this way we have in each set of tubes water contaminated with one species only of bacteria, and the number of these in each cubic centimetre definitely known. These tubes were now put into a refrigerator, the temperature of which was kept by ice and salt at from 14° to 30° F. The water in the tubes was usually frozen solid in a short time. The refrigerator was kept at this temperature for three months, and the tubes containing the different kinds of bacteria were taken out at varying intervals, the ice in them melted, and the number of living bacteria in one cubic centimetre determined in the usual way. By comparing the number of bacteria found in one cubic centimetre of the water after the freezing with that in one cubic centimetre before freezing, we have an exact determination of the number destroyed.

More than one hundred complete analyses were made in this way, and the effect of longer or shorter freezing studied on six species of bacteria under varying conditions.

The species used were: 1. Bacillus prodigiosus. 2. A short bacillus, frequently found in the Hudson River water and occasionally in the ice, which is apparently identical with the Proteus vulgaris of Hauser. 3. A slender bacillus very common in Croton and other waters, fluidifying the gelatin in sharply circumscribed pits. 4. The micrococcus of suppuration, called Staphylococcus pyogenes aureus, which was derived from a case of pyæmia. 5. A short bacillus very common in ice from all the sources about New York, as well as in the waters from which it is obtained. This bacillus is especially characterized by producing a beautiful greenish fluorescence in the gelatin, which it does not fluidify. We may call it for our purposes the fluorescent bacillus. 6. The bacillus of typhoid fever.

Owing to its great importance, the most extended study was made upon the bacillus of typhoid fever; more than fifty analyses having been made to determine the effect of freezing upon it under varying conditions. It does not seem necessary to give the figures obtained in each case, but, except in the cases of the typhoid-fever bacteria, to simply summarize the results obtained.

Table I.—*Bacillus prodigiosus.*

Time.	Number of bacteria in 1 c.c. of water.
Before freezing	6,300
Frozen 4 days	2,970
Frozen 37 days	22
Frozen 51 days	0

In this species it will be seen that the number of living individuals is largely reduced at first, but that a small number remain alive after more than one month. Another set of experiments on this species, whose results are given in Table IX., is interesting in comparison with this.

Table II.—*Proteus vulgaris (Hauser).*

Time.	Number of bacteria in 1 c.c. of water.
Before freezing	8,320
Frozen 18 days	88
Frozen 51 days	0
Frozen 65 days	0

Although in this set of experiments the Proteus vulgaris was completely destroyed after at least fifty-one days' freezing, this is not invariably the case, because it occasionally develops on the plate-cultures made from Hudson River and other ice in small numbers. The significance of this we shall consider farther on.

Table III.—*Slender Fluidifying Bacillus from Croton Water.*

Time.	Number of bacteria in 1 c.c. of water.
Before freezing	800,000
Frozen 7 days	0
Frozen 18 days	0
Frozen 38 days	0
Frozen 47 days	0

This species also, while completely destroyed by the artificial freezing, is occasionally found in considerable numbers in natural ice from all sources.

Table IV.—*Staphylococcus pyogenes aureus.**

Time.	Number of bacteria in 1 c.c. of water.
Before freezing	Innumerable
Frozen 18 days	224,598
Frozen 20 days	46,486
Frozen 54 days	34,320
Frozen 66 days	49,280

The culture from which this series of experiments on Staphylococcus was made was fresh and actively growing on agar. Another similar series was prepared, but from an old and partially dried agar-culture. In this the original contained 162,000 bacteria to one cubic centimetre,

* Compare Table VIII.

which grew readily on the gelatin plates. The tubes stood in the refrigerator unfrozen over night, but froze early in the morning. When examined after being frozen five and seven days, not a single living bacterium was found.

Lübbert[10] has recently shown that all the individuals in a gelatin culture of Staphylococcus are not killed by twenty-four hours' freezing. The individuals in a four weeks old agar culture were all destroyed after twenty hours' freezing.

TABLE V.—*Fluorescent Bacillus from Hudson River Ice.*

Time.	Number of bacteria in 1 c.c. of water.
Before freezing	Innumerable.
Frozen 4 days	571,560
Frozen 11 days	520,520
Frozen 51 days	183,040
Frozen 65 days	10,978
Frozen 77 days	85,008

In this species, as will be seen, there is considerable variation in the vulnerability of the individuals, as the number destroyed by freezing does not uniformly increase as the action of the cold is prolonged. This is not surprising, however, when we reflect that, although coming from the same culture, the individuals in the culture would vary both in age and nutritive conditions and that the chances are altogether against an equal distribution in the different tubes of hardy and vulnerable individuals.

This, it will be seen, is not exterminated like the previously examined species, and its invulnerability is also shown by the great frequency with which it occurs in our New York ice.

TABLE VI.—*The Bacillus of Typhoid Fever.*

Time.	Number of bacteria in 1 c.c. of water.
Before freezing	Innumerable.
Frozen 11 days	1,019,403
Frozen 27 days	336,457
Frozen 42 days	89,796
Frozen 69 days	24,276
Frozen 77 days	72,930
Frozen 103 days	7,348

The culture from which the above series of experiments was made was actively growing on agar. As the original number was so large the percentage rate of destruction is not evident, nor does it appear what the effect of the first few days' freezing is. For these reasons another series was prepared from an active gelatin culture, which gave the following results :

TABLE VIA.—*Bacillus of Typhoid Fever.*

Time.	Number of bacteria in 1 c.c. of water.
Before freezing	378,000
Frozen 12 hours	164,780
Frozen 3 days	236,676
Frozen 5 days	21,416
Frozen 8 days	76,032

The experiments on the typhoid bacillus of Table VI. were repeated, using about the same quantity of the contaminating mixture but replacing the distilled, sterilized water with the sterilized Croton, which contains more organic matter and which, therefore, more nearly approaches the conditions of natural ice. As was to be expected, however, the results were essentially the same. With innumerable bacilli in one cubic centimetre before freezing, after being frozen solid for sixty-five days one cubic centimetre contained 26,950 living bacteria.

We thus see from the experiments on this most important species, that after prolonged freezing a considerable number of the bacteria remain alive.

Billings[11] has recently shown that all the individuals in a typhoid bacillus culture suspended in water are not killed by being frozen over night.

A series of experiments was made by sowing on gelatin plates, side by side, the bacilli of typhoid fever which had just been frozen in water and those taken from a fresh gelatin culture. These invariably showed that the growth of the frozen bacteria was at first much slower than that of the unfrozen, but when the colonies were once fairly started they went on at about an even rate of growth.

EXPERIMENTS ON THE ALTERNATE FREEZING AND THAWING OF BACTERIA SUSPENDED IN WATER.—The fact that a very considerable reduction in the number of viable individuals occurs at the first freezing, while a more gradual destruction goes on as the low temperature is maintained, is doubtless due to the killing off at once of the more feeble bacteria. Still it would be interesting to know whether the marked rate of destruction is due to this factor alone, or whether the sudden change of temperature may not have a greater effect than a simple prolongation of the unfavorable condition when once the organisms have accustomed themselves to it.

With a view of throwing light upon this point a series of experiments was executed, the results of which are shown in the following tables. A number of tubes of sterilized water were inoculated with the same number of bacteria from the same source—a fresh, actively growing gelatin culture of the typhoid bacillus. A part of these were frozen solid at once, and remained so until they were removed from the refrigerator, one by one, at varying intervals, and the number of living bacteria in each determined. The second set of tubes was treated in the same way, except that the water was repeatedly frozen and thawed before examination, the number of times this thawing was repeated varying with different tubes, as shown in the table.

TABLE VII.—*Result of Alternate Freezing and Thawing on the Typhoid Bacilli—Fresh Active Culture.*

	Frozen solid and remained so.	Frozen solid, but repeatedly thawed and immediately refrozen.	
Time.	Number of bacteria in 1 c.c. of water.	Number of times thawed and refrozen.	Number of bacteria in 1 c.c. of water.
Before freezing	40,896	.....	40,896
Frozen 24 hours	29,780	3	90
Frozen 3 days	1,800	5	0
Frozen 4 days	950	6	0
Frozen 5 days	2,490	6	0

Similar experiments were made with the Staphylococcus pyogenes aureus and with the Bacillus prodigiosus, with the results shown by the following tables :

TABLE VIII.—*Result of Alternate Freezing and Thawing on the Staphylococcus pyogenes aureus—Fresh Active Culture.*

	Frozen solid and remained so.	Frozen solid, but repeatedly thawed and immediately refrozen.	
Time.	Number of bacteria in 1 c.c. of water.	Number of times thawed and refrozen.	Number of bacteria in 1 c.c. of water.
Before freezing	111,782	.....	111,782
Frozen 15 minutes	52,500	.....	.....
Frozen 2 hours	21,300	.....	.....
Frozen 24 hours	22,690	1	13,495
Frozen 48 hours	6,460	3	110
Frozen 96 hours	6,155	4	0

TABLE IX.—*Result of Alternate Freezing and Thawing on the Bacillus prodigiosus—Fresh Active Culture.*

	Frozen solid and remained so.	Frozen solid, but repeatedly thawed and immediately refrozen.	
Time.	Number of bacteria in 1 c.c. of water.	Number of times thawed and refrozen.	Number of bacteria in 1 c.c. of water.
Before freezing	339,516	.....	339,516
Frozen 24 hours	36,410	1	2,570
Frozen 30 hours	41,580	2	275
Frozen 48 hours	14,440	3	15
Frozen 96 hours	4,850	4	0

These experiments on the bacillus of typhoid fever, Staphylococcus pyogenes, and Bacillus prodigiosus show that the greatest destruction occurs during or shortly after the sudden reduction of temperature to the freezing point of water, and that if after this the bacteria remain in the ice a comparatively gradual destruction goes on; but that if now the bacteria be thawed out and immediately refrozen another large increment is destroyed. In this way, by repeated freezings and thawings, the bacteria may be completely destroyed in a short time.

It would seem that at the time of freezing a certain number of the bacteria are killed outright, while the vitality of the remainder is considerably reduced. Now if these bacteria with reduced vitality are placed under favorable conditions of temperature and nutrition, as in the culture-gelatin, they can grow and proliferate in the usual way, while on the other hand they have not vitality enough to resist subsequent freezings.

The conditions under which the last series of experiments on the freezing and thawing of bacteria was carried out differ from those which have preceded them in that, in order to hasten the freezing, the tubes were immersed directly in a mixture of ice and salt, which gave an average temperature of from 2° to 5° F. below zero, so that they were frozen at once. They were then placed in the refrigerator, where the temperature was just below 32° F., and kept here with those which remained solidly frozen until they were again thawed or removed for examination. The ordeal was therefore in this series of experiments much more severe than in any of the others. A comparison of the general destruction-rate of bacteria frozen at this low temperature and those frozen at a higher degree shows, as would be expected, a considerably larger destruction-ratio with the lower temperature. This may have a practical bearing, for it may well be true that Maine ice and Norwegian ice, which is largely used in England, may be much freer from living bacteria on this account.

Experiments on the Effect of Low Temperatures on Bacteria Suspended in Water when the Water does not Crystallize.—A very considerable destruction of bacteria of various species takes place if the water be placed in a very cold place, but kept just above the freezing-point. Thus, in a considerable number of experiments, a much larger number of individuals was destroyed in tubes in which the water did not freeze, although kept several degrees below the freezing point, than in those in which it became solid. These conditions were obtained by coating the inside of a number of test-tubes with sterilized sweet-oil, and then putting into them the water containing the bacteria. These tubes, together with others prepared without the oil, were placed side by side in the refrigerator. After a few hours, the water in the larger part of the tubes whose sides had been rendered quite smooth by the coating of oil would be found unfrozen, while that in the others would be solid. This difference is obviously in accordance with a well-known physical observation, *i.e.*, that fluids crystallize more readily when in contact with rough than smooth surfaces, and that small quantities of water kept perfectly still may be carried considerably below the freezing-point without solidifying. The previous boiling of the distilled water used in these experiments, by the removal of its contained air, contributes to the avoidance of freezing at low temperatures.

As an example of these experiments, which are not given here in detail as they do not concern directly the present study, tubes were placed side by side in the refrigerator which both held water containing the staphylococcus, 111,782 to the cubic centimetre; one tube was oiled within, the other not. After eighteen hours, during which they were kept perfectly quiet at from 15° to 28° F., the water in the oiled tube was fluid, in the other solid. Analysis showed that the water which had frozen contained 81,940 living bacteria to one cubic centimetre, while that in the other tube, which had not frozen, contained 16,400 to one cubic centimetre. Even the very hardy fluorescent bacillus can be readily destroyed if the water in which it is diffused is thus reduced to a very low temperature, but kept from crystallizing.

In these experiments the tubes must be removed carefully from the cold chamber if the temperature is very low, lest they should suddenly crystallize from sudden jarring.

This difference in the destructive capacity of what may be called dry cold and moist cold is interesting in view of the similar difference which exists at the other end of the thermometric scale, between moist and dry heat.

Summary of the Effect of Low Temperatures on Pure Culture of Bacteria Suspended in Water.—The laboratory experiments thus far recorded on the action of prolonged low temperatures on various species of bacteria suspended in water and frozen show, so far at least as the species employed are concerned: 1. That a considerable number of the bacteria are, in all cases, killed by freezing. 2. That the number killed depends upon the condition of vitality of the individual at the time of freezing. If the vitality is lowered, as by the exhaustion of nutriment in the culture, drying, etc., a larger proportion will be destroyed than if the nutrient and other conditions preceding the freezing are favorable. 3. That different species differ widely in their power of retaining life at the temperature at which water freezes and below. While some species, such as Bacillus prodigiosus, Proteus vulgaris, and the fluidifying water-bacillus, are nearly completely or entirely destroyed after a comparatively short freezing; others, such as the fluorescent bacillus, the Staphylococcus pyogenes, and the typhoid bacillus are so tenacious of life that a large number of the individuals may remain capable of growth even after long periods. This is especially significant, for obvious reasons, in the case of Staphylococcus and the typhoid bacillus, which are capable of producing serious disease. 4. That the time during which the low temperature is maintained is of importance in determining the number of bacteria of any given species which will be destroyed. For, so far as the experiments have gone, it appears that after the first freezing, at which time the destruction seems to be most extensive, a more gradual death of individuals occurs as time goes on. What the limits are to this gradual destruction does not appear from these experiments, as they have been extended only to the one hundred and third day in the case of the typhoid fever organism. 5. The unequal percentage destruction which, as appears in the tables showing the action of cold on different specimens of the more resistant species, shows that in a given culture the individuals are not equally capable of resisting the effects of low temperatures. This is what would be expected when we remember that in an actively growing culture of any bacterial species the age of the individuals, as well as the conditions favorable to their nutrition, will vary widely on account of their massing together as the growth of the colony proceeds. 6. By alternate freezing and thawing bacteria are more largely destroyed than when exposed to a sustained low temperature. If a low temperature be maintained in the water, while the latter is not permitted to freeze, a greater destruction occurs than when crystallization occurs.

It should be noted here that in these experiments on the artificial freezing of the bacteria that the test is considerably more severe than that to which the bacteria are subjected under the ordinary natural conditions of river and lake waters in this latitude, because the change of temperature is more abrupt, and at times the cold more severe. It was found impossible, with the facilities at the writer's command, to maintain a uniformly low temperature, as for a time after the refrigerator was restocked with ice and salt the temperature would fall to 14° F. and gradually rise to just below the freezing-point of water.

The importance of this change of temperature will be more evident when we see the results of the next series of experiments.

Experiments on the Artificial Freezing of Natural Waters containing Bacteria.—While, by the above method of experimentation on single species of bacteria from pure cultures, we can obtain much more precise knowledge of the effects of freezing than in any other way, there is a good deal of practical importance in knowing about what percentage of the mixed bacteria as they occur in natural waters are destroyed in the formation of ice. Now the examination of the water from a given pond or river, and the ice formed from it in the natural way, does not, even if the water be taken in winter when the ice is forming and both are taken from the same place, give a very accurate destruction-percentage, because the water beneath is always more or less in motion, and in both water and ice there is a very unequal distribution of the bacteria. Thus we might have a sample of ice which contained either a much greater or a much smaller number of bacteria than that present at the time of collection.

Approximate accuracy may, however, be obtained by collecting, under suitable precautions, waters from various sources in winter, and, after determining from each sample the average number of bacteria, freezing the remainder, and, after analyzing the ice, comparing the results.

This the writer has done, choosing as types of water samples from: 1. A large, fairly good water-system of ponds, lakes, and larger and smaller streams—namely, from the Croton water as delivered through the pipes during November, December, January, and February of the winter of 1886–7. 2. Van Cortland Pond, a small, comparatively still, shallow pond, fed by springs and small streams. This water was collected in January, 1887, from beneath the ice near the outlet and at the upper end of the pond. 3. The Hudson River, a large tidal stream, with abundant sewage pollution. The water from this source was taken in January, 1887, from beneath the ice just off Kingston Point, which projects far out into the stream. This is not far from fifty miles below Albany, and at the time of collection the tide was ebbing. This would seem to be a fair sample of water from the lower Hudson.

All of these samples were collected by the writer in small sterilized bottles, such as are usually employed for this purpose. Immediately after collection the samples were brought to the laboratory and the examination at once begun. In the case of the Hudson River water three hours passed in the journey home, but the water in the mean time was kept cold. This is important, because the possibility of a multiplication of the bacteria in transit would seem to be excluded.

Table X.—*Artificial Freezing of Croton Water.*

Sample I.			Sample II.		
Number of bacteria in 1 c.c. of water before freezing.	Number of days frozen.	Number of bacteria in 1 c.c. of melted ice.	Number of bacteria in 1 c.c. of water before freezing.	Number of days frozen.	Number of bacteria in 1 c.c. of melted ice.
168	4	80	1,950	3	242
168	69	32	1,950	11	84
168	74	49	....	..	...

Table XI.—*Artificial Freezing of Water from Van Cortland Pond.*

Sample I.			Sample II.		
Number of bacteria in 1 c.c. of water before freezing.	Number of days frozen.	Number of bacteria in 1 c.c. of melted ice.	Number of bacteria in 1 c.c. of water before freezing.	Number of days frozen.	Number of bacteria in 1 c.c. of melted ice.
2,621	1	480	732	1	162
2,621	3	436	732	3	278
2,621	8	363	732	8	99

Sample I. was taken from the pond near the outlet. Sample II. from the upper end.

Table XII.—*Artificial Freezing of Water from the Hudson River off Kingston Point.*

Sample I.			Sample II.		
Number of bacteria in 1 c.c. of water before freezing.	Number of days frozen.	Number of bacteria in 1 c.c. of melted ice.	Number of bacteria in 1 c.c. of water before freezing.	Number of days frozen.	Number of bacteria in 1 c.c. of melted ice.
3,448	2	720	3,056	2	156
3,448	11	62	3,056	6	302
3,448	16	324	3,056	6	200

The numbers of bacteria killed by freezing, as will be seen, vary so much in different samples and even in different specimens of the same sample that we can arrive in this way only at very general results. This variability depends largely, as would seem from the above series of laboratory experiments, upon the varying number of different species of bacteria which any given sample contains, as well as upon the varying degrees of vulnerability of individuals of the same species. We may, however, say in general that water containing bacterial contaminations by freezing, and remaining frozen for a few days, may purify itself by the destruction of as much as ninety per cent. of the bacteria. Furthermore, the number of living bacteria is gradually reduced in the ice as time goes on, but that this reduction does not go on to extinction, for all species at least, will be seen from the analyses of natural ice which are to follow.

Having thus established experimentally a variety of facts regarding the purification of water from its bacterial contaminations by freezing, let us now turn to the natural ice which is supplied to New York City from various sources.

Description of Sources of the Ice-supply of New York City.—The ice which is supplied to New York City, and to a certain extent to Brooklyn and Jersey City, comes almost entirely from three sources—from the Hudson River, from a few lakes and ponds adjacent to the Hudson or near the line of some of the suburban railways, and from Maine. The Hudson River stands foremost as a source of supply, the outlying lakes and ponds furnishing in comparison but a moderate quantity, while the Maine supply is drawn upon, as a rule, only when the ice season in this region has been a poor one and the domestic stock runs low. The competition in the ice market is so sharp and the margin of profit usually so close that the increased cost of transportation from Maine and the liability to wastage in transit are sufficiently potent factors to largely shut the Maine product out of competition if plenty of ice is in storage nearer by.

The total storage-capacity of the ice-houses along the banks of the Hudson from Troy to Poughkeepsie reaches the enormous amount of more than three million tons. The storage-capacity of the houses which draw their supply from lakes and ponds near New York is about three hundred and forty thousand tons. Besides this, in good ice years a considerable quantity is frequently stacked outside the houses for use early in the season.

Let us now look more closely at the bodies of water from which the New York ice-supply is obtained, and first at the lakes and ponds.

Among these *Rockland Lake* stands foremost both in the popularity of its ice and the quantity which it furnishes. The traveller by the New York Central Railroad, looking from the car-windows across the river at Sing Sing, will usually see clustered at the foot of the cliffs a number of white, clumsy craft with slender derricks and awkward windmills set upon their decks. These are ice-barges. Just over the summit of the hill at this point lies Rockland Lake, a lovely sheet of water set in a little basin on the western slope of the hills

which thrust themselves forward into the river here and form the upper limit of the Tappan Zee.

The lake is in part shallow, but in some places has considerable depth; its shores are open, and the water is supplied almost entirely from springs which drain the hill-sides surrounding it on the north, east and south, those on the east or river side sloping abruptly down to its shore. It is a lake, the situation and general appearance of which would impress the writer with its natural fitness for a source of water- or ice-supply.

The ice is stored in large houses on its banks, and these have a capacity of about one hundred and fifty thousand tons. During the shipping season the ice is loaded into cars at the house, drawn by steam up a short incline and lowered down a longer incline on the river side of the palisade to the barges.

A little village lies in the break in the hills over which the inclined railway passes, and, unfortunately, some two-score of small dwellings with the ordinary outhouses are built on the steeply sloping hill-side which extends, only a few rods away, to the edge of the lake.

The possibility that the drainage from these dwellings may reach the lake without that thoroughness of soil-filtration which a strict attention to hygiene demands, seems worthy of consideration. The lake is used for boating in summer and for skating in winter.

Swartout Pond.—On the little brook which carries the surplus water from Rockland Lake off into the Hackensack River lies this small, shallow pond. The shores are for the most part clear and open, and the ice-house has a storage capacity of about fifteen thousand tons.

The ice gathered from these two sources is of especial value to the company controlling them, owing to their nearness to New York and the facility of transportation by rail or water during the cold months when the river above is frozen and navigation is at a standstill.

Highland Lake.—This little picturesque body of water, perched on the hill-side just below Fort Montgomery, and supplied by springs from the high, wooded hills which lie behind it, is an ideal source of ice-supply. No dwellings, barns, or other sources of contamination are near it, and the water is deep and clear.

The ice is run from the shore of the lake directly down a series of inclines into the storage houses beside the West Shore Railroad and the Hudson River, so that by the force of gravity alone the ice may be carried from the lake to the houses and thence to the cars or barges. A considerable stream runs from the lake in winter. During the months in which this investigation was in progress, ice from this source was not being delivered in New York, and hence no analyses were made of it. Like most pond and lake ice, it usually contains numerous scattered bubbles, but its source is so clean and pure that there seems every reason to rely upon its excellence.

Pond on Verplank's Point.—Here, some twelve years ago, a large swamp, through which ran a small brook draining the region toward Montrose, was converted into a shallow pond by a low dam built just at the river's edge. The water-level in this pond stands some feet above that of the Hudson River at high water, and a sluice-way, controlled by a gate, allows of the nearly complete emptying of the water. In the autumn, when, as the writer's informant graphically expresses it, "the pond has got done purging itself"—by which is meant the collection of dirty scum and a variety of dead vegetable matter on the surface after the hot weather—the water is drawn off, and the pond fills anew. A small quantity of water runs over the sluice-way in winter, and no sources of contamination were observed on the shores. The pond is called "Lake Meahaugh," and the storage-capacity of its houses is about sixty-five thousand tons.

Ice Pond or Hinkley's Pond (so-called "Croton Lake").—This shallow pond, covering a few acres, lies on the line of the Harlem Railroad, between Dykeman's and Towner's, a little more than fifty miles from New York. The pond is mainly supplied by springs from the surrounding hills, but there is a small inlet and a small outlet, which forms one of the sources of the Croton River. The banks are open and free from trees, and, with the exception of the ice company's barn, free from buildings or other obvious sources of outside contamination.

The pond was apparently at one time considerably larger than it is at present, but its lower end has become filled and is now a swamp, in which water at the level of the lake surface is standing, and out of which comes a bushy undergrowth and a considerable number of small, stunted trees. This feature is important, as the pond-water, although open and drained by a small running stream, is indirect connection with—is, in fact, a part of—a large swamp containing much stagnant water.

Van Cortland Lake.—This small lake, or, more properly speaking, pond, lies about four miles above High Bridge, on the line of the New York City & Northern Railroad, and within the limits of the new Van Cortland Park. It is not very deep, and is of a few acres in extent. The water is held in place by a small dam furnishing power for an old grist- and saw-mill, and is used for ice-cutting and skating purposes in winter, and, to a certain extent, for boating in summer. Its banks are open and apparently tolerably free from external sources of contamination.

There is a small overflow, and the water is supplied in part from springs, in part from small streams, one of which runs through a long woody swamp, which is in communication with the pond at its upper end. The ice-houses hold about seven thousand tons. While much of the ice cut here is delivered in the upper part of the city, its nearness and situation on the railroad make it available for a winter supply to dealers whose stock on the Hudson is cut off by the close of navigation, and a varying quantity is shipped to New York and other places without housing.

Tuckahoe.—The Bronx River, at the village of Tuckahoe, is dammed, to furnish a part of the power for a rubber mill located here, and the small, rather shallow pond which sets back and eastward to the Harlem Railroad, supplies ice for the houses, containing about twenty thousand tons, and for direct shipment in winter.

Ice from this source, together with that cut on Ice Pond, furnishes the so-called "Croton Lake Ice." *

The Tuckahoe Pond shares in the virtues and faults of the lower Bronx, which passes several villages above. A suitably authorized system of inspection would doubtless suggest the desirability of placing the ice company's barn at a greater distance from the shore of the pond, and the removal farther from the water's edge of three out-houses belonging to dwellings near by. It should be added, however, that the vaults of these out-houses are said to be cemented.

Lake Mahopac.—On this lake arrangements have been made for ice-harvesting, and a large house, capable of holding about thirty thousand tons, stands beside the New York City & Northern Railroad, within easy distance of the lake. The ice from this source is not, however, at present in the market, owing, as the writer is informed, to the cost of transportation to New York. Its quality was therefore not investigated.

There are also harvesting facilities at Greenwood Lake.

The Hudson River.—We now come to the great and most important source of our ice-supply—the Hudson River. We should remember at the outset that this majestic stream is, in fact, a great estuary of the sea, and that its impressiveness as a large body of water and its importance in navigation are largely due to its tidal connection. The water is brackish at times as far up the stream as Poughkeepsie, and the influence of the

* No ice is cut for the market on the reservoir lake known in the geographical sense as Croton Lake.

tide is felt by a rise of more than a foot at Albany. The fall of the river from Albany to New York is so slight that at times the current at Albany is reversed and runs northward for some hours.

The main ice-harvesting fields lie between Poughkeepsie and Troy, and their exact location within these limits is determined by a variety of conditions, such as dockage facilities, currents, widenings in the river, ownership of water-front, etc. The water must be deep enough, so that the ice will not be contaminated from the bottom by grass, sand, etc. Areas of water in which the currents are not too strong are sought after, as during mild winters the requisite thickness of ice is more certain to form where the currents are not excessive. In prolonged cold weather, however, the river freezes completely over, so that ice may be cut in the deeper channels as well as elsewhere.

The river is, at best, rather shallow for purposes of navigation in its upper portions, and large quantities of detritus, which are annually brought down the stream, cause a constant and often considerable change in the bottom, so that each spring the river must be resounded and buoyed. A glance at the map of the upper part of the region which concerns us, say from Coxsackie to Albany, or even a study from the car-windows, shows in the river a very large number of large and small, low, irregular islands scantily covered by a stunted vegetation.

These islands, a gradual formation from sedimentary deposit, indicate the shallow character of the stream, which, in this region, is virtually a long, narrow archipelago. An extensive system of dikes has been built for the purpose of deepening the navigation channel, and behind these lie large areas of comparatively still water.

Let us now look at the character of the water which the Hudson bears within the limits of the ice-harvesting region. At the upper part of this section is Troy, a city of over fifty thousand inhabitants, emptying its eight million gallons of sewage daily into the river, already charged with contributions from Cohoes and Lansingburg, to say nothing of the impurities which the Mohawk brings with it from the west. A few miles below Troy lies Albany, with over ninety thousand inhabitants, and an efficient sewage system which pours directly into the river. These are the great sources of pollution of the river water.

Hudson with over eight thousand inhabitants, Catskill with more than four thousand, and Kingston with more than eighteen thousand, add their greater or less sewage contributions within the ice-field limits, to say nothing of numerous smaller towns which drain into the river.

It would seem hardly necessary to do more than mention the fact that a city of the size of Albany empties its sewage into a stream whose waters a short distance below are used in the form of ice for drinking purposes, unfiltered, to cause a universal condemnation of the practice. It is estimated by Mr. Sweet, as quoted by Dr. Chandler in his report on the water of the Hudson River in January, 1885, that the average daily flow of the Hudson at Albany amounts to 6,677,000,000 gallons. The amount of water pumped from the river for the use of the city of Albany amounts, on the average, to 6,064,000 gallons daily. This, of course, is largely returned to the river as sewage. The Hudson River just below Albany thus consists of about 1,100 parts of rather dirty river water from Troy, and one part of Albany sewage. A series of chemical analyses by Mason, made at the request of the Board of Health of Albany, showed: "First, the influence of the addition of Troy sewage is felt in the river just below Troy; second, there is no material change for the better by the time the water reaches Albany."[12]

A slight conception of the enormous number of bacteria of various kinds which are brought into the river with the sewage may, perhaps, be gained, if we remember that Sucksdorff[13] found, by a long series of experiments on healthy men with an ordinary mixed diet, that in an average from fifteen days' experiments the number of bacteria discharged daily from the body was more than fifty-three billion. Albany, it will be remembered, has a population of ninety thousand persons.

Rosenberg[14] found that the effect of the sewage of the city of Würzburg, on the River Main, so far as the number of bacteria is concerned, was to increase the number of living bacteria more than twenty times.

But if one should require more proof of the filthy condition of the Hudson just below Albany, he has only to stand on some summer or autumn day, when the tide is at the ebb, on the shores of the Albany Basin, a walled enclosure containing some thirty acres made for the purpose of increasing the city dockage, and into which fifteen sewers empty, carrying the waste of over thirty thousand people. Under these circumstances the observer will certainly be rewarded with both ocular and olfactory evidence of a most convincing nature.

Still, a certain proportion of New Yorkers have gone on amiably consuming their distant neighbors' filth under the impression, when it was thought of at all, that water purifies itself from its contaminations in freezing. That it does so, so far as its most important ingredients, the bacteria, are concerned, in but a partial degree the investigations above recorded and those about to be set down abundantly show.

And yet, within sight of the walls of the Albany Basin, down the stream, stands one of the houses, with its sewage-laden ice-field, in which this delectable harvest is stored for the comfort of a considerable number of New Yorkers. It was from this region that the ice which was actually being distributed in an outlying district of this city was taken, which, as will be seen below, contained from twenty thousand to fifty thousand living bacteria to one cubic centimetre—that is, to about one-third of a teaspoonful. It is interesting to note that arrangements are made for storage at this point of about twenty-five thousand tons of this ice, and some of it is beautifully transparent.

The first large house stands about four miles below Albany, and below this, in rapidly increasing numbers and capacity, the ice-houses are scattered along the river, always in the vicinity of the water on which their ice is cut. It is only justice to the reputable ice-harvesters and dealers to say that, so far as the writer is aware, they entirely condemn the practice of ice-harvesting in the immediate vicinity of Albany.

If we make an approximate estimate of the amounts of ice for which storage-capacity exists within six-mile reaches below Albany, we find that within the first six miles there is cut and stored in favorable seasons at least 215,000 tons; within the second six miles, 519,000 tons; within the third 328,000 tons; within the fourth, 382,000 tons; within the fifth, 438,000 tons; within the sixth, 71,000 tons; within the seventh, 254,000 tons; within the eighth, 318,000 tons; within the ninth, 198,000 tons; within the tenth, 95,000 tons. That is, about two-thirds of the ice is cut within thirty miles of Albany, and nearly one-fourth is cut within twelve miles.

Spontaneous Purification of the Hudson River Water.—A good deal has been said, and some of it in a very indefinite way, about the capacity of rapidly flowing streams to purify themselves from sewage contamination, particularly if the quantity of freshly added pure water is large in proportion to the amount of contamination, and there is no doubt whatsoever that a great deal is thus accomplished if the conditions be favorable. But it should be borne in mind that the experience which has been gathered during many years of painstaking investigation on the subject of water impurities and spontaneous purification by oxidation, etc., has been largely based on the results of chemical analysis and the deductions for the most part drawn from it alone. The ammonia and the nitrates and nitrites, which, to the chemical analyst are the exponents of the water's impurities, are simply the products engendered by the life-processes of bac-

teria, which are, in the majority of cases, themselves present, though undetected in the water analyzed. Now, nothing is more definitely established than that water can and does free itself under favoring conditions, such as exposure to air in running streams, etc., from these organic impurities. That the same conditions destroy the bacteria, which are, after all, so far as we know, the more important active agents in the diseases produced by bad water, has not yet been demonstrated in a sufficiently comprehensive way.

But the conditions in the upper Hudson are peculiar. A river of considerable size, receiving a rather dirty tributary in the Mohawk, reaches Albany contaminated with sewage from Troy. To this comes the sewage of Albany with its ninety thousand souls. That this river, large as it is, must be filthy here would seem hardly to need the demonstrations of science to make clear. In its first twelve miles below Albany it flows through a great, long, narrow archipelago, lies more or less stagnant behind the islands and dikes, and is met, the sewage still pouring in above, and its current reversed by each incoming tide. Below New Baltimore the river channel is more open, but the retarding influence of the tides is still more marked.

Moreover, the sewer-laden water of the upper Hudson, as soon as the ice commences to form, is covered above from contact with the air, and is virtually in the condition of a great closed conduit.

On the other hand, it should not be forgotten that in the comparatively still water behind the islands and dikes there is given tolerable facility for sedimentation of the bacteria, by which means, as experiment shows, a considerable proportion of bacteria may be removed from the upper strata of the water.

The marked effect of the subsiding reservoirs in use in England and elsewhere in freeing the water from various impurities is noteworthy here. Numerous experiments have shown that when water containing bacteria is placed in vessels which are kept quite still the bacteria may settle toward the bottom so completely as to free the upper strata even to the extent of over ninety per cent.[1]

It is these latter considerations which warn us against an unqualified condemnation of the Hudson River water for ice purposes, since only a careful series of experiments can show at what distance below the source of pollution the water may have so far freed itself from bacteria, if it do so to any considerable degree, as to render it fit for ice-harvesting purposes. In the mean time we must have recourse to biological analysis of the ice itself and see to what extent bacterial contaminations actually exist in the ice harvested in various parts of the river.*

Natural Ice Examined—Sources, Appearance, Mode of Formation, etc.—It was necessary for the purposes which the writer had in view in the prosecution of these studies to know with certainty exactly where the sample of ice to be examined came from, and it became evident at the very commencement of the work that to obtain samples from the wagons which deliver ice through the streets would lead to very uncertain results. These ice-wagons are mostly loaded either from barges on the water-front or from the cars, or from platforms at these places.

Each day's supply may come from more than one source, and these may be entirely unknown to the drivers, who are, moreover, apt to be somewhat reticent as to the exact source of their ice, and not infrequently positively deceptive in the accounts which they give of its origin, at least to the inquiring scientist. The names on the wagons are, furthermore, not altogether to be relied upon, as a rule, as indicative of the exact source of supply, since there is a good deal of speculation in ice and exchange of proprietorship before the product comes to the market. Then, too, a not inconsiderable degree of fancy is exercised in the choice of the name which, in some cases in large letters on the sides of the ice-wagons, would naturally indicate to the consumer the source of his supply, but is, in fact, in many cases entirely misleading. For these reasons the ice for the present studies was in all cases obtained either directly from the barges or canal-boats or cars, the exact source of whose cargoes could be accurately ascertained, or from certain houses the origin of whose ice was known by the writer, or was obtained on the spot of its harvesting by the writer or his emissaries.

Let us now see what the biological analysis of our New York ice shows. I have made over 270 complete analyses of samples taken from different blocks of ice at different times, so as to insure a fair sampling of the product. These specimens were mostly from 1886 ice, but a considerable number were from the 1887 harvest. Their sources were as follows: 153 from the Hudson River, at various points from West Park to the vicinity of Troy, embracing samples from all the more prominent fields and many of the smaller ones; 22 from Rockland Lake; 23 from Swartout Pond; 51 from ice-pond, so-called "Croton Lake;" 5 from Maine; 6 from Verplank's Point; 8 from Tuckahoe; 9 from Van Cortland. Besides these were a number of other samples from these and various other sources, examined for special purposes and not tabulated here.

Now, taking the results of all these analyses of ice from the various sources, we find that the average number of living bacteria contained in one cubic centimetre of the melted ice is 2,033. Or, to express the estimate in more common terms, an ordinary drinking-glass containing half a pint of the melted average ice would harbor about half a million living bacteria of various kinds. He who, impressed with the importance of a pure drinking-water, should perfectly filter half a glass of average winter Croton water, and then add to it an equal quantity of the average ice, would have the satisfaction of replacing the bacteria removed with more than eight times as many from much more uncertain and questionable sources.

But a simple statement of these aggregate numbers, true though they be, gives a very imperfect and, it may be added, a very misleading conception of the real significance of affairs. Such general statements are misleading, if made without further qualification: First, because they do not indicate what proportion, if any, of the bacteria are probably harmful; second, because ice from various sources may contain differing quantities of bacteria; and, finally, because, as will presently be shown, the different parts of the blocks of ice as they come to the market may present very great and important differences in the number of bacteria which they contain. We have, therefore, to examine more in detail the result of the ice-analyses, and we will look first at the distribution of the bacteria in the blocks of ice.

(To be continued.)

Bronze Statue to a Physician.—Italy, more than any other European country, is lavish of honors to her great physicians and surgeons. Francesco Puccinotti, the classic historian of medicine, the translator of Aretæus, the acutest intellect ever applied in Italy to medical jurisprudence, author of memorable treatises on epidemics peculiar to the nineteenth century, and in all respects exemplary as a citizen, is about to receive in the Santa Croce of Florence (the Walhalla of distinguished Italians) the tribute of a monument in bronze. Urbino, his native town, heads the subscription-list with 1,000 lire (£40), and the Universities of Pisa and Macerata, with the Institute of Higher Studies in Florence, are combining to augment it by their own contributions and those of other seats of learning.—*Lancet.*

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* The writer has been particular in obtaining the facts about the Hudson River and other sources of ice-supply here described at first hand whenever this was possible, and for this purpose has seen, and in most cases carefully inspected, nearly all the important ice-houses and ice-fields on the river and lakes and ponds from which New York ice is derived. He wishes to express his indebtedness for many interesting facts about the Hudson River, its currents, dikes, shoals, etc., to Captain Jacob Schermerhorn, who for many years has buoyed the channels in the river in the Government service, and who accompanied him in the inspection of a portion of the upper Hudson.

THE MAMMARY GLAND.

By E. F. BRUSH, M.D.,

MOUNT VERNON, N. Y.

When I was at college, one of the professors told the class the following story, to illustrate the astuteness of Professor William A. Hammond: A young man lost one of his toes by a railroad accident and sued the company for damages. Professor Hammond was employed by the railroad company, and gave it as his opinion that the loss of one toe did not in any manner disable the man. The plaintiff's attorney, a rising young lawyer, in his address to the jury, referring to the testimony of the professor, asked, "Did God Almighty create any part of the human body to be of no use?" At which Professor Hammond asked the lawyer if he could tell what God Almighty had created the mammary gland in the male for. This was a telling retort, before which, the story continued, the young lawyer collapsed, and the professor's side of the case was victorious.

Now, I agree with the young lawyer, that every part of the body has its use, either immediate or remote. We in our ignorance may not be able to understand the uses or functions of some organs or members of the body; nevertheless, we may be sure they were not created for mere embellishment. The mammary gland in the male is by nature designed as a *dernier ressort* for the survival of the mammalia. If the female dies, or is for some other reason unable to furnish her young with nourishment from the breast, the duty devolves on the male parent. But under our present advanced stage of civilization, even when both parents are able to furnish nourishment, they both refuse to do so, and the task is left to the patent baby-food man, with his perfect substitutes, peptonized or otherwise, and the mammary gland is on the decline. In the ordinary course of events, we consider the breast and udder of pregnant females as the natural source of milk, but many have discovered, and accidents have revealed, that it is not limited to the female sex nor to the pregnant state. Male creatures of both the human and brute kind have secreted milk, and the virgin female has been known to secrete it also. The Roman Charity, so famous in history and painting, is a prominent illustration of the latter in the human species—where an old man, confined in a dungeon, was supplied with nourishment by sucking the breasts of his daughter, a virgin. In the time of Aristotle it was known that some men had been found to have milk in their breasts, and Cardan, upon his own knowledge, relates the same, averring that there was such a quantity that a child might be nourished by it. Pliny relates the same of a man in his time, and Aldroobad mentions another instance of the same kind. I have been credibly informed by a reputable physician of New York City of a case he was called to treat. A young lady of seventeen years, whose sister died of consumption, and left her the baby, by reason of allowing the child to sleep with her and take hold of the nipples to quiet it, found her breasts secreting an abundance of milk.

I knew of a negro man in New Jersey who raised a litter of valuable black-and-tan puppies on milk which they sucked from his own breasts. There is a well-authenticated case on record, in the English "Philosophical Transactions," of a wether sheep giving suck to a lamb, and that not wantonly, or for once, but in a regular quantity, and enough for the support of the lamb for some months. Recently a faster in England had been exciting as much interest as our own Tanner, until the newspaper reporters discovered that he was being regularly nourished in like manner to the Roman old man. I myself removed the ovaries from a yearling heifer, and, by having the teats pulled for several days, caused her to give milk. She was a virgin of the bovine race. One of the German journals, some years ago, contained an advertisement of a physician who made a specialty of furnishing nurses. He excited the secretion of milk not only independent of pregnancy, but in men as well as in women. An applicant for a wet-nurse was always asked whether a male or female was desired. Males were very often preferred, under the belief that greater vigor was thus imparted to the infant.

These facts ought to be a warning to the female sex of the present time, when the female mammary gland seems to be subsiding under the influence of the patent baby-food man. Gynecologists of to-day are spaying the human female. Even the ancients knew that the male could secrete milk; now, if someone can discover how the male can bear young, the revolution will be complete, and the mammary gland of the female be one of the glories of the past. Our duties as physicians, however, will not be lessened; we may still have the troublesome caked breast and mammary abscess, but perhaps not so many sore nipples, unless the future male nurse take to wearing corsets, thus depressing and irritating the dug. Possibly the æsthetic features will be removed from the surgery of the mammary abscess; that is, we will not allow disfigurement to deter us from using the bistoury in the most available place. Certainly this change will bring some amazing conditions with it, as all changes do. When obstetrics and gynecology become branches of science relating only to the male, the obstetrician and the gynecologist will meet in peace. No more will the section on the diseases of women be the pandemonium we are so accustomed to witness at the great gatherings of medical associations. I can see another advantage in this new approaching order of things. A doctor in Pennsylvania writes an article on mammary abscess, in the course of which he says: "Indeed, physicians are sometimes charged with not desiring to hasten recovery, inasmuch as it is an opportunity to 'run up a bill' without incurring great responsibility." Of course this refers to the female mammary abscess, but let the physician try to run up a bill by delaying recovery of a mammary abscess in the male; then, if that male amounts to anything, the physician will incur the responsibility of being knocked out in the second or third visit.

As I have had no experience in treating mammary abscess and sore nipples in the male subject, I shall have to continue my story by relating to you my experience and method of treating the female gland.

There are three varieties of mammary abscess: *First*, supermammary abscess, when the morbid process is confined to the tissues covering the gland; *second*, mammary abscess—in this the substance of the gland itself is involved in the inflammatory state; and *third*, submammary abscess, when the pathological changes are confined to the tissues beneath the gland. The two former are the most common, the latter rare and dangerous. During the puerperal state there is a degree of activity in the mammary gland that is excessive. We seldom see the flow of milk established without a distinct febrile movement; therefore, it is not strange that very slight disturbances even in other parts of the economy do excite pathological changes in the puerperal breast. I am often reminded of Newport's experiments with bees when I see the mammary gland inflaming. Heat is due to movement, molecular or otherwise, and this is beautifully illustrated by the experiment with bees alluded to. During the winter, when the external temperature was 34° F., the temperature of the hive was found to be 48° F. when the bees were quiet, but, by tapping on the hive, and thus exciting the bees into a noisy activity, the temperature would increase to 102° F. In the milking breast we have an aggregation of organisms in action. If we can keep these organisms quietly at work the temperature remains normal, and no pathological changes are induced; but a malarial chill, a rheumatic seizure, a sudden cold, and all like conditions, simulate the tapping on the bee-hive. Quiet these, and no harm ensues. I have often aborted an approaching mammary abscess that had been ushered in with a chill by giving a full dose of the sulphate of quinine, and this, in a very

few hours. Likewise, when the induration is preceded by the prodromatous symptoms of rheumatic fever, it has been checked by the administration of salicylic acid. This latter remedy has been recommended by some writers on mammary abscess without their indicating the rationale of its action. I am sure when it is of avail it is in the rheumatic diathesis. So we could enumerate many other conditions, but the foregoing are, I think, sufficient to indicate to you the necessity of searching for the constitutional disturbance that manifests itself locally in this the most active of all the glands. Very often sore nipples are the cause of mammary abscess, and even if not so, this condition itself calls for prompt curative action. I think I have seen as acute intense suffering from sore nipples as from any other cause of human pain. Thus far in my practice I have been able to cure sore nipples promptly and efficiently. Of course, it is much better to prevent them from becoming so, and this you can do if you have the patient under observation before confinement. About three months before time, cause all garments that press the nipples to be loosened. Procure two large nutmegs; with a pen-knife dig out the centre of the nut, and fashion the cavity like a nipple. These are to be worn on the nipples all day; at night place them in a vessel containing brandy saturated with alum. These will draw out the nipples if they are retracted, and with the natural oil in the nutmeg, together with the brandy and alum, will tan and likewise keep them soft, thus preventing cracking. When you have not been able to follow this prophylactic treatment, but are called on to treat sore nipples, I would recommend you to proceed as follows: Wash the nipples clean with a soft linen rag, using white castile soap; with the tip of the finger rub on the sore the least possible amount of the officinal ointment of ammoniated mercury, then cover the nipple with a small wad of oakum fashioned like a cap. Now direct the mother to nurse the child on one side only for each meal; thus, as the interval between nursings is three hours, each breast will have six hours' rest. Before nursing, caution the mother to wash off carefully every vestige of the ointment; impress on her that the ointment is poisonous. After the child has been nursed, dry the nipple carefully with talc, using plenty of it; do not, at this time, wet the nipple with water; put on again the small amount of ammoniated mercury ointment and a fresh cap of oakum. If the nipple become wet from the oozing of milk, which it is liable to do while the baby is nursing at the opposite breast, dry the nipple very thoroughly with the talc. In fact, always keep the nipple dry with talc, and covered with oakum, using a fresh piece of oakum with each change. Patients have often been delighted, as I have myself, with this treatment, and I think many of you will be equally so if you follow carefully each detail.

In the treatment of mammary abscess, if it does form in spite of you, as it often will, when the pain is very severe ice-bags will relieve quicker and more effectually than any other application. If the induration is large, involving any large portion of the breast, properly applied bandages will relieve the tension. If these bandages are applied or strapping resorted to, the entire gland must be pressed firmly and evenly. Sometimes this even, firm pressure will stop the secretion of milk, and if it does so you will be pleased to find the inflammatory condition subside without other treatment. But occasionally, in those breasts prone to suppuration, you will find an excessive flow of milk; this condition of galactorrhœa is best treated with ergot and quinine in capsules, and small repeated doses of the iodide of potassium in solution. In regard to emptying the breast of milk while treating for abscess, we must be governed by circumstances; if there is a baby in the case it is all-important to keep the gland in action. According to my experience a child can safely nurse from a breast in which there is a large discharging abscess, provided it can be done without causing too much pain to the mother. I have never yet seen pus come from the tit. I have several times seen milk discharged from a sinus in the breast. This is different with the bovine race; when an abscess forms in the udder of a milking cow the pus is discharged through the dug. An abscess opening externally in the udder of a cow must be rare, for I have never seen one. I suppose this arises from the abnormal condition of the udder caused by constant milking.

Very often it becomes necessary to empty the breast of milk to relieve pain. This is best accomplished with a soda-water bottle. Heat the bottle very hot in boiling water, wrap a cold wet cloth round the neck near the mouth, introduce the nipple into the mouth of the bottle and press against the breast as firmly as possible. As the bottle cools the suction increases, and this takes place so slowly that the suction is produced gently but is very strong. With this method I have succeeded in drawing milk from a breast when every other means had failed. Many of the breast-pumps found in the shops are simply barbarous.

If you are called on to lance a breast, do so as gently as possible, and remember that one of the glories of a woman is her breast; therefore make the incision as far out of sight as possible. Bear in mind the story of Raymond Lully, the famous alchemist, who when madly in love with the fair Eleanor of Castile had his passion forever quenched by a sight of her breast with its hideous cicatricial abscess. After you have made an opening cover it completely with oakum, bandage tightly, leave the nipple projecting through the bandage in order to empty the breast if necessary, and likewise to prevent the milk from getting between the breast and the bandage.

If you succeed in keeping a troublesome breast in a healthy condition, you will be doing a great deal toward the welfare of the infant, and also toward inducing the mother to perform her natural functions. Then the child will grow up, and in the words of the psalmist will say unto you: "Thou art he that took me out of the womb; thou didst make me hope when I was upon my mother's breast."

Clinical Department.

A CASE OF ABSENCE OF THE CRANIAL BONES.

Dr. James L. Bailey, of this city, writes: "At 8.30 P.M., January 5, 1887, I was called to attend Mrs. P——, eighteen years old, in her first confinement. On examination I found the os only slightly dilated and the membrane intact. For a time I was in doubt as to what I had to deal with, as the presenting part was unlike anything I had yet encountered. It felt like a placenta at about the fifth month, but in an hour or so I was satisfied that I had a vertex case. What the mass in front was I could not conceive; it could not be placenta prævia, for there was no hemorrhage. It might have been a uterine polypus with a long pedicle; but as labor was advancing satisfactorily, and there was no indication for interference, I determined to await events. About 3 A.M. the vulva was distended, and on inspection I discovered what was undoubtedly the brain, divided into a number of lobes, and covered with a dark purplish membrane. From the posterior aspect there was a small kidney-shaped projection. After waiting a while and finding the pains were not strong enough I delivered with the forceps, expecting another pain to bring the shoulders. In ten minutes, as no pain had come, I determined to make traction on the head, knowing that the child could not live. But traction of itself was not sufficient, so I introduced both thumbs into the rectum, and with this manœuvre delivered the shoulders. The cause of the difficulty was then apparent, as the body was developed considerably beyond the average. There was complete

absence of the crainal bones from the brows upward; the ears were situated lower than normal, and the upper eyelids looked as if a V-shaped piece had been cut from each. The penis was rudimentary and the scrotum absent. The appearance of the child was very much like the case of anencephalus shown in J. Lewis Smith's work on diseases of children, with the exception of the brain. The mother stated that about five months ago she was badly frightened on discovering, in a hotel where she was living, a woman who was almost suffocated from inhaling escaping gas. The child lived thirty hours. An autopsy was refused."

GUMMY TUMOR OF THE BRAIN.

Dr. Benjamin Edson, of Brooklyn, reports the following case: "September 16, 1886, I was called to see Mr. C. H. R——, aged forty-nine, married, and having grown-up children, apparently healthy. Found him feeble, sallow, querulous, complaining of inability to take food, or even to swallow liquids, and suffering from obstinate constipation. He had a moderate cough, and some expectoration, the significance of which was somewhat obscured by profuse salivary discharge, and also free secretion from the mucous membrane of the buccal and naso-pharyngeal cavities, due, as was alleged, to large doses of iodide of potassium which he had recently taken. I learned that for some years past he had been continually changing from one physician to another, as often as he had become dissatisfied, and this seemed to be very frequently. Some time since he was operated upon for anal fistula, after which he thought that his constipation was worse than before. He had been treated for some time for considerable trouble in his throat, which he thought was becoming paralyzed. He formerly weighed about one hundred and seventy-five pounds, but had now fallen to about one hundred and thirty. He readily admitted that he had primary syphilis in 1860. There were marks of an old specific ulcer on the left leg; anæsthesia on the outer aspect of both limbs, particularly below the knees. There was necrosis of the turbinated bones on the right side of the nose. He said that he had been salivated by the use of mercury some years since, and would under no circumstance ever again take either mercury or iodide of potassium. There was a peculiar hesitancy in his speech, which he attributed to a short uvula, which he claimed had been burned off by some experimenting doctor. Careful observation, however, showed that the trouble was not in the vocal organs, but that there were brief recurring intervals during which the action of the brain was apparently arrested, cerebration for an instant being in abeyance. Both pupils were dilated, the right much more than the left. Further investigation showed that some time ago he began to omit words while writing, though for a time he was able to discover and correct his omissions. More recently he failed to discover his errors on perusing what he had written. In conversation he had no interest in anything that did not relate directly to himself; was intolerant of any opinion not fully in accord with his own, and manifested the symptoms and behavior of hypochondriasis, or more properly, perhaps, of syphilophobia. The diagnosis was made of syphilitic tumor of the brain, and a bad prognosis was given, especially as he refused to take longer *the* remedies from which alone relief could be expected. Although on one occasion he readily swallowed one-third of a gobletful of medicated water, he still insisted that he could swallow no nourishment, solid or liquid, on account of the obstruction in his pharynx. I examined his throat carefully, and assured him, unwisely as it proved, that there was nothing to prevent his swallowing, if he chose to do so. This proved to be the turning-point of my influence with him, which was now practically at an end. After a few days of persistence in starving, and refusal of treatment, he again wanted a change of physicians, and I gave up the case to Dr. George A. Ostrander. Under Dr. Ostrander's care he proved no more tractable, still refused food and medicine, and he finally died quietly on October 8th. He left a request that there should be a post-mortem examination of his body.

"Dr. A. W. Shepard, who had seen him once in consultation, performed the autopsy five hours after death. Present, Drs. Ostrander and Edson. Rigor mortis had not set in. The skin was sallow and shrunken. Muscles rather firm and quite well developed. Kidneys, heart, and spleen normal. Right lung completely broken down; costal pleura adherent; pleural cavity occupied by fibrous shreds and dark grumous fluid. Surface of left lung dotted over with dark, almost black, spots of the size of a silver three-cent piece. In the upper lobe was a large cavity or cicatrix, with fibrous elastic walls resembling gutta-percha, but inclosing no cheesy or calcareous material. It showed a very satisfactory arrest of the active trouble at one time existing in that lung. Dura mater but slightly adherent. Cerebral vessels on the surface distended to their full capacity, appearing as though forcibly injected. Pia mater very cloudy over the entire surface of the brain; no tumor apparent. On removing successive layers from the upper portion of the lobes, the general appearance was anæmic. At the level of the upper border of the corpus callosum, extending very near to it at its posterior extremity, and in the substance of the brain, was found on each side a gummy tumor, almond shaped, with the point outward. The one on the right side was a little larger, and situated a little farther backward than that on the left. The larger was one and one-fourth inch by three-fourths inch and about half an inch in thickness. In each the tumor did not quite fill the cavity, the shrinkage doubtless occurring post-mortem. The growth consisted of a stroma, quite vascular, inclosing soft, gummy, or gelatinous material. There was nothing distinctive in the stroma or its contents that could be made clearer on microscopical examination. In many of its features this case is very like that of W. S. S., reported by Dr. Otis in his work on 'Syphilis and Genito-Urinary Diseases,' though in that case the diagnosis was not confirmed by an autopsy."

A FAMILY EPIDEMIC OF TYPHOID FEVER.

Dr. A. D. Bundy, of St. Ansar, Ia., writes: "Until this winter no case of typhoid fever has fallen under my care, nor do I know of any cases in the county in the past ten or twelve years. During November last a lady, the mother of a large family, contracted typhoid fever while nursing a daughter who lived in an adjoining State, nearly a hundred miles away. The daughter recovered, and the mother returned to her home, bringing an infant of her daughter's, which was about six months old. The baby had been somewhat ill, and was so still, having diarrhœa and fever at that time. The members of the family into which the baby was brought were father and mother, and seven children; four were girls and three were boys. One son, a young man, was a clerk in a store in an adjoining village, and came home only on Sundays, and remained but a few hours at such times. Some two weeks after the baby's arrival a boy, aged seven, was seized with the fever. He had all the characteristic symptoms of the disease, which continued twenty-one days. Next the mother, who brought the baby, came down; she was sick nearly twenty-one days, but had no abdominal symptoms. Next, a son, a young man living at home, was attacked by the disease a few days after the mother, and both of them during the last week of the fever of the boy first mentioned. The next one to be attacked was a daughter, aged sixteen, who was attending school, but who had been home occasionally during the sickness of the first boy. She at first had a pneumonia, clear and distinct, with superadded symptoms, of fever. The last one to be attacked was the young man who was home on Sundays only, whom I have already mentioned. He came down with the disease a few days after the daughter last mentioned. The first fourteen

days went on all well; abdominal symptoms not severe, and temperature not ranging over 104 3° at any time, and then only transiently. On the evening of the fourteenth day he had a large, bloody stool, and within six hours two more of less amount, causing the temperature to drop below normal, and leaving him in an exceedingly prostrate condition, where for two days he seemed to vacillate between life and death. Turpentine and laudanum checked the bleeding, and with stimulants and nutrients the patient rallied. For five days his temperature ranged from 100° to 103°. Then it slowly and persistently rose, ranging from 103° to 104 4°, unless antipyrin was given. The bowels remained quiet. On the twenty-ninth day extreme tympanites suddenly occurred, with severe abdominal pain, and five days later the patient died.

"No others of the family have, as yet, shown signs of the disease. In studying these cases it will be noticed that the severest case came to one who was the least, apparently, exposed. Is the profession satisfied entirely as to the mode in which the disease is transmitted—is it contagious or infectious? I have always doubted the contagiousness of the disease, and held to infection by means of intestinal secretions. Evidently we are not, as yet, through with discussing the origin, as well as the treatment, of this disease."

VOMITING OF PREGNANCY—FAILURE OF DILATATION—RELIEF FROM OTHER MEANS.

Dr. G. M. Lewis, of Vernon, N. Y., reports the case of a colored woman, twenty-six years of age, who had had two children and one miscarriage, and was now pregnant for the fourth time. She had suffered considerably from morning sickness during the early months of all her pregnancies, but beginning at the eighth week of the last pregnancy nausea and vomiting of the most distressing character gave constant trouble. Dr. Lewis began with the administration of mild remedies, such as bismuth, oxalate of cerium, effervescing draughts, nux vomica, calumba, etc., but all failed to give any relief. He then suggested the operation of dilatation. The patient was placed in position, and with a steel expanding dilator the cervical canal was carefully but thoroughly dilated to the full extent of the instrument. This gave no relief, and on the third day following the first operation a thorough dilatation with the steel dilator was again performed, after which the operator inserted his index-finger completely into the cervix. This operation was so thoroughly performed that it was confidently expected that the patient would improve immediately, but the vomiting persisted. Three weeks had now elapsed and she was becoming terribly emaciated; was suffering from hunger, yet unable to retain any form of liquid or solid food; had palpitation of the heart badly two or three times daily; was getting nervous and unable to sleep, and her pulse was 140 and very soft.

Dr. H. W. Carpenter, of Oneida, now saw the case in consultation. During the examination made at this visit he readily inserted his index-finger, up to the second joint, into the os. He was of the opinion that an abortion would result fatally, by reason of the debilitated condition of the patient, and it was decided to try large doses of the mild chloride of mercury. Every other night five grains calomel, with two grains of santonine, were administered, and one-fourth grain morphine was injected hypodermatically. Hypodermatic injections of morphine had been given previously, in order to relieve the palpitations as they occurred; but as they secured to the patient a better night's rest, they were given every night at 9 P.M. for twenty-two nights. Rectal injections of strong beef-tea (acidulated and peptonized) were given twice daily for the first week, after which the patient was able to retain broths on the stomach, and from that date continued to improve. She is now in the fifth month, well and hearty. Dr. Lewis believes the dilating was ineffectual in this case, and that the morphine and mercury did the work.

Progress of Medical Science.

The Relation of the Diseased Nasal Mucous Membrane to Asthma.—Dr. Böcker, of Berlin, summarizes his observations as follows: 1. Reflexes can be originated from every part of the nose. 2. The reflex irritation of the mucous membrane is independent of the corpora cavernosa (Hack). 3. The destruction of the corpora cavernosa does not arrest the reflexes. 4. The swelling of the lower turbinated body is physiological. 5. The reflex-arresting-power of large polyps does not exist. 6. Asthma is seldom associated with nasal polyps. 7. Asthma can be originated under certain circumstances by all mucous membranes. 8. Asthma is usually produced by the bronchial mucous membrane. 9. Odors and psychical impressions can produce asthma. 10. Normally, asthma cannot be produced by the nose. 11. Trigeminus-asthma is caused by morbid states of the nervous system. 12. The impossibility of respiring nasally may produce asthma. 13. Asthma occurring from "catching cold" is originated by swelling of the bronchial mucous membrane. 14. Hay-fever asthma is produced by direct irritation of the bronchi. 15. Cavernous tumors, papillary growths, and adenoid vegetations often produce nightmare. 16. Asthma often is independent of nasal conditions. 17. The treatment of nasal affections can sometimes cure asthma. 18. Extended galvano-caustic operations on the nose are to be avoided. 19. Radical cure of asthma is seldom effected by mere removal of nasal polyps. 20. In the treatment of asthma, constitutional treatment is of the greatest importance.—*The Journal of Laryngology and Rhinology*, January, 1887.

Sulpho-Carbonated Water in Diarrhœa.—Dr. P. de Champeaux relates, in the *Bulletin Général de Thérapeutique* of November 15, 1886, two cases of chronic diarrhœa of very severe type in which most happy results were obtained by the use of sulpho-carbonated water, as recommended by M. Dujardin-Beaumetz. This water is made by adding six drachms of pure sulphide of carbon and thirty drops of essence of mint to one pint of water, shaking thoroughly and then allowing to settle. The water only is used, and the sediment of sulphide of carbon is allowed to remain, but water can be again added to it to be charged as in the first instance. The dose is from one to four tablespoonfuls or more a day in milk. The special indication for the employment of sulpho-carbonated water in chronic diarrhœa is the presence of fetid stools, for the author says that he has tried it in other cases in which the intestinal discharges had no bad odor and has seen no benefit follow its use. It should not be given alone, but only as an adjuvant to other remedies of acknowledged utility in the treatment of chronic diarrhœa. The good effects of the remedy may not be apparent immediately, but within three or four days the stools will begin to lose their fetid character. The sulpho-carbonated water should be continued for a certain time after the desired results have been obtained, as, if abandoned too soon, the fetid stools are liable to reappear.

Bronchitis in Reference to Position during Sleep.—Dr. Nosovitch has examined 738 Russian soldiers, and found bronchitis in 235 (31.8 per cent.). In 97 (13.1 per cent. of the whole number examined, and 41 per cent. of the bronchitic men) the disease was left-sided; in 72 (9.7 per cent., respectively, 30.5 per cent.) right-sided; and in 66 (8.9 per cent., respectively, 28 per cent.) both sided (*London Medical Record*, February 15, 1887). Being struck with such an extraordinary frequency of one-sided localization of the disease ($41 + 30.5 = 71.5$ per cent.) he began to search for an explanation of the fact, and soon came to the conclusion that it might depend upon the habit of sleeping on one side (on the right in some, on the left in others), which habit might involve

a certain difference in conditions with regard to ventilation between the right and left lung. To verify that supposition, he undertook observations for ten successive nights on 612 sleeping soldiers, and found that 37.44 per cent. of them slept on the right side, 33.17 per cent. on the left, 23.09 per cent. on the back, and 6.29 per cent. on the belly. The figures obtained obviously could not support the original hypothesis: for if a defective ventilation of the lung could be a predisposing cause of bronchitis on the same side, a right-sided affection should be met more frequently than the left-sided one, which was not the case. Still the author is inclined to think that there exists a certain etiological connection between one-sided bronchitis and one-sided posture during sleep. When a man sleeps on one side, his respiratory tracts on the opposite (upper) side are more exposed to the action of cold. A certain parallelism of the author's figures seems to speak in favor of that supposition: there were 33.1 per cent. of left-sided sleepers, and 30.5 per cent. of right-sided bronchitis; 37.4 per cent. of right-sided sleepers, and 41 per cent. of left-sided bronchitis; while the number of both-sided bronchitis (28 per cent.) coincides with the number of men who slept on the belly or back (29.8 per cent.), and in whom, therefore, both of the lungs stood under identical conditions in regard to their liability to catching cold. A certain predisposing influence may be ascribed also to the fact that the free (non-compressed, upper) lung of the sleeper makes more extensive excursions, works more, and rests less, than its compeer. Finally, more extensive and free movements of the non-compressed lung may favor a relatively easier and more extensive penetration of "pathogenic principles" into the latter.

Tuberculosis from Circumcision.—Dr. E. Lehmann reports ten cases of tuberculosis in Jewish children, occurring by inoculation during circumcision. The rabbi who performed the operation was the subject of pulmonary phthisis, and it was supposed that the virus was conveyed from his mouth when he applied his lips to the wound to arrest the hemorrhage. In each of the infants, about ten days after the circumcision, the preputial wound became ulcerated and the inguinal glands became swollen and indurated. Syphilis was excluded by the absence of any secondary symptoms. Two of the children died of tubercular meningitis, and three had multiple abscesses and died of exhaustion. Dr. Elsenberg relates a similar case occurring in Warsaw. The preputial wound did not heal, but suppurated, and the inguinal glands became enlarged. Later, an abscess appeared over the left mastoid process. There was no eruption on the skin, and anti-syphilitic treatment gave negative results. The child finally died, and microscopical examination of the diseased tissues revealed the tubercular nature of the affection. The author has met with three additional cases of a like nature.—*Lo Sperimentale*, October, 1886.

Hæmoglobinæmia.—Dr. Silbermann, having carefully studied this subject, formulates the following conclusions: 1. Hæmoglobinæmia and hæmoglobinuria represent a process in which the white blood-corpuscles, as well as the red, are concerned. 2. The hæmoglobin which has been dissolved in the blood destroys the white blood-cells, and thus occasions a decided increase in the amount of fibrin-ferment. 3. This increase of the ferment can also be produced when the hæmoglobin passing into the blood-plasma produces the substance necessary to the formation of fibrin-ferment by abstracting it from the protoplasm of the white blood-cells, without actually destroying them. 4. If there are large quantities of the ferment developed as a result of the action of hæmoglobin in the blood, fatal thrombosis may occur, or an excessive stasis in the large abdominal veins, leading to a fatal anæmia of the brain. 5. If the action of the hæmoglobin is not so intense, not so much fibrin-ferment is developed, and consequently the abdominal venous stasis is not so great, although it is still considerable. 6. The excretion of hæmoglobin through the kidneys is accomplished chiefly in the convolated tubules. 7. If, however, damage has been done to the glomerular epithelium through the general disturbance of the circulation, hæmoglobin will also be excreted in the Malpighian tufts. 8. The hæmoglobin rings found in the glomeruli partly are formed there, partly are produced by the backing up into them of hæmoglobin out of the convoluted tubules. 9. The convulsions appearing in toxic hæmoglobinæmia are to be considered as anæmic, not as uræmic. 10. The fever attending both toxic and paroxysmal hæmoglobinuria is occasioned by the large amount of fibrin-ferment circulating in the blood.—*Zeitschrift für klinische Medicin.*

The Indications for Nephrectomy.—Dr. P. Wagner, of Leipzig, has published an article dealing with this subject. He says (*London Medical Record*, February 15, 1887) that "the indications for extirpation of the kidney have recently been somewhat restricted. There is now much objection to the removal of a wandering kidney of healthy structure; nephrectomy differs from ovariotomy in this important respect, that the kidney belongs to the class of organs on which depend the proper working and vitality of the organism. In performing nephrectomy the surgeon runs the risks of removing a single organ, or of leaving the fellow kidney either already diseased, or liable to become so sooner or later after the operation. This last result is not unlikely to occur, according to some surgeons, after removal of a calculous or suppurating kidney. Cases have been recorded of death from anuria after nephrectomy, in which the remaining organ, on both macroscopic and microscopic examination, appeared to be normal. It is open to doubt whether, under certain conditions, as in aged and very feeble subjects, the remaining kidney is capable of becoming enlarged to such an extent as to perform the functions of two renal organs. It has been pointed out by Rosenheim that even in the most favorable cases the subject of nephrectomy is never able to perform with the remaining organ the full functions formerly performed by two kidneys. Nephrectomy is urgently indicated in cases in which the renal lesion directly threatens life, as, for instance, in cases of severe injury to the organ and malignant disease. That the results of the operation have been so bad in the latter class of cases is owing to the difficulty of establishing a sure diagnosis before the disease has attained an advanced stage. In cases of non-malignant renal tumor the organ should be removed when of such increased size as to give rise to serious symptoms. The operation is also indicated in tubercular disease affecting but one kidney. This, however, Dr. Wagner points out, is a condition that is rare and very difficult to recognize. In cases of renal calculus and pyonephrosis the surgeon should content himself at first with nephro-lithotomy or nephrotomy. In suppurative affections nephrectomy is indicated if the disease be progressive, has caused emaciation of the patient and hectic fever, and is likely to be associated with general amyloid degeneration. Hydronephrosis and renal cysts, apart from special complication, afford no indications for nephrectomy. Dr. Wagner holds that the extra-peritoneal operation should always be performed if possible. In cases of renal calculus, of pyonephrosis, of tubercular disease of the kindey, and of uretal fistula, he would advocate Simon's lumbar incision. In the removal of a diseased wandering kidney, or of a large renal tumor, it would be found necessary to perform the trans-peritoneal operation. In discussing the value of the different methods that have been proposed for determining the presence or the functional capacity of a fellow kidney, Dr. Wagner states that some of these are too theoretical, some applicable only to the cadaver, others too heroic and dangerous, and most of them far too uncertain to be of any real utility."

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THE CAUSES OF DISEASE IN IMPURE ICE.

THE great sanitary problems which are presented in the supply of pure drinking-water for large towns are so complex that accurate knowledge concerning them must of necessity accumulate slowly as science advances along the lines of new methods of research. A great deal in this direction has been expected, and much of value has been revealed, as an outcome of the study of bacteria, which within the past four or five years has attracted so much attention.

The biological analysis of water has been established as an almost necessary adjunct to the chemical examination; the relations of certain species of bacteria to several forms of serious disease has been definitely made out, and a very large number of facts elicited regarding the form and life-history of different kinds of germs.

While the danger of the transmission of disease from one person or community to another by impure water has long been recognized, the rôle which ice formed from polluted water may play in the same way has not seemed so certain, on account of the very prevalent notion that water cleans itself in freezing.

Still, the dangers which may lurk in impure ice have not been overlooked by physicians, and several severe outbreaks of disease have with very good reason been attributed to the use of bad ice. But a certain measure of uncertainty has existed even in the most marked cases, owing to the lack of exact knowledge regarding the purifying agency of cold. For this reason medical men have, as a rule, been disposed to caution in condemning suspected ice.

It appears, if we may accept the conclusions of workers in bacteriology, that the greatest danger from water, as well as ice, lies not in the things which can be appreciated by sight or taste, but in those invisible foes of man, the bacteria which may cause disease.

Our neighbors at Albany have for a long time been agitated over the propriety of pumping up the Hudson River water which is contaminated with Troy sewage and using it unfiltered for potable purposes. New Yorkers have looked on with complacency at this sanitary agitation, their equanimity undisturbed owing to their consciousness of the general excellence of the Croton water system. The unpleasant possibility of a pollution of the Hudson River ice, which we so largely use, from Troy and Albany sewage has not greatly disturbed us, since the bliss of our ignorance has been too comfortable to give up without a reason.

We need not apologize for devoting so large a part of the present issue to a series of studies which throw much light on the subject of impurities in ice in general, and particularly in that which is used in New York. These studies seem to establish, on precise experimental evidence, the fact that disease-producing bacteria may live for a long time in ice. The bearing of this fact alone on the use of ice which is cut in sewage-polluted water anywhere is too obvious to need further comment.

It is very difficult to establish an absolute standard of purity as regards the bacteria, either in water or ice, because as yet so little is known about the hosts of them which seem to be the natural denizens of most water. We would call attention to the fact that Dr. Prudden has endeavored, in laying down his standard of bacterial purity, or rather of allowable bacterial impurity, in water or ice, to place his criterion, even at the expense of absolute definiteness, on the side of safety, a position which would seem to be necessary, so long as our knowledge of common bacteria is incomplete.

While the tendency of these researches would seem, at first sight, to add to the burden of a moderately safe existence, a careful study of the results shows that in reality they are on the whole reassuring rather than otherwise, because in the place of suspected unknown dangers they point out to us the exact nature and extent of the evils, and the easily established measures by which their avoidance may be secured.

MAKING THE DEAF-MUTE HEAR.

HALF a century ago Braid, of England, stated that he had been able to make several congenital deaf-mutes hear by hypnotizing them, and causing them to listen to various sounds. Braid's observations do not seem to have attracted much notice, or at least to have been extensively repeated. Dr. Berkhan, of Braunschweig, however, has recently taken up the matter and made experiments upon nine young persons who were completely deaf.

The deafness was first thoroughly tested by various kinds of noises, the person was then hypnotized and then the hearing tested again. The following account will best show the result: G. S——, aged fourteen, healthy and well grown, from his earliest youth had been deaf and dumb. He was hypnotized. During the hypnosis moderately loud noises near the ear caused quick movements of the head and body. After hypnosis he heard spoken behind his back the sound "a" very plainly; o, not so plainly; the other vowels not at all; knocking on the door, plainly; whistling, not at all; ticking of a clock, not at all. Various tests made during the subsequent year and a half showed that this power to hear certain sounds was not only retained but strengthened. In three other cases similar results were obtained; in five cases the experiments were failures.

It is not claimed that by hypnosis the deaf may be made to hear well, but in a certain proportion of cases it seems possible to put them in slight communication with the external world by means of the sense of hearing.

To the man who has heard nothing for years the screech of a locomotive may sound sweeter than the symphonies of Beethoven.

COLLECTIVE INVESTIGATION REGARDING CHOREA.

The report of the Collective Investigation Committee of the British Medical Association upon the subject of chorea has been published. It is based upon 439 cases, and the facts are carefully collated by Dr. Stephen Mackenzie. The report is an interesting one, yet we confess to have found in it no new facts that will change present views upon the history of the disease. As to the mooted point of its relation to rheumatism, it is stated that that disease preceded the chorea in about twenty-six per cent. of cases, which is only a little in excess of the figures of Dr. Sturges (twenty per cent.). Scarlet fever preceded it in twenty-nine per cent.; anæmia in twenty per cent.; mental overwork in sixteen per cent.; and some form of nervous shock in fifty per cent. The usual duration was from two to three months. The death-rate was two per cent. Some cardiac lesion was present in thirty-two per cent. of cases, in one-half of which rheumatism was present.

A large number of complications of the most varied character were noted, the most common one being headache. Nervous affections of some kind were noted in forty-six per cent. of the families of those affected, "nervousness" being most common, and next it chorea. Arsenic, iron, and full feeding, with rest, were the main things relied upon in treatment.

THE ACADEMY OF MEDICINE.

The Academy of Medicine may justly be regarded as the present and future centre of medical interest in this city. It holds and will maintain this position, not only by its age, but far more largely by the gradual accumulation of those material conditions which most influence the profession, and give permanency to its character and reputation. The first and most important step which the Academy took in advance was the purchase of a suitable building. This act gave what it sadly required—a local habitation and a name. Then followed the erection of an audience and library room, which have naturally proved very attractive features of its equipment. The rapid growth of the library, now scarcely second in value to any other in the country, and the presence on its tables of all the medical journals of the world, complete the appointments which place the Academy on the basis of the great central medical organization of the city. Of the future of the Academy we may safely predict that, with judicious management, it will at no distant day be the most powerful and influential scientific and professional corporation in this city. The munificent sums of money which have fallen to it during the past year are only precursors of larger endowments which it will receive in the future. In view of the growth of the Academy, and its prospectively commanding position among the institutions of the city, it is pertinent to inquire as to the conditions essential to the fulfilment of its great mission.

Its location must be more central. Looking forward to the future distribution of the profession in and around New York, and the direction and extension of lines of rapid transit, it is evident that some more central and accessible location should be selected.

The Academy should have a building commensurate with the present and future wants of the profession. In addition to its assembly hall, and library hall with its rooms for private study, there should be parlors for receptions, lodgings, and café for medical men visiting the city, a museum with all of its appointments, and laboratories for special investigations.

The internal organization of the Academy needs reconstruction. Its business should be transacted at quarterly meetings held for that special purpose, thus saving valuable time now lost at the regular meetings. The scientific meetings should be entirely devoted to the discussion of vital and current questions in the several branches of the medical sciences, selected by a competent scientific business committee. The subject to be discussed should be so stated as to sharply define the question at issue, and every speaker should be required to conform rigidly to parliamentary rules. The Academy would thus become the great theatre of contention where the best talents and attainments of the profession would be brought into honorable and earnest effort in the elucidation of scientific truths. There is, in the profession in New York, a class of young men who would develop high forensic abilities if there was a forum where they could be trained to the proper exercise of their natural and acquired powers. The sessions of the Academy would also become of far greater importance to the profession at large were they thus devoted to disputations on subjects of immediate interest by members who, thoroughly prepared for the discussion, delivered their arguments in set forms of speech. The sections should be devoted to the reading of papers and the discussions of the topics which they present, but no paper should be read at the meetings of the Academy except as a part of the discussion of the specific topic under consideration. While the sections would thus become the active and efficient auxiliaries in the selection and preparation of the scientific business of the Academy, they would be most interesting societies in all branches of the medical sciences.

One more feature should be added to the scientific work of the Academy, viz., courses of lectures on special subjects. There could be three or four courses of lectures annually, which would prove most attractive and instructive to the great body of medical men.

These are but a few of the many suggestions of reform which occur to us in considering the future of the Academy. They are put forth as suggestions merely, but we trust they will awaken a new interest in our great central medical body, and lead to mature plans for its advancement to a higher and more influential position.

KREMJANSKI ON THE TREATMENT OF PHTHISIS BY ANILIN OIL.

The most striking communication made at the Congress of Russian Physicians in Moscow, in January last, was by Professor Kremjanski, of Charkow. The title of his paper was, "The Treatment of Phthisis on the Basis of its Parasitic Origin." Professor Kremjanski accepted the theory of the bacillary origin of phthisis, and de-

scribed a mode of treatment based on this view, whose results, if true, have been rightly characterized as "astounding" and "revolutionary." We are unable to give a detailed account of his method, as only a synopsis (in the *St. Peterburger Medicinische Wochenschrift*) is as yet accessible.

Professor Kremjanski attacks the bacilli with a diet peculiarly innutritious for these organisms, and with germicidal drugs given internally and externally. The principle and peculiar feature of the diet is an abundance of acid-bearing substances, such as "kwass," lemonade, acid fruits, kumyss, and kefir. Internally he gives salicylate of soda, benzoate of soda, besides causing the patients to breathe an atmosphere containing ethereal oils. As the specific for disinfecting the lungs and blood in phthisis he gives inhalations of anilin oil by means of a specially constructed atomizer. The reader of the paper presented two cases illustrating his mode of treatment. One of these had been given four drops of anilin daily, with tincture of menthæ and ipecac, acid diet, with raw flesh, and inhalations of anilin.

Considerable skepticism was expressed regarding Kremjanski's results, and a commission of five was reported to inquire into them. Professor Kremjanski is sure that the investigation will be for him a triumph.

NEW YORK DUST AND THE DISORDERS OF SPRING.

THE month of March in New York City is the most comprehensively and penetratingly dirty month out of the whole year of dirty months in this never-overwashed city. Dr. Morell Mackenzie thinks American catarrhs are largely due to the dust, and it is not unreasonable to believe that the tremendous clouds of unsterilized earth which are driven into the faces of our city's population during this season have something to do with the excess of coughs and colds and the high mortality-rate during this period, which in some years is exceeded only in the hot months of summer. It is not so much spring-medicines, "one hundred doses for a dollar," as cleaner streets that New Yorkers need.

THE EASTERN DISPENSARY.

WE take pleasure in chronicling the fact that the Eastern Dispensary has been added to the list of the institutions which pay their attending physicians. There does not seem to be any good reason why medical men alone, of all professional classes, should work without recompense. And we regard it as a step forward in the status of our profession when dispensary directors begin to see that it is wise and just to pay their medical officers for services rendered.

"REPUTABLE" AND "REGULAR."

WE venture to say that most classes of intelligent people would prefer to be considered "reputable" rather than "regular" in the eyes of their fellow-men. Regularity is an excellent thing, no doubt, especially in the matter of the bowels, but a man's reputation is or ought to be the dearest thing to him in life. We make these remarks *à propos* of the organization of a new medical society in Cincinnati, when a lively discussion ensued over a proposition to have the membership consist of "reputable" physicians instead of "regular" physicians.

Some stump-speech logic was indulged in over the subjec tof irregulars, and the motion to substitute "reputable" for "regular" was lost by a large majority. Henceforth, the Hamilton County Medical Society may not have any reputable members, but they will all be regular. We trust that some good fortune may bring it about that all its "regulars" will be reputable. We know of some who are not.

But is it not true that a reputable physician cannot be an irregular one?

BENZOYLTROPIN, A NEW LOCAL ANÆSTHETIC.

MANY efforts have been made to find some agent equal in local anæsthetic effect to cocaine. The kawa-kawa of Lewin, obtained from *Piper methysticum*, was found to have some such property, but to be far inferior in practical value. Apomorphia has also some local anæsthetic power if used in colossal dosage. Recently drumine has excited attention, but trials of it in England have given unsatisfactory results.

Professor Wilhelm Filehne, of Breslau, has been investigating the subject from a chemical stand-point, and while he has not yet obtained, synthetically, cocaine or a substitute for it, he has found in what direction to look, and also the principle in the cocaine molecule which gives to it its local anæsthetic action. Filehne discovered that the union of tropin, a molecule derived from atropin, with benzoic acid produced a substance which he calls *benzoyltropin*. This possesses "an exquisite local anæsthetic effect." It has also the mydriatic power of all the tropeïnes; paralyzing accommodation in the same way.

The ecgonin molecule in cocaine plays an indifferent rôle, according to Filehne, and the benzoyl molecule is the active one. Some anæsthetic action was found to exist in a large series of benzoyl derivatives which were experimented with. The most active, after the benzoyltropin above referred to, was benzoylmethyltriacetonalkamin. None of the series could be used practically because they caused, at first, burning and painful sensations, applied to the conjunctiva.

The benzoyltropin is, therefore, the nearest approach to cocaine in practical utility. The objection to it is its mydriatic power and its higher cost.

SUPERFECUNDATION.—Dr. J. B. W. Nowlin adds to the list of cases of superfecundation (*The Southern Practitioner*). In 1863 he was called to see a negro woman who was in labor. When he arrived, he found that she had given birth to twins. One of them was a pure African, with all the typical features of that race, and the other a very bright mulatto, exhibiting evident characteristics of the Caucasian race. The mother was a pure black, with all the typical features of the African, as was also the husband. Upon inquiry Dr. Nowlin ascertained from the mother that she had permitted intercourse with a white man living with her master the day succeeding the same act with her husband. There were two separate placentæ and cords.

News of the Week.

Another Sure Cure for Colds.—Dr. J. H. Whelan (*The Practitioner*), after truthfully demonstrating the inefficiency of all present methods of treating colds, recommends as very nearly specific the following:

℞. Quininæ sulphatis ..... gr. xviij.
Liquoris arsenicalis ..... ♏ xij.
Liquoris atropinæ ..... ♏ j.
Extracti gentianæ ..... gr. xx.
Pulveris gummi acaciæ, q. s. ut fiant pilulæ xij.

Sig.—One every three, four, or six hours, according to circumstances.

He adds: "If these pills be commenced in the early stage of a common cold, *i.e.*, when the affection is as yet confined to the nose and pharynx, the affection will be nipped in the bud. At starting one pill should be taken every three or four hours, and later on every six. If a catarrhal subject has a box of these pills always at hand, he has, I believe, a weapon wherewith to meet and defeat his enemy. The longest time I have seen a cold last while the patient was fairly taking these pills was three days."

We Regret to Learn that the well-known surgeon Dr. William Hunt, of Philadelphia, was recently run over by a wagon and had his right arm broken.

Dr. H. C. Wood, of Philadelphia, has been offered the chair of medicine at the Johns Hopkins University.

The Prescribing of fluid ext. rham. cat. to a sensitive spinster caused a Philadelphia surgeon to lose his patient.

Memorial to Dr. Ambler.—The bronze tablet recently executed from funds provided for the purpose by the medical corps of the United States Navy has just been hung in the Corcoran Art Gallery, Washington, on exhibition. Eventually the tablet will be placed in the Surgeon-General's office at Washington. The memorial is in honor of Dr. James Markham Ambler, the surgeon of the Jeannette Exploring Expedition to the Arctic regions. The inscription reads as follows: "James Markham Ambler, M.D., U. S. N., Lena Delta, October 9, 1881. Duty stronger than love of life."

Sixteen Medical Colleges in Ohio.—*The Columbus Medical Journal* has discovered a new medical college at Lebanon, O., making sixteen in all that the fortunate State of Ohio now possesses. The Lebanon College has always had a faculty that outnumbered the class.

A United States Government Commission to Investigate Yellow Fever Inoculation.—The Sundry Civil Appropriation Bill passed by the last Congress provides an expenditure of a sum not exceeding $10,000 for the investigation of methods practised in Mexico and Brazil for preventing yellow fever by inoculation. The President is authorized to cause the expenditure to be made, and may appoint any person to carry it out.

Quinine is now selling at about fifty-two cents per ounce.

Dr. John Marshall Paul, a prominent physician of Belvidere, N. J., died suddenly on March 17th, of pneumonia. He graduated from Williams College in 1864, and then served six months in the Medical Department of the Sanitary Commission of the Army of the Potomac. In 1868 he was graduated from the University of Philadelphia, and served a term as resident physician in St. Mary's Hospital, Philadelphia. In 1869 he moved to Belvidere, where he had since practised.

Is Pneumonia Contagious?—Under this title, *The Sanitary News* says that at a house in Providence, R. I., about a month ago, a lady died of pneumonia. A week later, two more fatal cases developed in the same house. The man who was sick was an Odd-Fellow. He was cared for by a brother of the order and a physician, both of whom are now seriously sick with the disease. The physician's name is Dr. Lester S. Hill. Similar cases to these have been reported before.

A State Board of Health for Vermont.—A State Board of Health has just been established in Vermont, the twenty-ninth State in the Union to be provided with such an organization.

The Philadelphia County Medical Society has memorialized the Legislature in opposition to the passage of Section 10 of the proposed Pharmacy Law, now pending. This section so far repeals the Registration Act as to permit druggists to engage in the practice of medicine, provided that they conduct only an office practice. The Society urges that this proposition is unworthy of approval and support, for many reasons, but above all because of the danger to which it exposes the lives of individuals and the health of the community. The Druggists' Association of Philadelphia has also taken similar action.

The College of Physicians and Surgeons of Chicago held its Commencement exercises on February 21st, when fifty-three gentlemen received their degrees.

The Central College of Physicians and Surgeons of Indianapolis, Ind., conferred degrees upon four graduates at its Commencement, February 26th.

The Minnesota Hospital College held its sixth Annual Commencement on March 11th, and conferred degrees upon twenty graduates.

The Louisville Medical College held its Commencement exercises on February 25th, with sixty-three graduates.

The Memphis Hospital Medical College held its seventh Annual Commencement on March 1st, and graduated a class of forty-one.

The College of Physicians and Surgeons of Baltimore held its fifteenth Annual Commencement on March 15th, and graduated a class of eighty-eight.

The Medical College of Ohio held its eleventh Annual Commencement on March 8th, and graduated eighty-four students.

Miami Medical College held its Annual Commencement on March 9th, when a class of twenty-nine was graduated.

The Baltimore Medical College held its seventh Annual Commencement on March 15th. Degrees were conferred on eight graduates.

Medical Colleges at Odds.—The Legislature of Ohio has been appealed to by the Medical College of Ohio, and requested to pass a bill granting to it also the privileges of the county hospital in proportion to the number of students in attendance. The Miami Medical College now has the exclusive privilege of using this hospital.

It is Rumored that Dr. Lange, of this city, has resigned his hospital appointments here and gone to Germany, to accept an official position under the German Government.

Gastric Hysteria.—A Saginaw, Mich., daily reports in detail the case of a girl, seven years of age, who for seven weeks has practically taken no food. She has no organic disease, it is said, and has been reduced by her fast to such a condition of weakness and emaciation that death is expected.

Christian Scientists can Practise Medicine in Iowa.—In a recent test case brought to trial by Charles E. Kelly, a "Christian Scientist," at Mason City, Ia., before a justice of the peace, the jury rendered a verdict in favor of the defendant. A man practising the electric bath business in Mason City also proposes to test the constitutionality of the law.

The Mortality-rate of Diphtheria in Berlin.—In 1886 there were 6,649 cases, with 1,535 deaths, giving a mortality-rate of 23.1 per cent.

An Immense Hospital, to contain six hundred and sixty-four beds, is to be built at Madrid. There will be ten pavilions, constructed on the Tollet system.

Immediate Perineorrhaphy.—Dr. M. J. Madigan, of Brooklyn (*Medical Standard*), denies the value or propriety of immediate perineorrhaphy after parturition. He cites some authorities who have admitted that good results were often not obtained, and concludes by saying: "The principles laid down by Billroth are sufficient to demonstrate that, pathologically, the position of the gynecologist as to immediate perineorrhaphy is invalid. Whenever a laceration occurs in my practice, I place the patient on her side, bring the knees together, secure apposition by means of pads, placing absorbent cotton over the laceration, and wash the parts with an antiseptic, alcoholized, aqueous solution. The results are excellent. If perineorrhaphy be needed, it can be much more easily performed, with better chances of success and less discomfort to the patient, two months after delivery than during the lying-in period. It must be admitted that here, as elsewhere, the teachings of gynecology have led the practitioner to look upon woman as an appendage of her genito-urinary organs, and have taught him to disregard the most ordinary principles of general pathology."

A German Hospital in Brooklyn.—The sum of $50,000 has been promised to form part of a fund for erecting a German hospital in Brooklyn.

The Meharry Medical College, on Febrnary 21st, conferred degrees upon ten gentlemen of color.

A Medical Palace—A Joy Forever.—Under these titles the local paper at Cleveland, O., refers to the new college building of the Medical Department of Western Reserve University. This has recently been erected through the liberality of one of Cleveland's business men, Mr. John L. Woods, at a cost of $175,000. The building is certainly a beautiful one architecturally, and thoroughly equipped in every way. The college is fortunate in having received the gift of the land from Senator Payne, and a fund of $10,000 from Mr. H. B. Hurlbut for establishing a dispensary.

The Michigan State Board of Health is one of the oldest and most efficient organizations of the kind in the country. Its annual reports have often contained articles of the greatest practical value, and through the labors of members, and especially of its efficient executive officer, Dr. Baker, saving of life and money have been accomplished. Yet, at almost every session of the Legislature during the fifteen years' existence of the Board a bill has been introduced to abolish it. The Board is not enough of a political institution, apparently, to suit some Michiganese statesmen.

The Emperor William's Physician, Dr. Lauer, has been presented with the sum of 300,000 marks, with a statement recognizing his efficient services.

Memorial Tablet to the Late Dr. Austin Flint.—The Commissioners of Charities and Correction have had executed a tablet to the memory of Dr. Flint, to be placed in Bellevue Hospital. The tablet is unique in design and exquisite in workmanship. The inscription which is imprinted on the shining brass, in Roman letters of black enamel with initials in red enamel, is surrounded by a band of conventional palm-leaves, relieved at intervals with mat scroll-work. The inscription reads as follows: "In Memory of Austin Flint, M.D., LL.D. Entering the profession with broad culture and thorough education he remained an active physician to the last day of his life. As a medical writer he added to the knowledge of the American profession and to medical science. As a teacher he was loved and respected by thousands of his pupils in all parts of the country. As physician to Bellevue Hospital for twenty-five years, he contributed largely to its reputation by his character, acquirements, labors, and wise counsels. Erected by the Commissioners of Public Charities and Correction. H. H. Potter, President; Thomas S. Brennan, Charles E. Simmons."

Changes in Army Hospital Stewards.—We learn that Surgeon-General Moore is taking active steps to carry out the provisions of the recent act of Congress affecting the corps of hospital stewards of the army. It is proposed that the name of these attachés of the army be changed to apothecaries.

Schroeder's Successor.—It is believed that Professor Winckel, of Munich, will succeed the late Professor Carl Schroeder as Professor of Obstetrics at Berlin.

Four Bills for Regulating the Practice of Medicine are now before the State Legislature of Kentucky. This looks as though the profession of the State was failing in the duty of carefully looking after its own interests and those of the public.

Reports of Societies.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, February 9, 1887.

T. Mitchell Prudden, M.D., President, in the Chair.

Dr. G. C. Freeborn demonstrated under the microscope the results of

TWO NEW METHODS OF STAINING ELASTIC FIBRES,

namely, Lustgarten's and Herxheimer's. Lustgarten (*Fortsch. d. Med.*, iv., 1886, No. 22, p. 734) employs for this purpose Victoria blue, a basic aniline dye, from the Baden Soda and Aniline Manufacturing Company.

Sections of tissue hardened in alcohol do not give satisfactory results, but fresh tissue hardened in Flemming's solution for twenty-four hours and then further hardened in alcohol gives sharp pictures.

Sections of tissue, hardened as above, are placed in a mixture of one part of a concentrated alcoholic solution of Victoria blue and four parts of water for twenty-four hours. The sections are then removed from the staining fluid, washed quickly in alcohol (five to ten seconds), drained of the superfluous fluid by placing them on a bit of filter paper for a few seconds, cleared in oil of bergamot, and mounted in Canada balsam.

Connective tissue and cells stain a faint green, nuclei a darker green, elastic fibres a light green, but darker than the other elements. In the specimens under the microscopes he had not succeeded in obtaining the exact shades described by the author. In his specimens the tint was bluish. This difference in color might be due to the grade of the dye employed, as he had found that the Baden Company manufacture three different shades. The dye used by him is known as the medium shade.

Herxheimer (*Fortsch. d. Med.*, iv., 1886, No. 24, p. 785) hardens fresh tissue in Müller's fluid, though good pictures may be obtained with tissues hardened in alcohol, picric acid, or Flemming's solution.

As a staining solution he uses the following mixture: 1 c.c. of hæmatoxylin (best obtained from Grübler in Leipsic), 20 c.c. of absolute alcohol, 20 c.c. of water, 1 c.c. of a saturated solution of lithium carbonate in water. Alum solutions of hæmatoxylin, Heidenhain's solution, or Weigert's solution may be used. The specimens shown were stained with Weigert's solution.

The sections, which should not be over 2 to 100 mm. thick, are placed in the staining solution for from three to five minutes. They are then removed and placed directly in a dish of the officinal solution of the chloride of iron for from five to twenty seconds. In this solution an iron lake is formed with the hæmatoxylin, and immediately afterward the decolorization takes place. Too prolonged action of the iron solution will remove the color from the finest fibres. After removing the sections from the iron solution, they are well washed in a large dish of water, when clouds of color will be given off from the sections. Then pass through alcohol twice, clear in oil of cloves, and mount in Canada balsam. The iron solution and the alcohol should be frequently renewed.

The elastic fibres stain a blue-black to a deep black color, and stand out sharp against the underlying connective tissue, which is stained more or less of a light gray, often running off into a bluish tint. Nuclei sometimes stain of a grayish tint.

VERTEBRAL CARIES—LAST CERVICAL AND FIRST SIX DORSAL—PARAPLEGIA—RECOVERY OF PARAPLEGIA—ENLARGEMENT OF RIGHT HEART—HEMORRHAGIC INFARCTION OF LUNGS—DEATH.

Dr. John F. Ridlon presented the spinal cord of a patient who died in St. Luke's Hospital on the 7th inst.

The history was as follows: Mary D——, six years of age, was admitted October 24, 1883, to the orthopædic service under the care of Dr. Newton M. Shaffer and himself. Both parents died of consumption. She had three healthy brothers, and two brothers died from causes unknown. She had four healthy sisters. Other hereditary history not known. The curve in upper dorsal spine was first noticed in January, 1881—six years ago. From that time the curve gradually increased in spite of treatment by a brace at one of the public institutions in this city for the treatment of cripples. On her admission to St. Luke's Hospital, three years and three months ago, her general condition was fairly good. There was a large kyphosis which involved the four first dorsal vertebræ. There was paraplegia to the following degree: She could not stand alone; there was very little voluntary motion in the lower extremities; and all the tendon reflexes of the lower extremities were greatly exaggerated. Sensation seemed normal. No bladder or rectal symptoms.

From that time, October 24, 1883, to June 29, 1885, there was no treatment except rest in bed. Meantime the paralysis of the lower extremities was complete—there was not the slightest control over a single muscle. From this time on, the same conservative treatment being pursued, there was a gradual and steady gain. On March 10, 1886, she was able to move the toes somewhat, flex the feet to a degree, and flex the legs on the thighs. On April 6th she walked about forty feet. Reflexes were reduced almost to normal. On April 14th Taylor's antero-posterior spinal support and chin-piece with Shaffer's ball-pivot joint was applied and the patient was allowed up. On April 16th, after being up two days, she seemed so unsteady on her feet that she was again put in bed, the brace being kept on without the chin-piece. On October 20th she was again allowed up for five minutes twice a day. December 1st she was able to walk alone the length of the ward and back. There was a slight exaggeration of the tendon-reflexes in the lower extremities. December 22d, allowed up half an hour twice daily. January 27, 1887, began to have difficulty in breathing. She was under the care of Dr. A. B. Ball till February 1st, and of Dr. F. P. Kinnicutt from that time till her death, at 3 A.M., February 8th.

Post-mortem examination by Dr. Frank Ferguson, February 8, 1887. Body emaciated. Rigor mortis slightly marked. Spinal curvature and projection forward of the breast. Diaphragm at the sixth rib on either side. Loose old adhesions generally distributed over both lungs. Tubercles at apex of left lung. Areas of hemorrhages of small size. Mucus and pus in the bronchial tubes. Old phthisis at apex of right lung. Numerous hemorrhages (infarctions) of considerable size in lower lobe of right lung. Heart was larger than normal. Left ventricle moderately dilated; its walls thin; its valves normal. Right ventricle enormously dilated; its walls thin; its valves normal; its muscular tissue showed fatty degeneration. Spleen normal in size, firm in consistency, dark in color; kidneys congested, firm in consistency, capsule not adherent, surface smooth, markings distinct. Both organs were alike. Mesenteric glands moderately increased in size. Stomach, pancreas, and gall-bladder normal. Liver: Peripheri of acini were anæmic and fatty. Urinary bladder normal. Caries of the spinal column involving the last—seventh—cervical and first five dorsal vertebræ. The angle of the curve was very sharp (so that the upper surface of the sixth dorsal and the under surface of the sixth cervical were not more than an inch and a half apart, and this space was filled in with a cheesy mass from the cord forward, there being but a thin shell of bone anteriorly). The cord was about half an inch in diameter, flat, and its gray substance was not distinguishable. Above and below the angle the spinal cord seemed normal.

[The specimen was referred to the Committee on Microscopy.]

Remarks.—Dr. Ridlon said that it was difficult to tell

at the beginning whether recovery from the paraplegia attending Pott's disease would occur within two months or three years, and he knew of no method of treatment which would enable one to answer this question. Is there any treatment more satisfactory than rest in bed and the support given by a fairly good fixation apparatus? He had used iodide of potassium, and had become convinced that it produces no effect upon the paraplegia, unless there be reason to believe that hereditary syphilis is present.

To the naked eye the gray matter in the specimen presented was apparently destroyed, but whether or not the nerve-fibres had been destroyed he was unable to say.

He would also ask if anyone had seen a case in which paraplegia was present and the kyphosis was in any other region than the upper dorsal.

Again, were we to expect dilatation of the right side of the heart as the result, in these cases, which would give rise to a pulmonary condition that would terminate life?

Dr. Van Santvoord referred to a case which he treated with the actual cautery, while an interne in Bellevue Hospital. The cautery was applied to relieve pain, but the paraplegia began to disappear at once, and after a time the girl recovered from the paralysis.

Dr. Ira Van Gieson remarked concerning restoration of function after destruction of nerve-tracts that a recent observer had experimented under Stricker's direction by removing a portion of the motor tract in dogs, and had found that function was restored in from three to six weeks. The conclusion was that the restoration of function occurred through collateral channels in the motor tracts injured or destroyed.

Dr. H. J. Boldt presented a specimen of

PERSISTENT BRONCHO-PNEUMONIA

removed from the body of a child nine months old that died with symptoms of meningitis. There had been nothing to direct attention to the chest, and the child had been healthy until the development of the meningitis.

The lower portion of the left lung was adherent to the chest-wall and had one cavity filled with pus. All the other organs were healthy, except the brain, which showed simple meningitis.

METRITIS—PERIMETRITIS—ENLARGED GLANDS.

Dr. Boldt presented the pelvic organs removed from the body of a woman, forty-nine years of age, who came under his observation on October 1st, last, when she claimed that she had enjoyed good health until a few months previously. About one year ago a small tumor was detected in the right inguinal region, which was regarded as an ovarian cyst. When Dr. Boldt first saw her the tumor had reached considerable size, and he advised an operation, but it was declined, and the patient died of exhaustion.

At the autopsy the uterus was found enlarged, its walls thickened, and the entrances to the Fallopian tubes were obliterated. On the right side there was a cyst that had been bound down by adhesions, and upon the top of it the tube could be distinctly traced. On the left side it was impossible to determine, positively, by gross examination, the presence of either the tube or ovary. The retroperitoneal glands were enlarged, and it was thought that they might be sarcomatous.

The case illustrated the importance of early operation for removal of ovarian cyst.

The specimen was referred to the Committee on Microscopy.

Dr. W. H. Porter presented a pair of lungs which illustrated

ACUTE ANTHRACOTIC PNEUMONIA

in connection with acute lobar pneumonia. He had seen four or five such cases, all occurring in workmen on the new aqueduct. The symptoms had been chill followed by moderate rise of temperature and continuation of febrile movement for a few days, and finally the symptoms all abated and the patients were about the wards of the hospital in a very comfortable condition, but died suddenly on the development of dyspnœa and pulmonary œdema.

The anthracotic part was apparently an acute development of this peculiar lesion. He had seen two or three cases in which this anthracotic condition of the lungs only was found, without evidence of inflammatory exudate into the air-vesicles. Whether or not the anthracosis predisposed to the occurrence of lobar pneumonia, he was unprepared to answer; it might be that these persons had the lobar pneumonia because of the exposure incident to their work.

The President remarked that this was an interesting class of cases, especially in connection with the new notions of the pathology of acute lobar pneumonia. Although the particular bacterium which causes this form of pneumonia has not been established, and it is not improbable that there may be several capable of causing it, the general impression is that there are micro-organisms which bear the relation of cause and effect to this disease; but it also remains that there are predisposing factors which are equally important, and perhaps there is a peculiar exposure that predisposes to acute lobar pneumonia. Here, however, is another cause, apparently, and the acute irritation produced by the little foreign particles may be a predisposing factor. In that respect, especially, the class of cases mentioned by Dr. Porter becomes one of great interest.

Dr. Porter had thought that the acute lobar pneumonia in these cases was the result of the acute anthracosis, without reference to bacilli.

DILATED URETERS.

Dr. J. S. Thacher presented two specimens. The *first* was found at autopsy in the body of a woman. The cause of the dilatation was a collection of small polypoid outgrowths from the mucous membrane in the middle part of the ureter and over a space an inch or an inch and a half long. The dilatation of the pelvis of the kidney was not extreme. The little growths, which were numerous, were not fibroid in character, but rather cystic, containing granular matter and squamous epithelia.

The *second* specimen was from the body of a fœtus six months old, and the ureters were dilated to about the size of the thigh of the embryo at that period. The pelves of the kidneys were slightly dilated. The bladder was enlarged, its walls hypertrophied and quite firmly attached to the anterior wall of the abdomen. He was unable to find any cause for the retention of the urine.

Dr. Ira Van Gieson presented a specimen which showed:

A FOREIGN BODY IN THE EYE—PANOPHTHALMITIS FROM INJURY.

Three weeks before enucleation the patient was struck by a twig, penetrating the sclera about one centimetre posterior to the sclero-corneal junction and passing through the globe to the diagonally opposite ciliary body. The foreign body was thorn-shaped, rather sharply pointed, and measured one and a half centimetres in length.

Microscopical Examination.—The foreign body was surrounded by a zone of granulation tissue. The lens was absent and the collapsed capsule surrounding a small mass of new connective tissue occupied approximately its normal position. Just posterior to the foreign body was the detached retina. Between the detached retina and the optic nerve entrance was a mass of extravasated blood. The anterior chamber was filled with pus. The iris and ciliary body were infiltrated with pus-cells.

Dr. R. Van Santvoord presented a specimen of

POSSIBLE TUBERCULAR DISEASE OF THE PHARYNX

removed from the body of a child eighteen months and nineteen days old. Five months ago it was noticed to be

suffering from irregular attacks of fever, with cough and râles in the chest, and that it was emaciating somewhat. There was some difficulty in swallowing at one time, but nothing special to explain it was found. The child died four days ago. At the autopsy there were found two ulcers, one in each pyramidal pouch, and about an inch in length. There were also ulcers on either side of the external surface of the epiglottis, about one-fourth of an inch wide. On the posterior wall of the pharynx were irregular ulcers, and one small point of ulceration in the left tonsil. The process did not extend into the nose. The bronchial glands were enlarged, but were not cheesy. The upper and the lower lobes of the right lung were solidified largely by broncho-pneumonia, and scattered through the consolidation were yellowish spots, which which were apparantly tubercular nodules that were becoming cheesy. Nothing especially noticeable was found in the abdominal contents.

About fourteen months ago he presented a similar specimen, and in that case difficulty in swallowing was noticed only four days before the death of the child. The lesion had been described as occurring in adults, but whether it was frequent or not in children he was not prepared to say. The specimen was referred to the Committee on Microscopy.

Dr. Ridlon had been led to believe, from clinical observation, that lesions of this character which it had been customary to regard as tubercular occurred without any hereditary history of tubercular disease, but where there was a positive history of syphilis.

Dr. A. P. Dudley presented a specimen of

CANCER OF THE UTERUS

that developed upon the site of an old cervical laceration in a woman forty-eight years of age, who had borne eight children, and had been attended by a midwife. She was not aware that laceration had occurred. The malignant disease was quite far advanced, and was removed by the vaginal operation. Considerable difficulty was experienced in the operation because of the attachment to the uterus of two fibroids, and the mass was finally removed in sections by means of the elastic ligature.

The patient was under the influence of ether nearly three hours. She did fairly well until the following morning, when it was found that there was suppression of urine, and death occurred thirty-eight hours afterward.

Dr. W. H. Porter made the autopsy, and found that the entire peritoneal cavity was absolutely free from suppuration. The kidneys were in a condition of rapidly advancing acute parenchymatous metamorphosis, and the liver was in the same condition, and also cirrhotic. He had seen twelve or thirteen similar cases, in which this acute disease of the kidneys had developed after severe surgical operations, while everything about the site of the operation indicated a reparative process, but the symptoms were those ordinarily ascribed to septicæmia. In these cases the urine contained neither casts nor albumen before the operation, but that which was in the bladder at the time the autopsy was made contained both. He had therefore been led to believe that, in a large number of cases, what had been called septic symptoms had been due to renal changes. He regarded prolonged etherization as unsafe, and, if there was evidence of renal disease, as contraindicated.

Dr. Dudley also presented

A SLOUGHING FIBROID

removed from a patient, aged forty-three, who had borne ten children. She had suffered from pain and hemorrhage for nearly a year before he saw her. There was double laceration of the cervix. The fibroid was removed by means of the spoon-saw from the anterior wall of the uterus, close to the fundus.

The patient had intermittent heart-beat, and also an aortic murmur, besides about ten per cent. of albumen in the urine, which cleared up under the influence of citrate of potash and infusion of digitalis.

This patient took a small quantity of ether without unfavorable symptoms, and he intended to again administer it and subject her to an operation for repair of her perineum.

UTERINE POLYPUS, WITH ENLARGEMENT OF THE ORGAN, TWO YEARS AFTER THE MENOPAUSE.

Dr. Dudley also presented a small polypus removed from the anterior wall of the body of the uterus of a woman, aged fifty-four, who had been past the menopause two years. The cervix was really a senile one, and he divided it sufficiently to enable him to dilate and remove the polypus that he had previously recognized lying within the cavity of the cervix. The uterus measured four inches in depth.

Dr. Boldt referred to three cases in which acute renal changes were found, while the symptoms were supposed to be due to septicæmia. He also recalled two cases of polypus occurring after the menopause.

The Society then went into executive session.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, March 17, 1887.

A. Jacobi, M.D., President, in the Chair.

The President acknowledged the receipt of

A PORTRAIT OF THE LATE GUNNING S. BEDFORD, M.D.,

presented to the Academy by the family of the deceased, and read extracts from a printed memoir giving a brief biographical sketch of the distinguished Fellow.

On motion by Dr. J. A. Andrews, the thanks of the Academy were given to the family of the late Dr. Bedford for their beautiful and highly acceptable gift.

Dr. T. Mitchell Prudden then read a paper (see p. 341) on

BACTERIA IN ICE, AND THEIR RELATIONS TO DISEASE, WITH SPECIAL REFERENCE TO THE ICE-SUPPLY OF NEW YORK CITY—AN EXPERIMENTAL STUDY.

The President invited Dr. Francis Delafield to open the discussion, who said it seemed to him that the paper was one which called, not for discussion, but for commendation.

Its author had presented, not theories, but facts—facts so novel in their character, so carefully observed, and so clearly stated, and the deductions drawn from these facts had been made with so much conservatism and so little disposition to give more weight to them than they really deserved, that, while he found in the paper matter for the most earnest consideration, he could find concerning it nothing more to say.

Mr. Brennemann, on invitation, continued the discussion, and said that his investigations had been in the direction of chemical examinations of water. But it seemed to him that the author of the paper had thrown a flood of light upon the question of the contamination of ice. The possibility of the contamination of ice was a question that had often been discussed, yet in scarcely any of the annual health-reports had it been dwelt upon.

He had been specially interested in the determination which the author of the paper had made with reference to the resistance offered by specific bacteria to freezing; and he had been led to think of that peculiar instance, the epidemic at Plymouth, in which there had never been afforded a better demonstration of the resistance of the typhoid-fever bacillus to the influence of cold than was seen in the region ascribed to the origin of the disease.

It was certain that the points brought out in the paper were, many of them, the data for which investigators had been waiting in the discussion of the question of the production of disease by ice.

The question of the relation of biological tests to the purity of drinking-water was one that had been watched with interest by chemists; and as these had slowly come under their attention, there had been great hope that they would add the element of confirmation to chemical analysis of water. But he thought it must be concluded that, at the present time, it was impossible to fix the limit concerning the number of bacteria which would represent the limit of safety with regard to water—the absolute number of bacteria found by culture-experiments. There was no line of agreement, at present, between the chemical and the biological tests, concerning number, and he regarded it as impossible to say what interpretation should be given to this result.

But when it came to the question of quality by filtration, as compared with water, for example, furnished by artesian sources, then we have a valuable test in biology that has led to the filtration-process, upon which Frankland has placed great reliance. From daily examinations, there was reason to believe that, demonstrated by chemical and biological study, the *Croton water* should be regarded as a candidate for improvement.

The President congratulated the Academy and himself that they had been honored with the paper by Dr. Prudden. He then said that he had been looking up the literature of the subject, and had found it to be very limited, of which the following were extracts :

Dr. Miguel published researches on the vitality of bacteria in mountain-air and under the influence of cold temperature in the *Semaine Médicale*. He quoted the extract found in the *Centralblatt für Allg. Gesundheitspflege*, 1884, iii., 316 :

"Cold was not particularly a germicide. In a block of ice weighing fifty kilograms (one hundred pounds), taken from the Lake de Tour, Miguel found, after an interval of eleven months, seven hundred and fifty thousand living bacteria. Atmospheric microbes resisted the effect of a cold temperature of 100° C. (=148° F.), to which they were exposed through thirty-six hours. This intensely cold temperature was produced by the rapid evaporation of liquid sulphuric acid and liquid nitrous oxydol. But their resuscitation was slow, and took place on culture-fluids after three days only. In ten cubic metres of air he also found, at an altitude of four to seven thousand metres, no bacteria; on the Thun Lake, five hundred and sixty metres, 8 bacteria; near Hôtel Bellevue, five hundred metres, 21 bacteria; in a room of the hotel, 600 bacteria; in the Park of Montsouris, 7,600 bacteria; in Paris, Rue Rivoli, 55,000 bacteria."

From these researches he should conclude that if ice were to be free from bacteria it ought to be secured from altitudes of at least fifteen hundred feet.

Freudenreich has arrived at similar results, which he published in *Revue Scient.*, ii., 384, and which the President quoted from *d. Viertej. f. öff. Ges.*, xvii., supplement, 17.

Dr. J. A. Andrews said that while making some observations he found that pus, when frozen, was viable at the end of *three* weeks, as successful inoculations could be made with it in the cornea of rabbits, where it produced the characteristic bacteria of suppuration. Still later, that the staphylococcus was viable after the freezing had been maintained *seven* weeks.

The Academy then adjourned.

Emmenagogue Action of Oxalic Acid.—Dr. Poulet (*Gazette Hebdomadaire*, 1886, No. 20) extols oxalic acid as the best of all emmenagogues. It does not, however, he admits, abolish the pain experienced by many women in the discharge of the menstrual function, and it is, of course, inoperative in amenorrhœa consequent upon organic disease. The dose in which he prescribes it is one teaspoonful every hour of a mixture containing thirty grains of oxalic acid, about six ounces of water, and two ounces of syrup of orange-peel.

THE PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, March 4, 1887.

George F. Shrady, M.D., President, in the Chair.

Dr. George L. Peabody reported a case of

CYSTIC SARCOMA OF THE CEREBELLUM, WITH SECONDARY HYDROCEPHALUS, WITH THE SPECIMEN.

J. R——, fourteen years of age, a native of the United States, came under my care in the New York Hospital on June 7, 1886. There was no family history. He denies rheumatic, malarial, specific, nephritic, and alcoholic histories. He had measles at two years of age. He has always been a bright, healthy child. He was born with a rather large head. Two years ago he was laid up for two months with much headache and vomiting, and lost his appetite. He recovered from this, and was well until eight months ago, when he commenced to have much headache and vomiting. His eyes were very sensitive to light, and gradually he commenced to lose his eyesight, and at the end of two months, he had become totally blind. He has remained so ever since. In the last three weeks he has had several chills, but no fever, and no sweating. Two months ago he commenced to pass urine involuntarily, and has done this occasionally ever since. He has lost flesh and strength. His bowels have been constipated all the time. In the last few days, he has been quite stupid.

On admission, 8.30 P.M.—Temperature, 99.6° F.; respiration, 12; pulse, 96. He is poorly nourished; there is no œdema. Both pupils are dilated; neither reacts to light; he is totally blind. Patellar and plantar reflexes are slightly exaggerated. There is a little fluid in the right chest posteriorly. He is very stupid, has continually a listless expression. The head is large, measuring twenty-four inches in circumference; the lower part of face is heavy and dull. There is almost a total abolition of senses of smell and taste; pulse is of high tension, heart fairly forcible. His urine is high colored, neutral, 1.028, no albumen, no casts, phosphates in solution.

June 8th.—Temperature and pulse normal, respiration 13 and 14 to the minute. He passes urine and fæces involuntarily. Lies in a lethargic state all the time, is able to talk when aroused, but answers questions automatically he apparently has no reasoning power whatever; he sleeps a great part of the time.

June 9th.—His respirations vary from 12 to 14.

June 13th.—Ordered pot. iodide, gr. x. t. i. d.

June 17th.—Vomited twice to-day.

June 25th.—Condition much the same; perhaps a little brighter.

June 27th.—Patient vomited twice to-day, without apparent cause. His temperature this evening is 100.4°

June 29th.—Ordered iodide, gr. xxx. t.i.d. For last two days has been more stupid. From time to time convulsive twitchings of face and extremities are noticed. He vomited once to-day.

June 30th.—Vomited once. Evening temperature, 101.6°; respiration, 18; pulse, 110.

July 1st.—Ophthalmoscopic examination of eyes shows veins of retina enlarged and engorged with blood; the vessels of optic nerve almost obliterated. Temperature, 99.8°; respiration, 16; pulse, 105.

July 2d.—He has become very stupid. His gums are spongy. To-day he had a slight unilateral convulsion of right side; respiration was suspended during and after it for some moments. His face was much congested; the temperature of right side was higher than that of left. Temperature, 100.4 to 100.6°; respiration, 18 to 22; pulse, 116 to 94.

July 3d.—Temperature, 100 to 100.2°; respiration, 17 to 9; pulse, 112 to 106. Iodide decreased to gr. xv.

July 4th.—Temperature, 100.4°; pulse, 102 to 110.

His respiration varies from 6 to 12 per minute. It is somewhat peculiar; two deep inspirations are taken, then a period of rest varying from twenty to thirty seconds, then two inspirations again, quite rhythmically.

July 9th.—Pot. iodide discontinued. Urine reddish yellow, acid, 1.022, no albumen, few hyaline casts.

July 10th.—Ordered inunction of oleate of mercury daily.

July 18th.—Ordered gums painted with tr. benzoin daily, and inunctions of oleate of mercury discontinued. There is total abolition of senses of smell and taste.

August 6th.—Patient has become much brighter since last note. This morning he had a slight convulsion, with no after-effects.

August 16th.—Urine yellow, acid, 1.008, no albumen, negative microscopically.

September 12th.—His condition is about the same. He is very constipated urine and fæces are passed involuntarily. There is some slight rigidity of the arms; pupils are still widely dilated and do not react, his gums are very spongy, almost concealing the teeth. He takes only milk, but takes about sixty ounces of this every day. From time to time he has convulsions of both arms and legs, with no apparent after-effects. His respirations are still infrequent, varying from 6 to 12 per minute. He answers questions in the same slow methodical way. If asked whether it is night or day, he knows, but is unable to give any reason for his opinion.

September 22d.—Urine light yellow, neutral, 1.016, no albumen, negative microscopically.

October 10th.—Since last note he has become more stupid, does not now answer questions. His pupils are now both contracted and do not react. His convulsions are more frequent than formerly. He is hardly able to swallow milk. Pills when given to him dissolve in his mouth without any attempt on his part to swallow them. His face is slightly cyanotic, and there are numerous venous stigmata on it.

October 14th.—Urine amber, acid, 1.026, no albumen, many hyaline casts. He has failed very perceptibly since last note. Pupils still contracted. For the last two weeks he has been very hyperæsthetic, crying out whenever touched. His arms are flexed and rigid, and when an attempt is made to straighten them, he cries aloud. This morning his temperature is 104.4°.

October 15th.—Temperature, 106°; respiration, 16; pulse, 84. He continued to fail, and at 12.30 P.M., he died.

The *autopsy* was made one hour and a half after death.

Body is emaciated. Rigor mortis is absent. There is slight œdema of both lower extremities. There are two hemorrhagic areas in the skin just below the left inner condyle.

Head: The calvaria is very thin, its greatest circumference is twenty-two inches. There is a small normal clot in the longitudinal sinus. The convolutions over the vertex are everywhere distinctly flattened. The cavity of the left lateral ventricle is immensely increased in size. The right lateral ventricle in same condition. The third and fourth ventricles are also dilated. The right hemisphere of the cerebellum is greatly increased in size; its outer half seems on the surface to contain no cerebellar tissue at all, having the look and feeling of dense connective tissue; the inner half shows cerebellar convolutions on its surface. The entire right hemisphere is converted into a cyst which contains brownish serum. The wall of the cyst has an average thickness of about one centimetre. Its external measurements are 7 ctm. by 5 ctm. Its capacity is 33 c.c. The cyst is egg-shaped, its smaller end being directed toward the fourth ventricle. The left hemisphere of cerebellum is smaller than normal. Cyst presses upon roof of fourth ventricle, and upon its right lateral wall.

Peritoneum, diaphragm, and thorax normal.

Heart rather small, otherwise normal.

Lungs: Normal; bronchial glands are quite enlarged.

Kidneys: Capsules not adherent, surface smooth; organs apparently normal.

The mucous membrane of the stomach is distinctly thickened toward the pylorus.

Duodenum: The orifice of the common duct is pervious.

Intestines: The spleen, pancreas, liver, and gall-bladder normal. Pigmentation and depression at centres of acini of liver; anæmia and fat at their peripheries.

Urine found to contain no sugar.

By *microscopic examination* the fibrous-looking walls of cystic tumor is found to consist of small round- and spindle-cells in a rather abundant fibrous stroma which does not contain many blood-vessels, and in which are numerous aggregations of young inflammatory corpuscles and of pigment granules.

Dr. Peabody exhibited sections of the cyst-wall under the microscope, which showed the structure to be as he had described it.

He asked the impression of the members as to whether the tumor of the cerebellum by its pressure upon the roof and right wall of the fourth ventricle could have caused the dilatation of the general ventricular cavity of the brain. He believed that it was admitted by pathologists that anything which interferes with the return of venous blood from the choroid plexuses, or prevents the escape of serum from the ventricles, can cause secondary hydrocephalus. But the subject of the communication between the ventricular cavity and the outer surface of the brain was one upon which anatomists had not yet entirely agreed, and he therefore felt that he was not warranted in drawing positive conclusions as to the sequence of the lesions in the present case.

He regretted that the boy had come under observation so late that no study of his case could aid in settling this point with certainty.

Dr. A. H. Smith asked if there was not room for the supposition that the hydrocephalus was in existence when the sarcoma developed as a secondary disease.

Dr. Peabody said that such a possibility could not be denied.

Dr. W. H. Draper remarked that internal hydrocephalus might exist for many years without giving rise to symptoms.

Dr. Robinson asked how it was to be explained that in such cases, those of pressure on the fourth ventricle, sugar was sometimes present in the urine and sometimes absent; but, generally, albumen is not found, although, physiologically, its presence might be expected.

Dr. E. G. Loring was inclined to think that the shape of the head existed prior to the growth of the tumor in the cerebellum; for the child should have been blind almost from birth if the shape of the head was due to the tumor. Choked disk seldom is present in ordinary hydrocephalus where the sutures yield, no matter how great the accumulation of the fluid is. He thought that the child was hydrocephalic from birth, and that the sarcoma was a secondary occurrence.

Dr. Peabody also reported a case of

DOUBLE OVARIAN CARCINOMA IN A PREGNANT WOMAN, WITH SPECIMEN.

F. B——, thirty-four years of age, a native of Russia, married, and of no occupation, was admitted into the New York Hospital on June 27, 1884. She speaks a very imperfect German, and the only facts that could be learned from her were: That she had had a severe cough for more than three months; had spat up blood; had severe pain in the heart for two months, with great shortness of breath of late. She says she has been pregnant for at least six months.

On admission.—Patient is very poorly nourished. She is cachectic and sallow. She has the appearance of a woman of fifty years of age. There is marked œdema of the feet. Patient suffers greatly from dyspnœa, and cries out loudly with pain, which she refers to her chest.

The veins of the face and neck are turgid. At every inspiration there is retraction of the second and third intercostal spaces of the left side. Her pulse is of fair quality, but rapid.

Physical examination. — Anteriorly there is unequal expansion of the two chests; the right being more limited in its action.

On the right side there were roughened breathing, with dulness on percussion, and moist râles and ronchi.

On the left side respiration is exaggerated.

Posteriorly, on the right side, there is dulness, with tubular respiration.

On both sides there are numerous fine râles. The abdomen is protuberant and tense, and occupied by an ovoid tumor extending from the symphysis pubis to halfway between the umbilicus and ensiform cartilage. No uterine souffle nor fœtal heart-beat can be distinguished.

Ordered: Tr. digitalis, ℥. xv.; and whiskey, ℥ ss. q. three hours.

June 28th.—Temperature, 100.6° F.; respiration, 48; pulse, 148. Patient remained in same condition as on admission. She complained loudly at times of pain in the chest, and at several times suffered from cardiac syncope. Opium and stimulants relieved both those symptoms; but she gradually became weaker, and at 2.10 P.M. she died, on the day after her admission to the hospital.

The *autopsy* was made fifty minutes after death.

Inspection: Body poorly nourished. Rigor mortis absent; marked œdema of both lower extremities, more especially the left. Breasts are large; veins are prominent. Abdomen protuberant. There is a papilloma attached to the left labium magus. The uterus extends about three inches above the umbilicus. Both ovaries are about equally enlarged, lobulated, apparently solid. Vessels on the surface are distended. Ovaries measure 16 × 13 × 8 ctm. Their surfaces are somewhat irregular, but not very rough or nodular. The right ovary lies in the true pelvis. The left ovary lies partly in the pelvis and partly in the iliac region.

Diaphragm: Right side, fifth rib; left side, fifth space.

Thorax: The right pleural cavity contains a litre of brownish serum. The right pleura is studded by firm, white masses, cartilaginous in feel, some of them with caseous centres, varying in size from a millet-seed to a green pea. On the left side are old adhesions below the apex. The pleura contains very few such nodules as described on the right side. There is no fluid on the left side.

Heart: The heart is rather small, the valves are competent, the muscular tissue is flabby.

Lungs: The bronchial glands of both lungs are enlarged, and contain numerous grayish masses. The mucous membrane of the bronchi throughout is thickened. Both organs are alike.

Spleen: The spleen is large and tough, measuring 17 × 9 × 4¼ ctm.

Stomach: The stomach is normal.

Bile-duct: The common bile-duct is pervious.

Intestines: The intestines are normal.

Kidneys: The left kidney-capsule not adherent; surface is smooth. There are numerous whitish masses, from the size of a pin's head to that of a green pea, surrounded by a zone of congestion, in the cortex of the organ. Markings are distinct. The right kidney in the same condition, but it contains fewer of the whitish masses found in the left kidney. There are several of these masses on the surface of the organ.

Liver: Centres of acini are pigmented; the peripheries are anæmic.

Uterus: The uterus is occupied by a fœtus four pounds and eleven ounces in weight, well developed, and partially macerated. The nails of fingers and toes are well formed. The amniotic fluid is brownish in color. The os is patulous and admits three fingers; the head of the child is presenting. On section, the large tumors occupying the site of the ovaries present areas of cheesy degeneration, surrounded by pinkish, fleshy tissue of firm consistency, and bountifully supplied with blood.

Microscopic examination.—Kidneys: Examined fresh on section, are seen to contain a great deal of fat in the convoluted tubes. After hardening pieces in alcohol, sections through the whitish nodules are found to reveal ordinary encephaloid cancer.

Ovaries: Numerous sections from various places in both ovaries reveal the ordinary tissue of encephaloid carcinoma.

Liver: One similar nodule is found.

Lungs: Both lungs and bronchial glands show extensive invasion by similar growth.

Dr. Peabody further said that primary cancer of the ovary was well recognized, though infrequent; and that cancer was present in *both* ovaries in a considerable proportion of the recorded cases; but that, so far as he was aware, this case was unique, in that it showed the coincidence of pregnancy with cancer of both ovaries.

Ovarian cancer was usually, as in this case, of the encephaloid variety, and generally of rapid growth.

Dr. Peabody showed sections under the microscope from both ovaries, lungs, bronchial glands, liver, and kidneys, in all of which the carcinoma tissue was very well marked.

Dr. J. B. Hunter remarked that the specimen and case were especially interesting, because it was evident that some portion of ovarian tissue was competent to reproduce as late as nine months before death, while microscopical examination, as far as it had been carried, had failed to detect any ovarian tissue remaining. He had never met with a case of ovarian carcinoma in connection with pregnancy.

FACIAL ERYSIPELAS; IS IT CONTAGIOUS?

Dr. W. H. Draper mentioned a case of death from erysipelas of the head and face, which ran a more rapid course than any he had ever seen.

A man was admitted to the New York Hospital, a week ago, who was found to have chronic diffuse nephritis, and who suffered chiefly from the characteristic uræmic dyspnœa. He was relieved of his urgent symptoms, and was apparently doing very well, when he became very restless during the night, and was found, several times, to have thrown his head through between the bars at the head of the iron bedstead, from which position he had to be released. Night before last he was found with his head in that position, and when released it was discovered that he had bruised his left eye rather severely, and that there was an abrasion of the skin. When the house-physician saw him, in the morning, there was an erysipelatous blush about the wound, and this spread with such rapidity that when Dr. Draper saw the patient, in the afternoon, the entire left side of the face presented the characteristic appearance of acute erysipelatous inflammation, and it had also extended upon the scalp, over the left ear, and had invaded slightly the right side of the face. His breathing was comatose, pulse rapid, and temperature high. By midnight the entire face was involved, and also the scalp, and he died at two o'clock in the morning, the entire course of the disease continuing scarcely more than twenty-four hours.

There had been *seven* cases of erysipelas in this ward since January 1st, having been introduced by a case sent over from the surgical to the medical side.

A man died suddenly last week with heart disease, who had severe erysipelas from which he was convalescent. The ward had been closed and was being disinfected.

Dr. Draper mentioned these cases because he thought that medical cases of erysipelatous inflammation of the face—idiopathic erysipelas—were, by some, regarded as non-contagious. Of course, the case first mentioned was one of traumatic erysipelas.

Dr. George L. Peabody remarked that there had been nine cases of erysipelas following lobar pneumonia

in the hospital since last January. In one case there was secondary meningitis and death.

Dr. Draper said that he had a case in the female ward where the facial erysipelas followed pneumonia, occurring first on one side and then upon the other. Now she has purpura, and his suspicion was that she might have ulcerative endocarditis.

Dr. Beverley Robinson said that several cases of erysipelas had recently occurred in the medical wards of St. Luke's Hospital. He would mention one case that had special features of interest. A man, fifty-five years of age, who had been in the New York Hospital previously, gave the history of a small cerebral hemorrhage on the right side. His general condition was such that he did not require special attention, when he developed glandular swelling of the neck under the jaw on either side, without reddening of the skin. There had been in the ward a case of erysipelas, but, as there was no redness of the skin, Dr. Robinson did not regard this as a case of erysipelas at that time, nor did he regard it as a case of mumps. The swelling increased somewhat, was considerably painful, and at the end of twenty-four or forty-eight hours the patient died suddenly.

The autopsy showed that the glands underneath the jaw on either side, and about the larynx and trachea, were infiltrated with pus inspissated in character. In the larynx there was a certain amount of œdema, and there was a ragged ulcer that presented none of the appearances of tubercle or syphilis, and there was no evidence of constitutional syphilis. From the suddenness of the death, and the peculiar infiltration of the glands, without redness of the skin, he regarded it as a case of Ludwig's angina. Dr. Ferguson, who made the post-mortem examination, was inclined to regard it as a case of erysipelatous inflammation, and thought that the ulcer was the door of its entrance. He would ask whether or not the idea of erysipelas should be eliminated from the case, and whether Ludwig's disease was anything more than an erysipelatous inflammation of the subcutaneous cellular tissue in that locality.

Dr. Kinnicutt said that Dr. Robinson's case accorded very well with Ludwig's angina, which was believed to be an idiopathic infectious cellulitis.

Dr. A. H. Smith asked Dr. Draper if there was any connection between the kidney disease in his case and the erysipelas. He had seen very severe erysipelas in diabetics.

Dr. Draper thought that the occurrence of erysipelas in the course of chronic Bright's disease was common; and, until the disease was proved to be a germ disease, it was regarded as one of the secondary inflammations liable to occur with the chronic renal affection, the same as pericarditis, pleurisy, etc.

But of late he had been disposed to regard the occurrence of erysipelas in these cases as due rather to the fact that persons having chronic Bright's disease also had an exaggerated susceptibility for the reception of the erysipelatous germ; and so he thought the occurrence of severe forms of erysipelas in the course of diabetes could be explained; the tissues are in the condition which renders them an easy prey to the ravages of the germ.

Dr. R. F. Weir, in connection with the remarks made by Dr. Peabody and Dr. Draper, asked whether it was not proper to put on record

A PROTEST AGAINST THE RETENTION OF ERYSIPELATOUS PATIENTS IN THE WARDS

of hospitals for treatment. He thought that in their own institution it was a decided fault; that it was wrong that such patients should be treated in either a medical or surgical ward.

Dr. Draper agreed with Dr. Weir, and believed that erysipelas is always a germ disease, whether it comes into the hospital or is developed in the wards within the hospital, and that it should be treated the same as when it occurs with the distinct history of traumatism.

Dr. E. G. Loring asked if the germs were not in the hospitals when the patients were carried in.

Dr. Draper said that a great many cases of erysipelas were brought in.

Dr. Loring: But does the development of the disease depend upon the presence of germs within the hospital or upon the presence of conditions in the patient which will allow them to grow upon him?

Dr. Draper thought that the latter was probably true.

Dr. Loring said that he should therefore think that all the patients in the wards were just as much exposed while in the hospital as after the occurrence of a case of erysipelas.

Dr. Weir believed that facial erysipelas could be considered as a contagious disease, whether it occurred idiopathically or otherwise; but he also thought that very nearly all these cases were traumatic, starting from only very slight abrasions perhaps.

Dr. Peabody asked if anyone had seen erysipelas develop in a surgical case from a so-called idiopathic case; in other words, has phlegmonous erysipelas been distinctly known to follow infection by facial erysipelas?

Dr. Weir had seen such transmission in the old New York Hospital, and yet the evidence was deficient from the fact that it could not be said positively whether or not a different germ acted on the second case. Still, he would feel that his patients with open wounds were in an unsafe position with a case of facial erysipelas in the same ward.

Dr. Robinson said that in his ward there were two or three cases of facial erysipelas, and the man had the pathological conditions that were declared to be erysipelatous in character. The query then arises, Can we have erysipelatous inflammation of the cellular tissue and involvement of glands and formation of pus without reddening of the skin, or is Ludwig's disease anything more than erysipelas affecting the tissues beneath the skin?

Dr. E. D. Hudson asked, How does facial erysipelas infect a ward? Such cases would seem to indicate that the disease can be prevented from producing infection; and some do say so, and claim that it is a localized inflamed area of the skin at first, from which it extends through the medium of the lymphatics. So if the skin is washed with germ-destroying solutions, the disease will be arrested and the power of infection removed.

Dr. Peabody said that there seemed to be in erysipelas a disease which affected the whole system, but at the same time he must say that, practically, he had seen quite a large number of cases in wards in hospitals without the disease spreading to anyone or becoming infectious in any way. He did not think, however, that this could be used as an argument for non-contagiousness.

Dr. Weir mentioned a case that might shed a little light on the subject. He removed glands from the neck and from the axilla of a patient, and erysipelas appeared in the lower wound, the upper wound remaining entirely uninfected. That would show that the disease is a rather local affection.

Dr. Draper's experience accorded with Dr. Peabody's with regard to the spread of erysipelas in medical wards. He could not recall an instance in which it had spread either to nurse or to other patients. But he knew that there were well-authenticated cases in which patients sick with erysipelas had communicated erysipelas to their attendants.

The remark of Dr. Peabody, concerning the occurrence of erysipelas in patients who had had pneumonia, was very interesting in view of the fact that the clinical history of facial erysipelas is strikingly like that of pneumonia, as regards the febrile portion. It lasts about the same length of time and defervescence takes place suddenly, as in pneumonia.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from March 13 to March 19, 1887.

GRAY, WILLIAM W., Captain and Assistant Surgeon. Leave of absence further extended two months. S. O. 62, A. G. O., March 17, 1887.

CARTER, WILLIAM F., Captain and Assistant Surgeon. Leave of absence extended four months, on Surgeon's certificate of disability. S. O. 57, A. G. O., March 11, 1887.

POINDEXTER, JEFFERSON D., First Lieutenant and Assistant Surgeon (recently appointed). Ordered for temporary duty at United States Military Academy, West Point, N. Y., relieving Captain Richard W. Johnson, Assistant Surgeon, who will return to his proper station (Fort Adams, Rhode Island). S. O. 62, A. G. O., March 17, 1887.

Official List of Changes in the Medical Corps of the United States Navy for the week ending March 19, 1887.

PARKER, J. B, First Surgeon. Ordered to the United States Steamship Ossipee.

SIEGFRIED, C. A., Second Surgeon. Ordered to Baltimore, Md., on special duty.

HUGG, JOSEPH, Third Surgeon. Placed on Retired List, March 17, 1887.

Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending March 19, 1887:

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	5	4
Scarlet fever	44	11
Cerebro-spinal meningitis	4	4
Measles	177	29
Diphtheria	108	57
Small-pox	14	1
Yellow fever	0	0

QUACKING SOUNDS IN THE EAR.—Dr. W. S. Parker, of Piqua, O., writes: "In THE MEDICAL RECORD of August 2, 1884, I reported a case of 'quacking sounds in the ear.' To-day, at noon, the subject of the report was taken suddenly with a violent pain in the right side of the head, within three minutes she was unconscious, and in twenty minutes was dead. Being in the immediate neighborhood I saw her at once, and found the following conditions: Stertorous breathing, feeble pulse, protruded tongue, and cold and blue extremities. The right pupil was dilated, while the left was contracted and did not respond to light. The patient had been in her usual excellent health. In the light of results, I am of the opinion that it was a case of ruptured aneurism, and that the sounds were due to the presence of the aneurism."

THE PROPER WEIGHT OF MAN.—Professor Huxley asserts that the proper weight of man is 154 pounds, made up as follows: Muscles and their appurtenances, 68 pounds; skeleton, 24; skin, 10½; fat, 28; hair, 3; thoracic viscera, 3½; abdominal viscera, 11; blood which would drain from the body, 7. The heart of such a man should beat 75 times a minute, and he should breathe 15 times a minute. In 24 hours he should vitiate 1,750 cubic feet of pure air to the extent of one per cent. A man, therefore, of the weight mentioned, should have 800 cubic feet of well-ventilated space. He should throw off by the skin 18 ounces of water, 300 grains of solid matter, and 400 grains of carbonic acid, every 24 hours; and his total loss during that period would be 6 pounds of water, and a little more than 2 pounds of other matter.—*The Hospital.*

THE EAST INDIA CONSUMPTION CURE.—Dr. James S. Cooley writes that the following is the recipe for a "consumption cure" which has enjoyed some popular reputation: Ext. Asiatic cannabis sativa, 2 oz.; ext. Asiatic hashish, 3 oz.; verbena hastata, 2 dr.; ext. diosma, 3 dr.; powdered cinchona bark, 2 oz.; ext. blood-root, 3 oz.; mullen, 1 dr.; loaf sugar, 1 lb.; rum or gin, 8 oz.; water, 24 oz. The writer sent the formula to Dr. Squibb, who replied that there were three of the ingredients with which he was not acquainted, but that it would be impossible to make a fine powder of the others, as the formula directed. The proprietor, who advertised his remedy—in a religious journal, of course—promised to send the ingredients in proper form for $3.

A NEW COLLODION.—The *Journal de Médecine* publishes a notice on a new collodion which is antiseptic and facilitates cicatrization. This collodion does not cause inflammation, and may be substituted for collodion containing gun-cotton in treating wounds and bruises. Like traumatacene, it is efficacious in relieving neuralgic pains, acute or chronic rheumatism. The affected parts should be sponged with it every twenty-four hours, and in serious cases every six hours. If strips of linen or silk be soaked with this collodion an excellent plaster is obtained, which equals that prepared with ichthyocolla, commonly called English court-plaster. It is prepared according to the following formula: Mastic in globules, 3 grammes; balsam of Peru, 1 gramme; narcotin, 1 gramme. Each substance is separately ground; 5 grammes of chloroform are added. The mixture is shaken from time to time, and allowed to rest after solution.

MICRO-ORGANISMS IN THE BLOOD, IN CLOSED CAVITIES, AND IN VARIOUS SECRETIONS.—Recent researches have led Eiselsberg to the following conclusions, which agree with those of Ogston, Rosenbach, and Passet: 1. In the blood of healthy persons there are no micro-organisms, those forms described by Hoffman as micro-organisms being products of the destruction of blood-corpuscles. 2. In the blood of those suffering from septicæmia or pyæmia are found mostly pus-cocci, chiefly the Staphylococcus pyogenes albus, sometimes the Staphylococcus pyogenes aureus and streptococcus, or the three kinds mingled. 3. In the blood of erysipelas patients the specific pus-coccus does not appear. This agrees with the experience of Fehleisen. 4. In the blood of patients with fever, who are suffering from wounds, but with no connection between the two, there are found no pus-cocci. 5. In closed pus-cavities (phlegmons, carbuncles, osteo-myelitic and myelitic abscesses, empyema, tonsillar abscesses, etc.) there always appear the various kinds of pus-cocci, singly or mixed. 6. In blisters he found no cocci, nor in ovarian cysts, nor echinococcus cysts, nor cysto-fibroma. When Eiselsberg failed to find cocci in the blood of septicæmia or pyæmia, he ascribed it to the circumstance that not every drop of the blood contained them.—*Centralblatt für Chirurgie.*

THE TREATMENT OF WHOOPING COUGH.—Dr. P. Suerder has treated thirty children suffering from whooping-cough with nasal insufflations of finely powdered boric acid and roasted coffee. Dr. Arntzenius, of Amsterdam, says that in that city whooping-cough is endemic, there having been about twenty-five hundred cases in 1885, with a mortality of 7.6 per cent. He claims that the treatment of these cases with rarefied air has been attended with much success.

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Original Articles.

ON BACTERIA IN ICE, AND THEIR RELATIONS TO DISEASE, WITH SPECIAL REFERENCE TO THE ICE-SUPPLY OF NEW YORK CITY.

AN EXPERIMENTAL STUDY FROM THE LABORATORY OF THE ALUMNI ASSOCIATION OF THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.

BY T. MITCHELL PRUDDEN, M.D.,

DIRECTOR OF THE LABORATORY.

(Concluded from page 350.)

Snow-ice and transparent ice.—If we look at the blocks of ice as it is being distributed from the wagons, we find a considerable variety in their appearance. In some cases the blocks will be clear and transparent throughout. This is most apt to be the case with river ice, while lake and pond ice is more apt to be somewhat whitish in appearance from the distribution through it of larger and smaller air-bubbles. This is, however, by no means always the case.

Again, the ice-blocks may be, for the most part, either transparent or slightly bubbly, while on one side—that side which was uppermost as the ice was forming—there will be a layer, of from one-half to three inches thick, which is white and opaque and more or less friable. Its opacity is not at all due to any impurities which it contains, but to the fact that it is thickly crowded with air-bubbles, around which the ice is irregularly crystallized. This is called "snow-ice," partly, doubtless, on account of its appearance, and partly because of its mode of origin.

Mode of formation of snow-ice.—After the first film of ice is formed at the surface of the water, the process of freezing goes on downward, as the heat from the water below radiates off into the colder air above. If anything occurs to prevent this radiation of heat upward, the formation of ice ceases. This happens, of course, if the temperature of the air rises above the freezing-point, but it also occurs if any considerable amount of snow collects upon the surface of the ice already formed. The air, which is caught in innumerable tiny cavities between the snowflakes as they settle upon the ice, acts as a blanket to prevent radiation, and thus the formation of fresh ice below comes to a stand-still, even though the weather be quite cold. Snow is for this reason a great bugbear to the ice-harvesters. It must be gotten rid of at any cost, for, if not, the crop stops growing. Now two courses are open to the ice-farmer: If the already formed ice is thick enough to bear he can go on with his horses and scrape the snow off from his ice-field, and this, as the writer is informed, is usually the preferable course when it is practicable and there is promise of plenty of cold weather, because if he gets rid of the snow he may get ice which is clear and transparent throughout, and which, at least for household and drinking purposes, is most popular and valuable.

But if, when the snow comes, the already formed ice is not thick enough to bear, or if the weather prospects indicate a lack of cold, so that he fears lest the ice may not be thick enough for profitable handling, he cuts a series of small holes in various places over his ice-field, the water from below pours up over the surface, merges with the snow and freezes. In this way, while the non-conductibility of the snow-blanket is largely reduced, he gets an additional layer of ice on top. This operation is called "flooding" or "bleeding" the ice. But this partially melted snow-layer is never transparent, because a large number of air-bubbles will still remain entangled in it. This is one way in which snow-ice is formed, on the top of the blocks as we see them in the market, and it is white on account of the large number of entangled air-bubbles.

Very frequently the snow is followed by rain, and then a snow-ice layer may form on top by natural means, from the water which falls directly upon the ice or runs onto it from the banks.

If the ice is thick enough, so that the harvester can afford to do it, this top snow-layer may be planed off, though at considerable expense, leaving transparent ice. But it is the practice of most harvesters to leave a layer of from one to three inches in thickness of the snow-ice on the top of the block, because it forms, on account of its enclosed air-bubbles, a protective layer on one side which retards melting and waste of the clear ice both in the storage houses and in transportation.

It is a frequent practice of some of the more responsible dealers to chip off most of this snow-ice layer before it is weighed out to customers. The temptation to not remove this snow-layer, but to weigh and deliver it with the rest is, however, so great, particularly in years when the supply is short, that it is very often not successfully resisted, as anyone may convince himself who will take the trouble to notice the blocks of ice which are left at houses through the city. Ice having a large amount of snow-ice in the block is known in the slang of the handlers as "fat" ice.

Sometimes when forming both the ice and snow sink a little, and a considerable depth of water covers both and freezes; then the snow-ice will be embedded in the block in the form of a dense, bubbly streak between layers of transparent ice.

Bubbly streaks in ice.—Still again, one frequently sees strata of air-bubbles enclosed in the block of ice, which lie parallel to the surface but below the snow-layer in the transparent ice which was formed downward. These are apparently due to the accumulations beneath the ice of air-bubbles which have freed themselves from the water as it freezes, or, in ponds, in part at least, from decomposing matter at the bottom, and finally became enclosed as congelation proceeded downward. These streaks or bands of enclosed bubbles which lie between bands of clear ice may be narrow or broad, and a series of them may often be seen lying close together with clear ice-bands between them, like the strata of sedimentary rock.

These alternating bands of bubbly and transparent ice give us a very interesting record of the varying temperature during the time in which the ice was forming. For it appears that if the temperature is low for a considerable period, so that the formation of ice downward in the water steadily proceeds, this ice, particularly in rivers or where the water is in motion, will be apt to be quite transparent, containing but a few scattered bubbles. If, however, the temperature rises, so that the ice does not form at all or makes but slowly, bubbles are apt to collect on the under surface and become enclosed in streaks when ice begins again to form. Thus we may have a series of narrow, closely packed, alternating, transparent, and bubbly layers, as a record of the nightly freezing and

the daily thaw, or a series of broader bands when the changes of temperature follow one another less closely.

Disintegration of ice.—Finally, ice which has been exposed to a moderately warm temperature out of doors is apt to undergo a gradual molecular disintegration, and long air-bubbles may appear in it along the sides of the ice-crystals of which, though invisible, the solid ice is composed. As these ice-crystals, after the first surface film is formed at the commencement of the freezing, lie with their long axes perpendicular to the free surfaces of the ice, the long bubbles caused by disintegration lie in the same direction.

This process of disintegration is called "combing," and large masses of ice may in this way become very rotten and friable, while retaining their external form, either with or without the collection of long air-bubbles between the partially melted ice-crystals. With air which enters the ice in this way by its disintegration, and with vacuoles which look like air-bubbles, but are caused by the localized melting of small portions of ice within the solid block, the present study has nothing to do. For a long series of analyses of ice in this condition, made by the writer, shows, as was to be expected, that the presence of these disintegration air-bubbles and of vacuoles has no relation whatsoever to the number of bacteria present in the ice.

Lake and river ice.—Exactly why pond and lake ice should be apt to contain more scattered air-bubbles than river ice, and hence to appear more or less whitish, is not altogether clear, nor is it by any means always the case. But the tendency seems in a measure due to the absence of running currents of water, which in rivers would tend to carry off the air-bubbles, while in still ponds and lakes these would be more apt to be caught and frozen where they lodged beneath the ice.*

Sometimes large volumes or "blebs" of air or gas are seen beneath the ice of ponds. The contents of these blebs are, in some cases at least, inflammable, as has been seen by making a small hole in the ice above them and applying a match as the gas is forced up. This gas, of course, and doubtless a considerable proportion of the smaller bubbles, in some cases, is the result of vegetable decomposition at the bottom of the water, a process which, as is well known, is sometimes in summer very active.

Popular prejudice against bubbly ice.—The popular prejudice against white—that is, bubbly—ice, which is very strong and, so far as we have hitherto known, as unreasonable as it is potent, is apt to work against some of the very best sources of ice-supply, namely, ponds and small lakes. "Clear ice," say the observant consumers, "we can look right through and see for ourselves that there is nothing bad in it. We can't see through white ice, and there must, therefore, be something in it, and we don't want ice which is so full of something or other that we can't see through it." It is in vain that the laws of optics are called to the help of the ice-dealer; in vain that the "something" is again and again demonstrated to be nothing more harmful than air; in vain that purity and whiteness in snow are shown to be compatible qualities. One consumer trusts his own senses rather than the refinements of science; another, perhaps at last convinced, still urges that the market value of winter wind or decomposition-gas is not rated at ten dollars per ton.

It was primarily in view of this condition of affairs that throughout the following series of ice-analyses the writer carefully separated the samples of ice subjected to examination into two classes: First, clear ice, or ice which contained but a few scattered bubbles; and, second, snow-ice and very bubbly streaks formed beneath the surface.

This distinction between the snow and bubbly and the transparent ice, which was made by the writer at first with a view of combating the popular prejudice against white ice, proves, after all, to be an exceedingly important factor in forming our opinion of the quality of a given ice-sample.

The first thing which strikes the observer, as he examines in detail the results of the analyses of the ice of both these classes, is the great variability in the number of living bacteria which ice, even from different parts of the same block, contains. This it is which makes a large number of analyses imperative, if we would arrive at general conclusions regarding the number of bacteria which ice from any given source contains. This unequal distribution of the bacteria in ice is not surprising, since the same inequality has been repeatedly shown to exist in water, owing doubtless to minute currents and eddies and incomplete mixing or distribution of the contaminating material.

Results of Analyses of Hudson River Ice.—Let us look first at the Hudson River ice, and for convenience we will make separate tables for the ice which is harvested immediately below Albany and that which is gathered in the region from six to fifty miles below.

Table XIII.—*Number of Living Bacteria in One Cubic Centimetre of Melted Ice from Various Points on the Hudson River, from Castleton, about Six Miles below Albany, to Rhinebeck, about Fifty Miles below.*

Transparent ice, 83 samples.		Snow-ice and very bubbly streaks, 34 samples.	
Number of living bacteria in 1 c.c. of the melted ice.	Number of samples.	Number of living bacteria in 1 c.c. of the melted ice.	Number of samples.
Less than 10	In 23 samples.	Less than 100	In 0 sample.
Bet. 10 and 50	" 22 "	Bet. 100 and 200	" 1 sample.
" 50 " 100	" 12 "	" 200 " 300	" 2 samples.
" 100 " 200	" 16 "	" 300 " 500	" 1 sample.
" 200 " 500	" 4 "	" 500 " 1,000	" 5 samples.
" 500 " 1,000	" 3 "	" 1,000 " 2,000	" 4 "
" 1,000 " 5,000	" 2 "	" 2,000 " 5,000	" 12 "
" 5,000 " 6,000	" 1 sample.	" 5,000 " 10,000	" 7 "
		" 11,000 " 12,000	" 2 "

In two cases only were samples found which contained in one cubic centimetre no bacteria at all.

Table XIV.—*Number of Living Bacteria in One Cubic Centimetre of Melted Ice from the Hudson River just below Albany.*

Transparent ice, 24 samples.		Snow-ice and very bubbly streaks, 12 samples.	
Number of living bacteria in 1 c.c. of the melted ice.	Number of samples.	Number of living bacteria in 1 c.c. of the melted ice.	Number of samples.
Less than 50	In 3 samples.	Less than 100	In 0 sample.
Bet. 50 and 100	" 3 "	Bet. 100 and 200	" 0 "
" 100 " 200	" 5 "	" 200 " 300	" 0 "
" 200 " 500	" 3 "	" 300 " 500	" 0 "
" 500 " 1,000	" 3 "	" 500 " 1,000	" 0 "
" 1,000 " 5,000	" 6 "	" 1,000 " 5,000	" 0 "
" 5,000 " 6,000	" 1 sample.	" 5,000 " 10,000	" 1 sample.
		" 10,000 " 20,000	" 4 samples.
		" 20,000 " 30,000	" 4 "
		" 30,000 " 40,000	" 1 sample.
		" 40,000 " 50,000	" 1 "
		55,000	" 1 "

It should be remembered that all of the analyses recorded here were made from specimens taken from different cakes of ice, and so far as possible from those cut in different places in the field. So that a fair sampling was insured.

The following table summarizes these results, giving the averages of the detailed analyses:

Table XV.—*Hudson River Ice.*

Source.	Number of samples.	Forms of ice.	Number of bacteria in 1 c.c.
All sources	153	Trans. & snow.	3,040
All sources	107	Transparent	398
	46	Snow	9,187
From 6 to 50 miles below Albany	83	Transparent	189
	34	Snow	3,693

* Many interesting facts about ice formation and characters may be found in the files of the very readable Ice Trade Journal, published in Philadelphia.

While the great difference in the bacterial content of ice taken from the region of Albany and that gathered farther down the stream is thus very evident, a still more graphic representation is afforded if we take the average numbers of living bacteria found in one cubic centimetre of both transparent and snow ice gathered at various points along the Hudson River and express them in a chart.

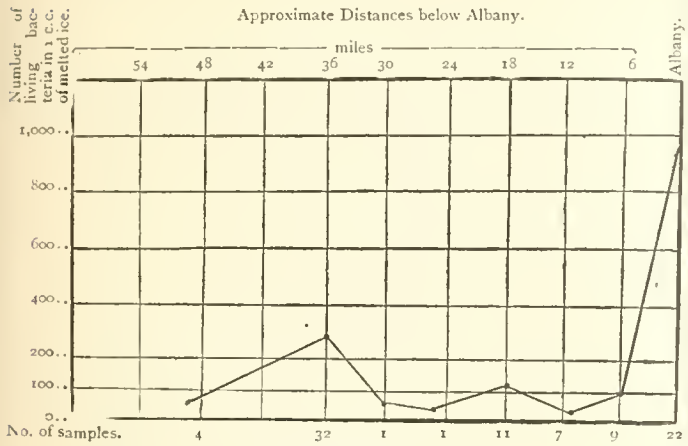

FIG. 1.—Transparent Ice.

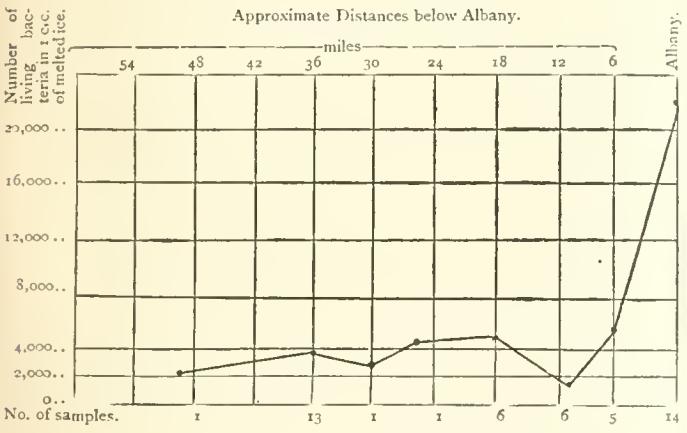

FIG. 2.—Snow Ice and very Bubbly Streaks.

These charts show with great distinctness that ice formed near Albany contains vastly greater numbers of bacteria than that formed at some distance below. It is evident, therefore, that by natural agencies the water of the river is freed to a certain degree from bacteria after running for some distance. Still, the average number of bacteria left in the ice is considerably above that which can be regarded as wholly safe.

It should be said, in justice to the Hudson River ice, that the crop of the winter 1885–86, from which most of the analyses above recorded were made, was of poorer quality than usual, because the season was an unfavorable one; but the careful selection by the writer of well-formed samples for analyses would partly, at least, offset the general unfavorable conditions.

So far as this series of analyses shows, the ice does not, as one might at first expect, get freer and freer from bacteria as the distance from Albany increases, but from six to fifty miles below Albany, with local fluctuations difficult to explain, remains very nearly the same. It, of course, presents some variation when cut below the smaller towns which drain into the river.

But a very much more extended series of examinations will be necessary before we can determine with any great degree of accuracy how far the river has to run below a source of sewage contamination in order that the water may, by freezing and other natural agencies, free itself to a proper degree from its bacterial contaminations, or if, indeed, it does so at all.

The remarkable difference in the bacterial contents of snow ice together with very bubbly streaks, and transparent ice, prevails in all parts of the river alike, and it is surprising, not only how constant the difference is, but also how abrupt the transition is in the ice-block between the few and the many bacteria, corresponding exactly to the line of demarcation of the clear and bubble ice. Thus in a series of examinations, made from snow ice or very bubbly streaks and very clear ice in the same ice-cake in various samples from the Hudson, we get results expressed in the following table:

TABLE XVI.—*Relative Number of Living Bacteria in 1 c.c. Transparent Ice and Snow Ice taken from the Hudson River, as shown by the Analysis of Adjacent Portions of the same Ice-blocks—Specimens from Various Parts of the River.*

	Source.	Greenbush, near Albany.	Castleton.	Barren Island.	Coxsackie.	German towo.
1	Transparent..	46	66	32	44	150
	Snow	10,020	5,184	520	12,642	9,234
2	Transparent..	3,192	92	122	92	919
	Snow	15,624	2,430	268	430	11,584
3	Transparent..	2,322	585	.....	676	9
	Snow	55,062	9,600	.....	4,294	114
4	Transparent..	218	.....	.....	.....	2
	Snow	9,690	.....	.....	.....	1,308
5	Transparent..	918	.....	.....	.....	.....
	Bubbly streak	26,049	.....	.....	.....	.....

These are only a part of the analyses made in this way, and are taken quite at random from the list. In no case was there an exception to the rule that snow and very bubbly ice contains a much greater number of bacteria than adjacent transparent ice from the same block.

The very bubbly streaks, although containing, as a rule, very many more bacteria than the transparent ice, still do not generally contain nearly as many as the top layers of snow ice.

RESULTS OF ANALYSES OF LAKE AND POND ICE.—Before attempting to explain this curious difference between snow ice and transparent ice, let us look at the results of the analyses of the lake and pond ice from the above-described sources.

TABLE XVII.—*The Number of Bacteria in Rockland Lake Ice.*

Transparent ice, 17 samples.		Snow ice, 5 samples.	
Number of living bacteria in 1 c.c. of the melted ice.	Number of samples.	Number of living bacteria in 1 c.c. of the melted ice.	Number of samples.
Less than 10.....	In 1 sample.	Less than 100.....	In 0 samples.
Bet. 10 and 50..	" 4 samples.	Bet. 100 and 200	" 0 "
" 50 " 100..	" 3 "	" 200 " 300	" 0 "
" 100 " 200..	" 5 "	" 300 " 500	" 0 "
" 200 " 500..	" 2 "	" 500 " 1,000	" 0 "
" 500 " 1,000..	" 2 "	" 1,000 " 2,000	" 3 "
		" 7,000 " 10,000	" 2 "

TABLE XVIII.—*The Number of Bacteria in Ice Pond Ice.*

Transparent ice, 36 samples.		Snow ice, 15 samples.	
Number of living bacteria in 1 c.c. of the melted ice.	Number of samples.	Number of living bacteria in 1 c.c. of the melted ice.	Number of samples.
Less than 10.....	In 9 samples.	Less than 100.....	In 1 sample
Bet. 10 and 50.	" 1 "	Bet. 100 and 200.	" 1 "
" 50 " 100.	" 6 "	" 200 " 300.	" 0 "
" 100 " 200.	" 4 "	" 300 " 500.	" 1 "
" 200 " 500.	" 6 "	" 500 " 1,000.	" 3 samples.
" 500 " 1,000.	" 3 "	" 1,000 " 2,000.	" 2 "
" 1,000 " 2,000.	" 4 "	" 2,000 " 5,000.	" 4 "
" 3,000 " 4,500.	" 3 "	" 5,000 " 6,300.	" 3 "

TABLE XIX.—*The Number of Bacteria in Swartout Pond Ice.*

Transparent ice, 16 samples.		Snow ice, 7 samples.	
Number of living bacteria in 1 c.c. of the melted ice.	Number of samples.	Number of living bacteria in 1 c.c. of the melted ice.	Number of samples.
Less than 10.....	In 13 samples.	Less than 100	In 2 samples.
Bet. 10 and 50...	" 1 sample.	Bet. 100 and 200.	" 0 "
" 50 " 100...	" 1 "	" 200 " 300.	" 1 "
" 100 " 200...	" 0 "	" 300 " 500.	" 2 "
" 200 " 300...	" 1 "	" 500 " 1,000.	" 1 "
		" 1,000 " 2,000.	" 1 "

A smaller number of analyses was made from Tuckahoe, Van Cortland, and Verplank's Point ice, but the tables are given for the sake of comparison.

TABLE XX.—*Number of Bacteria in Tuckahoe, Van Cortland, and Verplank's Point Ice.*

TUCKAHOE.

Transparent ice, 4 samples.		Snow ice, 4 samples.	
Number of living bacteria in 1 c.c. of the melted ice.	Number of samples.	Number of living bacteria in 1 c.c. of the melted ice.	Number of samples.
Less than 10.....	In 3 samples.	Less than 100.....	In 4 samples.
Bet. 10 and 50.....	" 1 sample.		

VAN CORTLAND.

Transparent ice, 5 samples.		Snow ice, 4 samples.	
Less than 10.....	In 3 samples.	Less than 100.....	In 3 samples.
Bet. 10 and 50.....	" 2 "	Bet. 100 and 200....	" 1 sample.

VERPLANK'S POINT.

Transparent ice, 3 samples.		Snow ice, 3 samples.	
Less than 10.....	In 3 samples.	Less than 10.....	In 3 samples.

It will be seen from the last table that while the specimens from Van Cortland and Tuckahoe were taken from different blocks and thus more fairly represent the ice, the samples in the case of Verplank's Point were all from a single block, taken from the pond as a sample before the ice-cutting season of 1886–87 began. But as it was only a single specimen, the value of the result is but moderate.

The same sharp contrast in the number of bacteria in transparent ice and snow ice, or very bubbly streaks, is found in lake and pond ice which we have seen in river ice, as may be seen by the following table :

TABLE XXI.—*Relative Number of Living Bacteria in 1 c.c. Transparent and Snow Ice from the Same Cakes —Specimens from Lakes and Ponds.*

Source.	Rockland Lake.	Swartout Pond.	Ice Pond.	Tuckahoe and Van Cortland.
Transparent	67	1	10	2
Snow	1,578	95	236	64
Transparent	190	214	1,512	24
Snow	1,260	367	5,520	54
Transparent	115	....	56	....
Bubbly streak.....	9,120	....	306	....
Transparent	14	....	....	....
Bubbly streak.....	1,368	....	....	....
Transparent	....	...	22	40
Snow	....	....	3,960	170

It will be seen from this table and the similar one constructed from analyses of the river ice, that the number of bacteria in the transparent ice affords no criterion of the number in the adjacent snow ice, and *vice versa*. So that in a cake of ice whose snow-layer contains an unusually small number of bacteria—as snow ice goes—the transparent ice may, on the other hand, contain an unusually large number ; and the converse is equally true. Taking all the analyses of the lake and pond ice together, there is a much larger number of samples containing no bacteria at all than in the Hudson River ice. This absolute freedom is in both cases always in transparent ice. Thus, in 16 specimens from Swartout Pond there were 4 in which one cubic centimetre of the ice was entirely free from bacteria. In 118 samples of lake and pond ice there were 8 containing no bacteria, while in 153 samples of Hudson River ice there were only 2 entirely free, and these were gathered from the lower part of the river.*

TABLE XXII.—*Lake and Pond Ice—Summary.*

Source.	Form of ice.	Number of samples.	Number of bacteria in 1 c.c.
Rockland Lake	Transparent....	17	181
	Snow	5	4,116
Swartout Pond	Transparent....	16	20
	Snow	7	565
Ice Pond	Transparent....	36	618
	Snow	15	2,469
Tuckahoe Pond.....	Transparent....	14	6
	Snow	4	63
Van Cortland Lake....	Transparent....	5	16
	Snow	4	81
Verplank's Point.....	Transparent....	3	5
	Snow	3	1

The exception to the rule that snow ice contains more bacteria than the adjacent transparent ice, which is seen in the result from a single cake from Verplank's Point, will be considered below.

If, for the sake of comparing the lake and pond with the Hudson River ice, we place the averages together, we have the following table :

TABLE XXIII.—*Relative Number of Bacteria in One Cubic Centimetre of Hudson River Ice and Lake and Pond Ice.*

Form of ice.	Hudson River, 153 samples.	Lakes and Ponds, 119 samples.
Transparent.....	389	318
Snow.....	9,187	1,636

If, however, in order to give the Hudson River ice its due credit we exclude the ice cut near Albany, we have the following table :

TABLE XXIV.—*Relative Number of Bacteria in One Cubic Centimetre of Hudson River Ice, from Six to Fifty Miles Below Albany, and Lake and Pond Ice.*

Form of ice.	Hudson River, 117 samples.	Lakes and Ponds, 119 samples.
Transparent.....	189	318
Snow.....	3,693	1,636

The summary of the last two tables is at first sight rather surprising, for we see that the average number of bacteria in a cubic centimetre of transparent ice from the lakes and ponds, free as they are from obvious sewage pollution, is still almost as great as the average in transparent ice from all parts of the river ; while if we exclude ice from Albany the average number in ice from the remainder of the river is even considerably less than that of the pond and lake ice.

If we look, however, at the transparent ice from the various lakes and ponds, we see that the general average is raised by the ice from Ice Pond, in which 618 represents the average, as against 78 which represents the average of all the other ponds and lakes taken together.

* *Maine Ice.*—A few samples of Maine ice from Gardner's Bay were examined. The average number (in one cubic centimetre) in transparent ice was 85 ; in snow ice, 250. One block showed in the top snow-layer in one cubic centimetre, 378 ; the middle of the thick transparent portion below gave 198 ; while the lower part of the transparent ice—*i.e.*, that which was formed last—contained only 37. The number of specimens examined was, however, so small—five—that inferences as to the bacterial qualities of the Maine ice should not be drawn from the results.

Now the Ice Pond ice, in the samples examined, was especially rich in the fluorescent bacillus, which, as experiments show, proliferates readily in water—even in boiled distilled water in the laboratory experiments. This fact, together with the partially stagnant character of the pond, with its large communicating swamp, would seem to fully explain the high average which is found here, especially when we remember how resistant is this species to the cold.

TABLE XXV.—*Showing Average Number of Bacteria in One Cubic Centimetre of Melted Ice from Various Sources as Compared with the Average Number in Croton Water during the Winter of* 1886–87, *when both were Examined.*

	Average number of bacteria in 1 c.c. of the melted ice.	Average number of bacteria in 1 c.c. of Croton water, winter 1886–87, 32 samples.
Transparent and snow ice and ice with very bubbly streaks, from all sources; 272 samples	2,033	243
Transparent and snow ice and ice with very bubbly streaks, from all sources except just below Albany; 236 samples	971	243
Transparent or slightly bubbly ice from all sources; 188 samples	363	243
Transparent or slightly bubbly ice from all sources except just below Albany; 164 samples	252	243

We see from this table, which summarizes the results of a large number of analyses from many sources, that if the bacteria in ice are of any significance at all, the snow-layer is to be avoided for drinking purposes, and also that the sewage of a large town makes a good deal of difference in the bacterial content of the ice gathered near it.

We are further led to the rather striking conclusion that if we use only transparent ice and avoid that which is harvested near Albany, sewage-polluted as the Hudson River is, we do not on the average get more bacteria than in our ordinary unfiltered winter Croton water. The significant difference in the *species* of bacteria in the two cases will be considered farther on.

Although the very bubbly streaks contain, as a rule, many more bacteria than the transparent ice adjacent to them, the proportion in real snow ice is almost always so much greater, that it alone appears to be of great importance in this respect. Indeed, the rule that very bubbly and snow ice contains more bacteria than transparent ice holds good only when the water from which the ice is formed contains a considerable number of bacteria. Thus, the only exception to the rule which has been encountered by the writer in this long series of examinations was in ice from Verplank's Point, in which, as will be seen from Table XX., the snow-layer contained a less average number of bacteria to one cubic centimetre than the transparent ice, and the number in both was very low. But the water from this pond, which was collected at the time the ice was secured, contained in an average of four analyses only 175 living bacteria.

BACTERIA IN SLIGHTLY BUBBLY ICE.—A long series of analyses made for this purpose have shown that this relationship between the number of air-bubbles and the bacteria in ice exists to an appreciable extent only when the air-bubbles are very numerous, as in real snow ice and in very bubbly streaks; while moderately bubbly lake ice, which has small bubbles scattered through it, so as to look whitish and opaque only in large blocks, does not show an appreciably larger number of bacteria than quite transparent ice from the same source. This will not seem strange if we examine carefully typical moderately bubbly lake ice, which looks quite opaque in large cakes; for we then find that in small pieces it is almost as transparent as the clearest ice, and that the number of scattered bubbles required to give a large block of ice an opaque whitish appearance is really very moderate indeed.

We thus see that the unreasonable popular prejudice against bubbly ice appears to have, after all, a real basis, so far as the snow-ice layers so frequent on the top of the ice-cakes are concerned; the ordinary opaque ice, however, with comparatively few bubbles, is apparently just as free from bacteria as the most transparent.

Such moderately bubbly lake ice, or ice from any source containing scattered bubbles, may on exposure become very much whiter; and very scantily bubbly streaks or bands in transparent ice may become, under the same conditions, so white and broad that, when viewed at a little distance in the block, they look like layers of sunken snow ice. But a close inspection in either case shows that this change is due to an internal disintegration of the ice around the air-bubbles by heat transmitted through the surrounding intact ice. In this way, as a little of the ice along the sides of the invisible crystals melts, and in so doing occupies less space than before, the air in the original bubbles expands to fill the vacuum, and the rarefied bubble becomes elongated to fill the long space between the crystals.

In this way a given plane of the ice-block, which formerly contained so few scattered rounded bubbles that they were almost invisible, or at least quite inconspicuous, may in a short time become the seat of a broad, palisade-like stripe. The insignificance of these long disintegration bubbles has been emphasized above. If a fragment of ice containing these rarefied bubbles, which are embedded in solid ice and not in communication with the external air, be put under water in a shallow glass dish and carefully watched as it melts, these disintegration bubbles may be seen to suddenly contract as they are freed by the melting of the ice around them and rise to the surface.

REASONS FOR EXCESS OF BACTERIA IN SNOW ICE AND IN VERY BUBBLY STREAKS.—Let us now see if this marked excess of living bacteria in snow ice and in very bubbly streaks over the solid transparent ice can be explained.

It was noticed by the writer, in the large number of analyses made of snow ice and also of the very bubbly streaks in clear ice, that two or three species of bacteria were almost always particularly abundant. The most common of these was the fluorescent bacillus above described. The other most common form is a short bacillus forming spreading iridescent colonies, not fluidifying.

Both of these bacilli are capable of performing vigorous movements in water, as may be readily seen under the microscope. Both of them grow much more abundantly on the surface of the gelatin where there is plenty of air, and if the air be cut off, as by laying a mica-plate on the surface of the gelatin where they are planted, their growth is very meagre. They are what are called aërobic forms of bacteria.

In view of this character, it seemed not improbable that these species, and perhaps others as well, would tend to make their way in the water toward the air-bubbles which might be collected at any point, and be caught here by the freezing of the water. If this were true, it would explain, in part at least, the curious fact of the excess of bacteria in bubbly layers of ice over the clear portions near by.

In order to test this hypothesis the following experiments were devised and executed. Three deep, flat dishes were carefully sterilized and filled about two-thirds full of sterilized water, in which had been thoroughly diffused some of the above-described fluorescent bacilli. It was found by an analysis of this mixture that one cubic centimetre of the water contained 21,384 living bacteria. Now I had gathered for this purpose, in a large clean flask on the morning on which these experiments were got under way, a quantity of clear, freshly fallen snow. This snow was obtained in the upper part of Central

Park, at a point as far away as possible from paths and roads, which were in a very clean condition, however, as they were just being cleared after the snow-fall. Analysis of the water obtained in melting this snow showed that it contained on the average only four bacteria to the cubic centimetre, a number so small as to be of no importance in this connection.

Now three small wads of this snow were made by tamping it firm with a clean knife-blade, and these were completely soaked with sterilized water. They were then dropped into the dishes containing the bacteria in the water, one wad into each. The dishes were then carefully covered, allowed to stand for about ten minutes in a cold place so that the snow would not melt completely in the water, and were then put into the refrigerator, where, within an hour, they were frozen solid.

It was found on examination of the dishes that in the centre of each lay the lump of snow, a little smaller, but otherwise not apparently changed, and enclosing many air-bubbles. From this snow-lump a large number of elongated air-bubbles radiated in all directions, while around the edges of the dishes was a zone of perfectly transparent ice. We thus have an almost exact experimental reproduction of the conditions found in adjacent strata of snow or bubbly and transparent ice. The ice in these dishes was examined, one at the end of four days, one on the seventh, and the third on the fourteenth day.

At the examination the dishes were set in a vessel of warm water which came up around the sides, and when the transparent zone at the sides and bottom was melted off, the resulting water was drained off after measured quantities for duplicate analyses had been secured by means of sterilized pipettes. The bubbly central portion was then allowed to melt, and duplicate samples of this were examined.

The following figures show the results :

Dish No. 1.	Dish No. 2.	Dish No. 3.
Outer clear zone contains in 1 c.c. 5,366 living bacteria.	Outer clear zone contains in 1 c.c. 1,808 living bacteria.	Outer clear zone contains in 1 c.c. 368 living bacteria.
Central bubbly zone contains in 1 c.c. 6,048 living bacteria.	Central bubbly zone contains in 1 c.c. 3,154 living bacteria.	Central bubbly zone contains in 1 c.c, 798 living bacteria.

It will thus be seen that the bubbly central portion, which when dropped as sodden snow into the bacterial fluid contained practically no bacteria at all, harbored, when examined together with the stratum next outside of it, into which a part of its air had been forced along the line of crystallization, a considerably larger number of living bacteria than the peripheral zone which contained almost no air-bubbles. This condition of affairs would seem to indicate that the bacteria had worked their way toward the air-bubbles during the short interval which elapsed between the introduction of the bubbles in the snow and the solidification of the mass by freezing.

Still these results could be explained by supposing that in some way the bacteria which lay among the radiating air bubbles, which had been forced out into the fluid by the freezing, were not killed in as great numbers as in the external transparent zone. We must see whether in fact these bacteria can travel through water toward air-bubbles. To test this several glass slides, with small concavities or pits in their upper surfaces, were sterilized, and the pit or cell nearly completely filled with sterilized water, in which had been uniformly diffused a small number of the fluorescent bacilli. The number was so small that the water in the cell remained perfectly transparent. Now a thin cover-glass was dropped over the cell in such a way as to leave one small bubble of air, the rest of the cell being completely filled with the bacteria-containing water. A rim of oil was now painted around the edge of the cover-glass, so that contact with the external air was completely shut off. Of course in these manipulations great care was taken that no external contamination should occur.

These slides were now set aside in a moderately warm place and examined after a few hours. In every case a distinct cloudy ring, like a halo, was readily seen close around the air-bubble, sometimes most marked at one side, while the remainder of the water in the cell was perfectly clear. An examination with the microscope showed this ring to be composed of large numbers of bacteria of the species originally introduced into the water. These apparently had made their way toward the bubble, close around which they were clustered.

But yet another possibility must be considered, namely, that the cloudy mass of bacteria around the air-bubble may not have come there from the surrounding water, but have found in this place conditions suitable for their proliferation and growth, and so been formed in large numbers on the spot.

Another set of slides was therefore prepared in exactly the same way, but, instead of being left in a warm place, they were put into a jar and sunk in a tub which contained a large quantity of melting ice and water, that is, at a temperature not much above freezing. Examination of these specimens after twenty four and forty-eight hours showed in a most marked manner, the halo of bacteria around the bubble in every case.

Now at this temperature, so far as we know, bacteria do not proliferate, so that it would seem to be true that in some cases at least bubbly ice contains more bacteria than adjacent transparent ice, because certain bacteria, owing to their need of air, tend to collect around air-bubbles which are present in water, and are caught there when freezing occurs.

It is not probable that this is the only reason, or applies in all cases. It is probable that in most cases the top snow-ice layer contains more bacteria because these are washed down upon the surface from the shores of the bodies of water on which the ice is forming, or come from the air.

Pengra has shown, as reported by Gardiner,[8] that in some cases at least the snow ice contains a considerably larger percentage of solid material than the clear ice below.

It is conceivable, also, that the physical conditions of the ice in which air-bubbles are very abundant and the crystallization irregular are such that less numbers of bacteria are killed in the freezing than in the more compact transparent ice.

Englemann,[16] in 1881, observed the tendency of certain bacteria to make their way in fluids to the edges of air-bubbles and to the vicinity of fluids containing oxygen, or plants which were developing it by their life-processes, and suggested this action of such bacteria as a delicate means of detecting the presence of the minutest quantities of oxygen in fluids.

The Different Species of Bacteria present in the Lake, Pond, and River Ice supplied to New York City.—A large number of different species of bacteria have been separated from the ice examined, in the form of pure cultures, and the life history of some of them has been traced in detail. But it is not within the scope of this article to enter into this part of the subject, because the work is not yet completed. No experiments have yet been made with a view of determining whether any of the species isolated are pathogenic.

It should be stated, however, as bearing directly upon our theme, that while the number of different species commonly occurring in the pond and lake ice is moderate, two or three being usually largely in excess, the number of species in the Hudson River ice is very great, more especially so in the ice formed near Albany. This is what would be expected when we remember what enormous numbers of different forms are always to be found in sewage and in sewage-contaminated streams or other bodies of water. The fluorescent bacillus appears to be more abundant in some of the pond ice, such as that from Ice Pond, than in the river ice.

It is not a little curious that, in the same block of ice,

different strata often show a marked difference in the species of bacteria which preponderate. So that we sometimes have in ice, not only, as above mentioned, a record of the temperature and other conditions of the air at the time the ice was forming, but also a memorandum, not less precise than that afforded by the fossils in geologic strata, of the flora which was most predominant in the water when it solidified. We are more fortunate than is the geologist, however, thanks to the method of biological analysis, in that by supplying the proper conditions of environment and nutrition, we can call our bacterial fossils back to life and make out the vital characters which, in their dormant state, are not revealed.

Summary.—Let us now review briefly the more prominent facts which this study has elicited. We have seen that by the biological analysis of water and of ice we are enabled to detect with great certainty the presence of bacteria, some species of which can give rise to serious disease, and that the chemical analysis alone does not suffice, in cases in which such organisms may be present, but that when we have determined the number of bacteria present in water or ice, a great deal of careful study of other conditions is still necessary in order to determine whether the water or ice is suitable for use or not.

We have seen that the popular impression that water purifies itself in freezing is only partly true. While some gross particles, and to a certain extent materials in solution may be largely removed, the bacteria, which are the most important, if not the sole agents in water deleterious to health, are only in part destroyed by the act of freezing. This partial purification from bacteria is not brought about by their expulsion from the water, but by the death of a varying proportion of them, which cannot survive this reduction of temperature. So that, if the bacterial contamination of the water is extreme, or is largely made up of the more hardy species, the ice formed from it, even though quite transparent, may still contain large numbers of the living germs.

Different species of bacteria possess differing degrees of vulnerability to the action of low temperatures. In some species nearly all the individuals are killed by prolonged freezing in water, while in other species a small proportion only is destroyed, and between these extremes are other species possessing intermediate degrees of resisting power.

Certain species of bacteria which are capable of producing serious and even fatal diseases in man—the bacillus of typhoid fever and the common bacterium of suppuration—are capable of resisting a prolonged exposure to a low temperature with the destruction of a part only of the individuals thus exposed.

The capacity of resisting a low temperature varies not only in the different species, but among the individuals of the same species, depending upon their condition of vitality when subjected to the deleterious influence. It varies also with the time of exposure to the cold and its intensity, and repeated freezings and thawings suffice to completely exterminate individuals and species which can successfully resist a steadily maintained low temperature. A persistent low temperature without freezing is more efficacious than when crystallization occurs.

While no absolute percentage of destruction can be given which will indicate the degree to which water containing bacteria usually purifies itself from them in the act of freezing, experimental data justify the belief that in ordinary natural waters there may be a purification of about ninety per cent.

The effect of freezing may in a general way be compared to that of filtration, but there is a very significant difference between them. By filtration the various species, dangerous and harmless, are eliminated with about equal efficiency, while in the purification by freezing the dangerous disease-producing species may be retained if they resist low temperatures, while more or less of the harmless forms may be destroyed. Freezing, therefore, acts as a selective filtration might, and may not free the water from all forms alike.

We have seen that the ice supplied to New York City comes from a series of naturally excellent lakes and ponds and from a great tidal river largely contaminated with sewage in its upper regions, and that by far the larger proportion of the ice comes from the latter source.

It has furthermore been shown that, while the conditions of the upper Hudson do not seem, during the ice-forming season, to be such as would favor purification from organic matter by oxidation, they do seem to be theoretically, and are shown to be practically, favorable to a considerable degree of spontaneous purification from bacteria by sedimentation, but that the limits and extent of this purification are yet to be made out.

Coming to the actual analyses of the ice from both the river and the lakes and ponds, we find a very much greater number of bacteria in the snow ice and in the very bubbly streaks than in the transparent ice, particularly in the snow ice on the top of the cakes. We find that while a part of this excess may be due to the washing down upon the surface of the ice from the shores of bacterial impurities, or their collection from the air, a not insignificant share is probably due, at least in the bubbly streaks, to the tendency which some forms of bacteria exhibit to collect in the vicinity of air-bubbles, and perhaps also to unknown physical conditions in the irregularly crystallized ice about these bubbles. Regarding the species of bacteria, we find that they are much more varied and abundant in the Hudson River ice than in that of the lakes and ponds, while in both there is a considerable proportion of the relatively harmless water bacteria.

We find that while the number of living bacteria varies greatly, not only in different parts of the same block of ice, but also in ice from different parts of the river and from the different lakes and ponds, the average number is considerably greater in ice from the Hudson River than in that from the lakes and ponds, even when ice taken from immediately below Albany is excluded from the estimate.

We have seen also that the average number of bacteria in ice from all sources taken together is far beyond the general standard which even a moderate degree of purity would allow.

But it is also evident that the transparent ice from some of the lake and pond sources presents in general a most admirable degree of freedom from bacteria.

Interpretation of Results.—We now stand at last face to face with the most difficult and at the same time the most important part of our study, namely, the interpretation of its results and the suggestion of the practical lessons which it teaches.

We must be guided in this task by the general considerations which were set forth at the commencement of this paper, when we were reviewing the practical value of the biological methods of water analysis.

We saw, then, that the simple statement that a given sample of water contained a large number of bacteria was without great significance, unless with it we have an account of the condition of the source of the water at the time of the collection of the sample, because a large proportion of the bacteria ordinarily present in natural waters are, so far as we yet know, relatively or absolutely harmless. We must know whether a considerable proportion of the bacteria present are the at least relatively harmless water bacteria, whether the source may possibly be contaminated with sewage, etc.

Now, exactly the same questions must be asked regarding the sources of our ice.

Considering first the ponds and lakes, we find that the natural situation and surroundings of most of them are excellent and that evident sources of contamination with excretory material can be largely excluded. Whether, in the case of Rockland Lake, the dwellings on the hillside near it might furnish sources of absolute danger in

the event of an outbreak of typhoid fever, or not, the writer is not prepared to say, and would leave this and all other detailed criticism of the sources of ice-supply to those who, having the public health in charge, can speak authoritatively on the matter.

The large number of bacteria present in the average Ice Pond ice may readily be accounted for by the proliferation of water bacteria and by the connection which this sheet of water has with a swamp, and experiment shows that a considerable number of these are actually forms which proliferate in water and which, so far as we know, do not produce disease in man.

As regards the ice from lakes and ponds, then, we may conclude that although the product from some of them contains a larger number of bacteria than is consistent with the highest standards of good sanitation, the conditions could be readily changed so as to render them quite unimpeachable, and in no case is there absolute reason, so far as the writer is aware, to fear contamination with forms which are known to be disease-producing; while in some cases, notably in the smaller ponds, the ice, so far as the analyses show, is well within the standard of absolute excellence.

The Hudson River ice stands, on the other hand, on an entirely different basis. Thoroughly contaminated with sewage at the upper part of the ice-fields, the water receives fresh accessions of bacterial impurities at various points near some of the ice-fields, which lie at a considerable distance from Albany.

Now, given ice from this source, in which the average number of bacteria per cubic centimetre is absolutely large, and a great degree of sewage pollution, we have to ask ourselves what is the actual danger which we have to fear from the use of the ice for drinking purposes.

A considerable number of the bacteria are undoubtedly the relatively or absolutely harmless species which may exist in any natural river or spring water, but a large number may, with equal certainty, be assumed to originate from animal excreta. Here, again, it is scarcely to be doubted, although not yet demonstrated, that a considerable proportion of the bacteria which exist in sewage coming from human and other animal excreta and the varied putrefying fluids which form a prominent ingredient in the waste of populous towns, may not be positively dangerous if taken into the body in moderate quantities in drinking-water, and so far as such bacteria go, it would seem to be largely a matter of taste on the part of the consumer whether he uses such material for drinking purposes without purification or not. On the other hand, in every large town, such as Albany, and in smaller towns in lesser degree, there is more or less constantly passing into the sewers in the excreta or other wastage a considerable number of bacteria which are the cause of serious disease, and here it ceases to be a matter of individual preference, because the interests of the public health are involved.

There are some varieties of diarrhœal disturbance, sometimes mild, sometimes severe, particularly affecting persons who are sensitive in the matter of ingesta, which often seem to depend upon impurities in the drinking-water and in ice. Whether these are occasioned by sewage or other bacteria, or by organic matter in the water or ice, or by both, is not yet fully decided, so that we may leave this class of cases out of view for the present.

Fortunately cholera and anthrax, both bacterial diseases transmittible by drinking-water, are not ordinarily present in the sewage of the region which we are studying, so that these diseases also, which must not be ignored by those having the public health in charge, do not fall within the scope of the present study. But there are two very common and very important bacterial diseases which are almost constantly present in large towns like Troy and Albany, and frequently so in villages like many of those which lie along the upper Hudson. These are typhoid fever and the diseases associated with acute suppuration and the so-called blood-poisoning from wounds or pyæmia.

Now, it is unfortunately true, as the above researches show, that the bacteria causing these two forms of disease are markedly resistant to the temperature at which ice forms. The most important of these, and the one to which the writer has paid most attention in these studies, is the typhoid bacillus.

The health statistics of Albany do not show the number of cases of typhoid fever which occur in the city during the various months, but only the number of deaths from the disease. The deaths from this disease in the city of Albany, for the details of which I am indebted to Dr. Balch, Secretary of the State Board of Health of New York, during the months in which the ice on the Hudson is ordinarily forming, that is, from December to March, are as follows: From December, 1883, to March, 1884, 20; from December, 1884, to March, 1885, 14; from December, 1885, to March, 1886, 16. That is, an average of about 16 each season. Now the number of deaths represents a varying number of actual cases of the disease, since the mortality is exceedingly variable. But if, in order to be on the safe side in estimating the actual number of cases, we take the highest rate of mortality which ordinarily occurs as thirty per cent., we find that the chances are, as judging from the statistics of the past three years, that there will be not far from fifty cases of typhoid fever whose excreta will pass directly into the Hudson River from Albany each year during the ice-forming season.

The writer is informed that in Albany, as in most American towns, both in the hospital and among private patients, there is no systematic disinfection of the typhoid discharges, which therefore enter the sewers with their myriads of bacteria in a living condition. That they are present in myriads and living in the discharges of typhoid fever patients is a well-known fact, which the writer has had abundant opportunity to observe in making cultures of them for diagnostic and other purposes.

Now, the bacteria of typhoid fever are capable, as has been shown by Frankland, by Wolfhügel and Riedel, and by Bolton, and confirmed by the writer, of living for a considerable period in water, and they may, according to Frankland and Wolfhügel and Riedel, even proliferate in the water, particularly if, as in sewage, there is organic matter present. We have seen from the above studies that when the bacteria of typhoid fever in the living condition become entangled in the ice and frozen a considerable proportion are destroyed, but also that a very significant remnant persists, living in the ice for long periods, and perfectly able, when thawed out and placed under favorable conditions, to go on growing and proliferating just as before their hibernation. Whether they may retain life indefinitely or not in ice we do not know, as one hundred and three days is the longest period during which they have been kept frozen.

Here, then, as it seems to the writer, is the positive source of danger in the use of the Hudson River ice directly for drinking purposes, without some form of purification, at least, until it can be ascertained at what distance below Albany, or other towns whose sewage drains into the river near the ice-fields, a safe degree of bacterial purification of the water from natural causes may have occurred.

It will undoubtedly be asked, if typhoid bacilli have been detected in the Hudson River ice. They have not, nor is it very probable that they will be, unless, possibly, by chance. For, in the first place, the search for particular species of bacteria in a large dilution, such as exists here, is an almost hopeless task, unless the species sought for possesses biological characters and peculiarities in its mode of growth on the culture media or in its appearance under the microscope which would render its detection among many other forms comparatively easy. Unfortunately this is not the case with the typhoid bacillus, whose identification can be complete only after a long series of various tests, among which, as is well known to bacteriologists, the growth in potatoes is the most

characteristic. In the second place, its growth on gelatin plates is slow, and mixed, as it must be in sewage, with many other species which rapidly fluidify the gelatin, the opportunity for the development of its colonies is not very favorable. It has been detected in several instances in water suspected to be the cause of outbreaks of typhoid fever,[17] but the conditions for its detection were more favorable than those which the Hudson River water presents with its large sewage dilution.

If we look, on the other hand, at the cases of typhoid fever as they are constantly occurring in New York and the adjacent towns where Hudson River ice is used, we do not find, and we should not expect to find, any marked excess of typhoid fever among those who habitually use ice for drinking purposes over those who do not, because the sanitary surroundings of the classes who do not habitually use ice for drinking purposes are so much less favorable, as a general rule, than those of the habitual ice-consumers, that other sources of infection, equally or even more efficient, would abundantly cover any revelation of the statistics.

If ice containing sewage contamination were the only means by which the typhoid-fever poison were conveyed from one individual to another, we might expect to find an indication of it in the statistics, but, unfortunately, it is not. We can only assume, as it seems to the writer, from what has been shown in these studies, that ice from some parts of the Hudson River, particularly near Albany, may contain, even in considerable numbers, living typhoid-fever bacilli, and so may furnish a means of propagating the disease. Whether this is a frequent or an infrequent occurrence we do not know. That it is not so important a factor in the transmission of the disease as to render the typhoid-fever statistics of New York worse than those of other towns whose residents use ice from cleaner sources, is certain.

But there is a considerable number of cases of typhoid fever, seen by every practising physician, in which the most painstaking examination of the sanitary surroundings of the victims and their personal contacts fails entirely to account for the occurrence of the disease. Some of these isolated cases of typhoid fever, whose origin is otherwise unaccountable, may well be due to the ingestion of typhoid bacilli from sewage-contaminated ice.

It should be remembered in considering this, as all other bacterial diseases, that the bacteria themselves are only one factor in determining the disease. There is to be taken into the account also the number of the bacteria, that is, the size of dose, and the condition of predisposition of the individual.

Now, unfortunately we know nothing about the number of typhoid bacilli which may be necessary to induce the disease in man, and we are equally ignorant concerning the nature of the predisposing conditions in the individual.

So that, if we sum up what we really know about the relations of Hudson River ice to typhoid fever, we can only say that the facts show that it is certain that the ice from some parts of the river must contain the bacteria of typhoid fever, and that these may be taken into the system with ice-water in a living condition. Whether the necessary relationship between the number of bacteria thus taken and the condition of predisposition of the individual occurs frequently or infrequently, or ever occurs at all, we cannot positively say, but the grave character of the disease should warn us against indifference in the matter, and such measures should be taken as will secure the consumer of ice against even the possibility of such infection.

Such considerations as these are apt to be met by those calling themselves, often somewhat ostentatiously, "common-sense people" by what may be called the "ancestor," or experience argument, which in this case would consist in saying that they and their fathers have used ice from the Hudson River all their lives, and have never suffered from typhoid fever. This view is one which ignores the necessary relationship between predisposition and determining cause, and the ever-increasing complexity of sanitary problems in large and growing towns. If the upper Hudson were still in the condition which prevailed when Hendrick Hudson made his exploratory voyage along its wellnigh tenantless shores, the ancestor argument might not be without a very modest value. But it should not be forgotten that with each new resident on the shores of the Hudson the increment of danger regularly increases.

With the bacteria of suppuration and pyæmia, the Staphylococcus pyogenes, the case is less serious. The contact of ice with wounds is not frequent, and when occurring may be guarded from possible ill-effects by antisepsis. The probability of infection in other ways from ice containing the staphylococcus is remote, but its presence would always suggest unpleasant and perhaps dangerous possibilities.

As to the pollution of the river water and the ice with this species, it is only necessary to recall how many cases of acute suppuration may be found at any time in a city of the size of Albany, and how much of the discharge is apt to find its way into the sewers without efficient disinfection, and to refer to the above experiments which show the resisting power of the bacteria to cold.

Practical Suggestions.—We now come to the practical measures which, as these studies seem to show, should be established in order to guard against a not only possible, but a very probable source of danger in the Hudson River ice. The writer is fully impressed, and wishes that those who may interest themselves in this matter should also be, with the great and important private and corporate interests which are involved in the supply and consumption of ice. Nor would the writer wish in any measure to suggest by these studies a curtailment in the consumption of ice, even for drinking purposes.

The great value of ice for actual consumption, especially in the summer months, in our city, among all classes, can hardly be overrated. The improper and inordinate use of ice for drinking purposes, which undoubtedly not infrequently occurs, is an abuse which belongs with other forms of intemperance and does not concern us here.

Now the measures which might be adopted in view of the present condition of affairs are of two kinds: First, such as would come under the supervision of those having the public health in charge; and second, those which belong in the province of the individual consumer.

In the first place, it would seem necessary that the State Board of Health, or some other authorized body, should have full control of the ice-harvesting fields, and, by a system of inspection not less strict than that which should exist in the care of the ordinary water-supply, determine which, if any, of the sources of ice-supply are so situated as to imperil the health of consumers of the ice. In view of what we know this would be comparatively simple in all cases except that of the Hudson River. Here it would be necessary to establish, by a most thorough scientific examination, the distances from all existing sources of sewage pollution at which it might be safely assumed that the water had freed itself from bacteria and other impurities sufficiently to form safe ice. It might in this way be possible to remove any chance of danger by permitting the questionable or bad ice to be sold only for cooling purposes, if such a classification is practicable, and thus not essentially interfere with the interests of the ice companies.

A compulsory system of disinfection of excreta in infectious diseases might be instituted here, as it is in other countries in which the purity of the water-supply is under constant supervision.

When we consider the measures which the individual consumer might adopt for the avoidance of possible danger from bad ice, it is evident, from what we have seen, that if he could be certain that his supply came only from

the lakes and ponds now used for this purpose, he would secure for himself, so far as the writer can judge, a fair degree of immunity from probable danger.

Remembering that the larger and more responsible ice companies do not, so far as the writer is aware, cut ice in the immediate vicinity of Albany, but at a considerable, and in the majority of cases at a great, distance below, the householder may eliminate to a certain extent his hazard by finding out, as accurately as possible, just what part of the river his ice comes from.

Whatever the source of ice-supply, however, the large excess in bacterial content which, in almost all cases, the snow-layer harbors over that of the transparent or sparsely bubbly ice, would render imperative the avoidance of the snow-layer for any but cooling purposes. But it should still be borne in mind that perfectly transparent ice may harbor very large numbers of living bacteria, if formed from water in which they were abundant.

A variety of devices can be adopted in the use of ice for the cooling of drinking-water, such as pitchers which contain separate receptacles for the ice, the cooling of the water in refrigerators, etc., which the ingenuity of the individual might suggest.

Or recourse may be had to artificial ice made from pure water, which, as a great deal of experience in the matter has shown, may be furnished at a cost not very greatly exceeding that at which the natural ice is delivered.

This is already done in some of the Continental cities. Thus in Berlin, Germany, a company exists which furnishes artificial ice made from distilled water, which, as would be expected, is almost absolutely free from contamination.

Such water as is furnished by the Hygeia Distilled Water Company in New York would, if artificially frozen, make a most admirable and safe substitute for the natural ice.

The writer must be content, in this series of pioneer studies on the impurities of ice, with having, by experimental means, endeavored to give definiteness and precision, not only to the problem in general, but to the detailed questions which arise in connection with the ice-supply of one particular town.

It would appear that we now know with tolerable certainty just what series of questions are to be answered, and investigations made, in order to decide upon the safety of any given source of ice-supply. But these detailed investigations can only be made under the sanction and direction of the public authorities.

It is unfortunate that a certain amount of perhaps entirely unjust opprobrium is now attached to all of the Hudson River ice, when it should perhaps belong only to that harvested in particular regions. It would therefore seem to the writer that it is greatly to the interest of the ice companies, as well as the public, that the State health authorities should take the matter of detailed examination of the Hudson River ice-fields at once in charge.

In conclusion, the writer wishes to express his sincere hope that this study may not be looked upon in a sensational light, nor regarded as a polemic against ice companies and dealers, or against the free and wonted use of ice, the incalculable usefulness of which is beyond question. A most thorough personal examination of the ice-harvesting and the practice and purpose of the more responsible dealers, lead to no other conclusion than that they are as desirous as could reasonably be expected of them to furnish a clean and pure product to the market, and, so far as facts have hitherto instructed them, have apparently done so. But in the clear light which the new methods of science throw upon the whole subject of important ice impurities, it seems necessary that a sweeping reform, in some respects, should speedily be brought about. This long and expensive series of researches has been carried out in the hope that in the light of its results the rapidly developing discipline of "preventive medicine" might find a plan of curtailing, in some degree, the number of annual victims to preventible disease.

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THE TREATMENT OF RUPTURED AND DIVIDED TENDONS.[1]

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MR. CHAIRMAN AND GENTLEMEN: At the request of your honorable chairman, I present to you this short paper, and a few cases which will serve to illustrate the results of suture of tendons.

I am disappointed in not being able to present some case operated upon by myself, but the fact that I have had only four days' notice in which to prepare this and collect the cases, and that those operated upon by me were unwilling to come here, I trust, will be sufficient excuse for this shortcoming. Those that I will present were done at the Chambers Street Hospital under my direction, by a very competent house staff, and will, in a measure, serve to illustrate any special points in the treatment. The title of this paper is "The Rupture and Division of Tendons and their Treatment."

For convenience these injuries, like fractures, are divided into *simple* and *compound*. The *simple* being those with no external wound or atmospheric communication, and the compound being those in which such external communication exists.

The first class are important, because of the deformity and disability that are likely to ensue; and the second, because, in addition to these, we have often to deal with a grade of inflammation that may not only destroy the usefulness of the part involved, but in extreme cases may end in the death of the patient.

These injuries occur so frequently and are so often causes of *permanent* deformity and disability, that it is quite important that the best method for their relief should be generally understood. Probably no tissue in the body, with the exception of the delicately constructed serous membranes, is so prone to inflammation as the synovial membranes lining the joints, and that forming the sheaths of tendons.

This fact will account in a great measure for many of the bad results following injuries of this kind. The severity of the inflammatory process which sometimes follows such an injury is due in a measure to the extent of surface involved, for it is estimated that, on an average, tendinous sheaths, of which that of the finger is an example, presents a surface when dissected and spread out

[1] Read before the Surgical Section of the New York Academy of Medicine, March 14, 1887.

of from ten to twenty square inches. The fact that the inner surface of the sheath is constantly moistened with a fluid, the synovia, which is especially liable to fermentation and decomposition when exposed to atmospheric influence, will be sufficient to account for the frequency of inflammation and suppuration after injuries of this kind.

From the *manner* in which inflammation commences in these wounds, as it often does even now in the days of antiseptic surgery, it seems that it must rest in the fact that the antisepsis is imperfect.

tendon a focus of inflammation has started, as indicated by a point of tenderness, heat, swelling, pain, and redness. In looking for a cause for this, it appears that the pump-like action of the divided tendon, working in its sheath, draws the material containing the germs into the sheath up as far as the original retraction takes place, or else that some of this material came in contact with the tendon at the time of the injury, and was then carried by it up to this point, or that it was pressed up by the application of the Esmarch bandage.

It is quite clearly demonstrated that divided tendons

No.	Cause.	Tendons.	Suture.	Inflammation.	Anæsthetic.	Results.
1	Glass.	Flexor carpi radialis; palmaris longus; flexor sublimis.	Catgut.	Cellulitis.	Ether.	Motion good; secondary union; three weeks.
2	Knife.	Ligamentum patellæ.	Catgut.	No inflammation.	Ether.	Motion perfect; primary union; five weeks.
3	Glass.	Flexor carpi ulnaris; flexor sublimis digitorum.	Catgut.	Inflammation.	Ether.	Discharged cured; seven weeks.
4	Direct violence; simple.	Quadriceps; extensor tendon.	Catgut.	Superficial suppuration.	Ether.	One month; perfect motion and union.
5	Unknown.	Flexor sublimis digitorum.	.....	No inflammation.	Ether.	Moderate use; one month.
6	Glass.	Extensor tendon of thumb.	Catgut.	Cellulitis.	Cocaine.	Motion good; secondary union; three weeks.
7	Glass.	Extensor of ring finger.	Catgut.	No inflammation.	Cocaine.	Motion perfect; primary union; two weeks.
8	Glass.	Extensor of index finger.	Silkworm-gut.	No inflammation.	Cocaine.	Motion perfect; primary union; two weeks.
9	Glass.	Extensor secundi; internodii pollicis.	Catgut.	Cellulitis.	Cocaine.	Motion good; secondary union; six weeks.
10	Glass.	All flexors of fingers; flexor carpi ulnaris; ulnar and median nerves.	Catgut.	Cellulitis.	Ether.	Motion good; sensation returned; secondary union; six weeks.
11	Glass.	Flexor carpi ulnaris; ulnar nerve.	Catgut.	No inflammation.	Cocaine.	Motion perfect; secondary union; anæsthesia; two weeks.
12	Knife.	Two flexors of index finger.	Catgut.	No inflammation.	Cocaine.	Motion good; primary union; two months.
13	Glass.	Extensor tendons of first, second, and third fingers.	Catgut.	No inflammation.	Cocaine.	Motion perfect; primary union; three weeks.
14	Glass.	Superficial flexors of third, fourth, and fifth fingers; in forearm.	Catgut.	No inflammation.	Ether.	Motion good; primary union; three weeks.
15	Glass.	Extensors of thumb, all.	Catgut.	Cellulitis.	Cocaine.	Motion fair, two weeks; secondary union; perfect motion, six months.
16	Razor.	All extensors of fingers and thumb.	No suture; splints used.	Cellulitis.	None.	Motion in fingers, five weeks; fair; motion in thumb, none.
17	Knife.	Belly of extensor carpi radialis.	Catgut.	No inflammation.	None.	Motion good; primary union; three weeks.
18	Glass.	Superficial and deep flexors of index and middle fingers.	Silk and catgut.	Cellulitis.	Ether.	Fingers dropped back, eleven days; slight flexion, seven weeks.
19	Glass.	Extensor tendon of middle finger.	Silkworm-gut.	No inflammation.	Cocaine.	Motion perfect; primary union; three weeks.
20	Razor.	Knee-joint opened; quadriceps; extensor tendon.	One catgut in muscle, four silkworm-gut sutures in tendon.	No inflammation.	Ether.	Motion good; primary union; two weeks.
21	Glass.	Extensor carpi radialis longior.	Catgut.	No inflammation.	Ether.	Discharged cured; primary union; moderate motion; six weeks.
22	Razor.	Deep and superficial flexors of ring finger.	Catgut.	Tenosynovitis, cellulitis.	Ether.	Discharged cured; six weeks.
23	Knife.	Tendo-Achillis.	Catgut.	No inflammation.	Ether.	Motion perfect; primary union; five weeks.
24	Glass.	All extensors on dorsum of wrist except those of thumb.	Double silk.	Cellulitis.	Ether.	Motion perfect; five weeks; secondary union.
25	Glass.	Six flexor tendons at wrist; ulnar artery; ulnar nerve.	Catgut.	Cellulitis.	Ether.	No union, two weeks; full motion, one year.
26	Glass.	Extensor tendons of ring and little fingers.	Catgut.	Inflammation.	Ether.	Secondary union; result not given.
27	Glass.	Flexor of fifth finger.	Catgut.	Inflammation.	Ether.	No union in tendon; secondary union in wound.
28	Glass.	Flexors of index finger.	Old wound tendons dissected up and sutured; catgut.	Inflammation.	Ether.	No power of flexion; primary union in wound.
29	Glass.	Superficial flexor tendons of hand; palmaris longus.	Catgut.	Inflammation.	Ether.	Discharged cured; motion not stated.
30	Razor.	Superficial and deep flexors of hand.	Tore sutures; suicidal mania; catgut.	No cellulitis.	Ether.	Limited motion; one month.

We have been struck with the fact that the beginning of the inflammation is not directly in the wound itself, but commences in the sheath of the tendon at a point some distance from the point of injury. For instance, a tendon is divided in the palm of the hand from an incised wound—this is thoroughly cleansed, washed with soap and water, and the wound and surroundings irrigated with bichloride solution, 1 to 1,000, and then by the usual means the separated ends of the tendon are brought together with sutures (catgut being that generally employed), and the external wound is sutured and dressed antiseptically. In a few days it is noticed that farther up the sheath of the

in an open wound will rarely unite if left to themselves, and that something must necessarily be done if a good result be desired.

We cannot depend upon the ordinary plans of treatment employed in the simple forms.

Union in the simple and compound forms takes place as differently as does union in simple and compound fractures. The process of repair in the simple form consists mainly in a low grade of inflammatory action, in which the interspace is filled up with plastic matter which soon becomes organized into a tendinous band. This takes place in from six to twenty-one days, depending

upon the size, situation, and amount of separation. The process of repair in the compound variety takes place if only a punctured wound or subcutaneous division be present, usually as in the simple form. Generally, however, the union is by granulation, and with involvement of much of the surrounding tissue, which becomes matted down and bound with the tendon into the cicatrix.

The process of repair in suturing of tendons, as done under all antiseptic precautions, is reduced practically to the same point as in the simple subcutaneous rupture, and shows even better results, because of the closer approximation of the divided ends.

In the treatment of these injuries several questions present themselves. In the simple form, or rupture without atmospheric communication, is it necessary, or are we justified in opening the sheaths and suturing the tendon? Do the results of the rest and position plan of treatment, as accomplished by splints, etc., indicate that it is necessary to do this?

Then, in the compound form, is it not possible that the suturing, etc., can be done with such thorough antisepsis that the inflammatory trouble may be avoided? In simple rupture almost all of the authorities seem to agree that rest and position are sufficient. Yet it would seem that a better result, and certainly closer approximation, could be obtained by the use of the suture.

In the compound variety the point of inflammation would suggest the plan of treatment of a more thorough irrigation of the sheath of the tendon and of the adjacent tissues. A small English catheter with a syringe attachment will accomplish this, the solution employed being bichloride, 1 to 1,000, except in the quadriceps extensor tendon, which opens into the knee-joint, then 1 to 5,000 should be used.

The question comes up of what is the best material for uniting the divided tendons? Various substances have been employed, namely, catgut, horsehair, silk, silver wire, and, finally, the so-called silkworm-gut.

Probably catgut is more frequently employed than any of these. Some object to its use because they say it melts down too quickly before union can take place, others think it is the source of inflammation in the sheath from the decomposition which must necessarily take place for its absorption.

Silver wire is recommended by many in preference to catgut. We have recently used the silkworm-gut for this purpose at the Chambers Street Hospital, and it seems to be the best material yet used for this purpose, from the fact that it is not absorbed too quickly, if at all, and is non-irritating.

I am able to present the accompanying statistics, through the assistance of Dr. Paul E. Tiemann, of the Chambers Street Hospital, and Dr. C. F. Stokes, late of Bellevue Hospital, and Dr. J. L. Adams, of the New York Hospital. From the imperfect records to be found in these hospitals, with the exception of the Chambers Street Hospital, it was almost impossible to get any definite idea of the results in these cases.

The plan of treatment recommended in the compound form is, first, the thorough cleansing of the part and irrigation of the sheath with the catheter, the use of cocaine and the Esmarch bandage, and the use of the silkworm-gut suture, two sutures being necessary in the average tendon, one being carried transversely through the tendon, and the other antero-posteriorly.

Treatment of Cystic Tumors of the Ovary by Electrolysis.—Dr. F. Semeleder has published a memoir read by him before the Academy of Medicine of Mexico, entitled "Forty-five Cases of Ovarian and Parovarian Cysts treated by Electrolysis." The results obtained were very satisfactory, and the author believes that a trial should be made of this method in all cases before resorting to operative measures.

CASE OF DERMATITIS HERPETIFORMIS RESEMBLING ERYTHEMA MULTIFORME.

By LOUIS A. DUHRING, M.D.,

Professor of Skin Diseases in the University of Pennsylvania.

In January, 1884, I was requested by Dr. Mitchell, of Elkton, Md., to see a case of chronic cutaneous disease, exhibiting peculiarities which made the diagnosis difficult. The patient was a man seventy years of age, a lawyer by profession, neurotic, and in poor general health.

The disease had existed a year or longer, and was characterized by a profuse, multiform, general eruption, with violent itching and burning. None of the various plans of treatment previously employed had afforded any relief.

From his physician I further learned that the lesions of the skin had varied in character from time to time, having been sometimes vesicular, and on other occasions erythematous; while more frequently there had existed a combination of these elementary forms. Itching had always been a marked feature.

When I first saw the case the whole general surface was the seat of an abundant, diffuse eruption, characterized by ill-defined, marginate, annular, and circinate erythematous patches, upon which, in many places, were more or less well-formed, variously sized and shaped papulo-vesicular and vesicular lesions. The skin showed, moreover, signs of subacute and chronic inflammation, in the form of thickening, pigmentation, excoriations, and blood-crusts, as well as lesions in all stages of development. The erythematous patches predominated, and had coalesced to such an extent that their outline was only in places defined, but everywhere could be seen a disposition to form marginate shapes, as in erythema multiforme. The patches were on a level with the surrounding skin or were slightly elevated, and were acutely congested and infiltrated with inflammatory products, partly plastic and partly serous in nature. In color they were bright-red or violaceous-red, according to their age, and were mottled, owing largely to the fact of their having run together. The whole general surface, but especially the trunk, was affected in this manner; in addition to which, seated upon these patches were, for the most part, flat, small and large papulo-vesicular and vesicular lesions, here and there well defined, elsewhere imperfectly developed or abortive. The picture, as might be imagined, suggested an extensive diffuse or generalized "chronic" erythema multiforme, with papulo-erythemata, papulo-vesicules, and vesicules. The herpetic element was striking, as shown by the grouping and by the marginate peripheral extension of the process. Here and there the lesions were grouped in an ill-defined circinate form, as in tinea circinata, some of the patches being small, others large. In most localities they were so multiform and had merged one with another so extensively that the elementary characters were to be noted only on close inspection. Scratch-marks, excoriations, and small and large blood-crusts were everywhere present, testifying to the intense itching which had been experienced. The patient stated that this had always been a distressing symptom, was subject to exacerbations, and that it was always at its height during the time a new crop of lesions were developing, occupying usually about a week. The pigmentation was of a dirty-yellowish, muddy, or dusky hue, and was both localized and general. It called to mind that seen in the later stages of extensive pityriasis rosea of the trunk.

From a diagnostic stand-point the eruption resembled diffuse, aggravated erythema multiforme of long standing. Herpes iris was not suggested, the erythematous element prevailing. It possessed a history, however, as well as features which precluded it from being classed here. The chronicity of the process, the tendency to repeated relapses, the obstinacy of the disease, together with the violent itching and burning, would not permit it to be considered as a case of this disease, at least as

this affection is now defined. At the same time, I would state that the case possessed certain features in common with this disease, and certainly bore more resemblance to it than to any other well known cutaneous disease. And this brings me to a question that has presented itself on several occasions in studying dermatitis herpetiformis, namely, where (in certain cases) shall the line be drawn separating this disease from other well-defined diseases? Shall, for example, the case I have just cited be regarded as erythema multiforme or shall it be grouped under the title dermatitis herpetiformis, where I have placed it? Shall a new definition be framed for erythema multiforme, to include also a *chronic* process, in order that this and similar cases may be grouped under this title; or shall we regard such instances as too far removed from erythema multiforme to be classed here, and relegate them to another group? The line separating one disease of the skin from another in some instances is ill-defined, and there are cases occasionally encountered which may as properly be classified under one head as another.

Instances of the kind are met with from time to time with eczema and psoriasis, pityriasis rubra and psoriasis, and, to pass to more chronic forms of inflammation, with lupus erythematosus and lupus vulgaris. They exhibit symptoms common to both diseases and defy precise, schematic classification.

The case under discussion, however, I think, may more properly be regarded as an example of the erythematous variety of dermatitis herpetiformis than of erythema multiforme, especially if we take into consideration the history of the disease. In some respects it resembles that reported by Jarisch as "herpes iris," and referred to by me in the article entitled "Preliminary Note on the Relation of Dermatitis Herpetiformis to Herpes Gestationis and other similar Forms of Disease" (*Medical News*, November 22, 1884).

I saw the patient on several occasions during the subsequent six months, his condition having somewhat improved, although he still suffered much. It is not necessary to enumerate the various internal and external remedies that were employed; suffice it to say that they were such as might have been prescribed for chronic universal erythematous eczema. Notwithstanding the treatment the disease persisted, and relapses, though milder in form, occurred as before.

I report the case, because it is interesting as portraying an unusual manifestation of the disease, namely, one bearing a resemblance to erythema multiforme. In a former paper I alluded to the possible relationship between these two diseases, and this case would go to show that the causes at work in these diseases are capable of giving rise to similar cutaneous lesions. Additional clinical information, however, is needed concerning unusual forms of both diseases before definite views can be expressed, and it is to be hoped that the experience on this point of other dermatologists will be forthcoming.

The South African Ladies are so modest that they will seldom permit a physical examination of the chest to be made by a male physician. There would seem to be a wide field in that country for female practitioners.

A Convenient Vaginal Douche.—Dr. Lefour, of Bordeaux, describes an apparatus designed by himself for use in antiseptic douching of the vagina. It consists simply of two metallic tubes passing through a cork, which may be fitted in any bottle. One tube passes just through the cork, and the other is long enough to reach to the bottom of an ordinary pint bottle. The latter serves for the admission of air, while the former is the delivery tube. The bottle is filled with the antiseptic fluid, the rubber cork through which the tubes pass is fitted into its neck, and it is then inverted and the liquid flows out. A rubber tube with vaginal nozzle is fastened to the metal delivery tube.

Clinical Department.

EXTRA UTERINE PREGNANCY, WITH PERITONITIS—RECOVERY.

Dr. N. P. Warner, of New Woodstock, N. J., reports the following case: Mrs. C.——, aged forty, married ten years, gave an incomplete history of a miscarriage at second month, accompanied by pelvic inflammation, occurring about four years ago. Aside from this she was never pregnant. Menstruated last on September 15, 1885, and at the date of my first visit, November 12th, she supposed herself pregnant. She was then suffering from intense pain in the region of the right ovary, which came on suddenly as she was rising from her bed. External examination showed a slight prominence over the seat of pain, and some distention and tenderness of entire abdomen. Hypodermic injection of morphia and hot fomentation soon afforded relief.

Ten days after the first attack, as the patient was using the vessel, there was a return of the pain, although not so severe as at first. At this time a vaginal examination was made, which, however, was not very thorough, owing to the tenderness of the parts.

November 16th, patient had a slight return of pain, accompanied by a rather free discharge of blood from vagina, the discharge lasting a few hours.

December 7th, while using vessel for relief of bladder, she was again seized with cramping pains in right of abdomen.

During the following month the patient experienced some pain and soreness in the right iliac region, and once during that time there had been a flow of blood from the vagina.

On December 7th a more thorough examination was made. The os uteri was enlarged, and presented the soft, velvety feeling of the pregnant womb. There was a slight varicose condition of the lower portion of the vagina, the mucous membrane of which was of the lilac color so peculiar to the pregnant state.

Bimanual examination showed the uterus to be pushed over to the left of the pelvis by a tumor which occupied the pelvic cavity to the right. The tumor presented a smooth surface, was not very sensitive to pressure, and seemed attached to, but not a part of, the uterus. It gave an indistinct sense of fluctuation. There had been morning sickness and the breasts were enlarged and painful. Dr. Warner believed that he had to deal with an extra-uterine pregnancy, and he told the patient that he desired to make another examination after an interval of a few days, as there was still considerable tenderness about the abdomen and pelvis. She would not then consent to further examination, and the writer saw no more of the case until December 20th, when he was summoned in great haste at about 6 A.M. On his arrival he was informed that the patient, on arising in the morning to relieve the bladder, had been suddenly seized with sharp pain in lower and right side of the abdomen. She had been lifted back to her bed, and she now lay there on the right side, with thighs flexed and body bent forward, moaning with pain and nearly unconscious. The face was very pale, and gave indication of extreme suffering. The surface of the body was cold and clammy. Radial pulse hardly perceptible. Rupture of sac formed by extra-uterine pregnancy was suspected, and morphine and brandy were given hypodermically, and hot applications were made to the extremities and along the spine. The patient was unable to swallow, being in a semi-comatose condition. There was vomiting at short intervals. Respiration was rapid and feeble. The abdomen was distended and tympanitic, and the tumor in the right inguinal region was quite perceptible above Poupart's ligament. At the end of two hours the pulse became stronger, and was then 146 per minute; axillary temperature, 97°. The extremities and surface of the body

indicated an improved circulation, and at 10 A.M. the patient was gradually 'rallying from the collapse and complained of intense pain and tenderness over entire abdomen. Warm cloths were applied to abdomen, and gave some relief to the patient. The following morning the condition was but slightly changed. The urine was passed naturally. In the afternoon the patient was suffering extreme pain, and showed symptoms of collapse again ; there was occasional vomiting of a dark, grumous material. Morphine, veratrum viride, and brandy were given hypodermically. The entire abdomen was painted with tincture of iodine. At 6 P.M.: Temperature, 102° F.; pulse, 140, and more steady ; the general appearance was somewhat improved. The next day there was occasional vomiting, but most of the food was retained. The abdomen was painted again with iodine. Patient felt comfortable.

The abdominal tenderness, pain, and distention gradually subsided, and improvement was now steady. With the subsidence of the abdominal distention the tumor could be readily mapped out, and was unmistakably increasing in size, and now extended above the anterior superior spinous process of the ilium, and a little to the left of the median line. It was not painful to the touch, except at the side adjoining the uterus. The uterus and tumor were readily distinguished as separate bodies. The os uteri occupied the anterior and left of the vagina, and the fundus could be felt above the pubis and to the left of the median line. The probe showed the uterine cavity to be two and a half inches in length. The tumor was slightly movable, rather tense, and gave, as before, an indistinct sense of fluctuation. The surface of tumor above was smooth and oval, but examination per vagina and rectum showed an uneven, rather unyielding, but not hard surface.

At this time, January 5th, Dr. I. N. Goff saw the case in consultation, and fully concurred in the diagnosis. A long hypodermic needle was passed through the vaginal vault into the tumor, and on withdrawing the piston the syringe filled with bright blood. A fine needle was then attached to the syringe, and passed into the tumor at its most prominent point through the abdominal walls. The patient was very emaciated, and the abdominal walls quite thin. On withdrawing the piston the syringe this time filled with light-colored liquid, which was supposed to be amniotic. No evidences of decomposition were found in the fluids removed by the hypodermic needle. In examining the blood removed through the vagina a formation was discovered which very closely resembled a placental villus. The diagnosis of extra-uterine pregnancy being established and the fœtus being still living, an injection of twenty drops of tincture of iodine was made into the tumor, with a hypodermic syringe, through the roof of the vagina. No very noticeable effect followed immediately upon the injection of the iodine, although it seemed as though, for a few days, there was a slight diminution in the size of the tumor.

One week after the injection of the iodine an exploratory puncture was made with the hypodermic syringe ; and a dark-colored decomposing fluid removed from the tumor. Dr. Goff again saw the case at this time. The patient was anæsthetized and a median-sized trocar was passed into the tumor through the vaginal vault. Immediately there was a discharge of dark, thick, and very offensive fluid. The cannula, being provided with a flange, was left in the tumor for forty-eight hours, during which time the discharge continued, but not freely. After further consultation with Dr. Goff, it was determined to enlarge the opening made by the trocar and endeavor to remove the contents of the sac. On February 1st, assisted by Drs. Goff and Potter, Dr. Warner undertook the operation. The patient was anæsthetized and placed in the lithotomy position. The bladder having been emptied, a moderate-sized ring-pessary was introduced to aid in distending the upper part of the vagina, and the perineum was well drawn back by a Sims speculum. A director was passed into the sac through the opening made by the trochar, and along this a probe-pointed bistoury was passed and the opening was slightly enlarged by cutting toward the right side and backward. By means of dressing-forceps and a uterine dilator the opening was enlarged until the index-finger could be passed into the sac. The distance from the roof of the vagina to the entrance into the sac was about one and a half inches. In an attempt made to enlarge the opening so as to introduce two fingers through it, the bladder was wounded, or, rather, torn into, although but little force was being used at the time. On account of the distance from vagina to entrance of sac and the injury to the bladder, it was thought advisable to make no further attempt at that time to remove the fœtus entire. A large drainage-tube was placed in the sac, which was thoroughly cleansed with injections of tepid carbolic-acid water.

The patient rallied well from the anæsthetic. Two days afterward one of the lower extremities of a decomposing fœtus was removed, and within a week the remainder of the fœtus was taken away in pieces. The parts removed corresponded in size to a fœtus of about twelve to fourteen weeks. A catheter was kept in the bladder for two weeks, at the end of which time the urine passed naturally and the injury to that organ had entirely healed.

The sac was syringed out daily with a weak solution of carbolic acid. The discharge, at first dark and offensive, gradually became more purulent. Patient improved steadily. By March 1st the tumor was about the size of a goose's egg, and discharged only a small amount of healthy pus. Some trouble was experienced in keeping the drainage-tube in place, but this was overcome by attaching a button to the vaginal portion, which rested on the perineum and prevented the tube from dropping out. The patient menstruated on March 14th, for the first time since September 15th. For a few months menstruation was accompanied by severe pain in the right ovarian region, but at the present time, one year after the removal of the fœtus, the patient says that menstruation is no more painful than before her sickness, and she is apparently in the enjoyment of perfect health.

CARLSBAD WATERS IN THE TREATMENT OF GOUT AND BILIOUSNESS.

Dr. J. B. Potsdamer, of Philadelphia, reports the following cases: Mr. B. J——, aged sixty-nine, had an attack of renal colic about twenty-two years ago. Oxalate crystals appeared in the urine. For a time his life was despaired of. Fifteen years ago he began to grow stouter, and had periods of depression. He consulted a physician at that time, who advised horseback exercise, otherwise serious results might follow. This instruction was not carried out. Eleven years ago, while being treated for a Colles fracture of the left side, he had an attack of inflammatory rheumatism, confined to the right shoulder-joint. Shortly after this he had another attack of renal colic, not as severe as the first one. Since 1860 he has had occasional attacks of muscular rheumatism, at times quite severe. In the early part of last year he began to complain of pain in the thumbs, which were swollen. He had pain in the toes, but not so marked. The pain in the thumbs kept him awake at night. He takes very little exercise. Diagnosis: Gout. He was put on a course of iodide of potassium and the wine of colchicum seed, without beneficial results, although pursued for a long time. The salicylates were then tried, with the same result. Both the above methods were pursued in conjunction with a regulated diet. He was then placed on Carlsbad waters, the Sprudel being used. He drank three or four wineglassfuls a day, the water always being heated first. Beneficial results were noticed before beginning the second bottle, as the patient was able to

sleep at night. Improvement continued, and after six bottles had been used the pain was gone and the swelling disappeared. At the present writing, six weeks after this treatment was begun, the patient is perfectly well, having used but ten bottles of the water. The only restriction placed upon Mr. B. J——, while drinking the Carlsbad waters, was that he was not to drink any malt, and very little of spirituous, liquors. This he did not carry out, as he drank about a glass of beer a day.

Mrs. S. B——, aged forty-five, of full habit. Has had frequent attacks of biliousness. She was first seen in the early part of last fall. Symptoms as follows: Complexion muddy; tongue coated with yellowish fur; bitter taste in the mouth; appetite poor; bowels constipated; some dizziness. Her feet are somewhat swollen. Small doses of calomel were given, followed by a saline purge. Bitter tonics were then administered. Jalap, fifteen grains, and cream of tartar, one ounce, were given about every four days, to keep the bowels open and to diminish the swelling of the feet. The patient improved, but about six weeks later the writer was again sent for, and found a recurrence of the above symptoms. On physical examination the liver was found to be considerably enlarged. Carlsbad Sprudel water was ordered, in wineglassful doses, four times a day, *to be taken cold.* The patient soon began to improve. After taking five bottles, she is now well. The swelling of the feet has disappeared, and the bowels are regular.

Mr. S. H——, aged forty, rather plethoric, exhibited symptoms similar to those of Mrs. B——, but the feet were not swollen, and the liver not enlarged. The same treatment was pursued, with a regulated diet; and the patient recovered after taking three bottles.

Progress of Medical Science.

The Injurious Effects of Blisters.—Dr. Wyss, of Geneva, has published a warning against the use of blisters. He says that, although devoid of real remedial properties, they are still daily prescribed, perhaps more with the view of sustaining the hopes and confidence of the patient, and of gaining time for the natural process of recovery, than in the expectation of actual benefit. The long experience of an extensive practice leads him to consider blisters an unnecessary cruelty to the patients, which ought entirely to be discarded. He has employed blisters in the treatment of pneumonia, pleurisy, sciatica, and other diseases, but failed in ever observing the slightest benefit from their use. On the contrary, he found them more or less injurious. He thinks that blisters disturb the sleep of the patient in want of restorative rest; they impair in many irritable patients the urinary organs, and they frequently bring on obstinate cutaneous eruptions. Moreover, they cause actual harm by almost invariably increasing the fever in already feverish patients, and may thus seriously affect the general condition.—*Der Fortschritt*, January 5, 1887.

Antipyrin in Migraine.—Dr. Sprimon has stated in a Russian medical journal, quoted in the *London Medical Record*, January 15, 1887, that he uses antipyrin in all cases of hemicrania, and, as a rule, obtains excellent results. Given at the height of a fit, the drug only partially relieves pain, but does not shorten the duration of symptoms (especially when the patient remains on his legs all the while). But when administered during the period of prodromal phenomena, antipyrin almost invariably cuts short the paroxysm within an hour, and allows the patient to immediately resume his occupations. The dose required is one scruple. In delicate persons, or in those liable to giddiness, it is better to divide the dose in two parts and to give the second portion (if necessary) about half an hour after the first. In the *Centralblatt für klinische Medizin*, No. 45, 1886, Dr. Ungar also states that antipyrin, given in the dose of sixteen to twenty-four grains in the beginning of a paroxysm, acts better than any other symptomatic means used for the affection in question. In some cases, however, the drug (like salicylate of soda) remains inactive. According to the *London Record* of April 15, 1886, Professors M. A. Khomïakoff and I. M. Lvoff, of Kazan, were the first to recommend antipyrin as an excellent means for hemicrania, as well as for headache generally. This would appear to antedate the first publication of Dr. John B. White, of this city, in the *Medical News* of July 10, 1886. But as Dr. White had used and recommended antipyrin in various forms of headache for some two years before that time (The Medical Record, September 11, 1886), the credit of priority over the Russian physicians probably belongs to him. In any event, antipyrin has now received so many indorsements from different medical men that it may be placed once for all on the list of symptomatic palliatives in most forms of headache.

The Action of Pyridine on the Function of Respiration.—In health and in disease (phthisis, pleurisy, chlorosis, etc.) inhalations of pyridine have the effect of diminishing the quantity of air respired in a fixed period of time. Notwithstanding this, the feeling of need of air diminishes. According to Dr. B. Silva, the respiratory curve shows that in the healthy man pyridine produces at first an expiratory dyspnœa; the respiration then becomes less frequent, irregular, preventing true periods and sometimes long intervals of apnœa. After the inhalation the respiration remains less frequent and less full, with occasional deep inspirations. Sometimes sleep intervenes, and the periodic respiration is then more evident. The inhalation always causes abundant salivation, preceded by a bitter taste in the mouth and roughness of the throat, with constant desire to spit; the nose also runs. The respiratory curves obtained by exciting the nostrils by the faradic current are very similar to those obtained by pyridine. The nose runs, there is salivation, expiratory arrest, the respiration is disturbed and becomes sometimes periodic, and, lastly, after the excitement has ceased, there are the occasional deep inspirations and those periods of apnœa as seen after the inhalation of pyridine. But sleep and the sense of less need of air are wanting. The author therefore believes that pyridine acts on the respiratory centre by means of the trigeminus chiefly, but that the pneumogastric also is affected. The influence of pyridine on the pneumogastric is also shown by the increased secretion from the bronchial tubes. Pyridine therefore produces irritation of the terminal nasal fibres of the trigeminus, and hence running of the nose, salivation, and expiratory dyspnœa. The action on the bulb by means of this nerve is evident, and the respiratory centre is first stimulated and then paralyzed. This is shown by the diminution of the quantity of the air respired, and by the respiration becoming periodic and superficial. But the action of pyridine is not limited to the respiratory centre in the bulb, but also extends to the higher centre of the cortex, since it produces sleep; and this again contributes to give a periodic type to the respiration and to diminish the quantity of air respired in a given time.—*The London Medical Record*, February 15, 1887.

Pulverized Spleen in Chlorosis.—The German medical papers quote some observations made by Dr. Predazzi, at Professor Maragliano's request, on the value of treating chlorotic patients with an emulsion of pulverized spleen, bitter almonds, and brandy. In the five cases in which this was adopted, rapid improvement took place both in the general condition of the patients and in the physical signs; that is to say, the number of red blood-corpuscles was increased, as also the arterial tension and the body-weight. The author does not attempt any explanation of the action of this singular remedy. The quantity of "pulv. splenic." given daily was about five ounces, and it was ordered at meal-times.

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THE REGISTRATION OF CONTAGIOUS DISEASES.

WE referred recently to the fact that physicians very frequently neglect to comply with the law requiring a notification to the health authorities of every case of contagious disease occurring in their practice. It is not in the matter of reporting contagious diseases only that physicians are negligent, but they are almost equally remiss in regard to certificates of birth.

We do not wish to invent excuses for this neglect of their plain duty on the part of members of our profession in this city, but it will do no harm to look a little into the causes of this neglect, to see if there may not be some remedy for it.

In the first place, forgetfulness will account for many cases of omission in this respect. The physician has no intention of evading the law, and he really means to report his cases, both of contagious diseases and of births. But somehow the days slip by, other things come along to occupy the attention, the duty of reporting the case is forgotten, and one more glittering stone is added to the mosaic of that populous region which is said to be paved with good intentions.

Another, and perhaps more frequent, cause of this neglect is a certain feeling that the law is unjust in that it demands labor on the part of the physician for which he receives no compensation. He is put to considerable labor and a slight expense for which he is not requited, but the omission of which exposes him to the penalty of a fine. And it must be said that the Board of Health does not always second the efforts of those who really wish to comply with its demands, for we have known of instances in which physicians have applied again and again for the necessary blank forms and have never received them. Very naturally they are discouraged by such treatment, and think that the matter can be of but little moment if the health authorities themselves will not aid them to so slight an extent.

This is really a more serious matter than the thoughtless are wont to suppose. In the first place, it renders the statistics of the Health Department worse than useless, for it causes them to be misleading. In the case to which we referred in a previous issue, the figures of the Board of Health made it appear that the mortality from typhoid fever in this city was over forty-one per cent., but everyone knows that this percentage is much too high. Again, the failure to report every case of contagious disease undoubtedly increases the danger of epidemics. And, finally, as regards the failure to report births, a real injury may be done to the child, as in after-years the individual may suffer great loss from being unable to produce a record of his birth.

There is, however, a simple remedy which would obviate all this. Let the authorities pay the physician for his trouble in making a report, and we venture to say that both the forgetful and the intentionally careless would vie with the thoroughly conscientious in notifying promptly the Board of Health of all cases of this nature occurring in their practice. This is done in some of the States, and is, we are informed, found to work well. The compensation need not be large, for the physician is willing to do his share if only he feels that he is not being imposed upon. And then the penalties for non-compliance with the law can be more strictly, and more justly, enforced. Such a plan would have the effect, at least, of making the statistics of the Health Department, as they should be, of real scientific value.

THE TREATMENT OF NEURALGIA BY CHLOROFORM DIFFUSION.

THE treatment of neuralgia is often so unsatisfactory that any plan that promises to remove the difficulty even in a measure is worthy of consideration. No excuse, therefore, is necessary for calling the attention of the readers of THE MEDICAL RECORD to a method recently proposed by Adamkiewicz for the relief of this troublesome affection (*La Riforma Medica*, No. 25, 1887).

The experiments of Wagner had shown that, if the positive electrode were impregnated with a solution of cocaine, the passage of a constant current produced an intense anæsthesia of the skin. This fact led the author to try what effects could be obtained by chloroform applied in the same way. He found that simply saturating the electrode was insufficient, as the substance evaporated so rapidly that frequent renewals were necessary, thus causing interruptions in the application. He therefore devised an electrode containing a receptacle for the chloroform, which was allowed to escape only very slowly, so as to keep the surface of the electrode constantly moist. This "diffusion electrode," as it is called, consists of a metallic cylinder, containing the chloroform, and closed by a diaphragm of carbon, which is a good conductor and at the same time allows the drug to leak out slowly.

The cathode is applied at an indifferent point, while the anode, the diffusion electrode, is placed over the seat of pain. The patient complains at first of a slight burning sensation, but this gradually passes away as anæsthesia becomes complete. It is important not to employ a current of too great intensity. It is best to begin with a current of moderate intensity and to increase it gradually until the limit of tolerance is reached. This limit is usually from three to seven milliampères.

This method has given very satisfactory results in neuralgia of the fifth nerve and its branches, in intercostal neuralgia, and in rheumatic pains. It would appear, also, to be a convenient means of producing local anæsthesia, as the anæsthetic area extends for a considerable distance around the point of application of the electrode.

THE POSITION TAKEN DURING SLEEP.

A VERY large number of adults form the habit of sleeping in one particular position, such as lying upon their right or left side. A smaller number sleep upon the back. Some persons sleep with the head greatly extended; more often it is flexed considerably upon the trunk. Many must have the head greatly elevated; others can only sleep with the head very low. Some observations made by Dr. G. Nosovitch (*Wratsch*) upon 235 soldiers showed that 37.5 per cent. slept upon the right side, twenty-three per cent. on the left, and 6.5 per cent. on the back.

It has yet to be determined whether any particular harm can come from sleeping in a certain position which the individual unconsciously assumes. A popular belief exists to the effect that the liver, being a heavy organ, tends to press upon the other abdominal viscera when a person lies on the left side. At any rate, more persons, probably, sleep on the right side than on the left, as experience and Nosovitch's statistics show. The author in question believes, also, that the posture in sleep influences the extension of a bronchitis. He found, for example, that in the 235 cases referred to, all of whom had this disorder, in 97 it was left-sided, in 72 right-sided, and in 66 on both sides. He thinks that the preponderance of the bronchitis on the left side was due to the fact that there was a greater expansion of this side during sleep, and, consequently, a greater ingress of cold air or of the morbific particles causing the disease.

Some writers have thought that the position in sleeping has an influence upon the passage of fæces through the colon, the position on the right side being especially unfavorable to emptying the colon. Repose on the left side, on the other hand, favors the gravitation of fæces from the transverse into the descending colon, and is therefore to be preferred by those suffering from habitual constipation (J. S. Jewell).

A recent writer has argued strongly for the view that the head should be lower than the feet during sleep, and he claims that more perfect health and greater longevity will result from such approximate topsy-turviness. The contrary position, with the head and trunk considerably raised, sometimes relievescra mps in the legs. It is well known that some chronic nervous affections, more particularly nocturnal epilepsy and some forms of insomnia, are sometimes benefited by sleeping in a partially erect posture.

It appears, therefore, that the posture during sleep is a matter deserving of some attention from physicians, and that some actual therapeutic results may be obtained by looking after its details.

A GERMAN WAY OF DEALING WITH THE QUESTION OF THE EXCESSIVE SUPPLY OF DOCTORS.

THERE has been a steady increase in the number of medical students and medical graduates at the German universities during the past few years. In the nine Prussian universities, for example, there were 3,538 medical students during the semester of 1885–86, while this year the number has increased to 3,682.

The increase in the number of physicians in Germany has evidently not been attended with corresponding benefit to the body medical as a whole. At least, this must be the conclusion drawn from the fact that at the recent annual meeting of the German Physicians' Association, a society organized in the social and economic interests of the physician himself rather than his science, an address was issued advising young men against entering the medical profession, "as the prospects of doctors are becoming worse yearly."

Although overcrowding has been one of the most patent and potent evils in the profession of this country, our own American Medical Association has never made any efforts worthy of the name to mend the matter. The plain and persistent presentation of the facts in the case by THE MEDICAL RECORD and other journals independent of collegiate interests, has accomplished something, and will, we believe, do still more. We do not, in fact, recommend the German way of formally announcing to the public that our ranks are already full enough for comfort. It smacks too much of the tradesman's attempts to limit competition. It is a fact of some importance to us, however, to learn that the prospects of the physicians in Germany are yearly becoming worse. For, doubtless, if true, this means that we shall yearly have a larger instalment of the pure-bred German physicians sent over to us. As our colleges only turn out from four thousand to six thousand new doctors every year, the prospect is, of course, most pleasant.

AFEBRILE PNEUMONIA.

OCCASIONALLY, in the aged, a croupous pneumonia, typical in every other respect, may be observed to run its entire course without any elevation of temperature. Such cases are rare, yet the possibility of their occurrence is well recognized by those who have a wide experience in the treatment of diseases in the aged, and, doubtless, they are more common than is generally supposed. The idea of a pneumonia running its course with no elevation of temperature is so contrary to ordinary experience that it may well happen that such cases often escape recognition.

It has long puzzled clinicians to account for this phenomenon, and it still awaits a perfectly satisfactory explanation. It has been shown that when uræmia is induced in animals there is a notable reduction in the body-temperature, and herein lies a possible explanation of the absence of pyrexia in these cases of senile pneumonia.

Dr. Giuseppi Lapponi relates a case, in *Il Raccoglitore Medico* of January 10, 1887, which would seem to sustain this theory. It concerned a woman, aged seventy-four, whose life had always been a hard one, and who had endured privations of many kinds, but had never suffered from any severe illness since her childhood. She was suddenly seized, while in apparently perfect health, with a chill, great oppression in breathing, and a dry and troublesome, though not very frequent, cough. The patient was greatly prostrated, had anorexia, thirst, and some dulness of the mental faculties. The temperature was 98.2 F., pulse 80, respirations 30. The physical signs pointed unmistakably to acute pneumonia in the left lower lobe posteriorly. Thermometric observations were repeatedly made throughout the course of the dis-

ease, but the temperature was never found to rise above the normal height. Examination of the urine gave evidences of a chronic nephritis. The tongue was very dry, there was complete anorexia, and the pupils were irregularly dilated, signs which the writer took to be indicative of a slight degree of uræmic poisoning, and it was to this cause that he attributed the entire absence of fever.

There may, of course, be, and doubtless are, other conditions which, occurring coincidently with pneumonia, would tend to prevent a rise of temperature such as normally takes place, but this observation would seem to show that one cause, at least, of apyrexia in acute diseases in the aged may be chronic nephritis giving rise to a mild degree of uræmia.

SPLENIC TISSUE AS A THERAPEUTIC AGENT.

Some curious experiments have recently been made by Dr. Predazzi with the pulp of the spleen, with a view of determining its value, if it has any, in the treatment of anæmia. A mixture was made containing brandy, one and one-half ounce; splenic pulp, four and one-half ounces, and emulsion of bitter almonds, ten and one-half ounces; the whole to be taken in the course of the day with the meals. Five patients with chlorosis were treated with this mixture, and in the course of from one to three weeks the following results were observed by the author (*Deutsche Medicinal-Zeitung*):

1. Rapid improvement in the general health, and increase in the number of the red blood-globules.

2. A speedy and permanent cure of the functional disturbances of the nervous system, digestive and urinary organs, and circulatory apparatus.

3. Increase of arterial tension and of the body weight.

The patients were, however, put at the same time upon a nourishing and regulated diet, and it is, therefore, somewhat difficult to say how much of the benefit was derived from the spleen pulp, and how much from the good food, to which the patients were doubtless not accustomed. We venture to suggest, however, that the latter was at least equally as potent for good as the chopped-up spleen.

MEDICAL LEGISLATION IN WISCONSIN.

The *Evening Wisconsin*, a Milwaukee paper, strenuously opposes the present bill to regulate the practice of medicine in its State. It says in effect that the proposed bill is revolutionary, and that Wisconsin is all right as it is, its death-rate being low and its doctors highly intelligent. The bill, which we have examined, is not so alarmingly radical as the *Wisconsin* seems to think, and that paper has certainly some misconceptions about it. A mixed Board of Examiners is provided for, who certify the diplomas of those having such documents, and who examine persons who do not have them. The Board is appointed by the Governor from nominees of the three State societies. This is objected to, because Wisconsin has 2,000 physicians, of whom only 400 are members of the State medical societies. All, however, can and should have such membership. The bill is, in general, much like other bills that have worked successfully in other States.

Perhaps the columns of profitable quack advertisements which we see in the *Evening Wisconsin* may bias our esteemed contemporary somewhat against the "too severe" regulation of medical practice. We observe that it announces the merits of two Milwaukee quacks who prey upon the sexual troubles of young men. Such gentlemen pay from $100 to $1,000 a month for advertising.

At any rate, while the bill the *Wisconsin* attacks may have some objectionable features, the general principle that a community should supply its citizens only with educated physicians is a good one and one that is constantly gaining ground.

SOME NEW REMEDIES.

The following are a few of the more recently introduced therapeutical remedies which have been recommended as of more or less efficacy in the treatment of a number of diseased conditions. Whether or not they will prove, on more extended trial, to be as valuable as their sponsors believe them to be, time and experience alone can show.

The carbolate or phenate of mercury has been recommended very highly by Dr. P. Gamberini in the treatment of syphilis. It is given in the form of pills, each containing one-third of a grain. At the commencement two pills are given a day, and the number is gradually increased to six. If given in larger dose, the salt is liable to cause some gastro-intestinal irritation and, occasionally, ptyalism. The author reports ten cases of syphilis treated with phenate of mercury, and states that he has records of many more in which similar results were obtained (*La Riforma Medica*). The time from the first exhibition of the salt until the disappearance of all syphilitic symptoms was, in six cases, from twelve to twenty days; in three, from twenty-five to forty-five; and in one case, seventy days. In doses of from two-thirds of a grain to one and a third grain in the twenty-four hours the drug was well borne by all, but when the dose was raised to two grains a few patients showed slight symptoms of intolerance. In one case even small doses caused intestinal colic, and in three cases a moderate degree of ptyalism was produced.

Tulipine is an alkaloid which has been extracted by Gérard from the common garden-tulip, *Tulipa gesneriana* (Linn). Its chemical and physiological properties have been compared to those of colchicine, veratrine, and scillitine (*Les Nouveaux Remèdes*). It unites with acids to form salts. A dose of one grain and a half is sufficient to cause death when administered to cats, the fatal result being due to paralysis of the heart. In medicinal doses of one-twelfth to one-tenth of a grain it increases the salivary secretion, is diuretic and laxative. Besides its effects upon the heart and intestinal tract, it acts also upon the central nervous system. All parts of the plant furnish the alkaloid in considerable proportions.

Methylol is an ether in which two atoms of hydrogen have been replaced by two of oxide of methyl (*Los Medicamentos Modernos*). It is a colorless fluid, soluble in water, alcohol, and the fixed and volatile oils, having an odor resembling chloroform and acetic ether, and an aromatic taste. When internally administered it is said to induce profound sleep, which is, however, not

of long duration, owing to the rapid elimination of the drug. It excites no irritation of the stomach, but, on the contrary, relieves nervous pains of this organ and of the intestines. Applied externally, in the form of an ointment or of a liniment, it is lauded as an excellent local anæsthetic analgesic. Its therapeutical indications would seem to be many, as it is said to be a perfect substitute for chloral in all cases in which the stomach is irritable and in which, for that reason, chloral is not well tolerated. On account of its prompt action and rapid elimination, methylol is of value as an hypnotic in the delirium accompanying acute febrile affections. The applications of the drug as an analgesic are very numerous, since it is indicated in all cases in which it is desired to diminish pain and reduce local hyperæsthesia. It may be given in doses of four minims every ten minutes, until the desired result has been obtained, or until four doses have been taken.

Catramine is another remedy which Dr. L. Casati, writing in the *Raccoglitore Medico* of March 10, 1887, characterizes as of great value. It is an oil obtained by Bertelli, by means of distillation, from the gum (*catrame*) of the *Pinus canadensis*. It is of a straw color, having a faint and rather pleasant odor of turpentine, is soluble in ether and alcohol, and slightly so in water. It has an agreeable balsamic taste, and is taken readily even by children. It is said to increase the appetite and to promote digestion. It is recommended very highly in the treatment of affections of the respiratory apparatus, catarrh, chronic pneumonia, incipient phthisis, etc. In other catarrhal conditions, as of the stomach, intestines, and especially of the bladder, its good effects are said by Casati to be most marked. In all affections, indeed, of the genito-urinary apparatus it is vaunted as being superior to copaiba or any of the commonly employed balsams. It is prepared by a special process, and would seem to be a proprietary article, and so, we fear, like many other preparations, it will never come into general use as a legitimate therapeutic agent, even though it may be as excellent a remedy as Dr. Casati and others seem, from their present experience, to think it to be.

THE INFLUENCE OF THE EMOTIONS IN THE ETIOLOGY OF SKIN DISEASES.

It has long been a question whether a cutaneous eruption may be caused by a purely mental process apart from any other apparent etiological factor, and not a little controversy has arisen from it. It is now, however, pretty generally conceded that such a cause is competent to produce, not only cutaneous lesions, but also morbid processes in other organs and parts of the body, and numerous cases of this nature are on record.

Dr. Tommasoli, in a recent memoir (*Revista Médica de Sevilla*), upholds the opinion that various cutaneous eruptions may follow upon, and be caused by, violent emotions, and cites several cases in support of this view. The first case was that of a young woman who was suddenly attacked with a pemphigoid eruption immediately after receiving the news of the death of her husband. In another instance a lady presented an eczema, covering the eyelids, neck, arms, and vulva, which made its appearance very suddenly after it had been announced to her that her daughter had committed suicide. A third case was that of a man who had been threatened with personal injury by a debtor whom he had importuned for payment. He was greatly frightened, and was almost instantly seized with an acute dermatitis accompanied with a pustular eruption covering the back and extremities.

These cases by themselves would hardly suffice to establish the truth of this causal relation between emotions and skin eruptions, but they are valuable in the way of cumulative evidence, taken in connection with the numerous other reported instances which tend to confirm this theory.

News of the Week.

Another State Board of Health.—Nebraska has established a State Board of Health. The new law provides that the Governor shall appoint seven persons, two from each Congressional District, and one at large, with the Governor as their presiding officer. Persons appointed must be graduated physicians, of at least ten years' consecutive practice, and the term of office is to be seven years.

Malignant Measles in Kansas City.—Dr. John Fee, City Physician of Kansas City, has given notice to all physicians to report cases of measles. He reports more deaths from measles than from diphtheria and scarlet fever combined, and proposes to placard houses containing cases of the disease.—*Sanitary News.*

The Death of Professor Horner, of Zurich, well known as an ophthalmologist, is announced.

A Curious Way to Advertise.—The local paper of a town in West Virginia announces that a Dr. C. B. Blubaugh, of Huntington, "has been highly honored by the Royal Society of England for important surgical operations." This sounds imposing, but it is nonsense all through, since the Royal Society in question has nothing to do with surgery, or medicine either, except as a part of general science.

We are glad to find that classical learning is not confined to Boston or Chicago. Dr. H. Plageman, of Hustisford, Wis., a town which should be better known than it is, sends us his translation of the Greek sentence written on the Boston doctor's slate (*vide* Medical Record of March 5th). It is: "My relatives want me to come home." Hustisford should be represented in the International Congress.

A Western View of it.—The *Weekly Medical Review*, of St. Louis, says: "The consulting physicians in the case [of the late Mr. Beecher] with Dr. Searle were Dr. W. Todd Helmuth, of New York (formerly of St. Louis), a homœopath, and Dr. William E. Hammond, of the College of Physicians and Surgeons of New York. Little incidents like these 'show up' the 'true inwardness' of the 'new code' or 'no code' men in New York." The only mistakes here are that Dr. William A. Hammond was the man, not William E.; that he is not of the College of Physicians and Surgeons; and that he did not meet Dr. Helmuth in consultation at all. Little paragraphs like the above should be written with more care.

The North Carolina State Medical Society will hold its next annual meeting at Charlotte, on April 13th, 14th, and 15th.

A great many Revolutionary Things have been accomplished on paper and by resolution. Nothing has been proposed, however, much more radical than that of the Ohio Sanitary Association, which recently "*Resolved*, That it is the sense of the Ohio State Sanitary Association that syphilis should be made a legal bar to matrimony." Adopted unanimously.

How Dr. Oliver Wendell Holmes relieved his Asthma.—In the first instalment of Dr. Holmes' entertaining article in the *Atlantic Monthly* for March, giving an account of his trip to Europe, the experiences of the writer in overcoming his attacks of asthma are related. All kinds of prescriptions were showered upon him, but Dr. Holmes announces that nothing did him so much good as a certain patent asthma-cure, made in Providence, R. I. The composition of this is said to be:

℞. Pulv. lobelia,
Pulv. stramoniæ fol.,
Pulv. potas. nitrat.,
Pulv. black tea..... .....āā ʒ ij.
M. and sift.

Some of this is burned and the smoke inhaled.

The Society of the Alumni of Bellevue Hospital is the name of a new medical society organized in this city. As there is no institution, so far as we know, of the above name granting diplomas, we are at a loss to understand what the society in question is composed of. Bellevue Hospital is a public hospital belonging to New York City, and cannot possibly have any alumni in the ordinary sense of the word. Bellevue Hospital Medical College is a teaching institution, entirely separate, officially, from the hospital. We advise the young society to rechristen itself. Having secured nomenclatural lucidity, we will then wish it all possible success.

Cocaine now costs about a cent and a half a grain.

Geographical Representation and the American Medical Association.—The *Medical News* states that, upon examining the list of officers of Sections of the American Medical Association for the next annual meeting, it will be observed that of sixteen positions Illinois has four, Missouri three, Maryland two, and New York, Pennsylvania, New Jersey, Ohio, Kentucky, Arkansas, and Minnesota, each one. Two States—Illinois and Missouri—furnish nearly one-half of the appointees. The records of the meetings show that for three consecutive years they have or will have been held considerably west of the centre of our country's population. Even admitting the superiority of Western medicine, the above distribution of officers seems hardly democratic, or in harmony with the eagle-screams heard when the appointments of the International Congress were first announced.

Conditions of Successful Production of Local Anæsthesia in Tooth-Extraction.—Dr. A. Lebrun, of Brussels, and his house-surgeon, M. Andries, have published the notes of twenty-nine cases in which they employed local cocaine-anæsthesia for the extraction of teeth. In twenty-three cases the anæthesia was complete, in one case partial. In the remaining five cases the procedure was unsuccessful. This is attributed by them to the difficulty of introducing the short, straight needle of the ordinary hypodermic syringe in the case of the second and third molars, and also, perhaps, to no precautions having been taken to prevent the escape of the liquid. They point out that M. Viau, of Paris, who succeeded in producing complete anæsthesia in every one of his eighty-six cases, made use of a specially constructed syringe, with a holder by which it could be grasped firmly between the index and middle fingers, and provided with needles of various degrees of curvature; also, that he surrounded the tooth with plugs of cotton-wool, and applied the finger over the puncture after the withdrawal of the needle. Besides which he made the patient keep rinsing his mouth with cold water during the five minutes that intervened between the introduction of the cocaine and the actual operation. These precautions were not observed by MM. Lebrun and Andries. They used, however, a solution similar to that of M. Viau—viz., fifty centigrammes (seven and a half minims) of a two per cent. solution of carbolic acid containing five centigrammes (three-fourths of a grain) of hydrochlorate of cocaine, half of which quantity was injected into each surface of the gum.—*Lancet.*

Studies for Medical Students.—The Berlin Medical Faculty recommend for medical students the study of meteorology, mineralogy, geology, anthropology, psychology, and logic. This is a very poor selection, for American medical students at least. Anthropology, psychology, and logic are well enough; but for the rest, *belles lettres* and the humanities are better far than the 'ologies, since they teach human nature and the art of expression, things much needed in the very human work of dealing with the sick.

The Tenement-House Law recently enacted by the New York Legislature is a measure which will doubtless promote better health and more comfortable living among the laboring classes of our city. The measure was advocated and carried through largely by the *Morning Journal*, and that paper deserves credit for its success in practical philanthropy.

A Duel talked of.—We learn with pain that a personal altercation has occurred between Dr. Love and Dr. Todd, of St. Louis. Dr. Love, having editorially criticised Dr. Todd some time ago, was snubbed by the latter, who in turn was immediately struck by the former. These interchanges of opinion were then suspended temporarily, but a resumption of hostilities is talked of. Dr. Love is President of the Mississippi Valley Medical Association, and highly esteemed as a physician, besides being a stalwart advocate of the American Code of Ethics.

The Myxœdema Committee of the Clinical Society of London has completed its investigation of the etiology, symptoms, and morbid anatomy of this interesting disease, and it is now engaged in studying the question raised by Professor Kocher's observations of the effects of total extirpation of the thyroid gland. For this purpose Dr. Felix Semon has issued a letter to all surgeons who are known to have performed this operation, asking for a statement of the results observed.

Reports of Societies.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN SURGERY.

Stated Meeting, March 14, 1887.

ROBERT F. WEIR, M.D., CHAIRMAN.

DR. C. H. WILKIN presented several patients who illustrated the results of (see p. 378)

SUTURED TENDONS.

THE CHAIRMAN said that he had practised suturing of tendons in several cases and with good results.

DR. BOLDT asked if, when the operation was performed some time after the receipt of the injury, it was necessary to freshen the ends before uniting them.

THE CHAIRMAN said that it had been found necessary to dissect upward farther, in order to secure the upper end of the tendon, than it had been when the operation was performed at an early date. In either operation, the primary or the secondary, the extent of the cut upward, in search of the upper end, could be lessened by making traction with a bandage from above downward.

DR. MOORE presented a patient with

A GLOBULAR PULSATING TUMOR IN THE REGION OF THE HEART.

There was no bruit. The heart was only slightly displaced. There was a distinct history of syphilis dating back six years. About one year ago she noticed that her left arm was enlarging and was bluish. Some time afterward she noticed that there was some trouble in the region of the heart, and about four months ago the tumor in the region of the heart was first seen. It was supposed that it was an aneurism of some portion of the aorta.

DR. JOHN A. WYETH then read a paper entitled

LAPAROTOMY AND INTESTINAL SUTURE—EXSECTION OF A PORTION OF THE ILEUM WITH RESTORATION OF FUNCTION OF THE ALIMENTARY CANAL.

Leah R——, Russian, fifty-six years of age, housewife, was admitted to Mount Sinai Hospital October 9, 1886, with a swelling as large as an ordinary fist occupying the inner aspect of the left groin and thigh.

The skin over the tumor was red, tender, and doughy, and fluctuation was evident. The surrounding tissues were slightly emphysematous. She had been in her present condition ten days in a tenement house. Her temperature was normal.

Diagnosis: Strangulated femoral hernia. Ether was administered, and the tumor was incised, when several ounces of foul pus mixed with intestinal matter were discharged; the mass was gangrenous, and an opening into the intestine was detected. This opening was dilated with a pair of dressing forceps to secure a free exit of intestinal contents, and a loose dressing of iodoform gauze was laid over the wound. Only a small quantity of matter escaped when the gauze was changed every second or third day.

Thirteen days after the first operation ether was administered, laparotomy performed, two inches and a half of the intestine with a triangular piece of the mesentery removed, and the edges of the wounds united by sutures. The edges of the divided mesentery were united first, and by eight interrupted catgut sutures, about one fourth of an inch distant from each other.

The mesenteric attachments of the ends of the cut intestine were brought carefully into apposition and secured by three kinds of sutures: (1) A suture through the mucous membrane alone, or Czerny's suture; (2) a suture through the peritoneal coat alone, or Lembert's suture; (3) a suture which pierced the peritoneal coat, and, passing along with the muscular layer, came out upon the free border of the divided gut, the intermediate suture.

In suturing the intestine, the very finest black (iron-dyed) silk and a delicate, perfectly straight round needle were used. The silk was made aseptic in sublimate solution (one to three thousand), and it and the needle taken from a one to twenty carbolic acid solution as they were used.

The cavity of the gangrenous abscess was scraped out with a Volkmann's spoon and rendered thoroughly antiseptic, the opening into the intestine plugged, and the whole cavity packed with iodoform gauze before the laparotomy was commenced. Also when the loop of intestine, five inches above and below the occlusion, had been drawn out of the abdomen, a piece of cotton tape one-fourth of an inch wide was tied four inches above and below the limits of the gangrenous opening, so as to completely occlude the lumen of the gut.

The operated lasted four hours. Recovery took place without unfavorable spmptoms. There is no sign of obstruction or interference with the functions of the alimentary canal, and the hernia, at this date, is radically cured.

With reference to the treatment of

STRANGULATED HERNIA WITH GANGRENE OF THE INTESTINE,

Dr. Wyeth said that establishing a permanent fecal fistula at the seat of the gangrene should be consigned to subjects so feeble that no operative procedure was justifiable.

Whether or not the gangrenous portion should be immediately exsected, the ends of the gut reunited by suture, and the loop returned to the abdominal cavity, must be determined by the condition of the patient at the time of the operation. In most cases, however, the condition of the patient is not favorable for immediate exsection. In such cases the plan carried out in the case just described should be followed.

The difficulties of the operation, however, are great, and the time required dangerously long, unless the surgeon has had sufficient practice to enable him to work rapidly and safely.

DR. ROBERT ABBE thought there was a possibility that the brilliant result obtained by Dr. Wyeth might lead some to adopt the method of treatment described in cases in which recovery would take place spontaneously; for fecal fistula following gangrene in femoral hernia was quite frequently healed by nature. Again, the use of Dupuytren's enterotome was much less dangerous than laparotomy. Besides, a laparotomy that required four hours for its performance endangered the life of the patient very much on account of the liability to the occurrence of acute nephritis after prolonged etherization. On this account he thought that, in such cases, an operation should be delayed for a longer period than three weeks, say, to two or three months, before attempting to close the intestinal fistula. He then related a case which he treated with Dupuytren's enterotome.

THE CHAIRMAN had not yet met with a case of gangrenous femoral hernia with fistula following but what had healed eventually without operation, and therefore he recognized the justice of Dr. Abbe's criticism, while at the same time he appreciated the advantage mentioned by Dr. Wyeth of not performing resection at once; for, the inflamed condition of the intestine, extending beyond the parts immediately involved, rendered the union much more insecure than that obtained by operating some time afterward. Besides, the general condition of the patient forbade, as a rule, a prolonged operation.

TO MAKE AN ARTIFICAL ANUS WAS MUCH SAFER,

and subsequently it could be determined what surgical procedure, if any, was best adapted to the case. The mortality of resection done for artificial anus was much less than when it was performed for hernia, it being only thirty-eight per cent. The fact of the surgeon's inability to feel certain that he could unite the intestine so that it would be free from leakage was one that was entitled to the highest consideration.

Dr. Robert T. Morris suggested a flap operation that would allow both sides of the intestine to be supplied with blood from the mesentery, and, at the same time, prevent the peristaltic action from making traction upon one point, and this, also, he thought would diminish the liability to the occurrence of stricture. He asked Dr. Wyeth if he thought that he would require four hours to perform the operation in another case.

Dr. Wyeth said that it was very difficult to say what length of time would be consumed by any operation; but, under circumstances throughout identical with those under which the operation in this case was performed, it was quite probable that the time would be considerably shortened. He thought that the dangers arising from peristalsis need not be very much considered. One objection to the flap operation would be an unnecessary prolongation of the operation, as it would certainly be more difficult to unite the edges than those of a simple straight cut.

As to the suggestion that the case might have yielded to Dupuytren's enterotome, Dr. Wyeth had not had one in which he had tried it, although he regarded it as a good and conservative operation. But he doubted whether the results in the cases in which Dupuytren's operation had been performed would encourage its repetition, if there was another which was comparatively safe. The question of leakage certainly was an important one, but its importance, he believed, would be reduced by the more careful surgery of the future.

The section then adjourned.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE COLD-BATH TREATMENT OF HYPERPYREXIA—EPILEPSY AFTER GUNSHOT WOUNDS CURED BY STRETCHING THE SCIATIC NERVE—HÆMATURIA IN CASES OF GRANULAR KIDNEY—CÆSAREAN SECTION FOR UTERINE FIBROMYOMA—THE STATUS OF ARMY MEDICAL OFFICERS—UNIFORM VS. PRIVATE CLOTHES.

London, March 5, 1887.

At the last meeting of the Clinical Society, Dr. Carrington, Assistant Physician to Guy's Hospital, brought forward a case in which he had successfully employed the cold bath in treating the hyperpyrexia of acute rheumatism. As Dr. Carrington very truly remarked, there is still among patients and their friends (and also, I might add, among practitioners) considerable prejudice against this remeny, even in desperate cases. Dr. Carrington's patient was a medical student, aged twenty-three, who had so far recovered from a mild attack of acute rheumatism (under salicylic acid treatment) that he had left his bed. On taking his temperature one day at noon it was found to be 107°, but soon afterward fell to 106°. Dr. Carrington then saw him and thought it desirable that he should be removed to a private ward in Guy's Hospital. During the journey thither he became delirious, and on arriving at the hospital was livid and unconscious with a temperature of 109.8°. He was at once placed in a bath of water at a temperature of 70° F. By adding pieces of ice, the water was cooled down as rapidly as possible, but the heat of the body was so great that, although considerable quantities of ice were used, great difficulty was experienced in cooling the water. Pouring ice-cold water on the head, however, produced some effect. Fifteen grains of antipyrin were also administered per rectum. The patient was kept in the bath for an hour, by which time the rectal temperature had fallen to 102.4°. He was then taken out and covered with a sheet. Tetanic convulsions then came on, but gradually ceased, and by 7 P.M. his temperature had fallen to 97.2°. In another hour consciousness returned, and he was able to take nourishment (milk). During the next day he remained comfortable, and salicylate of soda was given. By midnight, however, his temperature had risen to 103.8°. Fifteen grains of antipyrin were given, but failed to reduce the temperature, and as by 2 A.M. this had reached 105.2°, the ice-bath was given again for fifteen minutes. As the temperature had then fallen to 101°, he was removed, but again replaced in the bath at 6 A.M., as the thermometer indicated a temperature of 105.4°. A quarter of an hour's immersion again acted efficaciously, and sleep followed. At 2 P.M. a third bath (of forty minutes' duration) was given, as the temperature had again reached 105°. After this no further hyperpyrexia occurred. The temperature was, indeed, normal, except on one occasion when, with a return of pain, it reached 101°. Salicine was substituted for the salicylate of soda, and the patient made a good recovery.

A short discussion ensued on the reading of Dr. Carrington's paper. Dr. Hale White commented on the failure of both antipyrin and the salicylate of soda to reduce the temperature, and suggested that we might, in time, discover that each drug was applicable to a particular class of cases. The President (Dr. Broadbent) said he had never seen convulsions occur during the rise of temperature. He had seen them come on during the cold bath in a case which ultimately terminated fatally, and had seen hyperpyrexia supervene during the use of salicylate of sodium. Dr. Stephen Mackenzie said he had had several cases of hyperpyrexia in private practice. All had terminated fatally. Convulsions, when present, were tonic.

Dr. Hadden brought forward the case of a man in whom epileptic fits had followed a gunshot-wound of the calf. The fits first came on four months after the injury, by which time the original wound had quite healed. The sciatic nerve was exposed and stretched. After this the attacks ceased, but the patient suffered from severe paroxysmal pain in the calf, followed by the same sensations as if a fit were coming on. Dr. Hadden referred to the experiments of Brown-Séquard and Horsley, who had induced epilepsy in guinea-pigs by injuring the sciatic nerve. Mr. Anthony Bowlby related a case in which epileptic fits followed a gunshot-wound of the leg, but were cured by stretching the sciatic nerve. Mr. Bowlby then read a paper containing the particulars of three cases of granular kidney in which hæmaturia occurred. He observed that these cases were of importanee in connection with diagnosis. In one of the cases the hemorrhage was so free that it was thought to proceed from the bladder. In others, the diagnosis had to be made from other of the more recognized causes of renal hemorrhage, especially calculus. Dr. Carrington remarked on the rarity of these cases. Dr. Maguire thought hemorrhage, in cases of granular kidney, was not so rare as stated. Patients sometimes seemed better after slight hemorrhages. Dr. Broadbent said severe hemorrhages were undoubtedly rare. He had, however, seen one case where the patient bled to death in spite of treatment.

At this week's meeting of the Obstetrical Society, Dr. Horrocks, Assistant Obstetric Physician to Guy's Hospital, described a case of obstructed labor and exhibited the uterus removed after death, with the fibro-myoma which had prevented delivery *per vias naturales*. Labor had come on at term, and the waters had come away. Pains continued for five weeks, but without effecting delivery. Meanwhile disintegration of the fœtal skull had occurred and portions came away. The patient being seen in this stage, Cæsarean section was performed, but the patient died almost immediately. The fœtus removed was putrid.

The recent Army Warrant abolishing "relative rank" among army medical officers has caused some consternation, not unmixed with bewilderment, in military medical circles. Questions have been asked on the matter in the House of Commons, and a few days since the Sec-

retary of State for War replied that "the abolition of the term 'relative rank' has not altered the position of medical officers in any respect whatever." This has reassured some. On the other hand, many of those concerned argue that even if it be only a paper dignity, the taking of it away must make some difference. For years the tendency has been to treat the medical officers worse than those of any other non-combatant department. They, therefore, naturally wish to retain what little position they have. One gentleman has sarcastically written to the journals to suggest that, as in future medical officers are to have no recognized status in the army, they might as well be relieved from the expense and encumbrance of wearing uniform. The latter, indeed, is by no means a source of pride to those who don it, and medical officers of high rank take the advantage of their position to appear as much as possible in civil dress. In this they but imitate the combatant officers, who, as soon as they are off duty, hasten to resume the garb of civil life. The wearing of uniform, indeed, is felt by them to be not a privilege but a burden, only to be endured when on duty, on certain public occasions, and perchance at a ball. When the officers act thus it is no wonder that the men should feel similarly. They are, indeed, obliged to wear uniform always, but can obtain *special permission* to wear private clothes when on their annual furlough. This contempt of military uniform is, to some extent, shared by the public, and a private soldier inspires much less awe than a policeman. It is different abroad, and when Lord Wolseley accompanied the Prince of Wales through Germany wearing private clothes, those who saw him in public could with difficulty believe him to be our celebrated general. It has been more than once mooted that doctors should, like clergyman, dress in a particular way, so that they may be recognized everywhere. The proposal, however, has not been favorably received. Clerical garb, though, commands respect everywhere, and even the hideous wigs worn in court by legal luminaries fail to excite derision. Why, then, should we not revert to the gold-headed cane?

OUR PARIS LETTER.

(From our Special Correspondent.)

THE SUPPOSED ANTAGONISM OF OPIUM AND BELLADONNA—THE SIGNIFICANCE OF THE HERPETIC ERUPTION IN TYPHOID FEVER—DRINKING-WATER AND DISEASE-GERMS.

PARIS, March 18, 1887.

THE notion that opium and belladonna are physiologically and therapeutically antagonistic is still entertained by many in the profession. The following note, however, recently communicated to the Paris Academy of Medicine by Professor Villemin, of Val-de-Grâce, would seem to invalidate this theory. A young artilleryman, of a strong constitution, had been affected one or two months when he was admitted to the hospital with acute diabetes with all its symptomatology, with a polyuria of fourteen and a half litres in the twenty-four hours, and a glycosuria of five hundred and forty-one grammes per day. The patient was immediately submitted to the usual classical treatment of diabetic patients (gluten bread, meat, abstinence from sugar and from farinaceous substances, alkalis, etc.), but at the end of the week there being no improvement whatever, and as the state of the patient was extremely grave, and having remembered that he had formerly cured a patient affected with diabetes insipidus with opium and belladonna combined, Dr. Villeman resolved to try this medication in the present case. He commenced by administering ten centigrammes of the extract of belladonna, and five centigrammes of the extract of opium per day. In seven days the quantity of urine descended to ten litres, and the sugar was reduced to four hundred grammes. The dose of the extracts was progressively increased, till at the end of two months the patient took fifteen centigrammes of each extract per day, and the doctor had the satisfaction of seeing that the quantity of urine and the proportion of sugar had diminished gradually. At that time the urine was three to four litres and the sugar two to five grammes per litre, and the dose of the opium and belladonna was raised to twenty centigrammes, and at the end of eight days there was no more any trace of sugar. During seventeen days the medication was continued without any reappearance of glucose. The medication was then suddenly stopped, and in the space of two or three days the sugar returned to sixteen grammes. At the end of three days more the use of the narcotics was resumed in doses of twenty centigrammes each. Five days later the sugar had again disappeared, and the quantity of urine passed was two litres per day. The cure was maintained during the time that the patient took the medicine, but as soon as it was stopped, or the doses of the opium and belladonna were diminished, the sugar reappeared and the urine augmented. During the whole period of experimentation the patient was restricted to the diet of diabetics, but after that he was allowed the diet of the other ordinary patients. This change did not produce any modification. The glucose continued to be absent so long as the opium and belladonna were maintained in doses of twenty centigrammes. By way of experiment, the bromide of potassium was administered for fifteen days, during which time the narcotics were suppressed; the sugar reappeared and mounted up to forty-five grammes, and the urine to eleven and a half litres. On the other hand, the doctor wished to know whether, of these two extracts, one of them had a preponderating or exclusive action in the modification of the malady, and he established that the results obtained were due to their association. The patient referred to above, after having been submitted for a month to the treatment described, left the hospital cured.

In an article in the *Revue Médicale de l'Est*,[1] Dr. Spillmann draws attention to the fact that it was for a long time maintained that herpes labialis of fevers never occurred in typhoid fever. Some authors have gone so far as to say that even when all the symptoms characteristic of typhoid fever exist, the diagnosis of typhoid fever must be abandoned, if the eruption referred to should spontaneously develop itself. Professor Hagen, of Leipzig, indicated febrile herpes among the negative pathognomonic symptoms; its presence, he stated, should always exclude the idea of abdominal typhus. Professor Hardy, of the Faculty of Paris, considered also the presence of herpes at the commencement of a febrile malady as being sufficient to remove all idea of typhoid fever. Hebra, on the contrary, maintained with other physicians of Vienna, that herpes may sometimes supervene in typhoid fever. This opinion has been confirmed by Spillmann, who in the space of a month observed the herpetic eruption in three cases among twenty patients affected with typhoid fever, and he had reason to believe that it was not a simple coincidence. Dr. Spillmann therefore concludes that febrile herpes may supervene at the commencement or in the course of typhoid fever, and that one should not consider, *à priori*, as not typhoid fever any febrile malady at the onset of which there appear vesicles of febrile herpes.

The French are beginning to be alive to the importance of attending to the purity of their drinking-water, as it has been proved that water is frequently the vehicle of the production and propagation of the germs of infectious maladies, principally of cholera, dysentery, and typhoid fever. In confirmation of this theory, Dr. Brouardel, in his report to the Paris Academy of Medicine on an epidemic of typhoid fever which occurred a short time ago at Pierrefonds, a few miles from Paris, says the cause of

[1] On the Diagnostic Value of Herpes in Typhoid Fever.

it was traced to the potable water of wells in the vicinity of cesspools, the contents of which were permanently mixed up with that water. In three houses contiguous to each other there lived twenty-three Parisians who went thither for the summer. Of this number twenty were affected with typhoid fever. Four belonging to one family (three young girls of fifteen, twenty, and twenty-three years of age, with their servant of twenty) succumbed to the disease. Of three persons of a family who were affected but escaped the disease, one had passed but twenty-four hours at Pierrefonds, the other two, having remarked a peculiar taste in the drinking-water, which they partook of only one day, resorted to the use of mineral waters instead.

As anticipated in my last, Professor Brouardel has been appointed Dean of the Faculty of Medicine of Paris in the room of Professor Béclard, recently deceased.

THE TREATMENT OF COLD ABSCESSES BY IODOFORM INJECTIONS.

To the Editor of The Medical Record.

Sir: Referring to your editorial on "The Cure of Cold Abscesses by Iodoform Injections" in The Record of March 12th, allow me to make, through the columns of your valued journal, the following statements concerning the method as practised at Professor Billroth's clinic.

Billroth uses a ten per cent. emulsion or mixture of iodoform in glycerine, and of this he injects forty to fifty grammes, equal to four or five grammes of iodoform, for each injection.

The abscess is tapped with a medium-sized trocar, the pus allowed to escape, but not washed out, the iodoform mixture injected through the same cannula, and a strip of adhesive plaster applied over the point of puncture.

Contrary to what is said to be the case when solutions of iodoform in ether are used, these injections cause absolutely no pain, except what is produced by the puncture, and the danger of distention through volatilization of ether, mentioned in your editorial, is excluded.

The injections should not be repeated as long as iodoform is excreted with the urine, which will sometimes be a number of weeks, or even months. I observed a patient at Billroth's clinic whose urine contained iodoform from an injection made over two months previously. The swelling was steadily diminishing. Months must often be allowed to show the full beneficial effects of an injection. Sometimes two or more injections are necessary to produce the desired result, but in general the final effects have been very satisfactory at Billroth's clinic.

The advantages of this method often become especially apparent in cases where the cold abscess is seated at some distance from the original disease, or where the real seat of disease cannot be attacked, *e.g.*, in abscesses from Pott's disease pointing in the inguinal or gluteal regions, or thigh, and causing large, purulent cavities in these localities, while in just such cases the treatment by incision is often not too satisfactory.

As the results obtained by this iodoform and glycerine mixture appear to be quite satisfactory, there would seem to be no necessity for subjecting patients to the pain produced by the injections of the solutions in ether; and the one great objection to the use of iodoform injections mentioned in your editorial, viz., their great painfulness, can no longer be urged against their general adoption.

I do not find the method mentioned in the last (1885) edition of "Billroth's General Surgery." My statements are according to personal observations.

H. Reineking, M.D.

Franklin, Wis., March 14, 1887.

Instantaneous Remedy for Lumbago.—Collodion, tincture of iodine, liquid ammonia, equal parts. To be applied widely over the parts with a camel's-hair brush. This applies to accidental or *a frigore* lumbago or to rheumatic pain produced by a strain or muscular exertion.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from March 20 to March 26, 1887.

Edie, Guy L., First Lieutenant and Assistant Surgeon. Leave of absence extended three months. S. O. 67, A. G. O., March 23, 1887.

Reynolds, Frank, Captain and Assistant Surgeon (retired). Died March 4, 1887, at Oakland, Cal.

Official List of Changes in the Medical Corps of the United States Navy for the week ending March 26, 1887.

Cordeiro, F. J. B., Assistant Surgeon, detached from the Navy Yard, Boston, and placed on waiting orders.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau. Health Department, for the week ending March 26, 1887:

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	10	4
Scarlet fever	54	8
Cerebro-spinal meningitis	6	6
Measles	134	15
Diphtheria	75	36
Small-pox	4	3
Yellow fever	0	0

The Causes of Wars.—A well-known French statistician has analyzed these, and arrives at the following conclusions anent them: He limits his inquiries to the last four centuries, and examines 286 wars in all. Of these, 55 were civil wars; 44 were wars of conquest and land robbery; 41 were wars of succession, or of crown claims; 30 were, as M. Leroy-Beaulieu puts it, "wars under pretence of helping allies; 28 were professedly religious wars, but most of these were waged on an old monarchical principle, *Cujus regio, illius religio;* 24 were wars of retaliation; 22 were wars for taxes; 22 were wars of commercial rivalry; 8 were wars on so-called points of honor or prerogative. Among the wickedly capricious causes of the wars of the French monarchs of the seventeenth and eighteenth centuries we find such entries as "A war for a window," and "A war for a glove."

Perils of Rural Practice.—A French rural practitioner, Dr. Pierre Seguin, driving home one evening lately, was thrown out of the carriage and killed instantaneously by the shying of his horse. In the address of condolence drawn up by the Association of Medical Practitioners in the Gironde, attention is called to the dangers to which country doctors are exposed, just as sailors who have to brave the perils of the ocean.

The Position of and Indications for Total and Partial Laryngectomy were very well presented in some remarks made recently by Mr. Lennox Brown (*British Medical Journal*): When, eight years ago, the late Dr. Foulis, of Glasgow, showed at the Medical Society the patient from whom he had successfully extirpated the whole larynx four months previously, for "papilloma and spindle-celled sarcoma," I ventured to express a doubt whether that operation would ever yield beneficial results commensurable with the immediate danger of its performance, the very short extension of life, and the discomfort of an artificial larynx to those

who survived long enough to wear one; and I drew attention to the superiority of the statistics of tracheotomy to those of the radical operation. Dr. Foulis' was the eighteenth complete extirpation, and the second which survived more than nine months, for his patient lived a year and a half, and death ultimately resulted from phthisis. Since that time complete extirpation has been frequently performed, and there are now fully one hundred recorded cases. The results, however, have not improved, and the operation has been abandoned by many who formerly performed and advocated it. The operation of partial laryngectomy stands so far on a much more favorable footing, and the brilliant results of Eugene Hahn and other German surgeons have established it as one of far less immediate fatality than complete extirpation, and affording average periods of immunity from recurrence even of the more serious forms of malignant disease, which promise to be almost, if not quite, equal to those provided by tracheotomy. The success of Hahn's operation recently performed in London on an English patient has naturally attracted much attention. Mr. Butlin very shortly afterward had a similar operation; and he was the first English surgeon to adopt the procedure; the result of his case was quite successful so far as immediate recovery was concerned. Recurrence must, in the nature of things, be always anticipated; and we have yet to see what sort of history our cases will have in this respect. It is earnestly to be hoped that care will be taken in the selection of subjects for this operation, as otherwise discouragement will be given to its performance where other circumstances would be favorable. It is indicated in unilateral and intra-laryngeal epithelioma, and in recent non-infiltrating sarcoma. It is useless in pharyngo-laryngeal epithelioma, in which the larynx is invaded from the pharynx, and whenever there is implication of the cervical glands and structures adjoining the larynx. It is always possible, if on division of the thyroid cartilage the disease is seen to have extended beyond the limits suspected by prior examination, for the surgeon to desist from removal and to be content with having performed tracheotomy.

Carbolic Acid in Typhoid Fever.—Professor Bartholow still continuus to advocate the use of carbolic acid in typhoid fever. He states that no form of treatment has, in his hands, been so successful. It modifies the disturbances of the intestinal tube, reduces temperature, and promotes quiet. Two drops of a solution consisting of equal parts of carbolic acid and Lugol's solution, may be given every three hours.

For Erysipelas.—Professor Da Costa continues to strongly advocate and recommend the use of pilocarpine in robust plethoric subjects. It is of striking value, and better results can be obtained than from any other mode of treatment. The proper dose is gr. $\frac{1}{8}$ to $\frac{1}{6}$ of pilocarpine, or ℥ xx. of fluid extract of pilocarpus. Local means are not of much avail.

The Cold Affusion in Headache.—Sir Robert Christison, in his "Autobiography," bears emphatic witness to the efficacy of this treatment, citing in particular the case of his own mother, who suffered from headache of a peculiarly persistent character, and who cured herself effectually by the cold douche. It was the favorite remedy of the Romans, as may be inferred from more than one passage in the judicious compilation of Celsus: "Capiti nihil æque prodest atque aqua frigida" (Nothing is so beneficial to the head as cold water), Lib. i., c. 4. Again (Lib. i., c. 5), when touching on the various inflammatory affections of the head and its cavities, he says: "Usus aquæ frigidæ prodest iis etiam quos assidue lippitudines gravedo, destillationes, tonsillaque male habent" (The cold affusion is of benefit to those also who suffer from chronic ophthalmia, from cold in the head, from catarrh, and from inflamed tonsils). Again, the lassitude and headache induced by the scirocco (*auster*), to which the British resident on the Mediterranean is so subject, and which no amount of acclimatization seems to lessen, has its appropriate remedy in cold water: "Præcipue omnibus eo auxilis utendum est ubi gravius cœlum austri reddiderunt" (This remedy is of especial advantage to all when the atmosphere has become heavy by the scirocco), Lib. i., c. 5.

Indications for the Use of Nitro-glycerine.—Dr. Trussewitsch, in an instructive paper on the use of nitro-glycerine, published in the *St. Petersburger Medicinische Wochenschrift*, points out that the value of this drug in various affections—angina pectoris, migraine, and neuralgia (which he describes as angioneuroses), as also in sea-sickness, some forms of anæmia, faintness, palpitation, and other diseases—depends upon the existence of an irregular distribution of blood, which condition may be inferred from a certain degree of pallor of the skin, especially of the face, often coexistent with a weak pulse and a small, rigid radial artery, which frequently is situated at some depth. When, on the other hand, headache and neuralgia occur in patients with chronic congestion of the subcutaneous veins of the face, nitro-glycerine is to be avoided; and similarly it is of no use in asthma, when the face is reddened in consequence of emphysema. If, however, a pale face exists with angina pectoris, migraine, giddiness, shock, toothache, or sea-sickness, the best results may be looked for by giving nitro-glycerine. The regulating effect of the drug exercises an influence over the congestion of internal organs similar to that brought about by bloodletting; and in these congestions, whether of lung, brain, or kidney, when they are of a temporary character, the pulse is generally found to be slow and of low tension—a fact which, as the author remarks, is sufficiently well known in reference to the fever-free periods of acute hyperæmia of the lung and kidney. Dr. Trussewitsch lays down as a rule that the condition of the pulse is the best indication for the employment of nitro-glycerine, and the most trustworthy guide as to the dose with which to commence the treatment. The smaller the radial artery is, the more rapidly it dilates under the action of the drug, and the less the secondary effects proceed; on the other hand, the fuller the pulse with a distended radial artery, the less it is affected; and finally, the softer the artery, with a weak pulse, the greater the secondary, and the less the general, effects. Single-drop doses of the one per cent. solution are sufficient in cases of small pulse, but with a full pulse it will be found that the full effects cannot be produced with less than two-drop doses. When there is a soft artery with a weak pulse, subnormal doses only should be given—a quarter to half a drop. After the trial dose is given, the patient's sensations of pulsation and pain in the head, as well as the distention of the radial artery under the finger of the physician, will be the guides for increasing the dose. The author finds that the best modes of administering nitro-glycerine are the simple dropping of the solution on the tongue, and by means of tablets; much less satisfactory results were obtained when given mixed with water.—*Lancet.*

Bright's Disease without Albuminuria.—At a recent meeting of the Société Médicale des Hôpitaux, M. Dieulafoy, who has already drawn attention to a form of Bright's disease in which there is no albuminuria, communicated the details of a case which had been verified by post-mortem examination. The patient was a man of sixty-three, suffering from headache and dyspnœa. Neither alcoholism nor syphilis were detected. Dyspnœa dated from several months back, and was characterized by attacks of oppression of a character differing from those which occur in asthma and emphysema. There was slight transient œdema below the malleoli; no albumen in the urine. Soon after admission, the patient was attacked with violent delirium and fever. Albumen was then discovered in the urine, and death took place on the eleventh day. The two kidneys presented characteristic lesions.—*British Medical Journal.*

Nephrectomy for Scrofulous Disease.—A successful case of removal of the kidney for scrofulous disease was brought before the Glasgow Medico-Chirurgical Society by Dr. Clark, one of the surgeons of the Royal Infirmary. The patient, a married woman of twenty-six, had gradually developed the signs of abscess in the left loin, and as the urine contained pus and epithelial débris, this was diagnosed as being a renal abscess. The kidney was incised in January, 1886, and about a pint of pus evacuated, but the sinus continuing to discharge and other abscesses forming in the kidney, extirpation of the organ was decided upon. This was done in August last, by the lumbar incision, without any difficulty, the only incident worthy of note being the slipping of the ligature at the time of separation of the kidney from its pedicle. The patient made rapid recovery, and is now in perfect health, with a normal excretion of urine. Dr. Clark specially dwelt on the importance of the evidence obtained by the use of the ureteral catheter, as showing the other kidney to be sound, and showed that in the female the introduction of a catheter into the ureter was safe, easy, and satisfactory. He referred to the statistics of extirpation for scrofulous disease, and objected to the conclusion of Gross that the ventral was safer than the lumbar incision in such cases.—*The Medical Press*, January 26, 1887.

Urticaria.—Lassar cuts short the duration and reduces the frequency of violent attacks of urticaria by twenty-four-grain doses of salicylate of sodium, repeated every two hours until three doses are taken. It is certainly well worthy of a trial, as the trouble is undoubtedly at times a very stubborn, not to say serious one

Cod-liver Oil in the Nervous Affections of Children.—Dr. Frederic F. Andrews (*The Practitioner*, December, 1886) urges the use of cod-liver oil in the various nervous affections of childhood. He says that if we take a general view of the diseases which belong to this early period of life, this period of growth and development, we shall be struck by the one special character—they are all more or less convulsive, either as general convulsions, the commonly recognized convulsion-fit of infants, or the convulsive inspiration of laryngismus stridulus, or the dyspnœa of what has been called "rickets of the chest," or later on of chorea and epilepsy. All these have probably their origin in the great function of its young life; it is struggling, striving with all its might, to grow, all its energies are concentrated on this one necessity, and it is often carrying on the battle under adverse influences. He offers the following propositions: 1. In the process of the growth of new tissues there is a great expenditure of nerve-power, and also a disappearance of heat, which assumes some form of potential energy. 2. The exhaustion consequent upon this expenditure first shows itself at the age of three or four months (before dentition) in a nervous headache which is apt to be mistaken for the first stage of meningitis; later on, if dentition is going on easily and rapidly, that is to say, if the gums are full instead of showing one tooth at a time, we may have laryngismus stridulus; still later, what is called "rickets of the chest," but which is probably a nervous asthma from exhaustion of the pneumogastric and respiratory tract, supervenes; and subsequently, when the growth of the limbs takes place, the great strain is on the spinal nerves, and the child is liable to chorea. 3. All these diseases are the result of the exhaustion of special nerve-centres engaged at the time in some new and special development, which development takes place as it were in successive segments or portions. In the first three months the special senses are evolved, and we have pseudo-meningitis; if these symptoms are treated wrongly convulsions will ensue, and death will seem to justify the diagnosis. Between the fifth and ninth months the teeth appear, and we have laryngismus stridulus. From nine to twelve months the stomach and digestion are developing, and we have a form of asthma called "rickets of the chest." Afterward the limbs grow markedly, and we have chorea. All these troubles he takes to be the result of nerve-exhaustion. 4. The disappearance of heat and expenditure of nerve-power are best met by the exhibition of cod-liver oil. The starchy and saccharine foods may have sufficed for the formation of the fatty tissues (the child may be quite fat), but are not serviceable for supplying nerve-power and for replacing the heat which disappears during growth. For these purposes it is necessary to exhibit some animal oil. 5. The due exhibition of cod-liver oil will, therefore, not only cure these ailments, but should in a great measure prevent them.

Different Methods of treating Cervical Catarrh.—Dr. L'voff, of Kazan, has reported in the *Meditsinskoe Obozrenie* a number of observations made on the comparative value of different methods of treating catarrh of the cervix uteri. The total number of cases was 82. Of these, 36 were treated by mechanical scraping of the mucous membrane, 18 by means of powerful caustic applications, and 28 with weak caustics. The method of applying the weak caustics was, after washing out the vagina with warm water or a solution of boracic acid, to swab the cervical canal with tincture of iodine or with a ten per cent. solution of chromic acid. This was done once a week, plugs soaked in glycerine of tannin being also used every other day. The strong caustic application consisted of a bougie made of sulphate of zinc and alum fused together. This was allowed to remain in the canal till it had all dissolved, which took place usually in one or two hours. Afterward the mucous membrane presented a white appearance, due to the eschar. This fell off in five or six days, during which time warm vaginal douches were administered and plugs of glycerine and iodoform inserted every alternate day. In the cases treated by scarification an iodoform and glycerine plug was left in for twenty-four hours, and the patient was then sent home. The results of these different methods of treatment were that the mild caustics ultimately effected a cure, but required at least two months to do so; while the severer methods—that is to say, the fused zinc and alum, and the scarification—produced a permanent cure in about a fortnight. The author adds that no unpleasant symptoms were caused by either the caustics or the scarification in any of the eighty-two cases.

Simple Method of estimating the Effects of Respiration.—MM. Hanriot and Ch. Richet have described a method of measuring the oxygen inhaled and absorbed, also the carbonic acid formed, during respiration, which is much more simple than the usual method by weighing, and is adapted for carrying out at the bedside. A gas-meter measures the volume of air inhaled, and a second, that of the air expired; this air is then passed through potash, and subsequently through a third gas-meter. The difference between the second and third meters, of course, gives the carbonic acid formed, and the difference between the first and third, the oxygen absorbed.

The Cholera in Valencia in 1885.—We have received a very voluminous report, presented to the Ayuntamiento of Valencia, concerning the epidemic of cholera which occurred in that city in the summer of 1885. The work has been prepared with great care, and is a valuable addition to the literature of cholera. Numerous maps and plans add to the usefulness of the report.

Crotalus or Rattlesnake Poison—Its Sphere of Action and Usefulness.—Dr. Alfred Drysdale, in the *Medical Press and Circular*, December 8, 1886, presents a scholarly article on this subject. Regarding the therapeutic application of crotalus he says: "The practical value of crotalus in the treatment of disease has been abundantly proved, if clinical experience is to be accepted as proof, which in the face of the great *post hoc propter hoc* dilemma must be considered as doubtful. All that can be said in this respect is that the data forth-

coming are as reliable as those which have established the reputation of many of the reigning therapeutic favorites. The main application of this remedy is in the pernicious fevers, where the whole mass of the blood is vitiated, probably as a consequence of the diminution or loss of vitality of the protoplasm composing the leucocytes. A condition is well known in cases of almost all the fevers, and in pneumonia, where the patient is so reduced in strength that he can only lie on his back, usually with eyes open; the hands are seen to be tremulous and in incessant motion—what is called carphology and subsultus tendinum being present—the tongue is dark-brown, especially in the centre, and conveys to the sensation a roughness like that of a brick; the pulse is extremely rapid (140, 150, or more) and irregular; muttering delirium may be present, but the patient is evidently too weak to utter loud sounds. This condition, known as the 'typhoid state,' whether supervening upon a continued fever, pneumonia, or mere senile asthenia, is well and successfully treated by drop doses of solution crotalus, 1 in 100, repeated every two hours. Most medical men have met with a condition of body, usually at the end of an organic complaint of long standing, such as Bright's disease, phthisis, mitral disease of the heart, etc., but sometimes merely from age added to want or deficiency of essential ingredients of the food even in young people. The patient at once strikes spectators as having a wretched aspect—the face is waxy and transparent, chlorotic in hue, restless in expression, the eyes bleared and sunken, the lips white and covered with sticky exudation; slight injuries, pressure of clothes, etc., are apt to produce ecchymoses; purpuric rashes, indolent suppurations, or even gangrene, are common. Extravasated blood is liable to make its appearance in almost any tissue, organ, or secretion of the body. Such a condition, whether following upon organic disease or due only to insufficiency or improper quality of the food (scurvy), is well treated by drop doses of crotalus solution (1 in 100); the blood is gradually brought to a healthy condition, where this is possible, and in other cases amelioration and prolongation of life may be confidently looked for."

Bone-Marrow and Pernicious Anæmia.—Dr. H. Chr. Geehinnyden reports (*Virchow's Archiv*) the results of his very extensive researches upon bone-marrow (two hundred and fifty cases), and comes to the conclusion that it is concerned in the production of pernicious anæmia.

Fever Hospitals in Paris.—The sanitary committee of the municipal council of Paris has recommended that two fever hospitals be erected in two extremes of the city for the accommodation of patients suffering from whooping-cough, measles, scarlet fever, or diphtheria. Each hospital is to have separate pavilions for each of these diseases.

Deaths from Ear Disease.—Dr. Ariza, writing in *El Dictamen*, asserts that every person who has had suppurative otitis media, dating from infancy, dies from the consequences of this affection before or during early adult life. Death in these cases results from caries, pyæmia, thrombosis of the cranial sinuses, meningitis, encephalitis, or abscess of the brain.

Chlorodynomania.—A husband lately complained at the Westminster Police Court that his wife, aged thirty, would drink three or four bottles a day of chlorodyne. She was, he alleged, entirely destroying her own mind, and ruining him in pocket.

The Australian Medical Association has presented a petition to the government asking that vaccination be made obligatory; that no person be allowed to practise medicine who has not had some hospital experience; and that a pension be given to the widows and orphans of medical men who have died in the discharge of their duty during an epidemic.

The Elastic Ligature for Uterine Fibroids.—The removal of uterine fibroids by means of the elastic ligature having been recently adopted by Professor Slavyanski in four cases, a paper has been published by one of his pupils, Dr. Zhabotinski, dealing mainly with the history of this method of operating. He has collected accounts of 216 cases, of which 151 are British (44 being Dr. Robert Lee's), 27 French, 20 German, 10 Russian, 5 American, and 3 Italian. Of these, 18, or 8.3 per cent., proved fatal—8 from peritonitis, 3 from septicæmia, 3 from exhaustion, 1 from pleurisy and peritonitis, 1 from meningitis, 1 from tetanus, and 1 from an accidental disease. In 12 of these, death occurred before the tumor came away, and in the remaining 6 after separation had taken place. The author thinks that the opinions of West and McClintock on the dangerous character of this method of procedure were formed on the results of too small a number of cases; and that as most of the published cases occurred in pre-antiseptic times, the danger with modern methods may be looked upon as very slight. The mode of procedure which Professor Slavyanski adopted, and which in Dr. Zhabotinski's opinion is the best, is to cut away the tumor after the elastic ligature has been applied to the peduncle. This seems to have given the best results, even before the days of antiseptics. The main indications for the elastic-ligature operation are a pedunculated condition of the tumor, an accessible situation, and a disposition to hemorrhage.

Cod-liver Oil.—M. Carles, Professeur Agrégé at the Faculty de Médecine of Bordeaux, has recently re-affirmed that the cod-liver oil which is lightest in color is the purest and the most easily assimilated. The deep color frequently seen in cod-liver oil is owing to more or less putrefied livers having been used.

The American and the British Medical Association.—Dr. Davis has returned from the Brighton meeting of the British Medical Association full of admiration and kindly feeling toward his professional brethren in England, and speaks highly of the cordial reception with which he met, and of the opportunities which were afforded to him and his brother representatives of offering a welcome to intending visitors at the approaching congress. He does not, however, appear to have gathered a very clear idea of the constitution of the Association, for, oddly enough, he speaks of the Council of the British Medical Association as being an imperfectly representative body, while, on comparing the constitution of the English with the American Association, it is very easy to see that the British Medical Association is by far the more democratic in principle, and more thoroughly representative in character, seeing that its Council appears to be elected wholly by the branches, and its presidents by the local profession in each district in succession in which the annual meetings are held. The presidents of the meetings so elected by the common vote of the profession are apparently the only permanent members of the Council. On the other hand, the American Medical Association is reproached with being very "cliqueish" in its constitution, being made up of delegates from county medical societies, which are often controlled by small knots of men, and are by no means, in all cases, widely representative. It is, however, natural that Dr. Davis should prefer a constitution which he took so much part in framing to that of any other body. It cannot be said, however, that the American Medical Association is so prosperous or widely representative, or so robust as its friends could wish. It has a relatively small membership. Its journal has as yet but a very secondary position in literature, and the Association cannot be said to exercise anything like the influence which it would do if it were larger, more comprehensive, and more national in character. Its aims are high, its principles sound, its finances secure; its development is alike to be desired and anticipated.—Correspondent of *British Medical Journal*.

Syphilis and Pregnancy.—A series of very remarkable clinical observations on syphilis in pregnancy have recently been made by M. Hirigoyen, at the Maternity Hospital in Bordeaux, from which he concludes that, from an obstetric point of view, both abortion and natural labor take place in syphilitic patients exactly as in healthy women. In certain exceptional cases, however, difficulties attributable to syphilis may arise, such as hemorrhage from partial adherence of the placenta, rigidity of the os, etc. Finally, women suffering from primary or secondary syphilitic lesions in the genital organs are rather predisposed to puerperal accidents, and requre more attention on the part of the attendant than other women. The following is a summary of the observations, which extended over a period of two years: 1. In the lying-in wards, in Bordeaux, the proportion of syphilitic to other patients was five per cent. 2. Five-sixths of them were unmarried. 3. Syphilis in a pregnant woman tends to bring about premature labor. 4. The duration of the disease seemed to have a very decided influence. 5. In eight cases of pregnancy in syphilitic women who had had the disease for one or more years, only two children were born alive, and these were very puny. 6. In twelve cases, in which the mother had contracted the disease during the first four months of pregnancy, the fœtus was in every case stillborn. 7. When the mothers had become affected between the fourth and the sixth months of pregnancy, the fœtus died in about half of the cases. 8. When syphilis had been contracted during the three last months of gestation, the proportion of living children was a little more than one-half—four out of seven. 9. Out of thirty-three cases of pregnancy in syphilitic women, living children were born in eight. 10. Syphilis may give rise to difficulties during labor, and also to subsequent complications, but this is rare. 11. To be effectual, antisyphilitic treatment should be administered from the very beginning of pregnancy, and continued throughout. The treatment should be perseveringly carried out, in order to prevent accidents in future pregnancies.—*British Medical Journal.*

Drugs in the Management of Cases of Enlarged Prostate.—In the course of a paper in the New York *Medical Journal*, Dr. F. W. Rockwell says: "Three drugs are at the present time given with the belief that they exert a direct influence on the disease. I name them in order of their value so far as I have personally been able to judge of their effects. They are ergot, potassium iodide, and chloride of ammonium.

The Malthusian Medical Law.—Statistics show that, while the population is increasing annually at the rate of less than two per cent., the annual increase of physicians is five and a half per cent., a condition that cannot exist without change through many centuries without one inevitable conclusion—a population composed entirely of physicians.

International Health Congress at Vienna.—The Executive Committee of the Sixth International Health Congress, which is to be held at Vienna from September 26 to October 1, 1887, has already issued its preliminary programme. The Congress is under the patronage of the Hereditary Prince of Austria, and the following are honorary presidents: The Ministers Taaffe and Gautsch, Statthalter Possinger, Landmarschall Kinsky, and the Bürgermeister of Vienna, Herr Uhl. The president of the Congress is Hofrath Professor Schneider. The council consists of the vice-presidents, Hofrath von Tuama, Professors Böhm, E. von Hofmann, and many other notabilities. The subscription of each member of the Congress is ten florins. Each member who announces two months beforehand his intention of taking part in the Congress, will receive a copy of the reports (*Expositions-referate*) which appear before the meeting of the Congress, and also a copy of the general report, which will be published afterward. At the two general meetings only lectures will be delivered; at the sectional meetings there will be discussions of the reports. Papers which have already been published, and which have already been read before scientific societies, will not be received.

The Relation of Physicians to their Medical Supplies.—The following is from the January, 1887, *Ephemeris*, by Dr. Squibb: "There are a large number of physicians who, for both therapeutics and materia medica, depend largely, if not mainly, upon the travelling salesmen and their pamphlets and lists, and on the advertising pages of the medical journals. The relations of this class to their supplies are most simple and most favorable. They come in very direct and very close contact with the sources of their supplies, and have much less trouble than any other class of artisans. With others, smarter, more ingenious, and more plausible than they to think for them, and then to apply vigorous mercantile principles to their wants thus suggested for them, they have the least practicable amount of thinking for themselves to do in regard to their remedies and the novelties of the day, and, therefore, as they argue, more time to think of and study out their cases. To this class the ready-made prescriptions in the form of beautifully-colored and coated pills, or palatable solutions and mixtures, do not appeal simply as gratifying various degrees of laziness, or indisposition to think for themselves, but they present themselves as true labor-saving devices, skilfully prepared for the over-worked ability to use them, and as giving more time for the higher and more scientific researches of the profession."

Proprietary Tonics and Bitters.—The analysis of the Massachusetts State Health Board shows that almost all the various tonics, bitters, and other temperance drinks contain from eighteen to fifty per cent. of alcohol.

"A Book for Every Woman," by a woman doctor, is now receiving the castigations of our Western medical contemporaries. It is written by a woman, who, graduating in 1881, speaks in 1886 of the numerous cases met with in her long professional career. It advises against abortions, but tells how conception can be prevented, and it has been editorially indorsed by the St. Louis *Evangelist* as a work to be put in every woman's hands. Of prevention of conception she says: "Some of the appliances sold for this purpose are a sure prevention by mechanical interference. If the material is pliable, the only positive injury is from preventing complete interchange of magnetism, and the harm may be considered more a negative than a positive one." Again: "By some also a theory called sedular absorption is advanced. In this, intercourse is had without culmination. No discharge is allowed. People practising this method claim the highest possible enjoyment, no loss of vitality, and perfect control of the fecundating power." This is the theory on which Guiteau was fed while living in the Noyes Free-love Community.

The Last of the Medical Maidens.—The thirty-eight female students who have entered their names for the next examination will be the last to be admitted to the Russian School of Medicine for Women, that establishment being about to be closed after an existence of fourteen years.

The Saturating Treatment for typhoid fever is being popularized in the columns of the *Southern Practitioner*. Dr. G. W. Renfro concludes an article on treatment as follows: "Saturate your patient with turpentine and pickle him in acid, and he will not die of typhoid fever." Dr. J. W. Grace offers, as an amendment: "Saturate your patient in turpentine, pickle him in acid, smooth him out with opium, and salt him down with quinine, and he cannot die."

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LOCAL TREATMENT IN DIPHTHERIA.[1]

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OF the two great divisions of the therapeutics of diphtheria, the constitutional and the local, each is of vital importance as the essential complement of the other. It is, therefore, from no disposition to ignore the former that the latter is chosen as our present topic, but rather from the impossibility of profitably considering both within the limits of a single paper and a single discussion. The latter has been chosen instead of the former, because, while there is certainly not complete unanimity in the profession in respect to the one, there is still greater diversity of views concerning the other.

It is not the object of this paper to present new therapeutical methods, nor any new array of clinical facts, but rather to inquire, in view of clinical facts already in our possession, what objects may be rationally aimed at in local treatment, what kinds of methods are suitable, upon what principles their utility depends, and what are the limitations beyond which their employment must be futile or injurious.

The factors to be dealt with in diphtheria are, first, a *specific poison* or contagium, which first causes the disease and is being constantly reproduced so long as that continues. Its precise nature and mode of propagation are not known, and need not now be discussed. That this poison acts by direct local contact or implantation in some cases is beyond question. The fact that the disease usually occurs in limited and non-symmetrical areas in the outer avenues of entrance of inspired air, the nasal passages and the oral and pharyngeal cavities, is strongly suggestive of the probability that this is its mode of reception in the great majority of cases. This consideration in turn suggests the probability that antiseptic treatment of those regions, in those who are exposed to the contagion or the epidemic influence of the disease, may be of prophylactic utility. No facts, however, are known to the writer which bear upon this point with sufficient definiteness to be worthy of mention.

Second, *inflammation.* This, if pre-existing from other causes, may invite the invasion of the disease. It is an essential part of the morbid process in the disease. Its extent and intensity are usually, in its earlier stage, in proportion to the severity of the disease. Its aggravation by any extraneous cause tends to the aggravation of the disease, and it ceases only with the cessation of the disease. From these facts result important and generally recognized therapeutical indications; namely, first, the curative treatment of pharyngeal or nasal catarrhal inflammations during the endemic or epidemic prevalence of diphtheria as attended with especial danger, and, second, the employment of the earliest and most efficient possible antiphlogistic measures, local as well as general, after the invasion of the disease, in the hope of mitigating its intensity and limiting its extension; also an important contraindication, namely, that of all local agents or methods which are liable to cause irritation.

Third, *membranous exudation.* This is a usual and probably an invariable result of diphtheritic inflammation. It varies greatly in extent, in texture and density, in thickness, in the depth to which it penetrates the mucous membrane, or even its subjacent tissues, and in its persistency and duration. It is a most important and formidable element in the disease, not only from the fact that in certain locations it interferes mechanically with deglutition and respiration, but even more so because in any situation it shuts in beneath itself the poison which is there being produced, prevents its being diluted and washed away by the saliva or the mucous secretions, or by therapeutical agents employed for that purpose, thus favoring its absorption. The obstacle which it thus presents to local antiseptic measures varies, of course, with its extent—its density, its thickness, and its depth being, in some cases in which these are very great, practically an insurmountable obstacle to efficient antisepsis. Fortunately, in the majority of cases these are not so great that something may not be effected by appropriate measures, which will be presently referred to, through transudative action.

But, formidable as are the dangers attending the presence of diphtheritic membrane, this presence is often to be preferred as the less of two evils, the greater evil being its premature removal. If left to itself it becomes detached if the patient survives, after a longer or shorter period, a sufficient reparative process having usually preceded and prepared the way for that detachment to enable it to take place with comparative safety. It is true that it is often, even under those circumstances, replaced by a second formation of membrane, but this latter is usually less formidable and of shorter continuance than its predecessor. Very different is it when, by injudicious haste on the part of the physician or some unfortunate effect of the crying or struggling of the patient, the membrane is torn off before that point in its history is reached. There is liable to be an immediate increase of inflammation, with symptoms of shock and general irritation, and the exudation which ensues is apt to be more serious and extensive and the absorption of poison greater than before.

It is often the case that one portion of a membranous patch which is comparatively shallow and superficial becomes detached, while another portion, which is deeper, still adheres. There is then great temptation to hasten the cure by its removal; but, on the contrary, this is, as a general rule, to be carefully avoided, as attended with danger. The utmost gentleness in the giving of food and medicines should then be practised. The writer has more than once seen the whole aspect of a case that was progressing favorably suddenly and fatally changed for the worse by an opposite course, or by some unfortunate accident, and indeed has long ago learned to look upon the period of the detachment of deep membrane in grave cases of diphtheria as a dangerous one.

The destruction of diphtheritic membrane by caustic applications, and even by the actual cautery, has been practised and advocated by some, and it is difficult to read the therapeutical literature of diphtheria, from Bretonneau down to recent medical journals, and avoid the conclusion that in some cases the disease has been arrested at an early stage by such procedures. The theory of their action is that, by destroying the specific morbid elements in the local disease, they substitute therefor a simple ulcer. This is probably the true indication for treatment in cutaneous diphtheria; but it need

[1] Read before the Section on Practice of the New York Academy of Medicine, March 15, 1887.

hardly be remarked that in the widely different conditions existing in diphtheria of the mucous membranes of the pharynx and nares the safe accomplishment of this object by such formidable agencies, must for obvious reasons be, in a large proportion of cases, difficult or impracticable from the impossibility of making their action at once sufficiently extensive and thorough and sufficiently limited. It is doubtless for this reason that the employment of such agents in the local treatment of diphtheria has been by the great majority of the profession discarded. Yet the possibility of their safe and successful use in certain favorable cases at an early stage of the disease, by sufficiently accurate methods of application and with the exercise of due caution and skill, is a topic worthy of consideration.

But leaving out of the question the dangers attending the employment for this purpose of violent avulsion or corrosive applications, the important inquiry remains, Would the rapid destruction of diphtheritic membrane, even by means which are in themselves innocuous to living tissues, were such means in our possession, be, as a general rule, advantageous or detrimental? This inquiry can, of course, be finally answered only by experience, but some considerations make it seem probable that the answer must be that in many cases it would be detrimental. It must be remembered that diphtheritic membrane, hostile as its presence is to our therapeutical endeavors, yet performs one important function of the epithelium at the expense of which it exists—that of protecting the tissues beneath it from external irritation. It must be remembered also that the importance of this protection must be in direct proportion to the depth to which the membranous exudation extends. In the numerous cases in which it is comparatively superficial, involving only the most external epithelial layers, its removal might often be attended with no very serious dangers. But these are the cases which tend to recovery, and are of comparatively transient duration under any rational mode of treatment. But in those cases in which the necrobiotic and exudative process has penetrated deeper, the conditions which would follow its rapid removal must be much more serious. In its place we should have a denuded and highly sensitive surface in a state of inflammation and the tissues immediately beneath it permeated with the specific poison of the disease, to which the very impact of air or of the perverted mucous secretions or the mechanical movements of deglutition would be painful and irritating. It seems inevitable that the sequel should often be intensified diphtheritic inflammation, with all its deplorable train of local and remote results.

It seems probable, then, that, undesirable as is the presence of diphtheritic membrane, its rapid and entire destruction by any means whatever is not, as a general rule, an end to be aimed at in treatment. What, then, are rational objects of endeavor in dealing with this most formidable element of the disease? They would seem to be the following: First, and as a general rule, to effect its softening and thinning by means of gradual and non-irritating solvents, thus diminishing the obstacle which, by its thickness and density, it presents to antiphlogistic and antiseptic treatment until such time as the subsidence of inflammation beneath it and the reparative processes of nature shall result in its complete and safe detachment; second, in exceptional cases, in which its rapid removal or disintegration is urgently demanded, to effect that object, if it be practicable, by such means as will cause the least irritation to the living tissues. What is lacking in brilliancy to this therapeutical programme will probably be more than compensated in the aggregate of cases by satisfactoriness of results as compared with those of more hasty and aggressive methods. In 34 cases that recovered out of 38 that were treated in accordance with the principle now advocated, as was reported by the present writer in this place seven years ago, the duration of membrane was stated to be as follows: Two of two days, 2 of three days, 4 of four days, 5 of five days, 6 of six days, 2 of seven days, 1 of eight days, 1 of ten days, 1 of twelve days, 2 of thirteen days, 3 of fourteen days, 1 of fifteen days, 2 of seventeen days, 1 of twenty-two days, and 1 of twenty-seven days. Perhaps it would be well if it were more generally appreciated that the true object of treatment in diphtheria is not so much to cure the disease as to bring our patients through it alive.

Fourth, the *absorption into the circulation of poison* from the seat of the local disease, resulting in the contamination and impoverishment of the blood, and a variety of organic morbid changes which need not now be enumerated.

The error that constitutional symptoms peculiar to diphtheria usually occur before membranous exudation takes place is one which has been too long perpetuated and too often repeated. It is not true that the initial or ante-membranous stage of diphtheria differs in any of its clinical aspects from the corresponding stage of various other forms of angina. There is not in the one a higher or a lower temperature than in the others; there is not greater or less nervous disturbance; there is not greater or less frequency of an antecedent chill or of a prodromic period of depression.

The absorption of poison undoubtedly begins, as a general rule, with the beginning of membranous exudation, and occurs, to some extent, in every case, so that the disease, although probably in the great majority of cases a primarily local one, becomes at an early period also constitutional. It is important to note, however, that the rapidity and amount of constitutional infection vary directly, as a general rule, in proportion to the extent, and more particularly the depth, of the membranous exudation. It is also true that it varies inversely in proportion to the efficiency with which local antiseptic treatment is employed. This fact the writer has seen demonstrated in many cases. In a paper which he had the honor to read before the Academy in 1876, and which is contained in the "Transactions" of the Academy for that year, were presented the results of many observations confirming this statement, in a series of one hundred and seventy-nine cases. These observations, which were in accordance with many earlier and later ones by others, may be briefly summed up as follows: Many cases of diphtheria, in which local treatment was early and persistently employed, continued throughout their course to exhibit little or no evidence of constitutional poisoning. In many others, in which evidence of that condition already existed, it disappeared or notably diminished under the employment of such treatment when that was commenced before the effects of the poisoning were already irremediable. Finally, even those cases in which the treatment failed to prevent fatal diphtheritic toxæmia were, in reality, illustrations of the truth of the principles on which its utility is based, being invariably those in which, for various reasons, either in the nature of the cases themselves or the attendant circumstances, it could not be or was not efficiently employed. Moreover, these fatal cases by toxæmia were so few in proportion to the whole number and to their usual ratio of occurrence as to leave no reasonable doubt of the general efficacy of this therapeutical measure in fulfilling the important purpose for which it is employed. In a second paper, read before the Academy on March 4, 1880, and published in THE MEDICAL RECORD of March 27th of that year, which paper was based on a series of forty unquestionable, fully attested, and fully described cases of diphtheria under the most efficient possible application of this method of treatment, it was stated that of the whole number of cases only one terminated fatally from the effects of toxæmia, and that one under such peculiarly unfavorable circumstances (which were described) as to make it one of the exceptions which "prove the rule." The following statement was also made: "The urine was tested for albumen in fourteen of the foregoing cases, always when the disease had continued for some days, and usually when it was at its

height. That it was not tested in all was simply because some of the patients were so very young, and from negligence in other cases. In only one (Number 11) was any trace of albumen found." That exceptional case was typical, and the following brief outline is therefore condensed from the full account of it in the paper referred to. In that case a patch of particularly deep and dense membrane on the posterior side of one tonsil persisted after the rest had disappeared. On the sixth day, urine scanty and heavily albuminous; marked symptoms of uræmic poisoning. This condition continued during the two following days. On the ninth day the patch of membrane had disappeared. On that day the urine was considerably increased in quantity and contained a smaller proportion of albumen, the general condition of the patient being improved and encouraging. On the tenth day the membranous patch had re-formed. Urine again scanty and heavily albuminous; return of the previous unfavorable symptoms. This condition of things continued with gradual improvement for eight days more, during which the membranous patch persisted. At length it was again and finally detached, and the albumen rapidly disappeared.

Since, as has already been remarked, a certain amount of toxic absorption probably occurs in every case of diphtheria, and since, nevertheless, many patients recover from the disease without permanent injury, it follows that nature is capable of tolerating the presence of, and of eliminating a certain amount of the absorbed poison. The facts that have just been referred to show that local antiseptic treatment, by removing the poison-charged secretions and promoting osmotic interchange of fluids through diphtheritic membrane, may so far diminish this absorption as to keep it within the limits of that amount in a large proportion of all cases. From this fact results the therapeutical indication which is probably the most important one in the treatment of diphtheria. The obstacles and difficulties which a small proportion of cases oppose to the fulfilment of this indication constitute its most perplexing and deplorable limitation.

Fifth, the *emanation of poison from those affected with the disease*, and the consequent infection of others.

The records of 201 dispensary cases included in the papers just referred to show that 2 occurred together or consecutively in the same family in eighteen instances, 3 in five instances, and 6 in one instance, while 144 were solitary cases subsequently to the commencement of antiseptic treatment, although not a few of them had been preceded by other cases under other treatment. Considering that these cases occurred in tenement-house rooms, where little or no separation of the sick from the well was practicable, and that the majority of them occurred during the great epidemic in that district of 1875, the supposition seems not unreasonable that the amount of infection resulting from them was in some degree limited by the treatment employed. This seems all the more probable from the fact that only two adults among all the parents and others who took care of them contracted the disease.

From the foregoing considerations, it appears that the principal objects of local treatment in diphtheria are the following: First, to subdue inflammation; second, as a general rule, to which there are exceptions, to effect the gradual and superficial softening and thinning of false membrane, rather than its rapid and complete removal or destruction; and third, by antiseptic measures to minimize the absorption and dissemination of poison.

It is next in order to inquire what are the most suitable means for the accomplishment of these objects. This inquiry will probably be most conveniently made by considering the various methods of topical application, and, in connection with each, some of the remedies to which it is best suited.

First among these methods is that of *internal administration*, for the sake of local effect in the mouth and throat. This method has the advantages of simplicity and of ready and general availability, but as the remedies employed by it are usually selected for the sake of their constitutional effect as well, it belongs only in part to our present subject.

The frequent swallowing of water, milk, or any innocuous fluid is doubtless useful by diluting and washing away foul secretions. Ice and iced beverages have a well-known and valuable effect in the presence of acute inflammation.

Among medicinal agents the tincture of the chloride of iron and the chlorate of potassium undoubtedly hold the leading place in general use and estimation. Their action is too well known to require present remark. One or two points, however, in relation to the best mode of administering them are worthy of passing mention. Anyone can easily be convinced by his own sense of taste that the disagreeable acridity of the tincture of iron is pleasantly covered by glycerine when mixed with it in the proportion of one to eight, but that this is less perfectly effected by a smaller proportion of the glycerine. Children often appreciate this difference most keenly. Hence this formula is suitable in their cases: ℞. Tinct. ferri chlor., f ʒ j.; glycerinæ, aquæ, āā f ℥ j. M. et Sig.: A teaspoonful every hour. Remedies administered internally in diphtheria must, to have any valuable local effect, be given frequently, and the result of frequent struggles may be disastrous. Hence the importance of avoiding any unpleasant medication in this disease in the cases of young children can hardly be exaggerated.

Again, many diphtheritic throats, especially of young children, are in a state of such exquisite sensitiveness that tincture of iron in any combination whatever will cause local pain and irritation, and not infrequently reflex vomiting. Hence the writer has been accustomed to prescribe the chlorate of potassium separately in the mixture: ℞. Potass. chlorat., ʒij.; glycerinæ, f ℥ ss.; aquæ calcis, f ℥ ijss. M. A teaspoonful to be given in half-hourly alternation with the tincture of iron, but to be substituted for it whenever the latter shall produce any unpleasant effects. This has been found very valuable in the class of cases referred to. These may seem to some trivial details, but success in the local treatment of diphtheria often depends on careful attention to details and even minutiæ.

The experience of the writer accords with that of many others, that the tincture of iron is of positive value in the treatment of many cases of diphtheria, and in some is advantageously given in large doses, but has not been that it is essential to the successful treatment of most cases in which other appropriate remedies are employed.

Among other drugs which have been administered by this method, partly for local effect, bromine and the benzoate of sodium seem to have especial claims to mention. Almost incredibly good results from a system of treatment in which the latter was the principal agent were reported by Dr. A. Brondel in the *Bulletin Général de Thérapeutique* for November 15, 1886.[1]

Gargles occupy a large place in much of the therapeutical literature of diphtheria, notwithstanding the fact that a large proportion of all our patients are children too young to gargle. Even in older patients the frequent use of gargles is unpleasant and fatiguing and, moreover, in many cases inefficient from their not freely reaching the posterior part of the pharynx.

The washing of the throat and the application of remedies to it by means of a *syringe* is much more generally applicable, and is usually preferable to the preceding method. In some cases the throat has a tendency to fill up with tenacious and offensive secretions, which are locally irritating and greatly increase the danger of systemic infection. These may be readily dislodged and removed by syringing, not only from the anterior side of the soft palate, the tonsils, and the faucial pillars, but

[1] See THE MEDICAL RECORD, January 8, 1887.

from their posterior side as well, and with less pain and fatigue to the patient than are caused by gargling. An ordinary ounce or half-ounce syringe with a straight tip and a ring in the handle is a suitable instrument, and a solution of common salt, in the proportion of a drachm to the pint, an appropriate fluid for this purpose, though a great variety of combinations known as gargles may, of course, be thus applied.

But the recommendation of this method, which is, under proper restrictions, both efficient and safe, is accompanied with the grave responsibility of calling attention to its limitations and dangers, which are important.

The pharynx, with its abundant supply of very sensitive nerves, was obviously never intended by nature to tolerate rude manipulation or violent impressions of any kind. The effect of the violation of this law is shock, prostration of strength, and undesirable reactions both local and remote. There is great power of irritation in the impact of a stream of water thrown forcibly from a syringe. Hence the syringing of an inflamed throat should be done only with extreme gentleness, and not too frequently. Syringing the throat should never be practised when it contains diphtheritic membrane in the stage of partial detachment, as this is very liable to be torn up thereby with the results which have already been referred to. The writer saw, not long ago, a melancholy illustration of this danger. Syringing of the throat should, as a general rule, be employed only in those cases in which spraying is impracticable.

The fact that toxic absorption is particularly liable to occur in nasal diphtheria is established by general observation. *Syringing of the nasal passages* in that form of the disease has consequently been so long and so widely practised that arguments in behalf of its importance would be superfluous. There are, however, questions relating to the method of performing it, and to its limitations, respecting which there is less complete concurrence, and which are important enough to be worthy of consideration.

Simple as is this procedure it has often been made, by bungling methods, or want of method, very formidable and distressing. Its principal difficulty arises from the resistance which it usually provokes in young children, whose struggles, if not properly controlled and prevented, may be a formidable obstacle to the operator and exhausting to themselves. This difficulty will be found to vanish if the following brief and simple directions are followed, which the writer takes the liberty of repeating from the first of the papers to which reference has previously been made: "The child should be seated across the lap of one person, who should secure his hands. Another should stand behind him and support the back of his head (which should be inclined forward) against his breast, holding it firmly with a hand on each side. A third can then easily make the injection into the nostrils. The more strength and decision are manifested, the less is the child likely to struggle." Any small syringe, such as was just described, will answer in expert hands—and this task should never, if it can possibly be avoided, be entrusted to any others. Tepid salt water is a suitable fluid, but any similarly unirritating and antiseptic one would probably be equally appropriate. The fluid should be thrown with force enough to cause it to return partly by the other nostril, and partly by the throat, if the nasal passages are pervious. If they are not so, perseverance in the use of gentle injections is, as a general rule, safer than the use of very forcible ones. The remarks that were made as to the irritating and prostrating effect of violent injection of the pharynx, apply also to that of the nasal passages. The injections should be repeated sufficiently often at each *séance* to effect, if possible, a thorough cleansing.

A very important question remains. How often shall this process be repeated? In both of the papers previously referred to it was stated that it was in all of the cases therein included performed only by the writer himself, or the physicians who assisted him, and was usually done only two or three times a day. The results left little to be desired. Among the forty cases described in the second paper were sixteen of nasal diphtheria, including very grave ones, in fifteen of which nasal syringing was employed. All of these but one recovered, and the failure in that one was due to exceptional circumstances which have already been referred to. In the much larger number included in the first paper the results were nearly, or quite, as favorable, but cannot be stated so accurately, as the records of all details are less complete.

The writer has in some cases tried the experiment of its more frequent repetition, but the effect was in most so distinctly that of increased prostration and local irritation that it was soon abandoned.

It has been considered necessary by not a few that, in order to secure the efficiency of this procedure, it should be repeated very much oftener—as often by some as every hour. The writer has personally known, in consultation and otherwise, of this having been done in quite a number of cases with successful results, though this has not been invariable. It will, however, be agreed that what can be tolerated by some patients in this disease cannot be endured by all. It will also be agreed that if the lesser frequency of its performance is capable of effecting the object sought, it is preferable to the greater frequency. It will be still further agreed that its effect should in all cases be carefully watched, and that its frequency should never exceed the powers of tolerance of the individual patient.

The choice between enforcing unpleasant and harassing antiseptic measures, on the one hand, and taking the chances of fatal systemic infection on the other, is occasionally in this disease a delicate and perplexing one. The protests that have been made by some in society discussions and medical journals against the former have not been entirely without reason. The fact that some apparently very bad cases of diphtheria do recover without local treatment gives them additional weight. The danger of yielding to sentimental considerations or optimistic security, based on exceptional instances, in the conflict with this insidious disease, is illustrated in the following case: In October, 1880, the writer was called in consultation with Dr. E——, in a mild case of nasal and faucial diphtheria, and was requested to see it with him daily, and direct the treatment. It was the second day of the disease, and there was then no indication of constitutional implication. The child, aged four, was of a highly nervous and sensitive temperament. The family had only lately come under the professional care of Dr. E——, having previously employed homœopathy, and the mother of the child had an especial dread of all harsh and unpleasant therapeutical measures, which feeling the doctor naturally desired should be respected if possible. For this reason a compromise was made with the plain indication for immediate nasal syringing by postponing it, the case to be in the meantime carefully watched, and the urine to be tested twice daily for albumen, Dr. E—— to continue the application, which he was previously making, of carbolized vaseline to the interior of the affected nostril with a camel's-hair pencil. During the two following days the faucial deposit, which was slight and superficial, nearly disappeared, the nasal affection was apparently unchanged, no albumen in the urine, and the general condition of the patient comfortable and encouraging. On the morning of the fourth day the conditions remained about the same. The evening examination of the urine by Dr. E—— was prevented by unfortunate circumstances. During the night feverishness and vomiting set in and continued. On the next day the entire aspect of the case had changed: The urine was scanty and bloody, and loaded with albumen; the symptoms of septic and uræmic poisoning were marked; the nasal affection had become more serious. Nasal syringing was then attempted, but could not be persisted in on account of obstinate and exhausting epis-

taxis. Additional counsel was called in, but the child sank rapidly and died on the sixth day.

Spraying possesses important advantages, and is subject to certain important limitations. Its chief advantages are that it is in itself gentle and unirritating, and not very fatiguing; that by it remedies may be applied in a more direct, evenly diffused, and continuous manner to the oral and pharyngeal surfaces than by other methods, and that they may even, by the assistance of the inspired air, be made to reach the rima glottidis and the vocal cords. It has no valuable applicability to the nasal passages in most cases, and should never be made a substitute in them for syringing. The best instrument for general use is the Delano atomizer, or one of similar construction. Its point should not be thrust far into the mouth, and it should be remembered that even spraying may be done at too short range and too forcibly. Parents and nurses should be trained in its proper performance, as otherwise the spray is quite liable to be wasted on the roof of the mouth or the dorsum of the tongue. To employ it effectually, it is necessary that the mouth of the patient be opened widely. When the procedure is not thus voluntarily facilitated by the patient the writer has found it useless, or worse than useless, to attempt its accomplishment by force. Hence results a most important and unfortunate limitation—that it is not usually available in the cases of children under three years of age.

A great variety of antiphlogistic and antiseptic agents have been applied by this method, such as borax, boric acid, the benzoate of sodium, carbolic acid, listerine, chlorate of potassium, etc. Suitable formulæ for their use, which it is unnecessary to consume time in repeating, abound in text-books and medical journals. The advantages just referred to adapt it especially to the application of mild solvents to diphtheritic membrane.

The slowness of the solvent action of lime-water renders it useless in those emergencies in which rapidity of effect is essential, but does not preclude the possibility of its great utility in a large proportion of cases, in accordance with considerations which have been already presented. Its use was recommended in the two papers previously referred to, in the following combination: ℞. Acidi carbolici, ♏ x.; aquæ calcis, f ℥ iv. M. Sig.: To be sprayed into the throat for some minutes every half hour.

It is worthy of remark that the taste of this combination is very pleasant, but that a very slight increase in the proportion of the carbolic acid makes it less so, and liable to provoke resistance in children. The experience of the writer as to its practical utility may be briefly recapitulated as follows: It has been found to be a very efficient antiphlogistic. It has seemed to accelerate the disintegration and disappearance of superficial membrane, and to assist materially in the antisepsis of the deeper and graver forms. Its utility has not only been observed in faucial diphtheria but it has seemed to have unquestionable efficiency in preventing the extension of the disease into the larynx. In fully one hundred cases in which it was employed in the first series already referred to, it was stated that there was no instance of the subsequent occurrence of serious laryngeal complication, although this was threatened in several by the usual symptoms, and this was also true of the smaller number in the second series, although, as was fully shown, both these groups of cases were of at least the average severity or tendency to severity of true diphtheria as it occurs in this city. A few cases of well-marked laryngeal diphtheria, though of course not of the gravest type, recovered under the early and assiduous use of this remedy alone. The four cases that terminated fatally out of thirty-eight that were treated in the second series—three from laryngeal stenosis and one from toxæmia—were all in children so young that spraying could not be employed. In view of these facts, and their general accordance with the experience of not a few others, it will hardly be thought strange that the writer regards this measure as one of positive therapeutical value, in spite of its mildness and the slowness of its solvent action, and probably in no small degree from those very circumstances.

Of lactic acid and of pepsin it is probably safe to say that, though they have now been for some years before the profession, their practical value as solvents of diphtheritic membrane has not been satisfactorily demonstrated. The digestive solvents—trypsin and papayotin—are at present interesting subjects for experimental study. The former has been recommended in the formula: Trypsin, gr. xv.; sodii bicarb., gr. v.; aquæ, f ℥ ss.; to be applied in spray half-hourly.

The increasing of the solvent power of lime-water by the addition to it of liquor potassæ has been recommended in the treatment of laryngeal diphtheria. While this may be advantageous in cases in which rapidity of action is imperatively demanded, the fact that liquor potassæ, unlike lime-water, is liable, when used continuously, to exert an irritating effect on mucous membranes should limit its employment to such emergencies.

The *inhalation for local effect of vapor* by itself and as a vehicle for various medicinal substances is a well-known and approved resource in the treatment of laryngeal diphtheria. In administering lime by this method it is well to remember that the boiling of lime-water produces a vapor of water and not of lime-water. By the slaking of quicklime, however, a vapor is produced which contains lime. The inhalation of vapors containing turpentine, carbolic acid, oil of eucalyptus, compound tincture of benzoin, etc., is much valued by some as an adjuvant to other remedies.

The *direct application of various substances by means of a soft brush or pencil* may have the special advantages of precision and accurate limitation. It may therefore, in appropriate cases, be made the vehicle of more concentrated or more irritating applications than those which have been previously referred to.

Papayotin has thus been employed by Professor Finkler in combination with salicylic acid, applied about five times in the twenty-four hours; by Dr. Schoffer[1] in a five per cent. solution in water, applied every five or ten minutes; and by Dr. Jacobi[2] in the proportions, papayotin one part, glycerine and water each two to four parts, applied hourly, with results that are encouraging as to its utility.

Bromine in solution thus frequently applied, and also administered internally, constitutes the well-known method of treatment of Dr. William H. Thomson. From a large experience in a military hospital of the special utility of bromine in arresting grangrene the writer would be prepared to expect from it valuable effects in the local treatment of diphtheria, but has not thus employed it.

For escharotic effect upon diphtheritic membrane, nitrate of silver in strong solution has been much employed by some, and has the advantage that its action is superficial, and, with proper limitation, not especially irritating. Carbolic acid and the compound tincture of iodine, either pure or slightly diluted with glycerine, are highly recommended. The tincture of the chloride of iron, in the proportion of two parts to one of glycerine, and Monsell's solution, similarly diluted, have, in a few instances, been applied by the writer to particularly accessible and formidable membranous patches with favorable effect.

It is sometimes objected to the treatment of diphtheria by the methods which have been thus imperfectly sketched, that not only are they in severe and protracted cases wearisome to patients and nurses, but, in order to be effective, require from the busy physician an amount of personal attention which it is often difficult for him to give. The force of this objection must be frankly admitted, and indeed can be appreciated by none so fully as by those who have carried them out in large numbers

[1] Journal of the Society of Chemical Industry, 1885, p. 571.
[2] Therapeutic Gazette, 1886, p. 145.

of cases; but in view of the importance of the issues involved, its validity can be conceded only when it shall be shown that equally good results can be obtained by less arduous measures, which is a therapeutical "consummation devoutly to be wished."

LOCAL TREATMENT OF DIPHTHERIA.

REMARKS ON DR. BILLINGTON'S PAPER BEFORE THE SECTION ON THEORY AND PRACTICE, OF THE NEW YORK ACADEMY OF MEDICINE.[1]

BY A. JACOBI, M.D.,

PRESIDENT OF THE ACADEMY.

MR. CHAIRMAN: The ten-minutes rule precludes my spending more than a second on the expression of my gratification at having been present at the reading of Dr. Billington's paper, and noticing the fidelity with which he adheres to the sound principles laid down by him in a paper read before the Academy in 1876. My gratification is the more intense, as it may be known to some of you that we agree perfectly about most of the general principles in the treatment of diphtheria and their application. As a proof I refer only to my paper on "Diphtheria and Diphtheritic Affections" (*American Med. Times*, August 11 and 18, 1860); "Croup" (*Amer. Jour. of Obst.*, May, 1868); "Diphtheria and Diphtheritic Affections" (*Amer. Jour. Obst.*, February, 1875); "Treatise on Diphtheria," New York, 1880, and my article on "Diphtheria" in "Pepper's Cyclopædia," 1885, and in Gerhardt's "Handb. d. Kinderkrankh.," ii., 1877.

Thus in a discussion on the local treatment of diphtheria I am very much tempted, as you have been so good as to invite me to participate, to extract some of my own writings. As the time is brief, however, I shall content myself with fragments, and add such remarks as I may consider either urgent or new. But, at all events, I do not expect to cover the whole ground, like the lecturer of the evening.

Constitutional diphtheria must be compared with the septic absorption occurring in wounds and in the puerperal condition, and for that reason we are obliged to rely principally on the method of treatment that is most serviceable in cases of surgical wounds and puerperal fever, viz., local disinfection. It can be accomplished by removing, or rather dissolving, the membrane, or by rendering it innocuous, no matter whether it can be readily seen or not. For, after all, the presence of the membrane is the characteristic symptom of the disease, and by absorption the constant source of increasing infection of the system.

Papayotin is easily solved in twenty parts of water. It is certainly a solvent of membrane, and may be injected or brushed over the membrane, or used as a spray. In greater concentration, mixed with water and glycerine (1 : 4–8), I have applied it to the nose, throat, and the trachea, through the cannula, after tracheotomy, with fair results.[2] Trypsin is preferred by others for the same purpose.

The inhalation of steam is very useful in catarrh of the respiratory organs, and also in inflammatory and diphtheritic affections. In fibrinous tracheo-bronchitis it has proved quite successful. But it may prove dangerous by excluding oxygen and overheating the room or tent. Drinking of large quantities of water, with or without alcoholic stimulants, also invites the action of the muciparous glands and aids in macerating membranes. The internal use of ice and its local application can be very useful. But the cases must be selected for each and any of the remedial agents and applications.

In this connection I also refer to a statement of mine made in the *Am. Jour. of Obst.*, February, 1875, viz., that there is a possibility that moist heat, as it "softens healthy tissue as well as morbid exudations, may favor the penetration of the poison into deeper layers." While discussing this remark of mine in his paper read before this Academy on March 16, 1876, on "Diphtheria and its Treatment" ("Trans. Acad.," vol. i., pp. 286 sqq.), Dr. Billington says: "It has also seemed to favor the rapid superficial extension of the diphtheritic disease into the fauces, this having ensued in several of my cases which previously manifested no such tendency."

As steam will increase the secretion from the mucous membrane, and thereby aid in throwing off the membrane, it is advantageous mostly where there are a great many muciparous follicles under a cylindrical or fimbriated epithelium. Where there is pavement epithelium, and but few muciparous follicles—for instance, on the tonsils and on the vocal chords—and the membrane is rather embedded into the tissue than deposited upon it, the steam treatment will do very little good, to say the least.

Mouth and neck must be kept in a healthy condition. Stomatitis, chronic pharyngitis, hypertrophy of the tonsils, glandular enlargements, must be relieved or removed preventively. Acute catarrh of mouth and pharynx requires the use of potassium or sodium chlorate in doses not exceeding a scruple daily for a child a year old, one and a half to two drachms for an adult. The single doses must be small and very frequent, every hour, half or quarter hour. Large doses are dangerous, result in nephritis, and have proved fatal (*Am. Med. Times.*, 1860; Gerhardt, ii., 1877; THE MEDICAL RECORD, March 15, 1879; "Treatise," 1880).

I ought to add here that my explanation of the poisonous effect of chlorate of potassium has not been considered sufficient, methæmoglobinuria being substituted for nephritis. Still, Professor Stockvis, in a recent article containing observations and experiments, returns to my original view and discards methæmoglobinuria in favor of nephritis (*Arch. f. Exper. Path. u. Therap.*, 1886).

The usefulness of lime-water and lactic acid has been greatly over-estimated. Potassium salts have often been recommended, and as often found wanting.

Glycerine is a valuable adjuvant, both externally and internally, but not more.

Turpentine inhalations are deserving of further trials, though naturally they are more effective in purely inflammatory than in diphtheritic processes. I shall return to them later.

Inhalations of ammonium chloride, heated on a stove or burned on live coal, act favorably in catarrhal and inflammatory conditions, and deserve a further trial for the purpose of aiding in the maceration of membranes.

Sodium benzoate does not deserve the eulogies bestowed on it from theoretical reasoning.

Eucalyptus, sulphur, copaiba, and cubebs have been recommended, in preference to other applications, for their effect on catarrhal mucous membranes.

Bromine, both internally and externally, is warmly recommended by William H. Thomson.

Boric acid, in concentrated and mild solutions, has been recommended as a local application to membranous deposits generally, and to the diphtheritic conjunctiva in particular.

I may be permitted to add here that I frequently use saturated solutions—four per cent.—for nasal injections. It is an antiseptic of moderate strength, and very mild, being tolerated as well as a two-thirds of a one per cent. solution of warm salt-water. That property of it is very important. There is no disease in which it is of more vital importance to avoid everything which invites unnecessary resistance and waste of strength on the part of the patient. Not infrequently do I add boracic acid to the solution of corrosive sublimate used for nasal applications in either injection or spray.

Carbolic acid is useful both in local and internal administration according to the end to be reached; it may be used either in concentrated form or in a one per cent.

[1] Read in part only.

[2] Transactions of the Medical Society of the State of New York, 1886.

solution. When it is used for nasal injections care must be taken lest an undue amount be swallowed.

Salicylic acid acts as a caustic when concentrated; in moderate solutions it destroys fetor. Salicylates are antifebriles only.

Deliquescent caustics are dangerous. Injury of the healthy mucous membrane must be avoided. Mineral acids, and particularly carbolic acid, when their application can be limited to the desired locality, are preferable.

Astringents, such as tannin and alum, do not work favorably enough to justify their recommendation in most cases.

Chloride of iron is among the most reliable antiseptic and astringent agents. Small doses in long intervals are quite useless. Moderate doses frequently repeated have a satisfactory general and local effect. A child a year old must take at least four grammes daily; a child of three or four years from eight to fifteen grammes; the same or a larger dose for an adult. The chloride is to be mixed with water and glycerine in various proportions, so that a dose is taken every hour, every half-hour, every ten minutes. Thus other local applications to the throat become mostly superfluous. Potassium or sodium chlorate, from one to four grammes daily, may be added to advantage. This is essentially also the treatment recommended by Dr. Billington in the paper alluded to. It was not necessary on his part, when he referred to my own researches on diphtheria and its treatment, to add that while he coincided with my views in almost every particular, he was not my "follower," except in the order of publications.[1] It is superfluous for me to say that I know him to have arrived at his results independently, and that it was and is a gratification to me to be approved by a painstaking and thinking practitioner and writer.

Among the latest panaceas of diphtheria is, besides internal remedies, a local one in the shape of the galvano-cautery. Dr. Bloebaum, of Coblenz, Germany, has constructed a small galvano-cautery, more or less portable, which is to destroy the first diphtheritic deposit, and thus cure the case. In order to succeed in doing that, it is to be agreed between the patient and his diphtheria that the latter must be within easy reach.

Membranes must not be torn off, and not removed unless they are nearly detached. Caustics are contra-indicated, except where their application can be limited to the diseased surface. No healthy part must be injured. Swelled lymph-glands require ice, iodine, iodoform, mercury, poultices, incision, carbolic acid, according to circumstances, and, at all events, frequent and careful disinfection of the mucous membrane, from which their irritation originates.[2] Diphtheria of the nose is apt to be fatal, unless careful treatment is commenced at once. It consists in persistent disinfection of the nares and pharynx by means of injections. The tendency to sepsis forbids a long intermission of them. They must be continued day and night for one or several days, no matter whether the glandular swelling is considerable or not; for I may here add that there are cases of intense sepsis in which the poison enters the system not by the lymph-ducts, but by the open blood-vessels of the nasal mucous membrane. In these cases there need be no swelling of lymph-bodies.

Some words about nasal injections.

First. A trained nurse, lady-like and conscientious, reported she had made them every hour for five days, and the doctor and herself believed it. I made one, and she admitted she had never succeeded. She never held the syringe horizontally, never succeeded in reaching the other nostril or the pharynx, and nearly killed the child by want of disinfection.

Second. There were two trained nurses, and two children of, I believe, six and four years. When I saw the little four-year-old one, the other was dead. Where did he die? Where? His head between the knees of the trained nurse. They had been told Dr. Jacobi ordered nasal injections to be made every hour in such cases. Every hour the unfortunate boy was lugged out of bed, protesting and fighting, and wearing out his little strength in his battle against two trained brutes; had his head rammed between the knees of one of them comfortably seated on a chair, while the other did the rest; and thus the boy was murdered. When I heard that fearful story from the smiling lips of that person, I begged and pleaded, and showed how to do it gently. The doctor told me a week afterward that the little girl died between the knees of one of the smiling creatures, and neither of them is in the State prison! This is not the proper way of doing it. The whole procedure need not take more than half a minute for the two nostrils; the children may be raised in bed, a towel under their chins. One person holds the hands, the other sits behind and injects *gently*, in order not not to injure the ears. When a child ever complains of the ears, let the liquid be poured in from a spoon. The liquid must be warm, indifferent, such as a two-thirds of a one per cent. solution of salt-water, or as lime-water; or antiseptic, such as a one-quarter to one per cent. solution of carbolic acid, or saturated solutions of boracic acid, or a solution of one part of corrosive sublimate in 2,000 to 10,000 parts of water, with or without 10 to 50 parts of table-salt, or 60 to 300 parts of boracic acid.

When I do not desire to set the children up, I use the same solution as a spray. It can be used while the patients are on their backs or sides. It can be applied often, every hour, every twenty minutes, without harm or annoyance. Only see to it that the nozzle is large and cannot hurt the child. The same must be said of syringes. Formerly I used the hard-rubber ear-syringe, cutting the short end off. Now I use a most simple glass syringe, with vulcanized rubber mounting, which cannot possibly give pain. It is made by the apothecary of Bowery and Second Street.

The question as to the concentration or dilution of antiseptics is a very important one. Knowing that bacteria required rather strong antidotes, I, like others, was at one time of the opinion that bacteria and bacteric poisons could not be interfered with, inasmuch as antiseptics able to destroy bacteria would first destroy blood and tissues. This is fortunately a mistake. It is not the degree of concentration which tells, but the duration of administration or application. A permanent irrigation of a three per cent. solution of carbolic acid is dangerous; the desired effect can be obtained by a much weaker preparation when used frequently or constantly. In one of his careful and suggestive papers on the effect of carbolic acid on vibrating cells and leucocytes, in the *American Journal of the Medical Sciences* for January, 1881, Dr. T. Mitchell Prudden proves that a solution of one-sixteenth of one per cent. of carbolic acid prevents the emigration of white blood-corpuscles under circumstances otherwise favorable to inflammation; and another careful investigator, Koch, finds that though bacteria are not easily killed, their growth is stopped by a solution of 1 part of carbolic acid in 850, and their activity by one of 1 part in 1,200. This is all that is required in the large majority of the very worst cases; and these experimental discoveries bear out my clinical experience of the usefulness of great dilutions of carbolic acid. In regard to injections and spray, I again insist upon their frequent repetition, and have also combined with them, for years, another practice, which consists in permanent inhalation of turpentine or carbolic acid, or both. In the room of the patient water is kept boiling constantly, not on gas, if possible, because of the large amount of oxygen which it consumes; not over alcohol, if I can help it, but over the fireplace, provided the steam is prevented from escaping directly into the chimney. Every hour a tablespoonful of turpentine—preferably the crude—and

[1] Loc. cit., p. 291.

[2] Swelling of the lymph-bodies near the angle of the lower jaw means diphtheria of the posterior nares.

a teaspoonful or more of carbolic acid is poured into the boiling water, and the air of the room filled with the vapor.

Inunctions of iodide of potassium or mercury cannot be looked upon as local treatment under ordinary circumstances, for their effect is a general one. When Dr. J. L. Smith (*American Journal of the Medical Sciences*, April, 1885, p. 335) quoted me as having advised the inunction of mercurial ointment into the region of the larynx, in membranous croup, he mistook my meaning. Still, I can imagine that if iodide of potassium, or mercury, or another absorbent, could be readily and speedily introduced into the fearful adenitic and periadenitic swellings round the neck, they might be found useful. Thus far there has been no possibility of accomplishing that much until lately, for the common officinal ointments are just as many placebos, and their use acts simply as a gentle massage. Oleic acid, it is true, will penetrate the cutis easily, and carry medicines with it, but it irritates. Pure lanolin acts very much better. Years ago I found iodine in the urine three hours after the application of an ointment prepared by dissolving 1 part of iodide of potassium in water, and mixing with 2 parts of lard and 6 parts of *pure* lanolin. It has thus been traced within an hour. A syphilitic tumor of the mediastinum I have seen diminished by iodide of potassium inunctions, in lanolin, without using anything else. Thus I should recommend in future to try hydrargyrum or iodoform lanolin ointments in such septic swellings. I can also imagine that the injections of iodoform dissolved in ether will have a good effect in destroying some of the deposited poison and preventing its spreading, and I shall try them.

The local treatment of laryngeal diphtheria consists of emetics, such as zinc, copper, or turpeth mineral, when half-detached membranes are to be removed, and in tracheotomy. Let me add here at once, *in intubation*, thanks to the most modest and most deserving of all men, Dr. O'Dwyer.

The local treatment of diphtheritic paralysis requires friction, hot bathing, the faradic and galvanic currents, and sometimes the hypodermatic administration of strychnia.

Diphtheritic conjunctivitis is benefited by ice-cloths repeated every few minutes, and boric acid; cutaneous diphtheria, by local cauterization and disinfection. The application of iodoform in powder, or a ten per cent. iodoform vaseline ointment, or carbolic acid concentrated, or in glycerine or alcohol solutions, of from five to fifteen per cent., repeated frequently or less so, will often prevent the poison from spreading into the neighboring lymph-bodies and the blood.

Retention of Placenta for Twenty-two Months.—Dr. Rangé reports in the *Journal des Layes-Femmes*, January 1, 1887, the following case: A woman, thirty years of age, primipara, had a miscarriage in September, 1879, at the second or third month of pregnancy, followed by severe and repeated hemorrhages. No doctor was called in, and little is therefore known of the circumstances or causes of the accident. The hemorrhage continued for some time, gradually getting less, and ceased entirely for four months, reappearing in April, 1880. Since that date the patient suffered constantly from severe abdominal pains, with red and white discharges, and a deranged state of the bowels. Matters mended to some extent, and the patient thought she was getting well again when, in July, 1881, she was seized with labor-pains, and in two hours was delivered of a placenta in a state of putrefaction, about the size of the closed fist. She made a tedious but perfect recovery. This patient had had no marital intercourse since her miscarriage, and no doubt is therefore possible as to the reality of the placental retention having lasted twenty-two months.

ON THE SURGICAL TREATMENT OF BRAIN SUPPURATION FOLLOWING EAR DISEASE.[1]

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It not infrequently happens, during the progress of a mastoid disease, and even when the latter has been relieved by properly performed operation, that a series of symptoms develop themselves which carry despair to the heart of the aural surgeon. I refer to the brain complications which, while possible with an intact membrana tympani, are commonly associated with long-continued purulent discharges from the middle ear, with generally a mastoid involvement. In Schwartze's collection of one hundred cases of mastoid perforations there were twenty per cent. of deaths, and in only one could the fatal result be attributed to the operation. Other aurists have had a mortality nearly similar. It was my fortune to witness death occur in five cases with cerebral symptoms during my eight years' connection as aural surgeon with the New York Eye and Ear Infirmary, but with the less frequent opportunities of studying the complications that have come to me in late years, I have only once been able to make an uncertain step forward to rescue a patient doomed in this manner to destruction.

This was in 1884 when, on December 19th, a woman, thirty-nine years of age, was admitted to my ward in the New York Hospital, who gave the history that seven weeks before she had injured her right thumb, which had become painful and swollen. While the inflammation was in progress, severe headache came on, associated with a discharge from the right ear, which, however, continued but a short time, though it was followed by deafness on that side. Two weeks prior to her coming under my charge she had had the thumb incised and a quantity of pus let out. Her headaches, however, continued, and she had fever and chills, loss of appetite, and vomiting. One week after the incision was made in the thumb she complained of leg-pains, and had difficulty in walking. On admission, she was found with a temperature of 101½°; respiration, 16; pulse, 64; but no paralysis was detected on ordinary examination, though she was heavy and inclined to be stupid and lethargic.

The finger was healed, and no inflammatory action existed along the forearm, arm, or in the axilla. There was, however, œdema and tenderness over the right mastoid region, and pain was complained of over the whole right side of the head, and some was also felt along the right side of the upper spine. The membrana tympani of that side was perforated largely, and the ossicles were plainly visible. Though covered by swollen mucous membrane, no discharge was seen, and no puffing or swelling of the face existed. Urine was free from albumen and sugar.

As the indications were plain for opening the mastoid a section of the soft parts was made and the bone exposed and perforated, at first with a drill and afterward with a chisel, following the directions of Schwartze, Buck, and Hartmann, until the antrum was reached, and a small quantity of pus evacuated. The antiseptic fluid (sublimate solution, 1 to 2,000) could not, however, be syringed from the mastoid into the ear. The wound in the bone was packed loosely with iodoform gauze and an antiseptic dressing applied. As a result of this operation the temperature fell to 99° and the pulse rose to 82, and her hearing decidedly improved on that side, but she still complained greatly of general headache. This symptom persisted with increasing violence, and eight days later the pulse sank to 58, and the right eye showed, by ophthalmoscopic examination by Dr. Andrews, a choked disk. In view of her deteriorating condition, I determined to

[1] Read at the discussion on Mastoid Disease, at a meeting of the Section on Ophthalmology and Otology, New York Academy of Medicine, held March 21, 1887. Since the reading of this paper the British Medical Journal for March 19th has come to hand, and in it is a synopsis of two cases by Mr. Miller, where a low down opening of the temporal bone had relieved a cerebral abscess, but with a subsequent fatal issue from pyæmia.

practise in her hopeless condition what I then felt to be a rather heroic remedy, viz., to open the skull and try by probing the brain to find the abscess which I supposed was there. I therefore, under ether, on March 29th, enlarged with gouge and rongeur forceps the original mastoid opening upward and forward for half an inch, and deepened it until the dura mater was exposed nearly the size of my finger-nail. Cutting through the membrane I introduced several times a hypodermic needle to a depth of nearly an inch and a half, directing it along the upper part of the petrous bone and also into the cerebral lobe in this region, but nothing but a little blood was extracted. The wound was again packed with iodoform gauze and dressed as before. No good nor any harm resulted from this exploratory operation. Three days later she apparently improved, coincident with an increased discharge from the wound; this amelioration, however, was but temporary. Eleven days after this last operation she became hemiplegic on the *right* or same side as the ear trouble, with a temperature of 103°, and pulse 68, and irregular, with vomiting. Under these discouraging circumstances a further ineffectual attempt was made to relieve her. With a one-inch trephine a button of bone was removed over the left Rolanderic line, and the dura mater incised crucially, and quite a large quantity of nearly clear cerebro-spinal fluid, approximated at two ounces, let out. Six exploratory punctures were then made with an aspirator, but nothing was detected. The patient was not bettered and died the next day, comatose. An autopsy was refused.

This case led me naturally to a further consideration of the subject and to repeated dissections, and I had, with the recent experience gained from an unsuccessful attempt at removing a sarcoma from the brain,[1] arrived at the conclusion (and was helped in this by the advice of my friend, Dr. Seguin) that a bolder explorative operation and search for a brain abscess was permissible, and I waited only another opportunity to put into practice my surgical convictions on the point when the brilliant results of Horsley[2] in the removal of cerebral tumors, and of epileptogenous brain-tissue, a procedure inaugurated by Bennett and Godlee in 1884, taught the surgical world the comparative innocuousness of largely planned openings of the cranium, and the tolerance of the brain itself to manipulative interference. Later than this, and more germane to the topic of the evening, are the results, known doubtless to you all, obtained by Barker,[3] of London, who published with Dr. Gowers, in December last, the happy result of daring brain surgery obtained by trephining for a cerebral abscess following mastoid disease. This latter bone had been early opened, relieved of the purulent collection, and washed out with antiseptic lotions through the auditory canal. Seven days later, rigors persisting, and the patient's lethargy and vomiting continuing with intense optic neuritis, Dr. Gowers was led to the conviction of the existence of a brain abscess, and asked Mr. Barker to relieve the patient, which was effected by opening the cranium. The temporo-sphenoidal fissure was exposed as a landmark, when an aspirator needle, thrust inward, forward, and downward, *i.e.*, toward the petrous portion of the temporal bone, gave evidence of pus. This track was enlarged, and nearly one ounce of matter was evacuated and drainage accomplished by a rubber tube. Two weeks after the operation the tube was removed and the patient allowed to get out of bed. Complete recovery took place.

Immediately following this interesting case was another, published in the *British Medical Journal* for February 12, 1887, by Dr. Greenfield,[4] and operated on by Mr. Caird. The cerebral symptoms had existed for eleven weeks, and followed a suppurative inflammation of the left ear; the mastoid, however, was not involved. The signs of pressure were more marked than in the preceding case. There were present ptosis of the left eye and dilatation of the same pupil, but no paralysis of the limbs, tongue, or face. The left optic papilla was greatly swollen, cloudy, and gray, with blurred edges. The right was slightly ill-defined at the apparent lower margin, but elsewhere was clear. These symptoms led Dr. Greenfield to believe that the abscess was in the temporo-sphenoidal lobe, and that it extended forward and inward, so as to occupy a position near the front and toward the inner aspect of the lobe. The trephine was placed one inch above the zygoma, and one and one-fourth inch behind the external angular process, and on removing the button of bone the dura mater bulged forward and was pulseless. On reflecting the membrane, and plunging a Graefe's knife half an inch inward, matter was struck, and about two ounces of pus thus escaped. Subsequently it was found that fluids injected in the ear came out through the wound. The patient fully recovered within a month. Another successful case has just been reported by Macewen, of Glasgow,[1] but no details have been published.

It was at first thought that English surgery was to be credited with this marked advance, but early in 1886 a case was reported by Truckenbrod[2] which had been successfully operated on by Schede, of Hamburg. His case was one of left-sided chronic purulent ear disease in which febrile symptoms, pain in the head, and chills developing, the mastoid was opened with evacuation of pus and temporary improvement of the patient, but on recurrence of his symptoms, with augmentation of nerve symptoms, such as paresis, aphasia, and right facial paralysis, the diagnosis of brain abscess was arrived at, and the skin opening of the mastoid was enlarged upward, when a tiny bone fistula, discharging pus, was found just above and behind the external auditory canal. This was enlarged until the dura was exposed, when more pus escaped, but insufficient to account for the symptoms. Exploratory puncture through the dura not detecting the site of the abscess, the thin layer of the temporal bone was chiselled through five centimetres downward and backward, the dura mater then split, and an abscess of the size of a small orange revealed and evacuated. Its cavity was washed out with 1 to 1,000 sublimate solution and drained. Immediate relief followed, but twice during the progress toward recovery it became necessary to puncture and drain the abscess-cavity anew. In eighteen weeks the patient was discharged. Some interesting nerve conditions followed the recovery, but do not concern the present question.

This case of Schede's, while perhaps more correctly surgical, as will shortly be further shown, is hardly to be classed in brilliancy with the operation of Barker and Caird in respect to the correct previous localization of the purulent depôt, and is more closely allied to one reported by Ogston,[3] who in 1876 trephined the skull for a cerebral abscess following middle-ear disease with caries of the mastoid and the adjacent parietal bone. By this operation nine ounces of pus were evacuated from between the dura mater and the diseased bone. The brain was not opened. A communication existed between the abscess and the auditory canal. Recovery was perfect, save the atrophy of the optic nerve, and the permanently dilated pupil on the side of the ear and abscess trouble.

A nearer approach to the ideal operation, as far as technique is concerned, is the one briefly sketched at a recent meeting of the Medical Society of London by Mr. James Black,[4] who, in a patient with cerebral symptoms from aural disease, after failure had resulted from drilling the mastoid, trephined the skull an inch and a quarter above and behind the external auditory meatus, and explored the brain for the abscess. A second exploration

[1] N. Y. Med. Jour., March 5, 1887.
[2] Br. Med. Jour., October 9, 1886.
[3] On a Case of Abscess in the Temporo-sphenoidal Lobe of the Brain, due to Otitis Media, successfully Treated by Trephining and Drainage, by W. R. Gowers and Arthur E. Barker, Br. Med. Jour., December 11, 1886.
[4] Remarks on a Case of Cerebral Abscess with Otitis, successfully Treated by Operation. By W. S. Greenfield, M.D., F.R.C.P.

[1] Br. Med. Jour., February 19, 1887.
[2] Operativ geheilter Hirnabscess nach Otorrhoe, Zeitschr. f. Ohrenheilk., xv., S. 186.
[3] Br. Med. Jour., December 2, 1876.
[4] Br. Med. Jour., March 5, 1887.

was subsequently made through the same opening with a trocar and cannula, but no pus was found. In spite of severe constitutional symptoms, the wound healed well, with the exception of a small sinus, and the patient ultimately made a good recovery. Schondorff's case,[1] which is quoted by Greenfield, had less interest in it. It was as follows: A man had acute purulent inflammation of the middle ear, which was accompanied by mastoid inflammation, abscess, and fistulous discharge. A year later, brain symptoms showed themselves, the mastoid was opened, and some pus found. The next day a fistula was detected in the bone cavity, and enlarged, when about sixty grammes of pus was let out. This fistulous bony track was subsequently cut open, and found to run across the lateral sinus, which was thus exposed nearly to the median line posteriorly, and was thought to be due to phlebitis. The patient recovered, no incision being made into the abscess, it only being drained and washed out through the enlarged bony fistula.

A short research through the authorities on aural surgery will show that the intra-cranial complications occurring with septic inflammations of the ear, whether bony or otherwise, are purulent meningitis, cerebral abscess, phlebitic thrombosis, and pyæmia, the two former being the more common, and the least readily recognized. It is not my intention to go into the subject of the diagnosis of these affections, and particularly that of cerebral abscess. It is well known that the regions in which such purulent collections are most commonly found are those which afford the fewest and most unreliable symptoms for localization. Hence, my endeavor has been rather to direct attention to certain facts, not hitherto clearly made known, that may contribute clinically a little more certainty to a previous hesitating treatment. A somewhat cursory examination of a series of cases of cerebral abscess, from the time of Meyer's monograph on this subject to the present period, has shown me, not only that nearly one-fourth[2] of all such abscesses are of ear origin, but, what is of more importance, that out of 44 cases,[3] in which only two double abscesses were met with, 24 were found in the temporo-sphenoidal lobe, 15 cases in the cerebellum, 2 in the frontal lobe, 1 in the posterior cerebral lobe, 1 in the pons, and 1 in the corpora quadrigemina. This hardly corroborates the statement made in the recently received brief report of the discussion on cerebral abscess in Glasgow, by Mr. Barker, that cerebral abscesses were three times more frequent than cerebellar ones. The situation of an abscess also depends, to some extent, and probably more so than we can always appreciate, upon the route by which the inflammation extends from the ear-passages, the line of extension being usually along the anastomosing veins and lymphatics, or nerves,[4] and more often from continuity from existing bone disease, or from a thin or non-present tegmen, or in children chiefly through the incomplete petro-squamal suture; the condition of long-tarrying pus, however, being by far the most important of all the factors in the self-infection. I found in my collection of 44 cases that the 24 abscesses of the temporo-sphenoidal lobe were associated with caries on the anterior wall of the petrous bone fourteen times, with mastoid caries six times, and with anterior phlebitis once. Its situation was not stated in the three remaining autopsies. In the 15 cerebellar abscesses, it was noted that the infection progressed from caries of the posterior petrosal surface six times, from internal ear caries three times, from mastoid disease twice, and by means of the aqueduct veins once, by the facial nerve twice, and once it was not stated. This sustains measurably Gull's modification of Toynbee's law as to the influence of the locality of the lesion. The important surgical fact, however, comes out strongly, that a majority of the purulent depôts in the brain from ear disease are encountered in the temporo-sphenoidal lobe, and that after this the most affected locality is the cerebellum. It should be as decidedly kept in mind that both the regions involved are fortunately of less value to life, and can better permit surgical interference than almost any other portion of the brain. It is to the fact of their slight motor importance that our power of localizing tumors and abscesses in these regions is so poor, and this consideration leads directly to the remark that the earliest decided evidences of brain-pressure in the diseases under question should be acted upon as soon as detected, since their development presupposes an already large accumulation of pus. It is for this reason, therefore, that I would advocate surgical interference with the brain as soon as a mastoid operation has shown us that the symptoms have not been satisfactorily relieved by this operation. Recall here, in this connection, the statement that one-fifth of the cases of cerebral abscess die unrelieved by the mastoid operation, and its weight will be felt. There is a peculiarity which others beside myself have observed: it is, that after both a successful and unsuccessful mastoid perforation (*i.e.*, as regards reaching pus) there is often a decided improvement in the symptoms, followed after a day or two by a progressive deterioration; and, further, it has been occasionally noticed that through the mastoid opening an amount of pus has been discharged far beyond what the cells could contain, and this in several instances has continued for a day or two. Taking such conditions, and those that have been given, with Ogston's, Schede's, and Schondorff's cases, it is a fair inference that either the cerebral abscess itself has been relieved by the mastoid operation, or, what is more likely, that an extra-dural collection of matter has been drained by the mastoid opening. I cannot but help thinking, when considering these instances, that even in this direction surgery can do more than it has hitherto done, and that by a cranial operation the dura could easily and safely be lifted up to a point corresponding to the roof of the tympanic cavity. This I have done experimentally on the cadaver without difficulty. In truth—and I hesitate lest the charge of rashness be thrown at me—I cannot see, anatomically or surgically, any adverse reasons, in a suppurative meningitis of the middle fossa, of aural origin, why an early outlet should not be provided for its infectious products by opening the dura and draining the fossa. Reflection will show a surgical analogy to plainly exist between the petrous bone and the appendix vermiformis. As in the latter, one may have a general peritonitis or a localized abscess bounded by matted intestines, or one may have, better yet, a connective-tissue abscess, all depending mainly on the rapidity of the ulcerating process; so in the petrous bone, from reasons more varied, perhaps, than in the appendix, one can expect, first, an extra-dural inflammation, which, according to my idea, can and should be relieved, or an attempt made to do so; second, an acute suppurative meningitis, due to the direct perforation of the dura or to the infection along vessel-channels; and third, the cerebral or cerebellar abscess, often of pial origin and beginning in a deep convolution, and secondarily involving the cerebral substance. This may be fanciful to some, but it will serve, perhaps, to impress the point of my remarks more deeply.

The outcome of all these observations is in the advice that, in the case of ear disease presenting cerebral symptoms, without definite possible localization, the mastoid cells should be opened at the point where it curves into the meatus (according to Dr. Buck's suggestion). If pus is discovered and satisfactorily evacuated, delay can be resorted to, in the hope that this relief may be sufficient. If it is shown that the improvement is nil, or only temporary,[1] the procedure of Schede accords most with my

[1] Arch. f. klin. Chirurg., Bd. xxxi., S. 316, 1885.

[2] Barker says (Br. Med. Jour., February 19, 1887) more than thirty per cent. of the cases of cerebral abscess are due to ear disease. He also states that cerebral abscesses are three times more frequent than cerebellar abscesses.

[3] Which I have obtained from the records of Archiv. f. Ohrenheilkunde, vols. 1 to 23.

[4] To the cerebellum along the seventh nerve, as has been reported by Rotholz and Hartmann, Archives Otology, Bd. xv., 559.

[1] And keeping in mind that the duration of cerebral abscesses is not always long, as it has been shown by Meyer that in 34 cases 13 died in one week, 7 in two weeks, 4 in three weeks, 8 in five weeks, and the other 2 within nine weeks.

own views, viz., to enlarge the mastoid opening upward and inward until the dura is exposed over a space of half an inch, when, if no oozing of pus shows an extra-dural abscess, the test-point of the exploration is to be made by carrying a director, or the flat end of a rather large probe, along the anterior surface of the petrous bone for a distance of nearly two inches, which will be not more than an inch and a quarter beyond the inner surface of the skull. Trials on the cadaver show this to be easily effected, and no reason leads me to believe it to be hazardous in the living patient;[1] and its importance will be appreciated in recalling that two-thirds of all the temporo-sphenoidal cerebral abscesses are associated with recognizable disease of this portion of the bone.[2] Should such a carious spot be thus detected, the exploration itself may possibly bring about the immediate emptying of the cerebral abscess, or, if it does not, it renders more certain the next procedure, which is to open up the region above the external auditory canal by a trephine of good size, the centre of which should be applied about an inch and a half above this landmark, or the exploratory opening of the skull can be enlarged upward by a chisel or double-gouge forceps, until a decidedly large opening is made. A large opening, I may remark, not only adds nothing to the risk of the operation, but also allows the ready control of the possible hemorrhage from the middle meningeal artery, here quite large, and which can be easily caught up by a forceps, or tied after division of the dura, or if channelled in the bone can be plugged with a sharpened match or by crushing the diploë with the jaws of a forceps. The bulging of the dura mater into the skull opening, and the absence of its usual pulsation, will be strong evidences of the correctness of the diagnosis. The use of a hypodermic needle can be now resorted to, if wished, without opening the dura, though the examination of the brain is rendered more satisfactory, by its changes in color, etc., by turning a flap[3] of this membrane upward (which direction is better on account of the possibility of the use of a drainage-tube, and should, therefore, be borne in mind and acted upon, except in those cases when in the vicinity of a sinus, such as the lateral, when the attached base of the dural flap should always be toward the venous trunk). For such explorations I prefer, and have used, rather large and long hypodermic needles, blunted at their ends, by which vessel-injury is avoided. They should be carried at first certainly toward the petrous bone, then forward, and subsequently backward. Should an abscess of large size be encountered, and in which the lowness of the cranial opening here advised should not answer for thorough drainage, as, however, it is believed it will, better than with a higher opening, the question of a second cranial counter-opening should be taken into serious consideration, particularly if no motor-tract would be involved in accomplishing the same. The need of such a counter-opening was amply demonstrated by Dr. H. D. Noyes in his case of a gravitating cerebral abscess, and it has been corroborated in my own hospital service, and its good effects shown in similar recent cases by Fluhrer, Powers, and others.

When symptoms are present by which the probable site of the purulent collection can be located, whether in the temporo-sphenoidal lobe or in the cerebellum, the surgeon will be guarded largely by the neurologist. In Barker's case, with such help, the skull opening was made an inch and a quarter behind the centre of the cartilaginous meatus of the ear, on a line perpendicular to Reid's base-line, which is a line running from the inferior border of the orbit through the auditory opening.

If symptoms should point toward a cerebellar abscess, by the absence of auditory bone conduction or by titubation or other distinctive symptoms, or should, in an extreme case, and warranted by the necessary mortality of the disease, a cerebral abscess be excluded, a further exploration beneath the tentorium be decided on, I can state, with some positiveness, that the cerebellar region is not inaccessible to surgical attack. I have at this time no experience of my own, or even of others, to bring on this subject save that attained in the dead-house. But quite a number of rehearsals have shown me that the cerebellum can be readily reached by cutting an oval flap of the scalp from above downward, and separating the muscles from the superior curved line of the occipital bone—in doing which probably the occipital artery and nerve will be wounded, and the former require to be cared for by ligature. The skull in this region is quite thin, and after exposure can be easily opened and the dural flap turned upward so as to keep its base toward the lateral sinus,[1] the lower edge of which is clearly defined externally, if encroached upon, as a transverse cord-like line. With a moderate exposure accomplished in this way, and with the use of spatula to lift it up slightly, the cerebellum can, if necessary, be viewed, with an electric light, nearly to the foramen magnum.

A guide in operating on the cerebellum has been suggested by Mr. Barker, which is that, before proceeding to open the skull, the mastoid wound of the soft parts should be carried back far enough to see the opening of the mastoid vein, as he believed that if inflammation existed in the posterior aspect of the petrous bone it could hardly reach the cerebellum without forming a layer of pus under the dura mater of the lateral sinus. If this is so, pus will escape by the mastoid foramen, if the latter be exposed. This point should therefore be kept in mind.

Let me say, in concluding, that the great gravity of the affection to which I have so imperfectly asked your attention has justified me, I hope, not only in occupying so much of the time of the Section, but also in presenting to your thoughtful consideration procedures which, while bold and novel in sound, are based upon the rapid but real development of scientific brain-surgery.

THE GONOCOCCUS IN GONORRHŒAL ARTHRITIS.—Dr. P. V. Smirnoff has examined the sero-purulent fluid aspirated from the inflamed knee-joint of a patient, aged twenty-eight, in whom arthritis had developed about a month after his contracting gonorrhœa. Numerous groups of Neisser's microbes were found within the pus-cells. Hence the author comes to the same conclusion as Petrone, Kemmerer, and M. I. Afanasieff—that is, that the articular inflammation is caused by the gonococci entering the blood

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[1] The above conclusions have been confirmed in the Lancet of March 12th, and the Brit. Med. Jour. of March 19th, received since the reading of the paper, by the report of Dr. McBride and Mr. Miller of two cases of cerebral abscess relieved in an almost precisely similar manner, the patients, however, succumbing from pyæmia. In the Lancet for March 26th will be found the details of Macewen's successful case of cerebral abscess alluded to in the text. The opportunity of proof-correcting fortunately enables me to further complete this subject.

[2] Barker, in the brief synopsis of his paper at the Glasgow Medico-Chirurgical Society (Brit. Med. Journal, February 19, 1887), says that nine-tenths of the tempero-sphenoidal abscesses lay within a circle three-fourths of an inch in diameter, the centre of which was an inch and a half behind, and the same above, the centre of the meatus.

[3] The resort to a flap instead of an ordinary plain or crucial incision is to meet the contingency of failure to detect an abscess. If such is recognized, the base can be split or the flap removed, as wished, to permit the necessary drainage.

[1] Too much stress is, I think, laid on wounds of the longitudinal and lateral sinus. I have in four instances met with a wound of the longitudinal sinus with fracture, and once a similar wound of the lateral sinus. In all, the hemorrhage was promptly controlled by a tampon, without detriment to the patient. I have wounded the lateral sinus in a mastoid operation, and, without any difficulty, checked the hemorrhage, and the patient recovered. The sinus in the living are much broader than is supposed—the longitudinal is often one inch broad, and similarly the lateral. This can be proved by injecting them in the cadaver. I have, in two cases, removed the bone over the longitudinal sinus without causing any marked hemorrhage, and have exposed the whole width of the lateral sinus in a mastoid operation without any bleeding or evil results. Schondorff, Lucal, and Knapp have had a similar experience. More good could be accomplished in caries of the petrous bone were aural surgeons not rendered unduly timid by fear of damage to the sinus, which is, however, generally out of their field of operation, and also from their dread of exposing the dura mater. In the many instances where a fistulous track, leading to carious bone, exists through the mastoid, which is difficult to follow, the injection of the same with some innocuous staining fluid, such as iodine or one of the aniline dyes, might enable a surgeon, with a wide external opening, and the use of fine scoops, etc., to clear out the carious patch, and to open squarely into the tympanum, as effectually as is now done elsewhere in bone abscesses contiguous to joints. The color of the dura mater is sufficiently pronounced to give warning against proceeding farther in any given direction, when it presents itself.

A NOVEL SYSTEM OF OPERATING FOR THE CORRECTION OF THE DEFLECTED SEPTUM BY MEANS OF AN ELECTRIC MOTOR, NASAL DRILLS, AND AN ORIGINAL SPRAY-PRODUCING DEVICE, WITH ILLUSTRATIVE CASES.[1]

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Despite the numerous methods which have been advanced by laryngologists for the correction of malformed or displaced septa, no single procedure or device has evidently been invented which can justly claim the right of universal applicability for the successful treatment of the conditions met with in this deformity. Rather than view this as an indication of inefficiency or irresolution, I would, on the contrary, profiting from the common experience of the past, interpret the formidable array of instruments as a commendable effort to successfully cope with the various contingencies which may be met with in the treatment of the deflected septum. It is even difficult to imagine a single instrument possessing the combined property of cutting with facility and precision the hardest bone or softest membrane. This, nevertheless, would be required of an instrument designed for the successful treatment of deflected septa, composed, as they may be, of hypertrophied mucous membrane, dense, elastic cartilage, or compact bone.

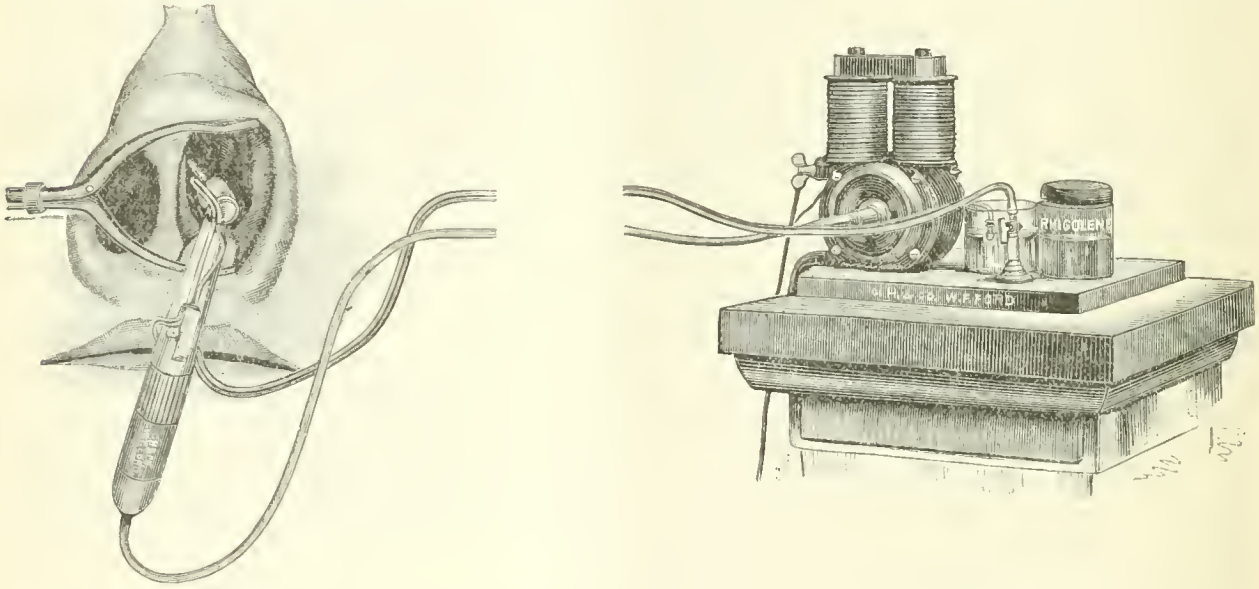

Fig. 1.

Several devices have been already brought forward by me for curing the deflected septum, which, judging from their liberal acceptance in print and practice, have more than survived the usual surprise provoked by the presentation of therapeutic novelties. I do not desire this addition to my septum armamentarium, namely, the electric motor and novel system of drilling, to be interpreted as an expression of dissatisfaction with earlier procedures, but rather as an intention to make these operations more effective. Indeed, I rarely if ever complete an operation upon the septum by means of the electric drill alone, for the reason that my delicate punches, cartilage-scissors, and bone-forceps afford valuable assistance for the removal of adherent tissue débris, in the form of shreds of mucous membrane or cartilaginous and osseous asperities.

A sufficient experience with the common treadle surgical engine, and particularly with an improved form of this apparatus, invented and used by me during an extended period for intra-nasal operations, has convinced me that the natural dread occasioned by the sight of the cumbersome and rapidly revolving noisy machinery constitutes a menace to the usefulness of the nasal drill. This sometimes serious objection, though mostly of a psychical nature, is effectively overcome by the employment of the electric motor, concealed in its narrow shell suspended in mid-air, but few patients possessing an idea of the great power conveyed by the quiet, mysterious movements of this apparently insignificant mechanism.

My earliest results with the electric motor, in operations upon the septum, were obtained by means of a very ingenious dental instrument, devised by the late Dr. Robert Arthur, of Baltimore, and for the use of which I am indebted to my friend Dr. George Arthur, U. S. N. This little instrument, used by me not quite two years ago, was constructed to combine the greatest amount of working power with the smallest bulk, inasmuch as the drills and magnet were held in the hand, after the manner of a pen-handle, the mandril and drill-chuck being a direct extension of the armature. The efficiency of this motor is dependent upon the great number of its revolutions, that is, the acquired momentum, and it satisfactorily serves the purpose for which it was intended, namely, drilling the teeth. Although I succeeded in cutting away the dense structures entering into the formation of extensive deviations of the septum, the frequent retardation of the drill's revolutions when unusual pressure was exercised, gave rise to inconvenient delay in acquiring fresh momentum. For this reason I was compelled to abandon the employment of Arthur's hand-motor and turn to bulky but more powerful devices of the kind to accomplish my purpose. I nevertheless believe that the application of direct power, in accordance with the principle of Arthur's motor or Robert's electric osteotome, is the most rational, inasmuch as the loss of power through friction is reduced to a minimum.

The weight of electric motors possessing great rotatory inertia renders the employment of a cable and independent hand-piece necessary. The first motor of this pattern, seen by me several years ago, was one known as the Hussey motor. Being intended for dental purposes, it was operated by means of a flexible cable, the weight of the instrument being supported by a cord attached to the ceiling. I experimented with one of Hussey's larger motors, but was disappointed in the instrument. Dr. Seiler drew my attention to the Griscom motor several years ago, and I embraced an opportunity to study its action for an extended period, but was not perfectly sat-

[1] Presented at the New York Academy of Medicine (Laryngological Section), March 23, 1887.

isfied with the instrument. To Dr. Carl Seiler, I believe, is due the credit of first calling the attention of the medical profession to the utility of the electric motor in intranasal surgery.

The experience just described led me to discover and utilize the powerful but compact C and C electric motor. Inasmuch as this instrument has proved in my hands the desideratum sought for, I shall give it exclusive attention, only referring to other motors for purposes of comparison. This electric motor is shown in Fig. 1, together with the accessory operating appliances. The axle-shaft can be discerned projecting from the centre of the motor-box. By simply unscrewing the face-plate the component parts of the motor can be readily reached and examined. The armature, of the ring type, is wound continuously, wire of trapezoidal section being used. The commutator brushes are so arranged that no injury can arise from reversing the motion of the armature. The commutator segments, seventeen in number, are placed in a circular manner, being separated by an interval of only one-sixteenth of an inch. This close arrangement of the segments secures uninterrupted and great power without sacrificing speed. Hence there is absolutely no dead-point, a prevalent objection with electric motors, and the common annoyance of laboriously adjusting the armature at intervals during an operation is, by this device, relegated to the inconveniences of the past.

The counter-electromotive force generated by the motor running at 1,800 turns a minute, with an 18-ampère current in the field, is 5 volts. The revolutions can be carried as high as 2,000 to the minute. Its extreme capacity equals $\frac{1}{8}$-horse power. The dimensions of the instrument are $7\frac{1}{2} \times 5 \times 3$ inches, and weight 12 pounds.

A single quantity-cell supplies sufficient electromotive force for any ordinary nasal operation; two of these cells furnish an excess of power, even in operations including the densest portion of the vomer. To facilitate the attachment of the flexible shaft, I have had constructed a metallic sleeve which slips over the journal-box of the motor. Within this sleeve is an angular rod, soldered to the flexible cable, which slips in a groove cut into the centre of the axle of the armature. The free movement of this rod within the groove favors the flexion of the cable, and permits the shafting to be quickly attached or withdrawn. The electric motor can be used either attached to a convenient table or suspended by wires from the ceiling.

The wires running from the battery are interrupted before reaching the motor and arranged upon a foot-board. The convenient cut-off thus formed is simply composed of a sheet of spring brass, which the pressure of the operator's foot brings in contact with a button, through which the electric current is conducted to the motor. This device, I have been recently informed, has been likewise invented by Mr. Griscom. Although it is possible by this arrangement to instantly cut off the current, if desired, the sudden interruption of the electric flow is not really required, inasmuch as the easy withdrawal of the small nasal drills, even while running at full speed, is a very simple procedure.

After experimenting with several kinds of batteries, I have finally settled upon a modification of Bunsen's cells, a plunge and a gravity battery, as the most convenient.

My improved plunge battery is so arranged that a succession of cells can be automatically thrown into the circuit by simply raising the lid of the box which supports the elements, sliding it along a rod, which serves as a hinge, and allowing the cover to descend, when the plates dip into the fluid, bringing themselves by their submergence into connection with the preceding cell. By reversing this procedure the plates are removed from the cells, being finally received into drip-cups, where they remain until used again.

The automatic connection of several cells by this arrangement obviously facilitates prompt action, and saves time, trouble, and complications likely to occur in the adjustment of key-boards and switches. If desired this battery can, by a slight change in the connections, be converted from a series of cells into one giving the effects of a single cell, and therefore appropriate for running low-tension motors. By another arrangement I am enabled to utilize the current from a stationary gravity galvano-cautery battery.

The employment of small nasal drills, already referred to, I desire to lay particular stress upon, as constituting a desirable digression from the routine course heretofore pursued, of resorting to large and cumbersome devices of the kind in operations upon the nose. To facilitate the practice of keeping the parts operated upon constantly in view, the dimensions of the drill must necessarily be made small. When large drills are employed, the ingenious shielded multiple knife of Dr. Goodwillie, for example, so effectively employed by him, a view of the field of operation is rendered difficult or impossible, and the operator is compelled to rely upon his acquired *tactus eruditus*, to the exclusion of his sense of sight.

The long practice required to attain the necessary tactile proficiency to operate with precision, though blind to the exact behavoir of the drill, it seems to me, must seriously interfere with the extensive adoption of large nasal drills in general practice. Furthermore, surgeons will naturally hesitate to permit keen-edged cutting instruments to rapidly revolve out of sight in close contiguity to the brain, beneath the frail plate of the ethmoid.

Fig. 2.

The extreme narrowness of the superior meatus makes it impossible to satisfactorily employ shielded drills in this region.

Although keeping for convenience a number of nasal drills of different shapes and dimensions, I shall largely confine myself to the description of two of these, namely, my rasp drill and nasal plane. The rasp drill (Fig. 3) is

Fig. 3.

virtually a hollow file, the teeth of which have been made to project, in the form of diminutive knife-points, for the distance of one-sixteenth of an inch above the circumference of the tube. These pyramidal teeth are cut at intervals of one-eighth of an inch along the circumference of the steel tube, and their relation to each other is so adjusted that a simple rotation of the instrument produces an incision resembling that made by the cut of a continuous knife-edge.

A vent-hole, cut at the distance of an inch from the tip of the drill, permits the detritus to escape and thus prevents clogging of the steel teeth, an objection met with in many cutting devices of the kind, and at the same time frees the parts from the tissue débris which is apt to accumulate and obscure the field of operation. The extremity of the drill may be capped by a crown-knife, to prevent the eroded tissues from escaping into the nostril, and at the same time furnish an effective direct drill. These little tubular drills are capable of cutting through the densest cartilaginous or osseous structures found in the nostril, with great rapidity and perfect precision. Several forms of these nasal drills are constructed, the difference depending upon the length of the teeth.[1]

In the tubular scissors or nasal plane (Fig. 2) I have

[1] An ingenious application of the trephine, shown to me by Dr. H. Curtis, and employed by him in conjunction with an electric motor, deserves especial mention. The removal, by this small drill, of the mucous membrane over the deflected septum I do not deem an objection to its use in cases where the vomer is the seat of the deflection, since the preservation of the pituitary membrane to facilitate rapid healing at this remote point, can hardly compensate for the time and labor required to attain the object. I shall therefore promptly add this useful instrument to my operative armamentarium.

utilized a cutting device which has been already employed in other parts of the body in various forms and for different purposes. It consists of a small cylinder within which rotates a delicate tube, the end of which can be discerned through the fenestra as shown in the figure. The inner tube, it will be observed, is set with a row of fine teeth. These teeth, if deemed desirable, can be dispensed with

A useful feature of these drills will be recognized in the property they possess of removing bone and cartilage of the deflected septum without injury to the overlying mucous membrane. It is obvious that the preservation of the pituitary membrane in its entirety and integrity affords protection to the wound, and hastens the restoration of the injured tissues to their proper functions. It will often be found convenient to separate the mucous membrane and temporarily secure it to the roof of the nostril by means of cotton pledgets before cutting away the subjacent bone or cartilage.

The hand-piece employed by me (Fig. 1) as a drill-holder, invented by Mr. Weber, has the great advantage of clutching the drills after the manner of a powerful chuck. A right-angled adjustable gearing device can be made by means of a sleeve to slip over the top of the hand-piece. The right angle will be found useful for keeping the drill's point constantly in view while operating in the deeper portions of the nasal cavity. It is larger and more powerfully constructed than those usually employed by dentists. A useful addition to the hand-piece will be observed in the illustration (Fig. 1) in the shape of an adjustable spray-producing device, invented by me to facilitate the practice of keeping the drill in sight. It accomplishes this result by showering the wounded tissues with cleansing fluids, or by means of the air-douche alone, while the drill is in full action. The force of the compressed air, charged with moisture, impinges upon the cut and bleeding tissues, whipping the blood-clots far beyond the field of operation. In obtaining this result I have found it necessary to branch off from the usual methods adopted for projecting sprays, on account of the obstruction that would be ordered by the fluid receptacle. The change consists in an extraordinary lengthening of the fluid conduit. This was accomplished by means of a fine rubber tubing, two or three feet in length, beginning in the spray tube and ending in the fluid receptacle. The air and fluid tubes are joined together for almost their entire length. An adjustable cut-off slipping over the head of the hand-piece enables the operator to regulate the spray at pleasure. The spray-tube proper is attached to a ring which revolves around the drum of the right angle. This arrangement renders it possible to direct the spray in any desired location about the drill. I employ the same device to produce and keep up rhigolene or cocaine anæsthesia.

I shall conclude with a brief description of two illustrative cases, selected from a number of the kind, as good examples of the results obtained by the employment of the electric motor and drills. The first case, a broker's clerk, aged twenty, referred to me by a patient upon whom I had successfully operated, consulted me in October, 1885. The patient proved to be an habitual mouth-breather, and did not remember ever having breathed freely through the nostrils. He was often deprived of needed rest by being awakened during the night with a parched throat. The accumulation of thickened mucus in his nostrils was a source of constant annoyance. He also complained of tinnitus aurium.

Examination.—An inspection of the anterior nares showed pronounced distortion of the septum in the shape of an extensive general deflection of the triangular cartilage to the left, also a localized deviation of the columna to the right, as shown in Fig. 4, taken from a life-sketch. The displaced cartilage pressed firmly against the inferior turbinated tissues in the left nostril, producing complete occlusion on this side.

The right nostril, though only partially obstructed by a localized deviation of the septum, associated with an inferior turbinated hypertrophy, possessed very little respiratory value. Without entering into the details recorded in my case-book, I will simply state that the careful employment of the electric motor and drills, in conjunction with my stellate punch, cartilage, and bone-trimming forceps, resulted in the satisfactory correction of the deformity, the complete restoration of nasal respiration, and normal nasal drainage, and the consequent disappearance of all the annoying symptoms.

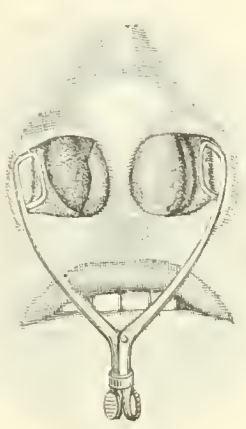

FIG. 4.

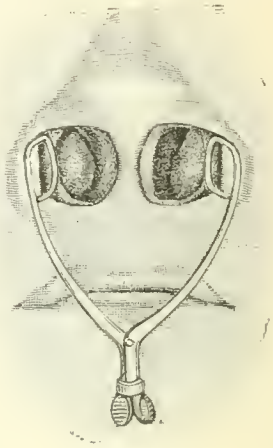

FIG. 5.

Fig. 5, drawn from a life sketch, taken five months subsequent to the operation, shows the appearance of the parts after complete healing had occurred.

The next case I shall present is that of a druggist, aged twenty-seven, who consulted me February 17, 1887, in search of relief from a difficulty in breathing. The left nostril was permanently stenosed, and the right one, though partially free, would become periodically obstructed, and was a source of constant annoyance.

Examination.—Anterior rhinoscopic inspection demonstrated the existence of an extensive osseo-cartilaginous deflection of the septum to the left, extending as far back as the middle of the vomer. The patient did not manifest the slightest dread in submitting to an operation in which the electric drills were employed. The osseous and cartilaginous tissue was first cut away with the rasp drill, and subsequently smoothed down by means of the revolving nasal plane. Forty minutes were consumed in cutting a large opening from the anterior free edge of the deviated tissue, the columna, to the post-nasal opening, about the middle of the vomer. This time included intervals of rest required for spraying the parts with cocaine and noting the progress of the operation. The loss of blood was unusually scanty. One month after the operation the wounded septum had completely healed, leaving a large interspace between it and the lateral nasal wall for the entire length of the nostril. The patient stated that the great cause of his suffering, the difficulty in breathing, had entirely disappeared—nasal respiration being as perfect in the night-time as during the day.

I cannot conclude my paper without acknowledging the courtesy extended to me by Mr. W. F. Ford, while bringing my mechanical experiments to a successful issue, and I might add that any or all of the devices described by me can be obtained from Hazard & Hazard, of New York.

Professor Pean, like Bergmann and Guyon, performs the suprapubic section for stone. Every teacher and operator I have seen in Europe discards the perineal section. Crushing small calculi and removing larger ones by the high operation seems to be almost a universal rule at the present time.—Cor. *Chicago Medical Journal.*

Progress of Medical Science.

Creatinin in Normal and Pathological Urines.—In opposition to the assertion of Professor Hoffmann, Grocco finds that muscular work has a direct influence on the quantity of creatinin eliminated by the urine (*The London Medical Record*, February 15, 1887). He finds that whenever muscular work is considerably increased the quantity of creatinin eliminated is also increased. Even in the urine of babies in the first few months of life, and fed exclusively on milk, creatinin may be found, though in very small quantity. Fever in general leads to increased creatininuria. The relation between the degree of fever and the quantity of creatinin is not, however, constant. In adynamic forms, or with renal complications, the creatinin diminishes. The alimentation also influences the quantity eliminated. In forms with rapid wasting the creatininuria is more marked. Hydræmia and cachexia lead to the diminution of the creatinin, but in every case the cause and progress of the anæmia must be taken into consideration, since with an equal degree of anæmia the creatinin may be excreted in very different quantities, and in even grave anæmia there may be an increase due to the presence of fever. Jaundice does not lead, at least necessarily, to diminution of the creatinin in the urine. In heart-disease there is diminution in the last stage of cachexia; with commencing loss of compensation the creatinin may be increased. Diffuse parenchymatous and interstitial nephritis cause diminution of the creatinin. In three cases of diabetes mellitus there was slight diminution also. In nerve diseases with much muscular agitation the creatinin increases, in others with immobility it tends to diminish. Amyotrophic paralysis of spinal and peripheral origin (poliomyelitis, atrophy, and progressive muscular pseudo-hypertrophy, primitive multiple neuritis) gives a general diminution of creatinin when the muscular atrophy is sufficiently extensive; but if the atrophy takes place rapidly and tumultuously the creatinin may be increased.

The Employment of Electricity in the Treatment of Diseases of the Genito-urinary Organs.—Dr. Steavenson states that the results obtained by the treatment of the genito-urinary organs by electricity are most satisfactory. The lowest centres or points for the reflection of impulses connected with the genito-urinary apparatus are situated in the lumbar enlargement of the cord, and by placing one electrode on the spine over the lower dorsal region and the other to the affected organ the whole nervous supply of these parts can be included in the circuit. Cases of nocturnal incontinence in children, in which no reflex cause can be found, are often cured by passing a weak current through the region of the bladder. A pad, connected with the negative pole of the battery, is placed over the dorsal region of the spinal column, and a small button electrode on the perineum. By placing the negative electrode on the back a stronger current can be borne than if the button in the perineum were made negative. In cases of simple incontinence of urine, when the sphincter is not at fault, and when the affection is due to loss of power of inhibition during sleep, or to paralysis of the muscular coats of the bladder from over-distention or other causes, then one electrode may be placed over the pubes. In cases, however, where there is weakness of the sphincter, unless an electrode is placed in the urethra itself, the best place is without doubt in the perineum, as the sphincter vesicæ does not get included in the circuit when the electrode is placed over the pubes. Undue frequency of micturition is also relieved by galvanism, and when this is due to cystitis the electric current produces a healthier condition of the bladder-walls, causing an improvement in the frequency of micturition. Neuralgia of the pudic nerve is often relieved by galvanism. In the application of electricity to the bladder for atony, incontinence, or frequency of micturition, a current from two to five milliampères, applied for eight to ten minutes every day, or every other day, for about ten days, is all that is generally required. One of the most useful applications of electricity is in the treatment of stricture of the urethra by electrolysis, but the elaborate apparatus required prevents its general use. By this method a stricture can be, as it were, absorbed without any bleeding. If hæmorrhage does occur it is accidental, and usually shows that a too strong current or the wrong pole of the battery has been used. No anæsthetic is required, as the discomfort is trifling. After electrolysis has proceeded so that the electrode will pass into the bladder, it is found a fortnight later that a bougie of two sizes larger can be passed. In penile strictures it will be noticed, after treating them by electrolysis, that a few days afterward no hard, dense tissue can be felt. The author strongly advocates this method of treatment.—*The British Medical Journal.*

The Microbes of Suppuration.—Dr. Kranzfeld has given much attention to this subject, experimenting upon animals, and also making numerous clinical observations. The conclusions at which he has arrived are as follows: 1. In the pus in cases of acute suppuration micro-organisms can always be demonstrated both by cultivation and by the direct examination of the pus. 2. The micro-organisms most commonly met with are staphylococcus pyogenes (aureus, albus, and citreus) and the streptococcus pyogenes. 3. The presence and the development of micro-organisms in the tissues must be regarded as the principal factor in the etiology of acute suppuration. 4. Traumatism and like causes play only a subordinate part in etiology, acting solely as predisposing factors. 5. In infection, the following conditions are of importance: *a*, The quantity of micro-organisms introduced; *b*, their collection in one spot; *c*, the condition of the tissues. 6. Staphylococcus and streptococcus are two entirely different micro-organisms, both from a morphological and a biological standpoint. 7. They differ in their cultivation forms and in their relation to the tissues of the organism. 8. Staphylococcus pyogenes: In cultivation—a more rapid growth and a good development independent of access of air; in the tissues—a rapid development, probably through the medium of the blood. 9. Streptococcus pyogenes: In cultivation—a slower growth and a more feeble development, that proceed better without free access of air; in the tissues—a slow development and localization especially in the lymph-channels. 10. In the great majority of acute local suppurations the micro-organisms enter through external wounds. 11. In some cases a general infection of the body occurs through a distant external lesion. 12. The phlegmon due to staphylococcus pyogenes occurs at the seat of the injury. 13. The phlegmon due to streptococcus pyogenes occurs at a distance from the seat of injury, following the lymphatics. 14. Both staphylococcus pyogenes and streptococcus pyogenes can lead to general infection (pyæmia, septicæmia). 15. In the general infection from staphylococcus pyogenes the metastatic collections are especially localized in the internal organs; in that from streptococcus pyogenes in the joints and serous membranes. 16. During the period of the development of the skeleton if there be a general infection from staphylococcus aureus there is a disposition for the collections to be localized in the organs of locomotion, notably in the bones.

How to Purify Drinking-water.—Professor Dobroslavine, of St. Petersburg, recommends as a means of purifying (clarifying?) drinking-water, the addition to each twelve litres of water of fifty centigrammes of perchloride of iron and seventy centigrammes of crystallized carbonate of soda. He claims that the precipitate thus formed carries with it all suspended impurities, leaving the water, after forty-five minutes, perfectly clear.

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THE CHARACTERISTC KIDNEY INFLAMMATIONS OF SCARLATINA.

IT has been quite well determined by modern researches that the scarlatinal poison produces certain inflammatory changes in the kidneys which are peculiar and striking in character. An excellent review of this subject of scarlatinal nephritis is given by Dr. Frank Grauer, in the February number of *Gaillard's Medical Journal.*

Three forms of nephritis have been found associated with scarlatina:

First, the initial catarrhal nephritis; second, the large, flabby, hemorrhagic kidney; third, acute glomerulo-nephritis, or nephritis post-scarlatinosa.

The initial catarrhal nephritis is the form met with in the first week of the disease, generally accompanying the exanthema, lasting from a few days to a week, and then gradually disappearing. It rarely leads to death. It is only recognized by a chemical and microscopical examination of the urine, in which one finds a slight amount of albumen, mucus, and hyaline casts; more rarely, red and white blood-corpuscles, renal epithelium, and granular casts. There are very rarely any symptoms pointing toward kidney trouble, and if any are present, they are liable, in the majority of cases, to be overlooked, or else attributed to the febrile condition.

The kidneys in this type are enlarged and hyperæmic, with thickened cortex and some loss of striæ.

The large, flabby, hemorrhagic kidney is quite rare. Friedländer found it present in only twelve cases out of the two hundred and twenty-nine that he examined. It generally occurs between the first and the fourth week of the disease. It runs a rapid course, and in some cases the urine is normal up to within twenty-four to forty-eight hours before death. Œdema rarely occurs. This form of nephritis is generally found in those cases accompanied by extensive angina and diphtheritic inflammation. The kidneys are enlarged and softened. The cortical substance is thickened and grayish-red in color. There is complete loss of the striæ, and the glomeruli, as a rule, are invisible. The cortex is studded with ecchymoses and large hemorrhagic infiltrations.

The most frequent and characteristic type of scarlatinal nephritis is the acute glomerulo-nephritis. This form is almost characteristic of scarlatina, and occurs in other diseases only very rarely.

Glomerulo-nephritis generally occurs in the third or fourth week of the disease, the patient being convalescent and the urine normal. Then unexpectedly some œdema appears about the patient's eyes. The urine is now found to contain albumin and to be turbid, diminished in amount, of high specific gravity, and microscopically to show epithelium, blood-cells, and hyaline casts. The disease may progress to recovery in a few weeks or may get progressively worse, uræmia setting in and death finally occurring.

Dr. Grauer gives a *résumé* of Klebs' observations, to whom is due the credit of first observing that the glomeruli are affected in scarlatinal nephritis. A review of the present knowledge of the minute anatomy of the renal tubules is also given. The description is correct in its anatomy, though deficient in syntax, the writer not being able to rid his mind of the idea that *vasa efferentia* is a noun in the singular.

The descriptions of the microscopical appearances in glomerulo-nephritis as observed by Klein, Ribbert, Klebs, and Langham are given, and to them are added the results of observations made on nine cases of glomerulo-nephritis by the writer himself. The morbid anatomy of the disease is summarized as follows. The kidneys are enlarged and hyperæmic; there is no loss of cortical striæ, and in some cases the cortices may be somewhat thickened. The glomeruli are pale, prominent, and more or less enlarged. As regards the microscopical examination, the uriniferous tubules are apparently normal. There may be some evidence of a slight parenchymatous inflammation, the epithelium may be somewhat swollen, and occasionally one may see a cast in the tubules. The following changes are found in the glomeruli: They are bloodless. One very rarely sees a red blood-corpuscle in the lumen of a capillary, especially when stained with hæmatoxylon and eserin. If present they would be stained a rose color by the eserin. When examined with a low power, the glomeruli are found larger than normal and covered with a mass of nuclei. With an immersion lens the following changes are noticed in the capillaries: In some capillaries the only change that is noticed is a thickening of the endothelial layer, which becomes more granular. In others the lumen of the capillary is filled with a rich nuclear protoplasm, which is probably composed of the nuclei of proliferated endothelial cells.

SALICYLIC ACID IN METRORRHAGIA.

THE latest remedy for uterine hemorrhage which is mentioned in current literature is salicylic acid, and if it acts with as great rapidity and certainty in other cases as it is reported to have done in two, it would seem to be a valuable addition to the list of uterine hæmostatics.

Dr. Alessandro Felici reports two cases in the *Gazzetta degli Ospitali* of March 6, 1887. The first was a case of hemorrhage in cancer of the uterus, in which all the known remedies had been tried without success. By means of a pledget of carbolized cotton, moistened with a solution of salicylic acid, the writer succeeded in arresting the hemorrhage within a few minutes. The other case was apparently one of simple metrorrhagia, occurring at the menopause. The woman, when first seen, was in a state of collapse from the loss of blood.

Dr. Felici tried first the approved remedies, and succeeded in controlling the flow of blood for a time; but the hemorrhage returned again and again. Finally he took a piece of cotton on a uterine probe, and, dipping it in a strong solution of salicylic acid, introduced it into the uterine cavity. In a few moments the hemorrhage ceased and did not again return.

Although these two cases by themselves do not prove much, they may, perhaps, be worth remembering in case of trouble from uncontrollable uterine hemorrhage.

AUTO-INTOXICATION IN RELATION TO DISEASE.

THE medical world of France has been much interested and, indeed, profoundly moved by the contributions to the subject of ptomaines, leucomaines, microbic poisons, and other toxic substances developed in connection with animal life. M. Peter and not a few others see a new era in medical pathology and practice opening up before them. We have at various times alluded to this subject, which is now brought up again by the publication of the work of Bouchard: *Auto-intoxication dans les maladies*, Paris, 1887.

Professor Bouchard bases his work on the researches of Selmi, Gautier, Brieger, and others, as well as extensive investigations made by himself. The fundamental principle which he elaborates is, that the human body, both in health and disease, is a receptacle and a laboratory of poisons. These poisons are derived from the digestive changes in food, from the fermentations, putrefactions, and other microbic processes in the alimentary tract, as well as from the retrograde changes in the tissues. These poisons, though being constantly elaborated, do not affect the general system, in part because the liver protects it, destroying the toxic matters as they are carried to it by the portal blood. In part, also, the system is protected by the emunctories. So far, Professor Bouchard announces nothing especially new; and it is only in the details which he believes himself able to give that any advance in our conceptions of nutrition and excretion is seen.

The French professor is nothing if not precise, and so Bouchard finds precisely seven different toxic substances in the urine; one is a diuretic substance, the second a narcotic, another is a sialagogue; one contracts the pupil, one is antipyretic, and two are convulsive. These poisons come from the blood, and are being constantly drained away by the kidney. They exist in the plasma in such amount that a man would die poisoned by his own blood if it contained ten times more than normal.

The contents of the intestines are particularly poisonous, the toxicity of the fecal matter being due to the potash, the ammonia, and the alkaloids. By intestinal antisepsis the poisonous alkaloids both of the fæces and the urine disappear; an important fact, if true, since it points to a helpful mode of treatment in renal disease.

The cause of uræmic poisoning is quite well settled, apparently, in Bouchard's mind. It is due to a number of toxic substances which unite to produce the pathological condition. They exist in the following proportions: Coloring matters, $\frac{3}{10}$; extractions, $\frac{1}{10}$ to $\frac{2}{10}$; potassium and other mineral matters, $\frac{4}{10}$ to $\frac{5}{10}$. The variety of symptoms in uræmia is due to the preponderance of one or other toxic substance.

Our author has also studied the conditions of constipation, *embarras gastrique*, intestinal obstruction, and especially dilatation of the stomach in which there is an excessive fabrication of poisons. According to Bouchard, dilatation of the stomach may cause not only the ordinary dyspeptic and nervous symptoms, but also a peculiar form of albuminuria, a kind of osteo-malacia, a variety of nodular rheumatism, and perhaps of rachitis. Naturally, in the infectious diseases, particularly typhoid, auto-intoxication plays an important part.

Icterus is another form of auto-intoxication. Here the poison consists directly of the coloring matters of the bile, and indirectly of the biliary salts. The free action of the kidneys alone saves the organism from rapidly fatal death. Acute yellow atrophy and acetonæmia are other illustrations of the auto-intoxications of a severe type.

A chapter is devoted to the subject of therapeutics. The practical outcome of Bouchard's researches is quite in harmony with the experience of ages, for it teaches the importance of keeping the emunctories open and of avoiding harsh, or easily fermentable foods. In addition, great stress is to be laid on intestinal auto-sepsis and the avoidance or cure of dilatation of the stomach.

MATERNITY HOSPITALS THAT NEED REFORMING.

IF Dr. Herst's statistics, published in the *Medical News*, are correct, there is need of a very radical change in the methods followed by obstetricians and lay managers connected with some of our large maternity hospitals. For example, the death rate from all causes in five hospitals, according to Herst, in 1885 was:

Louisville, City Hospital.....	3.75	per cent.	of women	confined.
Indianapolis, City Hospital.....	4.71	"	"	"
King's County Hospital, L. I...	4.76	"	"	"
Brooklyn Maternity	4.44	"	"	"
New Orleans, Charity Hospital.	10.22 (!)	"	"	"

"This last record," adds the doctor, "reminds one of the days when Semmelweiss was struggling for reform in the Vienna Hospital, or when Tarnier first took charge of the Maternité."

Certainly, in the light of modern knowledge, it is little short of murder to allow a three and four per cent. mortality in a lying-in hospital, except there occur some exceptional and unavoidable accidents. We trust, and are quite willing to believe, that some explanation can be given for the extraordinary mortality-rates cited above.

THE TEMPERATURE OF DWELLING-ROOMS.

DR. D. BENJAMIN, of Camden, N. J., has made some observations regarding the subject of the varying temperature of our dwelling-rooms which will be found of much practical importance (*The Sanitarian*).

Everyone knows in a general way that the air of rooms is colder near the floor and near the windows, but the very exact differences of temperature as obtained by Dr. Benjamin are very striking. For example, in a room ten feet high, twelve wide, and twenty long, with a good stove and steady fire the temperature in the centre was found to be 78° F.; four feet from the window it was 70°; one foot from the window 54°, and

at the window 40°. At the height of the head the temperature was 75°, at the floor 50°, a difference of 25°. At the ceiling the temperature was 90°, when the temperature at the height of the head was 70°.

The experiments cited above were made in a three-story brick house of twelve rooms, with a warm cellar. It was further observed that when the three floors were as nearly as possible evenly heated, the second floor had a much more uniform temperature than the first or third.

The fact that the temperature of dwelling-rooms varies so widely explains, no doubt, the frequency with which young children, and even adults, take cold in the house. A child sitting on a nurse's lap in a temperature of 70° gets down and plays on the floor in a temperature ten or more degrees lower, or runs to the window, a change of twenty or thirty degrees. The habit which ladies have of wearing slippers or light shoes in the house is the cause of many troubles, for these same reasons.

The temperature of a room should be about 70° F. The hot furnace-heated houses of our cities cause a vast deal of nervous and respiratory trouble. The thermometer should be hung at about the height of the person's head, and, of course, not near the window or the stove.

Dr. Benjamin adds: "Some years ago I devised a contrivance to protect children from the death-dealing windows in cold weather, which has given me, as well as parents, much satisfaction. It is simply a fender of metal (also made of wood) about three feet high, and extending out from the window fifteen or twenty inches.

In some families where I have had these screens arranged to the windows for one or two years I have reduced the medical attendance very greatly, as my books will show.

DIABETES.

The death of prominent men from diabetes seems to be an increasingly frequent event, and the general impression prevails that diabetes, of neurotic origin especially, is commoner than it was formerly. This is probably the case, yet the statistics of the United States censuses for 1870 and 1880 do not show any striking change. In 1870, for example, the number of deaths from diabetes reported was 837, or .17 per cent.; in 1880 the number was 1,443, or .19 per cent. of the total deaths.

The fast life of the American, the accumulation of wealth, and indulgence in excessive drinking and eating would explain in part an excessive increase in diabetes. Glycosuria is said to be very prevalent in the Northwest where the air is very dry, where business competition is exceedingly keen, and where nervous wear and tear are great.

Diabetes is a disease which has many specifics, and recently we have had a new one given us based on extensive trial of ten years.

The account of it is given by the Paris correspondent of *The Lancet*, as follows:

"At a recent meeting of the Société de Thérapeutique, M. Martineau stated that he had been treating diabetes for the last ten years, with almost invariable success, by a method which he had borrowed from a practitioner now dead. He had hitherto made no communication upon the subject, because he had wished to be perfectly certain that his conclusions were not premature. The treatment consists in the administration of a solution of carbonate of lithia and arseniate of soda in aerated water, to the exclusion of all other drinks. Besides taking this with his meals, the patient uses the same as a beverage when thirsty at other times. M. Martineau affirms that this regimen has cured sixty-seven of seventy diabetic patients he has had occasion to treat."

SANITATION AND POLITICS IN SAN FRANCISCO.

The *Pacific Record of Medicine and Surgery* has been making some serious charges against the city officials of San Francisco. It claims to have proved that the large amount of the city's milk-supply comes from diseased cows, that the bacilli tuberculosis have been detected in the milk distributed, and a diphtheria epidemic is now present and is killing a dozen children a week. This, it is claimed, is largely due to defective plumbing and sewerage. The sewers were built by contract with political hacks, contracts in which the money was divided before the work was done. "The owners of the dairies where sick cows are milked, for the sustenance of infants and invalids, are also the owners of distilleries, in many cases, and *must* use their refuse. Thus we see how rum and politics conflict with sanitation."

There is some difference of opinion, evidently, about the cause of the diphtheria. One of the members of the City Board of Health advances the ingenious theory that it is due to the children "swapping gum."

Unfortunately for this theory, says the *Pacific Record*, the fatal cases occur mostly among infants too young to swap anything but unretained mother's milk.

Our Pacific contemporary is, so far, rather ahead in the controversy; although we are not denying that the practice of "gum swapping" may be a powerful promotor of diphtheria.

THE MORTALITY IN AMERICAN AND EUROPEAN LYING-IN HOSPITALS.

In a recent letter to the *Medical News* Dr. H. J. Garrigues, of this city, shows that certain statistics published by Dr. Hirst do not give a fair idea of the death-rate in American lying-in asylums (placed by Dr. Hirst at 2.59 per cent.). In the past three years, for example, under strict antisepsis, at the Maternity Hospital on Blackwell's Island, the mortality rate has fallen from 4.40 per cent., the average in four preceding years, to 1.06 per cent., the average since 1883; while the mortality from sepsis has fallen from 2.98 to 0.33 per cent.

In general terms it is thus seen that the mortality-rate from childbirth has of late years fallen in our better public institutions from four to one per cent. In many of the smaller and well equipped institutions in this country the results are much better even than this; so that, on the whole, American obstetrical work compares very well with that of Europeans. As an illustration of what can be done, it may be stated that in the last four years there have been nearly one thousand confinements in the Emergency Hospital of Bellevue without a single death from puerperal infection.

News of the Week.

Dr. Peter Eager, a prominent physician of Wyandotte, Kan., died recently of pneumonia. He was a member of the State Board of Pharmacy. He formerly lived in Newburg, N. Y., and in this city.

A Patriotic Dentist in Germany announced his intention of extracting teeth and supplying false ones, gratis, to all comers on the occasion of the Emperor William's birthday.

Sun Spots and Apoplexy.—A Rochester astronomer states that he has observed that during solar disturbances there are many sudden deaths from paralysis and apoplexy.

Sir James Paget on Mastication.—In a recent address on dental surgery, Sir James Paget dwells upon the high functions of the molars, which, he says, stand half-way between the dead and the living—that is to say, between the food to be consumed and the tissues formed by it. Upon them depends very greatly the character which will be given to those tissues. In other words, the mode in which we masticate has an appreciable effect upon our future physical condition. "Who knows how much those thirty-two bites which Mr. Gladstone is believed to take at every piece of meat which he consumes may have had to do with his bodily system, and hence, by no means indirectly, with the Irish question!"

Venereal Disease and the Bible.—Probably none but a Frenchman, with the dominating sexuality of his race, would take the trouble to go through the Bible, verse by verse, hunting for evidences of venereal disease among the Hebrews of the biblical epoch. This has been done by Dr. P. Hamonic, of Paris. He discovers evidences of onanism; thinks that the *mal des Philistines* was proctitis, provoked by sodomy; believes that Moses "differentiated perfectly" spermatorrhœa from blennorrhagia, and that Herod died of a phagedenic chancre.

Nine Hours' Artificial Respiration.—Reports from Ceylon contain an interesting description of recovery of consciousness of the taxidermist of the Victoria Museum, who was bitten by a cobra, which he thought harmless, from previous extraction of the poison-bag. For a few moments after the bite he took no heed of it, but pain and nausea were soon set up. Carbolic acid was then applied, ligatures were bound round the arm, an incision was made at the bite, and the blood of the arm was wholly removed. Various antidotes were used, but the unfortunate man lost the power of speech, and soon every muscle became paralyzed, and respiration ceased. Artificial respiration was then resorted to, and this operation was unceasingly continued for nine hours, when at last the patient made an attempt to breathe, and soon regained consciousness enough to make his wants known. He steadily improved until Friday, the accident having taken place on Wednesday, and then astonished those around him by stating he was conscious of all that had been taking place, but was unable to make his feelings known, not having the power to move a muscle.—*Medical Press and Circular.*

The Etiology of Scarlet Fever.—The chain of evidence connecting human scarlatina with a certain disease (as yet unnamed) occurring in milch cows has been made remarkably complete and unbroken by the renewed researches undertaken for the British Government by Dr. Klein. It may be remembered that a specific and distinct micrococcus was isolated from the ulcers of the cow, and that this, when inoculated into calves, produced morbid lesions exactly like those of the cows at Hendon, and those usually found in human scarlatina. During the present winter Dr. Klein has examined the blood of scarlatina patients at the Western Hospital, Fulham, with the result of finding in it a micrococcus identical as to growth and cultivation with that obtained from the cows' ulcers. He further found that on inoculating and feeding mice with the two sets of micrococci, viz., Hendon and Fulham, the same pathological results were produced. And, lastly, cultures were established from the blood of mice which had perished after these inoculations; and these were found to contain the same micrococci again, growing in exactly the same manner. Similar inoculations were made on calves, which developed similar lesions to those affecting certain calves inoculated with the Hendon micrococcus last year; and from the heart's blood of these the same micrococcus was recovered by cultivation, as has been found in the Hendon cows' ulcers and the fever-patients' blood. Thus, then, the circle has been fully drawn; and a valuable discovery lies enshrined within it, one which reflects the greatest credit upon the perspicacity of Mr. W. H. Power, who made clear the circumstantial details of the Hendon outbreak, as well as the skilful and philosophic experimentation of Dr. Klein. But the practical importance of this newly observed relation between scarlatina and cow-disease transcends its mere scientific aspect, for there is obviously power, by careful supervision of herds and of dairies, to limit and curtail the action of the most blighting influence against which our youthful population has to fight. —*Medical Press and Circular.*

The Albany Medical College held its Annual Commencement on March 16th, and conferred degrees upon a class of thirty-seven.

Fasting in the Interests of Science.—On March 11th a Norwegian, F. Cetti, began a thirty days' fast under the supervision of Virchow, Senator, Zunz, and other medical men.

The Central College of Physicians and Surgeons of Indianapolis held its eighth Annual Commencement on February 28th, and graduated a class of four.

The Atlanta Medical College conferred degrees on forty-five graduates at its Commencement, March 4th.

The Medical Association of Alabama meets at Tuscaloosa on April 12th.

The Southern Medical College of Atlanta held its Annual Commencement on March 3d, and graduated thirty students.

The Medical Society of the State of North Carolina will hold its annual meeting at Charlotte on April 13th, 14th, and 15th.

Suicide of a Doctor.—Dr. A. G. Ely, of Girard, Penn., committed suicide by taking an overdose of morphine on March 27th. The doctor was one of the leading physicians and surgeons of Northwestern Pennsylvania, and had amassed a fortune of $150,000. The delusion that his property was getting away from him drove him to self-destruction. Dr. Ely was sixty-seven years of age, was a graduate of Hamilton College, New York, and graduated from Geneva Medical College in 1841.

The Medical Society of the County of New York, at the stated meeting held Monday evening, the 28th inst., unanimously indorsed the Senate Bill, No. 391, entitled "An Act to regulate the Licensing and Registration of Physicians and Surgeons, and to codify the Medical Laws of the State of New York;" and urged all its members to be active, with their personal influence and correspondence with members of the Legislature, in favor of the Act becoming a law, as it was opposed chiefly by one notorious quack residing in the city of New York. Make it a personal matter not to be outfooted.

Laws Regarding Color-blindness in Alabama.—The last Legislature in Alabama passed an act compelling all railroad employés engaged in any manner in the running of trains to be examined for color-blindness and defective sight. As a Board of Examiners the Governor has appointed Drs. Benjamin J. Baldwin, of Montgomery; W. D. Webb, of Birmingham, and W. H. Saunders, of Mobile.

Certificates of Illness.—We learn from the *Boston Medical and Surgical Journal* that the Faculty of Harvard College has promulgated the extraordinary rule that in all cases in which the college has heretofore required a physician's certificate to the fact of illness of absent students, such certificate must specify the cause of illness, in order that the Faculty may be able to judge of the validity of the excuse for absence. The *Journal* says that such a requirement is unjust to the physician and student. No doubt this is true, yet we fear that such a regulation would never have been made if Boston and Cambridge physicians had not got into lax habits in the matter of giving certificates.

A Medical Speaker.—Dr. Baxter has been elected Speaker of the Ontario Legislature.

Thirst in Diabetes.—Duchenne recommends (*Nouveaux Remèdes*) the administration, three times a day, of a drachm of a solution of potassæ phosphas, two parts in seventy-five parts of water. It is best given in a little wine or hot tea.

The Late Dr. John W. Russell.—Very fitting resolutions of respect to the memory of the late Dr. Russell were adopted at the last meeting of the Knox County Medical Society.

Homœopathy at Ann Arbor.—We are pained at the lightness and jocosity with which our esteemed contemporary, the *Medical Age*, treats the profound ethical questions arising periodically at Ann Arbor. The present trouble there, we are told, is again due "to the complex or duplex system of teaching homœopathic and 'regular' students. Homœopathic and 'regular' anatomy, physiology, etc., being supposed to be identical, the homœopathic department at the university is not furnished with chairs on these subjects, and its students are sent across the campus to take them in the regular way at 'regular' hands. This they do not seriously object to, but they do desire, very much, when they are *au fait* in these particular branches, to have the 'regular' professors give them certificates to the fact. The 'regular' professors, however, find that to certify that a homœopath is proficient in these branches would be a violation of the Code of Ethics; it is enough for them to teach homœopaths, but for them to say that such teaching has been effective would be very 'irregular.' The common herd cannot, of course, comprehend the niceties of the distinctions, but that makes little difference—they can look on and enjoy the fight all the same.'

Professor H. C. Wood writes us that the statement in our issue of March 26th that he had been offered the Chair of Medicine at the Johns Hopkins University has no foundation in fact.

Professor Arlt, of Vienna, who has been suffering for a long time from severe illness, died on March 7th.

The American Dermatological Society holds its next annual meeting, at Baltimore, on August 31st and September 1st and 2d.

The American Neurological Association holds its thirteenth annual meeting at Long Branch, N. J., on July 20th, 21st, and 22d.

The Medical College of Indiana graduated a class of twenty-nine at its Commencement on March 2d.

Homœopathic Hospitals and Lay Managers.—We are not surprised that the lay managers of homœopathic hospitals should insist on having their institutions conducted on strictly homœopathic principles. It comes very near to being fraudulent when laymen are asked to support a homœopathic hospital in which the Hahnemann dogmas are neglected and all the resources of rational medicine are used. Laymen contribute to homœopathic charities because they believe in homœopathy. *À propos* of this we learn that eight of the women physicians connected with the "Medical, Surgical, and Maternity Hospitals of the Women's Homœopathic Association of Pennsylvania" have resigned because the managers have made a rule that "no medicines, except strictly homœopathic potentized remedies, shall be allowed for use in the dispensaries or in any department of the hospital."

Medicine and the Talmud.—Dr. Carl von Klein intends to publish a work on medicine in the Talmud, if he can get a thousand subscribers.

New York in 1833 contained a population of 202,957 and about 452 physicians, of whom 302 were members of the County Society. The proportionate number of doctors was quite as great, therefore, fifty years ago as it is now.

Intubation.—Dr. Joseph Eichberg, of Cincinnati, reports 6 more cases of intubation of the larynx for croup (*Lancet and Clinic*), making a total of 8 cases, with 5 deaths. Dr. Jerome A. Anderson reports 10 cases of intubation (*Pacific Medical and Surgical Journal*, March, 1887), with only 1 recovery. Dr. Anderson has done 22 tracheotomies, with 8 recoveries.

Reports of Societies.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN PRACTICE.

Stated Meeting, March 15, 1887.

E. Darwin Hudson, M.D., Chairman.

Dr. C. E. Billington read a paper [see p. 397] on the

LOCAL TREATMENT OF DIPHTHERIA.

Dr. A. Jacobi opened the discussion [see p. 402].

Dr. J. Lewis Smith continued the discussion, and said he thought that most physicians would agree with Dr. Billington's view that diphtheria was primarily a local disease which became constitutional. He thought, also, that this theory had been proved by the experiments of Wood and Formad, of Philadelphia. But Dr. Smith believed that it was not invariably and *always* a local disease primarily.

In the local treatment of this affection nothing of an irritating nature should be used. Any local application that produced smarting which lasted more than four or five minutes should be discarded. It had been his custom to use very mild local remedies. He regarded the muriate of pilocarpin, so fashionable only a short time ago, as a very dangerous remedy, on account of its liability to produce disastrous œdema of the mucous membrane of the air-passages.

The nostrils, especially, required dilute solutions, and it had been his custom to use boric acid, ʒj.; borax, ʒij.; chloride of sodium, ʒj.; and water, Oj. Use warm. He recommended the use of the ordinary medicine-dropper in applying the remedy to the nostrils.

Another favorite local application consisted of lime-water, to which had been added bicarbonate of soda in the proportion of ʒj. to ℥ viij., and used with either a spraying apparatus or a brush. The sponge he regarded as altogether too harsh for making local applications, as it was very liable to remove forcibly the false membrane, which was not desirable. Probably some benefit attended the use of trypsin, and it could be added to the above alkaline solution.

Dr. F. H. Bosworth thought that the paper should be taken in connection with Dr. Billington's papers in 1875 and 1880, in which could be seen the painstaking labor bestowed upon every case. He had nothing to say in the way of criticism.

There was one predisposing cause not mentioned to which he would like to direct attention, and that was the development of glandular tumors, as enlarged tonsils, where the germ finds a favorable nidus. These, as well as mucous membrane, the seat of acute inflammation, afforded a favorable nidus for the beginning of the disease.

One of the striking features of the paper was that no specific remedies were recommended, and yet it seemed to him that an immense amount had been taught in the doctrine that

TO DESTROY THE MEMBRANE AND THE LOCAL AFFECTION WAS TO DESTROY ITS POWER FOR EVIL.

With regard to the local use of remedies in the nasal passages, the syringe, even in the hands of trained nurses, often involved a certain amount of danger, while the use of spray was attended with no danger, and nothing was better for the purpose than the Millard atomizer, No. 5.

He regarded the use of the galvano-cautery as utterly absurd, for "destructive potency" existed in other agents which could be more safely employed. He would reject carbolic acid, and use an agent that kills the germs. Pilocarpin, also, he regarded as most absurd.

Dr. D. Bryson Delavan said that no one better than Dr. Billington knew how highly he appreciated his service in the treatment of diphtheria, and he also mentioned that a professional friend had told him that he had saved more patients during the last five years, since reading Dr. Billington's papers, than he had saved in all his practice before that time.

He saw no reason why carbolic acid was safer, but many reasons why it was inferior to bichloride of mercury, which in his hands had been productive of more good than any other drug. He believed it to be best to spray the nostrils, even though there were no manifestations of diphtheria within them. He preferred to use spray because it was less harmful when used carelessly, and when used carefully it was as efficient as injections. Trypsin was a slow solvent, but he had used it with more or less good results. Still, to rely upon it might be to neglect proper disinfection of the throat and nose.

Dr. T. J. Hutton, of Fergus Falls, Minn., was present, and on invitation gave his views concerning the treatment of diphtheria by the local use of

SOLUTIONS OF NITRATE OF SILVER.

He believed that there were probably fifty remedies that would cure diphtheria if we only knew how to use them. Nine years ago he hit upon a plan of treatment which had served him so well that in 209 cases only 12 patients had died. He claimed that it could be *demonstrated* that diphtheria was a local disease, and that by his treatment it could be arrested. The only limitation or modifying condition rested in the question whether or not diphtheria was the same everywhere. He was not positive on this point, but believed that it was the same wherever it occurred. It might be that country districts furnished greater resistance to the disease than did cities, and hence there might be an apparent difference. But, in the locality where he was practising, with diphtheria as he had seen it, he believed that the treatment which he had used was infallible when the patients were seen in the first stages of the disease, and that it saved to the uttermost in the septic cases. Nothing was claimed for the treatment in cases of stenosis.

There were two indications to be met in the treatment.

First, the disease was local at the beginning, and the indication was to destroy the false membrane and keep it destroyed.

Second, the disease manifests vital depression speedily, and therefore the patient must be supported by all possible means.

To meet the first indication he uses *lunar caustic* in solution, varying in strength from twenty to fifty grains to the ounce of water, applied with a camel's-hair brush, and applied so long as any membrane continues to form.

THE CHIEF POINT TO REMEMBER WAS THAT THE MEMBRANE SHOULD BE DESTROYED COMPLETELY.

The use of the remedy in this way was not painful. Besides this he uses chlorate of potash in cases in which the patients can gargle: ℥ iss. of potash to ℥ viij. of water, and gargle every fifteen minutes; or, if the patient be too young to gargle, administered internally.

Abundant supply of fresh air. If this cannot be obtained in-doors, take the patient out-of-doors. Keep the patient *in the recumbent posture in bed*, and warm. In nasal cases he uses carbolic acid in the form of vapor, or in glycerine, or in a one per cent. aqueous solution.

In the second stage he uses stimulants, food, and chloride of iron and quinine; and when the septic stage appears, milk, eggs, concentrated nourishment, whiskey, brandy, wine, etc., in as large quantities as the patient can take, at short intervals. For adults ten drops of the tincture of iron, with half a grain of quinine, every two hours, alternating, night and day, with six or eight grains of chlorate of potash in solution. In the milder cases there may be no need of the high-pressure internal treatment.

Dr. J. E. Winters was in accord with Dr. Billington,

but had found that local treatment in diphtheria, in young children, limited to the throat, was impracticable.

The *first* object of local treatment of throat diphtheria, if the disease was primarily local, was to destroy the cause of the poison, and to do that some strong caustic must be used. Yet everyone who had spoken, except the last gentleman, had opposed this method.

The *second* object was to obtain the benefit of a successful and safe antiphlogistic treatment, which in young children was impossible.

The *third* object was to remove, or absorb, or destroy the membrane, and he did not see why so much importance was attached to this when it was formed only in the upper part of the throat, for if removed or destroyed it rapidly returns. But nature removed it by a catarrhal process beneath the membrane, and that was the only safe way in which to remove it. That which promoted removal of the membrane in this manner was antiphlogistic, and of all measures to be adopted *heat* was the best—heat, externally and internally, faithfully and persistently applied; *hot* applications, and kept constantly hot.

THE PRIMARY INDICATION WAS TO PREVENT THE SPREAD OF DISEASE INTO THE LARYNX, AND HEAT DID THIS.

Implication of the air-passages was accidental, if the case was properly treated from the outset. The patient must be kept absolutely still, and not changed from the recumbent posture *for any purpose whatever*. Then use heat, as far as it can be used, externally and internally. He occasionally used sprays. Steam he had found specially beneficial, and also turpentine, as mentioned by Dr. Jacobi, with internal remedies mentioned by Dr. Billington.

In nasal diphtheria successful local treatment can be carried out if the attendants have sufficient tact. In the *first place*, use something that does not irritate the child in the least, and it will very soon allow thorough treatment so long as it does not produce pain. All this can be done without lifting the child up, and by simply turning it upon its side.

For the swollen glands he could not subscribe to the local external use of ice. In every case in which he had seen it used, he believed it had been injurious. He was afraid of the external use of ice in diphtheria. In septic cases he would use stimulants, when indicated, in large quantities perhaps, and concentrated nourishment.

Dr. H. D. Chapin greatly preferred spray to the syringe in treating the throat, as syringing usually gives rise to the complication of vomiting. He usually has the tongue depressed, and then gives the bulb two or three compressions, when the solution is thrown directly upon the membrane.

Dr. Beverley Robinson was very much opposed to the use of any form of douche in either the throat or nose, because it would produce vomiting. He favored sprays, but the ordinary spray-producer was of no special use. One should be used that gives quite a forcible stream, and the only one which he employed was Lefferts', and he uses it with a *single* bulb, so as to get an intermittent stream. The use of a medicine-dropper he regarded as an illusion and a snare. As to the use of caustics, it was old, and had been abandoned by most distinguished physicians as being an utterly useless method of treatment.

He had read with great interest Dr. Jacobi's views concerning the local use of chlorate of potash and its action on the mucous membrane; but he was of the opinion that cubebs was a more useful remedy than the chlorate of potash. Formerly he believed that it had a specific effect against diphtheria, but that view he had abandoned. He did not believe in any remedy that was said to cure all cases. He also believed that the indications mentioned by Dr. Billington might be carried out as thoroughly as possible and still occasional deaths would occur.

Dr. Andrew H. Smith agreed with the practice set forth in the paper, but disagreed with some of the theories advanced concerning the nature of the disease. He was very glad to hear Dr. Winters say that the membrane did not constitute diphtheria, as he did not believe that diphtheria was a local disease. Local lesions occurred in the throat, so also they occurred in the throat in scarlet fever.

NOR DID HE BELIEVE THAT A MEMBRANE WAS AN ESSENTIAL PART OF DIPHTHERIA.

He believed that diphtheria was a disease which was received into the general system, and that it had a local manifestation in a peculiar inflammation of the throat, almost invariably attended by the production of a false membrane that does not constitute the disease.

Thorough local disinfection, however, does very much toward diminishing the mortality of this disease, and it should be applied thoroughly to the nose as well as the throat.

Fluids injected should be of a density corresponding to the blood, in order to avoid irritation. He preferred a weak solution of the bichloride of mercury, with sufficient common salt to give it the proper density—say ʒ j. to a pint of a solution of 1 to 2,000, 3,000, or 4,000 of the bichloride. He also preferred a soft rubber instrument, made by inserting into a small bulb a nipple like that on the end of a medicine-dropper.

Dr. W. H. Thomson had no doubt that, in the majority of cases of diphtheria, local treatment might be all that was required, and he thought that it should be employed. During his experience of twenty-five years he had had opportunity to observe one case in which could be studied not only the period when the manifestations in the throat began, but the condition of the patient before he was sick, when it was suspected that he would have diphtheria.

One of two bed-fellows had nasal diphtheria. The young men were separated at once. The one who had shown no symptoms was eighteen years of age. He was very carefully watched, and his nostrils and throat were carefully inspected. On the ninth day he was taken with a *severe* rigor and chill. The physician inspected his throat within ten minutes after its occurrence, and nothing except a slight redness was found in either throat or nostrils. Within one hour the posterior wall of the pharynx was intensely injected. The constitutional symptoms were extremely grave from the very commencement. On the next day—not until then—diphtheritic membrane was found upon the posterior pharynx, low down, which developed downward and soon caused intense dysphagia, and on the next day swallowing was impossible.

Local treatment was employed, and constitutional treatment by the rectum, and on the sixth day all the membrane had disappeared. The patient had a good appetite, and his temperature was normal. On the evening of the seventh day he had another chill, albumen was present in large quantity in the urine, and within thirty-six hours he died of cardiac paralysis due to diphtheritic poisoning; the membrane appearing *subsequent* to the onset of most serious constitutional symptoms, and disappearing *before* the development of the condition which terminated the life of the patient.

His own treatment had been based upon the internal administration of the antiseptics that can be taken in the largest doses, and the chlorine class can be taken in larger quantities than any other. He uses bromine locally. He also recommends the persistent use of oxygen gas, which is an admirable antiseptic, especially when there is any tendency to necrotic changes.

Dr. A. L. Loomis thought that Dr. Billington had reached the conclusion that every sensible physician must reach who watches his cases as carefully as the writer of the paper had done. He felt confident that diphtheria, in a certain proportion of cases, occurs primarily as a local disease; but he also believed that, in the great ma-

jority of cases, it was already constitutional when the local manifestations appeared. He had travelled over the ground of mechanical removal of the membrane, the use of caustics and astringents, etc., and had come to a place where cleanliness and disinfection seemed to be the only things to be accomplished locally, and these measures were to be sustained by constitutional remedies. In other words, it was his plan to treat the case rather than the diphtheria.

Dr. Billington said that it would ill become him to make any additional remarks after the very generous and courteous reception that had been given to his paper.

The Section then adjourned.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, March 28, 1887.

Laurence Johnson, M.D., President, in the Chair.

Dr. Matthew D. Mann, of Buffalo, N. Y., read a paper entitled

REMOVAL OF SOLID UTERINE AND OVARIAN TUMORS BY LAPAROTOMY,

in which he gave briefly the histories of *nine* cases. The first three were cases of *solid tumors of the ovary*, which occur only rarely. Mr. Tait had said that they do not occur at all; but in that he was wrong, as a study of the literature of the subject would show.

The remaining cases were those of solid tumors of the uterus. The fifth was especially interesting, because of the occurrence of secondary hemorrhage due to

SLIPPING OF THE SILK LIGATURE FROM THE PEDICLE.

This necessitated the opening of the abdominal wound, securing the bleeding stump with a clamp (Wilson's), cleansing the peritoneal cavity, and again closing the abdominal opening. The patient made a good recovery.

The eighth case was interesting because of the occurrence of

PREGNANCY WITH A LARGE UTERINE FIBRO-CYST.

His general conclusion was that removal of solid tumors was not more dangerous than removal of cysts. The diagnosis was more difficult than that of cysts, but the exploratory incision in many cases was less dangerous than allowing the tumor to remain.

As to the indications for the removal of the solid tumors, there was no doubt with regard to the ovarian, but with reference to the uterine there was some difference of opinion.

To Mr. Keith's indications he would add

TWO NEW INDICATIONS

for consideration, namely: Fibroid tumors of the uterus which are wearing the life of the patient out by the intense suffering which they cause, and possibly another class of cases found in the sloughing intra-uterine fibroids.

He preferred the *external* treatment of the pedicle to the internal, for uterine tumors, but

NOT FOR OVARIAN TUMORS,

even though they be solid. Wilson's clamp had contributed to his success.

Dr. C. C. Lee opened the discussion, and said that on the main points in the paper he thoroughly agreed with its author, and in the matter of diagnosis he had nothing to add. He did not, however, quite agree with Dr. Mann with reference to the indications, and thought that he had given rather too wide latitude for the performance of hysterectomy. In all solid tumors of the uterus, Dr. Lee believed that, in young women and where there was a chance for arresting their growth, the methods recommended for that purpose should be most thoroughly considered,

BEFORE RESORTING TO LAPAROTOMY

for the purpose of removing the tumor itself. To make the exploratory incision, to determine whether or not laparotomy should be performed, was quite another matter from that under discussion.

He had never hesitated to reopen the abdominal cavity in cases of secondary hemorrhage, or the early development of septicæmic symptoms, with the view to ascertaining their cause.

Dr. James B. Hunter agreed with Dr. Mann in nearly all that he had said, and especially with regard to the propriety of

REOPENING THE ABDOMINAL CAVITY

under the circumstances mentioned. As to the treatment of the pedicle of solid uterine tumors, he was strongly in favor of the *external-abdominal method.* He preferred to use the elastic ligature rather than the clamp. He thought that the clamp should be allowed to remain as long as possible, in order to make sure that the attachment of the pedicle would not give way.

In certain cases Hegar's operation of removal of the ovaries and tubes would give excellent results.

Dr. Wylie agreed with Dr. Mann except as to some of the minor details of the operation. There was no doubt in his mind regarding the propriety of reopening the abdominal cavity in cases of hemorrhage. But there was

A PRECAUTION IN CASES IN WHICH HEMORRHAGE MIGHT BE EXPECTED,

which he had used and would recommend—namely, the introduction of a drainage-tube, by which the beginning of the bleeding could be at once determined. This tube must be constantly watched. Dr. Wylie would not drop any pedicle that contained muscular tissue into the abdominal cavity. He does not use the elastic ligature, but a metallic constrictor.

Dr. Mundé was in accord with the main views advanced in Dr. Mann's paper. He preferred to use rubber-tubing rather than the solid-rubber ligature, but preferred to use some form of metallic constrictor to either. In the event of the occurrence of hemorrhage after the operation, the abdominal cavity should be reopened and the source of the bleeding sought for.

As to diagnosis, he regarded it as difficult, and especially between

SOFT UTERINE MYOMATA AND MULTILOCULAR OVARIAN CYST.

He had noticed one feature which had aided him somewhat, and he deemed it worthy of mention; that is, when the tumor is a myomata the abdominal walls are thick, whereas in cases of ovarian cyst, which grows more rapidly, the abdominal walls are thinner.

From his observation of cases operated upon by Billroth, Martin, and others, he had come to believe that the pedicle of solid tumors should not be dropped.

Dr. E. N. Liell mentioned that Dr. H. Marion Sims had removed two solid ovarian tumors within the last year, and the specimens had been presented to the New York Pathological Society. Both patients recovered.

Dr. Mann, in closing the discussion, said that his method, in removing the clamp, had been to first remove the clamp, leaving the needles in place, and then apply an

ELASTIC LIGATURE WHERE THE WIRE HAD BEEN,

and leave it to cut its way through the pedicle.

As to Hegar's operation, he did not wish to condemn it, but he had thought that it was not so good a method of treatment as some others. Doubtless in some cases it was the operation to be preferred.

He accepted Dr. Wylie's suggestion as to the use of a drainage-tube, in cases in which hemorrhage might possibly occur, as an excellent one.

He was well aware that the diagnosis was difficult, but doubted very much whether Dr. Mundé's suggestion regarding the thickness of the abdominal walls would be proved to be of very much value.

On motion by Dr. Douglas, the Society gave to Dr. Mann a vote of thanks for his interesting and instructive paper.

The President announced the death of Dr. Lewis Fisher, which occurred in Florida, March 1, 1887.

The Society then adjourned.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

ANOTHER CASE OF RUPTURED BLADDER—RUPTURE OF THE SMALL INTESTINE—GOUTY PAROTITIS AND GOUTY ORCHITIS—PERFLATION IN THE SURGICAL TREATMENT OF EMPYEMA—SOME INCONSISTENCIES OF MEDICAL JOURNALISM—THE DENTAL HOSPITAL OF LONDON—ANOTHER NEW HOSPITAL—DEATH OF DR. CARRINGTON—CLOTTAGE OF THE URETERS—DERMOID CYST OVER STERNUM—SECONDARY CANCER OF PROSTATE—LARGE GALL-STONES—THE LONDON HOSPITAL.

London, March 12, 1887.

A few weeks since I chronicled two cases of ruptured bladder successfully treated by abdominal section, and the sewing up of the wound in the bladder. I have now to record a similar case, which promises to have as fortunate a termination. Last week a man was admitted into St. Bartholomew's Hospital suffering from great pain, inability to pass his water, and in a marked state of collapse. These symptoms had rapidly followed the receipt on the previous evening of a blow over the hypogastric region—the bladder being full at the time. The patient was seen by Mr. Walsham, who thought the case a suitable one for abdominal section, and operated as soon as possible. The diagnosis, previously made, of "ruptured bladder" was speedily confirmed, a rent an inch and a half in length being found in the wall of that viscus. A large quantity of urine was found in the peritoneal cavity. This ran away freely as soon as the abdomen was opened. All the urine having been removed, the abdominal cavity was thoroughly washed out with a one per cent. solution of boracic acid. The wound in the bladder was closed with sutures, which were passed through the peritoneal and muscular coats only. The abdominal wound was closed and dressed antiseptically. There was little shock, and no sign of peritonitis. It was not found necessary to leave a catheter in the bladder, nor even to introduce one at intervals to evacuate the urine, which the patient was able to void voluntarily without much difficulty every four hours. He is now practically convalescent.

A somewhat similar case, but involving the intestine instead of the bladder, is at present under the care of Mr. Croft at St. Thomas' Hospital. The patient, a man aged thirty-six, was admitted a few days since suffering from acute peritonitis. He had received a severe injury to the abdomen the previous evening, and had suffered severely from pain and vomiting. Notwithstanding this he had walked to the hospital. On admission he was found to have all the symptoms of acute peritonitis. His temperature was 103° F. There was marked dulness in the hypogastric region. Rupture of the bowel being considered probable, the abdomen was opened, when the small intestine was found ruptured. The rent in the intestinal wall extended nearly round the bowel, the latter being, therefore, almost severed. The peritoneum was acutely inflamed, and contained a quantity of fæces. The abdomen was washed out with a solution of boracic acid. The wounded bowel was then brought to the surface and stitched to the parietes in the abdominal wound—an artificial anus being thus formed. The peritonitic symptoms rapidly disappeared and neither pain nor vomiting followed the operation. By the last accounts the patient continues to progress favorably.

At the Medical and Chirurgical Society, on March 8th, the proceedings opened with the reading of a paper by Dr. D'Estrées, of Contrexville, on "Gouty Parotitis and Gouty Orchitis." In the ensuing discussion Dr. Garrod, referring to the rarity of these affections, remarked that he had been able to collect two thousand cases of gout, but not one of these had had parotitis.

Dr. Bernard O'Connor mentioned a case of gout, under his own care, in which swelling of the sublingual glands occurred.

A paper by Dr. Ewart and Mr. Fitzroy Benham was then read, in which the history of a case of empyema in which perflation had been successfully employed was narrated. The patient was a boy, aged ten, who had had enteric fever. When convalescing, symptoms, first of peritonitis, and then of pleurisy, came on. Empyema followed on the left side. As an additional complication signs of pulmonary gangrene declared themselves. Aspiration having given only partial relief, the chest was opened in front at the level of the fifth space in the anterior axillary line, and behind at the level of the ninth space in the scapular line. Further, but not sufficient, relief was afforded, although a quantity of pus came away in addition to that previously removed by aspiration. It was therefore determined to employ perflation. By means of a hand ball bellows air was blown through a ten per cent. solution of carbolic acid, and then introduced into the chest through a piece of india-rubber tubing passed through the upper opening for several inches. This procedure, which Dr. Drewitt subsequently likened very happily to "blowing an egg," was highly successful, and caused the expulsion (through the lower opening) of a mass of fetid pus, a piece of gangrenous lung, and some thick pieces of false membrane. The operation was performed under the spray, and was repeated on two subsequent days. After the eighth day the discharge was only serous. Both wounds closed in the fourth week from the date of perflation.

Sir Dyce Duckworth said he believed the practice of washing out the pleura was a mischievous one, and in this view several subsequent speakers seemed to concur. Mr. Godlee suggested the insufflation of iodoform into the pleural cavity. Mr. Pearce Gould preferred a single large opening into the pleura behind. Dr. Ewart, in replying, agreed as to the value of a large opening. With a double tube, perflation could be performed with only one opening. He had not found, in five cases of left empyema, that any effect on the heart was produced by the perflation.

The inconsistencies of medical journalists are hard to fathom. Not many weeks since, one of our weekly medical journals, which has been very free in condemning the system of unqualified assistants, was "called over the coals" pretty sharply by a contemporary. The journal in question, it seems, while battering away at unqualified assistants in one column, did not disdain to take their money for inserting their advertisements in another column.

Last week Mr. Jonathan Hutchinson wrote in wrath to the *British Medical Journal* to denounce the conduct of the *Illustrated London News* in inserting a very fulsome puff (with portrait) of a gentleman whose name has been removed from the *Medical Register* for unprofessional conduct in relation to his method of practice and the advertising of a secret remedy. This week, however, the former journal inserts, in the place of honor on the front page, the advertisement of a medical rubber who is not, and never has been, a member of the profession, and who is, moreover, at the present moment,

undergoing a sentence of twelve months' hard labor for an indecent assault on his servant. The same advertisement also appears in the *Lancet*, though not in so prominent a position. As both these journals referred to the case at the time, and commented very severely on the newspapers for improperly describing the accused as a "surgeon," they can scarcely be ignorant of his status. Yet they not only insert the advertisement of a work on massage by him, but allow the letters B.C., B.S., to appear after his name, implying that he is a university graduate in surgery, whereas he is not even qualified. After this, it is rather hypercritical to write against quackery, and censure the improper assumption of medical titles by men who are, perhaps, qualified. A gentleman to whom I pointed out the advertisement remarked, "That journal ought to be termed the *British Medical Quack*."

Two days ago the Dental Hospital of London held their twenty-ninth annual meeting, when it was stated that during the past year no fewer than 43,745 cases had been treated. Sir James Paget presided at the dinner held in the evening, and observed that the hospital was, in his opinion, the best of its kind that could be found in Europe, or perhaps in the whole world. It also fulfilled a useful office as a school of dental surgery, and encouraged the study of dental science. Two of the finest scientific monographs in the English language, by John Hunter and Richard Owen, respectively, were due to the study of the teeth. He congratulated the dental profession on being now organized as a legalized distinct body.

Another institution for the treatment of skin diseases has been started under the name of The London Skin Hospital. Out-patients only are to be received at first.

The new hospital is the result of a dispute which occurred last summer at St. John's Hospital for Skin Diseases, in Leicester Square. One member of the staff resigned, and, after some delay, has, in company with two other gentlemen, started a fresh clinic within bowshot of the parent one.

London, March 19, 1887.

In a recent letter I referred to a paper lately read before the Clinical Society of London by Dr. Carrington, of Guy's Hospital. I now have to announce his death, after an illness of only two days. He was a distinguished graduate of the London University, having obtained exhibitions and gold medals at several examinations. Although only thirty-three years of age, he had become the senior assistant physician, and would consequently, on the next vacancy, have become full physician with charge of beds. As a teacher he was a favorite, and had already made a mark in medical literature. Within the last four years Guy's Hospital has lost by death four members of its staff and, curiously enough, all on the medical side, viz., Drs. Fagge, Mahomed, Moxon, and Carrington.

At the meeting of the Medical Society of London on Monday last Mr. Harry Fenwick proposed a new operation, which he termed "clottage of the ureters." He brought it forward as an expedient that might be adopted in cases of profuse and uncontrollable hæmaturia, as from a kidney hopelessly crushed by an accident or affected with advanced carcinoma. The operation was performed by (1) introducing his ureter-aspirator into the bladder, (2) practising suction on the ureter of the damaged kidney so as to draw the blood-clots into the eye of the instrument, and (3) making light pressure with the back of the instrument against the finger in the rectum, thereby nipping the ureter lightly and giving time for the blood-clot to collect in the pelvis of the kidney. Mr. Fenwick narrated a case, that of a man aged fifty-one years, who had right renal carcinoma, in which the method was successfully employed. As there was no autopsy, the changes produced could not be verified.

At the Pathological Society on Tuesday evening Mr. Clutton showed a large dermoid cyst removed from over the sternum of a woman thirty-nine years of age. It was first noticed when she was six weeks old. When she was ten years old it was tapped, but no fluid withdrawn. When she was nineteen it was as large as a hen's egg. It remained stationary for some years, but during the last five years had more than doubled in size. After drawing off some of its contents it was ascertained that there was no hole or depression in the sternum, and the cyst was removed entire. The contents (eleven ounces) were found to consist of epidermis, cholesterine, and fat. The wound healed by first intention. Mr. Clutton's specimen excited much interest, and several members related somewhat similar cases. Mr. Stephen Paget remarked that in men with hairy chests there was generally a regular parting at the angle of Ludovic, the hair above growing upward and that below downward. This might indicate some developmental peculiarity of the dermoid structures at this point. The president referred to a case in which there was also a spina bifida. Mr. Clutton, in replying, observed that dermoid cysts might occur in any part of the body, but were most commonly found in the middle line or along lateral fissures.

Mr. Fenwick exhibited a specimen of secondary carcinoma of prostate. He had, he said, been able to find only four cases of the kind recorded. In three of these the primary growth was in the stomach and in the dura mater in the remaining one. In his own case the post-mortem examination showed that the lung was primarily affected, and the liver, spleen, kidneys, prostate, and spinal cord secondarily.

Dr. Pye Smith showed a large gall-stone passed by a lady aged seventy-eight. She had never had jaundice, but suffered from increasing constipation, ending in obstruction. Rectal examination revealed an obstruction above the sigmoid flexure which was suspected to be cancerous. After thirteen days' obstruction the patient passed the gall-stone shown, and the symptoms disappeared. A second larger stone was also shown. It had been passed by a woman of sixty in whom constipation never culminated in complete obstruction.

The London Hospital is the largest in the kingdom, comprising as it does accommodation for some eight hundred patients. Its out-patients are practically innumerable; so much so, that it has within the last few years been found necessary to devise methods for limiting the number and drafting off elsewhere those found to be unsuitable for hospital treatment, being either trivial cases or patients able to pay something. Several other hospitals are contemplating the adoption of similar methods to restrict the numbers of out-patients. Although presenting such a wide field for clinical study, the London Hospital, however, is by no means the largest school of medicine in London. This pre-eminence is enjoyed by St. Bartholomew's Hospital, which, however, in its turn, is far outstripped by the University of Edinburgh. The (comparatively) moderate success of the London Hospital as a school of medicine is doubtless in large measure due to its position. It is located at the East End in the centre of a populous but extremely unfashionable district, viz., in the Whitechapel Road, where its long line of frontage forms quite a feature. Its staff have never been deficient either in learning, zeal, or teaching power, but the success of the school, although considerable, has never been commensurate with the growth of the hospital. The West End hospitals draw an increasing number of students, who prefer the west to the east as a residential district. Considerably more than one-half of the staff of "The London" live west, although this involves a journey of forty minutes to get to their clinique. The position of the London Hospital, both as a hospital and as a school of medicine, is at present gravely imperilled by some recent disturbances which have taken place there. Great dissatisfaction has been expressed among the students by the way in which "outside students," who have commenced their studies elsewhere (in many cases at the University of Cambridge) and only come to the hospital for clinical work, have been promoted to important residential appointments in the hospital over the heads of "London"

students who have entered for the full course. This appears to be the head and front of the offending on the part of the hospital authorities, and the students feel so strongly on the matter that I understand a printed statement has been circulated by them, though I have not seen it. It is rumored that three students were about to be rusticated for the part they took in a correspondence arising out of the above matters, but wiser councils prevailed and, the students showing themselves to be firm in their position and united among themselves, it has been agreed that their statements shall be listened to and, if possible, all grievances removed.

EPIDEMICS OF PNEUMONIA IN THE COUNTRY.

To the Editor of The Medical Record.

Sir: Your editorial, March 5, 1887, calls to mind a singular experience of my own.

In September, 1884, I treated a family living far out in the hills of Northern California. The household numbered twelve—father, mother, and ten children. Within less time than a month ten of the family were sick. Six of the number escaped with bronchitis and pulmonary congestion of different degrees of severity, while four of them suffered with acute lobar pneumonitis.

These four were attacked within a few days of each other. In three of them the lower lobe of the right lung alone was affected; in the fourth the inflammation extended to the lower lobes of both lungs.

I was never able satisfactorily to account for this epidemic (?) of pneumonia. The home was forty miles from the sea-coast, at an elevation of about twelve hundred feet. It was located on the southern slope, was free from fogs, warm and dry.

The sickness occurred at a season of the year when, owing to the excessive dryness of the soil and atmosphere, very little decomposition or putrefactive changes are taking place. The sanitary conditions about the premises were as effectual as they had ever been before, or have since been. I found one defective, obstructed sewer near the house, where the waste waters from the kitchen and wash-rooms were allowed to stand and become impure. This I had rectified. The family has since enjoyed uninterrupted health.

D. P. Hogshead, A.M., M.D.

West Berkeley, Cal., March 12, 1887.

SHOULD DOCTORS FURNISH MEDICINE?

To the Editor of The Medical Record.

Sir: Why should not the physicians of cities give medicine to patients themselves, instead of simply prescribing it?

I have no wish to cast reflection upon the druggists of the country, but how often are complaints made against druggists, for various reasons. How many druggists prescribe over the counter simply for the profits they make from the drugs, keeping money out of the pockets of the already poorly paid physicians, and really casting reflection upon them. For if the remedy happens to do good in a particular case, the family say, "Oh, he's as good as a doctor!" and the conclusion naturally follows that it's no great thing to be a doctor after all.

Then, again, it seems to be the fact that every drug-store is carried on in the interest of some one physician. Who has not met with some instance such as I have lately been a victim of—having a druggist tell a patient that the telephone is out of order and that he (the patient) had better get Dr. So-and-so, who is as good, if not a better, physician than Dr. M.?

I am not writing this letter for spite; but when one sees men getting rich upon the profits which legitimately belong to the physicians, when one notices the numberless small methods which are resorted to by druggists with whom one is not an especial favorite, and when one considers the army of physicians who are barely able to make a living, one wonders why physicians do not prepare and sell the remedies which they consider the patients need.

I do not do it myself, but I cannot see anything wrong about it; nothing unprofessional. Indeed, I believe it would be a good thing for the patients if doctors would prepare the remedies, because thereby many a doctor would get a familiarity with drugs which perhaps was sadly needed.

James McManus, M.D.

Brooklyn, March 19, 1887.

THE DOCTOR'S HORSE.

To the Editor of The Medical Record.

Sir: Your comments on the "Doctor's Horse," in a late issue of The Record, while very good and containing much of interest, cover hardly sufficient ground to constitute a safe guide to a young doctor who really needs experienced advice regarding this very necessary adjunct to the country doctor's armamentarium. Will you allow a word on this matter from one who is somewhat in the position of the rustic member of a nameless legislature. He had sat through a whole session without ever showing any interest in the deliberations of that body, nor having ever opened his mouth in debate; who, when a bill regarding swine was under discussion, at once became attentive, then very restless, and at last could contain himself no longer, jumped to his feet, and cried: "Mr. Speaker, you are talking about hogs; I know something about them air critturs; I was raised among um."

Having practised more or less successfully in a Western State, emigrating from New England twelve years since, and always in a country district where a good horse, in the eyes of the public, is a better recommendation to favor than a diploma and a hospital course, may I add a few "don'ts" to yours for the aid of the young doctor, who, of course, is the one who needs them.

1. Don't buy a horse till you have an office and a fair library, and can buy for cash; and then, only when you need one.

2. Don't buy a young horse, with the prevalent idea it will improve on your hands.

3. Don't buy a horse so old he can't eat; nor an odd-colored horse; nor a small horse; nor a very large horse (bay, sorrel, and brown are standard colors).

4. Don't buy a horse that has been abused, driven hard, underfed when a colt, or anything but a sound horse from six to ten years, with a Morgan strain, if possible. Soundness, gentleness, and endurance are better than speed and beauty.

5. Don't drive for "show." You will be found out if you do. Nor drive fast around town or elsewhere, unless necessary.

6. Don't draw a four-wheeled covered carriage in the country with one horse.

7. Don't swop horses and be known as a jockey.

8. Don't think more of your horse than you do of your patient, nor so much of your patient that you will kill your horse.

9. Don't care for your own horse if you can hire help; or, if you can't afford help, don't visit your patient with the clothes you harness, etc., in.

10. Don't talk *horse* to everybody, nor to anybody unless they begin it.

11. Don't buy a horse till you've tried him thoroughly.

12. Don't buy a *horse* at all; buy a mare, for various reasons not necessary here to mention.

Country Doctor.

New Instruments.

DOUBLE-CURRENT NOZZLE FOR URETHRAL IRRIGATION.

By LOUIS F. KIEFER, M.D.,

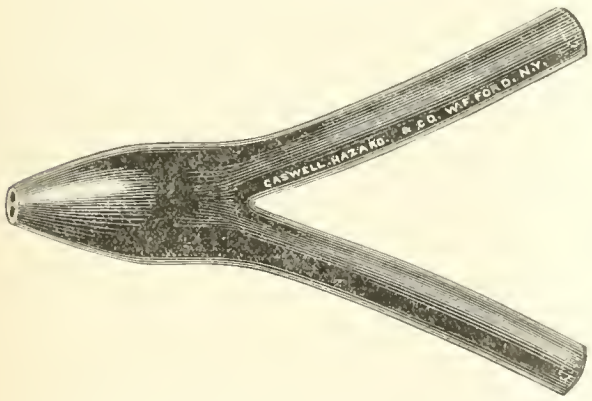
NEW YORK.

While working in the Genito-Urinary Clinic of the Roosevelt Hospital, of this city, I often found great difficulty in thoroughly irrigating the urethra (in that treatment of gonorrhœa) with the nozzles in use; sometimes almost failing to attain that object.

The bulbous nozzle, connected to but one tube, would fulfil the indication of occluding the meatus urinarius, but when the urethra was distended with the fluid it was necessary to partially remove the bulb in order to allow the fluid to escape, and if the patient was at all restless the bulb would slip away from the meatus, and it would then have to be reapplied, a process consuming time and patience; and if the meatus was very small, or the glans penis very slippery, there was often found great difficulty in keeping the bulb applied to the urethral orifice.

We then tried the ordinary straight glass tube with a smooth point; this was introduced a very short distance into the meatus, the urethra was filled with the fluid, and the tube then withdrawn; but these repeated introductions would often cause pain, it would be necessary to have several sizes of nozzles, and if, as was often found to be the case, there was a stricture very close to the meatus, irrigation with this nozzle was often found to be attended with great pain and difficulty.

It then occurred to me that these objections could be overcome by a nozzle which was bulbous, but which was provided with a tube for a return current; such an instrument I have found to fulfil all the requirements of a nozzle for this plan of treatment of gonorrhœa.



The instrument is made of hard rubber (glass having been found to be too brittle), and is about three inches in length. It consists of two tubes, one end of each being free, the other ends being united side by side in a bulbous expansion; the bore of each tube, however, remains separate, and each tube opens separately at the apex of the bulbous extremity. The bore and orifice of one tube is smaller than that of the other; the smaller will be designated the *inflow*- and the larger the *outflow*-tube.

The inflow-tube is intended to be connected to the tubing from a fountain placed at a proper elevation. The conical bulbous end is so made in order to fit the varying sizes of urethral orifices, and when once inserted into the meatus can be firmly held there without interfering with the outflow of the fluid.

The instrument is intended to be used as follows: The inflow-tube having been connected to the tubing, as stated above, and the fountain filled with the desired solution, the conical bulbous end is to be inserted into the meatus and firmly held there by one hand; the solution may now be allowed to flow through the inflow-tube, and if now the free end of the outflow-tube be closed by a finger of the disengaged hand, the medicated solution will then distend the urethra, and thus come into contact with every portion of the urethral walls. This manœuvre can be gone through with from fifteen to twenty-five times a minute, thus making it possible to thoroughly irrigate the urethra with a quart or more of medicated solution in a very short time.

The bore of the outflow-tube was made the larger in order that the urethra would be thoroughly and promptly emptied, and thus a constantly renewed application of the irrigating fluid to the urethral walls be insured.

If a cold solution is used, the danger of the fluid entering the bladder is very slight, the local effect of the cold solution being to cause a tonic contraction of the sphincter vesicæ; the fountain, however, should not be placed too high—about three feet above the level of the nozzle when in use has been found sufficient. The instrument, being made of hard rubber, can be kept in antiseptic solutions without injury, an advantageous feature which is self-evident.

To avoid using the finger to occlude the outflow-tube, I have devised an arrangement of levers so placed that when the outflow-tube is occluded the inflow-tube will be open, and *vice versa;* this, of course, is merely a refinement.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from March 27 to April 2, 1887.

Perley, Harry O., Captain and Assistant Surgeon. Ordered for temporary duty at Fort Maginnis, Mon. Ter. S. O. 23, Department of the Dakota, March 18, 1887.

Official List of Changes in the Medical Corps of the United States Navy for the week ending April 2, 1887.

Waggener, J. R., Passed Assistant Surgeon. Commissioned a Surgeon on March 18th.

Fitts, H. B., Passed Assistant Surgeon. Ordered to the Receiving-ship Vermont.

Tracy, E. C., Assistant Surgeon. Detached from the Vermont, and ordered to the Atlanta.

Heffinger, A. C., Passed Assistant Surgeon. Detached from the Atlanta, and ordered on special duty in connection with construction of a hospital at Widow's Island, Me.

Hager's Catarrh Remedy.—The formula recommended by Dr. Herman Hager is as follows: Of carbolic acid, 10 parts; alcohol, 10 parts; water of ammonia, 12 parts; distilled water, 20 parts. Take two-ounce wide-mouthed bottles, fill them to one-third with the above liquid; then introduce a bunch of (absorbent) cotton of sufficient size to soak up all the liquid; to be used in incipient cold in the head, coryza, chronic catarrh, etc. A stronger preparation, also recommended by Dr. Hager, is the following: Carbolic acid, 10 parts; oil of turpentine, 5 parts; water of ammonia, 12 parts; alcohol, 20 parts. To be used in the same manner as the preceding. Hager recommends those as prophylactics against diphtheria. He advises all those who handle and are about patients suffering from diphtheria or phthisis, to place a vial with this *olfactorium* to the nose when they approach the patient.—*Therapeutic Gazette.*

Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending April 2, 1887:

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	11	5
Scarlet fever	67	10
Cerebro-spinal meningitis	4	3
Measles	122	15
Diphtheria	84	40
Small-pox	8	2
Yellow fever	0	0

CEREBRAL ABSCESS AND ITS TREATMENT.—A discussion on the diagnosis and treatment of cerebral abscess took place at the Glasgow Medico-Chirurgical Society on February 11th and 12th, but does not appear to have added much to current knowledge. Dr. William Macewen mentioned a case of abscess in the temporo-sphenoidal lobe upon which he had operated with success. Mr. Barker, who had another successful case (with Dr. Gowers) about three months ago, is reported to have stated that nearly all intracranial abscesses originating in ear-disease were in the cerebrum, and that nine-tenths of the cerebral abscesses were in the temporo-sphenoidal lobe. Such abscesses, though not very commonly met with, are not extremely rare; for instance, Professor Greenfield said he met with about one case a year in the Edinburgh Infirmary, and Dr. Coats said that the number in Glasgow was proportionate, so that probably this operation, which appears to present no serious difficulties to the surgeon, will soon become comparatively frequent—more especially as the first five cases (treated by Barker and Gowers, Schondorff, Trückenbrod, Greenfield, and Macewen) have been so successful. Altogether, there seem to have been twenty cases recently in which the cerebrum has been incised or partially excised, with three deaths, two from shock and one from septicæmia.—Cor. *Phila. Med. Times.*

BILE-SALTS AND COD-LIVER OIL INUNCTIONS.—Dr. H. A. Hare, of Philadelphia, finds that the addition of bile-salts doubles the rapidity with which cod-liver oil can be rubbed into the skin.—*Boston Med. and Surg. Jour.*

A CURE FOR WARTS.—Take fifteen grains of corrosive sublimate and dissolve in one ounce of collodion. Brush the warts carefully once a day with this solution. This remedy is more efficacious and more convenient than other recommended procedures.—*Zeitschrift d. Oester. Apotheker-V.*

ANTISEPTIC COLLODION.—The *Journal de Médecine* of December 26th contains an account of a new kind of "collodion," which is antiseptic and promotes cicatrization. It does not cause inflammation, and may be substituted for collodion made from gun-cotton, in the treatment of wounds and bruises. Like traumaticine, it is efficacious in relieving neuralgic pains and acute or chronic rheumatism. The affected parts should be sponged with it every twenty-four hours, and in serious cases every six hours. If strips of linen or silk be soaked in this collodion, an excellent sticking-plaster is obtained, which quite equals English court-plaster. The following is the formula: Mastic in globules, 3 grammes; balsam of Peru, 1 gramme; narcotine, 1 gramme. Each ingredient should be ground separately, and 5 grammes of chloroform added thereto.

TREATMENT OF BOILS BY INJECTIONS OF CARBOLIC ACID.—Dr. Bidder, of Paris, has described a method of treating furuncles by parenchymatous injections of carbolic acid. If the boil is a small one, he gives one injection of a few drops of a solution of carbolic acid (two per cent.); if it is of medium size, two injections are given, the half or the whole of a Pravaz-syringeful of the solution being used on each occasion. In the case of large furuncles, for example, half the size of a man's hand, Dr. Bidder injects at four different spots the contents of four Pravaz syringes half or wholly filled with a solution of two per cent. of carbolic acid. These injections are given only once. This treatment is strikingly successful. There is some smarting at the seat of injection at first, but the pain soon disappears, and the next day there is a marked improvement in the patient's condition. The inflammatory swelling subsides very quickly, and in eight or ten days even the largest furuncle is dispersed. By this plan no unsightly scars are left, a circumstance which in many cases is of considerable importance. The success of the treatment is probably to be accounted for by the fact that either the microbes which cause the disease are killed, or the medium in which they flourish is destroyed.—*British Medical Journal.*

AN INGENIOUS TEST FOR VISUAL MALINGERING.—In a large factory a workman in wielding his hammer carelessly allowed it to slip from his hand. It flew half across the room, striking a workman in the left eye. The man brought suit in the courts, and although an eminent oculist, after an examination, declared that no apparent injury could be detected, claimed that his eyesight was destroyed, and refused all offers of compromise. As the law requires owners of factories to pay all claims for damages resulting from injury during work, the owner, though confident that the man was shamming, had about made up his mind that he would be compelled to pay the claim. On the day of the trial a further test was made. The oculist for the defence had a pair of glasses made, the right eye being of red and the left eye of ordinary glass. He brought also a black card with a sentence written on it in green ink. The plaintiff was ordered to put on the glasses and read the sentence, which he readily did, thus proving himself a perjurer, as the sound right eye, being fitted with a red glass, could not distinguish the writing—the combination of green and red producing black, which on a black ground was, of course, not visible—and the left eye, which he claimed was blind, was the one with which the reading had to be done.

LOVE IN CAPSULES.—A Kentucky medical contemporary publishes a love-song in its pharmaceutical department.

A HORN GROWING FROM THE HUMAN HEAD.—An interesting addition has just been made to the museum of the Hôpital Saint Louis, in Paris, in the shape of a strong and solid horn, which has been surgically removed from the head of a woman residing at Hyères, in the Riviera. This appendage grew from the scalp, was twenty-one centimetres (eight inches) long, and in appearance and consistence resembles the horn of a goat. This deformity is rare, but not so much so as is generally imagined. Cloquet, the eminent anatomist, records a case, and Demarquay has collected fifty-nine cases. The late Sir Erasmus Wilson gives a very complete account of the deformity in the twenty-seventh volume of the "Transactions of the Royal Medical and Chirurgical Society." Out of 90 cases mentioned therein, 44 were in females, 39 in males, and the sex of 7 is unrecorded. In the *New York Medical Repository* of 1820 is described the case of a man from whose forehead grew a horn which had three branches and was fourteen inches in circumference. These growths have their origin in a diseased sebaceous gland, and their treatment is removal. It is necessary to destroy all remains of the offending sebaceous gland, or recurrence may happen.

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Original Articles.

A CASE OF ACUTE AND FATAL TUBERCULOSIS OF THE LYMPHATIC GLANDS.

BY FRANCIS DELAFIELD, M.D.,

NEW YORK.

HELEN R——, aged twenty-three, England, domestic, was admitted to St. Luke's Hospital, under the care of Dr. A. B. Ball, on October 18, 1886. She had been in good health until two weeks before her admission to the hospital. At that time she was attacked with headache, pain in the back, malaise, diarrhœa, occasional vomiting, and a febrile movement. For the first week she continued up and about, during the second week she was in bed. It was supposed that she had typhoid fever.

When admitted to St. Luke's Hospital her temperature was 99° F., pulse 84, respiration 23. The urine contained no albumen, sugar, or casts. There was no diarrhœa. The spleen was slightly enlarged, the liver was of normal size. There were no physical signs of disease of the heart or lungs, except a few coarse râles over the lower part of both lungs. The patient's appearance was cheerful, and so unlike that of typhoid fever that in the absence of characteristic symptoms the disease was excluded from the diagnosis.

The only change for the next four days was a gradual rise of temperature from 99° to 102° F.

On October 22d, for the first time, it was noticed that there was an enlarged lymphatic gland on the right side of the neck near the angle of the jaw. This gland was somewhat larger than a hickory nut, hard, tender, and freely movable. She said that it had appeared at the outset of her illness, and since then had become larger. No cause for this enlarged gland could be discovered in a primary lesion elsewhere. The axillary and inguinal glands were not enlarged. After this time the temperature ranged from 102° to 104° F. The enlargement of the glands in the neck became more marked, and extended down to the clavicle.

There were no physical or rational signs of disease of the lungs.

The patient lost flesh and strength, and became anæmic. The red blood-cells were 3,720,000 to the cubic centimetre, the white blood-cells were in the proportion of 1.832, the hæmoglobin was forty-eight per cent.

By December 4th an enlarged gland had appeared in the right axilla, and the glands in both groins had begun to enlarge.

On December 5th the eyes were examined by Dr. Loring. In the right eye the arterial and venous blood was lighter colored than usual, the veins were dilated. Above and to the outer side of the macula was a small hemorrhagic spot, surrounded by œdema, and several spots of exudation in the retina. At another part of the retina was a white spot, as large as a pin's-head, with a foggy appearance; and near this the retina had a striped, granular, pepper-and-salt look. All the changes were in the neighborhood of vessels, and somewhat resembled the retinitis of leukæmia, or Bright's disease.

The left eye was in much the same condition as the right.

On December 7th a sharp diarrhœa set in, with a fall of temperature nearer to the normal. The patient became extremely prostrated, looked as if she would die, and was removed from the hospital by her friends. On January 8, 1887, Dr. Ball saw the patient at her home, in consultation with her physician, Dr. S. M. Swift. Since she had left the hospital there had been a constant elevation of temperature, but with lower ranges. Her general condition had somewhat improved.

While the patient was under the care of Dr. Ball, at St. Luke's Hospital, she was seen by all the consulting and attending staff, and the results of their study of the case are stated by Dr. Ball as follows:

"After the first few days it was evident that she was suffering from an infective process of some kind. Typhoid fever was early excluded. When the swollen and tender gland at the angle of the jaw was discovered it became a question whether such a prolonged and marked constitutional disturbance could arise from a simple adenitis, inasmuch as no other lesion could be detected. She was seen by three of the surgical staff, two of whom thought the symptoms might be accounted for by adenitis, while the third doubted this possibility, but had no other explanation to offer. This difference of opinion is mentioned simply to show the difficulties which attended the diagnosis from the start. A few days later the continued high temperature, and the evident though inconsiderable enlargement of the spleen, led to the suspicion of a general tubercular infection; but although careful examinations were made repeatedly for signs of its existence, no satisfactory evidence was obtained. When, five weeks after admission, the lower cervical and supra-clavicular glands began to enlarge, it became a question whether we were dealing with a tuberculosis limited, for the most part or entirely, to the glandular system, or with an acute form of Hodgkin's disease. At this time the physical signs at the apices of the lungs were but slightly marked, and could be explained, it seemed to me, by enlargement of the bronchial glands. My reasons for this opinion were that the patient was entirely free from cough, there was no evidence of a general tuberculous infiltration of the lungs, and the fact that the local signs had not made their appearance until after infection of the lower cervical and supra-clavicular glands had taken place, with a probable extension of the process to the bronchial glands. Assuming the correctness of the supposition that the morbid process was limited to the glandular system, the chances were in favor of a lymphomatous or lympho-sarcomatous affection rather than a tuberculosis, on account of the greater rarity of a tuberculosis thus limited. To be sure, Hodgkin's disease seldom runs its course with such rapidity and such continued high temperature, but a considerable number of cases so characterized have been reported by Gowers, Hilton-Fagge, and other writers. Splenic enlargement occurs in both diseases, and has no value for the purpose of differential diagnosis between them. In reviewing the case it seems to me highly probable that infection of the spleen, and perhaps of the deep abdominal glands, took place very early, and were really the cause of the fever which ushered in the illness. Indeed, I am not sure that the disease did not start in this locality rather than in the cervical gland, which seemed to us the primary focus.

"In cases presenting similar difficulties of diagnosis the nature of the disease may be cleared up by a simple procedure suggested to me in the present case by Dr. Abbe—viz., to remove a portion or the whole of an infected gland and examine for tubercle bacilli. The suggestion

was not carried out with my patient on account of the serious character of her illness and my reluctance to add to her discomfort without some likelihood that the information obtained could be utilized in the treatment."

On January 24, 1887, the patient was admitted to the Roosevelt Hospital under my care. She was feeble and anæmic, her eyesight was poor, her tongue was clean and moist, her appetite was poor, there was constant pain in the abdomen, and the bowels were loose. The urine was acid; specific gravity, 1.024; a trace of albumen, no sugar, no casts. Temperature, 101.8° to 103.4°; pulse, 120 to 130; respiration, 32 to 36.

Over the lungs the percussion note was normal; there was tubular breathing over both lungs, such as is usually due to compression or narrowing of the trachea or large bronchi. The heart was normal, except for a systolic murmur in the second left interspace. The liver and spleen were of normal size, and no tumor could be felt in the abdomen.

In the right side of the neck, extending from the angle of the jaw to below the clavicle, was a mass of lymphatic glands—hard, matted together, and adherent to the surrounding parts. There were a few glands, very slightly swollen, in the right axilla and groin. After her admission the patient's temperature was between 103° and 104°, with a regular afternoon rise. The pulse was from 120 to 130, and the respirations from 30 to 40.

She lay quietly in bed in a somewhat apathetic condition, from day to day looking rather worse and more emaciated, then became mildly delirious, and on February 7th, at 4.50 A.M., died rather suddenly, having looked on February 6th as if she would still live for some time.

I made the autopsy on February 7th, at 2.40 P.M.

The brain and its membranes were normal, except for some increase of serum in the lateral ventricles.

The lungs were congested and œdematous. In both lower lobes were considerable areas of red hepatization and a very few miliary tubercles.

In the areas of red hepatization the air-spaces contained pus, fibrine, red blood-cells, and epithelial cells. The miliary tubercles were composed of infiltrations of round cells.

The heart was normal.

The liver weighed five pounds, contained but little blood, and the hepatic cells were largely infiltrated with fat.

The spleen was slightly enlarged, and contained a large number of white nodules from the size of a pin's-head to that of a pea. The nodules had for the most part undergone cheesy degeneration, and showed no structure except a few round cells at their peripheries. They contained tubercle bacilli.

The stomach was empty; its glandular coat was well preserved and normal.

The pancreas was unchanged.

The small intestine and the colon were normal.

The mesenteric glands were much enlarged. Some of them were calcified, others had undergone cheesy degeneration and softening. In none of them was there any well-marked tubercle tissue, as the degenerative changes were extensive, but tubercle bacilli were found in the cheesy masses.

The kidneys were a little enlarged. The epithelial cells of the convoluted tubes were slightly swollen.

The thoracic duct was unchanged. In the right side of the neck was a large mass of lymphatic glands, extending from the angle of the jaw downward below the clavicle, and inward toward the trachea. Most of these enlarged glands had undergone cheesy degeneration at their centres, and some had softened. There was no well-marked tubercle tissue, but tubercle bacilli were present in considerable numbers.

The patient, apparently, had suffered at some former period from an attack of tubercular inflammation of the mesenteric glands, from which she recovered, the glands undergoing calcification. If any ulcers existed in the small intestine at that time, they left no cicatrices behind.

Her present illness began with a tubercular inflammation of the mesenteric glands, again without ulcers in the intestines. After a time the cervical glands became inflamed in the same way, and a few miliary tubercles were formed in the lungs. From the beginning to the end of this fatal illness the patient always looked as if she were suffering from the poison of some general disease, and not from interference with the functions of any part of the body; and after death none of the viscera were so altered as to render life in danger, nor were the anæmia or the emaciation so marked as to account for death.

The case seemed to be a well-marked example of tubercular inflammation of the mesenteric and cervical glands, which behaved like a general rather than like a localized tuberculosis.

Tubercular adenitis, involving by preference the cervical, bronchial, and mesenteric glands, is usually a secondary inflammation to lesions of the skin, lungs, and intestines. It behaves like a localized tubercular inflammation, but occasionally becomes the starting-point of a general tuberculosis.

Tubercular adenitis of a primary character, and behaving like a general tuberculosis, is much less common.

Some cases of this kind are described by the older authors under the name of acute scrofula.

Others have been confounded with the morbid condition known under the names of Hodgkin's disease, pseudo-leukæmia, adenia, anæmia lymphatica, lymphadenoma, malignant lymphoma.

A few cases similar to the one here reported have been described by Dr. Hilton-Fagge[1] and Dr. Pye-Smith.[2]

ANTIFEBRIN IN THE TREATMENT OF PHTHISIS.

By CHARLES M. CAULDWELL, M.D.,

VISITING PHYSICIAN TO ST. JOSEPH'S HOSPITAL, NEW YORK.

Ever since Cahn and Hepp introduced antifebrin to the notice of the medical world, the drug has been rapidly gaining favor in the eyes of German, English, and American observers. Almost every week the European medical journals publish the commendatory opinions of one or more practical investigators. In many of the New York hospitals antifebrin is already accepted as the safest and most reliable drug with which to reduce temperature in *acute* febrile diseases.

Thus, while both hospital and private practice furnish abundant evidence of its power in such diseases as typhoid fever, pneumonia, and acute rheumatism, yet the fact that it is capable of producing most desirable results in certain forms of phthisis does not seem to be appreciated.

Last fall I was surprised to see moderate doses of antifebrin quickly control a most distressing "hectic fever," after quinine, antipyrine, etc., had completely failed. Since that time I have employed the drug in the treatment of thirty phthisical patients, in whom persistent fever, or chills and fever have been prominent symptoms. The results have been unexpectedly satisfactory both to me and to the patients.

The cases for which the drug was prescribed differed widely in age, habits, and social position, some being private patients while others were hospital inmates. The sexes were about equally represented. Of the thirty patients, nine were suffering from slight or moderate consolidation in *one* lung only. Eleven had more extensive disease, namely, considerable patches of consolidation, with or without spots of softening. The ten remaining cases were pitiable examples of the cavernous stage of phthisis.

[1] Path. Trans., xxv., 72 and 235.

[2] Ibid., xxvi., 202.

In cases of the first class (those having moderate consolidation in one lung only) antifebrin immediately produced marked improvement. The temperature became normal, the pulse was less rapid and stronger, the tongue cleared, the appetite improved notably, dyspeptic symptoms disappeared, "chest pains" and nervous sensations ceased to annoy, the secretion of the urine increased, and the patient acted and appeared greatly benefited.

The following outline will fairly illustrate the effect of the remedy upon the temperature, etc.; also the dose given in cases of the first class.

Case V. was a young lady, twenty years of age, who had had phthisical symptoms for eight months. At the time of coming under observation there was a moderate amount of consolidation at the apex of the right lung. The patient had been abroad in search of health for six months, but had returned unimproved. During the month which preceded the antifebrin treatment her prominent symptoms were daily fever, dyspepsia, and night-sweats. The girl was thin, anæmic, and each afternoon had a brilliant hectic flush, especially upon the right cheek. The day before the drug was commenced the record stood as follows: At 8 A.M., temperature 101¼°, pulse 104; 1 P.M., temperature 103°, pulse 122; 8 P.M., temperature 101¾°, pulse 110. A single dose of castor-oil was given. Then seven grains of antifebrin, four times a day, was prescribed. Each dose was taken in an ounce of champagne shortly after eating. This treatment was continued for two weeks, at the end of which time the patient was sent South. During these two weeks the girl's temperature remained below 100°, pulse below 90. The symptoms of indigestion subsided, appetite returned, and there was an increase of five pounds in bodily weight. This was more than had been gained during her whole European trip.

In cases of the second class, including those whose disease had advanced sufficiently to produce either extensive consolidation or spots of softening, antifebrin kept the temperature normal, slowed the pulse, improved digestion and appetite, and diminished restlessness and insomnia. In several of these cases free sweating was produced when this occurred; it was obviated by the addition of agaricin to the treatment. In two cases blueness of the lips and finger-nails was noticed. This was doubtless due to the antifebrin. The cyanosis was unaccompanied by any discomfort, both patients declaring that they felt "all right" at the time and afterward.

The following notes will give a correct idea of the doses given and the amount of relief obtained from the remedy in this second class of cases, also the symptoms which the drug did *not* influence favorably.

Case XVII. was a young man, aged twenty-three, who had been losing flesh and strength for five months. He had had severe cough and occasional small hemorrhages for three months before I saw him. At the time of coming under observation there was a point of softening in the upper part of the left lung. Hectic fever, night-sweats, loss of appetite, racking cough, and dyspnœa were the troublesome symptoms. The temperature was taken for a week, and found to reach 103° and over in the afternoons. Antifebrin was ordered—ten grains at 8 A.M. and at 4 P.M.—to be taken in a little whiskey and ginger-ale. An hour before bedtime a pill of agaricin (gr. ⅙) was given to prevent "sleep-sweating." The following is part of the temperature record:

December 14, A.M., 102¼°; P.M., 103¾°. Night-sweat. Antifebrin commenced.
December 15, A.M., 102½°; P.M., 102°. Night-sweat.
December 16, A.M., 100°; P.M., 98¾°. None.
December 17, A.M., 98½°; P.M., 98⅘°. None.
December 18, A.M., 98⅘°; P.M., 98⅗°. None.
December 19, A.M., 99°; P.M., 99⅕°. None.
December 20, A.M., 98½°; P.M., 98⅘. None.

The treatment was continued for three weeks. During that time the fever and sweating were entirely controlled. Appetite returned, but neither cough nor dyspnœa were modified, although the young man improved in flesh and strength.

The third class of cases in which antifebrin was tried consisted of patients in whom both lungs were extensively diseased, and from whose general condition it was only too evident that they were soon to journey to "that far country from whose bourne no traveller returns."

Even in such advanced cases the drug afforded much comfort by controlling the septic chills and fever, and quieting the restlessness. In no case did the remedy fail to check the distressing chills at once.

The following case will illustrate this point:

Case XXVIII. was a man, twenty-nine years of age, who had been ill with consumption for a year and a half. On admission to the hospital he had advanced diseases in both lungs, was bed-ridden and emaciated to an extreme degree. Each morning at about ten o'clock he had a chill sufficiently severe to shake the bed and cause his teeth to chatter most vigorously. Each chill was followed by fever and a drenching sweat. Anorexia, constant thirst, severe cough, dyspnœa, chest pains, attacks of syncope, and mild delirium added to his distressing condition.

Capsules containing ten grains of antifebrin and one-fifth of a grain of agaricin were ordered to be taken daily, at 9 A.M. and 9 P.M. A little aromatic spirits of ammonia was used as the accompanying stimulant. After the first day the chills never returned; the temperature remained below 100°, the sweating was less profuse, the mind became clear, and the extreme restlessness disappeared. The treatment was continued for two months, during which time it produced no unpleasant effects, and greatly modified the poor fellow's sufferings.

In regard to the doses used I believe mine were a little larger than are generally prescribed. From twenty to thirty grains were given in twenty-four hours. After the chills and fever had been controlled for a few days, the doses were reduced one-half, and continued for a variable time before entirely suspending treatment.

It was the rule in all cases to give some form of stimulant with each dose of antifebrin, in order to obviate any depression which might possibly be produced. It is very doubtful if this is necessary, however.

The drug is apparently an antiseptic. Lépine thinks that its action is due to aniline, which, being set free from the antifebrin, exerts its antiseptic power.

My experience with the drug in the treatment of consumption leads me to the following conclusions:

1. Antifebrin is the best drug with which to control the chill and fever of phthisis. With it we can at once check these depressing symptoms.
2. It does not produce the unpleasant effects of quinine, salicylic acid, antipyrine, thallin, or resorcin.
3. Chills, collapse, or semi-intoxication are not caused by it.
4. In many patients it induces sweating.
5. It diminishes the frequency of the pulse, and usually strengthens the heart's action.
6. Occasionally it produces cyanosis. This happened but twice in thirty cases.
7. It does not interfere with digestion; but, on the contrary, increases the appetite.
8. Even when the stomach is in an irritable condition it can be retained.
9. It increases the secretion of urine in the majority of instances.
10. It tends to quiet the nervous system, and produce a feeling of "well-being" in the patients.

71 West Fifty-fifth Street.

Buffalo Claims a Birth-rate of 31.5 per 1,000 in 1886; Rochester, which is very near, has a rate of 16.66 per 1,000. The Buffalo *Medical and Surgical Journal* says that there is some grave defect either in the vital statistics or in the fecundity of Rochester people.

A CASE OF PROGRESSIVE FACIAL HEMIATROPHY.[1]

By L. PUTZEL, M.D.,

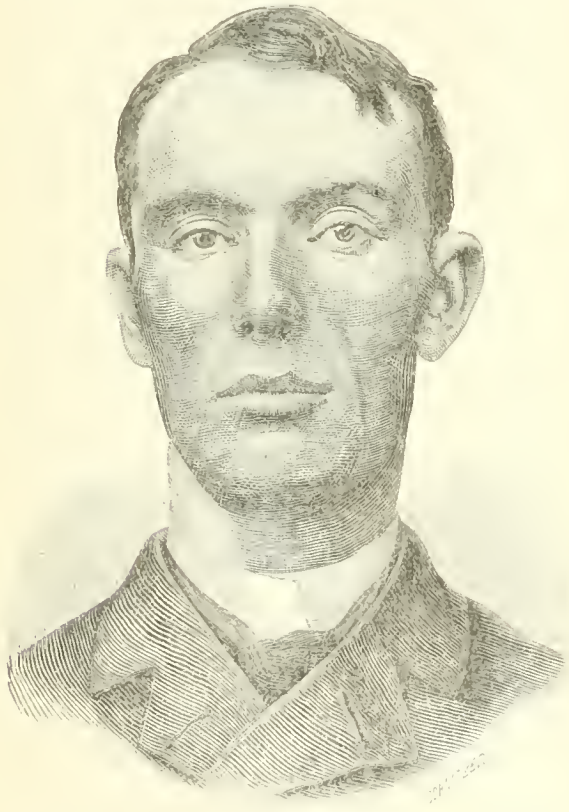
NEW YORK.

The following is the history of the patient who forms the subject of my paper this evening:

Francis F——, aged twenty-seven, was a farm-hand until a few months ago, parents living and healthy, had nine brothers and sisters (six died soon after birth), three living ones are healthy. Father has a nervous disposition; mother suffers from some sort of colic attacks (?) on getting excited; patient's uncles are quick and excitable.

Patient had measles at the age of ten, but otherwise always in good health. Very temperate as regards drink, absolutely continent in his sexual relations.

Five or six years ago he had catarrh of the left side of the nose, which he used to blow with extreme violence in order to dislodge clumps of inspissated mucus. The nasal catarrh has disappeared almost entirely. Five years ago he began to notice a slight depression just below the left eye, and this kept moving slowly downward. He is positive that it was unattended by discoloration of the skin.



Present condition—appearance of the face.—The left eyebrow is considerably higher at the middle of the arch than the right brow. The left eye is somewhat sunken, and looks and feels a little smaller than the right; the finger can be pressed into the left orbit more deeply than into the right. The upper part of the superior maxilla and the anterior processes of the malar bone are considerably depressed, the normal convexity of the right side in this locality being replaced by a concavity. The left nostril is a trifle higher than the right. In repose a deep furrow is observed to run along the left side of the face from the anterior part of the malar bone downward, and outward to about two inches from the chin. There appears to be a slight depression over the left temporal muscle. The integument of the left side of the face, particularly over the malar bone, is thinner than on the right side; folds of skin, when pinched up between the fingers, are decidedly thinner than on the opposite side, and cannot be removed so far from the underlying bones (atrophy of the subcutaneous tissue). On introducing the finger into the mouth, the left masseter is found to be slightly smaller than the right, and does not contract quite so vigorously.

The patient can move the facial muscles of both sides with unusual facility, but on the left side violent contraction of the muscles is attended with the production of three broad, thick transverse folds, running from the inner angle of the eye across the upper part of the nose; these are barely indicated on the right side. The electrical muscular reactions are equal on the two sides, but there is perhaps a slight diminution of the faradic excitability of the left lev. labii sup. alæque nasi.

Sensation is normal, but the patient has noticed a slight feeling of numbness in the depression for the last two years. He has never suffered from pain in the affected region. He states that the cutaneous secretions are alike on the two sides, and no difference is noticeable in the skin.

The tongue and buccal cavity are normal in all respects, and nothing is noticeable about the special senses. According to the patient, the atrophy has been progressing slowly since the inception of the malady.

Remarks.—Progressive facial hemiatrophy is a comparatively rare disease. Probably about seventy cases have been hitherto reported. My own case presents a peculiarity which is worthy of mention. Most of the reported cases began with spots of pigmentation on the affected skin; whitish, brownish, or yellowish patches, and changes in the hairs were observed in quite a considerable proportion. These are absent in my case. A certain number were associated with atrophy of the corresponding side of the palate and tongue. Absence of the sebaceous and sudoriparous secretions has also been noticed, and even oculo-pupillary symptoms have been mentioned. The power of blushing has sometimes been lost on the affected side. As a rule, the special senses have been normal, but in a few cases impairment of hearing and taste has been observed.

Wolff reports a unique case of bilateral progressive facial atrophy. In this case the atrophy developed on the two sides after a long interval. Wolff attributed the atrophy of the right side to scarlatina, followed by chronic tonsillitis, and which, in his opinion, gave rise to a chronic neuritis. The changes on the left side began after typhoid fever, and Wolff is also inclined to attribute these to an infectious neuritis.

Nicaise reports a case of median facial atrophy, affecting the median part of the forehead. It began at the age of twenty, in the third month of pregnancy. It began spontaneously, accompanied by violent headache. The skin was dry and thin, and applied directly to the bone, but not adherent; the hairs were scanty, and had turned white. The muscles were also atrophied.

Henschen reports a case which presents an interesting etiology. The patient, aged forty-six, at the age of fourteen sprained the left ankle. Six months later atrophy began in the left lower and upper limbs and the left side of the trunk, and later extended to the left side of the face. The patient was melancholic for a time at the age of nineteen, and had a relapse of melancholia two years ago, which has now disappeared. The atrophy affected the entire left side of the face (bones, etc.). The left side of the trunk was especially atrophied, first, from the fifth to seventh intercostal spaces; secondly, from the tenth to eleventh ribs; thirdly, at the crista ilii. The entire left arm was atrophic, also the left leg and thigh. Frequent fibrillary twitchings in atrophic muscles; two foci of ossification in the quadriceps femoris. Sensibility intact.

Virchow has also described a case which was complicated with atrophy in the distribution of the scapular cutaneous nerves, and the musculo-spinal nerve of the same side of the body.

[1] Read before the Section on Neurology of the New York Academy of Medicine, Friday, December 10, 1886.

Mendel reports a case in a monomaniac which was associated with hemiatrophy of the tongue and the corresponding side of the body.

In Axmann and Hueter's case the patient had suffered, since the age of seven, from irregular spastic contractions of the muscles of mastication on the left side (motor branch of the trigeminus). These spasms were associated with increased sensibility in the distribution of the first and second branches of the trigeminus.

Seeligmueller reports the case of a blacksmith who received a violent blow in the left supraclavicular fossa. In addition to the symptoms of irritation of the sympathetic (dilatation of the left pupil, exophthalmus, pallor, and diminished temperature on the injured side), the left cheek underwent such marked atrophy in the course of a week as to be noticed even by the patient. A somewhat similar case is reported by Brunner.

Pathology.—We have been unable to find any records of a post-mortem examination in this disease, so that opinions with regard to its pathology must be purely theoretical. The theory of its sympathetic origin has met with some favor, but utterly fails, in our opinion, to explain the phenomena of the disease in the large majority of cases. With few exceptions the vaso-motor symptoms are either entirely absent or very slightly marked. It is true that atrophy of the face has been observed, as, for example, in Seeligmueller's case, in a few instances associated with the classical symptoms of paralysis or irritation of the cervical sympathetic, and perhaps the atrophic changes stand in a certain causal relation to the vaso-motor disturbances ; but such cases should not be included under the head of progressive facial hemiatrophy. This condition is, then, merely an incident in the disease of the sympathetic.

A number of facts seem to us to point to the origin of the disease in trophic fibres of the trigeminus nerve, or in its nucleus of origin. Nicaise's case points very decidedly in this direction. In this instance the history is identical with that of trigeminal neuralgia. It is true that hemiatrophy is rarely associated with purely neuralgic symptoms, but, on the other hand, neuralgia is rarely associated with atrophic symptoms. When it is so complicated it is indicative of an implication of the trophic fibres of the nerve.

Axmann and Hueter's case is also important in this direction. In this case the disease began with evidences of irritation of the motor root of the trigeminus, complicated with an affection of the first and second branches of the nerve. The fact that the disease has often been observed after injury to the face also possesses a similar significance.

But whether the lesion is to be located in the peripheral branches of the nerve, the Gasserian ganglion, or its nucleus of origin, is beyond our knowledge. Virchow believes that in many cases a primary inflammatory affection of the throat or face travels along the nerve-fibres to the ganglion.

According to Lande, the hemiatrophy is the result of a primary atrophy of the subcutaneous cellular and fatty tissue, exclusive of the elastic fibres. He believes that the elastic fibres draw the skin forcibly against the subjacent bones, and by compressing the blood-vessels of the skin and periosteum in this manner, cause anæmia and discoloration of the integument, atrophy of the bones, and also of the sebaceous glands and hair-follicles.

The disease can hardly be mistaken for any other, except, perhaps, for congenital asymmetry of the face. This sometimes is very marked and produces considerable deformity, but the imperfect development is confined mainly to the bones, which it affects more uniformly than in progressive facial hemiatrophy, and in addition the asymmetry is noticeable from early infancy. Such cases are seen most frequently in idiotic children.

A New Japanese Pharmacopœia has recently been issued. It is published in Latin as well as Japanese.

THE RELATION BETWEEN DRINKING-WATER AND TYPHOID FEVER.[1]

By DOWLING BENJAMIN, M.D.,

CAMDEN, N. J.

Typhoid fever is caused by a peculiar and specific poison. I do not know that this is denied to-day by anyone competent, from careful study and thorough investigation, to give trustworthy information on this subject. Does it arise *de novo?* All the investigations that I have made have proved to my mind that the poison which produces typhoid fever cannot be generated spontaneously, but must come from another source. I am aware that there are some gentlemen who even now believe that it originates *de novo*, and they give the examples and cases which prove to their minds the truth of such belief. But the cases cited as proofs are generally defective, and do not exclude the possibility of infection from a preceding case. Take, for example, the four instances given by Dr. R. W. Hutchinson, of Queens County, N. Y., published as late as October 9, 1886, in the *Medical and Surgical Reporter.*

I will not occupy your time by criticising all these cases, but will select the fourth, which seems to be the strongest, as follows :

"IV. In the last part of August, 1885, a party of young folks, numbering some fifteen, started out to spend the day on the banks of a creek near East Rockaway. They carried no water with them, but relied on securing a supply from a sunken barrel, near the creek, that had been used for that purpose for a number of years. On this occasion it was noticed that the water smelled and tasted badly, so much so that some of the party refused to drink it. Exactly one week from the day of the picnic most of them who had drunk the water, some nine in number, were stricken down abruptly with typhoid fever. I regret very much that I did not have the opportunity of examining the barrel, with its contents, immediately after the picnic, as I am now left in doubt as to the cause of the decomposition in the water. Shortly after the outbreak of the fever some person, fearing that others might drink, pulled up the barrel and destroyed the well. But from a number of reasons I can positively say that there was no possibility of the water being contaminated with the fecal matter of a patient suffering from typhoid fever, which is the recognized way of communicating the disease ; and if the germs of the disease did not originate *de novo* in the well-water, I ask the question, Where did they come from ?"

You see he gives no reason why the well could not be contaminated with typhoid fever, though he says he has a number of them—yet he says he had no opportunity of examining the barrel, nor its contents ; but he *heard* some of the party say that the water tasted and smelled badly. Notice that in less than seven days most of the party of nine who drank of the water were suddenly stricken down. This fact, in itself, might occasion some doubt of the fever being a true typhoid, as the incubation-period of typhoid fever is usually longer, though there are instances on record which would have a tendency to show that typhoid fever may occur with a shorter incubation-period than two weeks. Two weeks, however, is about the usual time.

What a blessing it might have been if the doctor had only told us the precious little secret of how he knew that no one had been in that vicinity, that his fecal matter might have affected the well.

Then take the cases cited by the illustrious Morchison, who has done so much for the thermometry of typhoid fever, but who has, perhaps, led astray more students of the origin of the poison than any other man. None of his cases are, in my opinion, conclusive, and this opinion is sustained, also, by the opinion of Dr. J.

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[1] Read at the Twelfth Annual Meeting of the New Jersey Sanitary Association, Saturday, November 20, 1886.

H. Hutchinson, of Pennsylvania, who says, in an article on this subject, that the cases referred to are by no means convincing (see p. 256, "System of Medicine by American Authors," just published).

A case put forward by the advocates of the spontaneous-origin theory, as one of their strongest, is that reported by R. Bruce Lowe, Medical Officer of Health, Holmesley, Yorkshire, published in the *British Medical Journal* in 1880. "It occurred," he says, "in a lad who had not been away from home for months. No stranger had visited the house, and there was no fever in the district." But Mr. Lowe admits there was a case before, only eight months past, and only eight miles distant, and he does not prove there was no possibility of infection, either by domestic animals or by streams of water. It is a well-known fact that, when the great forests of *pine* are cut off the land in the northern part of the United States, there comes up a thick growth of *oak*-timber immediately succeeding; and the common opinion of people who notice this strange phenomenon is, that the little *oak-plants originate spontaneously* in the soil. I think you will hardly believe this correct; but the same agencies that sowed the original oak-seeds in the forest, it must be admitted, are fully competent to sow the seeds of typhoid fever in unexpected places occasionally. The man who starts out, in this present age of scientific research, to prove that typhoid fever originates *de novo* assumes a greater task than Hercules.

No combination, either of filth, fecal matter, or sewer-gas, has ever yet been discovered that will produce the disease.

What are the physical characteristics of the virus of typhoid fever? Is this virus a liquid, a solid, or a gas? Evidently it is matter of some kind. Inorganic matter may be either solid, liquid, or gas; organized matter is never liquid, never gas. We conclude it is not a gas for the following reasons:

First, the gas has not been isolated.

Second, it would be more apt to go through the air than otherwise, which is not the case with this virus.

Third, all known gases that affect the system profoundly, if they affect it at all, do so at once or in a few minutes after their reception into the system.

Can a dose of carbonic-acid gas, ammonia-gas, illuminating-gas, or any other poisonous gas, be taken and lie in the system for from two to six weeks, and then begin to develop a train of trouble, a uniform succession of symptoms, like typhoid fever, or small-pox, or any other of the zymotic diseases? Never. Is it a liquid, this virus? The same objections apply to this theory that apply to the theory of its being a gas. Is it composed of solid particles? If so, these particles must be of nearly the same specific gravity as water. There is no evidence to the contrary, at any rate, and these solid particles must be very small indeed, for water known to contain typhoid-fever poison is often apparently clear and bright. Filters do not seem capable of sieving out these particles, these poisonous particles, and this poisonous matter. At least water has been filtered through ten and even one hundred feet of sand and earth, coming out clear, but still bearing poison in sufficient quantities to produce fever and cause death. So far as is at present known the poison has not been filtered out of the water by any kind of filter. This would lead us to think it was really dissolved in the water, but for the fact that a system of very fine filtration has not been tried upon suspected water, and then the water given to persons to drink, to see if the disease would be produced by it. There is no case on record of any person ever having taken the disease from water that has been boiled, thus showing that, as far as known, the boiling-temperature destroys the poison.

The theory that the poison of typhoid is an organized poison, or germ, or bacillus, seems to explain its action more completely than any other. This phase of the subject was carefully discussed, and its progress given at length, by me in an essay written in 1876, and published in *The Country Practitioner*, vol. ii., Nos. 6 and 7. Whatever may be considered the nature of this virus, the fact *that water is its principal distributer is certain.* Indeed, a careful study of the cases and statistics that I have examined seems conclusive that at least ninety-five per cent. of the cases of typhoid fever come directly from the water. The poison which produces this disease does not go through the air. All physicians now permit people to go into the sick-room where this disease exists. Visitors, and those who wait on the patients, do not take the disease. The washer-woman has been known, in rare instances, to take the disease from the water containing the soiled linen, which has infected her hands and gotten into the mouth and absorbents. The infected wash-water is very often thrown on the ground near a well, or into the sewer, with the more poisonous dejecta. I have seen two cases that occurred among sailors who drank water from the Delaware River opposite the Philadelphia sewers.

There is one instance[1] where it has also been shown that cattle have been afflicted with this disease; but in tracing the disease still further back, it was found that the cattle caught the disease from drinking infected water, and thus the milk-supply has also been known to become affected. So the more we investigate the subject the more strikingly the fact stands out that water is the main habitat of the poison. Several facts show, also, that when water contains a little organic matter the virus will be active for at least a year, in still water, and very probably for a number of years, as some of the cases cited prove.

The ways in which a well, or a spring or stream, may become infected are so numerous and hard to trace that sometimes they defy detection. For instance, a man may leave the city, where typhoid prevails more or less at the time, and be either in the first stage of the disease in a slight form, or convalescing, or be a walking case, perhaps not even knowing what is the matter with himself, getting out of his carriage or a railroad-car, or takes his gun for a few hours' recreation, and, as it so often happens, is seized with a desire to evacuate the bowels, and this may take place in the vicinity of a spring or stream of water, whence will thus start up one or more cases of typhoid fever, and the manner in which that water became infected forever remain in doubt and a mystery. Even the persons living in that locality may not know of anything of the kind, or they may have known of the presence of such a person and may have forgotten it.

Recent investigations show the intimate relations of this disease to drinking-water to be so close and so constant that it is hardly ever worth while to think of any other source of the contagion.

One of the most remarkably clear examples of this relation of drinking-water to typhoid fever occurred last year at Plymouth, a small city in Luzerne County, Pa.; and for the invaluable lessons taught by this epidemic we owe much to the committee sent by the Mayor of Philadelphia to investigate the subject, and it is a plain and perfect explanation of the case. The explanation is as follows:

"The mountain-stream is a small one, running down over a rocky bed, and on a declivity not eighty feet from its bed a dwelling is situated, wherein, during January, February, and March, was located a case of typhoid fever that is only now convalescent, the worst period of the case being about the 30th of March. The attending nurse was in the habit, during each night, of carrying the excreta from the patient and depositing it on the ground toward the stream. The ground during all this time was frozen and covered with snow, until the thaw and rain already alluded to occurred. The poisonous character of the dejecta is not destroyed by freezing, but is only kept in a state of hibernation.

[1] Closten, Germany, 1878, Berlin. klin Wochenschrift.

"A great part of the three months' accumulation of dejecta was suddenly swept into the rapidly running stream, and reached the lower reservoir as quickly as a man walking fast could have arrived there.

"In fifteen days from this time the epidemic began, fifty cases occurring daily between the 10th and 20th of April. Up to the present, twelve hundred have been sick and one hundred have died out of a population of eight thousand. For the first three weeks the few people in the town who used well-water exclusively escaped the disease. The period of incubation varies between ten and twenty days, or longer, and therefore no other conclusion can be arrived at than that the infective poison existed in the mountain-water and originated from the one case of fever in the house on the side of the stream."

This entire and comprehensive report is on file in the Mayor's Office, Philadelphia, and is also published in the "Proceedings of the County Medical Society," May 13, 1885. The committee consisted of M. S. French, A.M., M.D., Surgeon of the Police Department of Philadelphia, and E. O. Shakespeare, A.M., M.D., Pathologist of the Philadelphia Hospital.

Last October a severe epidemic of typhoid was in progress in Imlaystown, N. J., about forty miles from Camden; and I went out there to investigate it, and was greatly assisted in so doing by the kindness of Dr. H. G. Norton.

I found that a brook about four feet wide runs through the village. A street runs parallel with the stream, about one hundred feet from it. A row of houses is situated between the brook and the street, and the back yards extend to the brook, about forty feet distant. Between the brook and the houses is situated a row of privies, and a row of wells for drinking-water. The privies are situated on the bank of the brook, so that the fecal matter from them has to run only a distance of three or four feet to get into the stream. The wells are between the stream and the dwelling-houses, and about thirty or forty feet from the brook. The somewhat impervious strata has a slight dip toward the well and underlies the locality. On measuring, it was found that the floor or bottom of the wells was not more than a few inches below the floor of the brook, and when the water was high in the brook it was also high in the wells, and that there was porous ground between the brook and the wells of the privies.

Beginning up the stream, and designating the houses, which are but a few feet apart—not over fifty feet—and numbering from 1 to 3, I will give you the following explanation:

In 1883 a family came to No. 1 suffering with "typhoid-malarial fever and diarrhœa." The children had fever and bowel-trouble, with diarrhœa, lasting for months, until the spring of 1885. On August 14, 1885, a young lady was taken with typhoid fever in this same house. On August 28th another young lady was taken with the disease in No. 2, the next house below—down the stream. August 27th, patient at No. 3 took the disease. September 12th another patient took the disease in No. 3. In September a relative of the family in No. 2 visited the town, drank the water, and died in a few weeks afterward of typhoid fever. September 30th a patient opposite to No. 2 took the disease. In the spring of 1886 the family had moved out of No. 2; the well had been kept closed, and had not been cleaned out. A new family moved into No. 2 in April or May, 1886. The boys drank the well-water, in spite of protests, and took the disease in June, 1886. One of the brothers died. The girls, who would not drink the water, escaped the disease.

An analysis of this water from the wells, by Professor H. B. Cornwall, of Princeton College, showed the water to be thoroughly contaminated with fecal matter. Evidently the virus had remained in one of these wells; a year had passed, and yet the winter had not been able to kill it.

The length of time that the virus will remain active has not been ascertained, but it is known to be years, in water that is not much disturbed.

I have cited these examples because they are so recent and so near at hand. Hundreds of instances might be cited, and the evidence piled up almost *ad libitum;* but, if further examples would not be superfluous in this paper, the time—twenty minutes—allotted to me would preclude my citing them here, and I might say now that much of the data upon which my remarks have been based is not included in this paper for the same reasons.

In the face of what is already known, I do not think that any student of sanitary science can deny that the poison of typhoid may be carried by the water-supply. I do not know that any do; *but the extent to which it is carried by water and the preventability of the same are the great points* that do not seem to be sufficiently appreciated by us, and scarcely appreciated at all by the people in general.

If the people can be made to understand that almost all the cases of typhoid fever come from the water-supply, and that there is no disease more easily prevented than this, we shall have accomplished the first great step toward the annihilation of one of the worst destroyers of mankind.

Look at the dreadful suffering caused in Philadelphia and Camden to-day by ignorance or indifference to these facts. Only a few days ago a noble wife and young mother died in our city of this dread disease, thus blighting the prospects of a happy family; and as I stood by her bedside I could but regret that another life had been needlessly sacrificed.

The city of Camden had deliberately connected the water-closets and sewers containing the poison with the water-supply, and then distributed it, thus laden with the deadly virus, to the inhabitants of this city, but a few hours after it had left the sewer. The husband of this lady is "as a lamb dumb before its shearers, it opens not its mouth;" so he paid his water-tax to the city, his wife drank the dearly bought "leprous distilment," and gives up her life as the result.

Is there no redress; is there no hope of escape for the people in these great cities? Must they continue to die by hundreds, as the death-returns show every year, at a greater cost and expense, indeed, than pure water could be procured for? Philadelphia also pours the poison into the cup, and then puts it to the lips of her most choice citizens, and kills off about seven hundred of them a year, according to the official report.

The disease cannot occur without the virus to produce it, and the virus can be kept out of the drinking-water, and it should be kept out at any cost. It would pay at *any* price. Every death that is preventable is needless, and is a reproach to the community. Dr. E. O. Shakespeare, an eminent investigator of contagious diseases, who has been sent abroad by the highest executive authority of the United States, to investigate the nature and causes of cholera, says, in the *New York Medical Journal*, January, 1885, that "epidemics of typhoid fever are absolutely preventable and controllable, and neglect to employ proper means to this end should be regarded as inexcusable."

Great reforms and revolutions have taken place within our own recollection; and the student of science dares to indulge the hope that, even during his short life, he may have the pleasure of seeing the death-rate from typhoid fever reduced more than ninety per cent.

ANTIPYRINE IN TETANUS.—Dr. A. A. Elliott, of Steubenville, O., suggests the employment of antipyrine in tetanus. His experience with it, he says, has been limited, but from its action in other conditions he believes that it should rank at the head of the list of relaxing remedies employed in tetanus.

LOCAL TREATMENT IN DIPHTHERIA.

REMARKS SUGGESTED BY THE DISCUSSION IN THE SECTION ON PRACTICE OF THE ACADEMY OF MEDICINE, MARCH 15TH.

BY C. E. BILLINGTON, M.D.,

NEW YORK.

THE conclusion of the important and valuable discussion which followed the reading of my paper on "Local Treatment in Diphtheria," before the Section on Practice of the Academy, on March 15th, was reached at so late an hour that I abstained from inflicting further remarks on an audience which had been both patient and kind. On reading over the report of that discussion, however, it seems to me to present an occasion for bringing out distinctly certain differences in the practical details of treatment which are worthy of the careful consideration of the profession, and this may now be done with more brevity and clearness than it could have been by me in extemporaneous speech.

First, as to the remarks of Dr. Jacobi. The fact that we agree so fully in general principles makes our differences in the mode of their application the more liable to be overlooked, although we have both been explicit in the statement of our methods.

As to the internal administration of the tincture of iron, we agree that this drug is "among the most reliable antiseptic and astringent agents." Dr. Jacobi says: "A child a year old must take at least four grammes daily; a child of three or four years, from eight to fifteen grammes. The chloride is to be mixed with water and glycerine in various proportions, so that a dose is taken every hour, every half-hour, every ten minutes. *Thus other local applications to the throat become mostly superfluous.*" (The italics are mine.) "Potassium or sodium chlorate, from one to four grammes daily, may be added with advantage."

A comparison of these remarks and the formulæ given by Dr. Jacobi, in his published works, with mine on this point will show that there are differences of detail to which my experience has, rightly or wrongly, taught me to attach no little importance. But the most notable difference is in the sentence which I have italicized. I have from the first of my publications insisted on the importance of also frequently spraying the throat with the mixture of carbolic acid and lime-water in all cases of any gravity in which it can possibly be done, and have considered this so valuable as to materially modify the prognosis, it being, unfortunately, impracticable in very young children, in whose cases I have recommended the occasional syringing of the throat, when indicated, for cleansing purposes.

Dr. Jacobi says: "The usefulness of lime-water . . . has been greatly over-estimated." Believing, as I do, that lime-water is one of the most valuable medicinal agents in our possession for combating diphtheria, I cannot, of course, regard this difference as otherwise than important.

Again, while there is complete concurrence between us as to the importance of nasal syringing, there is an equally marked difference between our methods in this procedure. Dr. Jacobi says, "The tendency to sepsis forbids a long intermission of them." "I again insist on their frequent repetition." (In his book, page 218, Dr. Jacobi says, "They must be made at least every hour.") "The whole procedure need not take more than half a minute for the two nostrils; the children may be raised in bed, a towel under their chins. One person holds the hands, the other sits behind and injects gently, in order not to injure the ears."

The salient points of the procedure as recommended by me may be recapitulated as follows: The patient, if too young to submit voluntarily to the operation, should be firmly held by a method described. The syringing should, if possible, always be performed by the physician himself. It should be continued on each occasion until, if it be possible, the passages are thoroughly cleansed. This should not usually be repeated oftener than two or three times in the twenty-four hours, for reasons stated. The first syringeful or two will often not go through at all. Then will come masses and strings of thick muco-pus, then, not infrequently, larger or smaller pieces of membrane. The syringing should be persevered with until the injected fluid comes through (by the throat and other nostril) clear and clean. The patient should have time to get his breath between the successive syringefuls. I commonly use half a pint, sometimes more, of the tepid salt-water, and the time required for a thorough cleansing is always several minutes.

By this method the physician, who should certainly in every grave case of diphtheria visit his patient, if possible, two or three times a day, and who is or should be an expert in such procedures and better able than anyone else to judge just how much or how little is requisite, performs it once for all—the patients during the intervals having a complete respite from the one measure in the whole treatment which is really unpleasant and fatiguing, and the nurse having quite enough left to her in the half-hourly giving of medicine and spraying, and the frequent giving of nourishment. By the other method a less thorough and complete cleansing (in "half a minute") is to be accomplished "every hour at least," and that, too, often by nurses who lack dexterity and judgment, and in many cases being possible only by force and with a renewed struggle. What more striking illustration of the danger of intrusting such delicate operations to average parents and nurses could possibly be imagined than the instances so graphically related by Dr. Jacobi of the performances of some "trained nurses?"

It must be admitted that, theoretically, the frequency required in the method described by Dr. Jacobi is apparently in more logical agreement with the principles of local treatment, which require frequent medication and spraying of the throat, but it should be remembered that this medication and spraying do not, or should not, cause local irritation or undue fatigue, either of which would be a contra-indication to them. Moreover, it may be added that two or three times a day is the limit of frequency beyond which the washing-out of an empyemic cavity or a septic uterus is not usually found useful, and while the analogy between the two is not perfect it may yet be sufficient to be suggestive. But the real question is, which of the two methods is the more efficient in accomplishing the object for which it is employed?—and this can, of course, be answered only by experience. My own experience I have stated, but my present object is far from dogmatic assertion, and still further from controversy, but is to place both methods clearly and fairly before the profession, so that each may be tested on its merits and neither suffer discredit from any faults or failures of the other. Dr. Jacobi, who agrees with me as to the importance of details in the treatment of diphtheria, will, I am certain, concur with me in this wish.

The device mentioned by Dr. Jacobi, of protecting the tip of the syringe with a rubber mounting, is an excellent one, and so is that of drawing a short bit of small soft-rubber tubing over the tip of a syringe, which was first mentioned by Dr. J. H. Douglas in the discussion of my paper in 1880, and again referred to by Dr. Delavan in this discussion; but any tip whatever may cause irritation and epistaxis in awkward hands, and even in expert ones, if the sudden movements of a young patient's head are not properly restrained.

The importance of the method which I have described, of holding a young child's head for nasal syringing, may be better enforced by a single illustrative case than by a great deal of argument. I was recently called in daily consultation in a case of nasal diphtheria by a physician whose compact and muscular frame leaves no room to doubt that he is one of the strongest men in the profession in this city. The patient was a babe four months old. On the

second day it was decided to syringe the nose, the syringing to be done by me. The babe was accordingly seated across its nurse's lap, its hands secured by her, and the basin in place. To show the doctor my way of holding a child's head, I stood behind it, and, leaning forward, placed my breast against it, holding it with a hand on each side, saying, "You see in that way the head is held as firmly as in a vise." The doctor then took his place behind the patient, and, standing erect, held the head between his hands, and with the smile of conscious strength said, "That head is in a vise." I accordingly placed the syringe in position for injection, not actually touching the mucous membrane, but at the first entrance of the fluid into the nostril the babe made a sudden downward movement of its head, in spite of the doctor's hands, sufficient to cause, from contact with the smooth tip of the syringe, a very slight hemorrhage. After that this exceptionally strong doctor, in holding that four-months-old baby, did not scorn to bend forward and place himself in the position which experience long ago taught me is necessary for really holding a child's head motionless.

Dr. Winters very truly stated that tact is of great importance in such procedures as nasal syringing; but the kind of tact which is most valuable is that which thoroughly accomplishes necessary objects with the least wear and tear to the patient.

The treatment of nasal diphtheria by means of any medicament applied by a medicine-dropper, as recommended by Dr. J. Lewis Smith, I cannot but regard as an error in the direction of dangerous inefficiency. The object of local treatment in diphtheria was well summed up by Dr. Loomis in the words, "cleanliness and disinfection," and these in this relation, as elsewhere, are usually attainable only by thorough, well-directed measures.

That spraying is a valuable method of cleansing and medicating the nasal passages in the treatment of catarrh is well known, and that it may sometimes be so in that of diphtheria in such expert hands as those of Drs. Bosworth and Delavan cannot be doubted; but the question remains, Can any method of cleansing them be in general at once as thorough and as unirritating and as well adapted to cause dilution and removal of poison and transudative interchange through diphtheritic membrane *in situ* as the flowing through them of a stream of antiseptic fluid from a syringe or douche? That these objects cannot commonly be effected with the ordinary throat-atomizer I am positive, as I have seen too many melancholy instances of fatal toxæmia from nasal diphtheria, the result of valuable time having been lost in relying on this inefficient substitute for syringing. It may be added that by no atomizer whatever can spray be made to enter one nostril and come out of the other as spray.

Finally, on the very interesting case related by Dr. William H. Thomson, which is typical of an important class, I will make the following remarks: Can Dr. Thomson assert that at the time of the first chill there was not the commencement of a local diphtheritic process in the posterior nares—or, possibly, in the trachea? It will, of course, be replied that there was no evidence of that condition. It is astonishing how little evidence is sometimes manifested of the presence of considerable amounts of diphtheritic membrane in concealed situations. I have seen quite a number of cases in which there was no evidence of it anywhere, except constitutional symptoms, in which I have, by syringing, washed pieces of membrane from the posterior nares several times in the presence of other physicians. In another case of an adult patient who had previously been frequently subject to grave catarrhal and bronchial attacks, another attack of a week's duration, similar in all its physical signs to the previous ones, under most competent and vigilant medical attendance, terminated fatally—no nasal obstruction, no croupy symptoms of respiration or voice, no visible membrane anywhere. There had been exposure to diphtheritic contagion two weeks before the attack. There were symptoms of toxæmia. The autopsy showed the trachea and bronchial tubes completely lined with diphtheritic membrane; none in the larynx; the posterior nares not examined.

I have no disposition to be "wise above what is written," and am far from asserting that there is never a case of "primarily constitutional" diphtheria; but, according to my experience, the more thoroughly such apparent cases of diphtheria without a *diphthera* are investigated, the fewer do they become.

THREE CASES OF ACETONÆMIA.

By WILLIAM S. CHEESMAN, M.D.,

AUBURN, N. Y.

Coma is one of the commonest modes of death in diabetes yet perhaps of no subject is our knowledge more imperfect. Not, however, from lack of investigators and theories. To unravel the mystery of this sudden and tragic *dénouement* many acute minds have been engaged, and many hypotheses framed. Changes in the nerve-centres, thickening of the blood from accumulation of sugar, uræmia, hyaline degeneration of the kidneys due to accumulation of glycogen in their epithelia, fatty embolism of the pulmonary vessels and consequent carbonic-acid poisoning, overloading of the blood with acids generated by too exclusive meat diet, thus impairing its ability to take up the carbonic dioxide produced in the tissues, and leading to self-suffocation, have been proposed and rejected. The theory which, though opinions are as yet by no means consentient, receives most credence, refers the symptoms to an auto-intoxication. As long ago as 1857 Bettyns called attention to the fruity odor of the urine and breath of comatose diabetics, an odor closely resembling that of pyro-acetic ether, or acetone. Kussmaul detected in such urine an ingredient yielding acetone under treatment with reagents. It was believed by him that acetone existed as such in the blood, exhaling in the breath and being excreted in the urine, and the condition was termed acetonæmia. But it is now supposed that some acetone-producing substance, probably aceto-acetic acid, is developed by fermentative changes of the saccharine matter in the blood in quantities sufficient to overwhelm consciousness and finally life itself.

Many researches have been made to test this theory, with results far from harmonious. Van Jacksch has shown that diacetic acid is present in the urine of patients suffering from the continued fevers, cancer of the stomach, pernicious anæmia, hydrophobia, and in small amounts even in health. Frerichs has given it to animals, by intravenous injection of doses as high as twenty grains, without effect. Hence many doubt the causal connection between saccharine decomposition and acetonæmia on the one hand, and between acetonæmia and diabetic coma on the other. Nevertheless a majority of recent writers favor the acetonæmic theory as covering most facts. And certainly it is difficult to refrain from connecting this sudden assemblage of nervous symptoms with the coincident appearance in the urine of a substance very unusual, to say the least, and in the experience of many observers peculiar to such cases.

I have encountered three cases of acetonæmia, so called. The first was that of a lady, a little past middle age, whom I saw on November 4, 1883, with Dr. Amanda Hickey, of Auburn. A year or more previously Dr. Hickey had discovered the existence of glycosuria. Under strict diet the daily amount of urine had diminished, but the patient had passed from under observation until the doctor was called to visit her on the date above given. We found her profoundly comatose; temperature normal; pulse, 130, and very weak; respiration, 30, and here and there over the chest the râles of pulmonary œdema. The family stated that two days pre-

viously the patient had visited Syracuse, and after her return had seemed better than for some time, but that on the morning of the day of our visit she had, without headache, nausea, or other prodroma, become rapidly drowsy, stupid, and comatose. Inquiry as to her previous health elicited the very curious circumstance that she had been under the medical direction of the family clergyman, who, trusting to homœopathic manuals and a urinometer, had concluded that a specific gravity of 1.022 ruled out sugar, and had given a rosy prognosis in connection with phosphoric acid. Nevertheless a specimen obtained by the catheter contained, not only sugar in very considerable amount, but albumen also, while with chloride of iron the rich Burgundy red supposed to indicate the presence of aceto-acetic acid was obtained, and later in the day casts were discovered by the microscope. The patient died that same evening.

The second case was that of a boy, aged ten, whom I first saw, November 20, 1883. He had had measles a month before, since which he had rapidly run down, with the symptoms of diabetes mellitus. The daily amount of urine was one gallon, and contained sugar in large quantity. The gums were ulcerated, teeth covered with sordes, and he was greatly emaciated and confined to the bed. A non-saccharine diet combined with tonics worked rapid improvement. The daily amount of urine fell to two quarts, strength and flesh returned, and in two weeks the lad was up and about. But he was a spoiled and self-willed creature, and extorted cookies and other sweets from his silly mother on the sly, so that sugar never entirely disappeared from the urine. In April, 1884, I was sent for again. He was in bed, quite rational, but with a temperature of 101°, and suffering somewhat from dyspnœa, though nothing abnormal could be found in the chest. He was then passing six quarts of urine a day, with a specific gravity of 1.012, and containing sugar, albumen, and casts. With chloride of iron the wine-colored acetone reaction was struck, and I ventured to predict the near approach of coma. On the 19th the prediction was verified, and on the 20th he died.

It is true that in both of these cases a nephritis had been set up by the long-continued passage of sugar; yet in neither case did the coma seem uræmic. No anasarca, headache, vomiting, amaurosis, or convulsions preceded. It came abruptly, unannounced, and when the patients were apparently in good health. Moreover, the chloride of iron revealed the presence of a urinary ingredient not found in ordinary uræmia.

In the middle of February last a gentleman aged fifty-seven applied for relief from a gangrenous ulcer of the left leg. This was poulticed till the slough separated, when iodoform was used. The ulcer healed very slowly, and I was puzzled to account for its continued unhealthy appearance. On March 4th the patient called, complaining of shortness of breath and a feeling of oppression in the præcordium. Examination of the chest revealed nothing to explain this, and as he never had had asthma, I felt inclined to listen to his own interpretation of the matter, viz., indigestion. But on the 7th I was sent for to visit him. The same oppression of breathing continued. He had been awakened several times in the night with præcordial distress. As he walked up and down the room he breathed much more deeply, though no more frequently, than natural, and would strike his sternum and exclaim, "I'm all right every way but here; the trouble is right here." I examined heart and lungs again, finding nothing wrong. His wife, on being questioned, stated that he had lost weight recently. Then a suspicion flashed upon me, and I asked for a specimen of urine. Its specific gravity was 1.030; it contained neither albumen nor casts, but sugar; and with the chloride of iron the Burgundy red of acetonuria was produced.

Though knowing that in some reported cases coma had been precipitated by sudden withdrawal of starchy foods, I thought that, as acetonæmia had already developed, nothing worse could well happen, and so put the patient on broths and milk, and sent him to bed, a cathartic and diaphoretics being at once administered.

During the twelve ensuing days his condition grew gradually worse. The oppression in the chest continued. The respiration, though usually not above 22, was at altimes deep and labored, and he suffered occasional parl oxysms of dyspnœa, closely resembling those of spasmodic asthma. These occurred oftenest at night, awaking and compelling him to lean forward, grasp the chair-arms, and labor for air. At such times the ear could rarely detect a few râles in his chest, never the wheezing and whistling of true asthma, and commonly nothing whatsoever. The temperature remained normal throughout. The pulse ran at about 120, and from the first was noticeably feeble, though regular. On auscultating the heart no abnormal sounds were heard, and no history of preceding heart-lesion, or of any disease likely to cause it, was obtainable. By the end of the first week œdema of the feet and ankles began. Never were there any head symptoms. The patient was drowsy at times, but only from losing sleep. Nothing approaching somnolency or stupor was observed. The stomach did its work well, vomiting occurring but on one day, when it was due to quebracho. The patient had one bloody stool; at other times the movements were regular and natural. Treatment was directed to meet the symptoms. The dyspnœa was best relieved by morphine, in combination with spts. æth. comp. Inhalations of oxygen, amyl. nit., fumes of nitre, smoking stramonium, quebracho, etc., were finally abandoned for this. Stimulants were freely employed. Meanwhile the urine continued, in spite of change of diet, to contain sugar in large amount. Its daily quantity averaged two quarts, the specific gravity ranging from 1.020 to 1.032. No albumen or casts were ever found. During the first three days its odor resembled that of amyl nitrite. The acetone reactions with ferric chloride, sulphuric acid, potassic cyanide, and caustic potash, gradually grew fainter, however, and the fruity odor of breath and urine coincidently disappeared. On March 18th I observed some subsultus. He was seen that day by Dr. Theodore Dimon, who confirmed the diagnosis. The next morning (the 19th), after an unusually comfortable night, and after having expressed himself as feeling better than at any time, the patient suddenly fell back in his chair dead. A specimen of urine, voided shortly before, contained sugar and acetone well marked again. No post-mortem was made.

This case affords further confirmation of the prognostic value of the acetone tests. Though instances are recorded of recovery out of even coma itself, yet these are too rare to alleviate the extreme gravity of the outlook when once the urine turns red with ferric chloride.

The Prevention of Mammary Abscess by Antisepsis.—Regarding this subject, alluded to in an article by Dr. E. Brush (The Medical Record, March 26, 1887), Dr. A. Rose, of this city, says: "It might be more instructive to speak of the principle of treatment than to mention only one certain remedy, while many others of the same class have absolutely the same effect. It is a well-established fact that mammary abscesses are caused by infection entering through cracks or sores of the nipples. Any measure which protects the nipples, that they may not crack or become sore, and, above all, which secure their *aseptic* condition previous to and during lactation, will surely and always prevent mammary abscess. Dr. Brush's treatment is simply antiseptic."

Treatment of Painful Hæmorrhoids.—Dr. Thomas H. Kinnard (*Pacific Med. and Surg. Journ.*) has treated twenty cases of painful hæmorrhoids successfully by anointing them with extract of garlic, one part; olive-oil, two parts. If they are internal, he injects a drachm of the mixture into the rectum.

Clinical Department.

FRACTURE OF THE INTERNAL EPICONDYLE TREATED WITHOUT SPLINTS.

Dr. G. T. Loomis, of Minneapolis, Minn., reports the following case: "H. D——, aged nine, was thrown forcibly upon the ice, striking his elbow, and was brought immediately to my office. He was suffering severe pain about the internal condyle, which was increased by any attempt at extension, although the latter could easily be done. The arm was semiflexed, the point of the condyle being displaced downward one-half inch, and could be moved easily in any direction. I flexed the arm and reduced the displacement easily, and applied a bandage firmly, the arm being held in a sling. No pain and little swelling next day. The dressing was left in position one week, and the arm could then be extended about one-half. The bone remained in position. Passive motion was made nearly every day for four weeks, the arm swinging at the side without bandage. At the present time, two months after the accident, the boy can extend and flex the arm nearly as well as ever."

MARGINAL PLACENTA PRÆVIA RELIEVED SPONTANEOUSLY.

Dr. Daniel Brown, of this city, writes that he was called about two o'clock one morning to attend a woman in confinement. The woman lived in Thirty-sixth Street, and much time had been lost, as the messenger had gone first to Broome Street to call the family physician, Dr. Agan. The latter was occupied with another case, and referred the husband to Dr. Brown. When he reached the bedside he found the patient sitting on the edge of the bed—she had refused to lie down during the previous time—her night-dress, the floor, and part of the bed were pretty well saturated with blood. As soon as possible the unpleasant task of finding out the depth of his difficulties and responsibilities was entered upon, and to his great relief he found that though the pains were very sluggish at this time the head was firmly engaged at the superior strait, and only a slight oozing of blood continued. In fact, all danger was over, and all he had to do was to attend a tedious delivery, which was accomplished before daylight. Dr. Agan since reports both mother and child doing well. After the placenta was delivered it plainly showed the extent of the part presenting—the bruised and clotted appearance in the form of a crescent-shaped border, about three-fourths of an inch in its widest diameter. Dr. Brown asks whether a spontaneous cure of this troublesome and dangerous complication is often met with.

THE TREATMENT OF NEPHRO-LITHIASIS.

Dr. J. B. Potsdamer, of Philadelphia, submits the following: "The objects to be attained in the treatment of this disease are: 1, To remove the already formed concretions; and 2, to prevent their further formation. The latter object is, to a great extent, accomplished by a proper regulation of the diet. The researches of Lehmann, Heinrich, and others, prove that there is an increased excretion of uric acid when the amount of animal food consumed is augmented; that is to say, an almost exclusive flesh diet promotes the formation of renal sand. As other articles of food cause an increased excretion of uric acid, general moderation in eating must be observed, the patient confining himself to white meats and substances easy of digestion. Vigorous individuals accustomed to high living should take active exercise, and liquors and highly seasoned foods must be forbidden. The best solvents for sand and gravel which are composed of uric acid, urates of ammonia, and oxalate of lime, are the alkalies and alkaline salts. The sulphates are of inestimable value in this connection, especially the waters containing Glauber's salt. The phosphates have also been strongly recommended. Waters containing the carbonates and free carbonic acid are of value, especially when in combination with the other salts. The free use of plain water will aid the removal of calculi; but unless intelligently administered, the use of the alkalies will prove injurious. They must not be given in such quantities as to give the urine an alkaline reaction. If this should occur, the urates and uric acid will be held in solution, but there will be a precipitation of the earthy phosphates. The following salts are the most beneficial, in the order named: Sulphate of sodium, carbonate of sodium, and the phosphates; particularly the soda salt. Any natural mineral water that will combine all or almost all of the above should, at least theoretically, be the best remedy for this disease.

The Carlsbad waters are rich in those very salts which have been found to be the best remedial agents in nephro-lithiasis, and experience has taught that the administration of the alkaline waters is superior to taking water and the alkalies separately, and that the best results have been obtained from the Carlsbad waters.

In Ebstein's article on the treatment of nephro-lithiasis, in Ziemssen's "Cyclopædia of the Practice of Medicine," vol. xv., the author speaks in the highest terms of these waters. They should be taken hot. The patient should begin by taking four gobletfuls a day. This may be increased up to the point when the urine shows a tendency to become alkaline, but not beyond this point; for, as was stated above, the production of alkaline urine must be avoided.

THE EARLY TREATMENT OF PRESSURE-PARALYSIS OF THE RADIAL NERVE.

Dr. William Browning, of Brooklyn, sends the following communication: "Among the causes of radial paralysis, temporary compression of the musculo-spiral nerve occurs with varying frequency. The idea of many observers, that wrist-drop is almost synonymous with lead-poisoning, is not borne out by the very different experience of others. In the three years from 1884 to 1886 sixteen cases of wrist-drop due to pressure—all in males and of the unilateral form—applied for treatment at the Long Island College Dispensary, as against only eight cases due to plumbism—two in females and all but two bilateral. In two of these sixteen cases the etiology was not quite certain, nor, of course, has it been possible to follow up all of them. Compression by growths, cicatrices, etc., and gross injury, such as crushing the nerve, constitute severer affections. The prognosis, as given by most writers, is not favorable to an early recovery, several months usually elapsing, though a small proportion of cases recover in a short time. As recently stated by Vulpian and Déjerine, degeneration, with its attendant electrical reactions, does not usually follow, except in the long supinator muscle. Such absence of other than functional change indicates that the lesion in this class of cases is of a slight nature, and ought to be easily remediable. In my experience this is also the case, provided treatment is instituted within the first few days. If much over a week has elapsed, the trouble is inclined to become more obstinate. There is one symptom bearing directly on treatment which does not seem to have been specially observed, and to which it is desired to call particular attention. If in such a case the course of the musculo-spiral nerve around the back of the arm be closely examined early in the trouble, a tender joint can generally, if not always, be discovered. This corresponds, approximately at least, to the seat of injury, and must represent a slight inflammation in or about the nerve. The later obstinacy of the paralysis, when left undisturbed, is doubtless owing to this very

limited process. No autopsy in such a trouble has been reported, and hence the exact nature of the lesion is unknown. Déjerine and Vulpian were unsuccessful in their attempts at producing a like paralysis in dogs. The first step in the early treatment, then, ought to be directed to this tender point. Strong counter-irritation, or local derivation in the shape of a fly-blister immediately over the tender spot, has, in my experience, proved adequate. Next, the forearm may be douched, alternately hot and cold, and well shampooed. Finally, a strong faradic current is applied. Some numbness is usually complained of along the radial side of the dorsum of the hand and forearm. This region is first touched with the faradic brush. Then with ordinary electrodes a current is used of sufficient strength to cause ample contractions in the muscles. Voluntary control over the paralyzed parts is seen to gradually and completely return, a couple of applications of the current at an interval of as many days being all that is required if a cure is to be effected in this way. Where it has been possible to carry out this plan there has been no failure. Otherwise success is uncertain, as *e.g.*, in one patient where sixteen days had elapsed. No tender spot along the nerve could be made out, and the remaining treatment proved of little immediate avail. Perhaps if treatment in the later stages of the trouble were directed to the point of injury, more success would be achieved. The nerve below reacts electrically, though above it neither responds to the will nor to the current; hence the point of injury can be determined even after the tenderness above described has passed away. The same general method would be applicable to like trouble in any other nerve."

Progress of Medical Science.

The Relative Digestibility of the Chief Albuminoids. — Dr. James Fraser has made a series of experiments (*The Lancet*) to determine the digestibility of various proteids. The substances experimented upon were: Raw albumen, serum and egg; cooked albumen, also serum and egg; globulins, raw and cooked; myosin; derived albumen, viz., syntonin, alkali-albumen, casein; vegetable albumen, impure gluten. Each of these was subjected to six hours' peptic digestion, then for six hours to pancreatic digestion; at the end of this time they were placed in a temperature of 176° F., and dialysis was allowed to proceed for twenty-four hours. The author gives the result of his researches in a tabulated form, and estimates the amount of peptones dialyzed as nitrogen. The most digestible albuminoid was found to be cooked myosin; then came raw serum-albumen, after which the order was as follows: syntonin, alkali-albumen, raw-egg albumen, casein, cooked-egg albumen, cooked serum-albumen, raw myosin, and gluten. It might have been expected that syntonin would have headed the list, as it is partly digested beforehand, yet it was not far from being ahead of the others. These results apply to the albuminoids after they had gone through the processes of peptic and pancreatic digestion, as well as dialysis. Each albuminoid substance was reduced to a dry solid state, and, on taking the percentage relation between the amounts dialyzed and the amount of albuminoid actually used, it was found that in no case did fifty per cent. of the dry solids pass through the dialyzer, this depending rather on the short period of dialysis than on imperfect peptonization. On examining the tables showing the amounts of nitrogen dialyzed in each stage of the experiment, it is seen that in no case did two per cent. pass through the dialyzer during peptic digestion; the uncooked albumens gave the highest peptic results, and syntonin next. Turning to tryptic digestion, cooked myosin heads the list, then the order is as follows: raw serum-albumen, raw-egg albumen, syntonin, cooked serum-albumen, raw myosin, casein, gluten, and cooked-egg albumen last; this experiment being conducted in an alkaline menstruum, those substances which are most easily soluble in an alkaline solution have naturally an advantage in digestion; hence the high position of raw albumens and of syntonin. During the two stages of peptic and pancreatic digestion, peptones were formed more rapidly than they could pass away through the parchment paper, and accumulated in the dialyzers, so that when the ferment was killed by heating to 176° F., and dialysis was continued for twenty-four hours, a larger proportion of crystalloid matter passed through than in the former stages; these peptones were both of peptic and tryptic formations, as in the case of those under the head of pancreatic digestion. The largest proportionate result was found in the case of cooked myosin, which was not far ahead of raw serum-albumen; then came cooked-egg albumen, alkali-albumen, casein, cooked serum-albumen, raw-egg albumen, raw myosin, and lastly gluten. Many of these albuminoid sare not ordinarily used as foods; for instance, serum-albumen, raw myosin, syntonin, alkali-albumen, though they are the most digestible of the albuminoids. By utilizing the results of these experiments much valuable aid can be given to those who require good nutritious diet for invalids unable to digest solid food. Beef-tea, as ordinarily prepared, is of little nutritive value; but if the white of an egg be mixed with a cup of beef tea and heated to about 160° F., the value of the beef-tea is greatly enhanced. Again, if minced raw beef be just covered with very weak hydrochloric acid (four drops of acid to one pint of water) and left to macerate for the night, the liquid strained off and squeezed out of the flesh by wringing in a cloth contains so much syntonin as to make it highly nutritious when neutralized; such a liquid will remain clear after boiling to remove the raw flavor. In cases where the digestive powers are not in abeyance, one may give by mouth or by enemata one or more of the various forms of peptonized foods or fluids that are now in the market. In cases where the digestive powers are lost in the stomach, but retained in the intestine, or where some obstruction to the passage of food into the stomach exists, the above experiments will give much help in treatment. The experiments with casein and gluten show that there are very few worse foods for a delicate stomach than the usual bread and milk; whey is a mildly nutritive fluid, and easily digested. In cases where it is desired to feed the patient through the intestine, those substances found soluble in alkaline fluids, and therefore easily acted on by the pancreatic juice—viz., raw albumen, syntonin, or alkali-albumen—may be used alone or dissolved in some meat-tea.

Valvular Disease of the Heart without Serious Symptoms.—Sir Andrew Clark has published recently some remarks concerning cases of valvular disease of the heart, known to have existed for over five years without causing serious symptoms. He sums up his conclusions as follows (*The British Medical Journal*, February 19, 1887): 1. There are many persons with long-standing valvular disease of the heart, engaged in the active business of live, who without any symptom of heart-disorder have enjoyed good health, and have reached an advanced age. 2. The mitral regurgitant murmurs so often encountered in chorea, for the most part, disappear within eight or nine years of the attack. 3. Valvular inflammations, and their effects arising in the course of rheumatic fever, do sometimes disappear, and leave behind no clinical evidence of their former existence; this occurring for the most part in the young, also occurs sometimes in the middle-aged. 4. The signs of valvular defects arising out of the degenerative changes of middle life do also, on rare occasions, disappear, and when circulatory and respiratory disturbances accompany their commencement they sometimes subside and permit of apparently complete readjustment. 5. As there must be in the histories, habits, occupations, and surroundings of patients

with valvular disease conditions which in one case bring about secondary disorders, and in another case exempt it from them, it is desirable that the respective *differentiæ* should be discovered, and made capable of application to practice. 6. Any systematic and critical study of this subject likely to lead to practical issues could be undertaken by the Collective Investigation Committee, and not by it unless actively assisted by experienced general practitioners who possess, in a special manner, the knowledge necessary to the end in view. 7. A joint inquiry of the kind proposed, conducted with due patience, discrimination, and accuracy, would greatly extend our knowledge of the natural history of diseases of the heart, and largely increase our means of assisting those who suffer from them.

Intra-peritoneal Hemorrhage in a Newly-born Infant.—In connection with the subject of hemorrhages of the newly born, so recently brought to our notice by Dr. E. C. Wendt (The Medical Record, February 19, 1887), the following case, reported at a late meeting of the London Medical Society (*The Lancet*), will be read with interest. The case was observed by Dr. Keser. The child was born at full term on April 29th, and the labor was normal. The infant was in a state of apparent asphyxia, but respiration was easily established. There was slight subconjunctival hemorrhage on the right side. On May 1st swelling of the scrotum was observed, and the penis was edematous. On May 4th the scrotum was much more swollen. The temperature in the rectum was 98°. The abdomen became swollen and the lips were pale. The cord separated on that day without hemorrhage. The child died on the ninth day. There was an ecchymosis in the middle of the back. Melæna or hæmatemesis was not observed. The spleen was enlarged; the upper half was swollen and congested and very dark from hemorrhage, which seemed to have come from a lesion that looked like an infarct. The peritoneal cavity was full of dark, fluid blood, the amount escaping being about eight ounces. The splenic artery appeared to be normal, as well as the other branches of the aorta. There was no hemorrhage or infarcts in any other organs. The mother had had eight pregnancies. The first child died at the age of eighteen days, but the cause of death was unknown. After this child five still-births occurred. The seventh child was born at full term, was nursed by the mother, and remained well until the end of the fourth week, when epistaxis set in, followed by hæmatemesis and melæna; large ecchymoses appeared on the trunk and limbs, and death ensued after a week's illness. The mother had no tendency to metrorrhagia or to any other form of hemorrhage. There was no hæmophilic history so far as could be obtained.

The Palliative Treatment of Carcinoma of the Uterus.—Dr. Gaches Sarrante reports a number of cases of uterine cancer, which could not be operated upon, treated with a fair measure of success in the following manner: The genital canal was first very thoroughly disinfected by means of copious injections of sublimate solution, and then all sloughs and loosened pieces of the cancerous tissue were removed, care being taken not to disturb those that were adherent, as it was desired to avoid all hemorrhage. Tampons, soaked in a four-per-cent. chloral solution, and then spread over with powdered iodoform, were now applied to the cancerous ulcer or inserted into the cavity, if any existed, formed by the loss of substance. This was applied so that the entire diseased surface was brought in contact with the medicated tampon, and was retained *in situ* by a vaginal tampon, being left undisturbed until the next visit. The results of this method of treatment are summarized as follows: 1, Hemorrhages, even when profuse, are absolutely stilled and prevented from recurring; 2, the ichorous surface of the tumor is cleansed, and presents the clear, red appearance of healthy granulation-tissue; 3, the pain is entirely relieved; 4, the general health of the patients is greatly improved and the discharge loses its fetid odor, so that the women are able to go out and enjoy social companionship without the consciousness of being an offence to their friends. The iodoformized tampons were applied three times a week.—*Memorabilien*, November 4, 1886.

The Action of Tea and Coffee.—Dr. J. W. Putnam is opposed to the indiscriminate use of tea and coffee, especially in the young. He says (*The Medical Press of Western New York*, January, 1887) that they retard digestion; they retard destructive metamorphosis; they are cerebral stimulants; they are tonics; they are not food; coffee is a diuretic and antispasmodic. Bearing this in mind he thinks that it is easy for each to draw his own conclusions. Their prohibition or their use can be advised as special cases may demand. He is of opinion that "against the practice of giving tea and coffee to children we cannot speak too strongly. Childhood is the period when the nervous activity is at its greatest. The brain is ever busy in receiving new impressions. Reflex action, co-ordination of muscles, and the special senses are all under a constant course of training. The nervous system is pushed to its utmost capacity, and long is the list of victims that follow its over-stimulation. In these little people nothing but harm can come from the use of such cerebral stimulants as tea and coffee. Bad, then, as this practice is, let us as physicians be aggressive in its prohibition. Do not be satisfied by answering No, when asked as to its use, but let us educate the families with whom we come in contact that such practice is evil."

The Immediate Cause of Death in Malignant Cases of Fever.—At a recent meeting of the Sheffield Medico-Chirurgical Society (*The British Medical Journal*) Dr. C. H. Willey read a paper on this subject. The cases under consideration were those of scarlet fever and small-pox in which unconsciousness and death ensued at an extremely early stage. The pathology of this condition had not been explained. The conclusions to which Dr. Willey had arrived were based on clinical observations and post-mortem examinations in twenty-five of these malignant cases. The chief factors in the investigation appeared to him to be that the fatal symptoms were, in each case, those of a rapidly failing circulation, and that, after death, the heart-chambers, especially the right, were completely filled with white, jelly-like clot, which was, he said, clearly of ante-mortem formation. The failure of the circulation (particularly in small-pox cases) ensues with great suddenness, and the question arose, Was this failure or the thrombosis the primary condition? Evidence from the main symptoms, and from such invariably accompanying ones as pulmonary œdema and copious diarrhœa, Dr. Willey said, goes to show that a failure of the circulation is the primary cause of death, and, further, that not only is the heart paralyzed, but the entire arterial system—in fact, a total collapse of blood-pressure throughout the vascular system is brought about with more or less suddenness by a functional failure of the sympathetic nervous system, governing, as it does, the cardio-motor and vaso-motor functions. The pulmonary œdema and the profuse intestinal flux are due to the same cause; they are undoubtedly associated with a greatly diminished blood-tension in the arterial system.

Midwives in Finland.—The obligatory course of studies for midwives in Finland is of one year's duration. There is a supplementary course of two weeks, for those who have shown unusual aptitude, in obstetrical operations, such as embryotomy, the use of the forceps, etc. The students are almost all women of the lower classes, and the only requirements are that they shall be able to read and write. They are allowed to perform operations only when it is impossible to procure the services of a physician.

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INTRA-MUSCULAR INJECTIONS OF QUININE.

IN cases in which quinine is indicated, but in which it is not well borne by the stomach, attempts have often been made to introduce the remedy subcutaneously. This method sometimes gives excellent results, but it has its inconveniences and its dangers as well. It is painful in its immediate effects, and it is also apt to leave a tenderness of the subcutaneous tissues which precludes, for a longer or shorter period, any repetition of the injections in that neighborhood. It is said to have caused tetanus, and it not infrequently gives rise to the formation of troublesome abscesses, upon which, in one case at least, pyæmia has supervened. These dangers, in most cases, more than counterbalance the good to be derived from quinine administered in this way, especially when the rectum is still available as an avenue for the entrance of the drug into the system.

Dr. Carlo Bareggi was led by these considerations to make a thorough trial of deep intra-muscular injections, which have been made before, but never, we believe, on so extended a scale. His article, accompanied by a tabulated statement of the cases and of the results of treatment, is published in the *Gazzetta degli Ospitali*, No. 9, 1887. The number of patients subjected to experiment was only eighteen, but the total number of injections made amounted to the very considerable figure of six hundred and fifty-three, so that the conclusions drawn by the author as to the value and the innocuity of the method would seem to be justified by a tolerably extensive experience.

The injections were practised only in those cases in which they were demanded by reason of an intolerance for the drug on the part of the stomach and rectum. The salt used was the muriate of quinine, dissolved in distilled water in the proportion of one part to five, and from two to ten injections, of fifteen grains of the salt each, were made in a day. Every precaution was, of course, taken to insure absolute purity of the solution and cleanliness of the syringe. The needle was passed deeply into the gluteal region, the skin of the nates having been previously washed and cleansed with carbolated oil.

The injections were in all cases well borne, and in none did inflammation or abscess follow. The cases treated in this way were: Nine of malarial fever, eight of typhoid fever, and one of pyæmia following urethral abscess. The author insists upon the selection of the muscular region of the nates as the site for the injections, for in one case in which the lumbar region was chosen a very large and troublesome abscess was produced. In every case a complete cure was obtained. Dr. Bareggi claims, therefore, that this method is free from danger, and that it may safely be resorted to when, from any cause, it is impossible or impracticable to give quinine by the mouth or rectum.

THE EFFECTS OF IMMOBILIZATION UPON THE ARTICULATIONS.

IT is a curious fact in medicine that questions which would seem to be capable of actual demonstration, not only by experiment but also by the observation of daily occurring clinical facts, are still subjects of warm dispute, and are yet apparently as far from being conclusively settled as on the day when they were first broached. This is the case in regard to a question apparently so easy of solution as that of the behavior of joints after long immobilization. Many authorities teach that the retention of an articulation in a fixed position for any length of time will inevitably lead to true anchylosis, while others maintain with equal positiveness that no permanent impairment of the functions of the joint can be so caused.

In the hope of arriving at some satisfactory solution of this vexed problem, Dr. Albert Moll made a number of experiments on rabbits by immobilizing their hind legs in plaster-of-Paris splints (*Virchow's Archiv*). He made three sets of experiments. In the first, sound legs only were immobilized; in the second, the bone was broken before the application of the splint; and in the third, the animal was allowed to run around freely for a time after the removal of the retaining apparatus before the joint was examined. No passive movements, however, were made in this last series of experiments—the animals were merely permitted to run free, as they would or could.

In the first series of cases there was no anchylosis, nor even an approach to it; the joints which had been immobilized were entirely free from any traces of inflammatory action. In the second series some cases of articular inflammation were observed. This condition was more frequently present when the fractures were compound and situated in close proximity to the joints, although not involving them. Whether this inflammation would always result in anchylosis the author was unable to say. He had observed such a termination in but one case. In some of the cases of the third series there was complete restoration of the function of the joint, but in others a certain degree of stiffness remained, though probably this could have been overcome by passive motion. The limitation of motion was apparently due, in some cases at least, to certain more or less serious changes taking place within or about the joint, such as destruction of the articular cartilage, shortening of the ligaments, shrinking of the capsule, muscular atrophy, etc.

Dr. Moll concluded from these experiments that a sound limb could, with perfect safety, be immobilized for an indefinite period, and in cases of simple fracture, not seated near the joint, there was no danger of anchylosis.

In compound fractures, however, especially those in the neighborhood of an articulation, there was danger of joint inflammation and subsequent anchylosis, but even here the evil result should probably be referred to the fracture rather than to the immobilization of the articulation.

A CONTRIBUTION TO THE SURGERY OF THE LUNGS.

The fact that the surgery of the lungs is still in its infancy, and that the justifiability of an operation for pulmonary tuberculosis is as yet *sub judice*, is a sufficient apology for the notice of the following case, reported by Dr. A. Casini in the *Rivista Clinica e Terapeutica* for January, 1887.

The patient was a man, forty years of age, an inmate of the Hospital for Incurables, at Naples. Examination revealed the presence of an apparently superficial cavity in the right mammary region, extending from the third to the fifth intercostal space. There were night-sweats, fever, cough, with purulent expectoration, diarrhœa, and all the other general symptoms of tuberculosis. Examination of the sputa showed the presence of tubercle bacilli. Dr. Casini resected the fifth rib, and would have resected the fourth, but was obliged to abandon the operation temporarily on account of evidences of heart-failure. The following day the cavity was opened and washed out with a disinfectant solution, and was subsequently treated with insufflations of iodoform, and irrigations with a 1 to 1,000 solution of corrosive sublimate. The expectoration at once began to diminish in quantity, and within ten days had lost its purulent character, while no more bacilli were to be found. The patient was discharged, and returned for examination some months later presenting no symptoms of pulmonary or general tuberculosis.

Emboldened by his success in this instance, the author formulates the following conclusions:

1. Surgical intervention will arrest the tubercular process when it is circumscribed in the lung. Opening, evacuating, and washing out a pulmonary cavity is the same, saving the greater or less difficulty of the operation itself, as opening a tubercular cavity in a bone, or excising a tubercular product in the skin.

2. A pulmonary cavity, when circumscribed, is to be regarded as a local tuberculosis, and any extension, metastasis, or generalization of the disease may be averted by an early and a thorough removal of the morbid process.

We should hesitate to regard these conclusions of Dr. Casini in the light of axioms for the guidance of pulmonary therapeutists, if we may be allowed, for brevity's sake to speak of the latter as a distinct class of practitioners. But the case reported is an interesting and instructive one, by reason of its successful issue, and it is a valuable contribution to the literature of pulmonary surgery.

INTESTINAL WORMS AND PERNICIOUS ANÆMIA.

Despite the not inconsiderable amount of study which has been devoted to the causes of this condition, there are still many cases of disease, in which anæmia is the most prominent or the sole symptom, which progress to a fatal issue without any sufficient reason being discoverable.

In a recent number of the *Finska Läkaresällskapets Handlingar*, Dr. J. W. Runeberg advances the opinion that the presence of intestinal worms may account for many of these cases. While in charge of the Helsingfors Hospital, from 1883 to 1886, he saw nineteen cases of pernicious anæmia, in twelve of which he found tapeworm (Bothriocephalus latus) and in one lumbricoid worms. Remedies were directed to the destruction of these parasites, and but one of the cases died, whereas in the years immediately preceding there had been nine fatal cases.

The author believes that the parasites were the cause of the anæmia, and that their destruction was the only means of averting a fatal issue. He regards the disturbance of intestinal function and the nervous irritation caused by the presence of the worms as the active causal agents, and believes that the anæmia of anchylostoma duodenale is produced in this way rather than by the loss of blood from the bites of the parasite.

It is not improbable that the unrecognized presence of intestinal worms may be a factor in the production of some cases of so-called pernicious anæmia, and it is a wise precaution to examine the stools in all such cases for the eggs of the parasites.

THE INFLUENCE OF THE BILE UPON THE CARDIAC MOVEMENTS.

A slow pulse is one of the well-known symptoms of catarrhal icterus or of other hepatic affections in which jaundice is present. It has been abundantly proven, notwithstanding the assertions to the contrary of Vierordt, that this symptom is due to the action of the bile upon the heart. But what particular constituents of the bile exert this action, and how the effect is produced, are questions which have hitherto not been satisfactorily answered. Feltz and Ritter have, indeed, shown by experiments that the slowing of the heart's action is due to the presence of the biliary acids, and that the cholesterine and coloring matters of the bile exert no such effect. They explain this, however, by assuming that the acids exert a direct paralyzing influence upon the cardiac muscle, while Röhrig attributes it to the destructive effect exerted by the bile upon the red blood-corpuscles.

Some interesting experiments, conducted by Dr. Francesco Spallitta, in the Physiological Laboratory of the University of Palermo (*Archivio per le Scienze Mediche*, vol. xi., No. 5, 1887), seem, however, to lead to a different conclusion. He experimented upon hearts removed from the body and also upon salt frogs, in order to eliminate the effect of the bile upon the red corpuscles. He used bile taken from different species of animals, and also experimented separately with glycocholic and taurocholic acids, but always obtained the same results.

We need not enter into the details of the experiments, which those interested will find fully described in the journal above referred to, but will give the conclusions at which the author arrived as a result of his investigations. He found that the slowing of the heart's action could not be due, entirely at least, to the loss of muscular power following upon the destruction of the red blood-

globules, since there was no blood present in the experiments made. It was therefore due to the paralyzing effect of the biliary acids acting directly upon the heart. But he showed that this was not the result of a direct action upon the cardiac muscular tissue, since other muscles, when impregnated with the bile acids, responded readily to electrical stimulation. Excluding, therefore, the destructive action upon the blood-globules and any immediate paralysis of the cardiac muscle as efficient factors in the production of this phenomenon, he came to the conclusion that the slowing of the heart's movements was due to an inhibitory effect upon the ganglia of the heart itself and upon the nervous filaments within the cardiac muscle. A similar action upon the central nervous system was, of course, excluded by the fact that the heart was removed from the body, and therefore its nervous connections were severed.

THE TREATMENT OF FUNCTIONAL GASTRO-ECTASIS.

Dilatation of the stomach is a disorder which French writers assure us is far more common and more often at the bottom of dyspeptic symptoms than has been generally supposed. The studies of G. Sée, Mathieu, Bouchard, as well as of German investigators, have brought the matter very prominently to the attention of the profession. The classification of dilated stomachs made by Mathieu in a recent contribution to the subject, is as follows:

1. Dilatation from organic lesion of the pylorus and constriction of that orifice.

2. Dilatation from degeneration of the muscular fibres of the walls of the stomach.

3. Dilatation from atony, or general feebleness of the muscular system.

4. Dilatation due to muscular atony from imperfect innervation, such as occurs in neurasthenia. Here there is at first an alternation of atony, with exacerbations of a hyperexcitability of the gastric muscle causing painful dyspepsia. Later there is permanent atonic dilatation.

It is only in the treatment of the last two classes of cases that much can be expected. Dr. Mathieu, in *Le Progrès Médical*, of February 12th, devotes an article to presenting the plan which he has adopted, and which is as follows:

First, as to diet. The stomach must never be overloaded, and consequently the number of meals should be increased and the amount taken at each lessened. All foods which leave a large residue of undigested matter should be forbidden, such, for example, as string-beans, salads, fruits; indeed, nearly all vegetables may have to be cut off except potatoes. The food ought to be very finely divided and thoroughly masticated. Wine should not be taken, as a rule. It is often better to have the liquids warm.

Second, the bowels must be kept carefully regulated. Almost all *les dilatés* are constipated. Professor Sée recommends for this condition a powder composed of sulphur, cream of tartar, and magnesia. A teaspoonful of this is taken at the beginning of each meal. Or enemata containing glycerine may be given each morning.

A third indication is to improve the general tone of the system. For this Mathieu thinks there is nothing better than a cold douche to the spinal column. In delicate patients the water may be at first warm.

The fourth indication is to strengthen in particular the muscular walls of the stomach. Calabar bean and nux vomica have been recommended for this purpose, but Dr. Mathieu thinks that there is nothing that begins in efficiency with powdered ipecac.

The prescription given is: ℞. Pulv. ipecac., ʒ ss; aquæ, ℥ v.; syrup. aurant. cort., ℥ v. M. Sig.: ʒ j. or ʒ ij. every two or three mornings. This is not a very agreeable mixture, however, and a better way is to give the powder in the form of wafers, each containing from four to eight or ten grains. The patient takes one of these every second or third day. Most persons are not affected by the larger dose, but in the more sensitive it may cause nausea and vomiting.

Fifth, the symptomatic treatment of the pressure-feelings, pains, distention, etc., which are noted in the neurasthennic *dilatés* is best accomplished with cocaine or chloroform water.

It will be seen that Dr. Mathieu's treatment of gastric dilatation is one that will apply very well to quite a large number of cases of dyspepsia, whether there is dilatation or not. We are ourselves somewhat skeptical as to the frequency of functional gastro-ectasis, and certainly it is not always easy to make out milder forms of this condition during life.

ARTERIO-SCLEROSIS AND THE FIBROUS DIATHESIS.

Dr. Isnard, of Marseilles, in a monograph recently published at Paris, presents the results of a study of generalized sclerosis and its relation to arterial sclerosis. He has made some special observations in this line, and draws from them the conclusion that we must add to our list of "diatheses" the fibrous.

He accepts the facts so well established by many investigators regarding the existence of arterio-sclerosis. He finds in addition that this arterial sclerosis begins in the inner coat of the arteries, which are in contact with the vitiated blood. Sclerosis is found developing in the same way in the veins and lymphatics. The next proposition is that the arteries are the point of departure of all the scleroses. Some particular dyscrasia, like alcoholism or syphilis, may provoke the new connective-tissue growth in one particular organ, like the liver or kidney, but in all cases the new growth radiates from the sanguineous canals.

The fibrous diathesis expresses itself, therefore, first in a generalized arterial or vascular sclerosis, with later and consequent visceral scleroses, involving lungs, liver, kidneys, spinal cord, according to the dyscrasia or the local irritant.

A further deduction is that the blood is at the bottom of the trouble in all these sclerotic disorders, since they start from the coats immediately bathed by it.

There are several European pathologists of some prominence who have advocated the vascular origin of sclerosis, but the view that such is always the history of this change is by no means generally accepted; indeed, by many it is considered definitely refuted.

In making sclerosis in general a disease due to a vicious condition of the blood, Dr. Isnard, of Marseilles,

comes very close to the view, as we have been told it, of a well-known pseudo-scientist of this city. The latter gentleman treats the "fibrous diathesis" by ridding the blood of the "spores," etc., which generate the morbid organic changes.

AN UNJUST JUDGE.

If we are correctly informed, an act of the grossest injustice was perpetrated by one of our city's judicial luminaries very recently. A reputable physician of this city, a graduate of the College of Physicians and Surgeons, was charged with assaulting a woman in his office. The woman in question went to some unknown and apparently illiterate practitioner, who examined her, and in barely intelligible English certified that she had a perforated hymen and an inflammation of the vagina, and that the perforated hymen had existed before the alleged assault! Yet, with nothing but this certificate and the assertions of the girl, the doctor was thrown into prison, and, being unable to raise the very large bail, had to remain there for several days.

We have seen the alleged certificate upon which the doctor was sent to jail, and it appears to us, as it must to everyone who has intelligence and a sense of justice, that the proceeding was a most flagrant outrage. Certainly there should be some remedy against the imbecility of uneducated judges who lend themselves so readily to what has every evidence of being purely a blackmailing scheme.

News of the Week.

Professor Henry I. Bowditch, in an address on Homœopathy at the annual meeting of the Rhode Island Medical Society, concluded with the following recommendations: "1. Let every State society follow the lead of New York, and let the members be *allowed*, without injury to their status in these bodies, to consult with members of other 'legally constituted' medical societies. 2. Let members of either of these sects join our State societies, provided they prove to the State examiners or censors that they have studied medicine a proper length of time, and are able to pass the examination required of all applicants for admission; and provided, moreover, they agree to cease to call themselves by any peculiar name because they desire to enroll themselves as members of our time-honored profession. 3. Let us endeavor to make the American Medical Association rescind the vote whereby it expelled the New York State Medical Society, simply because, by its resolutions, it intimated that the fight between the regular profession and homœopathy had lasted long enough, and that hereafter consultations would be allowed to all 'legalized medical bodies.' 4. As interweaved and intimately connected with this controversy, let us, on all proper occasions, by all means in our power, endeavor to induce the American Medical Association to annul the illegal action of the Judicial Council requiring an annual signature by all the members to its so-called Code of Ethics, under the penalty of not being allowed to attend and take part in the friendly intercourse and scientific discussions of its meetings, a measure which tends to keep alive our divisions and encroaches upon our individual rights of conscience, instead of promoting that harmony in the profession of America which the Association, by its great power for good, might bring about at these annual meetings in various parts of the country."

Dr. H. M. Silver has been appointed one of the Visiting Surgeons to Gouverneur Hospital.

The Columbus Medical Colleges.—Starling Medical College recently graduated a class of twenty-one, and the Columbus Medical College a class of eighteen.

Failure of Medical Legislation in Ohio.—The Sinnett Bill to regulate the practice of Medicine passed the Senate, but was killed in the House. The *Columbus Medical Journal* says: "The newspapers of the entire State were generally opposed to the bill, but chiefly from ignorance of its provisions. Several, however, fought it from, apparently, pure cussedness. The *Ohio State Journal*, of this city, was most conspicuous for its opposition. It freely admitted to its columns anonymous communications from the lowest quacks, and when there was a dearth of these, copied similar matter extensively from other papers, while its editorial columns teemed with the most absurd and contradictory statements concerning the nature of the bill. At the same time it steadily refused to admit any communication whatever in defence or explanation of the bill, or even in correction of its own outrageous untruths.'

The Nashville Medical News is the title of a new journal, published semi-monthly at Nashville, Tenn., and edited by Drs. Richard Douglas and John W. McAlister.

Sick Immigrants.—In 1886, 300,887 immigrants landed at Castle Garden, being 30,748 more than the previous year. Among them were about eighty thousand women, fifty-five thousand men, and children. Of the total, there were sent back 997. Of this number, 70 were insane, 20 were idiotic, 1 was blind, 88 were enciente, 8 were convicts, and 18 were cripples. Three hundred and fifty-five suffered from diseases which prevented them from earning a livelihood, and 437 were without means of support. As a result of an investigation into the management of the emigrant hospitals the committee reports: "Your committee are glad to be able to say that no charge of unprofessional conduct or misconduct on the part of any of the physicians of Ward's Island has been sustained on investigation, and it is hoped that the medical staff will continue to maintain the excellent character and *esprit de corps* which this investigation has shown it now possesses."

The Louisiana State Medical Society meets at Alexandria on April 11th.

The Prescriptions of European Physicians.—There is another peculiarity about the prescriptions of most continental physicians that is perhaps worthy of note, and that is, that they scarcely ever combine two remedies in the same recipe, or even give the patient two active remedies at the same time. Arterial sedatives, such as aconite, veratrum viride, and the like, so commonly prescribed with us, I have never heard even mentioned, much less prescribed, during my present stay in Europe.—Dr. Caldwell, in *Chicago Medical Journal*.

Jefferson Davis at a Medical College Commencement.—At the last Annual Commencement of the Medical Department of Tulane University, New Orleans, Jefferson Davis was present, and was the recipient of some baskets of flowers. In responding to the present he said: "I thank you from my heart for the kind courtesy extended to me on this occasion. May your paths in life be as flowery as these baskets, and may you illustrate in your careers the high principles that belong to your profession. Standing next to the ministry, you have not only the care of the body, but you are the repositories of family confidences. To you are intrusted secrets that none others know. You stand by the bedside of the dying and hear their last utterances. I trust that science, benevolence, and morality will go hand in hand in your profession."

Jefferson Medical College graduated a class of 187 at its Annual Commencement on April 5th.

Physicians and Lady Physicians Abroad.—Dr. W. S. Caldwell, writing from Paris to the *Chicago Medical Journal*, says: "Most American physicians whom one meets here are young men just from the colleges, and they are too often only interested in such cases as a man would see only occasionally in a lifetime. They are eager to see Billroth resect the pylorus for cancer, and are constantly presenting their cards to Péan to get a chance to see operations that they never ought to attempt to perform. But I am even more disgusted with some of the lady physicians who come here to Paris. They will be pushed and jostled amid the great throng that follow the surgical service of Gillan at the Hotel Dieu; sit on a back seat with an opera-glass in hand to see Péan amputate a man's leg at the hip-joint; but go to the Children's Hospital, where Simon holds his clinic, and one finds not a single one of them there."

Coffee contains from 1.18 to 1.28 per cent. of caffeine, the amount varying very little.—*Amer. Journ. of Pharm.*

Professors of the First Class in the Paris faculty receive $3,000 a year as salary. This is probably not much more than half what professors of the first class receive in our large colleges.

The Medical Society of the State of California meets at San Francisco on April 20th, 21st, and 22d. The society now has a membership of three hundred and thirty-eight, and is in a very prosperous condition.

A Small Operation with a Large Name.—"Porotomy" is the name given the operation of cutting the meatus.

The Ladies' Health Protective Association of this city has now six hundred members, having increased from seventeen members in two years. Its work this year will be devoted principally to tenement-houses and street-cleaning.

The Difficulty of Disinfecting the Alimentary Tract.—Furbringer has recently shown that the number of micro-organisms per cubic millimetre in the fæces of typhoid-fever patients who are taking naphthalin is ninety thousand. Other antiseptics appear equally unequal to the task of really disinfecting the intestinal contents.

The South Carolina State Medical Association held its annual meeting at Aiken on April 12th.

Talmudic Medicine. — Regarding the proposal to publish a work on this subject, a correspondent writes us that there already exists such a work in French. It is entitled "La Médicine du Talmud," and is, we are informed, pretty poor reading.

The Mississippi State Medical Society meets at Jackson on April 12th. An interesting programme of work has been prepared.

Sir Spencer Wells has gone to the Canary Islands for his health.

Two Misused Words, according to Dr. Sankey, are prodroma (of which the plural, often used, is prodromata), and calvarium. The Greek and the Latin word is *prodromus;* plural, *prodromi* (Dunglison, Webster). Calvaria is a feminine noun; plural, calvariæ.

Salicylate of Lithia.—Dr. Vulpian states that salicylate of lithia is more efficacious than salicylate of soda in cases of acute and progressive subacute articular rheumatism. It also has some effect in chronic cases when a certain number of the joints are still deformed, swollen, and painful. Four to four and a half grammes, and even five grammes, may be given in a day. If the improvement is not lasting, fifty centigrammes may be added to the daily dose. Sometimes, when the dose is increased to five or five and a half grammes, symptoms of intolerance begin to be shown. Salicylate of lithia may be given dissolved in water, in powder, or in unleavened bread, during or after meals, in doses of fifty centigrammes. The physiological effects of the drug are headache, giddiness, and deafness.—*British Medical Journal.*

The Townsend Pavilion.—The corner-stone of the new surgical pavilion for laparotomy, at Bellevue Hospital, was laid on April 11th, with appropriate ceremonies.

The Vassar Brothers' Hospital, at Poughkeepsie, was opened for visitors on the 11th. It contains forty beds. The property is valued at $125,000, and has an endowment of $300,000. Dr. Guy C. Bayley is resident physician.

Swallowing Artificial Teeth.—A correspondent of the *British Medical Journal* reports a case in which the patient swallowed a plate with artificial teeth, and safely passed them *per rectum* a few days later. Another correspondent says: "A patient of mine recently swallowed a plate (gold, with two teeth), and I immediately adopted a practice recommended to me some years ago by Sir James Paget in a similar case. I made him eat three good-sized slices of bread, and swallow four tablespoonfuls of flour and water made into a fairly thick mass. I then administered an emetic, and the teeth returned entangled in the tenacious vomit. I may add that the first case was equally successful, and that something of this sort is habitually done at police-stations when prisoners arrested for passing false coins swallow them."

A Pseudo-Atrophy of the Optic Nerve is said to exist, by Dr. Trousseau, of Paris. It is due to toxic influence, and is diagnosticated from true atrophy by the use of pilocarpin.

An Official Decision regarding the Printing of the Title "Doctor" on United States stamped envelopes, postals, etc., has recently been rendered. A physician of this city ordered one thousand stamped envelopes printed with the prefix "Dr." before his name. The New York Post Office refused to allow the prefix to be used, holding that it advertised his calling. On appeal to the Washington authorities the decision was overruled, and the doctor was allowed to have his envelopes printed as he desired. The decision is manifestly the just and correct one, and we are glad to place it upon record.

The Fourth Annual Meeting of the American Climatological Association will be held in Baltimore, Tuesday and Wednesday, May 31 and June 1, 1887, and will immediately precede the meeting of the Association of American Physicians, to be held in Washington.

Memorial to the Late Surgeon Ambler, U.S.N.—The medical officers of the navy have just had completed a beautiful tablet in bronze, commemorative of the heroism of Surgeon J. M. Ambler, who perished with De Long and his companions in the Lena Delta in 1881.

At the Commencement of the Buffalo Medical College the degree of M.D. was conferred upon a class of fifty.

Reviews and Notices of Books.

Principles of Hygiene for the School and the Home. By Ezra M. Hunt, A.M., M.D. Pp. 377. New York and Chicago: Ivison, Blakeman, Taylor & Co. 1886.

The writer has had no easy task to write upon hygiene in such a manner as to bring it within the comprehension of school-children. At the same time he conscientiously sets himself about the still more difficult task, that of bringing to the knowledge of his pupils enough of the anatomy and physiology, which forms the basis of human hygiene, to make it comprehensible to them. To say that he has been successful is to award him great praise, but he deserves it, since he has presented his subject scientifically, clearly, and simply.

A Manual of Obstetrics. By A. F. A. King, A.M., M.D. Pp. 379. Philadelphia: Lea Brothers & Co. 1886.

The fact of a third edition of this work shows that it is appreciated by students, who regard it as helpful in fixing the aphorisms of obstetrics for examination and for future use.

On Fevers: Their History, Etiology, Diagnosis, Prognosis, and Treatment. By Alexander Collie, M.D., Aberdeen. Pp. 288. Philadelphia: P. Blakiston, Son & Co. 1887.

The author of this little volume writes clearly, concisely, and authoritatively upon the subject of fevers, as is the right of one who can state in the preface that his observations for the most part are founded upon over twenty-one thousand cases which he has personally treated from commencement to termination. The plates of the lesions of the enteric bowel and the eruption of variola nigra are creditable specimens of medical illustration, and show a great advance in this line of work.

Transactions of the American Surgical Association. Vol. IV. 1886.

Among the number of valuable papers presented in the present volume, the most able, scientific, and in a manner most valuable, is Dr. Lerna's contribution to the subject of "The Surgery of the Pancreas." Prefaced with a study of the embryological development of the pancreas, there follows a discussion of its anatomical and pathological structure, with a working up of its physiological functions, illustrated with elaborate experiments on animals; the paper concludes with a review of the diseased conditions of that organ and a report of the cases in which surgery has been employed, and the results of the same. The whole forms a remarkable monograph in this new and almost unexplored surgical field.

The opening address by the president, Dr. Moses Gunn, on the "Union of Nerves of Different Functions," is also extremely interesting. In it he proves that the function of a given nerve depends entirely upon the machinery at its end, and not upon any intrinsic quality.

Dr. Johnston's paper on "Diagnostitial Laparotomy" recommends that the operation should be more extensively employed in obscure cases, especially intestinal cases, in which life might sometimes be saved by it.

A valuable contribution to science is the paper on the "Bacteria of Surgical Diseases," by Dr. Harold C. Ernst, of Harvard.

A Compend of Electricity, and its Medical and Surgical Uses. By Charles F. Mason, M.D. Pp. 108. Philadelphia: P. Blakiston, Son & Co. 1877.

This forms the third volume in the series published by the above firm under the title of "Medical Briefs." The statements of the uses of electricity and all of the definitions are given in the most succinct manner. In fact, in some instances lucidity is sacrificed to brevity, and it is doubtful if one who had recourse to no other authority would get on very well in all of the practical applications of electricity without further directions than are given in this book.

Massage as a Mode of Treatment. By William Murrell, M.D., F.R.C.P., Lecturer on Pharmacology and Therapeutics at the Westminster Hospital; Examiner in Materia Medica in the University of Edinburgh, and to the Royal College of Physicians of London. Second edition. London: H. K. Lewis. 1887.

We noticed the first edition of this instructive little treatise a few months ago, and the fact that a second edition has been so soon called for is an evidence of the favor with which the book has been received. The work has been largely rewritten for this edition, and many cases recently under the author's observation have been added.

The Truth about Alcohol. By Robert Alexander Gunn, M.D. Chicago and New York: Belford, Clark & Co. 1887.

In this little book the author discourses pleasantly about alcohol, its uses and abuses. It would be an excellent tract for prohibitionists to read, and would perhaps have the effect of inclining them to look with a little charity on those who do not hold in every minute point to their own extreme views.

Physician's Clinical Case and Record Book. San Francisco: William S. Duncombe & Co. 1887.

A printed list of symptoms and attributes of a patient to be examined is a very great aid in systematic case-taking. It is especially valuable to a physician just learning the art, for he is sure to find, without such assistance, that he has forgotten to inquire about some region of the body or to bring out some symptoms which are essential to the proper understanding of the case. The Clinical Note-Book will thus be found very useful.

THE SCIENCE AND PRACTICE OF SURGERY. By FREDERICK JAMES GALT. Vols. II. London: Published by Baillière, Tindall & Cox. 1886.

THE third edition of Gaut's Surgery comes to us, revised and enlarged, with more than two thousand pages and one thousand and ninety illustrations. The writer has been able to treat his subject in the most exhaustive manner. It is topographically very fine. If any criticism were to be given, it might be relative to the style, which is somewhat discursive. For example, in speaking of erysipelas, he announces, "any *repressive* application would be obnoxious; not only as tending to divert the natural course of the disease in the elimination of the blood-poison, but as possibly repelling the inflammation to some other part, its migration or metastasis being perilous and prolonging the disease. In both these respects the cutaneous inflammation of erysipelas is analogous to an attack of gout." This paragraph is one of a number selected at random. It is only a writer who has two thousand closely printed pages to hold his ideas that can allow his pen such garrulity; the other factor to be considered is the patience of the reader. The two being equal, the result is a success.

CONGRÈS PÉRIODIQUE INTERNATIONAL DES SCIENCES MÉDICALES. Vols. IV. Copenhagen. 1886.

THE Eighth International Congress leaves its impression upon the medical world in the shape of four large volumes filled with the papers presented to this august body. The papers are published in French, English, and German, according to the mother tongue of the writer. Aside from the social enjoyment and the great gratification which arises from coming face to face with the foremost medical men of the age, men who have long made a wide circle of acquaintances by means of their erudite and scientific pens, the results of this Congress are crystallized before us in this *Compte-rendu*.

Many of the subjects, even in so short a time as since 1884, have been discussed and views modified; such is the case with the paper read by Pasteur on "Microbes pathogènes et Vaccins."

The Section on Anatomy contributes, perhaps, as little of general interest as any of the sections, many of the papers touching on minor points. As physiology differs from anatomy in still offering a wide field for experimental research, at such a meeting as this opportunity is afforded for giving the results of experimental investigation, and the student will turn to these with great profit and interest. The same is true of the work done in the Section of General Pathology. So each specialist will find that the knowledge of his department is amplified and increased by the many able papers contributed.

The whole large work impresses the reader with the benefit which accrues to the medical profession from this periodical interchange of national ideas, as well as the promotion of good feeling and the unity of interests and endeavors of those who practise the art of healing.

A TEXT-BOOK ON SURGERY: General, Operative, and Mechanical. By JOHN A. WYETH, M.D., Professor of Surgery in the New York Polyclinic; Surgeon to Mount Sinai Hospital; Consulting Surgeon to the Yorkville Dispensary and Hospital for Women and Children; to the Woman's Hospital of Brooklyn, etc. New York: D. Appleton and Co. 1887.

WE turned to this book with a feeling of weariness, for it seemed as though there were enough works on general surgery to satisfy the most ardent seeker after knowledge, or to instruct the most ignorant of would-be practitioners, but we confess that we were disappointed—very agreeably disappointed. The writer has succeeded in the very difficult task of creating a want, where no want was felt, and then of satisfying it. In a work of this kind, embracing the entire range of surgery, with the exception of operations on the eye, the author cannot, in seven hundred and sixty pages, discuss unsettled theories or compare methods, and he must necessarily be somewhat dogmatic. But this is compensated for by clearness of description and preciseness of language—qualities of essential importance in the writer of a text-book of this nature. The illustrations are numerous and excellent; and those in the section on Ligation of Arteries are worthy of special commendation. In those the arteries and veins are shown in colors, and each part is, when necessary, distinctly labelled in place, thus doing away with the ordinary figures or letters, with the references in the text, which are better calculated to confuse than to aid the reader in his comprehension of the cut. We are sorry to see that the author has followed the too prevalent custom of adding to his name a string of titles, some fifteen or more in number, having, for the most part, little or no bearing upon his qualifications as a teacher of surgery. An author's work speaks for him, and it adds nothing to his estimation in the minds of his readers to inform them, on the title-page, that he is a member of the New York County Medical Society, or an honorary member of the College of Physicians and Surgeons of Little Rock. This is, however, our only criticism, and, of course, detracts in no way from the intrinsic value of the work, which is of superior merit, and which no one who is ever called upon to treat surgical cases can well afford to be without.

THE PRINCIPLES AND PRACTICE OF OPERATIVE SURGERY. By STEPHEN SMITH, A.M., M.D., Professor of Clinical Surgery in the University of the City of New York; Surgeon to the Bellevue and St. Vincent Hospitals, New York; Consulting Surgeon to St. Elizabeth's Hospital, etc. New and thoroughly revised edition. 8vo, pp. 877. Philadelphia: Lea Brothers & Co. 1887.

A BOOK which is fully in harmony with the spirit of the times, and one which will be appreciated at a glance by every practical surgeon. Those who are engaged in other lines of medical work can refer to it with great advantage, in order to learn what surgeons are doing nowadays. Its sharply defined lines of description make it a very easy book to read, and the author's plan of quoting the names of authorities in the margin only, and including their ideas in an unbroken text, will avert interruption and confusion.

The author, in a chapter devoted to the subject, shows just why the surgeon is under obligations to practise surgery according to actual antiseptic methods, and we presume that the law courts will make this a book of reference in malpractice cases in which patients have not received the attention which is now demanded of operators. Consequently a study of the work will be profitable in more ways than one.

The details of antiseptic surgery, as practised at three of the most progressive centres of the world—Billroth's Clinic, Lister and Cheyne's Clinic, and Bellevue Hospital—are described in such a way as to make the matter a most valuable feature of the work. The busy general practitioner and the student will appreciate the brief completeness of the author's style.

The surgery of the brain and of the abdomen is advanced in the work to the farthest point recognized by the best authorities at the present date, and we can say with confidence that Professor Smith's practical arrangement of points will do much to throw into disrepute the unfortunate plan of treating so many wounds of the brain by the expectant method.

All of the subjects which interest the general surgeon are handled in a way which would be expected of the author, and his adaptation of recent scientific points in the breezily progressive surgery of to-day is highly satisfactory.

The volume is a handsome one as to type, paper, illustrations, etc., but is nevertheless not expensive. It contains upward of two hundred more pages and illustrations than the former edition.

Reports of Societies.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, February 23, 1887.

T. Mitchell Prudden, M.D., President, in the Chair.

THE REPORT FROM THE COMMITTEE ON MICROSCOPY,

on the uterus and its appendages presented by Dr. H. J. Boldt at the last stated meeting, was submitted, as follows:

Sections were made from one of the retro-peritoneal glands. Its perivascular spaces were found to be irregularly dilated, and packed full of irregularly shaped epithelial cells. The epithelial cells within the alveolar spaces were not separated by any intercellular substance, and they had no definite arrangement. Between the masses of cells the fibrillated connective tissue was increased in thickness, and infiltrated with new cells. Carcinoma.

G. C. Freeborn,
William H. Porter.

ACUTE ANTHRACOTIC PNEUMONIA.

Dr. William H. Porter presented sections made from the lungs removed from a case of acute anthracotic pneumonia, with the following report:

Upon microscopical examination, the interlobular connective tissue was found to be very much thickened and in a state of œdematous infiltration. This thickened tissue was also infiltrated with inflammatory cells, also small and large round connective-tissue corpuscles. That this very apparent interstitial thickening was chiefly œdematous in character was proved by its rapid decrease in passing the sections through the absolute alcohol.

The air-vesicles were filled with the ordinary inflammatory exudation common to lobar pneumonia, the larger portion of which was in the stage of gray hepatization, but a few of the air-vesicles still contained a delicate reticulated net-work of fibrillated fibrin.

The most interesting point was the very large amount of black and apparently inorganic pigment which was found in large quantities in the inflammatory exudation into the air-cells, while the interstitial tissue contained comparatively little.

No pneumococci could be found. In these cases both the interstitial and intravesicular inflammation apparently was due to the large amount of inorganic pigment drawn into the lungs. In these particular instances the evidence is strongly against an infection or germ as the cause of the pneumonic process, and most decidedly favors a direct injury as the causative agent.

PISTOL-SHOT WOUND OF THE BRAIN.

Dr. Porter presented a second specimen, with the following history: Male, twenty-three years of age, German, who had been to a ball the night before. He returned early in the morning, and shot himself without apparent cause. Death followed in about two hours from hemorrhage.

At the necropsy the track of the ball was found to be from right to left completely through the skull. The direction was such that both right and left middle meningeal arteries were divided. The bullet-holes in the bony walls were about three-eighths of an inch in diameter, while that through the brain-substance was about one inch in its diameter. The course of the ball through the brain was from right to left, just in front of and below the lateral ventricles. There was a stellate fracture at the vertix, and both orbital plates were fractured; also the occipital bone on both sides of the foramen magnum. The special points of interest were the complete division of the middle meningeal artery upon both sides; the small bullet-hole in the skull, and its large diameter through the brain-substance; the slight amount of intracranial hemorrhage, and the large number of cranial fractures.

TRICUSPID AND BICUSPID INSUFFICIENCY—AORTIC STENOSIS — CARDIAC DEFORMITY — INTERSTITIAL PNEUMONIA—AND INTRALOBULAR CIRRHOSIS OF THE LIVER.

Dr. Porter presented a third specimen, with the following history by Dr. William A. Moore, house physician:

C. R. H——, twenty-four years of age, was first admitted to the service of Dr. A. H. Smith, at the Presbyterian Hospital, January 8, 1887, and later to the service of Dr. William G. Thompson. He gave a family history of both phthisis and cardiac disease. He has had repeated and severe attacks of rheumatism; the last, which was unusually severe, occurred five years ago. He has also had pleurisy and typhoid fever. For a number of years he has suffered with dyspnœa and cardiac trouble. The present sickness commenced December 19, 1886, as a severe cold. When admitted he was very anæmic and considerably emaciated. His feet and legs were œdematous.

Physical examination revealed a dilated, a rapid and tumultuous heart's action, and a widely diffused apex-beat. Upon auscultation a distinct bicuspid and tricuspid regurgitant murmur was heard; also a slight aortic obstructive murmur. There was marked jugular pulsation.

The patient gradually sank, and died from exhaustion and cardiac failure.

Necropsy twenty-four hours after death. Body very much emaciated; rigor mortis marked.

Thoracic cavity: The pericardial sac was completely obliterated by an old and fibrous pericarditis.

The left auricle was dilated and its walls very much thickened. The endocardium looked like dense white, fibrillated connective tissue. One segment of the mitral valve was shortened and bound down to the ventricular wall. The opposing segment was elongated and thickened.

The left ventricle was about normal in size, but its muscular wall was thin and degenerated. The segments of the aortic valve were the seat of numerous small vegetations. The aorta was the seat of extensive endarteritis and fatty infiltration.

The cavity of the right ventricle appeared to be very much diminished in size; the segments of the tricuspid valve shortened and adherent to the cardiac wall, thus nearly obliterating their usefulness. The right auricle was very much dilated, its endocardium in a state of fibroid thickening similar to that of the left auricle. The muscular coat was greatly thickened and reticulated. Both lungs were firmly bound to the chest-wall by old pleuritic adhesions. There was a marked interstitial thickening, some congestion and œdema of the pulmonary substance, also a few zones of broncho-pneumonia.

Abdominal cavity: The *spleen* was normal in size. Its capsule was thickened by fibrous patches. The *kidneys* were the seat of a moderate amount of chronic diffuse nephritis. Their pelves were the seat of punctate hemorrhages and were deeply congested. Weight of each six ounces.

The *liver* was enlarged, weighing sixty ounces. Its external surface was covered with patches of fibrillated connective tissues, and fringes of the same hung from its external surface in many places. There was a marked intralobular cirrhosis, and numerous microscopic gummy formations in the intralobular spaces.

The chief points of interest are those in connection with the heart, viz., extensive lesions upon the right side are very uncommon. Out of two thousand necropsies only two have given evidence of primary changes on the right side. As a late secondary lesion to organic valvular changes on the left side, a degeneration and dilatation

of the right ventricle causes both pulmonary and tricuspid insufficiency. But organic changes causing valvular lesions of the right side are extremely rare. From the almost universal absence of any organic valvular change in the pulmonary and tricuspid valves, and from the well-known physiological fact that the tricuspid valves are always insufficient, we can, practically speaking, exclude valvular lesions of the right side of the heart when making a physical examination of the heart.

MULTIPLE AND RETAINED GALL-STONES—PARENCHYMATOUS METAMORPHOSIS OF THE LIVER AND KIDNEYS—MARKED JAUNDICE.

Dr. Porter presented a fourth specimen, with the following history abstracted from the very complete one taken by Dr. William A. Moore, house physician: Mrs. M. F——, aged thirty-two, Irish, laundress, was admitted to the service of Dr. William G. Thompson at the Presbyterian Hospital. There was a clear history of repeated attacks of biliary colic and severe facial neuralgias, otherwise her previous history was good. Her present attack commenced on February 1, 1887, with a severe pain in the right side, and the next day she commenced to menstruate. The pain continued, but was intermittent in intensity. Two days before entering the hospital she had a severe chill, followed by a high fever.

February 12th she was admitted, and was found upon examination to be a large and very fleshy woman, the skin had an ashy hue, and she had every appearance of being a very sick person. The conjunctivæ slightly jaundiced; none of integument. Physical examination negative.

She remained in the hospital until February 21st, with symptoms which pointed toward occlusion of the common bile-duct, such as biliary colic, progressive jaundice, clay-colored stools, and high-colored urine. There were frequently repeated chills. The temperature ranged between 100° F. and 107° F., but most of the time it was above 103° F. It rose after each chill, but would fall for a time after thirty grains of antipyrin were taken.

General sponging of the body kept the temperature more evenly down.

On the 17th exploratory aspiration of the hepatic region, but no pus was obtained.

On the 19th albumen appeared in the urine, followed the next day by casts. The amount of urine voided was fair in quantity. Stimulants were freely administered, but all the symptoms grew worse. Her mental faculties remained clear to last, but heart gradually failed, and death appeared to be due to uræmic poisoning, œdema of the lungs, and cardiac paralysis.

Necropsy twelve hours after death. Rigor mortis marked. Body deeply stained yellow, as were all the tissues. Adipose tissue abundant. Thoracic cavity: The pericardial contained one-half ounce of yellow, serous fluid. The heart was soft, flabby, and its cavities dilated; weight twelve ounces; valves normal. Microscopically the muscular fibres were found to be in an advancing state of granular metamorphosis. The left lung was slightly adherent to the chest-wall, but there was no fluid in its pleural cavity; weight eighteen ounces. The right lung was slightly bound to the chest-wall at its apex by old adhesions. At the ninth intercostal space, about midway between the axillary and anterior scapular line, there was a marked patch of punctate subserous ecchymosis, with a slight amount of blood-stained fibro-plastic exudation. The same condition was noticed in the pulmonary and diaphragmatic pleura. There were a few ounces of blood-tinged serum in the right pleural cavity; weight of right lung eighteen ounces. Both lungs were congested and œdematous. Abdominal cavity: The peritoneal cavity contained about one pint of fluid blood and about the same amount of blood-clot. This firm clot lay between the liver and the posterior abdominal wall. There was also considerable retro-peritoneal hemorrhage. There was no peritoneal inflammation. The spleen was large and soft; weight ten ounces. Kidneys: Both glands were very much enlarged and softened; their capsules non-adherent. The cortex was thickened, the markings straight. Upon microscopic examination the epithelium was found to be in an advancing stage of granular metamorphosis. There was no evidence of an inflammatory action, but there was considerable bile-pigmentation. There was a granular condition of the os uteri, also an inflammation of cervix and fundus uteri. There was cystic degeneration of both ovaries, also a pedunculated fibroid of the fundus, one inch in diameter; alimentary tract normal. The duodenum was opened in situ, and the common bile-duct found to be patent, but just within its orifice it was widely dilated. All the hepatic tributaries were dilated, and contained small gall-stones. The gall-bladder was thickened and punctated. The gall-bladder and the hepatic tributaries contained in all eighty-six gall-stones, ranging in size from one eighth of an inch to one inch or more in diameter. The liver showed marked parenchymatous change and granular metamorphosis, but no positive inflammatory or suppurating foci.

EXSECTION OF THE HEAD OF THE FEMUR.

Dr. L. H. Sayre presented the head of the femur and a portion of the acetabulum removed from a boy thirteen years of age. The operation was performed February 21, 1887. The family history of the patient was good, and he had always enjoyed a fair degree of health. It had been noticed, however, that all through his life he had walked with a peculiar movement about the hip, and, as described by his sister, "as if he had a wooden leg."

Three years ago he had a severe fall, striking upon his right hip, and two years ago his lameness had become so marked that he was sent to a surgeon on account of supposed morbus coxarius. After examination it was concluded by the surgeon that the case was one of reflex trouble, and the patient was circumcised. The improvement after the operation was very pronounced, and for eighteen months the boy walked about as he had always done before receiving the fall.

On last Thanksgiving Day, after exposure, he complained of slight pain in the hip, became somewhat languid, and at the end of six weeks a marked deformity was present, yet it differed from that seen in the third stage of hip-joint disease. The leg was slightly flexed upon the thigh and the limb was adducted across the middle third of the opposite thigh, but the foot was not rotated inward. There was slight tenderness on pressing the head of the femur into the acetabulum, but no tenderness on pressing the bone upward. There was slight motion at the joint, but it was apparently nearly anchylosed. The entire buttock on the right side was enlarged and indurated. At no time had the boy suffered from the pain usually associated with hip disease.

The diagnosis was probable

OSTITIS OF THE ILIUM, INVOLVING THE ACETABULUM;

the condition of the head of the femur was not made out satisfactorily. The patient was put to bed and made more comfortable by the adjustment of an extension apparatus.

About two weeks ago Dr. Sayre detected deep-seated fluctuation over the gluteal region. The patient had then begun to lose his appetite and to have irregular chills. Dr. Sayre then made an exploratory incision, and found an abscess from which he evacuated four or five ounces of pus, which was without débris and did not present the appearance usually shown by pus associated with dead bone. The capsule of the joint was ruptured, and, under anæsthesia, the movements of the joint were quite free.

At this stage of the operation it became a grave question whether to simply drain the abscess or to explore concerning the condition of head of the femur and, if necessary, perform exsection.

On manipulation, however, a small quantity of the

peculiar gelatiniform material seen with chronic bone-disease oozed from the ruptured capsule, and it was at once decided to exsect.

After the upper part of the femur was removed, it was found that the whole of the articular cartilage had been loosened from the head of the bone; and that the carious process had extended through the head of the femur entirely. The acetabulum was carious at the upper portion, and from about the insertion of the ligamentum teres he removed dead bone down to the internal periosteum, but did not enter the pelvis. The cavity of the abscess was cleaned out thoroughly, a drainage-tube was introduced, and the wound was closed. Since the operation the patient had been doing well; pulse, 100; and temperature, 99° F.

Dr. J. F. Ridlon cited a case which he saw first about five years ago, and in which recovery had taken place. He had been in the habit of treating these cases by other means than exsection, with the expectation of getting good results, hence he was specially interested in seeing the head of the femur removed at this stage of the disease. The symptoms, in his case, began with a little limp, following hemiplegic chorea, that continued without pain, tenderness, or reflex muscular spasm for nearly a year.

The case was watched very carefully by a competent orthopædic surgeon, and finally a traction-apparatus was applied. About one year and a half after the first symptoms were noticed, a small abscess was found in the gluteal region just below the great trochanter and behind, which gradually increased in size until it was as large as half a medium-sized orange, and then disappeared.

He mentioned the case for the sake of asking Dr. Sayre if he had seen abscess in the gluteal region except where there was perforation, as in his case, through the head of the bone rather than the capsule of the joint. His own belief was, and always had been, from clinical observation, that the abscess of hip-joint disease usually opened in front when it opened through the capsule, but when it opened through the bone the opening was outside of the capsular ligament, as in this case.

He would also inquire how long the abscess had existed when it opened. Four or five days ago he saw a case of hip-joint disease in which the abscess showed itself first in the anterior part of the thigh, one year ago last November. No apparatus was applied; the case was, substantially, let alone, and the abscess gradually increased in size until last Saturday, when it ruptured. At that time it occupied the upper third of the anterior portion of the thigh and the posterior part of the thigh to the extent of about half-way down to the gluteal region. It discharged only a very small quantity of pus, and on the following Monday fluctuation could not be made out. There had been no pain for a year and two or three months.

He regarded the absence of pain as of no importance at all in the early diagnosis of disease of the hip-joint. He believed that pain was one of the later symptoms of morbus coxarius.

Dr. Sayre said that the case had been under his observation about seven weeks. When he first saw it the entire gluteal region was enlarged and indurated, and fluctuation was detected about three weeks ago. He had seen cases of hip disease without pain, and he had been of the opinion that the disease began in the bone, rather than any of the other structures of the joint, and gave rise to extensive changes in the osseous tissue. He had seen a case like that mentioned by Dr. Ridlon, in which the abscess was apparently absorbed, and the reason why he operated in the present case was because the boy had marked constitutional symptoms. He had never exsected a joint in the condition shown by the specimen, and should look with great interest for the result of an early operation. The cases in which he had seen exsection had been those which were of many years' standing. According to his experience the abscess in hip disease almost always opened upon the thigh, either anteriorly or posteriorly.

ABSCESS OF THE LUNG SIMULATING EMPYEMA, IN A CHILD THREE MONTHS OLD.

Dr. L. Emmett Holt presented the lungs of a female child, in which the whole right lower lobe was converted into an abscess-sac with a thin wall.

The history was as follows: The child, an inmate of the New York Infant Asylum, was first seen on October 23, 1886, it having been ill three days with pulmonary symptoms. The temperature had varied between 102° and 103.5° F. There was cough and accelerated respiration. Physical examination showed exaggerated resonance and respiration over the left lung, with a few coarse râles. On the right side the râles were finer, the breathing in places broncho-vesicular, and over the whole lung behind there was a shade of dulness. It was noted as being questionable.

On the eighth day the temperature, which had remained uniformly at the height mentioned (102° to 103° F.), fell to 100° F., and for the week succeeding scarcely rose above 101° F. The examination of the lungs on the eighth day showed on the left side only exaggerated resonance and respiration. On the right side there was moderate dulness, back and front, with diminished respiratory murmur over the lower lobe, and bronchial breathing at the apex.

He did not see the child again until the seventeenth day, when the house physician called his attention again to the case, as the "broncho pneumonia" (this had been the diagnosis up to this time) was not clearing up well, and the temperature had risen to 102° F. again. The general condition was excellent, however; the child was plump and well nourished, nursed well, had only a moderate cough, slight looseness of the bowels, but no night-sweats. One would not have suspected from the facies and general appearance that anything ailed the child.

The physical signs found now were, flatness over the lower three-fourths of the right lung, front and back; this line of flatness varied also with position; there was absence of respiration over this part, and bronchial breathing at the apex. The apex-beat could not be made out to be displaced. An aspirator was introduced near the inferior angle of the right scapula, and, much to the surprise of all present, the effusion was found to be purulent. Nearly three ounces of healthy pus was evacuated; it was odorless.

Four days later, on the twenty-first day, the signs pointed to refilling of the chest, and the aspirator was again introduced, but only half an ounce of pus could be obtained.

The general symptoms were not specially changed during this interval; the temperature remained low until the twenty-fourth day, when it rose rapidly until it touched 105° F. Symptoms of great dyspnœa, cyanosis, and prostration developed, and the child died during the night. When these new symptoms developed, the house physician twice introduced the aspirator needle, but obtained no pus.

Autopsy.—Body well nourished; head not opened.

Thorax.—On removing the sternum, the left lung was found collapsed and compressed; the chest was nearly filled by the right lung, which extended two inches to the left of the sternum, overlapping and slightly displacing the heart. There were tolerably firm adhesions over the whole right lung, but no effusion whatever in the pleural cavity.

THE DIAPHRAGM WAS DISPLACED DOWNWARD.

On the lungs being removed, the right lower lobe was found greatly enlarged and had a fluctuating feel. On being incised, about three ounces of thick pus escaped. The lobe was hollowed out and consisted of little more than the wall of an abscess. Posteriorly the living tissue was thinnest, being scarcely two lines in thickness. At

no point was it much over one-fourth of an inch thick, except about the root of the lung. The inner surface of the sac was rough and irregular, and seemed to have no well-defined pyogenic membrane. The bronchi were carefully followed out, but no communication existed between any of them and the abscess. The right upper lobe was partly compressed and partly consolidated, some small patches of pneumonia being seen in its lower border. The left lung could be easily inflated, except at one or two patches of presumably old collapse. The bronchial glands were slightly enlarged, but not cheesy. The capacity of the abscess-sac was found to be about four ounces. The other organs showed nothing of importance—the heart was healthy; the intestines showed evidence of slight catarrhal inflammation; kidneys normal in size, slight cloudy swelling; liver somewhat fatty, not enlarged; spleen normal. No evidence of a suppurative process was found anywhere. The bronchi leading to the lobes of the right lung showed evidence of a slight catarrhal inflammation only. No foreign body was found, nor anything else to act as a local cause of the abscess.

The case, so far as the speaker's observation and reading went, was a very unique one, and the diagnosis made of broncho-pneumonia, followed by effusion into the pleura, seemed fully justified by the symptoms. It was difficult to see how the differential diagnosis between such an abscess and empyema could be made.

Dr. Frank Ferguson mentioned a case of abscess of the right lung, with a smooth limiting membrane, occurring in an adult. There was a granular condition of the pleural surface of the lung over the abscess, but not very extensive adhesion to the chest-wall, and the cavity had communicated with a bronchus which admitted a probe about one-tenth of an inch in diameter. He thought that it was primarily connected with this bronchus. The abscess was in the lower lobe, and in the upper lobe were numerous miliary tubercles.

Dr. Ferguson presented a specimen of

STRICTURE OF THE ŒSOPHAGUS,

occurring in a child two years and two months old, who was admitted into the New York Hospital on February 17, 1887. Her family history was good, and she was perfectly well up to three months prior to her admission, when she swallowed a small quantity of caustic potash.

Since then she had not been able to retain any food, but constantly vomited at every effort to eat or drink. Her appetite was very good; her bowels were constipated. On admission she was found extremly emaciated. Whatever was given her to eat or drink was retained only for a moment and then she passed her finger into her mouth and regurgitated what she had taken.

Auscultation revealed that the fluids and solids taken did not travel the entire length of the œsophagus.

The passage of a bougie was interrupted at about the middle of the tube. The child rejecting everything given her by the mouth, was put on nutritive and stimulating enemata, which she retained when given in small quantity.

During her residence in the hospital her temperature ranged below one hundred, and her condition was such that operation was not regarded as advisable. She died thirty-four hours after admission.

The *autopsy* revealed a stricture of the œsophagus, about its middle, two inches in length, and admitting a probe one-eighth of an inch in diameter. The œsophagus above the stricture was dilated; below it, normal. There was much thickening of the wall of the œsophagus in the neighborhood of the stricture.

The stomach was very anæmic, but otherwise normal. The other organs also were all anæmic, but otherwise normal. The body was greatly emaciated.

The Society then went into executive session.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN OBSTETRICS.

Stated Meeting, March 24, 1887.

E. L. Partridge, M.D., Chairman.

Dr. Hubbard W. Mitchell read a paper entitled

OPERATION FOR STELLATE AND BILATERAL LACERATION OF THE CERVIX UTERI,

in which he spoke of the frequency of the occurrence, of the injury, of its forms, of the difficulty of recognizing it at the time of labor, of the possibility of absence of after-symptoms and of spontaneous healing, of the symptoms to which it may give rise as mentioned by Thomas, of the liability to the occurrence of epithelioma in consequence, described by Emmet, and then proceeded to describe the method of operating which he had practised, after preparatory treatment, consisting of cleansing the parts, scraping away all granular material with the sharp curette, the use of hot-water injections, and applications of solution of nitrate of silver, forty grains to the ounce.

He uses his own speculum, a modification of Sims', which is a Sims blade with two broad, separate wings, bent into such a curve as holds up the upper labium (patient in the Sims position, profoundly anæsthetized) and depresses the lower labium, and gives a wide vaginal opening through which to work. It has one large, movable handle, that can be attached to blades of various sizes. Having located the place where the future os is to be, he cuts away all unsound tissue. The circular artery is almost invariably divided. He uses interrupted silver-wire sutures, five or six to the inch, and threads the wire directly into the eye of the needle. He removes the sutures on the tenth day. Of the 113 cases on which he had operated union by first intention took place in 110. Of the 65 cases of bilateral laceration, pregnancy occurred subsequently in 8, and at the next labors—he attended them all—laceration occurred in only one, and there it was only slight.

Dr. C. C. Lee said that he had been favorably impressed with the paper, which contained an excellent exposition of the present state of knowlege with regard to trachelorrhaphy, but that he should be obliged to differ with its author concerning some of the details of treatment. He thought that the

LOCAL APPLICATION OF NITRATE OF SILVER

did more harm than good; weak solutions of iodine were more beneficial. He had never seen a needle that could be managed so well as the carrying-loop, in using silver-wire sutures. It had not been his experience that the circular artery had been divided in the operation in a greater proportion than one in twenty cases, and when divided he had regarded it as an accident rather than an almost necessary part of the operation.

Dr. Wylie could not agree with the general import of the paper or find very much in it to commend. He believed that to speak of laceration of the cervix as a disease was calculated to do harm and increase the number of operations, judging from the very large number of patients operated upon in so short a time by Dr. Mitchell.

A perfectly healthy, normal cervix is not likely to be lacerated. But if the cervix is imperfectly developed, or has been the seat of disease, it is very liable to be lacerated, and in such cases a slight laceration may cause a great amount of trouble. Simple laceration of the cervix, unless it destroys the sphincteric power of the uterus, does but very little harm, provided there is no disease of the glands or follicles and no sepsis following labor. He believed that Dr. Mitchell had operated in cases which could have been cured, probably, by treating the conditions which were complicated by the laceration of the cervix.

LACERATED CERVIX SHOULD NOT BE SEWED UP

until it gives rise to symptoms, and when it does produce symptoms there is some disease behind it that needs treatment.

Dr. Mundé would never operate on what had been called the stellate laceration, unless there were special symptoms referable to what had been known as the cicatricial plug, and he might not even then. The bifid laceration might require an operation, providing it gives rise to symptoms. He never considers a laceration with regard to operation unless it produces symptoms; its mere existence does not call for sewing it up, no matter how large it may be, or how much everted.

When the cicatricial tissue makes pressure deep into the cellular tissue, and is attended by pain and reflex symptoms, the operation is justifiable. When the eversion is large, the menopause is not far off, and there is free discharge, he would operate, because of the liability to the development of epithelioma. He did not agree with Dr. Chadwick, of Boston, who had recently published that there was no danger of epithelioma developing from lacerated cervix, simply because he had had cases that proved to the contrary, and had no doubt that

THE LACERATED CERVIX IS MORE LIABLE TO BECOME THE SEAT OF MALIGNANT DISEASE,

if the eversion and erosion, etc., are sufficient, than is the cervix that is not in a torn condition.

He regarded it as a mistake when the circular artery was cut. He thought that in about ten per cent. of the cases the operation failed. He also regarded five or six sutures to the inch as more than was necessary. He utterly condemned placing the external os anywhere except where it belonged, and where it could receive insemination.

Dr. A. F. Currier agreed with the conservative remarks of the last two speakers, and had found that he declined more and more to perform the operation. He regarded five or six sutures to the inch as too many, and very liable to interfere with proper circulation.

Dr. Mitchell, in closing the discussion, said that only a few applications of nitrate of silver were required, hence its deleterious effects need not be produced. Where the case demanded an operation, it should be performed without much delay. He thought it was understood by all that the operation should not be performed unless called for by symptoms. He had not been able to give much relief without, in most cases, an operation to restore the contour of the cervix; but by cutting away these follicles and granulating tissue, reaching healthy tissue, and then closing the wound with silver-wire sutures, he had cured his patients.

He was unable to see how Dr. Mundé could cure a case of stellate laceration of the cervix without first cutting away all the torn tissue completely, and converting it into a straight, large, open wound.

TUBAL PREGNANCY.

Dr. Wylie opened the discussion on this subject by briefly narrating three cases. The points which he made were, that it was difficult to make a positive diagnosis; that if made, electricity should be used, but that if it failed he would operate at once; that if he had the placenta to deal with he would, if he could feel sure that he could do so perfectly, tie off the blood supply, and then remove it.

Dr. A. F. Currier, on behalf of Dr. J. E. Janvrin, read the history of a case and exhibited the specimen. Dr. Janvrin would perform laparotomy whenever the first symptoms of internal hemorrhage occurred. The primary rupture—which occurs in the superficial artery without rupture of the sac—which is sure to be repeated, is the cause of the colicky pain-collapse and other grave symptoms, and indicates

THE PROMPT PERFORMANCE OF LAPAROTOMY.

Even before symptoms of rupture develop, he would urge the performance of laparotomy.

Dr. J. West Roosevelt presented a specimen without history other than than it was removed from the body of a woman who died, in Roosevelt Hospital, of syphilitic tumor of the brain. The fœtus was between six and seven months old, and had changed into a condition resembling

ADIPOCERE.

The tumor had been carried for many years, and had not given rise to symptoms.

Dr. P. F. Mundé gave a brief history of three cases of tubal pregnancy; of extra uterine fœtation he had seen six cases. He believes that a positive diagnosis can be made, notwithstanding the stricture placed by

MR. LAWSON TAIT ON DR. COE'S PAPER,

in which he said that it could not be done, and then modified it by saying that he wished to say that he had never seen such a case. He regarded

TYMPANITES AS A GRAVE COMPLICATION

He would not operate at once, but would wait a little in primary rupture, and be governed by the general condition of the patient. He regretted that he did not perform laparotomy in one case.

Dr. J. Lewis Smith exhibited a specimen removed from the body of a woman, whom he saw with Dr. Griswold, and who was suddenly attacked with severe pain in the lower part of the abdomen, but without vomiting, and did not go into

COLLAPSE UNTIL ABOUT SIX HOURS AFTERWARD.

She died sixteen hours after the occurrence of the rupture. Her catamenia had continued throughout her pregnancy.

Dr. Brown, of the Carnegie Laboratory, who made the autopsy and had examined the specimen, reported that there was a large quantity of blood in the peritoneal cavity, but there was *no evidence of peritonitis*. The interesting features of the specimen were the presence of a decidua, the extreme thickening of the walls of the uterus, and the extreme thinness of the walls of the sac at the site of the rupture. As to

THE PRESENCE OF THE CATAMENIA,

Dr. Wylie said that this was a symptom that could not be depended upon, and The Chairman remarked that irregular discharges of blood were commonly present, but it was believed generally that true catamenia were absent.

Dr. R. A. Murray then presented a specimen of

RUPTURE OF THE UTERUS.

It was interesting from the fact that an absolute diagnosis was not made. The woman was twenty years of age, single, and a primipara. There was nothing special concerning her labor except the *absence of all the usual symptoms of rupture*. There were no violent labor pains at any time.

FORCEPS WERE USED,

because the fœtal heart could not be heard. After labor there were no symptoms pointing toward rupture. There was some pain in the abdomen, which became tympanitic, but the lochia were of a bright-red color and absolutely free from odor. However,

THE FACIES OF THE PATIENT INDICATED GREAT DEPRESSION,

and an examination was made, under ether, when it was found that rupture had occurred upon the right side at

the vaginal junction and had extended into the body of the uterus.

There was a fair amount of milk secreted. Up to the seventh day there was the history of moderate septicæmia, the highest temperature being 102° F. Death occurred several days afterward, and at the autopsy there were found

GANGRENOUS ENDOMETRITIS,

with swollen and œdematous tissues and diphtheritic exudation upon both uterine and vaginal surfaces.

Tympanites and a contracted pelvis prevented a proper examination until the fourth day after labor, when he was able to let out a large quantity of very fetid blood.

SEPTICÆMIA DEVELOPED NOTWITHSTANDING THE BICHLORIDE INJECTIONS,

and the fetor was controlled, but the patient died, as he believed, in consequence of the initial poisoning. He also believed that laparotomy would have given the patient a better chance for recovery.

Dr. Wylie said that in cases where the septic trouble was confined to the broad ligament, he would dilate freely, put in a drainage-tube, and wash out the cavity thoroughly.

Dr. Mundé would extract the child through the rent in the uterus from the abdominal cavity, if he could do so readily; if not easily done, or the placenta had escaped into the abdominal cavity, he would perform laparotomy for that purpose. If, however,

THE PERITONEUM OF THE UTERUS

was not ruptured, laparotomy should be left out of the question.

The Section then adjourned.

Correspondence.

NITRO-GLYCERINE IN THE TREATMENT OF EPILEPSY.

To the Editor of The Medical Record.

Sir: In the interesting discussion on the pathology and treatment of epilepsy, at the meeting of the New York Academy of Medicine, on March 3d, a report of which is published in your issue of the 19th, I was surprised to see no mention made of nitro-glycerine as a medical agent in this intractable affection.

My own experience with it is limited to a few cases, but the reports as to its value have been quite numerous, and are of such a character as to render further trials of it advisable.

In one of my own cases the result was most gratifying. A girl, fifteen years of age, of bad family history—her mother and grandmother having died insane—had been a sufferer from epilepsy for two years. Her general health was good and her menstrual functions properly performed.

I saw her first in consultation with Dr. Newman, of Orange County, Va., on November 1, 1885; she was then having convulsions almost every day, and sometimes twice in twenty-four hours. The bromides had been faithfully tried with but partial relief. She was at once placed upon nitro-glycerine, one drop of a one per cent. solution being given her three times a day. She had a convulsion on November 9, 1885, and did not have another until about November 1, 1886—the nitro-glycerine having been continued without intermission during the whole of this time. On November 13, 1886, I saw this young lady again; she had then had two slight convulsive seizures and had on several occasions been "dazed," as she expressed it. The dose of nitro-glycerine was increased to one drop and a half three times a day, and she has had no return of either the convulsions or the "dazed feelings" since.

In view of the fact that the *hygienic* management was precisely the same before and during the administration of the nitro-glycerine, it seems fair to attribute the benefit in this case to its use.

In another case the convulsive seizures were kept under control for some weeks; but it was impossible to induce the parents of the patient in this case to persist in the use of the remedy, they having been taught that epilepsy was incurable. In several other cases which have fallen under my observation there has been improvement, but there has not yet been a sufficient interval of time since the treatment was commenced to say what the ultimate result will be.

As is well known, nitro-glycerine produces a disagreeable flushing of the face when it is first taken, but this effect is very transient, and the slight headache which sometimes accompanies it is equally so.

William C. Dabney, M.D.

University of Virginia.

New Instruments.

SOME NEW NASAL, PHARYNGEAL, AND LARYNGEAL INSTRUMENTS.[1]

By S. Sherwell, M.D.,

Brooklyn, N. Y.

In connection with my dermatological work I have to do with a not inconsiderable number of diseases of the upper air-passages, often certainly as syphilitic annexes, but far more frequently of the character of non-specific affections. At one clinic, that for skin and throat diseases at the Brooklyn Eye and Ear Hospital, I see about five hundred new throat and nose cases each year, which, together with private practice of the same kind, and duties in other hospitals, would bring the total amount to very considerably over one thousand fresh cases annually.

I have consequently had to meet, and get over as best I might, most of the difficulties that occur in these regions in the way of operative interferences; and although I have a fair array of instrumental armamenta for that special work, still I suppose no man has at his command all the special instruments made for help in such cases; and, in fact, sometimes, if not frequently, he is called upon to either modify some existing instrument, or to devise new ones (as I claim to have done in the instruments I now lay before you) to meet the exigencies of the existing situation or to supply deficiencies. The instruments in question, I hope, in many cases will serve to fill the traditional "long felt want," and I shall publish them as Sherwell's Nasal, Pharyngeal, and Laryngeal Scissors.

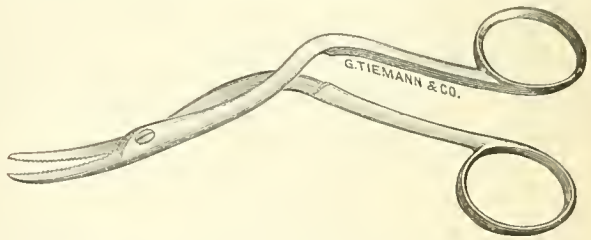

Fig. 1.—Nasal Scissors.

The nasal scissors are intended for removal of neoplastic growths, or hypertrophic tissue, from the anterior, or middle, or even the deeper portions of the nares, and consist of a pair of serrated blades similar to the alligator-tooth scissors, slightly concavo-convex, and with handles bent downward in the long axis so as not to obstruct the vision while operating.

The pair shown were made about five months ago, for operation on the nose, for the removal of hypertrophied turbinated tissue in the person of a well-known professor

[1] Read before the State Medical Society at its Annual Meeting on February 3, 1887.

of surgery, and succeeded in their purpose fairly well. It will be noticed that they are best adapted for the left nares—on that side the trouble was present in this case; but they can be, and have been, used for right nares by inverted handling. The notched teeth prevent slipping and pushing of the tissues away, as can be best demonstrated by cutting a piece of india-rubber with them, and then doing so with the ordinary smooth-scissor blades. It will be noticed, also, that the shanks of the handles are narrowest when the blades are open nearly, if not fully, to the greatest necessary extent.

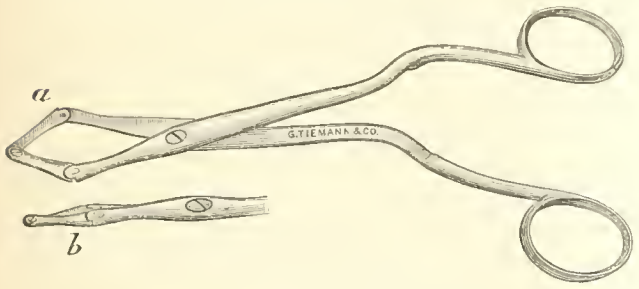

FIG. 2.—Pharyngeal Scissors.

Figs. 2 and 3, pharyngeal and nasal, I give in order of priority of make.

In Fig. 2 I have tried to construct an instrument capable of being used by anyone, however inexpert; that should run no risk of piercing the pharynx, or the important vessels back of the tonsils, etc., no matter what unguarded movements a nervous or intractable patient might make during the operation. This is intended to trim a pharynx, to cut out small, teat-like projections of a fretted or ragged tonsil, which are so often seen; and which are, from their size and shape, impossible to remove by the tonsillotome; and also as a most useful uvulatome. The advantage, so readily seen by the expert, of its needing no help with forceps, thus leaving one hand free for tongue-depression or for steadying the head of the patient, seems to me obvious enough; and it has certainly so proven in the relatively few cases in which, owing to its recent make, I have had an opportunity to use it.

The instrument, as will be noticed, is an absolutely pointless scissors, hinged about one-third of the distance from the extreme end, and thus composed, as will be seen, of four blades, but forming but two, as it were, by cutting at the hinge-joint as well, when the handles are closed. This is difficult to make satisfactorily, but the Messrs. Tiemann have surmounted this difficulty, and doubtless it will be even improved upon by their skilled workmen in the future.

The instrument when open, and it should be ordinarily introduced that way if the pharyngeal space is shallow, has an inside cutting surface something like the old Roman spear-head, the apex directed toward the operator; it needs but one word to explain why that is made so: This serves to thrust the enclosed tissues forward to the operator instead of away from him, as is the case with the ordinary curved or straight scissors.

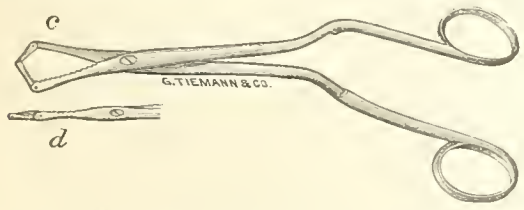

FIG. 3.—Nasal Scissors. *c*, Blades open; *d*, blades closed.[1]

I think this idea has the merit of novelty at least, for I cannot recall any other instrument in which the cutting is going on all round at the same moment save in écraseurs.

[1] By draughtsman's error the proximal blades are not made long enough; angle of distal blades correct; the lumen should be considerably longer.

I have purposely given Fig. 3 out of its natural sequence, although it is intended for the same use as Instrument No. 1, *i.e.*, for the removal of hypertrophic and other tissues from any part of the anterior or deeper nares; I think it has many advantages over the first shown, but is more complex. It is, as will be seen, but a modification of the pharyngeal scissors just described, but is more delicate and has serrated edges. It will be noticed that the inside cutting edge is not that of the Roman spear, but rather that of an Indian arrow-head or javelin; this is accomplished, as is evident, by making the site of the hinged joint nearer the extremity of the blade. I operated with it on January 29, 1887, the day it came from the makers' hands, having reserved a patient with the growths above named; it worked very well. It needs no special instruction in its use, is absolutely free from danger, and causes, it may be said, no hemorrhage.

I think the instrument made a little stronger might be better.

The last instrument (Fig. 4), though it has, and must have, more limited use and a far narrower circle of users, I am somewhat enthusiastic over. Probably all laryngologists have been bothered (we may take the confessions of the most noted at least, that they have been) to get hold of and crush or cut, or both combined, those little or big neoplasms that occur, fortunately, relatively so rarely in the recesses of the larynx. I average three or four laryngeal tumors, I think, annually, and have a fair supply of Stoerk's, Mackenzie's, Schrötter's, Fauvel's, etc., instruments, but every now and then I have been exceedingly annoyed at the elusiveness of these little tumors situated on the vocal cords and elsewhere in that vicinity. I have sometimes tried all my own tools and borrowed others, and worked till my patience or that of the patient was exhausted; this is apt more particularly to be the case in and of those sessile outgrowths, papillomata, or what not, from one or the other vocal cord.

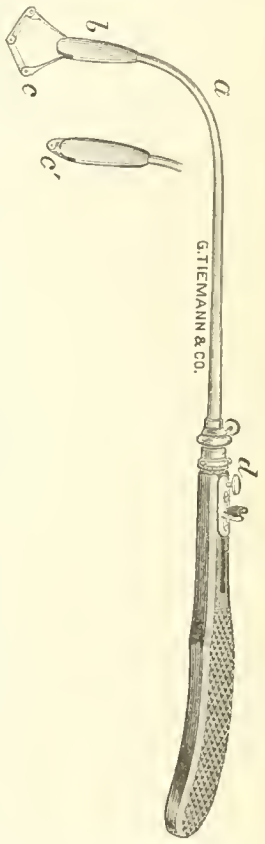

FIG. 4.—Laryngeal Scissors. *a*, Tube: *b*, sheath, cutting edge below slot; *c*, instrument retracted into sheath; *d*, sliding retractor-grip on wire.

The instrument now shown is then adapted to one of Schrötter's tubes and handles, and consists virtually of the same idea as that of the hinged and jointed four bladed scissors just as given in the preceding two, naturally very much lessened in size and with yet a differing lumen. The instrument is introduced closed into the larynx, allowed to expand by the automatic spring arrangement on pressing the wire attached to the finger-piece, and when, as the expert will know, it is at or about the site of the growth, is redrawn up into the tube, and into the slot in the tube, by retracting finger-pressure.

The instrument may not cut the growth off cleanly, but a very slight pushing and retracting will divide the tissues met with there. The cleanness of separation is of little consequence anyhow, for we know, as a matter of fact, that the nutrition of these small neoplasms once essentially interfered with by crushing or cutting, they tend to disappear, as do warts and such, by astringent and alterative applications being applied with the brush, etc.

I believe this instrument to be a good addition to the existing armamenta for laryngeal operation, and hope it

and the others will commend themselves to the gentlemen more especially interested in such work.

Owing to its recent make I have had but one opportunity of using this instrument on a laryngeal growth; it succeeded then admirably. One point omitted in description of instrument is, that there is a screw-joint at junction of shaft and tube, permitting any degree of rotation of cutting surfaces.

I also believe that the principle of this hinged and pointless scissors would adapt itself well for use in some of the other mucous openings and cavities of the body. The four blades closing at once give it an essentially écraseur like action, so that hemorrhage is usually extremely slight.

Army News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from April 3 to April 9, 1887.

HOFF, JOHN VAN R., Captain and Assistant Surgeon. Ordered for duty at Fort Reno, Ind. Ter. S. O. 43, Department of Missouri, April 4, 1887.

CORBUSIER, W. H., Captain and Assistant Surgeon. Granted leave of absence for one month. S. O. 35, Department of Arizona, March 29, 1887.

BURTON, H. G., Captain and Assistant Surgeon. Ordered to Plattsburg Barracks, N. Y., for temporary duty. S. O. 78, A. G. O., April 5, 1887.

LA GARDE, L. A., Captain and Assistant Surgeon. Ordered for duty at Fort Assiniboin, Mon. Ter. S. O. 78, A. G. O., April 5, 1887.

Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending April 9, 1887:

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	15	5
Scarlet fever	58	6
Cerebro-spinal meningitis	2	1
Measles	79	10
Diphtheria	82	33
Small-pox	6	4
Yellow fever	0	0

A DISPENSARY WHICH TRIES TO CORRECT THE ABUSES OF MEDICAL CHARITY.—In the recently published Seventeenth Annual Report of the Manhattan Eye and Ear Hospital, which now occupies the beautiful new building erected for it on Park Avenue, near the Grand Central Depôt, are to be found some facts of special interest. From it we learn that constant and vigilant efforts are to be made to exclude from the benefits of the hospital all who are not, by reason of poverty, deserving of gratuitous care. A registrar occupies a desk near the door, and asks the following, among other searching questions, of every applicant for treatment: "How much money have you in savings or other bank?" "How many persons are dependent on you for support?" "How much rent do you pay?" "Can you afford to pay anything for medical advice?" During the year just past two hundred and fifty-nine applicants were rejected after such inquiries, having acknowledged that they were able to pay. Moreover, after such inquiries have been made and satisfactorily answered, the beneficiaries or their friends are asked to contribute what they can to the treasury of the hospital; and it is of interest to learn that during the past year there was contributed by the acknowledged poor beneficiaries the sum of $6,614. All the money thus received was expended for the benefit of the hospital and dispensary patients.—Cor. *Am. Jour. S. and A.*

PROFESSOR SAINT GERMAIN, of Paris, for phimosis uses a pair of pointed forceps which he introduces as far as the meatus, and then spreads it until he can pass the gland through the opening. The operation is followed by less irritation than circumcision, and the results seem to be good. He is not a friend of the Jewish idea of the superfluity of the foreskin; in fact, he says that when you cut it away you have in a manner deformed the patient and deprived him of a tissue which he believes to contribute to the perfect healthiness of this most important gland.

DR. MARTIN, OF BERLIN, operates with a rapidity that is wonderful. I have seen him remove an ovarian cyst and close the wound in seven minutes, and have frequently seen him do the operation inside of ten minutes. He considers despatch a prime element of success, and thinks that Lawson Tait's idea of a small abdominal incision is an erroneous one. He thinks that too many assistants are bad, and tells of performing an ovariotomy entirely unassisted, those he depended upon being taken with a fainting fit and hence unable to perform their duty. —Cor. *Chicago Medical Journal.*

PROFESSOR BERGMANN is the most painstaking man I have seen operate, and his results are the best; that is, his wounds heal more uniformly without suppuration or constitutional reaction. He condemns the use of instruments with horn handles, believing that it is difficult to render them aseptic. I had the good fortune to attend his clinic during the college vacation, when he was lecturing to and operating for the instruction of the army surgeons. There is a feature about his operations that, in my opinion, plays a most important rôle, and that is the care with which he ligates every bleeding vessel, however small. For this purpose he uses only catgut, even to ligate the femoral artery.—Cor. *Chicago Medical Journal.*

A STATISTICAL VIEW OF THE TOXIC POWER OF IMPURE (AMYLIC) ALCOHOL.—To poison an animal with pure ethylic alcohol it requires as many times seven grammes seventy-five centigrammes as there are kilogrammes in its weight; whereas with pure amylic alcohol it would not take more than one gramme ten centigrammes per kilogramme. In other words, supposing a man weighing eighty kilogrammes, it would require six hundred and twenty grammes of ethylic alcohol to kill him, while with amylic alcohol it would take only eighty-eight grammes. These figures prove that people now become alcoholic with seven times less liquor than formerly.

PROFESSOR LANNELOGUE, in his lectures at the School of Medicine, treated, for the first part of the session, of injuries and diseases of the head, spine, and neck. For injuries of the skull he still adheres mainly to the use of the trephine, claiming that when the operation is performed antiseptically it gives good results. On the other hand, Bergmann has abandoned this instrument, and in a late number of *Volkmann's Vorträge* he takes occasion to discuss this subject in a most thorough manner, showing that by substituting the hammer and chisel immensely better results are obtained. In speaking of Pott's disease of the spine Professor Lannelogue says that the microscope has settled the question as to its tuberculous origin. As to the plaster-of-Paris jacket of Sayre, he says that the idea of keeping the two diseased surfaces separated by this appliance is irrational and impracticable. He puts his patient in a horizontal position and keeps him there for months together, taking him in the open air as much as possible to preserve the general health.—Cor. *Chicago Medical Journal.*

The Medical Record

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Original Articles.

ON THE PROPER SELECTION OF CHLOROFORM OR ETHER AS AN ANÆSTHETIC.

BY ARPAD G. GERSTER, M.D.,

NEW YORK.

THE question of safety in anæsthesia is of great interest to the general medical public, but of an absorbing interest and of paramount importance to the hospital surgeon, whose duty calls him to make daily use of anæsthetics in operations.

Insensibility has to be induced under the most varying individual conditions of age, health, or disease, for the alleviation or cure of disorders of various regions; and truly it can be said of the hospital surgeon that the observation and study of the normal and abnormal phenomena of anæsthesia, with their advantages and constant danger, are an ever-present accompaniment of his avocation.

Before entering upon the discussion of the merits of the question that is to occupy us, a few words may be appropriate regarding the spirit which unfortunately has characterized many of the deliberations instituted for the sake of elucidating the principles which should govern the physician's choice of anæsthetics.

Instead of the maintenance of the unbiassed and calm tenor of the scientific observer's mind, so indispensable to the arrival at reliable and trustworthy conclusions, we have seen, too often, the zealot's vehemence, the partisan's lack of candor, and the exaggerations of a political controversy enter into the debates had on the merits of the different anæsthetics.

I wish to enter a solemn protest against this unscientific way of conducting an inquiry for the discovery of truth, and this mainly because I am convinced that the truth which we strive to discover cannot be arrived at unless we cast off all prejudice and passion and approach our problem with the spirit of candid inquiry. Pains have been taken to exclude material not gathered within the personal experience of the author, all conclusions arrived at and views taken being based upon personal observation made during an arduous hospital service of eight years.

First of all, let us clearly state that both chloroform and ether are dangerous anæsthetics, as a long array of fatal accidents recorded in medical literature has abundantly shown. The relative amount of danger caused by chloroform or ether anæsthesia is best characterized by the fact elicited in the series of sphygmographic observations made by Kappeler, that chloroform invariably produces a very marked depression of the vaso-motor function, and that this depression occurs only occasionally in ether anæsthesia.

The practical significance of this fact is, that chloroform is the infinitely more powerful agent, and that its administration requires a greater amount of care, caution, and circumspection. But this fact is by no means a sufficient ground for its unqualified condemnation. It is true that the administration of chloroform involves a greater responsibility as long as the patient is kept under its immediate influence; but consciousness being restored, the dangers of chloroform anæsthesia are past, as no secondary deleterious consequences are recorded that could be charged to the use of chloroform.

Ether, on the other hand, has not caused as often immediate death on the operating-table as chloroform; or, put in another way, recklessness in its administration has not been followed as inexorably by disaster as in the use of chloroform; but the dangers of ether anæsthesia are by no means overcome from the moment that the patient has recovered consciousness. Numerous deaths from acute nephritis and catarrhal pneumonia, chargeable to ether anæsthesia, abundantly attest this.

To sum up the proposition, it may be said that, whereas chloroform is undeniably the more powerful anæsthetic, the immediate danger of its administration is greater, but is past as soon as anæsthesia has terminated, no secondary effects following its exhibition.

Ether being the less powerful anæsthetic, its immediate danger during narcosis is less, but is in a great measure compensated by secondary dangerous affections of the lungs and kidneys, occasionally produced by its administration.

The statement made by zealous advocates of ether, that its administration is always, and under all circumstances, safer than that of chloroform, does not coincide with truth, as we shall presently see.

The main object of this paper is to point out, on the one hand, the conditions under which chloroform is the more dangerous anæsthetic and should never be used; and, on the other hand, to show when ether is the more dangerous narcotic, and therefore should not be employed. Both agents are a very valuable part of our pharmacological equipment, and their intelligent employment should be fully understood by every well-educated physician. Such one-sidedness as prevails in some of our Eastern medical centres, where physicians are frequently met with who fear and shun the use of chloroform even where it is clearly indicated; where physicians exist who confessedly do not know how to administer chloroform, *because they never have seen it done;* where the otherwise excellent schools clearly neglect to impart to their scholars by practice the knowledge of administering chloroform—such one-sidedness cannot stand serious criticism, and must lead to the comparatively frequent detriment of those who intrust us with their welfare during an illness requiring anæsthesia.

The false cry that ether anæsthesia is entirely free from danger has led to another grave condition of things observed among the young men who seek and gain hospital positions. Nowhere else did the reader of this paper see an amount of recklessness exhibited in the administration of anæsthetics equal to that in the cities where chloroform is tabooed; especially in cases that take ether badly, and in whom relaxation is not easily accomplished, matters are forced in a way that must excite the gravest apprehensions for the safety of the patient. Usually these are the cases of those addicted to the immoderate consumption of alcohol, persons of enfeebled circulation and impaired respiratory organs.

More and more ether is poured on, until the cyanosed patient relaxes, his stertorous breathing indicating that an ever-increasing mass of viscid mucus and saliva is flooding his trachea and bronchi. The sensitiveness of the larynx and trachea is abolished, and if vomiting occurs, especially where the inexperienced anæsthetizer neglects to conduct the vomited matter out of the mouth, gastric contents find their way into the bronchi, and a catarrhal or even septic pneumonia follows, resulting in death, which, however, is never charged to the account of ether.

It being admitted that, on the whole, ether is the less dangerous anæsthetic, preference should be given to it, especially when anæsthesia has to be conducted by an inexperienced person. Ormsby's inhaler is better than Allis' or its modifications, as less ether is required by its use to induce and maintain full anæsthesia, and recovery is more prompt on this account.

Ether is counter-indicated in all affections impairing the integrity of renal function.—To Emmet belongs the honor of having first pointed out the danger of administering ether in chronic or acute renal disease. An increasing number of recent observations fully corroborates his view taken in this matter. As an illustration the following case may be quoted here :

Case I.—I. M——, aged seventy-three, admitted August 21, 1883, to Mount Sinai Hospital, on account of incarcerated right inguinal hernia of three days' duration. Constant feculent vomiting; good pulse, sixty beats per minute were present. Late at night herniotomy was performed under ether, after an unsuccessful attempt at taxis. The sac being exposed, a knuckle of gut containing an oblong, square body could be felt. This body gave way to moderate pressure of the fingers, after which the gut could easily be replaced into the abdominal cavity without opening the sac. The patient's daughter reported on inquiry that her father had had a large meal of potato-soup before he was taken sick. It was concluded that a square piece of potato, bolted by the toothless old man, had been the cause of the strangulation. The operation had lasted twenty-five minutes. The patient recovered promptly from the anæsthesia, and exhibited no symptoms indicating a disturbance of the wound. August 23d, marked somnolency was noted, with very scanty secretion of urine, which was found to contain much albumen and hyaline casts. The wound was healed August 29th, nothwithstanding the fact that uræmia, with stupor and much vomiting, continued to exist, to which the patient succumbed in a comatose state, September 1st.

There had been no indication of kidney trouble previous to the operation.

Those who wish more convincing proof on this subject are referred to the publications of Emmet, Van Santvoord, Wesley M. Carpenter, Dr. Millard, William F. Norris, and Dr. Turnbull.

That chloroform is a much safer anæsthetic in Bright's disease and allied morbid conditions of the kidneys than ether is abundantly attested by the fact that it has been employed for hours together, without any accident, in uræmic eclampsia of gravidity. A careful examination of the urine should invariably precede every anæsthesia, and the presence of albumen or casts should be considered a positive counter-indication to the use of ether, and a direct indication for the use of chloroform.

Serious objection to the use of ether as an anæsthetic must be raised in another numerous class of cases. *Chronic catarrhal affections of the bronchi of the aged, and, perhaps, of infants, frequently develop into catarrhal pneumonia terminating in death of the usually enfeebled patients in question.* Very little has been said or written on this subject heretofore, and the reader of this paper deems it his duty to draw the attention of the profession to his experience regarding this matter.

The very profuse secretion and inspiration of saliva into the air-passages seems to be the main cause of the pneumonia observed after the inhalation of ether. The cold fumes of the drug seem to blunt the sensibility of the bronchial mucous membrane to such an extent that the entrance and presence of even vomited matter does not excite a sufficient stimulus to vigorous reflex action or coughing, especially at the end of prolonged anæsthesia. Hence, what German authors call "Schluckpneumonie" is comparatively frequent after the use of ether, and frequently terminates fatally in those previously afflicted with chronic lung trouble.

Case I.—M. B——, aged forty-three, admitted to Mount Sinai Hospital, August 20, 1883, with a very tight cancerous stricture of the rectum, complicated with periproctitic abscess. On account of this affection and a chronic bronchitis of a mild type her general condition was rather poor, but not sufficiently so to prevent her from attending to her household duties. Lumbar colotomy was performed, under ether, August 22, 1883, the patient being placed on the operating-table on her right side. August 23d, in the morning, a severe chill and high fever set in, the thermometer indicating 105° F. in the axilla. The wound was examined, but was found pale and normal. The next day, August 24th, pneumonia of the entire right lung was diagnosticated, to which the patient succumbed, August 26th. Post-mortem examination revealed dense infiltration of the entire right lung. The colotomy wound was found healed throughout by adhesion.

Case II.—M. H——, aged sixty, admitted to Mount Sinai Hospital, for castration of a tuberculous testicle, on January 23, 1887. Operation was performed January 24th, under ether. January 26th, at 2 P.M., a severe chill set in, followed by an elevation of the temperature, which reached 106° F. in the rectum at 6 P.M. Dulness on percussion, corresponding to the lower posterior portion of the right lung, was made out. The wound was examined at the same time, and was found in a thoroughly correct condition. The pulse was fluttering and very frequent, respirations were shallow and hurried, the patient comatose. He died the same evening at 9.55. Post-mortem examination, done the following day, showed lobar pneumonia of the lower part of the light lung in the stage of bloody engorgement. Wound throughout adherent; peritoneum normal.

Case III.—S. Y——, aged sixty-one, admitted November 12, 1886, to Mount Sinai Hospital, with far-gone cancer of the rectum, for which inguinal colotomy was performed, November 15th, under ether. November 16th the temperature rose to 103.2° F. November 17th, catarrhal pneumonia of the lower part of the left lung was made out, which gradually traversed the entire left lung, causing a number of febrile exacerbations and a very rapid and alarming deterioration of the general condition. The patient's sufferings were very much aggravated by the involvement of the prostate and neck of the bladder by the cancerous growth, causing frequent and painful micturition, and ultimately cystitis and pyelonephritis, to which the patient succumbed, December 23d. Profuse bronchial secretion of purulent character was observed up to the termination of the case. The inguinal colotomy wound healed by primary adhesion as far as the peritoneal sutures were concerned. The muco-cutaneous suture parted in a considerable portion of its extent on account of sloughing of a circumscribed part of the skin, which was, however, readily detached and gave way to a firm cicatrix.

The house-surgeon of the German Hospital kindly extracted notes of three cases of pneumonia, following the administration of ether, observed during the year 1886 in that institution.

In Case I., a patient twenty-five years of age, fatal pneumonia set in the day following an extirpation of the inguinal glands. Before the operation dulness over the apex of the right lung, due to past pleuro-pneumonia, was noted. The affection reappeared on the same side.

In Case II. perineorrhaphy was performed, under ether, on a woman fifty years of age. Immediately after the operation pneumonia set in, to which the patient succumbed. Post-mortem examination revealed a fatty heart, pulmonary emphysema, and chronic bronchitis in addition to chronic nephritis.

In Case III., a boy, sixteen years of age, severe pneumonia followed an extirpation of inguinal glands under ether. Patient recovered.

Five cases of serious bronchitis were also observed, in 1886, in the same institution, after the use of ether.

Four more cases of pneumonia, following directly after the use of ether as an anæsthetic, are recorded in my notes; but as the operations done in these cases were performed on the trachea, tongue, and lower jaw, and the entrance of blood may have possibly complicated the causation, they will not be urged as a part of the argument.

There is no doubt that as soon as the attention of the profession is duly called to the frequency of pneumonia following the administration of ether as an anæsthetic, more cases of this kind will be forthcoming.

Narcosis by ether in small children suffering from affections of the air-passages was never employed by the reader so far, preference being given to chloroform. On the whole, it may be stated, however, that infants whose lungs were sound were frequently anæsthetized with ether without any unfavorable consequences. They have invariably taken the anæsthetic easily and well, and have recovered promptly from it.

In a third rather numerous class of cases ether anæsthesia has been found impracticable, because unconsciousness could not be induced; or because tolerance was attained, but violent retching, coughing, or general *tonic and clonic convulsive movements of the patient rendered the performance of an operation either totally impossible or very hazardous.*

In some operations, as, for instance, incising a fluctuating abscess, or scraping an old sinus, rigidity or imperfect loss of sensation on the part of the patient may be annoying, but is no absolute bar to the proper performance of the contemplated step. But in herniotomy—in fact, in all operations involving the peritoneum—in the removal of deep-seated tumors from the vicinity of large vessels, in operations usually done in the lithotomy position, as for hemorrhoids and stone in the bladder, not only loss of sensation but absolute relaxation of all voluntary muscles is an indispensable condition to success. It has been positively stated in text-books, and also *viva voce*, that the failure to induce full anæsthesia by ether in six or eight minutes must be charged to either poor ether or to incompetency of the person administering the vapor.

This statement is contrary to the facts, as the experience of the reader and that of every hospital surgeon doing much work with the aid of anæsthesia can abundantly attest.

In spite of careful preparation of the patient, and proper administration of ether by a competent and experienced physician, relaxation could not be produced positively in 11 out of 125 cases observed in the German Hospital during the year 1886. Sensation was either not abolished or where tolerance was reached general rigidity or clonic spasms were so pronounced that operating with any degree of comfort or safety was out of the question. A change of the anæsthetic was generally followed by the desired state of tolerance and relaxation.

For the sake of illustration some of these cases may be quoted:

Case I.—H. M——, sixty-two years of age, February 23, 1886; radical operation, according to Czerny's method, for a very large and irreducible inguinal hernia, at German Hospital, under ether. Spasmodic coughing with cyanosis persisted to such an extent, in spite of a hypodermatic injection of morphia, that the operation had to be suspended. At each paroxysm of coughing the intestines rushed out of the unusually wide abdominal ring with such a force that operating was absolutely impossible. There was a wide adhesion of the prolapsed thick gut to the neck of the hernial sac and complete reposition was impossible until the adhering portion of the gut was dissected up, a delicate part of the operation at best, and entirely unsafe, and even impossible, while the coughing and retching lasted. After renewed unsuccessful attempts with ether, lasting for over ten minutes, this plan was given up in favor of chloroform, which promptly produced the desired condition, under which the operation could be satisfactorily proceeded with and finished.

Case II.—S. K——, aged twenty-six, incision of relapsing perityphlitic stercoral abscess, March 9, 1886, at German Hospital. Ether being administered with Ormsby's apparatus for twenty minutes, neither tolerance nor relaxation was induced; change to chloroform at once produced the desired state, and the operation was done without interruption.

Case III.—J. M——, aged thirty-nine, December 18, 1886, laryngo-fissure, at Mount Sinai Hospital, for the removal of endolaryngeal tumors. Ether was administered and at once produced such alarming spasms of the glottis, with cyanosis and imminent suffocation, that it had to be discontinued; chloroform being given, pleasant and undisturbed anæsthesia was at once produced, and the tumors were removed without serious difficulty.

Case IV.—Mrs. C. K——, aged thirty, scraping and removal of tuberculous lymphatic glands of neck, done at the residence of the patient, February 27, 1887. Ether was freely given by Ormsby's apparatus for a considerable time, but failed to produce either complete loss of consciousness or sensation. The small operation had to be done as well as could be, and under much difficulty, on account of the exaltation and struggling of the patient, lasting for a disproportionate period of time. Chloroform was refrained from, as it had produced dangerous collapse on a former occasion. Local anæsthesia by cocaine would have very likely been the best expedient in this case.

Having reviewed the subject in question, the result arrived at may be summed up in the following propositions:

1. *Ether as an anæsthetic should not be used* in cases of present or even suspected acute or chronic nephritis.

2. On patients suffering from chronic pulmonary affections, especially if they be elderly persons.

3. The change from ether to chloroform is justified and proper where complete relaxation and loss of sensation, indispensable to the performance of an operation, cannot be induced by the former agent, and where local anæsthesia by cocaine or the ether spray is impracticable.

Chloroform in the hands of a well-trained and conscientious anæsthetizer is just as safe as ether. Chloroform and ether may be properly put on a parallel with the extremely sharp razor on the one hand, and the school-boy's jack-knife on the other. Undeniably, infinitely more numerous and dangerous incised wounds would occur if every school-boy were permitted to carry a sharp razor, instead of his comparatively harmless pocket-knife. But physicians entering their profession should not stand on the level of school-boys.

Dr. John M. Farrington, who raised his voice with admirable courage in a recent number of the New York *Medical Journal* in favor of the more general use of chloroform as an anæsthetic, pertinently uses the following metaphor: "Now and then a man gets a piece of beef in his windpipe and dies from suffocation, yet people are not deterred thereby from the use of beef."

The undeniable fact of the greater handiness and more general applicability of chloroform should serve as a sufficient incentive to a more general cultivation of the use of this anæsthetic. Its safe use certainly presupposes a greater amount of vigilance and sound medical knowledge than seems to be required from the average etherizer. But no amount of zealotic vilification on the part of the etheromaniacs can dispose of the fact, that the highly trained profession of the continent of Europe, and of England, with the exception of a small fraction of the French, and a somewhat greater fraction of the English body medical, prefer to this day the use of chloroform.

There is only one *intrinsic* counter-indication to the use of chloroform—that is, a fatty and weak heart—where there are three to the use of ether. They are—fatty or weak heart, kidney and lung trouble.

The *extrinsic* counter-indication, namely, carelessness or incompetency of the anæsthetizer, is, no doubt, in-

finitely graver with chloroform than with ether. But for this there is help to be hoped for.

Insufficiency to induce full and satisfactory anæsthesia is quite frequent with ether; with chloroform it also occurs, though much more rarely.

Persons addicted to a regular, not necessarily an excessive, use of alcohol, very frequently "take ether badly." This phrase, so familiar to frequenters of operating-rooms, may mean several different things. It may mean that the patient does not lose consciousness or does not relax, and if ether is crowded, at once becomes asphyxiated and cyanotic, with irregular breathing and signs of imminent heart-failure. His pupils remain widely dilated throughout. The moment the ether cone is removed and breathing improves, his struggles and contractions are renewed. Thus such patients never attain a normal anæsthesia, but suddenly drop from a turbulent stage of excitement into an alarming condition of extreme narcotic intoxication.

Though the majority of these "bad etherizers" are users of alcohol, such a peculiarity is occasionally exhibited by absolutely temperate persons.

Case V.—L——, book-keeper, aged thirty-four, of teetotal propensities, was admitted to Mount Sinai Hospital as a private patient, to be operated on for external hemorrhoids. The patient was perfectly cool when anæsthesia by ether commenced. As soon as the effects of the anæsthetic became manifest, violent opisthotonos, with alarming spasm of the respiratory muscles and deep cyanosis developed, so as to compel interruption of the narcosis. On repeated attempts exactly the same state of affairs developed, even after a hypodermatic injection of eight minims of morphia solution had been given. Sensation was perfectly abolished, and but for the tetaniform spasm the operation might have been done. A change to chloroform did not improve things much, except that the cyanosis became less marked. Nothing remained to be done but to roll the patient over on his side, and to deligate the hemorrhoids under great obstacles. Much difficulty was experienced in gaining access to the anus between the rigid glutei muscles, and what with the convulsive shakings of the patient and the many stoppages caused by the turbulent narcosis, the performance was neither easy nor pleasant, but the end was finally accomplished. The patient was cured of his complaint. Had he been a very fleshy individual the operation would simply have been a matter of sheer impossibility.

Bright's disease, or pyonephrosis, is no counter-indication to the use of chloroform, as a considerable number of the reader's own experiences can attest, of which the following cases may serve as illustrations:

Case I.—S. O——, tailor, aged fifty-four, suffering from tight, impassable stricture of the membranous portion of the urethra, enlarged prostate, and fetid cystitis with pyelonephritis, was seen, March 23, 1886, by the reader, in consultation with Dr. Schwedler, the family attendant. In view of the fact that the stricture was very dense, the bladder extremely dilated, and the patient's peril very great, and after a number of unsuccessful attempts to enter the bladder *per vias naturales*, chloroform was administered on March 25th, and external urethrotomy was performed. Anæsthesia was very good and uninterrupted, and though the patient had lost a good deal of blood from a number of varicose veins surrounding the membranous part of the urethra, he rallied promptly from the anæsthetic, and made a very satisfactory recovery, as far as the irritability of the bladder was concerned.

In July, while using the waters of Richfield Springs, the patient's nephritic trouble became much aggravated, uræmia developing, to which he succumbed, August 10th.

Case II.—J. T——, wholesale liquor-dealer, aged sixty-two, had been suffering from milky patches of the tongue for fourteen years. Since the summer of 1886 two of the patches had turned into painful ulcers, one of them of the elevated kind, and having resisted all efforts at cure, finally a small particle of the growth was excised for microscopical examination. Epithelioma being diagnosticated, excision of one-half of the tongue was proposed. Examination of urine revealed hyaline casts and varying quantities of albumen. February 10, 1887, chloroform being administered, at Mount Sinai Hospital, the left lingual artery was exposed and cut through between a double catgut ligature. After this a platinum wire was carried, by the aid of Peaslee's needle, from the bottom of the wound through the base of the tongue, just forward of the epiglottis, into the oral cavity, and thence around the base of the tongue, close to the left anterior pillar of the fauces, from where another needle brought it back into the wound through the floor of the mouth. The galvanic current severed the left half of the base of the tongue from its attachments, and the thermo-cautery accomplished its division from the healthy remnant of the organ and from the muscles of the floor of the mouth. The loss of blood was very trifling, and the wound was packed with iodoform gauze. The anæsthesia was unusually good, and the patient made a feverless, prompt, and very satisfactory recovery, being discharged from the hospital, nearly cured, on February 24th, just a fortnight after the operation. The condition of the urine remained uninfluenced by the severe and long operation.

Regarding the frequency of pneumonia subsequent upon the use of chloroform as an anæsthetic, the reader of this paper can make the following statement: During his activity as surgeon to two hospitals for eight years, only two cases of pneumonia occurred in his practice. Both concerned patients on whom difficult and very bloody operations were performed in the oral cavity on account of cancer of the tongue and floor of the mouth. In one case a considerable portion of the lower jaw had to be removed; in the other one, tracheotomy had to be very hastily performed in the course of the operation, on account of imminent suffocation from the entrance of blood into the trachea. Both patients recovered from the pneumonia, but ultimately succumbed to recurrent cancer.

In both of these cases the entrance of blood into the bronchi was the plausible cause of the pneumonia.

Valvular lesions of the heart cannot in themselves be admitted to form a valid counter-indication to chloroform. As long as the compensation of the valvular trouble by muscular hypertrophy is good, and is so attested by the good quality of the pulse, no hesitation whatever need be felt to give chloroform. It can be positively asserted that the reader of this paper has many times given chloroform in cases where valvular trouble was clearly manifest, without ever observing any untoward accident, or even an alarming deviation from the normal standard of good anæsthesia. Especially where kidney trouble is associated with valvular heart disease chloroform is the proper anæsthetic, not ether, provided that efficient compensation by muscular hypertrophy is attested by the good quality of pulse. As soon as muscular decay by fatty degeneration sets in, chloroform should never be used, as it is much more deadly than ether.

A weak heart, from whatever cause, be it fatty degeneration or great anæmia, or from nervous influences, is the only valid objection to the use of chloroform. The administration of ether is also more than usually dangerous in these conditions, but chloroform certainly is infinitely more so.

Where *fatty changes* of the heart-fibre are present, the fluttering, compressible, and irregular quality of the pulse, together with other clinical aspects of the case in question, will readily warn the careful practitioner against the use of chloroform, and will inspire special caution, even in the use of ether.

Deep anæmia, from various causes, offers no difficulty in the way of its diagnosis, and will also be generally heeded.

In some cases of anæmia, ether, if anæsthesia is not

driven too hard, will even act as a stimulant to the heart's action, as can be attested from actual experience. But carried beyond the point of safety it will cause the same collapse that chloroform would produce.

Functional heart-weakness, produced by nervous influences of permanent or mostly passing character, such as *excessive fear or fright, is, in the estimation of the author, one of the most important counter-indications to the use of chloroform.* It is strange how little stress is laid upon this point by most surgical authors and teachers, although cases of death from fear or sudden fright through heart-failure are not rare in medical literature. Nothing seems more plausible than that a grave depression of the heart's action, by sorrow or fear, should be augmented to absolute syncope by an anæsthetic, especially chloroform. And yet no text-book or monograph is known to the reader of this paper that raises a warning against this contingency.

Few are the men whose quality and rate of pulse remain uninfluenced by the often dramatic developments immediately preceding a bloody operation to be done on their own body.

This, as it were, normal oscillation of the energy of the heart's action is not what is here referred to.

What is meant by fright or excessive fear is an unusual degree of nervous depression, often quite disproportionate to the danger or difficulty of the surgical measure to be taken. The extraction of a tooth, the incision of an abscess, or some similar trivial procedure will, on account of its unexpectedness, perhaps, so overwhelm an ill-balanced or morally untrained nature, that disaster is produced by the additional small depression caused by the anæsthetic. And stress is laid by the authors upon the fact that death from the administration of chloroform is especially common during the performance of small operations.

Great pain, great danger, or long suffering are known to inspire great courage, and consequently death from anæsthetics administered for the performance of great operations is very rare.

It is proper to state, however, that the author has observed many cases of unusual fear, characterized by pallor and a small pulse, in which ether or chloroform being given, the pulse became ostensibly fuller and better as anæsthesia progressed, and everything passed off very well.

Yet his confidence in the sedative effect of chloroform, at least, was very rudely shaken by a sad case of death from its administration.

The case was as follows:

T. E. R——, clerk, aged thirty-two, presented himself, February 10th, at my house, with a doubtful tumor of the right submaxillary region that was non-fluctuating, but apparently of an inflammatory character, as moderate fever was present. A probatory puncture was proposed and acquiesced in, but in attempting it the patient was seized by such an uncontrollable fright that he begged to have chloroform administered. This was declined by me, the proposition being made instead to have him admitted to the German Hospital as a private patient, where, under anæsthesia, the exploration, and such necessary steps as incision or extirpation, might be at once taken as the case might require.

February 15th the patient entered the hospital.

February 17th he was taken to the operating-room, when he expressed to Dr. Wackerhagen, then there present, the conviction that he would not leave the room alive. This I heard of after the accident. The swelling had visibly increased since February 10th, and was clearly fluctuating, undoubtedly a glandular abscess. Dr. Bachmann, the house-surgeon, an experienced and conscientious physician of several years' hospital experience, commenced to administer chloroform in the proper manner, the patient taking the anæsthetic willingly, and even eagerly. Hence respiration was somewhat hurried, but deep and regular. When about two drachms of the anæsthetic had been used on Esmarch's open chloroform mask, he suddenly struck out wildly with his arms, became stiff in opisthotonos, his face turned livid and distorted, the pupils were widely dilated, and it was especially noted that the abdominal muscles were as rigid as a board. The pulse, held from the beginning by Dr. Baughmann, a student of the New York Polyclinic, suddenly ceased, and the patient turned lax and was dead. All this happened within the space of a minute, and all efforts at resuscitation employed for forty-five minutes were of no avail. The patient's heart was carefully examined before the operation by myself and the house-surgeon, and no abnormality was detected. His pulse was of a good quality, except immediately before the two attempts at operative interference, when it was weak and rather rapid. The urine was found normal; in short, there was nothing to sound a warning note. Only the value of the symptom of nervous depression was not justly appreciated in this case, a symptom that had so often been found of no material importance.

The chloroform used was unexceptionable, and was administered in the proper way; hence the coroner's jury exonerated the medical men concerned in the affair. The experience gained in this case has led to the practice, on the part of the author, to freely administer stimulants and a small dose of morphia hypodermatically, preceding anæsthesia, in cases where unusual moral depression is noticeable, and never to give chloroform to a patient subject to excessive fear.

It is fair to assume that ether also may produce deadly effects under such a circumstance. The cases in which anæsthesia must be employed in spite of the presence of fatty heart, or kidney or lung trouble, or where two or all of these conditions are observed, offer unusual difficulties and involve an especial degree of risk. But who would hesitate to perform tracheotomy for a foreign body, or herniotomy in strangulation, though the risks of anæsthesia might be ever so formidable?

As a matter of self-protection a careful physical examination should always precede every operation, if feasible, and the prognosis should be unhesitatingly and truthfully stated to the proper persons, in its entire gravity, before the first stroke of the knife is made. In many cases of great urgency, where deliberation is inadmissible, common-sense and firm decision will be the best guide of him whose readiness to help is not "sicklied o'er by the pale cast of thought."

It may be said, then, as a summary of this essay, that both chloroform and ether, properly administered, are invaluable and useful anæsthetics; that each of them has its proper and legitimate sphere and limitations; that the modern physician is in need of both of them; that unqualified condemnation of chloroform in surgical practice is unscientific and unjustified by the facts; that an intelligent and free selection and employment of either chloroform or ether must be vindicated as a right, and is the duty of every conscientious physician; that fatal accidents occurring in spite of the conscientious employment of the safeguards known to be necessary in selecting and administering either anæsthetic are, however lamentable, not incriminating to the medical attendant; that it is the duty of the teachers in surgery to give practical instruction in the selection and administration both of chloroform and ether.

Trichinosis in Italy.—Dr. Legge, of the University of Camerino, discovered a case of trichinosis in a subject which he was preparing for an anatomical demonstration. The trichinæ were dead and the capsules were for the most part calcified and misshapen. The man had lived for many years in a neighboring commune, and a commission appointed to investigate the case was unable to discover the source of infection. This is thought to be the first case of trichinosis ever observed in Italy.—*Il Raccoglitore Medico.*

CHLOROFORM AND ETHER.[1]

By LEWIS A. SAYRE, M.D.,

NEW YORK.

Mr. President and Gentlemen: I am well aware that my views about anæsthetics, and particularly as to their mode of administration, are entirely at variance with the general teachings of the profession; and yet, from a very extensive experience in their use, I am so thoroughly convinced of the correctness of my views that I continue to maintain them, and put them into practice, in spite of the opposition they have encountered from almost every quarter.

I prefer and almost always use chloroform as an anæsthetic in preference to ether, because it is more agreeable to the patient, more speedy in its effects, does not produce the spasmodic muscular contractions while being administered, and is not followed by the same bad after-effects as ether, such as vomiting, nausea, nephritis, etc.

Mode of administration.—The usual method of administering any anæsthetic, whether ether or chloroform, is to allow *fresh* air—or such as is not impregnated with the anæsthetic—to be inhaled at the same time, thus permitting the *antidote* to anæsthesia to be inhaled at the same time with the anæsthetic, and consequently preventing it from producing its desired and specific results until a much larger quantity has been given than is ever required when properly administered.

The usual plan of pouring into an "inhaler," a prepared "cone," "sponge," or "folded napkin," an *indefinite* amount of either ether or chloroform, and then holding it a *little distance* from the patient's nose and mouth, so that *pure air* may be inhaled along with the anæsthetic, and every few minutes pouring on an ounce or two more, *without any accurate measurement*, is, in my opinion, decidedly wrong.

We certainly do not use arsenic, strychnine, corrosive sublimate, prussic acid, or any other potent agent in the same reckless way; but are very careful to measure, with great exactness, the precise number of drops or grains that we know is the maximum dose that the human system can bear with impunity. Chloroform and ether are both powerful agents—each of them has caused many deaths, as the records of our different medical journals abundantly prove—and I therefore think that they should be used with the same careful skill in *measuring* the dose that we would use in the employment of any other potent drug.

The inhaler I here show you was made for me many years ago by Mr. Reynders, after a pattern of Leur, of Paris, and I have found it very efficacious in producing rapid anæsthesia, because it excludes all air except such as is impregnated with the anæsthetic.

I suppose you are all familiar with the instrument, as it has been in the market for many years; it is simply a German-silver cup to place over the mouth and nose, with a notch in its upper border to fit over the latter organ. A wire gauze is placed across the lower half of the cup, at about its centre, and behind this is to be placed the sponge to hold the anæsthetic. Beneath the sponge is an opening for the *admission* of air on *in*halation, and opposite the mouth is another opening for the *expulsion* of the air on *ex*halation. These openings are alternately opened and closed at each inspiration by the small wooden balls which act as valves in the instrument, so that no air can be inhaled except such as passes through the impregnated sponge, and the impure air is exhaled through the upper opening.

In some cases the instrument would not fit with sufficient accuracy to prevent the air from coming in between the nose and cheek without pressing the inhaler so hard upon the face as to cause the patient some inconvenience, and my son, the late Charles H. H. Sayre, modified the instrument by placing around its border this india-rubber bag, which can be inflated from a small tube connected with it, thus making a soft, elastic air-cushion, which can be pressed down upon the face so firmly as to make it absolutely air-tight without any inconvenience. Consequently no air is inhaled except such as comes through the lower opening, and must therefore pass through the sponge which has been impregnated with the anæsthetic.

Ten, twenty, or thirty drops of chloroform, administered in this manner, will almost invariably produce anæsthesia by a very few inhalations, and if by any peculiar predisposition, or some other unknown cause, the heart should cease to act, a few artificial inspirations will eliminate this small quantity of the anæsthetic and thus restore the circulation and save the patient. Whereas, if the anæsthetic had been administered in the usual way and a large amount had been inhaled, and the whole system saturated with it—if, under such circumstances, the collapse occurs, it sometimes happens that even the most vigorous efforts have failed in producing resuscitation.

I have practised this method for many years, and taught the same in all my clinical lectures, some of which have been published by different medical students in various medical journals; but I cannot at this moment refer to any one in particular where a full account of my method has been published. But in the "Transactions of the International Medical Congress," held in Philadelphia in 1876, and published in 1877, will be found a full account of my demonstration of the treatment of hip-disease at the Pennsylvania Hospital, before the Congress.

Just at the conclusion of my demonstration a child was brought into the lecture-room in the advanced third stage of the disease.

A consultation was immediately held with Mr. Adams, of London; Professor Lister, of Edinburgh; Professor Hueter, of Greifswalde; Professor Hjort, of Christiania; Professor Hingston, of Montreal; Professor Post, of New York, and others, and exsection of the hip-joint was decided upon as the only chance for recovery; and on page 594 of these Transactions I find the following record of my remarks made at that time, and taken down by the stenographer:

"While chloroform was administered by Dr. Sayre's son, Dr. Sayre said that his plan of using chloroform was entirely at variance with that taught in the books, and with the doctrine of most authorities, viz., that air must be inhaled with the anæsthetic. Air, he said, was the antidote to the anæsthetic, and as long as it was introduced anæsthesia would be prevented; he therefore carefully excluded all air not saturated with chloroform, and found that ten, fifteen, or twenty drops thus administered, according to the age of the patient, produced prompt anæsthesia without that muscular resistance and contortion of the body which followed its administration when mixed with air.

"If, by any possible contingency, this small quantity should produce dangerous or unpleasant symptoms, a few artificial respirations, effected by compressing the chest, would exhale the small quantity of poison and thus avoid any fatal result. When chloroform was given in the usual way, *i.e.*, mixed with air, anæsthesia was not produced until a large quantity had been inhaled, in some cases many ounces, the patient during this time struggling violently; and the damage done to an inflamed joint by these struggles more than counterbalanced the good from the anæsthetic. If, under these circumstances, failure of the heart or respiratory organs took place, the system was so saturated with the chloroform that resuscitation by artificial means was almost impossible.

"The administration of the drug in the present instance confirmed the correctness of Dr. Sayre's statements."

I must apologize, Mr. President, for making this long

[1] Remarks made before the New York Academy of Medicine, April 7, 1887, on Dr. Gerster's paper.

quotation; but I have done it to show that the views I have expressed here to-night are not of recent date, but have stood the test of many years' careful observation, and personal experience—and although they have been thus publicly expressed for many years they have not been generally adopted, and I am therefore very much obliged for this opportunity of bringing them to the notice of the representative members of our profession gathered here to-night, and hope that at least they will have the effect of eliciting some discussion on this most important subject.

THE RELATION OF LARYNGEAL TO PULMONARY PHTHISIS, AND THE IMPORTANCE OF LOCAL TREATMENT.[1]

By CLARENCE C. RICE, M.D.,

PROFESSOR OF DISEASES OF THE NOSE AND THROAT, POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

About one-fourth of all death-certificates bear the name pulmonary phthisis, and statistics show that in about one-third of this number the larynx is involved in a similar process of inflammatory degeneration, so that one-twelfth of all our patients suffer from the disease called laryngeal phthisis. But even this fact would not be a sufficient excuse for appropriating any of the valuable time of this Society for the purpose of adding anything to the much that has been said here and elsewhere about this disease, were it not that I believe that but a small percentage of the cases of laryngeal phthisis ever receive either special, general, or local treatment at the hands of the practitioner of medicine. I arrived at this conclusion after questioning a number of prominent physicians in this and other States, who have told me that they paid no special attention to the laryngeal symptoms of consumption, treating them only in the general way of tonics, good feeding, etc. Upon *this* condition of affairs something may with propriety be said.

If any gentleman would unlearn the little that is positively known concerning the etiology and pathology of laryngeal phthisis, he should read the various opinions advanced by different writers; and allow me to quote from a few of these. The subject of laryngeal phthisis received but little intelligent attention until Laënnec,[2] in 1819, strongly asserted the tubercular nature of the disease. Louis[3] soon after disputed this point, and contended that the inflammation was simple in character and the ulcerations were due to the corroding effect of the sputa. Cruveilhier and Trousseau agreed with him substantially. Rheiner[4] thought that attrition of the soft parts of the larynx, brought about by the incessant cough, was a sufficient cause for the ulceration. Schottelius believed that the inter-arytenoid ulcerations were usually caused by friction and were simple in character, although he admitted that there may be secondary tubercular deposits. Rindfleisch[5] says that phthisical ulceration commences at the mouths of the glands of the larynx and is frequently a purulent follicular catarrh, causing ulceration because of the existing "strumous diathesis." Hastings,[6] of London, and Horace Green, of New York, thought this process in the larynx more often associated with, and dependent upon, the existing chronic pharyngitis than upon pulmonary consumption. Von Ziemssen[7] evidently believes that the ulcerations so frequently present in laryngeal phthisis are not always of the same character, and he mentions these varieties: First, ulcerations due to degeneration of tubercle; second, follicular ulcerations caused, as Rindfleisch says, by a purulent follicular catarrh; third, ulcerations due neither to deposit of tubercle nor to ulcerated follicles, but to an infiltration of the sub-epithelial layer of the mucous membrane with cells and nuclei, the ulceration being mainly brought about by the unceasing motion of the larynx; and a fourth form is the erosion of the aphthous ulcer, very superficial, and to be found near the deep true tuberculous ulcer. These aphthous ulcers, Von Ziemssen believes, as did Louis, are caused by the infection of the corroding secretions; but Von Ziemssen does not believe that they are simple in character, but are, on the other hand, peculiar to pulmonary phthisis. Türck, without formulating his convictions as to the etiology of laryngeal disease, speaks guardedly of the "laryngeal diseases standing in connection with pulmonary tuberculosis." Virchow[1] and Rokitansky[2] contend for laryngeal tubercle; and Virchow believes the larynx to be particularly predisposed to the deposition of tubercle, and the deposit, as a rule, so superficial that it quickly degenerates into an ulcerative process by reason of the functional activity of the larynx.

Schnitzler finds the cause of the disease to be a simple chronic inflammation of the mucous membrane, and the ulcerations due to a follicular tumefaction. While Heinze,[3] in a very valuable paper, the result of laborious research, states that all laryngeal phthisis is tuberculous and secondary to pulmonary manifestations. Stoerck, Isombert, and Wendt agree with him. Mackenzie,[4] of London, whose large clinical experience gives great weight to his writings, defines laryngeal phthisis as a chronic affection of the larynx arising from the local deposit of tubercle. This author quotes frequently from Heinze, and seems to be in full accord with him. On the other hand, some of our American writers who, too, have seen and treated numerous cases of laryngeal phthisis, believe that the deposit of tubercle is not, in the majority of instances, the primary lesion in consumption of the larynx. Careful observation has taught them that there is little that is peculiar about the disease. It has commenced like a simple catarrhal inflammation, and has continued like one. Dr. Beverley Robinson[5] says that, "ulcerative phthisical laryngitis is certainly not tuberculous in the great majority of instances, and hence, in my opinion, is susceptible of cure." Dr. Francke H. Bosworth[6] expresses the opinion that, "laryngeal phthisis is not necessarily of tubercular origin primarily, but of inflammatory origin; and that if tubercles are found on autopsy, they are the gray nodules which are frequently found about the base of any chronic ulcerative disease;" and he adds that, "in the early stages the disease is curable in probably the majority of cases." Porter,[7] of St. Louis, also speaks very hopefully of the prognosis in these cases when they are treated properly at an early stage.

At the present time it is admitted by nearly everyone that, in the great majority of instances, laryngeal phthisis occurs secondarily to pulmonary phthisis, and is occasioned by the same predisposing causes which lie at the foundation of the etiology of pulmonary consumption. When the disputed points in regard to the part which tubercle and tubercular bacilli play in the causation of lung-disease are settled, much light will be thrown upon the character of this process which attacks the larynx. Many, and most writers at the present time, give the name of the disease under consideration as tubercular or tuberculous laryngitis, discarding altogether the older name—laryngeal phthisis. Others use the terms synonymously and indiscriminately. The discussion as to whether tuberculosis ever occurs primarily in the larynx, that is, before its appearance in any other portion of the body, is not an important one to this paper. Some few cases are recorded. The diagnoses have been based on the fact that

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[1] Read at the meeting of the New York State Medical Society, February 2, 1887.
[2] Traité de l'Auscultation, etc. Paris, 1819.
[3] Recherches sur la Phthisie. Paris, 1825.
[4] Rheiner: Ueber die Ulcerationsprocesse im Kehlkopf, Virchow's Archiv, Bd. V., 1853, p. 534.
[5] Lehrbuch der Patholog. Gewebelehre, iv., 1875, p. 325.
[6] Hastings: Clergyman's Sore Throat.
[7] Von Ziemssen: Cyclopædia Practice of Medicine, vol. vii., p. 835.

[1] Krankhafte Geschwülste, ii., 2, p. 645.
[2] Rokitansky: Lehrbuch d. pathol. Anatomie, iii. Wien, 1861.
[3] Die Kehlkopfshwindsucht. Leipzig, 1879.
[4] Mackenzie: Diseases of the Throat and Nose, vol. i., p. 357.
[5] Archives of Laryngology, vol. i., p. 252.
[6] Bosworth: Diseases of Throat and Nose, p. 293.
[7] Porter: Laryngeal Phthisis, St. Louis Med. and Surg. Jour., January, 1875

what are supposed to be the typical appearances of deposit and degeneration of tubercle have been seen by authentic observers to occur in the larynx at a period when most careful examination failed to discover any such condition of the lungs. These patients, however, developed pulmonary tuberculosis soon after. I presume that it is the general opinion that when the tubercular infiltration was first noticed in the larynx a similar deposit had already taken place in the lungs, although it did not furnish tangible physical signs. Leaving the question of primary laryngeal tuberculosis out of consideration, we come to a far more important part of our subject, and these questions present themselves :

Is laryngeal phthisis always tubercular phthisis ? and if so, is the deposit of tubercle always the primary lesion of the larynx? or is the deposit oftentimes secondary to a catarrhal laryngitis of simple character which, aggravated by the bad general condition of the patient, has gone on to the stage of ulceration ? And, again, granted that tubercular tissue is deposited in the larynx at an early or later period, is it the cause of the degenerative process that follows? does its presence render the disease called laryngeal phthisis a specific one, that is, totally unlike a simple catarrhal process ? or, on the other hand, is not the deposit of tubercle one of the later manifestations of an ordinary chronic catarrhal laryngitis? Heinze, who, as has been said, has been one of the most radical believers in the tubercular origin of phthisical laryngitis, could demonstrate the presence of tubercle microscopically in only one-half his cases. What shall be said of the remaining fifty per cent. ? That secondary tubercular deposit in the larynx is a very common sequel to pulmonary phthisis there is little doubt, and I believe that it is equally true that oftentimes this infiltration takes place at a comparatively late period of the disease, the symptoms, cough, hoarseness, aphonia, painful deglutition, etc., being due for a time to an aggravated simple catarrhal laryngitis. That many such larynges show nothing more than the lesions of an ordinary catarrhal process I have demonstrated to my own satisfaction many times.

Two extreme beliefs, then, in regard to the pathology of laryngeal phthisis, are held—the first, and most generally credited one, being that the inflammatory process in the larynx is always due to the deposition of tubercle, and occurring after the same condition has taken place in the lungs. The second opinion, to which a gradually diminishing number still pin their faith, is that tubercle plays but a very inferior part in the etiology of the laryngeal inflammation, and in the small percentage of cases where tubercular infiltration is found it is supposed to have involved the larynx after the stage of ulceration had been reached. Neither of these theories seem to me to be so fully supported by laryngoscopic and clinical investigations as one somewhat between the two. Like most disputed points in medical science, the whole truth is not to be found on either side. That tubercular laryngitis is not an inappropriate name for the disease under consideration is proven by the careful studies made by such men as Virchow, Rokitansky, Heinze, and Mackenzie. They all agree as to the presence of tuberculous tissue, but, as Dr. Alfred L. Loomis says, while " all observers agree as to microscopical *appearance*—in their *interpretation* they differ widely. An etiology of any disease which is built up on post-mortem pathological appearances may not explain all the phases of a disease. The microscope does not supplant the clinical investigator, and so we say that, while tubercular infiltration is known to be present in many cases of laryngeal phthisis, its presence does not imply a disease which runs a typical course or one in which the prognosis is always bad. Medical observers whose opinions have been formed mainly by *laryngoscopical examinations* of these cases still cling to the belief that many cases of laryngeal phthisis are not in any way peculiar in character, but are the result of a simple catarrhal inflammation which has reached the unusual stage of ulceration and degeneration only because the general condition of the patient tends so strongly to the formation of unstable lymphoid tissues, and because there is so little general recuperative power. These men claim, also, that laryngeal phthisis occurs as a complication of Bright's disease, syphilis, scrofula, etc., and is a sequel to *non*-tubercular as well as tubercular phthisis. While we think it would be difficult to prove that phthisis of the larynx ever occurred as the result of the asthenic condition produced by Bright's disease and syphilis, unless these conditions had also led to pulmonary degeneration, we do believe that there are many cases of so-called tubercular phthisis which do not present the characteristic laryngoscopical appearance ascribed to that disease, and which strongly support the opinion that the disease is frequently a simple catarrhal one.

You are all familiar with the appearances of the larynx which are considered pathognomonic, the pale color of the mucous membrane, the thickened turban-shaped epiglottis, the swollen club-shaped arytenoid cartilages, and the inter-arytenoid thickening. This tumefaction of the epiglottis and arytenoids is peculiar. There is nothing like it found in any other variety of laryngitis, and when it is present there would seem to be no question but that this characteristic swelling is due either to the deposition of the so-called tubercular tissue or to the infiltration of a tissue not to be found in simple catarrhal inflammation. Upon these appearances I believe that a positive diagnosis of incipient pulmonary phthisis can be made, even though no evidence of lung-change can be found, and I consider the differential diagnosis of this disease from any other variety of laryngitis based on *these appearances* as extremely simple. I mean, when all these appearances are present, or even when the epiglottis and the arytenoids are both involved in this peculiar swelling, tumefaction of the arytenoids alone, without inter-arytenoid change, does not make the diagnosis certain. There is, however, a class of cases of laryngeal phthisis, and they are not so infrequent, which present none of the characteristic tumefactions of laryngeal phthisis ; in fact, they differ not at all in their laryngoscopical appearances, certainly not in their early stage, from the ordinary cases of subacute and chronic catarrhal laryngitis. Nor do they differ in their later and latest stages, unless ulceration may be said to be foreign to simple catarrhs and due only to specific inflammations, for ulceration is the only distinguishing feature.

A word as to the local causes which greatly tend to aggravate a simple catarrh of the larynx and to produce ulcerations where there exists a predisposition to pulmonary phthisis.

It must not be lost sight of that the physiological function of the larynx is a grave predisposing cause to inflammation of the mucous membrane here—a part that is put in motion with every breath, that undergoes friction with every word spoken, and that is constantly exposed, not only to sudden and marked changes in the temperature of the air which comes in contact with it, but also to dirt, dust, and foreign bodies generally—such a portion of the body cannot long retain its integrity when there are added to these irritants the mechanical violence of a harassing cough and the infecting irritation of decomposed tissues which pass over it constantly from the lungs. This condition of affairs alone is, to my mind, sufficient reason for the frequency of phthisical laryngitis, and explains the tendency to ulceration in this disease. To prove that the function of the larynx is not a theoretical predisposing cause of inflammation, let me state this significant fact, viz., that, by reason of the greater stress upon the vocal organs and the greater exposure to rough weather, phthisical laryngitis occurs about twice as frequently in males as in females, whereas pulmonary phthisis occurs about equally in the sexes ; and just here there is a valuable suggestion as to the treatment of this disease, viz., to obtain complete rest for the larynx by not using the voice.

Those who have made much study of inflammatory conditions of the upper respiratory tract know to-day, as they did not know three years ago, the very intimate relation which exists between nasal and post-nasal catarrhs and inflammation of the larynx and the lungs. If you would cure a laryngitis, you must first cure the nasal disease which has occasioned it; and it is not too much to predict that pulmonary and laryngeal phthisis will become less and less frequent as obstructive nasal diseases are more successfully treated.

Tubercular laryngitis is an unfortunate name for a disease which is not always tuberculous, because the majority of medical men think that tuberculosis is as little amenable to treatment as carcinoma. And for that reason it is highly important to classify the cases of laryngeal phthisis according to the process which can, by laryngoscopical examination, be seen to be present. To formulate my belief more concisely, I would say that I believe that laryngeal phthisis is not always laryngeal tuberculosis. That in about sixty-five per cent. of the cases we find the characteristic tumefaction due to the deposition of tubercle, but in the remaining thirty-five per cent. the process is slow and insidious, commencing with an ordinary subacute catarrh, which becomes chronic and finally ulcerative when the condition of the patient has become impaired. The prognosis will depend upon the stage at which the disease is recognized and treated.

I most earnestly bespeak for these cases the benefits to be derived from local treatment—topical applications. Time and time again, when these cases have presented themselves early, I have seen the hacking cough checked as soon as the subacute laryngitis was relieved; and so, for the time at least, any progress of the laryngeal phthisis was prevented. I have seen many cases where the arytenoids presented the typical club-shape swellings improve rapidly under local treatment, and a number have been cured when the stage of ulceration had been reached. In these cases the larynx, perhaps, more than the lungs is the seat of the cough-producing irritant, and when the cough is checked one very depressing factor is removed. And if by local treatment—and it is the only reasonable way of controlling this distressing symptom, painful deglutition—this can be relieved, there is some hope of strengthening the patient by proper nourishment. I know that busy practitioners throughout the country have little time to devote to the study of laryngology, but it is the duty of every man who treats laryngeal phthisis to become sufficiently skilful with the laryngoscope to be able to detect the early evidences of this disease, and to carry the laryngeal applicator or direct atomized fluids or medicated powders into the larynx. A laryngeal mirror, an applicator, or a hand-bulb atomizer, or a powder-blower, with some simple illuminating apparatus, is the necessary equipment.

Be suspicious of any long-continued hacking cough—such a case should have the benefit of a laryngoscopic examination at once; and if a very pale larynx is seen, or if there is inter-arytenoid thickening, the lung will soon show evidences of disease unless the larynx is treated and the proper attention paid to the general health of the patient. The larynx frequently gives unmistakable signs of approaching pulmonary phthisis months before the lungs show any evidences of it.

I shall not attempt to enumerate all the different local remedies that have been employed in laryngeal phthisis, but will mention a few which are easy of application, and upon which I have placed most dependence. Dr. F. H. Bosworth, in his excellent article on laryngeal phthisis, covers the important points of successful treatment: First, by insisting that the parts be thoroughly cleansed with a mild alkaline and disinfecting spray before the medication is applied; and second, that some anodyne be employed before or incorporated with the astringent or alterative to be used, so that whatever benefit may be derived from the medicament may not be lost by paroxysms of coughing and vomiting. It will answer the purpose as well, and save trouble, if hydrochlorate of cocaine be added to the preparatory cleansing spray, and I have used this formula with success:

℞. Sodii bicarbonatis,
Sodii biboratis ..... āā grs. v.
Cocaine hydrochloratis ..... grs. vii.
Listerine,
Glycerinæ..... āā ʒ j.
Aquæ destil..... ad ℥ j.

M. Sig.—Spray into the larynx five minutes before making the principal application to the throat.

This should be sprayed into the larynx with a hand-bulb spray, and also above into the post-nasal space. The laryngoscope is not needed for this. The cocaine may be omitted, using the above formula only for cleansing purposes, and it may be followed by a solution containing five grains each of sulphate of morphia and bicarbonate of soda to the ounce of water. Eight minutes later, when the cocaine or morphia has produced local anæsthesia, the principal application can be made. I agree with those men who believe that iodoform has a specific effect in laryngeal phthisis. Better results can be obtained with it than with silver, copper, zinc, or any of the astringents I am in the habit of applying iodoform in solution in ether with a soft wad of absorbent cotton wound about a small applicator. It is not more irritating than the powder, and the rapid evaporation of the ether gratefully cools the inflamed larynx. The application is to be made very gently. If the physician cannot use the laryngeal applicator he may, with a powder-blower, employ the following:

℞. Acidi tannici,
Acidi boracis..... āā ʒ j.
Iodoformis..... ʒ vj.

M. Sig.—Blow a small quantity into the larynx with powder-blower.

Rest to the larynx—obtained by not speaking above a whisper—wearing a respirator in cold or dusty weather are important points. Spraying a two per cent. solution of cocaine or one-eighth of a grain of morphine into the larynx just before the patient eats affords great relief. Tracheotomy as a means of securing rest to the larynx I do not think deserves serious consideration. It is frequently desirable, when deglutition is painful on account of ulcerations of the larynx, to obtain rest for the parts by feeding with, not the stomach-pipe, but the œsophageal tube.

In conclusion, I would say that I believe that the early cough in pulmonary phthisis is due quite as much to laryngeal as to pulmonary irritation. I believe, too, that the laryngeal catarrh hastens the degenerative process in the lungs. I also believe that appropriate local treatment to the larynx will often cure laryngeal phthisis in its early stages and afford much relief after ulceration has taken place.

Almén's Test for Sugar in the Urine.—Dr. K. A. Norderling, of Rockford, Ill., in referring to the defects of Trommer's test for saccharine urine, sends the formula proposed by Professor Almén, of Upsala, which, he says, possesses many advantages. It is reliable, and will keep unchanged for years. The following is the formula:

℞. Caustic soda, Gm. 8 (ʒ ij.) in water..Gm. 100 (℥ iij.)
Potassio-sodium tartrate.....Gm. 4 (ʒ iv.)
Bismuth subnitrate.....Gm. 2 (ʒ ss.)

The urine is first to be tested by heat and nitric acid for albumen, and, if any is present, it is to be separated by filtration. In testing for sugar, one part of the solution is used to ten parts of urine. By means of this bismuth solution, Dr. Norderling affirms, sugar may be detected when present in the proportion of only .05 per cent. The preparation of the solution should be intrusted only to a competent chemist.

TWO CASES OF INSUFFICIENCY OF THE SUPERIOR RECTUS MUSCLE, WITH DISTRESSING SYMPTOMS PERMANENTLY RELIEVED BY PRISMS.

By R. W. AMIDON, A.M., M.D.,

[NEW YORK.]

It is with extreme diffidence that I present these two cases, as they were not studied with the care their rarity deserved, or with that mathematical precision the science of ophthalmology is capable of. Both patients came to me in the course of neurological practice for the relief of nervous symptoms. In both, on being submitted to a routine examination, these symptoms were found to be of ocular origin. And if the examination ot the cases now seems faulty and its record lacking in detail, let the apology be that the examination sufficed to locate the mischief, and what is still more important, particularly to the patient, to remedy it.

Case I.—A gentleman aged sixty-two first consulted me, January 5, 1880. He was an officer in a bank and had for years done much near work with his eyes. Naturally, or by occupation, he was of a rather weak muscular and irritable nervous constitution. His digestive power was feeble, often failing almost entirely. His chief trouble had been, for years, frequently recurring attacks of headache starting from the left occiput, running forward over the head to the left brow, and often going across the forehead to the right brow. These attacks usually terminated in profound nausea, vomiting, and extreme prostration, and were generally followed by a sick spell characterized by aggravated indigestion and flatulent dyspepsia. He always was below par and had abused his eyes before attacks came on.

His vision was $\frac{6}{10}$ with each and both eyes; with a +.50 D. it was $\frac{6}{6}$. He had insufficiency of the interni, 4° for distant and 7° for near vision. His accommodation had practically disappeared. His fundus oculi was normal.

An examination two days later showed the same state of affairs, and he was ordered, in addition to the +3 D. which he was then wearing, a prism of 2.5° base in over each eye.

Because of a nervous feeling which spectacle-frames gave him he was reluctantly allowed to wear eye-glasses. He was made very comfortable for almost six years with these glasses or similar ones, the spherical remaining the same and the prisms varying in strength according to the amount of insufficiency, which was constantly present, but variable in degree. During this time the insufficiency of the interni for distant vision varied from 2° to 5°, the average of thirteen observations being $3\frac{1}{4}$°, while for near vision it varied from 5° to 16°, the average of fourteen observations being $8\frac{1}{3}$°. During this period he complained to me of but few *bad* headaches, his general health occasionally calling for a short course of bitter tonics with iron or an alkali.

In December, 1885, having presumably the same insufficiency I never saw him without, he consulted, without my knowledge, an oculist who told him that only cutting the muscles could relieve him, and who ordered for him +75 S. and a prism of $1\frac{1}{2}$° base out over each eye for constant use for the distance. He wore them a few hours, but they gave him a violent sick headache. When he was able to go out again he consulted me again and I found, December 17, 1885, that he had an insufficiency of the interni for the distance of 2°, for near vision of 6°, and I ordered him +3 S. and a prism of 2° base in over each eye. These rendered good service until July 13, 1886, when, on his return from Europe in poor health, he called, saying his eyes troubled him a good deal and he wanted to try spectacles. At this time his insufficiency was 3° far and 5° near, and as his presbyopia had increased I ordered him +3.50 S. and a prism 2° base in over each eye, also a tonic of nux vomica, quassia, and quinine. He remained well up to December, 1886, when he consulted another oculist, who said he did not need prisms, and ordered him +1 S. for distance and +3.50 for reading. He found he could get along with the distance glasses, but with the others he could not see at all. He came back to me, December 28th, just recovering from a violent left hemicrania and bad gastric attack brought on by the use of the simple spherical glasses. He was very much run down. The insufficiency of his interni was for distance 2°, for near 6°. No insufficiency of the interni for the distance showed itself without a deflecting prism, but with a red glass over the left eye the red image appeared above and to the right of the white at an angle of 45°, and not more than two inches distant. This false image was made to coalesce with the true image by the use of a prism of 2° base up and in over the left eye, or the same prism base down and in over the right. This result was repeatedly obtained, but at the end of the examination it was found that this vertical diplopia had disappeared.

I ordered him to cover the left eye during work, take a capsule containing extract of nux vomica .02, extract of quassia .10, quinine .12, and reduced iron .15 before each meal, and report in a week.

January 4, 1887, his insufficiency for distance was 4°, for near was 6°. The vertical diplopia was again detected by the use of the red glass. It was corrected by the use of a prism of 2°, placed at an angle of 145° base in over the left eye, or the same prism at an angle of 145° base in over the right eye.

When the insufficiency of his interni was corrected a prism of 2° base up over the left eye or base down over the right eye, corrected his vertical displacement completely. As he referred most of his trouble to his left eye I ordered him spectacles +3.50 S. over each eye with a prism of 3° base in over the right eye, and a prism of 2° base up over the left eye. Twice since then I have seen him and he expressed perfect satisfaction with the glasses. In this case all ocular movements to gross tests were normal except near convergence. He had no ptosis nor squint, nor did he hold his head back. The tests were made in the horizontal visual plane and the patient spoke of no obliquity of the false image.

The ultimate result will be, I expect, a cure of the insufficiency of the superior rectus as occurred in my second case. It may be interesting to know that a brother of this patient, two years younger, consulted me recently, and I found he had compound myopic astigmatism in one eye, compound hyperopic astigmatism in the other, and presbyopia of both.

Case II.—The patient was a physician, thirty-five years old. He was in poor general health, hard-worked, and had suffered losses in his family. He had begun the use of convex glasses years ago. For many years his eyes had troubled him, and he had attacks of vertigo which caused him to stagger and necessitated the constant use of a stout cane.

February 17, 1880, he had a severe attack of vertigo, with projection forward. He fell on the street. After this attack he felt very weak. Has had some frontal and bitemporal headache after using eyes. For a short time before coming to me he had diplopia, with elevation of one of the images.

He consulted me, giving the foregoing history, February 21, 1880. An ophthalmoscopic examination revealed nothing except slight hypermetropia and astigmatism. His range of accommodation was normal. There was slight insufficiency of the interni to the prism test, and the vision was made normally acute by the use of weak convex cylindrics, axis 90°. These were ordered for him and helped him somewhat, but he suffered occasionally from vertigo and still noticed the vertical diplopia.

March 4, he consulted me complaining still of the vertigo and diplopia.

The insufficiency of his interni for the distance was 2° ;

for near vision 4°; while it was found that the vertical diplopia was relieved by a prism of — 2° base up over the left eye, or the same prism base down over the right eye. Upon subsequent examination it was found that by tilting the prism of 4° base in, which corrected the insufficiency of his interni to an angle of 160°, over either eye it corrected the insufficiency of his superior rectus as well as a prism placed vertically. Such being the case I ordered him + 1.25 cyl., axis 90°, with a prism of 4°, angle 160°, base in over the right eye, and + 1 cyl., axis 90°, over the left eye.

For three years he wore these glasses continuously, suffering from no vertigo or diplopia, and entirely discarding the use of a cane, which before had been indispensable to his security in walking.

He called to see me, February 8, 1883, having worn out the frames of his glasses. On examination I then found that his vision was, R. eye, $\frac{6}{\frac{1}{3}}$ w + 1.25 cyl., ax. 80° = $\frac{6}{6}$. L. eye, $\frac{6}{\frac{2}{3}}$ w + 1.25 cyl., ax. 90° = $\frac{6}{6}$. He had an insufficiency of the interni of 2° for near vision, of 4° for distant vision. The insufficiency of the superior rectus had disappeared. I simply prescribed for his astigmatism eye-glasses which continued to give him satisfaction for over two years, when he died of phthisis while South.

A younger brother of this patient consulted me in 1882, and I found him the victim of compound myopic astigmatism and insufficiency of the externi.

Two cases very similar to mine are reported by W. A. Brailey, M.D., in the "Transactions of the Ophthalmological Society of the United Kingdom for 1883," p. 288, and 1881, p. 188.

THE EPILEPTIC COLONY AT BIELEFELD.

By FREDERICK PETERSON, M.D.,

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A short time ago I visited the "Bethel" Epileptic Colony, at Bielefeld, in the province of Westphalia, Germany. It is now nearly twenty years since Pastor von Bodelschwingh, a Lutheran clergyman, purchased a farmhouse, and with four epileptics established here a colony which, for nobility of conception and successful results, has nowhere an equal. From this small beginning there has been a gradual growth until to-day there are over eight hundred and twenty-five epileptic patients, and more than sixty houses upon the farm. The founder had long considered the unhappy lot of these unfortunates, who are usually burdens to their families, against whom the public schools are closed, whom none will employ in shops or apprentice to trades, and who are often necessarily deprived of social intercourse with their fellows by the nature of their malady, or find an asylum only in institutions for idiots or insane. It seemed to him feasible to create a refuge where these sufferers might be cured if curable, might have a home if recovery were impossible, might learn trades, and the great majority become educated, useful, and industrious citizens. Visitors are deeply impressed with the happiness, contentment, and prosperity everywhere apparent among the inhabitants of this little epileptic world. No longer an experiment, it answers the previously unanswerable objections to such aggregations. Since its foundation more than two thousand patients have been treated here, more than one hundred and fifty cured, and more than four hundred and fifty discharged improved.

The employments in this institution are numerous and varied. Work not only ameliorates the mental and physical condition of epileptics, but the incurably afflicted are provided with occupations which they are not permitted elsewhere to follow.

A school furnishes instruction to some one hundred and fifty pupils of both sexes. All branches are taught.

The dairy and the farm and garden require the attention of the greatest number of patients, especially as a large trade in vegetable and flower seeds is carried on by the colony.

Among the shops for epileptic workmen are those for carpenters, cabinet-makers, painters and varnishers, printers, bookbinders, blacksmiths and foundrymen, tailors, and shoemakers, and among the stores are a grocery, a pharmacy, a seed-, and a book-store. The carpenters aid in the building and furnishing of new houses. Books are printed and bound and sold here, especially popular works for religious and moral instruction (the colony being under the patronage of the Lutheran Church). Plans and drawings for new buildings are made in the architects' room. Chromos and photographs of a religious or patriotic character are dealt in. The illumination of mottoes for hospital wards and school-rooms, and the coloring of picture-cards are features of the work performed.

Washing, cooking, knitting, sewing, and fancy work employ many.

From the drug department over twenty thousand ounces of bromide of potash are annually distributed free of charge to epileptics anywhere in the world who are unable to pay for the drug, and who apply here for it; while four times that quantity is sent out yearly in twenty-gramme powders to any who pay the wholesale cost-price. Lately a bureau has been added for the collection and sale of museum objects, such as antiquities, articles of ethnographic or historical interest, autographs of distinguished people, coins, stamps, bronzes, gems, engravings, etc., and specimens from the Animal, Vegetable, and Mineral Kingdoms. From this brief outline it will be seen how every effort is made to multiply and vary the pursuits according to the tastes of the colonists. For men alone there are now nearly thirty different callings.

Every shop and school has a mattress or bed conveniently at hand in case of emergency. Several physicians of the town of Bielefeld visit the institution and oversee the medical treatment.

The whole establishment is, of course, on the cottage plan. The houses exhibit great diversity of architecture and position, and are well separated, with large gardens around them, as are the houses in some country villages.

Not the least interesting feature of the colony, which I can but mention in this place, is the training-school for nurses, which has existed many years. Here healthy, well-educated men and women, usually of the higher German classes, who are inclined to devote themselves to eleemosynary work from religious motives, are trained in general nursing and especially in the care of the insane. Several German asylums are wholly supplied with brothers and deaconesses from this institution to care for their patients. Five years is the time allotted to training.

The entire establishment, with its corps of instructors in schools and industrial pursuits, its nurses in training, its epileptics, and its officers, numbers some fifteen hundred inhabitants. It is growing constantly, with an increase that cannot be checked. Patients come from many parts of Europe and from different States in this country.

The result of years of experience with a large number of cases has led to the adoption of the following general plan

Employment for mind and body.—This is paramount. Out-door work is best.

Diet restrictions.—Food must be plain, not rich, and little acid. Spirituous liquors are to be avoided. Coffee and tea must be weak and mixed with much milk. (Smoking allowed in moderation.) A good milk-diet is preferable to meats or soups. Supper should be early and light.

Baths.—Cold shower-baths gradually prolonged and cold sponge-baths are beneficial.

Drugs.—The most effectual remedy is the bromide of potassium. It has more value than any other bromide.

It can be taken for years without deranging the stomach. It cures some cases, it lessens the frequency of seizures in others, it soothes the nerves, it often prevents imbecility, it sometimes tends to strengthen the mental faculties, especially the memory. The prescription is as follows:

℞. Potassii bromidi.. 20 grammes (ʒ v.).
Aquæ puræ..... 200 " (ʒ vj.).

Sig.—Take one tablespoonful three times daily, half an hour before each meal for the first week; four times daily at equal intervals (always some time before or after meals) the second week; five times daily the third week; and so on until eight tablespoonfuls are taken daily, which limit should not be exceeded.

Drowsiness, heaviness, wide-spread skin-eruptions, etc., indicate the necessity of decreasing the dose for a time.

The above dosage is for patients over sixteen years of age From ten to sixteen years, begin with three tablespoonfuls, but do not exceed five or six. Under ten years, begin with two daily and increase to four or five. Very young children should be given still less.

The drug as generally sold contains five to six per cent. of chlorate of potash and other foreign ingredients. An effort should be made to procure a purer drug than this. For this colony a bromide of potash is specially prepared which contains but 0.5 to 0.7 per cent. of foreign matter. The agent should be continued in gradually diminishing doses after the cessation of the disease, even for as long a period as eight or nine months.

Circulars in German and English, embodying the above method of treatment, are sent the world over to epileptics.

There is one small building in this colony set aside for cases periodically or mildly insane; but the worst cases of epileptic insanity are sent to lunatic asylums.

Other colonies upon this model have recently been founded in several Prussian provinces, in Saxony, in Würtemberg, in Switzerland, and in Holland.

The creative genius of this place, the Pastor von Bodelschwingh, whose large philanthropy has alleviated the condition of over two thousand wretched sufferers here, and many more in the outside world, without regard to religious sect or country, expressed to me the hope that the people of the United States or their legislatures would soon seek in some similar or better manner to mitigate the misfortunes of their one hundred thousand or more epileptics.

New York has probably twelve thousand epileptics.[1] Over one hundred and fifty are annually *admitted* into her lunatic asylums—not to count those already there for years—most of whom should and could be better treated elsewhere.

Why should New York not take the lead?

The Expense of Quackery.—There are in San Francisco, says the *Pacific Record*, one hundred and twenty-five illegal practitioners—*i.e.*, those whose ignorance is so appalling that they could not obtain a license from any of the examining boards. In the State there are over five hundred of this class. Some of them spend large sums monthly for advertising. We know of one whose advertising bills are two thousand dollars a month. Two practitioners on Kearny Street spend each one thousand dollars a month, and one on Market, two thousand. This last declares that his receipts from his practice and sales of nostrums will average *one hundred dollars a day*. The amount (average) filched from their dupes by each of these swindlers cannot be less than two hundred dollars a month, or one hundred thousand dollars in the aggregate. This is $1,200,000 a year.

[1] At the generally accepted rate of two epileptics per thousand inhabitants.

ERYSIPELAS OF THE UPPER AIR-PASSAGES, WITH CASE.

By D. BRYSON DELAVAN, M.D.,
NEW YORK.

Since the remarkable and exhaustive thesis of Cornil, which appeared in the *Archives Générales de Médecine*, in 1862, little new information has been advanced upon the subject of erysipelas of the upper air-passages. An excellent *résumé* of it has been given by Morell Mackenzie in his book upon diseases of the nose and throat. In this he states that he has seen but four cases.

Pathologically erysipelas of the upper air-passages is similar to the same malady when situated upon the external surface of the body. It may occur either primarily, or by extension from the face along the mucous tracts of the mouth, nose, or ear. Its causes are the same as those which give rise to it when situated upon the surface, although it has been observed most often in the course of general epidemics of the disease. Of eighteen cases recorded, in which the pharynx was affected, fifteen were under the age of thirty, and two-thirds were females.

Cornil makes three divisions of the malady, viz.: (1) Erysipelas with simple redness; (2) erysipelas with phlyctenulæ; (3) erysipelas terminating in gangrene. The disease most commonly reaches the larynx from the pharynx, and it may extend still farther down the respiratory tract and involve the trachea and bronchi.

As to the prognosis, the dictum of Hippocrates, namely, "When erysipelas extends from within outward, it is a favorable symptom, but when it removes to the internal surfaces, it is a deadly one," has been confirmed by modern observation. In nine cases analyzed by Cornil, when the face was first attacked, seven deaths occurred; whereas in nine other instances, in which the enanthem preceded the skin eruption, seven recoveries took place.

From what has been already said it will appear that the disease under consideration is rare. In this country cases have been reported by Drs. De Blois, of Boston; Porter, of St. Louis, and Roe, of Rochester, as well as by the writer, who, at the meeting of the American Laryngological Association, held June 24, 1885, read an article upon this subject, in which the records of two original cases were given.[1]

From the fact that erysipelas of the throat is probably more common than would be supposed from the small number of cases recorded, and because of the serious dangers which it may occasion, it has seemed well to call attention to the following case, the symptoms of which were exceedingly well marked and severe, and in which, although extension of the inflammation from without inward took place, recovery resulted.

G. T——, Scotland, aged forty-seven, stonecutter, married. Family history and previous record good. Fourteen years ago had an attack of facial erysipelas. Present attack began upon February 3, 1887. The inflammation appeared first upon the cheeks but quickly extended to the external surface of the nose, which became enormously swollen. Thence in the next four days it made its way over the forehead, scalp, and ears. Meanwhile the general symptoms were severe; pyrexia, anorexia, prostration, constipation. About February 16th the attack upon the surface of the head having begun to abate, the patient was attacked with pain in the pharynx and dysphagia, whereupon the inflammation extended to the nasal cavities, the upper pharynx, the faucial region, the larynx, the mouth, and the adjacent glands. This was attended with a return of the general symptoms in greater severity than before. There was also mild delirium and decided mental hebetude.

February 26th.—An abscess of the pharynx was incised and about one ounce and a half of dark bloody serum evacuated. The patient reported at the Demilt Dispensary, and was then seen by the writer.

[1] New York Medical Journal, September 12, 1885.

February 28th.—At this time the disease was at its height; the general condition was one of great prostration. There was the appearance over the face and scalp of a recently resolved attack of erysipelas. Great emaciation; mental condition dull; pulse feeble. Examination of the upper air-passages showed intense congestion of the nasal, pharyngeal, faucial, and laryngeal regions, which were filled with an abundant muco-purulent secretion. There was tumefaction at both sides of the pharynx behind the tonsils, particularly well marked on the right, where, he stated, the abscess had existed, pronounced œdema of the epiglottis, the arytenoids, and the ary-epiglottic folds, slight dyspnœa, and intense dysphagia.

Had been taking little nourishment and no medicine except quinine for several days.

Treatment.—The nose and pharynx were sprayed with an alkaline and antiseptic solution and all secretion removed. Especial care was taken to cleanse the nasal passages and pharynx by means of the anterior nasal spray. The result was immediate and marked relief. The early acute stage having passed and no advantage being likely to accrue from the use of ice, there were ordered inhalations of benzoated steam, once every half hour; a spray of a solution of chloride of zinc, three grains to the ounce, every hour; tincture of the chloride of iron, fifteen drops every two hours; sulphate of quinine, two grains every six hours; and abundant nourishment in the shape of milk, beef-tea, oatmeal-gruel, raw oysters, and raw eggs.

March 2d.—Patient's condition had greatly improved. Was able to swallow easily, and was almost free from pain. Local condition better; mental dulness less apparent; treatment continued.

March 4th.—Still improving. General condition infinitely better. Local treatment decreased in frequency of application.

March 7th.—Local condition excellent; gaining rapidly in flesh and strength. Mind clear and vigorous.

Complete recovery in about ten days, during which time the case presented nothing worthy of record.

1 East Thirty-Third Street.

Clinical Department.

LOCAL TREATMENT OF DIPHTHERIA BY THE BICHLORIDE OF MERCURY.

Dr. E. L. Oatman, of Nyack, writes that for the past two years he has treated diphtheria by the local use of a solution of the mercuric bichloride, and has been greatly pleased with the results obtained. "Iron in large doses and free stimulation certainly play an important part in the treatment; but with these alone I lost—at St. Agatha's Asylum—ten out of twenty-three cases, while since the addition of local treatment by the mercuric solution, I have lost but one out of thirty-four subsequent cases. This patient died two weeks after the subsidence of all the local symptoms, from paralysis of the muscles of respiration. Seven of my cases have had more or less paralysis of the muscles of deglutition during convalesence. This appears to be a large percentage and might direct some suspicion toward the mercury as being in a measure causative. The details of treatment in an ordinary case, and as followed in the hospital ward, is as follows: I manufacture on the spot about fifty swabs—made by twisting absorbent cotton around a stick about the size of a lead-pencil. The cotton should be pulled our and twisted firmly around the tip of the stick, extending beyond it, that the end may be thoroughly protected, so that no injury be done while using it. This is dipped in a solution of the bichloride of mercury, two grains to one pint of water, and is passed into the throat until it touches the posterior wall of the pharynx. It is then instantly withdrawn and burnt. No swab should ever be used a second time. No attempts are made to rub off any of the membrane, but more or less always adheres to the swab. This procedure is repeated hourly, day and night, until the disease begins to subside—which it usually does in forty-eight hours. I follow every application by the internal administration of five to ten minims of tincture of the chloride of iron, and as much whiskey and milk as the case appears to demand. If the interior or posterior nares are invaded, the nose should be syringed. The conical urethral syringe is the safest instrument to leave in the hands of a non-professional nurse. It is of the first importance that the nurse or mother be fully instructed in the method of treatment, and should make the application satisfactorily to the physician before being left in charge of the patient. In no case have I ever experienced any difficulty in getting my instructions carried out, or met with any serious resistance from the patient. Spraying the throat is a far more difficult procedure for the lay attendant, as the tongue obstructs the passage, while none of the loose membrane and mucus is removed as with the swab, but is swallowed and systemic infection furthered. The diphtheritic membrane cannot flourish in contact with the bichloride of mercury, and if this invaluable agent be constantly applied to the diseased surface for a few hours, the poison will be destroyed. I attach great importance to the method of application, and the extraction of the loosened membrane, beneath which the poison is still active, but inaccessible to the antiseptic.

HOW SHOULD SANTONIN BE PRESCRIBED TO OBTAIN ITS FULL PHYSIOLOGICAL EFFECT?

Dr. K. A. Norderling, of Rockford, Ill., communicates the following: "After the introduction of santonin into the system, the urine will in a short time become of a cherry-red color. Santonin will give the same color when dissolved in an alkaline solution, or when heated to liquefaction with the addition of caustic potash. The drug, therefore, undergoes in the system a change similar to that produced by alkalies and heat. Santonin is insoluble in water and dilute acids, but dissolves in the saliva, the gastric, intestinal, and pancreatic juices. This solution in the gastric juice takes place so rapidly that the maximum dose is completely absorbed in the stomach, as has been shown experimentally by Lewin. But it has also been proved by experiment that santonin, when given in an oily solution, is not at all absorbed in the stomach, but the entire quantity passes into the intestine. It is evident that when the drug is given in powder it will be absorbed and taken up in the circulation before reaching the intestine, and consequently, in order to obtain its vermicidal effect, it must be administered in such a form that it will not be acted upon by the gastric juice. Küchenmeister has shown that the drug must be in solution, as he found that ascarides were not affected by santonin-crystals floating in water, but were killed when brought in contact with an oily solution of the drug. In order, therefore, to accomplish its therapeutic object, it is necessary that santonin be in a form in which its vermicidal action can be exerted, and also that it reach the habitat of the parasite. To make the solution, any form of oil may be used, and the best effect is obtained by three grains of santonin dissolved in two ounces of oil, to be taken in four doses. It is also a good practice to add one drop of wormseed-oil to each dose, as researches have shown that all ethereal oils are poisonous to the lower organisms. If a movement of the bowels is desired, castor-oil will be suitable, although not in too large a dose, because with strong peristalsis the santonin does not remain long enough in the intestine to produce the desired effect. About two drachms of the oil to each dose will be sufficient."

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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A NEW METHOD OF INTRAPULMONARY INJECTION IN THE TREATMENT OF PHTHISIS.

IT is very interesting to note the efforts that are being made in all parts of the world to discover some mode of treatment for pulmonary phthisis by which the disease may be controlled. They are all, of course, based upon the new views of the etiology of the affection which have gained credence in recent times since the discovery by Koch of the tubercle bacillus. Of these different methods we propose to speak more at length at some future time, but now we will refer only to the latest one of which mention has been made in the current literature.

In a communication made to the Medico-Chirurgical Society of Pavia (*Gazzetta degli Ospitali*, March 23, 1887), Professor A. Riva gave an account of some experiments made by him with a modified form of intrapulmonary injections. He was not satisfied with injecting a few drops of some substance inimical to the bacilli, but endeavored to saturate the entire pulmonary tissue in the neighborhood of the diseased part. He argued that these injections were spread throughout the pulmonary tissue, and that, consequently, they reached the parts at the periphery of the diseased portion in such a dilute form as to be practically inert. It was necessary, therefore, to inundate the parenchyma of the lung so thoroughly with the fluid as to destroy all the bacilli present. That this was not done by the ordinary method was the explanation, he thought, of the want of uniformity in the results obtained.

The injections were made by means of a simple apparatus consisting of a graduated glass tube, of a capacity of 30 c.c. (1 ounce), to the lower end of which was attached a piece of flexible tubing of suitable length. To the other extremity of the tubing was fastened a large-sized hypodermatic needle, 10 c.m. (4 inches) in length. Before the injections were made the whole apparatus was thoroughly sterilized, and the needle, when not in use, was kept in a test-tube filled with a solution of carbolic acid. For the injections a solution of bichloride of mercury, of a strength of from 1–3,000 to 1–5,000 was employed.

The needle was passed from the anterior surface of the chest, at a point corresponding to the seat of the lesion, directly back to the posterior portion of the lung, care being taken not to exceed this limit and enter the pleural cavity. If the point of the needle should happen to lie within the lumen of a bronchiole, the entrance of fluid would excite violent cough, and for this reason the author was accustomed to allow but two or three drops to enter at first, and then, if there was no cough, a larger quantity could be safely injected. As the injection proceeded, the needle was gradually withdrawn so as to bathe the entire portion of pulmonary parenchyma lying in its course. If thought advisable, the needle could be moved about from side to side so as to spread the fluid over a greater area. But this was not ordinarily necessary, as diffusion occurred so readily that the entire apex would be bathed in the solution although it was injected only along a single line. Although as much as 40 to 50 c.c. of a 1–3,000 was injected at one time, and 75 c.c. of a 1–5,000 at another, the author never saw any symptoms of mercurial poisoning. Only once, after a number of injections had been made, was a slight swelling of the gums noticed. It would seem, therefore, that no danger of poisoning is to be apprehended. The danger of wounding a blood-vessel would, however, appear to be more real. But there are few vessels of any considerable size at the apex of the lung, and Dr. Riva, in upward of a hundred injections, never saw any signs which led him to suspect that such an accident had occurred. The injections were made very slowly, the operation usually lasting about an hour, and were repeated every three or four days.

The results obtained were not very brilliant, it must be admitted, although they were sufficiently encouraging to warrant a continuance of the experiments. The number of bacilli in the sputa were notably diminished, though in no case did they entirely disappear. The operation was well borne, and the patients complained of no discomfort during its continuance.

Dr. Riva is still experimenting with these large injections, and promises to communicate the results obtained in another paper. Judging, however, from the results in this first series, the method seems to offer no advantages over the ordinary form of pulmonary injections.

THE TREATMENT OF THE URIC-ACID DIATHESIS.

IN a recent series of articles on the treatment of gout and the uric-acid diathesis, Dr. Mortimer Granville (*Medical Press and Circular*) advances some views radically different from those ordinarily taught.

Dr. Granville appears to regard the presence of an excess of uric acid in the blood as the essential condition in this trouble. The local disturbances are due, he thinks, to accumulations of the acid in various localities —all of which is sufficiently in accord with prevalent views. But while admitting the excess of this acid in the blood, he does not admit the great acidity of the urine, or that the urine contains less than the normal amount of urea, or a deficiency or excess of uric acid, according to the stage of the attack. He has tabulated the results of several hundred determinations made in cases of gout in its regular and irregular forms. The figures adduced, showing specific gravity, acidity, and the proportional quantities of urea and uric acid in several groups of urines examined, do not appear to present any specially abnormal features, and thus bear out the negative opinion

stated, although the author is careful to point out that it is premature to express a decided judgment.

In treatment, he does not give the so-called specifics, or alkaline carbonates, but advocates a medicine which, he claims, breaks up the uric-acid compounds. This drug is iodine, and it is believed to set free the acid from its bases. Large amounts of water are then to be drunk, for the purpose of "flushing" the kidneys and washing out the morbific matter.

Dr. Granville is an attractive writer and a "happy therapeutist," but we are inclined to share the criticism made upon his article by a contributor to the *Press*, who writes:

"On reading the articles which have appeared in your valuable journal during the last few weeks, one 'On Gout,' by Dr. Mortimer Granville, and the other touching on the same subject in 'The Neurotic,' by Dr. Milner Fothergill, one cannot help being struck by the very crude, undigested notions both gentlemen possess as to the formation of uric acid in the system. In dealing with gout and its cause, no writer on the subject can afford to be ignorant of the experimental researches of Professor Ebstein, of Göttingen, a translation of whose work on the subject ('Die Natur und Behandlung der Gicht') appeared in your pages, and which has, I understand, since appeared in book form. The value placed on Ebstein's researches is further shown by the fact that the volume has since been translated into the French language. To talk about the liver being the workshop in which uric acid is formed, after the appearance of Professor Ebstein's work, is a display lamentable enough to cover an Englishman with shame and confusion of face. Might one be indulged in the question, 'Are our therapeutics only abreast with our pathology?'"

Ebstein's theory, which is not universally accepted by any means, is that uric acid is manufactured by cartilaginous and connective-tissue metabolism, not by the liver.

UNIVERSITY COURSES AND MEDICAL EDUCATION.

The average age of students who enter Harvard has been gradually increasing, until now it is nearly nineteen years. The alumnus of twenty-three who takes a medical and hospital course is nearly twenty-eight years of age before he begins to practise medicine. This is too old, and it is evident that such a course is not to be recommended. The average age at which German medical students begin professional studies is eighteen and four-tenths, and they begin practice when twenty-three and a half. English physicians begin when about twenty-four, and French when at about the same age.

In view of the above facts, says the *Boston Medical and Surgical Journal*, the Medical Faculty of Harvard University have recommended to the consideration of the Academic Council—a body representing the undergraduate department as well as the various schools—the expediency of granting the degree of A.B. to all undergraduates who shall subsequently take the longest course of study offered at the professional schools after three years' attendance (at the end of the junior year) in the Academic Department; the professional degree and that of A.B. to be given simultaneously at the end of the professional course, it being understood that the requirements of each have been fulfilled. The first year of a professional school would thus be made equivalent to the present senior year.

Dr. H. P. Bowditch, Dean of the School, proposes a still more radical change, viz.: (1) An academic course of three years, with requirements so graded as to lead to the degree of A.B. at an average age of twenty years; (2) a philosophic course of three years, with requirements so graded as to lead to the degree of A.M. or Ph.B. at an average age of twenty-three years.

In other words, Harvard is to go back to the courses or standards of twenty-five years ago for its A.B. degree.

Whether this is practicable or not, it is very certain that no large number of persons intending to study medicine will set out for themselves a course of study which does not equip them for work until they are twenty-seven or twenty-eight years of age.

Yet academic training is an invaluable help in medical work, and ought to be had whenever practicable. Students will, therefore, if wise, either go to smaller colleges, which let them out at twenty or twenty-one years of age, or the larger colleges must adopt some such plan as Dr. Bowditch proposes. Colleges or universities in which the freshmen are fully nineteen years of age are failures, as educators of medical men at least, and we believe it is much the same with lawyers.

THE DECLINE OF AMERICAN MEDICINE.

Our young contemporary, the *Medical Standard*, writes in a very Stygian mood as regards the present condition of American medicine.

The fee-bills, it says, of most medical societies of the second decade of the present century are practically identical with those of the medical societies of the present time. American medical remuneration is now much less, proportionately, than it ever has been. With this decrease in pecuniary reward has come an almost equal decrease in social recognition. The physician no longer towers above the community as a member of that famous aristocratic triumvirate of the first three decades of the present century—the "parson," the "squire," and the "doctor." The "squire" has risen in prominence, but the "doctor" has fallen. Furthermore, we are told that there are no such towering giants as in the old days of Rush, and Mott, and McDowell. The scientific status of American medicine is also lower; and, in fine, we are all going to the bad. The explanation of all this is stated with a candor and precision characteristic of a great commercial centre instinct with true business feeling. It is because we as a profession have indulged too much in "humanitarian cant" and "canting pseudo-philanthropy," and have not kept pace with the business feeling and business methods of the age. The remedy, if we understand our contemporary correctly, is to give up philanthropy or, rather, pseudo-philanthropy, and conduct all professional affairs on business principles, or, to be more euphemistic, be guided by the principles of an advanced political economy.

The *Medical Standard* is no doubt right, in large measure, as regards the decline in compensation for medical services. In many parts of the country this is relatively lower than formerly; and in this city we know of

many of the older physicians who have been forced to lower their rates because these have been cut into by younger men, with no pseudo-philanthropy about them, but thoroughly penetrated with the principles of political economy as taught by advanced business men of the day. However, it has to be confessed, also, that a considerable part of medical work in the line of practice is done in a cheap way, by men who are really not trained to careful medical examinations and thoroughly rational methods of diagnosis and therapeutics. The country is full of cheap doctors, and the alertness of Americans is such that they appreciate the fact that most of their routine and empirical dosing is not worth a high price. We believe, however, that the best medical talent still commands as high returns as ever, while in many special lines of work the compensation is greater than formerly. There are also many more examples of first-class talent now than existed sixty years ago. We have many better surgeons, and more brilliant and accomplished men, than Valentine Mott, or Ephraim McDowell, or Payne, ever was. The day of oracles in medicine and surgery, to be sure, is past, and no one man will ever gain such supremacy as was done in the days gone by. But this is because times have changed, and the relations of physicians to each other and to the public are entirely different, Knowledge and the critical spirit are more widely diffused. American medicine is not on the wane; and it will, we trust, never entirely abandon humanitarian sentiments for business methods. Its hope lies in the continual improvement in the training of students and physicians, until the public learns that there is a difference between doctors, of a very decided kind; that good medical service is worth liberal compensation and pays best in the end.

DESCRIPTIVE SCIENCE.

A GREAT deal of what is contributed by medical men to current literature is simply of a descriptive character, and has value mainly because it is interesting to, and refreshes the memory of, those engaged in the same fields of work. How far even the records of accurate observation are from deserving a place with true science is illustrated by an anecdote told of Agassiz, when he was still a young man, and had but recently arrived in this country. At a meeting of a distinguished literary and scientific club of Boston there was a discussion of Dr. Hitchcock's then new book on "Bird Tracks," and the plates representing his geological discoveries were exhibited. The praises had been lavish, when a young foreigner, a stranger to most of them, arose and said: "The defect in this book is that it is dees-creep-teeve, and not com-par-a-teeve." With that sentence came the distinction in American science between scientific observation and scientific intelligence, between the art of perceiving and describing and the art of comparing and combining.

Few have this greater art, and most must be content with modestly and faithfully recording what is found new in the world of pathology. But even to be able to observe and describe accurately is no small talent, and so reports of cases, if reported well, must always have a value.

Since, however, most of our medical science is necessarily "dees-creep-teeve," additional pains must be taken that the descriptions show accuracy in every point, and that they contain no second-hand stories of familiar things.

BOB-VEAL AS A FOOD.

THE inspectors of the City Health Department recently seized several thousands of pounds of bob-veal. It is said that for every pound of this form of food captured five pounds are sold and consumed in the city.

The inquiry is sometimes made why bob-veal is treated with so little consideration by our health-officers. It is perfectly true that bob-veal is neither poisonous nor innutritious. The only objections are that it is a watery and rather indigestible substance, standing somewhat in the relation to good veal or beef that skimmed milk does to the pure article. Veal, as would be expected, has almost identically the same amounts of fat, nitrogenous matter, and salts, as beef. The tissues, however, have less osmazome, or flavoring matter, are more insipid, and hard to digest.

It is a question, however, whether even the bobbest of bob-veal is not better food than the "lights" which are sold to and eaten by the poor. Bob-veal ought not to be sold for good veal; but under its own name, and at a low price, it might be admitted as an article of food.

A FURTHER STUDY OF FEVER.

Two series of lectures have recently been delivered upon the nature of fever, and in both we find scholarly and ingenious contributions to the subject. The Croonian Lectures, by Dr. Macalister, furnish the more elaborate discussion, and his views will attract, deservedly, much attention; for they present to the reader a decidedly new terminology and, in some respects, new conceptions, and place the pathology of fever in closer accord with modern physiological doctrines.

The temperature of our body is due to the action of a heat-generating mechanism, the great source of the heat being the metabolic changes in the muscles. The loss of heat is controlled by a heat-losing mechanism, mainly associated with vaso-motor and respiratory activity. The balance between heat-production and heat-loss is maintained by a heat-adjusting apparatus. These various processes are termed by Macalister thermogenesis, thermolysis, and thermotaxy. The three mechanisms are successively evolved as we ascend in the animal scale. Cold-blooded animals have little more than a thermolytic or heat-losing mechanism. Infants have only the thermogenetic and thermolytic, there being hardly any adjusting mechanism, as is shown by the instability of their temperature. Fever is a dissolution-process—the last mechanism evolved, the thermotaxic, gives way first, then the thermogenetic, and lastly the thermolytic. Conversely, when the patient convalesces thermolysis is first restored to normal, then thermogenesis, then thermotaxy.

The anatomical basis of these various mechanisms is as yet only partially made out. Wood claims to have shown that there is a thermogenetic centre, inhibitory in character, near the crucial sulcus in the dog, while Arohn-

son and Sachs find a heat-generating centre near the inner side of the corpus striatum. Stimulation of this region increases the temperature on the opposite side. Those nerve-centres whose influence promotes metabolic change are known as catabolic, and they correspond to the motor centres for muscle; those centres which inhibit metabolism are "anabolic," or inhibitory. There is good reason to believe that the thermogenetic mechanism has anabolic (centre of Wood's) and catabolic (centre of Arohnson and Sachs) centres. The thermic fibres below the medulla mingle with vaso-motor nerves so that they cannot be further followed.

The thermolytic mechanism is one which is intimately connected with vaso-dilator, vaso-constrictor, secretory, and respiratory functions. The vaso-motor system is, however, the great agency through which heat-loss is regulated.

A point of the greatest practical interest in connection with the modern study of fever is brought out again by Macalister. It is that, since fever depends upon a disturbance in the relations between heat-production and heat-loss, the condition revealed by the clinical thermometer may be very misleading. The patient, for example, with a temperature of 104°, may simply suffer from insufficient heat-loss, with perhaps a trifling increase in heat-production.

Practically, however, experimentation shows that heat-loss and heat-production work together quite closely, and that in fever, while both are affected, the increase affects the production a little more than the loss; hence the rise of temperature.

News of the Week.

A New Medical Journal is to be published shortly in Paris, under Professor Grancher's direction. It will be called the *Univers Médical*, and the editor intends to devote a much larger part to foreign news than is usually given in French papers.

Consumption is quite prevalent in Dakota, according to Dr. J. E. Engstadt, in the *Medical Age*. The Indians especially suffer from it, and so do the Norwegian immigrants.

How Dr. Murrell Prevented a Suicide.—In the preface to the last edition of an English medical work entitled "What to Do in Cases of Poisoning" the author, Dr. Murrell, says: "This work has reached a fifth edition, but it is not my fault, and I disclaim all responsibility in the matter. I am told that it has been the means of saving many lives, and I have no doubt this is true, for I hear that a gentleman who thought of poisoning himself changed his mind on reading the directions for treatment."

Dr. Holmes and the Druggists.—At a banquet given to Mr. Theodore Metcalf, by the Boston Druggists' Association, Oliver Wendell Holmes gave his opinion of apothecaries as follows: "I have always had a great opinion of the medical advice of apothecaries. The truth is, they put up the prescriptions of all the best physicians in the place in which they live, and they have the very cream of all their wisdom at their fingers' ends. So, when I have myself been suffering from any slight bodily inconvenience, I am ashamed to say—or ought to be, perhaps—instead of going to a professional brother, I have quietly crept into the back room and asked Mr. Metcalf what such and such a doctor was in the habit of prescribing.—"*Boston Medical and Surgical Journal.*

A Jubilee Hospital at Montreal.—A telegram from Montreal states that Sir Donald Smith, Member of Parliament, and Sir George Stephen, President of the Canadian Pacific Railway, have offered to give $500,000 each for a new hospital, to be named the Royal Victoria Hospital. The city is asked to give a site on Mount Royal, adjoining the estate of the late Sir Hugh Allan. The building is to cost about $250,000, which would leave an endowment of $750,000. This, it is estimated, would bring in about half the necessary revenue for the maintenance of the two hundred patients for whom accommodation is to be provided.

The West and the International Congress.—The President of the Congress is a Western man. The home of the Secretary-General is in the West, and the sections are largely made up of Western men, many of whom have received their degrees from Western colleges.—*Weekly Medical Review.* Yet when the preponderance was of Eastern men great indignation was expressed.

Hospital Mismanagement in Chicago.—The warden and others of the officials of Cook County Hospital have been indicted for fraud by the Grand Jury, and, with several of the County Commissioners, with whom they were in connivance, will shortly be tried for fraud and malfeasance. The abuses which they have perpetrated are said to be flagrant and of long standing.

Transplantation of Human Bone in a Case of Ununited Fracture.—Professor A. Poncet, of Lyons, reports the case of a man of forty-three years who suffered from an ununited fracture of the tibia, the ends of the bones being atrophied and 35 mm. to 40 mm. apart. He removed the first phalanx of the great toe, on a limb recently amputated, sawed off the articular ends, and split the bone in two. One of these halves, 26 mm. long, was fastened between the freshened ends of the broken tibia, with due antiseptic precautions. Fibrous union took place at one end, osseous at the other. There was no necrosis.

American Public Health Association.—The fifteenth annual meeting of this Association will be held at Memphis, Tenn., on November 8 to 11, 1887. The subjects for discussion will be the following: 1, The Pollution of Water Supplies; 2, The Disposal of Refuse Matter of Cities; 3, The Disposal of Refuse Matter of Villages, Summer Resorts, and Isolated Tenements; 4, Animal Diseases Dangerous to Man. Dr. G. B. Thornton, of Memphis, will give all information concerning the local arrangements.

The Bill for Drinks.—The sum of $700,000,000 is spent annually for alcohol by the 15,000,000 drinkers of this country, and the sum of $600,000,000 by the 8,000,000 drinkers of Great Britain and Ireland. So the mother country is still ahead.

A Suit against the Health-officer of this Port and a rag-disinfecting firm has been brought by certain rag importers of this city. It is claimed that the rags were unlawfully detained in order to be put through an unnecessary patented disinfection process.

The Microbe of Typhoid Fever.—At a recent meeting of the Société des Hôpitaux, M. Chantemesse made an interesting communication concerning the morphological and biological characteristics of the typhoid-microbe. The sporulation of this microbe takes place between 19° and 48° C. (67° to 104.4° F.). It develops in water, even if sterilised. At a temperature of 45° C. (113° F.) the cultivations live for several days; they are destroyed by boiling. This microbe retains its vitality in damp ground. Corrosive sublimate (1 in 20,000) and sulphate of quinine (1 in 800) destroy it. Carbolic acid (1 in 400) has no effect on it; hydrochloric acid is also inert, therefore the acidity of the stomach is not inimical to this microbe.

Biniodide of Mercury as an Antiseptic.—Dr. P. K. Bolshesolsky, of St. Petersburg (*Vratch*, No. 11, 1887, p. 220), from numerous experiments made by himself in Professor A. P. Dobroslavin's laboratory, concludes that biniodide of mercury is a more powerful and less poisonous antiseptic than corrosive sublimate. Thus he fully confirms the observations of Bernhardy. A solution of 1 in 4,000 destroys putrefaction-microbes more completely than a sublimate solution of 1 in 2,000. The biniodide dissolved in a solution of iodide of potassium was recently tried, with apparently good results, in three cases of laparotomy, under Professor A. I. Krassowski. For washing the floor, a solution of 1 in 4,000 was employed; for disinfecting the hands, 1 in 2,000; for instruments, 1 in 2,000 and 3,000.

The Alleged Assault.—We take pleasure in stating that the practitioner who gave the certificate of assault referred to in our last issue is a German physician in good and regular standing, and that in giving his testimony he was guilty only of an error of judgment. We are glad to learn that the certificate was written under protest, with no desire to criminate a brother practitioner, and that it was used by the attorneys in the case in a different manner from that intended by the writer. The great mistake was in giving any certificate which should even indirectly reflect upon the moral character of a brother practitioner.

The Proposed Diphtheria Hospital in this City.—The necessity for a hospital specially devoted to patients suffering from diphtheria has been urged by the profession from time to time, but until lately no practical turn has been made in the proper direction. The *Morning Journal*, of this city, with commendable far-sightedness and logical force, has initiated a movement which promises as equally gratifying a result as has crowned its labors in the cause of tenement-house reform. It can be assured that in both it has the support of the profession. An appeal has been made to the public for funds, and there is no doubt that subscriptions from the more substantial of our citizens will be forthcoming. We have no doubt that such an institution, suitably constructed and properly managed, will not only tend, by isolating the patients, to check the spread of an alarmingly prevalent and fatal scourge among the poor, but will offer better opportunities for the treatment of the disease, and, by the enlarged experience of its medical staff tend still more largely to develop their therapeutical resources. The medical staff will be composed of gentlemen who have had ample opportunities for studying the disease in all its phases, and will command the confidence and support of the profession. It is proposed to construct a model hospital-building in a suitable locality, to admit thereto cases of diphtheria from the tenement-house districts, and, by means of a heated crib, to obviate any change of temperature during the transfer. The urgency for the establishment of such an institution is quite apparent in the fact that no general hospital will admit such cases, and that there is at present no building which has been specially set apart for diphtheritic patients.

A Critic Criticised.—Dr. F. M. Meyer writes to *Gaillard's Medical Journal* criticising the prevalent practice of writing the A.M. degree first after the name and then the M.D. As the M.D. degree is generally obtained first, it should, he thinks, be placed first. Dr. Meyer signs his name "J. M. Meyer, A.B., M.D., A.M." We would ask, however, how a person can be a Bachelor of Arts and a Master at the same time. It is much like a man being engaged and married cotemporaneously. Such things occur, but are generally thought bad form.

A Prize of Two Thousand Dollars (10,000 francs) is offered by the Académie de Médecine, Paris, for the best work on the treatment of stricture of the urethra or on the therapeutic methods for diseases of the urethra.

Dr. Edward T. Caswell died in Providence, R. I., on April 17th, in his fifty-fourth year. He was a son of the Rev. Alexis Caswell, at one time President of Brown University. He was graduated from Jefferson Medical College in 1857, studied a few years in Europe, and then settled in Providence.

Obituary.

JAMES STEWART JEWELL, M.D.,

CHICAGO, ILL.

We regret to announce the death of Dr. J. S. Jewell, of Chicago, Ill., which occurred on April 18th. Dr. Jewell had been in poor health for a considerable time, and although not so ill as to be compelled to relinquish his practice entirely, his condition was such as to cause grave apprehensions among his friends. He began to break down in health about five years ago, and a complication of disorders set in which he was never able to overcome. Dr. Jewell was born, September 8, 1837, at Galena, Ill. He was graduated at the Chicago Medical College in 1860, and two years later he settled in Chicago, where he remained in active practice till the time of his death. From 1864 to 1869 he was Professor of Anatomy in his college, and since 1872 had held the chair of Nervous and Mental Diseases. In 1874 he started a *Journal of Nervous and Mental Diseases*, which still exists as a prosperous periodical and has done much to promote neurological study in this country. Dr. Jewell was also instrumental in organizing and making successful the American Neurological Association. Dr. Jewell was of a studious and philosophic mind, yet he was a skilful physician, ingenious and practical in his methods. His services to American neurology are very great.

Reviews and Notices of Books.

A Reference Handbook of the Medical Sciences, embracing the Entire Range of Scientific and Practical Medicine and Allied Sciences. By various writers. Illustrated by chromo-lithographs and fine wood engravings. Edited by Albert H. Buck, M.D., New York City. Vol. IV. New York: William Wood & Co. 1887.

This volume of the "Reference Handbook" carries the work along from ICH to MIL. Some very important articles are embraced in these letters, such as Insanity, Kidney, Labor, Larynx, including a notice of O'Dwyer's method of intubation, Liver, Lungs, Micro-organisms, and Microscopy. These are only a few of the more important subjects which are treated at considerable length, but there are hundreds of other minor topics which are, in their way, of nearly equal importance, and which are discussed in a thoroughly practical and lucid manner. We mentioned, in a notice of a previous volume, a comparative table of the Centigrade and Fahrenheit thermometric scales, and we find here another very convenient table of the metric and British systems of linear measurements. Such tables are exceedingly useful, and even a necessity in the present period of transition, when all the Continental writers, and many also in England and America, use the decimal system; but the convenience of readers of the Handbook would be greatly promoted were the tables printed on loose sheets, for ready reference, as it is awkward, while reading an article in one volume to be obliged to turn to another to find a translation of the figures employed. The book before us contains, in addition to over five hundred wood-cuts, three chromo-lithographic plates illustrating Carcinoma and Sarcoma of the Larynx, and the different appearances presented by test-tube cultures of a number of the more important micro-organisms. The contributors to this volume are ninety-five in number. Among the more important articles may be mentioned those on "Inflammation," by Dr. W. T. Councilman; on "Insanity," by various authors. Some of the illustrations of this section of the volume are of great interest. Dr. Joseph D. Bryant has contributed a valuable article on the "Intestines." The articles on "Kidney," "Labor," "Larynx," "Liver," "Lungs," "Massage," "Micro-organisms," and "Microscopy" are remarkably complete. Aside from these, the great number of short, succinct descriptions and statements with which this volume is crowded give the work its chief value to the profession. We need only add that the high reputation which the work has already earned for itself is fully sustained in the present volume.

Alpine Winter in its Medical Aspects: With Notes on Davos Platz, Wiesen, St. Moritz, and the Maloja. By A. Tucker Wise, M.D., L.R.C.P., M.R.C.S., formerly Visiting Physician to the Infirmary for Consumption, Margaret Street, Cavendish Square; Physician to the Western General Dispensary, etc.; Author of "Davos Platz, and the Effects of High Altitude on Phthisis;" "Wiesen as a Health Resort in Early Phthisis," etc. Third Edition. London: J. & A. Churchill. 1886.

The appearance of the third edition of this well-known and highly appreciated treatise on the Alpine winter resorts will be welcomed by all who are interested, and what physician is not, in satisfying himself as to the relative merits of warm and cold climates in the treatment of pulmonary phthisis. The author justly insists upon the necessity of greater attention being paid to house ventilation in mountain winter resorts, where, of necessity, much time must be passed in-doors, and where the climate does not admit of ventilation through open windows. And especially interesting is his description of the Maloja Kursaal, in the construction of which the primary object has been to secure proper ventilation and heating, which would seem to have been effectually obtained. Dr. Wise is, of course, an advocate of high altitudes in a cold climate for the winter treatment of phthisis, yet he has presented his case fairly, and seems not to be blind to certain drawbacks which the Alpine resorts possess. The book will be found entertaining and instructive to all those interested in the climatic treatment of disease.

The Extra Pharmacopœia of Unofficial Drugs and Chemical and Pharmaceutical Preparations. By William Martindale, F.C.S., Late Examiner of the Pharmaceutical Society, and Late Teacher of Pharmacy and Demonstrator of Materia Medica at University College. With References to their Use abstracted from the Medical Journals, and a Therapeutic Index of Diseases and Symptoms. By W. Wynn Westcott, M.B. Lond., Deputy Coroner for Central Middlesex. Third Edition. London: H. K. Lewis. 1884.

The title fully explains the nature of this little book, which cannot fail to be of use, especially to those who have failed to keep thoroughly posted on the new remedies, and new applications of old remedies, concerning which so much is constantly appearing in the periodical literature of the day.

Transactions of the Academy of Medicine in Ireland. Vol. IV. 1886.

The present volume brings together a number of papers of varied and varying interest. Dr. J. M. Purser, in a paper on "The Therapeutic Uses of the Digestive Ferments," deprecates their use within the body, and any good results which would seem to accrue from the administration of pepsin, trypsin, or other ferments are due, not to the supposed chemical action which they exert in vital processes, but to suggestion. They are merely placebos; but ferments are of use to perform artificial digestion, and the administration of digested material is both scientific and attended by the best results. Such a paper as this is both timely and suggestive.

Dr. James Martin endeavors to prove the non-infectious nature of pneumonia from twenty-eight cases, no two cases, except in one instance, having occurred in the same family, though each patient was nursed in his poor and too often impure home by wives, mothers, sisters, and brothers, all in the closest contact. In the majority of cases the patient described his illness as originating with some especial exposure to cold air or wet clothes; the weather, too, was severely cold with a prevalence of sharp winds.

Dr. N. Langford Symes reports an extraordinary case of hyperpyrexia (temperature 108°) in rheumatic fever, and great success resulting from packing the patient in cloths wrung out of ice-water.

Mr. R. F. Tobin has an interesting paper on "The Surgery of the late Expedition to Suakim." In 129 cases, 93 were wounded by rifle-shots and 36 by sword or spear; 124 recovered—a very remarkable record when taking into consideration "the nature of the climate, the difficulty of conveyance by land and sea, the septic conditions implied by flies that made black by their presence every spot where they could obtain food."

Dr. Thomas Madden More discusses and describes Dr. Emmet's "buttonhole" urethral operation for chronic cystitis. One obtains an idea of laparotomy as it at present exists in Ireland from a paper by the same gentleman, and Dr. Atthill has a paper on "Ovariotomy," a case of sarcoma of the ovary furnishing him with the text.

Space will not allow us to mention several other papers of interest and the description of pathological specimens and conditions, all of which go to show that valuable work has been done in the society during the past year.

GOUT, AND ITS RELATIONS TO DISEASES OF THE LIVER AND KIDNEYS. By ROBSON ROOSE, M.D., F.C.S. Third edition, pp. 164. London: H. K. Lewis. 1887.

THE writer places before the reader a fine monograph on this subject, dealing with its pathology, discussing the uric-acid theories, relating the causes and symptoms, and giving the treatment and diet with which to cope with this aristocratic disease. The fact that the third edition is now before the public is proof of its value.

THE SCIENCE AND ART OF OBSTETRICS. By THEOPHILUS PARVIN, M.D., LL.D., Professor of Obstetrics and Diseases of Women and Children, in Jefferson Medical College, Philadelphia, etc. Illustrated with two hundred and fourteen wood-cuts and a colored plate. Philadelphia: Lea Brothers & Co. 1886.

THE author of the work before us has endeavored to write a clear and complete exposition of the science and art of obstetrics, and one which will be useful alike to students and practitioners—at least, so we are assured in the stereotyped phraseology of Dr. Parvin's preface. A careful examination of the book has failed to convince us of the necessity for its appearance. Aside from several standard English treatises, such as those of Barnes, Playfair, Leishman, we have the American works of Lusk, King, and Glisan, any one of which is at least equal to the volume prepared by Dr. Parvin.

It seems that the author is unduly impressed with the importance of French publications. The scant reference to the teachings of German writers constitutes, indeed, a noticeable feature of Parvin's obstetrics, thus forming a striking contrast to the able and scholarly treatise of Lusk. It is not always odious to compare, especially when comparison is boldly challenged by the presentation of new books that do not clearly show some advance over those already in the hands of the profession. Now, in our opinion, King's manual is preferable to Parvin's, on the score of condensation, precision, and positive teaching. Glisan's work, though less reliable for students, will be found more suggestive and more original. The English works are all more complete and thorough. The sum and substance of our criticism, then, is simply this, that the book before us was not needed at the present time, because we are already supplied with an abundance of excellent works on the same subject.

RESEARCHES UPON THE VENOM OF POISONOUS SERPENTS. By S. WEIR MITCHELL, M.D., and EDWARD S. REICHERT, M.D. Washington: Published by Smithsonian Institute. 1886.

THIS volume, which forms one of the series of the Smithsonian contributions to knowledge, is a valuable addition to what has hitherto been known as the subject of reptile poisons. By means of the snake-loop, as it is called, an ingenious device for seizing a serpent by the neck, it has been possible to collect venoms, to forcibly feed the reptiles and keep them alive for a longer period than heretofore. The authors have experimented with venom on birds and animals and reached the following important conclusions: That venoms bear a strong resemblance to the saliva of vertebrates; the active principles are contained in the liquid parts only. Micrococci are constantly present in fresh saliva, but have nothing to do with its violence. Dried venoms will retain their toxic properties for a long time. The toxic properties are globulines and peptones. The local effect of venoms is powerful, producing œdema, swelling, infiltration of the parts, and sloughing. It renders blood incoagulable. It softens the walls of blood-vessels so that they are unable to resist the normal blood pressure, and the blood exudes *en masse*. The shape of the red blood-corpuscles is changed; they become spherical, softened, and fuse themselves together into irregular masses. The direct action of venom on the nervous system is little, except that upon the respiratory centres, which it paralyzes. Death may occur through the paralysis of the respiratory centres, paralysis of the heart, hemorrhages into the medulla, and the altered condition of the blood-corpuscles. The respiratory centres are the most vulnerable.

Potassic permanganate, ferric chloride in the form of liquor or tincture, are the most available local antidotes. The fact that the active principles of venoms are proteids, and closely related to the normal constituents of the blood, renders it almost hopeless to search for a chemical antidote which can prove available after the poison has entered into the circulation. A physiological antagonist, therefore, is what must be sought. The investigators speak of the possibility of this discovery in a discouraged manner: "The activities of venoms are manifested in such diverse ways, and so profoundly and rapidly, that it does not seem probable that we shall ever discover an agent which will be capable at the same time of acting efficiently in counteracting all the terrible energies of these poisons."

MANUAL OF OPERATIVE SURGERY. By JOSEPH D. BRYANT, M.D., Professor of Anatomy and Clinical Surgery, and Associate Professor of Orthopædic Surgery, Bellevue Hospital Medical College; Visiting Surgeon to Bellevue Hospital; Consulting Surgeon to the Bureau of Medical and Surgical Relief of Bellevue Hospital; Consulting Surgeon to the New York Lunatic Asylum, and to the Northwestern Dispensary. With about eight hundred illustrations. New York: D. Appleton & Co. 1887.

THIS is in reality a second edition of this very practical work, the first having been published in different shape by another house. It has, however, been apparently in part rewritten, and bears proof of careful revision, both as to language and arrangement of the headings, thus greatly enhancing its value. The illustrations are more numerous, and those of the former edition which have been retained have been so retouched and lightened as to be worthy of the text and a real assistance in the comprehension of the operations described. The type and the paper are good, and the work is now presented in such a shape that it is a pleasure to study it. The subject-matter is excellent, and the author shows that he is not only a master of his art, but, what is equally important, possesses the not too common faculty of being able to impart his knowledge to others. We know of no better work on operative surgery to place in the hands of the student or of the young surgeon, and we cannot but congratulate the author upon the very presentable form in which his book is now offered to the profession.

OLFACTORY ACUTENESS.—Nicholls and Bailey have recently published the results of experiments upon the relative acuteness of the sense of smell in individuals. A series of solutions of oil of cloves, nitrite of amyl, extract of garlic, bromine, and prussic acid were prepared by successive dilutions with water until the limit of perception was reached, and then the solutions were placed indiscriminately and submitted to a number of persons of both sexes to classify them properly by the sense of smell. The results showed that on the average the sense of smell was much more delicate in the males tested than in the females; but the degrees of keenness ranged widely as between individuals. Thus three male observers were able to detect one part of prussic acid in 2,000,000 parts of water, though its presence was not revealed by a chemical test; but others, of both sexes, could not detect prussic acid in solutions of almost overpowering strength. The following figures give the average limit of delicacy of perception: Cloves—Males, 1 in 88,128; females, 1 in 50,667. Nitrite of amyl—Males, 1 in 783,870; females, 1 in 311,330. Extract of garlic—Males, 1 in 57,927; females, 1 in 43,900. Bromine—Males, 1 in 49,254; females, 1 in 16,244. Prussic acid—Males, 1 in 112,000; females, 1 in 18,000.—*Medical Press.*

Reports of Societies.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, April 7, 1887.

A. JACOBI, M.D., PRESIDENT, IN THE CHAIR.

DR. A. J. C. SKENE'S memorial paper on

H. W. DUDLEY, M.D.,

was read by DR. THALLON, of Brooklyn, and was an excellent tribute to the memory of a most worthy member of the medical profession.

DR. ARPAD G. GERSTER then read a paper (see p. 453)

ON THE PROPER SELECTION OF ETHER OR CHLOROFORM AS AN ANÆSTHETIC.

The discussion was opened by the reading of the following letter from DR. H. KNAPP, addressed to the President:

"I regret to be prevented from attending the meeting of the Academy this evening, and, in compliance with your request, to take part in the discussion of Dr. Gerster's paper. If I may be permitted briefly to state my personal experience with chloroform and ether, it is as follows:

"From 1860 to 1874 I used chloroform in over three thousand cases. There was no fatal result, but many unpleasant and a certain number of critical cases. About once a month I had to resort to artificial respiration and other means of resuscitation. Having seen fatal cases in Berlin and Vienna, I was in constant dread.

"From 1874 to this day I have used ether in all cases of anæsthesia, in children as well as in adults, in drunkards, in persons affected with lung and heart diseases. No general complaint has been considered a contraindication. I have administered ether according to the so-called 'choking plan,' yet admitting of so much air at the beginning as to let the patient get over the impression of asphyxia. A great many of the operations that I had to perform could be finished during the period of primary anæsthesia; others lasted for hours, during which time the narcosis was kept up uninterruptedly.

"In several hundreds of successive etherizations I have taken notes of the course of the narcosis. The average time to bring about anæsthesia was *one minute and thirty-seven seconds*. There has been no fatal case, and only very few in which I had to interrupt, temporarily, the narcosis; none, as far as I recollect, in which it had to be relinquished. The secondary effects have not been more unpleasant than from chloroform. I use ether as the universal anæsthetic, consider it safer than chloroform, and just as manageable, if not more. Since I employed it my mind has been free from the anxiety which in chloroform I could never overcome."

DR. WEIR continued the discussion, and remarked that Dr. Gerster's paper conceded the important fact that chloroform was more dangerous to life than ether. But even admitting for a moment the additional risks that are said to come to an etherization from pneumonia and kidney complications, is the danger of the two anæsthetics at all equalized thereby? He thought not, decidedly not. The statistics, imperfect in many ways, go strongly against chloroform; the collection of Roberts from 1873 to 1880 gives but eighteen deaths from ether obtained from all sources all over the world. In the same period were collected in a similar manner by Turnbull ninety-two cases of deaths from chloroform. Moreover, a single journal, the *Lancet*, published in eighteen months, *i.e.*, from January 1, 1869, to July 1, 1870, seventeen deaths from the latter anæsthetic. He, in his turn, felt impelled to admit that ether was more dangerous than is supposed, due mainly, he thought, to

THE RECKLESS WAY IN WHICH IT IS GENERALLY ADMINISTERED,

and particularly in our large hospitals. As to the pneumonia which it is said to produce, he felt, while not denying it, that perhaps other reasons for this complication could be set forth, and the principal one was the undue exposure and cooling of large portions of the body during operations. Lung complications became more noticeable with him when antiseptics came into use, from the spray, and latterly from the incautious employment of the wet antiseptic towels and cold rubber cloths. Furthermore, he was unwilling to accept the dictum that a *pre-existing kidney disease contraindicated the use of ether*. He had, as most surgeons had, been compelled often to operate in such conditions, and since the articles of Emmet, Hunt, and others had called attention to the possibility of augmentation, not creation, of kidney trouble from the use of ether, he had taken more care in these cases to give ether carefully and moderately, and to keep his patient warm and free from exposure and draughts, and so far he had escaped mishap.

He individually could only speak of one serious result from ether anæsthesia. This occurred in a man who came into the New York Hospital in 1884, with symptoms of rupture of the bladder and commencing peritonitis. As the case was urgent he was immediately etherized, and an incision below the umbilicus begun. Vomiting occurred, and the patient became cyanosed and ceased to breathe. The autopsy showed a piece of undigested food from a recent meal to be lodged in the larynx.

Dr. Weir further stated that the whole number of deaths from ether in the old New York Hospital, from 1850 to 1870, out of about seven thousand seven hundred operations, was three. One occurred in the service of the late Dr. Allen, and has been already reported—and followed the first incision for a tumor of the jaw (an irritation which Schiff has shown will often arrest respiration). The second happened during an operation by Dr. Markoe for strangulated hernia, the man's head being very low down in the bed, the hips having been elevated to facilitate the re-entrance of a large mass of intestine to the abdominal cavity. The third took place in 1860, under the charge of Dr. Bell, the house surgeon, who reduced under ether a very large double scrotal hernia which, not previously reducible, had become incarcerated. No cause for the death was revealed by the autopsy, and it was believed that the replacement of

THE INTESTINES INTO THE LONG-EMPTIED ABDOMEN

had interfered with the diaphragm and heart-action. Since the rebuilding of the New York Hospital in Fifteenth Street, in 1876, there have been performed 2,289 operations, with 2 deaths from ether—one of which, his own, has already been given; the second of this series was met with in 1882 in a case of extravasation of urine. On making incision into the perineum, death suddenly came on. The autopsy showed a fatty heart. In the House of Relief (a branch of the New York Hospital) there have been, since 1876, 802 operations, with 1 ether death. This was encountered in 1886. While operating (under ether) on a man with crushed fingers, it was noticed that the venous oozing suddenly ceased, and death followed in a few minutes. A post-mortem examination revealed tubercular lungs and an atheromatous aorta. Summing up this experience, which represents one of the largest hospitals in the country, there are found 6 deaths from ether in 10,791 administrations, or 1 death in 1,796 cases; or, if the choking case is eliminated, there would be 1 death in 2,158 cases. Dr. Weir thought that this experience would more or less be confirmed by other hospitals should they publish their cases, though a sharp distinction should be made in the cases of deaths from ether and those dying during etherization.

Nevertheless, while admitting, as before stated, that ether was dangerous, and more so than is usually estimated, yet, had he to be operated on, and had he, moreover, damaged kidneys, he would think himself safer under anæsthesia from ether than if chloroform was used.

Dr. Lewis A. Sayre continued the discussion (see p. 458).

Dr. W. Gill Wylie said that his experience had been favorable, and that he had not lost a patient during or very near to the time of the operation until quite recently, when his experience had been rather sad. Within two months he had lost two patients who had been anæsthetized with ether, and their deaths, he thought, could be attributed directly to the anæsthetic. He could accept almost all that Dr. Gerster had said, except that he would reverse the statement, and say that he would prefer to give ether on account of its being safer, but that in a certain number of cases chloroform should be used. He believed that Dr. Gerster was perfectly correct in regard to what he had said concerning

THE RECKLESSNESS WITH WHICH ETHER IS GIVEN IN MANY PUBLIC INSTITUTIONS.

Dr. Wylie was certain that it was true of some institutions in New York. In the lying-in room he used chloroform, and he had never had any accidents with it. He had reached these conclusions: The frequent repetition of ether created in the person a tolerance which was sometimes very unpleasant when general anæsthesia was desirable. In very fat persons anæsthetics were especially dangerous. Three or four years ago he favored the use of ether in almost all cases. Now he would, as a rule, use ether; but in many cases, especially if the kidneys were affected, or there was reason to suppose that the lungs were seriously affected, he would prefer chloroform. He would always use chloroform in the lying-in room, and generally in children. Dr. Wylie then detailed his two fatal cases; one was an umbilical hernia in a very fat person, and the other a case of abdominal tumor, in which, before the operation, the urine gave no evidence of kidney disease, but the autopsy revealed chronic interstitial nephritis with an acute attack.

Dr. Weir believed that all peritoneal operations should be excluded when collecting deaths from ether.

Dr. John A. Wyeth had formulated his views regarding ether and chloroform as follows: Chloroform must be preferred in almost all operations in children under *six* years of age, and in women during childbirth. Chloroform may be preferred to ether when ether has been tried without producing anæsthesia. Chloroform may be used when ether cannot be obtained. With the exception of nephritis, he had not seen any reason for changing these conclusions.

He had almost always used ether in both hospital and private practice, and during the last eighteen years he had not had an accident from it, certainly not a death. He had not met with the class of cases described by Dr. Gerster—namely, that in which the patient resists anæsthesia so much that chloroform must be substituted for ether. Nor had he encountered pneumonia. He thought that there was danger from pneumonia after all prolonged operations, and that in one of Dr. Gerster's cases, in which

THE OPERATION LASTED SIX HOURS,

the same pulmonary complication might have occurred if chloroform had been used. He believed that Dr. Sayre's success in the use of chloroform could be accounted for largely on the ground that he had used it more in children and in cases of parturition than in other cases.

With regard to statistics, he had found in "Agnew's Surgery," second volume, a careful analysis of all the deaths that had occurred from ether and chloroform from 1869 to 1872, and there were one hundred and ninety-five from chloroform and six from ether. In three of those charged to ether the E. C. mixture was used, and these three fatal cases Dr. Agnew eliminates.

Dr. Robert Abbe had seen one death from ether. There was a compound fracture of the leg, and the patient had tetanus. Dr. Little proceeded to amputate under ether. The patient died upon the table, with intense rigidity of the whole body. He believed that the danger from pneumonia or acute bronchitis, and from nephritis, were under the control of the surgeon, while

THE DANGER FROM CHLOROFORM IS ABSOLUTELY BEYOND THE CONTROL OF THE SURGEON

in a considerable proportion of cases. He believed that the pneumonia and bronchitis referred to were due to exposure of the patient. He had operated under ether, in cases of necessity, and without disaster, although the urine contained albumen and casts.

Dr. Mundé had used both ether and chloroform extensively, but had not seen any deaths that could be referred to the anæsthetic. He had, however, seen three cases abroad—one in a man, the other two in children—where chloroform was administered, and only the most active and decided measures saved the patients from death.

In two cases, after prolonged operations under ether and on lifting the patient up, he had seen syncope, which he felt quite certain would have proved fatal had not very active measures been adopted. His feeling was, after having been bred abroad to use chloroform, that

ETHER IS THE SAFER OF THESE TWO ANÆSTHETICS

when properly administered. He felt that the remarks of Dr. Gerster regarding the recklessness with which anæsthetics were given were highly commendable. In hospitals it was generally left to those who were last admitted *and the least qualified* to perform what was one of the most important duties connected with a surgical operation, which was all wrong. The administration of the anæsthetic should be intrusted to skilled persons only. In all long operations he preferred to use ether, and with Clover's inhaler. He had noticed that, in some cases, it was impossible to get the patients under the proper influence of ether, and it was only when he had changed to chloroform that they had been properly anæsthetized. He had almost always given a bromide salt, but sometimes a hypodermatic injection of morphine before beginning the anæsthetic.

For short operations he preferred chloroform, and also in obstetrics, except where he wished to stimulate uterine contractions in tedious labor.

Dr. R. W. Amidon noticed that the writer of the paper had stated that the only contraindication to chloroform was a weak heart, but at the same time it was well known that death occurs unexpectedly and much more so than when ether is given, in by far the greater majority of cases. That had been stated as well by Dr. Reeve as anyone, in Holmes' "Surgery," who says, "It is one which no far-sightedness can discern, no precaution can avoid, no skill avert." Another point to which Dr. Gerster had very properly called attention was

THE DISADVANTAGE IN THE USE OF ETHER FROM THE COLLECTION OF MUCUS IN THE AIR-PASSAGES.

Dr. Amidon thought that if the precaution was taken to use the prophylactic measure to which he had called attention, that is, preliminary injection of one-sixtieth to one-fiftieth of a grain of sulphate of atropia, or by the mouth some preparation of belladonna, that the respiratory act would be improved and that the bronchial and tracheal secretion would frequently be lessened, and the disadvantages arising from ether, in this particular, would be substantially done away with. He believed that this precaution had been used by Dr. Weir and by Dr. Thallon, with good results.

Dr. Thallon, of Brooklyn, said that he had listened

with a great deal of interest to the paper of the evening, and yet it had impressed him as one that was somewhat one-sided. He quite agreed with Dr. Weir that ether was not absolutely contraindicated by the presence of albumen and casts in the urine, but the presence in the urine of these evidences of kidney disease should make the surgeon

MORE CAUTIOUS IN THE ADMINISTRATION OF ETHER.

The question of the use of either or chloroform was largely one of dosage, and he preferred the ordinary apparatus used by dentists, with which the patient, very much as with Dr. Sayre's apparatus, breathes the air impregnated with the anæsthetic and expires the foul air through another opening. He had never had the trouble of which Dr. Gerster had spoken; that is, the patients kicking around the table, and he had given anæsthetics many hundreds of times. He believed that the bad effects of ether were due largely to the ignorant and indiscriminate way in which it was used. He first noticed in the *Lancet* the use of atropia before beginning the inhalation of ether, and he had used it with so much benefit that he had practised carrying a solution of it in his pocket or case, and administering it as a prophylactic, especially against undue secretion of mucus in the respiratory tract.

Dr. Gerster, in closing the discussion, said it was very strange, after having tried to appear unbiassed, that he should be charged with partiality, as he had been, by nearly all who had spoken with the exception of Dr. Sayre. He was not astonished at it, however, because everyone of the gentlemen who had spoken was evidently one-sided, and his position as stated in his paper had been entirely misunderstood.

He said, and still maintained, that it was one-sided to say that chloroform was the only anæsthetic that should be used, just as it was unsound to claim that ether was the only anæsthetic to be employed.

He regarded ether as the less dangerous of the two in the general run of cases. But the hospital surgeon who operates every day, and perhaps on many cases, will encounter many more cases in which it is not only difficult, but impossible, to produce the desirable complete relaxation with ether, than those who have occasion to give an anæsthetic only a few times in a year, and he would repeat that there are patients who cannot be brought into complete anæsthesia with ether, even though administered by Dr. Thallon himself. Under such circumstances

THE SURGEON MUST USE CHLOROFORM,

and he is a poor surgeon if he is afraid to use it, as many of the gentlemen seemed to be. He did not say that he would use chloroform in all cases, but would use ether, as the rule; but where there were present the contraindications which he had enumerated, he would employ chloroform, and surgeons should know how to use it and should not be afraid to use it.

With regard to statistics, he would not give *five* cents for all that had been brought forward; they were worthless. He was aware that deaths from chloroform had been hunted up, and he also knew of a number of deaths upon the table from ether that had never been reported, and never would be published. He knew of *five* cases of death from ether in *one* hospital which had not been published. There was no doubt about deaths occurring on the third, fifth, and sixth days, etc., from nephritis or pneumonia after anæsthesia by ether, and yet these cases were not reported. Therefore the statistics given by Dr. Weir did not have the merit of truth which they should have in order to be reliable. If the absolute number of deaths from all anæsthetics could be ascertained, then proper conclusions could be drawn concerning the relation and the comparative safety of each one. Therefore, he believed that the argument by statistics should not be admitted in the discussion of so serious a question.

With regard to the occurrence of *pneumonia*, he had also been misunderstood. He did not understand that the pneumonia and bronchitis were due to the inhalation of cold vapor or exposure of the patients in the corridors or wards of hospitals, or in operating-rooms. He believed that there was a much more direct

INSULT TO THE RESPIRATORY TRACT

in the mucus that had collected and undergone change. Before the inhalation of ether the breath of the patients might be sweet, but having been anæsthetized it was not uncommon for it to have an odor of decomposition that was a source of great discomfort to those who came near them, and this decomposing mucus in the oral cavity and trachea finding its way into the lungs was the much more probable cause of the bronchitis and pneumonia than the inhalation of cold vapor or the exposure referred to. In the presence of micro-organisms in the buccal cavity and stomach rapid decomposition of mucus might take place, even during the production of anæsthesia, and this mucus was very liable to be drawn into the lungs.

He had tried to say that both ether and chloroform were used extensively as anæsthetics. If used intelligently and properly they are ordinarily safe. Sometimes fatal results will follow one as well as the other. These were facts admitted by both the advocates of ether and of chloroform.

He had endeavored to show that the entire question of the greater safety of the one over the other rests upon opinion, as there had not been brought any absolute proof that either ether or chloroform was the safer or the more dangerous. So long, therefore, as the question must remain as a matter of opinion, was there justice or common-sense or fairness in the position taken by many physicians by saying that anyone who administers chloroform for general *surgical* anæsthesia deserves criminal prosecution? Against that spirit he would beg to protest, and that was the real reason why he brought the subject before the Academy. So long as the question was an open one, he believed that the Academy should protest against such a view.

The Academy adopted the report of the Council that it had had under investigation charges made against a Fellow for giving a certificate which subsequently had been published extensively as an indorsement of a proprietary medicine, and recommended that the Fellow be informed that the writing of such

A CERTIFICATE WAS OBJECTIONABLE.

The Academy then adjourned.

Formulæ for Lanolin Salves.—The manufacturers of Dr. Liebreich's lanolin salves have published a list of formulæ for their preparation. The following are some of them: 1. Unguentum belladonnæ: Extr. belladonnæ 5.0, lanolini 45.0. Unguentum potassii iodidi: Potassii iodidi 20.0, aqua 10.0, adipis sulli 20.0, lanolin 150.0. 3. Unguentum carbolic.: Acid. carbolic. 5.0, adipis 5.0, lanolini 90.0. 4. Unguentum acid. pyrogallic.: Acid. pyrogallic. 10.0, adipis 10.0, lanolini 80.0. 5. Unguentum acid. salicylici: Acid. salicyl. 10.0, adipis 20.0, lanolini 70.0. 6. Unguentum hydrarg.: Hydrargyri 50.0, lanolini 12.5, ung. hydrarg. 2.5. 7. Unguentum iodoformi: Iodoformi 10.0, adipis 10.0, lanolini 80.0. 8. Unguentum chrysarobini: Chrysarobini 10.0 to 25.0, adipis 10.0, lanolini 80.0. 9. Unguentum picis liquid.: Picis liquid. 20.0, lanolini 80.0. 10. Unguentum ichthyoli: Ichthyoli 10.0, lanolini 90.0.

Veratrum in Pneumonia.—Dr. J. W. Maddin, of Nashville, makes a plea for the use of veratrum viride in pneumonia, to be used in the stage of engorgement always, and never after this period.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE SOCIETY OF APOTHECARIES AND THE "CONJOINT SCHEME"—SOME CASES OF RENAL DISEASE—INCISING THE OPTIC SHEATH FOR SWOLLEN DISK—DR. BROADBENT ON THE PULSE.

LONDON, March 28, 1887.

As was anticipated, the two colleges have refused to allow the Society of Apothecaries to combine with them and thus to become a party to the "conjoint scheme." The earnest recommendation of the medical council has availed for naught. That body, indeed, has sowed the wind and is now reaping the whirlwind. Its vapid utterances in former times have so discredited it in the eyes of the profession and the governing bodies of the various corporations, that its protest now passes unheeded. The consequences in the present instance will be that the Society of Apothecaries will obtain the power to give a complete diploma, and an inferior grade of general practitioners will be inaugurated who will compete with the holders of the "conjoint diploma," very much to the disadvantage of the latter.

Several interesting cases of renal disease have lately been brought before the societies. At the last meeting of the Medical and Chirurgical Society, Mr. Godlee read a paper in which he gave the history of a unique case of renal calculus causing suppression of urine. The remarkable feature of the case was that the suppression was complete, but the calcular disease was only on one side. After acute pain in the right loin and other symptoms of renal disorder a perinephritic abscess formed on the right side, and was opened. The kidney could not be found at the operation. The casts disappeared completely from the urine, and the albumen became very small in amount. The wound healed and the patient remained well for a time. A year later he was seized with a severe attack of renal colic and in a few days complete suppression of urine supervened.

No operation was undertaken, because it was assumed that there was only one working kidney, the ureter of which had become blocked. After the suppression had lasted five days, however, the left kidney was felt and punctured, but its pelvis was found to be empty. Two days later the patient began to pass highly albuminous urine. This became more normal day by day, but the patient died exhausted in less than a week. At the autopsy the right kidney was found to be dilated into a loose bag of pus and a stone was impacted half-way down its ureter. The latter, however, was dilated throughout its whole extent. The left kidney was large and comparatively healthy, except that it showed signs of chronic interstitial nephritis. The pelvis and ureter on the left side were normal.

Mr. R. W. Parker read a paper on a case of suppression of urine following injury to a sacculated kidney containing calculi, the other kidney being entirely disorganized.

At the Medical Society Dr. Ralfe showed an oat-shaped calculus (chiefly composed of oxalate of lime) which had been passed after six weeks' treatment. It was a third of an inch in length, and weighed three grains and a half. The treatment employed was the administration of a mixture containing lithia and turpentine. Dover's powder was given at night. The patient was also directed to drink three pints of filtered rain-water daily. Under this régime the specific gravity of the urine fell from 1.025 to 1.014, blood and pus disappeared from it, and the attacks of renal colic became less frequent. Dr. Ralfe remarked that his method differed from that of Sir William Roberts in that he did not seek to lessen the size of the calculus by chemical solvents, but by checking its growth, reducing the specific gravity of the urine, and diminishing existing pyelitis, to allow free passage to the concretion. There were many calculi, said Dr. Ralfe, that were small enough to slip down a ureter, but they were prevented by the swollen condition of the orifice. In addition to distilled water and turpentine he also thought highly of benzoate of lithia or potash.

At the same meeting of the Society Mr. Brudenell Carter read a paper on a case of swollen optic disk, in which he had, by a new operation, incised the sheath behind the eyeball. The patient was a young woman who sought advice for headache and impaired vision in the left eye, of ten days' duration. On ophthalmoscopic examination the optic disk was found much swollen. Iodide of sodium and mercurial inunction were prescribed, but without benefit. The swelling increased, and hemorrhages appeared in it. Mr. Carter then divided the external rectus muscle, rotated the eyeball inward, exposed the nerve, and, opening its sheath, let the fluid exudation escape. The patient made a good recovery and the symptoms disappeared. Sight had begun to return in the previously blind temporal half of the field. Mr. Carter remarked that De Wecker had in 1872 unsuccessfully attempted to open the sheath without the aid of sight by employing a specially curved knife. The method he had himself employed (of previously dividing the muscle) allowed the operator to see what he was doing, and the procedure could be carried on without danger.

In his recent Croonian Lectures at the College of Physicians Dr. Broadbent has been discoursing on "The Pulse," a subject to which he has devoted much attention. Although one of the early workers with the sphygmograph, he has not a very high opinion of its clinical value, as it requires considerable skill and experience to use it to advantage. He remarked: "It is rarely necessary for diagnosis, and scarcely ever to be trusted in prognosis." The pulse was not, he said, as commonly stated in text-books, an expansion of the artery; nor was it a sinuous movement of the vessel in its bed. It was the change of shape from the flattened condition impressed upon the artery by the finger, or by the sphygmographic lever, to the round cylindrical shape which it assumes under the distending force of the blood within it, that constituted the pulse that we observe clinically. It was a misconception to suppose that the pulse signified onward movement of the blood in the artery. Remarking on the fact that for all ordinary purposes we took the pulse at the wrist, Dr. Broadbent remarked that, as a matter of observation, we knew that the pulse at the wrist indicated the state of the circulation generally. The fact, also, that the hand had no special circulation of its own liable to extreme variations for functional purposes, made the radial pulse more trustworthy.

OUR PARIS LETTER.

(From our Special Correspondent.)

HYPNOTISM AND MENTAL SUGGESTION.

PARIS, April 1, 1887.

"SUGGESTION" is decidedly taking its place in the domain of clinical therapeutics, and it has even passed the threshold of the Faculty of Medicine, in proof of which we have only to refer to the recent works of Dr. Gilles de la Tourette, and of Professor Bernheim, of Nancy. In his preface the latter author gives the following definition of suggestion: "Suggestion, which dominates the greater part of the manifestations of hypnosis, the pretended physical phenomena, is nothing else than psychical phenomena. It is the idea conceived by the operator, which, seized by the hypnotized subject and accepted by his brain, realizes the phenomenon, favored by an exalted suggestibility, produced by the special concentration of the hypnotic state." In other words, suggestion signifies the penetration of the idea of the

phenomenon in the brain of the hypnotized subject by speech, gesticulation, sight, imitation. We are far from the empirical interpretations of animal magnetism and of mesmerism; with the aid of special fluids, they are nothing more than the phenomena of suggestion. This view would, moreover, give the key of Braidism, and somnambulism itself is only an advanced degree of hypnotism, or profound sleep, with unconscious suggestive phenomena. Professor Bernheim could not help paying a just tribute to Dr. Liébault, of Nancy, who for the last twenty-five years has devoted himself with the greatest disinterestedness and courage (for he has had to brave a good deal of sarcasm and ridicule) to the study of the treatment of maladies by sleep, confessing at the same time that having for a long time been himself sceptical, he yielded only after having been convinced by the hypnotic cure of a hystero-epileptic subject, affected with contracture of the right leg of three months' duration, and at the same time subject to convulsive attacks which were renewed five or six times a day. Professor Bernheim's work is composed of two parts. In the first part the author treats of the different degrees of hypnotism which his method can produce (they are six in number), and he analyzes the different phenomena presented by the hypnotized subjects, among the most curious being post-hypnotic suggestions in somnambulistic subjects, with unconsciousness at waking.

The suggested acts, explains the author, sometimes meet with resistance on the part of those who are subjected to them, but in general they are entirely accomplished. The same is the case with sensitive sensorial suggestions, and with simple or complex hallucinations which may be provoked. In a very important chapter of the work the author treats of the subject in a moral and psychological point of view, and examines the relations of suggestion with the civil and criminal laws, the hypnotizer deserving all the severity of the law without extenuating circumstances, the responsibility of the hypnotized subject being almost completely annulled. In the second part of the work the author treats of suggestion applied to therapeutics; in other words, the imagination as a curative agent. Nobody has ever denied the efficacy of this powerful factor, and it is to its influence that should be attributed the credit of thaumaturgists and healers of disease by verbal assurance, who still work on the credulity of the ignorant. To provoke by hypnotism this special psychical state, and to operate, in view of cure and of relief, the suggestibility thus artificially excited, such is the rôle, according to M. Bernheim, of psycho-therapeutical hypnotics. The action of remedies at a distance, referred to in your note on the subject in THE MEDICAL RECORD of March 19th, would be an exemplification of mental suggestion. As a general rule, states the author, the action obtained is more rapid and more complete with profound sleep. It is, therefore, in somnambulism that suggestion acquires its maximum of efficacy, that cures are often instantaneous and assume a miraculous appearance. The numerous cures which are affected each year at the grotto of Lourdes, a place of pilgrimage in France, cannot have any other explanation, according to the same author, than religious auto-suggestion, in very narrow relation with hypnotic suggestion, but as he does not wish to attack religious faith, nor injure religious sentiments, he has manifested a praiseworthy circumspection in this respect. He has published in detail the cases of seventy-one patients in proof of his assertions, and which he considers are sufficient to induce others to adopt this new therapeutical method. The case of permanent cure of writers' cramp by patient and persevering suggestion appears to be the most remarkable.

At a recent meeting of the Academy of Medicine, Dr. Rochard exhibited, on the part of Dr. Mondot, of Oran, an entire tibia which was removed in December last from a woman aged thirty, a scrofulous subject, who was affected with suppurating osteitis of that bone. The periosteum was detached in its entirety and the bone was sawn off with a chain-saw. A new tibia was reproduced, and two months after the operation the patient was able to walk about, which she still does, with the aid of a boot made specially for her.

Dr. Doleris, a rising accoucheur, has performed a certain number of experiments which show that injections of corrosive sublimate into serous cavities, and that the washing of wounds with this substance, even in the proportion of 1 to 1,000, are eminently toxic. The accidents by which this intoxication are manifested are: Lowering of the body temperature, colliquative diarrhœa, considerable weakening of the muscular system, albuminuria, etc. The conclusion arrived at by the author, which he recently communicated to the Biological Society of Paris, is that the corrosive sublimate, which is an excellent antiseptic, ought to be reserved for the disinfection of the skin, the hands, instruments, and in a general manner for all articles of dressing, but for the washing of wounds and of large serous and mucous surfaces, it should be absolutely proscribed.

"SEXUAL PHYSIOLOGY AND MOHAMMEDAN WOMEN."

To the Editor of The Medical Record.

SIR: In your issue of February 12th, p. 192, is a short article entitled: "Sexual Physiology and Mohammedan Women," which makes certain assertions on the authority of Dr. Zambaco. These statements may all be true for the Mohammedans among whom the doctor lives, but many of them do not hold good for those of Syria. I have lived here for several years and have carefully inquired of other physicians into the subject, but in no case have I ever heard of a girl being circumcised. I have been told that in Egypt the operation is performed. Marriages take place at a very early age, not only among Mohammedans but among all Christian and other sects, though it must be remembered that the girls of the East are several years in advance of those of the West in point of physical development. I have been told on good authority of a woman of Damascus who was a grandmother at the age of twenty-one.

In consequence of these early marriages, probably, fecundity is rare; for abortions are rare, and it is the wife's highest ambition to bear her husband a son. Sterility is as great a cause for reproach as it was among the Jews of old, and it is a common cause of divorce or of the husband's taking a new wife. The honor attached to having a son is so great that the mother frequently loses her identity and is known as the mother of such a one, *e.g.*, Im Amin—the mother of Amin. Uterine disorders may be common, but they are not known to the physician, as he has no access to the females, married or unmarried.

It must be remembered that the Mohammedans number some two hundred millions, thirty millions of whom are under Turkish rule, while the others are found in Persia, India, and Africa, extending from Egypt to about the great lakes, so no one rule can be given to cover all these people. Truly yours,

THOMAS W. KAY, M.D.

BEYROUT, SYRIA, March 14, 1887.

THE ANTIQUITY OF PRESERVATIVE INJECTIONS.

To the Editor of The Medical Record.

SIR: In your summary (MEDICAL RECORD, March 12th, p. 302) of Dr. Laskowski's work on embalming, etc., it is stated that: "It was not until the present century that embalming and the preservation of subjects was undertaken by means of injections into the vessels. Dr. Franchina [Tranchina], of Naples, and, almost at the same time (1835), Lauth, of Strasbourg, conceived the idea of

forcing preservative fluids into the blood-vessels." As a matter of history, in 1775, sixty years before these attempts at preservation by Tranchina and Lauth, Dr. Wm. Hunter, assisted by Cruikshank, injected turpentine and spirits of camphor into the femoral and other large arteries, for the purpose of preserving the body of a woman; and the operation is spoken of as if it were not an absolutely new proceeding even then (Pettigrew's "History of Egyptian Mummies," London, 1834, p. 258, and Dr. Wm. W. Keen's "History of Practical Anatomy," Philadelphia, 1874, p. 36).

In your summary ought not the name "Gaunal" to be Gannal, and "Franchina" to be Tranchina?

Yours,
S. H. GAGE, M.D.

CORNELL UNIVERSITY, ITHACA, N. Y., March 22, 1887.

[The systematic use of preservative injections dates at the period we mention.

Gannal is the proper name, not Gaunal, as our printers made it. Franchina is the name given by Laskowski.—ED.]

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from April 10 to April 16, 1887.

RICHARD, CHARLES, Captain and Assistant Surgeon. Granted two months' leave of absence on surgeon's certificate of disability. S. O. 82, A. G. O., April 9, 1887.

KANE, JOHN J., Captain and Assistant Surgeon. Resigned April 13, 1887. S. O. 85, A. G. O., April 13, 1887.

WALKER, FREEMAN V., First Lieutenant and Assistant Surgeon. Ordered from Fort McIntosh, Tex., to Post of San Antonio, Tex. S. O. 45, Department of Texas, April 11, 1887.

APPOINTMENTS.

CABELL, JULIAN M. To be Assistant Surgeon with the rank of First Lieutenant, to date from April 14, 1887.

WOODRUFF, CHARLES E. To be Assistant Surgeon with the rank of First Lieutenant, to date from April 14, 1887.

The Army Medical Board, New York City, N. Y., is dissolved. S. O. 82, A. G. O., April 9, 1887.

Official List of Changes in the Medical Corps of the United States Navy for the week ending April 16, 1887.

GRIFFITHS, S. H., Passed Assistant Surgeon. Detached from the U. S. S. Lancaster, and waiting orders.

HIBBETT, C. T., Passed Assistant Surgeon. Detached from duty on ironclads, City Point, Va., and waiting orders.

MARSTELLER, E. H., Passed Assistant Surgeon. Ordered to duty on ironclads, City Point, Va., the 20th instant.

PROFESSOR VERNEUIL still continues to teach at La Pitié, and is as full of vigor and energy as he was when I first heard him twenty years ago. My time had been so much occupied in other directions that I have not been able to follow him regularly. He has, however, a hobby which he is riding just now, and that is, the discussion of glandular tumors by the interstitial injection of a ten per centum solution of iodoform in ether. His results are apparently very good.—Cor. *Chicago Medical Journal.*

New Instruments.

AN IMPROVED OPHTHALMOSCOPE.

BY FRANCIS VALK, M.D.,

NEW YORK.

IN estimating the refraction of the eye, or the elevations and depressions that may occur at the fundus, the ophthalmoscope has become one of the most useful instruments in the hands of the ophthalmologist. This instrument has been subject to many changes and improvements until we have found almost the perfection of the ophthalmoscope in Dr. E. G. Loring's last design, which, in the arrangement of the glasses, their size and accuracy of refraction, and the large number of combinations, with the added quadrant, besides its neat, light, and mechanical workmanship, leaves almost nothing further to be desired.

In the use of this ophthalmoscope for the past four or five years, it has seemed to me that if some mechanism could be devised by which the various lenses could readily be brought behind the aperture without removing the instrument from the eye, so that the accommodation would more readily tend to relax in the estimation of hypermetropia, it would be a decided improvement, and one that would meet the approval of the profession.

With this object in view I have devised the instrument, or rather the improvement to Dr. E. G. Loring's instrument, as shown in the cut. This consists of a rectangular bar, connecting the ophthalmoscope with the handle, somewhat longer than the bar now in use; upon this bar is a slide with the lower part raised and roughened, so that it can be held steadily and firmly with the thumb and forefinger. This slide is made to pass freely up and down; passing upward from the slide is a flat rack of brass having on one side a series of small teeth, which act upon a cog-wheel attached to the disk containing the lenses. This cog-wheel motion is so set that when the slide is in the middle of the square bar, the aperture in the disk will be over the aperture in the ophthalmoscope.

It will readily be seen, then, that in the use of this ophthalmoscope, by simply pulling the slide downward, it will cause the disk to rotate to the right, thus bringing

the convex glasses successively behind the aperture; or by pushing the slide upward the concave glasses will be successively placed behind the aperture.

The small quadrant that contains the convex and concave glasses of 16 and .05 D is fastened to the segmented cover of the back of the ophthalmoscope by the two small seams in the centre, and when this is to be used, to obtain the stronger glasses, it is simply necessary, if convex glasses are needed, to put the +16 D over the aperture, then push the slide up to the top of the bar, and as it is pulled downward the convex combinations will successively be placed before the aperture from +8 D to +23 D; the same action of the slide with the −16 D behind the aperature will make all the combinations between −9 D to −24 D; only pull the slide down to the lowest point first, and then push it up.

I am inclined to think that by the use of this attachmen to Dr. Loring's ophthalmoscope the examination of the fundus and the estimation of the errors of refraction will be much more exact and satisfactory, as by the ease and ability by which we can bring these successive glasses before the eye will allow the examiner's accommodation to become easily relaxed in the estimation of hypermetropia, and also to more readily select the weakest concave glass in the estimation of myopia.

This instrument has been made for me by the firm of E. Gayler & Co., 839 Broadway, and I feel satisfied it will be found perfect in every respect.

Since writing the above I have learned from Dr. E. G. Loring that a similar movement was used on an ophthalmoscope with a single disk several years ago, and reported in Graefe and Saemish's "Handbook of Ophthalmology," vol. iii., part i., p. 135; but as the movement seems to me, since I have used it, an improvement in the method of using the ophthalmoscope, I have determined to present it to the profession. I would also add that this rack-and-wheel motion is so arranged that it can be easily applied to the Loring ophthalmoscope now in use.

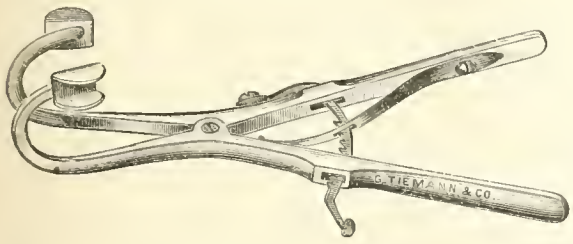
163 East Thirty-seventh Street.

A MODIFICATION OF O'DWYER'S GAG.

By CHARLES E. DENHARD, M.D.,

NEW YORK.

The following modification of O'Dwyer's gag I have devised to meet a serious objection to an otherwise excellent instrument. No matter how firmly the child's



head is held, the left shoulder is frequently forced against the arms of O'Dwyer's gag, thus displacing the instrument, to the physical discomfort of the physician's finger and possible laceration of the gums or the cheek of the little patient. In the modification, as will be seen in the accompanying cut, the arms of the lever are directed straight backward toward the ear, in place of being inclined down as in the original instrument. The assistant standing behind the patient can readily include the gag within his grasp while holding the head of the child. The catch also has been modified, the ring of the original being replaced by a dentated spring, allowing the jaws to be separated to the desired degree. The instrument has been used by myself and friend, Dr. Huber, in at least fifty instances with entire satisfaction.

90 Madison Street.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending April 16, 1887:

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	4	2
Scarlet fever	58	13
Cerebro-spinal meningitis	5	5
Measles	101	10
Diphtheria	102	41
Small-pox	6	5
Yellow fever	0	0

Some Patent Medicine Formulæ.—Dr. James S. Cooley, of Glen Cove, L. I., writes us: It is a matter of no special importance, but your types make sad work with the recipe for the sativa cure, in a late issue of The Medical Record. I do not suppose anyone will attempt to put it up, but I intended to write it plain enough for any compositor. I give you a copy below, which you will see, by comparing with the formula in The Record, is different in several respects.

Ext. Asiatic cannabis sativa	ʒ ij.
Ext. Asiatic halish sativa	ʒ iij.
Verbena hastata	ʒ ij.
Extract diosma	ʒ iij.
Pulv. cinchoni bark	ʒ ij.
Extract Cashgar leaves (blood root)	ʒ iij.
Inulin	ʒ j.

I have also the recipes for Le Grande's Arabian Catarrh Remedy, which is of two kinds, as follows:

Internal Remedy.

℞.	Extract Arabian calla root	ʒ jss.
	Comp. tinct. Arabian red lava flower	ʒ ij.
	Ferro citrate calcium	ʒ j.
	Bi-sulphate quineia	ʒ iv.
	Potassi iodide	ʒ j.
	Phospho salicylate	ʒ j.
	Glycerine	ʒ ij.
	Verium ferri q. s. ad	O j.
M.	One tablespoonful four times a day.	

External Remedy, for Nasal Douche.

℞.	Pulv. Arabian sea grass	ʒ j.
	Pulv. Arabian kanke root	ʒ v.
	Chlorate quinia	ʒ j.
	Acetate silica	ʒ iij.
	Soda sulph	ʒ j.
	Magnesia sulph	ʒ j.
	Glycerine	ʒ ij.
	Aqua picis q. s. ad	O j.
M.	A tablespoonful in a quart of lukewarm water and used with a douche.	

I have spelled the recipes as printed.

Simple Test for Wall-paper.—A simple and easily applied test for wall-papers has been devised by Mr. F. F. Grenstted. No apparatus is needed beyond an ordinary gas-jet, which is turned down to quite a pin-point, until the flame is wholly blue; when this has been done, a strip of the paper suspected to contain arsenic is cut one-sixteenth of an inch wide, and an inch or two long. Directly the edge of this paper is brought into contact with the outer edge of the gas-flame a gray coloration, due to arsenic, will be seen in the flame (test No. 1). The paper is burned a little, and the fumes that are given off will be found to have a strong, garlic-like odor, due to the vapor of arsenic acid (test No. 2). Take the paper

away from the flames and look at the charred end—the carbon will be colored a bronze-red; this is a copper reduced by the carbon (test No. 3); being now away from the flame in a fine state of division, the copper is slightly oxidized by the air, and on placing the charred end, a second time, not too far into the flame, the flame will now be colored green by copper (test No. 4). By this simple means it is possible to form an opinion, without apparatus and without leaving the room, as to whether any wall-paper contains arsenic, for copper arseniate is commonly used in preparing wall-papers. Tests one and two would be yielded by any paper containing arsenic in considerable quantities.—*British Medical Journal.*

A Ballad of Consistent Spelling.

There was once a young man who caught phthisis,
By being exposed to the brhisis;
So he—cold death to foil—
Took some cod-liver oil,
Which instantly brought on e-mhisis.

The Therapeutic Value of Mountain-climbing.—In the *New York Medical Journal* of February 26, 1887, Dr. L. Borkan, of Brooklyn, emphasizes anew the beneficial results obtainable from mountain-climbing. He says that pure air, such as is found in the mountains, is always the most active of disinfecting agents known. Thinly settled districts are much more healthful, other things being equal, than densely populated ones. Mountainous regions almost invariably belong to the former category. According to the author: "There are floating in the air numberless germs, many of them of a harmful nature, and it would seem possible that the injurious germs which, especially in large places, are received into the human organism, might be rendered innocuous by the oxygen of the air (and perhaps, also, by air-currents acting in a mechanical way), while in stagnant air—as, for example, in a badly ventilated apartment, where the exhalations from the lungs and skin are constantly accumulating—there is less disinfectant action because of the diminished quantity of oxygen. We seek to get rid as quickly as possible of the other excretory products, while, strangely enough, the same amount of zeal in disposing of the exhalations—that is, the excretions—of the lungs and skin is comparatively seldom exhibited." Dr. Borkan also maintains that, "the best inhalation apparatus, baths, and medicaments are of but temporary value if no compensation is made for the loss of vitality and of muscular tone, especially that of the heart and vessels; if the blood stasis in the glands and other organs does not yield to an increased flow of blood in the arteries and veins; if the thinned blood does not become thicker and more rich in albumen; if the accumulating carbonic acid is not expelled by a more plentiful supply of oxygen; if the fat deposited in the body is not more rapidly oxidized; and if the kidneys are not made to act more efficiently. But all these effects are produced, according to Jacobi, Loomis, Veit, Oertel, and other authorities, more certainly and more generally by mountain-climbing than in any other way whatever. After several weeks spent in mountain excursions, the condition of the patient is radically changed for the better. There is an elasticity of the mental processes in place of the former hebetude; will, thought, and impulse seem to move on wings; the formerly dull senses are sharpened; the formerly half-closed eyes sparkle, and the flabby cheeks become fuller and rosy; the formerly prominent abdomen is reduced to more seemly dimensions, notwithstanding that food and drink are taken with greater relish, and the chest is expanded." The author appears to have at various times acted in the capacity of medical *cicerone* to parties of men and women seeking to improve their health by excursions into the mountains. He says that, "in organizing parties for mountain-climbing, it is necessary to have everything arranged and to attend to certain preliminary details. Regulations should be established as to the gradual increase in the extent of the daily ascents, the periods for rest, the choice of food, the permission to drink, the regulation of time for stool, the protection of the feet, legs, and nates against chafing and the formation of blisters, the protection of the neck, and, finally, the selection of the mountain up which the ascent is to be made; these are all points which require careful consideration. The European mountains, where there is a better climate, and, as a rule, better paths than are to be found in the mountains of America, are to be preferred. An exception is, however, to be made in favor of the Adirondacks and some other mountains in the Eastern States, which might answer as places for exercise for American youths in search of health."

An International Congress of Cremation is to be held at Milan in September, 1887. Among the honorary presidents are Sir Henry Thompson, of London, and Professor Moleschott, of Rome.

The Relationship of Urea to Certain Morbid States.—Dr. Oliver says (*British Medical Journal*): "That urea originates from the decomposition of blood-corpuscles, and not from the disintegration of food. In the liver, the red blood-cells are known to undergo disintegration; the blood of the hepatic vein is much poorer in blood-corpuscles than that of the portal vein. It is out of the destruction of these hæmocytes that we get, on the one hand, the coloring matter of the bile; on the other, urea; and later on, from the bile, the coloring matter of the urine. In phthisis pulmonalis, where the liver is fatty or amyloid change has begun, the cells are no longer capable of performing their function, and the discharge of urea falls, in spite of the fact that there is a marked rise of temperature, and the patient consumes a fairly large quantity of animal food, wine, etc. If the tissues were the source of urea, then this is just the disease in which urea ought to be found in excess. But during the early stage urea is subnormal in amount; when, later on, it is in excess, it is found that the red blood-cells are rapidly becoming destroyed and the patient becomes anæmic. In lead-poisoning the urine is deficient in urea—a deficiency which, irrespective of sex, becomes marked when the anæmia has become pronounced, and still more marked when albuminuria is present. In malignant disease urea is in excess as long as the cachexia is forming—*i.e.*, during the disintegration of the blood-corpuscles. When the cachexia is developed the elimination becomes deficient. In the following morbid conditions, in which the blood shows distinct alterations in regard to the number of its corpuscles—viz., anæmia, pernicious anæmia, chlorosis, leucæmia, and myxœdema—the urine is generally deficient in urea, unless there is a rapid destruction of blood-cells going on, when the urea will be found in excess. In diabetes mellitus the urea is in excess, while in diabetes insipidus it is generally below the normal. In Bright's disease the urea is usually deficient. Dr. Oliver regards the liver as the organ chiefly concerned in the formation of urea. The tissues in their oxidation or disintegration contribute but little, if any. Food is a source, but not to the extent hitherto believed. During the process of starvation the daily discharge of urea is not much below the normal—a circumstance explained not so much by the disintegration and disappearance of tissue as by the fact that the tissues still form blood-cells, from the dissolution of which comes the urea. In the early stages of fevers, before the temperature has risen, the urine is found to contain an excess of urea, due to the sudden engulfment and destruction of myriads of blood-corpuscles in the liver. As a proof that the hæmocytes are the source of urea, the author takes any case of anæmia or cachexia; and, unless these changes are in the course of formation, it is found that the daily discharge of urea is diminished."

A Congress of Greek Physicians was held in Athens, on April 3d and 4th, on the occasion of the semi-centennial of the founding of the Medical Society of Athens.

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Original Articles.

CONCERNING THE INFLUENCE OF SMALL QUANTITIES OF SODIUM, CALCIUM, AND POTASSIUM SALTS UPON THE HEART AND SKELETAL MUSCLES OF THE TORTOISE.

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AND

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IN the present paper we record experiments made with the heart and skeletal muscles of the tortoise. The experiments and the results arrived at, which we shall detail with regard to the ventricle of the tortoise, are similar to others already published dealing with the ventricle of the frog (*Rana temporaria*) and that of the eel (*Anguilla muræna*).

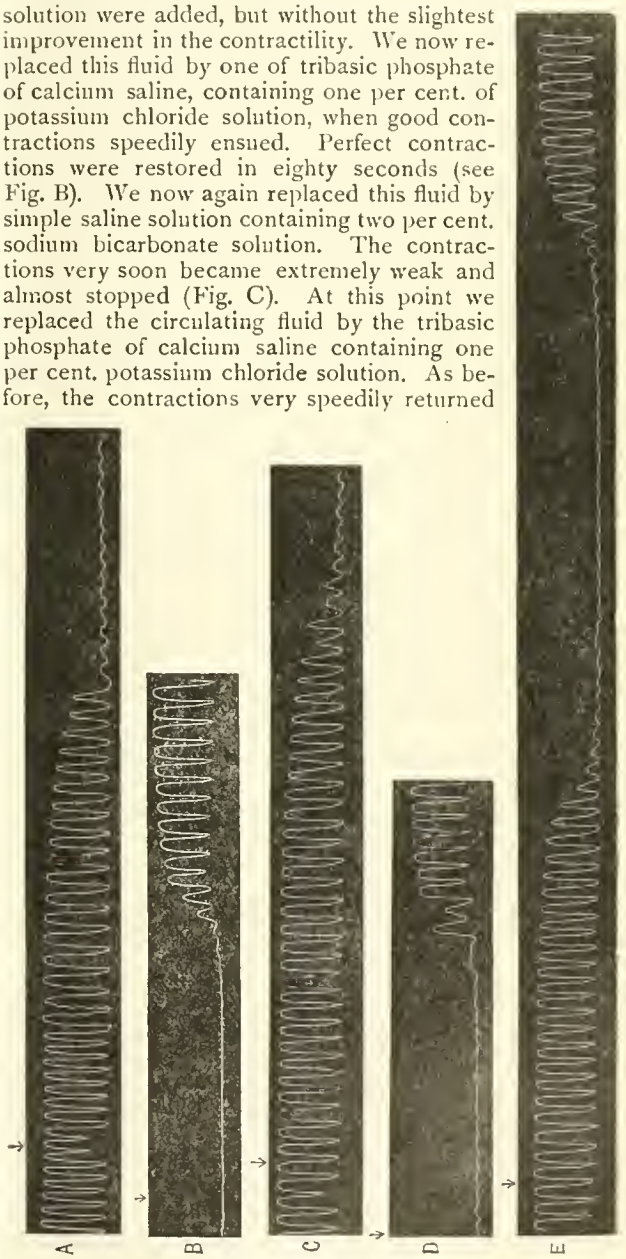
In our investigations on the tortoise's ventricle we employed a Roy's tonometer; we tied the heart in the auriculo-ventricular groove, and inserted the perfusion-cannula through the sinus into the ventricle. The aorta was also secured with a ligature. In our experiments we employed both the land-tortoise and the water-tortoise.

It is important to remember that the ventricle of the tortoise possesses coronary vessels, which, of course, assist in maintaining its nutrition, but this applies only to the outer portion of its thickness. The inner part of the tortoise's ventricle, like that of the eel and frog, is spongy, and is traversed by trabeculæ, and this, comprising the main thickness of the wall, is nourished by direct imbibition of the blood flowing through its cavity.

The experiments given below were made during the month of November, 1886; the temperature of the laboratory was, however, practically the same for all the experiments. The solutions employed were .6% saline solution; .6% saline solution saturated with tribasic calcium phosphate siphoned off after settling; also, one per cent. solutions of sodium bicarbonate and potassium chloride.

Commencing our experiments by circulating simple saline solution through the ventricle, we found, as with the frog and eel so with the tortoise, that such a fluid is incapable of maintaining contractility. The addition of one cubic centimetre of sodium bicarbonate solution, or of potassium chloride solution, or a combination of these solutions, in each hundred did not enable the saline solution to sustain contractility. When substitution of saline solution by tribasic phosphate of lime saline is effected, the contractility is speedily restored. This solution, however, not only restores good contractions, but also broadens the trace, rounds its top, and delays diastolic dilatation, and so brings about fusion of the beats. The addition of one or two per cent. of potassium chloride solution, however, quite obviates these "lime effects," so that we find tribasic phosphate of calcium saline with one per cent. of potassium chloride solution constitutes an excellent circulating fluid which is able to sustain natural contractions.

On November 18th we commenced an experiment by circulating phosphate of lime saline with one per cent. potassium chloride solution. This we replaced by simple saline solution, and in two minutes the trace became very weak, the record only giving a slight wavy line (see Fig. A). Two cubic centimetres of sodium bicarbonate solution to the hundred cubic centimetres of saline solution were added, but without the slightest improvement in the contractility. We now replaced this fluid by one of tribasic phosphate of calcium saline, containing one per cent. of potassium chloride solution, when good contractions speedily ensued. Perfect contractions were restored in eighty seconds (see Fig. B). We now again replaced this fluid by simple saline solution containing two per cent. sodium bicarbonate solution. The contractions very soon became extremely weak and almost stopped (Fig. C). At this point we replaced the circulating fluid by the tribasic phosphate of calcium saline containing one per cent. potassium chloride solution. As before, the contractions very speedily returned



EXPLANATION OF FIGURES.

A, Shows the effect of substitution of six per cent. saline solution for phosphate of lime solution (saline solution saturated with tribasic phosphate of lime) containing one per cent. of a one per cent. solution of potassium chloride. The arrow indicates the point at which the phosphate of calcium replaced the saline solution.

B, Shows the effect of replacing saline solution containing two per cent. of bicarbonate of sodium ($NaHCO_3$) one per cent. solution. The arrow indicates the point at which the change was affected in this and in succeeding changes.

C, Shows the effect of replacing phosphate of lime saline solution containing one per cent. of potassium chloride solution by saline solution containing two per cent. of a one per cent. solution of sodium bicarbonate.

D, Shows the effect of replacing saline with two per cent. of a one per cent. solution of bicarbonate of sodium by phosphate of calcium solution containing one per cent. of a one per cent. solution of potassium chloride.

E, Shows the effect of replacing the phosphate of lime saline containing one per cent. of a one per cent. solution of potassium chloride solution by saline solution containing one per cent. of a one per cent. potassium chloride solution, and the effect of again returning to phosphate of lime saline with one per cent. of a one per cent. potassium chloride solution.

(Fig. D), recovering their previous amplitude. The next change was the substituting for the circulating fluid one

consisting of simple saline containing one per cent. potassium chloride solution. The contractions immediately grew weaker, and eventually all but ceased, but were again restored to their normal size by a replacement of the saline and potassium chloride by the tribasic phosphate of calcium saline with one per cent. potassium chloride solution (Fig. E).

Subsequently we tested the effect of tribasic phosphate of calcium saline solution, and found that although it produced good contractions it broadened the trace, rounded its top, and delayed diastolic dilatation and induced fusion of the beats. All these effects were removed by adding one per cent. of potassium chloride solution, a normal beat resulting. After an hour and a half, and in spite of all the changes above narrated, the contractions of the ventricle were found to be only one-quarter weaker than at the commencement of the experiment.

We also tested the behavior of the auricle of the tortoise's heart, and found that it also contracted weakly when fed with saline solution, and that when its contractions had almost ceased—owing to the effect of the saline solution—the addition of a lime salt was able to restore and sustain a normal contraction.

Now, study of the tracings not only shows the marked effect produced by the lime salt in promoting contraction, and the contrary effect when lime is withheld, but it reveals the fact that these effects are produced with great rapidity. For instance, when phosphate of lime was withheld the contractions very rapidly weakened, and in from ninety to one hundred seconds had almost ceased. On restoring lime to the circulating fluid, a restitution of normal contractions took place in about the same time. Of even this short space of time, a part—although, of course, a very small part—must be consumed by the passage of the fluid along the afferent tube. The question then arises, How do lime salts exercise so rapid an influence upon the ventricle as to bring about such very material alteration in its contractions? It would appear that the circulating medium might affect the muscular tissue by coming to it through the coronary vessels, and so obtaining the most intimate action through the capillary circulation; but, on the other hand, the circulating fluid might come into close contact with the muscular tissue by filtration, diffusion, and osmosis through the endocardium. To investigate this question we performed an experiment similar to the above, but taking care to tie the ligature so as to include the heart-substance at the base of the aorta, and so effectually to exclude the possibility of coronary circulation. We found, however, that even when the cannula was passed well into the heart, and a ligature secured tightly in the auriculo-ventricular groove, that we obtained the same effects from circulating lime salts, and as rapidly as when the coronary circulation was presumably intact. It would then appear that the circulating fluid is able to rapidly permeate the endothelium covering the trabeculæ of the tortoise's ventricle, and so conveys to, or withdraws from, the muscular protoplasm lime and potash salts according to the composition of the circulating fluid. But the extreme rapidity with which lime and potash salts bring about changes in the characters of the contraction of the tortoise's ventricle may seem to preclude or throw doubt upon the explanation that these salts act by filtration and diffusion through the endocardium.

It might be suggested that these salts act through the nervous system, but their influence upon the heart is clearly of a different character from inhibition or its withdrawal, since a heart which has been inhibited by the vagus will still contract fully when excited by a stimulus applied to the muscular substance itself; but a heart arrested by a circulating fluid devoid of lime will not contract when plied by the most powerful direct stimulation. If it should turn out that calcium and potassium salts do exert their influence through the nervous system, it must be concluded that lime salts act upon the nervous mechanism of contraction, potassium salts upon that of dilatation.

Whether these salts influence the muscle directly by filtration, or indirectly through the nerves, they can exert their influence only in a very slight degree unless they act under considerable pressure, as when their solution is forced into the ventricular cavity and distends it by considerable lateral pressure. This question of the influence of pressure is illustrated in the following experiment: If the whole heart of a tortoise is placed in a fluid, and fixed by passing a pin through the aorta into a loaded cork, while the ventricle is suspended by means of a thread passed round the frenum at its apex, and secured to the lever of a recording apparatus suspended by a thin strand of india rubber, the movements of the lever show that the effects of the solutions of various salts are quite different from those which follow the circulation of similar solutions under pressure through the cavities of the heart.

The heart was treated as above and placed in 300 c.c. simple saline solution, and its contractions grew weaker, but only gradually. At the end of an hour and a half the contractions were reduced to about one-half their initial size. We then drew off the fluid and replaced it by an equal amount of saline solution saturated with tribasic phosphate of calcium. No improvement, however, in the size of the contraction took place; on the contrary, the contractions still grew weaker. We added 3 c.c. of the potassium chloride solution after half an hour's time, but without any perceptible change occurring in the contractions. The further addition of 3 c.c. bicarbonate of sodium solution did not check the steady weakening. So we see that, employed in this way, simple saline solution only very gradually weakens the heart's contractions, and that neither phosphate of lime, chloride of potassium, nor bicarbonate of sodium can remove this weakening or prevent the gradual increase of the weakness. When at the close of the above experiment the heart had almost stopped, we circulated through it tribasic phosphate of lime saline with one per cent. chloride of potassium solution, but failed to improve its contractions. The failure to obtain effects from potash and lime salts when the heart is suspended in their solutions might, we surmised, arise from a possible difference between the power of absorption, etc., of the endocardium, on the one hand, and the pericardium, on the other. To test this we repeated the above experiment with a heart divided longitudinally from apex to base, and from side to side. In this way the cavity of the heart was brought into direct contact with the solution in which the heart was immersed. We tested one-half of the ventricle. The initial contractions were very strong, but gradually decreased in force, and at the end of fifty minutes were decidedly weakened. At this time we replaced the saline solution by tribasic phosphate of lime saline in which was 1 c.c. chloride of potassium solution in the hundred, and an immediate improvement occurred, the contractions recovering completely. We then returned to saline solution, and at once the contractions weakened, and in ten minutes were reduced to half their initial size. We now replaced this fluid by tribasic phosphate of calcium saline containing two per cent. potassium chloride solution, with the effect of increasing the size of the contractions by one-fourth. We did not, however, fully restore the contraction to its original size. From these experiments we see that either through the endocardium or the cut surface of the muscle the salts in solution exercise slightly more influence than when they act mainly upon the pericardium, only so much solution acting upon the endocardium as could find its way inside the ventricle through the cut sinus and aorta. And, further, the effect upon the divided ventricle was much less than on the entire ventricle, provided the fluid in the last case is allowed to perfuse under pressure through a cannula; so that we conclude that to obtain the lime and potash effects these salts must be circulated through the heart under pressure, a view which tells in favor of the theory that the salts act directly upon the muscular substance by actual filtration through the endocardium.

In a previous communication[1] we have shown that saline solution, lime and potassium salts in solution, do not affect skeletal muscles in the same way in which they influence the substance of the heart.

When placed in saline solution the frog's sartorius very slowly loses its contractility; the contractions, although weakened, do not cease for an hour or an hour and a half alter immersion. When the contractions have grown weak, if the saline solution is changed for one containing a lime salt, either no improvement in the contractions takes place or only a very slight one which is also only transient. The addition of the lime salt does not prolong the contraction nor does it delay relaxation. Since the publication of the above facts concerning the sartorius muscle we have extended our observations; we have employed the gastrocnemius muscle, and we find that it gives precisely the same results when placed in solutions of various composition as the sartorius.

This well-substantiated difference between skeletal and heart-muscle is in some measure explained, we believe, by some of the experiments recorded in this paper.

If the heart of the frog or of the tortoise is suspended in saline solution, and the contractions are recorded without circulating a fluid through the cavities, the ventricle behaves just like a skeletal muscle, and the contractions very slowly become weak—in the case of the tortoise's heart persisting for many hours. The addition of a lime salt does not improve the contractions, nor does it alter their character, *e.g.*, as by delaying dilatation, etc. If the tortoise's ventricle is divided so that its cavity is directly exposed to the action of the fluid in which it is suspended, much the same happens, save that the addition of a lime salt to the fluid will slightly improve the contractions, which had been weakened by saline solution. In fact, it appears that the rapid effects of saline solution and the characteristic effects of the solutions of lime salts or potash salts are only elicited when the solutions circulate through the ventricle, and are induced by lateral pressure to traverse the delicate endothelium, and so infiltrate the spongy muscular tissue itself.

And thus we conclude that the differences between the behavior of skeletal and cardiac muscle probably depends upon the way in which the testing fluid is applied; for if either is suspended in the fluid their behavior corresponds, and lime cannot in either case restore weakened or arrested contractility.

We next investigated the behavior of skeletal muscle when the test fluids were circulated through the muscle by traversing its capillaries. And we found that the same results were arrived at for cardiac and skeletal muscle, provided the test fluids were circulated in the one case through the heart-cavities, and in the other through the capillaries of the muscle.

We inserted a cannula into the descending aorta of a tortoise, and, having tied it in, introduced the test fluid while we secured the outflow by another cannula tied in the vein. The contractility was tested by faradization, a single Daniell's element being used and the coil kept constantly at 6. It took a considerable time to wash out the blood from the vessels; indeed, the fluid which flowed from the veins remained tinged with blood for an hour and twenty minutes, and so long as this was the case the contractility of the muscles remained unimpaired. After another ten minutes the outflow was quite colorless, and the contractility was much lessened. The coil was run up to 4 without increasing the amount of the contraction. In an hour and forty minutes the muscles had almost lost their contractility; we then caused saline solution saturated with tribasic phosphate of lime to traverse the vessels, and in four minutes found contractility much improved. In ten minutes this improvement was very marked, and we again returned to a circulating fluid of simple saline solution. In four minutes after this, contractility had become greatly impaired, but on resuming the supply of calcium phosphate saline the contractility returned in two minutes. We then returned to saline solution, and in three minutes contractility disappeared; so we again supplied the phosphate of calcium saline, and the contractility greatly improved in eight minutes. We repeated these changes of saline to phosphate of calcium saline, and back again to saline, on three more occasions, and each time the saline medium checked contractility, while a return to phosphate of calcium saline solution always produced excellent contractions. These observations were verified by subsequent experiments, the same results coming out.

We also found, on further experiments, that when 1 c.c. of a ten per cent. solution of calcium chloride was added to the 100 c.c. of calcium phosphate saline solution, the restoration of contractility of the muscle was more rapid and more complete.

We see from the above facts that the power a lime salt possesses of restoring the contractility of skeletal muscles, which had ceased, by the circulation of saline solution through the vessels, depends upon the way in which the lime salt is applied to the muscle. If it is conveyed through its capillary vessels, a mode quite analogous to circulating a fluid through the cavities of the heart, the lime salt speedily restores contractility when that has been suspended by a saline solution circulation. We see, also, when saline solution is circulated through a muscle in this way, that the loss of that muscle's contractility is very rapid, and is as speedy as is the suspension of contractility in the heart-muscle when saline circulates through the heart-cavities. Therefore it appears that lime salts exert the same influence on the contractility of skeletal as on cardiac muscle.

There is yet another point which claims our attention. In our previous experiments, recorded in the *Journal of Physiology* for 1887, we found that if the sartorius muscle of the frog is immersed in saline solution it slowly loses its contractility.

Contractions, although weak, may persist for an hour and a half; but after this time has elapsed even the addition of phosphate of lime or chloride of lime in large quantities fails to restore or improve contractility. This inability to restore contractions cannot, however, be due to non-absorption of lime, since the lime does exercise a decided effect in another direction, namely, by removing contraction remainder. We think that the reason why the lime salts do not under these circumstances produce improvement in the contraction is, that the rate with which the contractility declines is very slow, so that the muscle during this time is permanently damaged, and so is incapable of resuscitation. This view seems to be rendered probable by the following facts: If the heart be fed with saline and kept non-contractile for an hour, the addition of lime salts fails to restore contractility. And, again, it has been pointed out above that the tortoise's heart, if suspended in saline until all contractility ceases, will not regain its contractility even when phosphate of calcium saline is circulated through it.

Reviewing the results of the experiments above described, we think the following facts and inferences deserve especial attention: Saline solution when circulated through muscle in such a way as rapidly to come into intimate contact with the muscular protoplasm induces lessening or loss of contractility, and does so with great rapidity. This action is exerted alike upon cardiac and skeletal muscles.

Lime and potash salts, also, when brought into like intimate relation with muscular protoplasm possess a power of affecting muscular contractility. Lime salts speedily restore contractions when such have been stopped by saline solution, and this they do alike to cardiac and skeletal muscles.

These facts, as we have shown, hold good for the heart-muscle of the frog, the eel, and the tortoise, and for the skeletal muscles of the tortoise, and probably have a very much wider application.

[1] Journal of Physiology, 1887.

THE BEST TESTS FOR ALBUMIN, AND SOME POINTS RELATIVE TO URINARY EXAMINATIONS.[1]

By HENRY B. MILLARD, M.D., A.M., Etc.,
NEW YORK.

That neither the presence of albumin in the urine nor its absence of itself demonstrates disease or healthfulness of the kidneys, we all know. In an advanced state of cirrhosis, albumin may be temporarily absent, while it may exist in inconsequent functional derangements or as the result of simple glomerulitis without any diffuse nephritis. I think, nevertheless, the existence or non-existence, if either of these conditions be persistent, a circumstance of greater weight, in the majority of cases, than any other except such conditions as the microscope shows, in aiding us to determine whether or not the case be one of nephritis.

The general practitioner has few examinations to make on which depend more grave issues than the apparently simple one of testing for albumin. Yet how imperfectly and inaccurately this examination is often made, and how uncertain its conclusions! There is no danger of too much being written upon this theme, homely even if it seem in comparison with brilliant novelties or apparently more intricate subjects in medical practice, nor of the matter being over-studied. With a large experience in these examinations, I sometimes find it difficult, until I have examined several specimens, to decide whether urine contains serum-albumin. I do not propose to consider here the chemistry of the protein bodies met with in the urine, but to refer only to the various substances that may be mistaken for albumin and the readiest way of discriminating the latter. The only tests I think it essential to consider here are:

Nitric acid—Dr. Roberts' modification of the nitric-acid test by the sulphate of magnesia, and which for convenience I will speak of as the *nitric-magnesian test*—and *heat.*

Among the most difficult things to distinguish from albumin are mucin and certain elements always found in urine where there is leucorrhœa, even mild cystitis, cervico-metritis, gleet, etc. Such urine is commonly thought to contain mucus, but according to Méhu[2] mucus is seldom, if ever, found in the urine. Epithelia from the various regions, with their detritus, some partially and some wholly disintegrated or dissolved, leucocytes, pus-corpuscles, pyin, and, where there is much inflammation, the serum of the liquor puris, are contained in the urine where there is cystitis, vaginitis, etc. The broken-down and dissolved epithelia contain many protein elements, and these, with the other substances I have just mentioned, give many of the reactions of albumin. According to Méhu, the cloudy sediment which occurs so often in the urine does not contain vesical mucus, as this is not a special secretion, and the term "muco-pus," etc., should disappear. Mucin, however, is definite and easy to characterize; it is invisible, viscous, making the urine foamy, being precipitated by acetic acid, and does not redissolve in an excess of it.

"The sticky substance in chronic cystitis is formed from the decomposition of the leucocytes, etc., by the urea and the carbonate of ammonia." Urines such as these produce a slight cloudiness, due to the precipitation of anatomical elements held in solution, being more abundant in proportion as these elements have been retained a long time in the urine, and as the latter is less dense and less acid, becoming more ammoniacal. Heat, aided by weak acetic acid, produces still more cloudiness, but no albuminous flakes. Tanret's test gives a cloudiness and sometimes a well-marked turbidity without albumin, albuminose, or mucin being present. It is in this very common class of cases that the observer is too inclined to conclude that the urine is "loaded with peptones" (Méhu, *loc. cit.*). Although many protein bodies exist in the urine the existence of peptones is much less common than is usually supposed. The variety of proteids in the blood and urine is very great, and between the serum-albumin and the peptone of the urine there are numerous protein substances, ill-defined; these are nearly all precipitated by Tanret's test, alcohol or heat causing them to disappear. I have made many experiments relative to this subject, some of them showing the liberation, from beef powders which had been boiled, of protein substances, but no albumin. A part of these experiments are given in an article in The Medical Record of April 4, 1885.

The substances, then, most likely to be mistaken for serum-albumin are, first, the various protein bodies, peptones, and the alkaloids; these, when Tanret's test has been employed, easily disappear on the application of heat or alcohol; second, mucin, pyin, the various dissolved albuminous substances found in inflammatory states of various portions of the genito-urinary tract, and last, the glutinous substance formed by decomposition. With these two last, nitric acid, which is so satisfactory in other respects, becomes uncertain. Nevertheless, an explanation of the doubtful reaction is always possible, and this brings me to the consideration of two important points:

First, *the careful preparation of the urine for examination*, and second, *the best tests.* In many cases practitioners do not take requisite pains to enable them to determine with certainty whether or not renal albuminuria exists, sometimes from not realizing the importance of certain details, and sometimes from lack of time or patience. In cases of slight albuminuria, as where, for instance, there is not more than one one-hundredth of one per cent. of albumin, and in cases where pus, mucin, and the various substances I have described occur, it is sometimes a matter of great difficulty to determine whether or not there is renal albuminuria. I have several times been called in consultation in cases where renal symptoms apparently existed, as anasarca, etc., which symptoms, with the supposed existence of albumin in the urine, had led to the diagnosis of Bright's disease, but where the kidneys were perfectly healthy, the appearance of albumin in some cases being produced by the reaction of the urates with nitric acid, in others, by various other causes. The necessary precautions, tests, etc., are, however, easily practicable, though time must not be too much economized. I think physicians should take more pains to impress upon patients the necessity of observing certain details in sending the urine. I have known it sent in hair-oil bottles, sometimes decomposed from being collected from vessels not perfectly clean, and sometimes, from standing too long, perhaps, full of bacteria; and in examining the urine of the male I have found epithelia from the vagina, showing a communality in a certain article of this world's goods quite in accordance with socialistic doctrines, but inconvenient in urinary examinations. I have found it necessary to have a card like this printed:

IMPORTANT DIRECTIONS FOR SENDING SPECIMENS OF URINE.

The vessel in which urine is passed must be perfectly clean.
A new bottle should be used.
Send a ounce bottle urine passed.

Put your name on wrapper, and date of day on which urine is passed.

Patients should be made to understand that the examination of the urine for albumin is not always a simple affair, and cannot be properly done without entailing upon them some expense. A gentleman from Chicago who lately consulted me told me that a physician of that city, of recognized ability and a professor in one of the best medical colleges there, made him a charge of only one dollar for each consultation and urinary examination. Physicians in large cities, if their time be much

[1] Read before the Section on Theory and Practice of Medicine of the New York Academy of Medicine, April 19, 1887.
[2] De la non existence du mucus de l'urine, Bull. gén. de Thérapeutique, Août 1886.

occupied, must do their patients scant justice at such rates, unless they are so fortunate as not to be dependent on their professional fees for a livelihood. I may say that in this instance an entirely inaccurate diagnosis had been made. When I require the urine of women for examination, I direct *thorough* syringing of the vagina to be resorted to before the urine is passed; traces of albumin can be found in the urine of every woman who suffers much from leucorrhœa or cervicometritis. Aside from the examination for albumin, it is no small comfort, in case a microscopic examination be made, to find the specimen free from vaginal or vesical epithelia, etc. As a rule, the urine requires to be clarified; it is the exception when, even after standing for a considerable time, it is so clear that some of the elements, particularly mucin, will not be afloat in it, sometimes greatly embarrassing the work of testing. Unless very turbid from other causes than the urates, which disappear on warming the urine, I think filtration through a double thickness of Swedish filtering-paper will render it sufficiently clear. I find that with my own test (phenic and acetic acid and potash) urine that has been passed through the gray French filtering-paper gives a decided albuminous reaction, due probably to the presence of a minute quantity of vegetable albumin, and if with this test, it may be with others. When, however, the urine cannot be cleared by simple filtration, it may be boiled with a fourth part of liquor potassæ and then filtered. There are other methods, as with the magnesian fluid; but the fewer recommended in this paper the better, and it is rare that one of the first two does not prove sufficient. Without clarification, clean tubes, and a good light, the urine cannot be properly tested for albumin, or the fine and sometimes almost invisible sharp line seen, or almost imperceptible cloudiness from heat or Tanret's test recognized, which we expect to find when the urine contains only one-fiftieth or one one-hundreth of one per cent. of albumin.

The Best Tests.—I mean by these such as combine the merits of accuracy and facility of employment by the general practitioner. I will first consider the

Nitric-acid test.—The Clinical Society of London last July reported that it found this, all things considered, the best test, that is, the most reliable and delicate, and with proper precautions it is, in many cases, highly satisfactory. To employ this another precaution besides clarification is often necessary; however clear the urine, if urates exist in excess, they form with this reagent a turbid white zone above and in contact with it; this is not usually very dense in appearance, the part next the acid being, as a rule, most dense, the upper portion less so; sometimes, indeed, when with an excess of urates albumin is present, this latter will be seen as a sharp line below the zone produced by the urates, but the discrimination is not always easy. And permit me here to say that if, in referring to methods of using reagents, etc., I state some facts which should be familiar to every tyro in medical practice, it is not because I impugn mentally the high intelligence of the audience I have the honor of addressing, but because these facts form a natural and indispensable part of the context. When there is reason to suspect the existence of an excess of urates these may be dissolved before testing by letting the test-tube stand in hot water, not boiling, as this coagulates albumin, but having a temperature somewhat under 140° F., albumin coagulating at and above this figure. There is now no danger of this zone being formed, and a drachm or so of the acid being placed at the bottom of the tube, which is better for having a diameter of as much as three-fourths of an inch, the urine should be allowed to trickle slowly down upon it. If much albumin be present, it is quickly coagulated by the contact, and a white, lardaceous layer is at once formed. We will suppose that all the directions I have given have been followed, the test-tube is held before a clear, bright light, a book or some dark object is held before the layer of acid, but no sharp line appears, nor white layer nor cloud of any kind. We must by no means conclude that albumin is not there, but allow the urine to stand five, or even ten or fifteen, minutes; then, sometimes, we shall find a thin, clear, sharp line visible only upon careful scrutiny, and perhaps underneath it a colored zone produced variously by uric acid, biliary acids, iodine should the patient be taking iodide of potassium, etc., and above the albuminous ring, sometimes half way between it and the surface of the urine, an irregular ring of less density, probably mucin. If the urine be allowed to cool we may find four distinct zones; first, the orange-colored one, then one albuminous, the next formed by the urates, the upper one mucin. Dr. (now Sir William) Roberts says the mucin zone can be recognized by twirling the test-tube, when it will become diffused, while the albuminous layer will not. "Traces of mucin in a state of solution," says this author, "seem to be present in all urines, healthy and morbid, and this occasions more frequent embarrassment than any other substance." Nevertheless, nitric acid is troublesome, as giving a reaction when mucin or the elements in question are present. Still, according to Roberts, it is easily distinguished from albumin by being precipitated by weak, but not by strong, nitric acid and by forming a zone at some distance *above* the acid. When, however, mucin and the substances which pass for it are present in abundance, the discrimination by nitric acid is by no means simple. This reagent has the merit of not precipitating peptones or protein bodies. It produces a precipitate when resinous oils, as copaiba, cubebs, etc., are being taken, but this readily disappears on adding alcohol.

The nitric-magnesian test, as I shall term it for the sake of brevity, is a modification by Dr. Roberts of the test by pure nitric acid, and is described in an article by him in the *Medical Chronicle*, October, 1884. It is prepared by mixing one part of pure nitric acid with five parts of a saturated solution of the sulphate of magnesia, and filtering. The principal advantages claimed for it by Dr. Roberts are that it does not stain nor soil the fingers, that it does not show a coloration with iodine, and, most important of all, that it is a more delicate test than pure nitric acid. It is used the same way as the latter, a drachm being poured into the bottom of the test-tube, holding this nearly horizontal so that the two liquids do not commingle, since if they do the mucin and albumin are precipitated together, but otherwise are precipitated at different points.

I have used this reagent with chemically pure blood-albumin, made for me by Merck, of Darmstadt, and with a large number of specimens of urine, acid, alkaline, containing mucin, pus, the *débris* and dissolved elements found in inflammatory conditions of the vagina, bladder, etc., first, of course, freeing as thoroughly as possible the urine from these substances, and do not, from my own experience at least, hesitate to pronounce it, as regards delicacy, accuracy, and facility of employment, the most satisfactory test I have yet used. I have been able to discover by it albumin in the urine of chronic interstitial nephritis when no other test but Tanret's, or the equally sensitive one introduced by me of phenic and acetic acid and potash, would show it, and in the clarified urine of the male where the urine was remarkably clear and there was no inflammation, when it was not shown by nitric acid. In an extensive series of experiments made by me to determine the delicacy of certain tests, many of which were published in The Medical Record, in 1885, I found that nitric acid would not show more than one part of albumin in 100,000, that is, 0.163 grain to the litre, and I find that the nitric-magnesian test will show a smaller proportion.

It is not of much importance, everything else considered, if the amount of albumin do not exceed one part in 10,000, that is, one one-hundredth of one per cent. (equal to 1.63 grain to the litre). If urine containing about one-tenth of one per cent. of albumin be diluted

with distilled water, so that it will contain, say, one one-hundredth of one per cent., the nitric-magnesian test would usually be found to form a layer not more than one-half as thick as that produced by nitric acid, but much more compact and dense. Now, the former test possesses this very great advantage: that it condenses more thoroughly the albumin than does the nitric acid. It often happens that the zone produced by nitric acid will be light and fluffy, mucin or the substance I have so often referred to being directly in contact with it in considerable quantity, while that produced by the nitric acid and magnesian test would be condensed, compact, lardaceous, and clearly and sharply defined, the precipitate produced by the obnoxious elements being distinctly separated from it. This advantage I find in nearly every instance; a double advantage, as it not only shows clearly the presence of albumin, but makes it possible to determine with sufficient approximation the percentage of albumin contained in the urine. If every precaution be taken, Hofmann and Ultzmann's rule—that of a sharp, clear layer of albumin every three millimetres (about one-tenth of an inch), in thickness, indicates one-tenth of one per cent. of albumin—is sufficiently exact for clinical purposes. I have repeatedly verified the excellence and convenience of this rule; the nitric acid, however, often condenses the albumin so imperfectly that an albuminous zone, which from its imperfect concentration has apparently a thickness of two or three lines, does not really represent more than *one* line. The nitric-magnesian fluid produces such a compact layer that it can be taken with more confidence as a basis for the estimate of the quantity of albumin. In regard once more to the delicacy of this test, I have found it to show the presence of albumin after diluting it to a point where nitric acid ceased to show it, and have occasionally found it to show albumin when even Tanret's test did not. From my experiments I believe it to be easily a third more sensitive than nitric acid; that is, if this last test would show one part in 100,000, the test in question would show one part in 150,000. I must not, however, omit to state that this test cannot be used with urine that has been clarified with liquor potassæ, as a dense precipitate is at once formed, owing to chemical decomposition. The urine can, however, be sufficiently cleared by thorough filtration.

Other experimenters may find some, though I think not many, objections to this test that I have not. Yet who is there that has not, in a long medical experience, seen most promising, nay, apparently unassailable discoveries, disclose vulnerable points to the uncompromising test of continued experience?

Happy is he who does not in time find the value of his discoveries in our benign art vanish like the actors in the comedy of the "Tempest," "melted into air, into thin air," leaving "not a rack behind."

Heat, although somewhat more sensitive than nitric acid, I regard as one of the most cumbrous of the important tests. It shows phosphates, which are, of course, easily dissolved by acids; but if albumin exist only in minute quantity, this is liable to be so diffused by the addition of anything as to render it invisible. Then if the urine be too acid or too alkaline, it must be made less so, and it is sometimes very troublesome to add exactly the proper quantity of acid or alkali. There is also this very great disadvantage, that when the necessity exists for adding acetic acid, even if the urine have been thoroughly clarified, this acid produces a reaction due to the precipitation of anatomical elements in solution when the urine contains mucin, vaginal, or other epithelia, etc. The turbidity, though often slight, is sometimes very considerable, in either case it being impossible to employ heat with entire, if with any, satisfaction. Without any of the troublesome anatomical elements I have mentioned being present, acetic acid may produce turbidity with peptones or other protein bodies. I have found this to be the case with numerous artificial peptones, and with urines which gave the reaction of peptones with picric acid; the cloudiness thus produced disappearing by heat. Citric acid is preferable as an acidifying agent, since it does not give reactions with peptone, though it does with mucin, dissolved epithelia, etc. Dr. Roberts claims that heat can be made to show one part of albumin in two hundred and fifty thousand parts of urine, but I have not been able to recognize, after much experimentation, that it shows more than one part in somewhat more than one hundred thousand. I will sum up with reference to this test by saying that, though it is often a sensitive and excellent one, there are circumstances which sometimes render it unavailable, and at best it requires more work and precautions than the nitric-acid or nitric-magnesian test.

There have appeared within a year or two several articles in medical journals on what might be termed *ready methods of discovering casts*. How with the greatest facility to find casts as well as renal and pelvic epithelia, and how to find them at all, if they exist in very limited numbers, like Virgil's shipwrecked mariners,

> . . . "rari natantes in gurgite vasto,"

is certainly a matter worthy of consideration. If casts and renal epithelia be numerous, the problem solves itself; but there are many cases, especially of cirrhotic kidney, where the specific gravity of the urine is low, in which casts and renal epithelia will sometimes be temporarily absent, and when present, exist in such small numbers as to require much time and patience to determine whether they exist or not. These bodies will be often held in suspension in the light cloud of mucin which is formed in nearly all healthy, or comparatively healthy, urine, and are sometimes also prevented from forming a deposit by the bacteria which agitate the urine, so that it will often happen that in ten or twelve ounces of clear urine of low specific gravity it is very difficult to obtain much deposit. The plan I formerly pursued was, in cases where the sediment was scanty, as in polyuria where the specific gravity was very low, to add to the urine about ten per cent. of a one-half of one per cent. solution of chromic acid, this effectually preventing decomposition or the development of organic life; then mixing, after the urine had stood a considerable time, half a drachm or so from the bottom of the beaker with a little glycerine, and letting the watery portions evaporate, the glycerine would hold everything of a sedimentary nature. This method is satisfactory enough; but a great deal of time is required. I am indebted to Méhu for a method of obtaining with facility, *en masse*, all the organic and inorganic matter in the urine, and this process I have come to consider almost indispensable. I believe I can, however, best give his method by translating his own words.

"The acetic-acid solution of the iodide of mercury and potash (Tanret's test) facilitates in an eminent degree the reunion of urinary sediments, partly by combining the anatomical elements in suspension, and partly by rendering inert the bacteria and various vibriones which prevent a deposit of anatomical elements. In many healthy or pathological urines it happens, indeed, that the sediment remains in suspension, like a cloud, in the liquid mass. In order to examine this by the microscope it becomes necessary to withdraw a portion of this cloud by means of a pipette introduced into the floating mass, this mode of manipulation, however, presenting many inconveniences. To obviate this, it is only necessary to add to the urine two or three per cent. of its volume of the iodide of mercury and potash, to agitate the liquid, and to let it rest. The uric acid mingles with the sediment. When the urine is albuminous or loaded with peptones, only from a drop to a few drops need be added to produce the desired effect, too large a quantity of the reagent occasioning a too voluminous deposit" ("Sur la Recherche de l'Albuminose ou Peptone," *Annales de Maladies des Organes Génito-Urinaires*, May, 1884).

As there is "no royal road to learning," so there is

none to the discovery of casts and renal epithelia under certain circumstances; the method of Méhu is without objection, and concentrates in a short time into a small compass everything in the urine needing recognition. Still, even with the deposit thus concentrated, it is necessary in many cases to "put up" several drops, and to employ long, laborious, and patient research before being able to arrive at an assurance of the presence or absence of the suspected bodies.

THE PRACTICAL VALUE OF OUR PRESENT METHODS OF TREATING THE UPPER AIR-PASSAGES.[1]

By F. H. BOSWORTH, M.D.,
NEW YORK.

It is now thirty-three years since Garcia, of London, demonstrated the feasibility of examining the interior of the larynx during life, followed by Czermak, of Pesth, who, making practical adaptation of Garcia's teaching, presented to the medical profession a new method of treating disease, and thus inaugurated a new specialty. It seems eminently fitting that, at the present time, when our specialty occupies so large a share of public and professional attention, when new and important observations crowd one upon another so rapidly, and the results of treatment are so much more flattering in their success than ever before, we should pause for an instant (take an account of stock, as it were), to examine the by-technique which has built itself up around our practice, and put it to the test of experience, indorsing all that is good and rejecting that which is bad.

The early days of our specialty were days of invention, and so rapidly did the number of appliances and ingenious devices for treating diseases accumulate in our hands that the impression grew that we treated disease by machinery. Nor was this impression ill-founded, for so extensive and complicated has the mere mechanical features of our specialty become that the laryngologist's office has grown to be not unlike a machine-shop.

I long since began to ask myself the question, how much aid has all this machinery been in the successful treatment of disease? This is to largely be the subject of our discussion to-night.

The point of view which I take is, that when we knew little about the treatment of these diseases our machinery was very extensive. As our knowledge increased, the machinery rapidly diminished; and now that we finally obtain striking success in the management of the majority of the diseases of the upper air-passages, I think I may safely say that all the machinery necessary might be carried in a small hand-satchel.

In discussing special methods of topical applications, I will make a few remarks successively on the treatment of the larynx, lower pharynx, vault of the pharynx, and the nasal passages.

As regards topical applications to the larynx, in the early days of our specialty, brushes, sponges, probangs, syringes, sprays of various kinds, were made use of in the treatment of so-called chronic laryngitis, and their comparative merits were discussed with great seriousness. Whatever may have been their comparative value, a question of far greater importance is, did any of them ever do any good?

I think I am safe in saying that in the whole history of laryngology no case of so-called chronic laryngitis was ever cured by topical applications, whether made by brush, sponge, or spray. The more serious affections of the larynx, such as tumors, syphilis, cancer, tuberculosis, paralysis, etc., of course no one ever claimed to cure by topical agents.

I have already expressed my views with regard to chronic laryngitis, and will not repeat them here, but will content myself with simply saying that the condition called chronic laryngitis is merely symptomatic and secondary to disease of the nasal cavities in every case. The morbid condition is not an hyperæmia with hypersecretion, to be corrected by an astringent, but rather a perversion of the normal secretion of the part, due to the morbid lesion above.

Applications to the lower pharynx from time immemorial have been made by brushes, sponges, cotton pledgets, sprays, syringes, etc., for the purpose of relieving a supposed chronic pharyngitis. Various astringents have been applied with the idea of correcting hypersecretion. I have elsewhere tried to make plain the fact that the lower pharynx is in no sense a part of the air-tract, but is a part of the food-tract; is covered with hard pavement-epithelium with limited capacity for secretion; is rarely, if ever, involved in inflammatory process of the air-passages, and therefore local astringents, however applied, do not cure.

The vault of the pharynx, we have finally learned for the first time in Mackenzie's second volume on "Diseases of the Throat and Nose," is the seat of morbid changes which characterize what has been called in years past naso-pharyngeal catarrh. What these morbid changes are, however, neither Mackenzie nor any other writer has ever made clear to us, the truth being that there is no such disease as naso-pharyngeal catarrh in the sense of it being a catarrhal inflammation of the vault of the pharynx. This disease, which is supposed to consist essentially in an excessive secretion from the vault of the pharynx, due to a chronic inflammation of its lining membrane, is a myth. This excessive secretion is in reality diminished secretion. It is a normal secretion from a healthy membrane, but undergoing subsequent change as the result of disease in the part above. The indications for treatment are not astringents, but rather some method which reaches the cause or source of the disease which lies in the nasal cavities themselves. No local application by brush, sponge, or probang behind the palate to the vault of the pharynx, in the whole history of laryngology, ever cured or even mitigated the severity of this so-called naso-pharyngeal catarrh.

As regards such conditions in the vault of the pharynx as hypertrophy of the pharyngeal tonsil, acute or chronic inflammation, neoplasms, or other diseased conditions consisting in structural changes, no local agents are of any avail other than palliative, as the indications are clearly for surgical measures.

In the treatment of so-called nasal catarrh a vast amount of ingenuity has been exercised in devising methods of making topical applications to the whole membrane lining this cavity, and some extravagant claims have been made as to the superior success of certain measures above others, ignoring the question as to the amount of real benefit derived even if the applications do reach the whole cavity. We are confronted here at the outset with the question as to what is nasal catarrh, so called.

I again take the ground that the disease which has figured so extensively in our medical literature as nasal catarrh is not a hypersecretion, to be cured by the local application of astringents. Even if it were a hypersecretion, the whole list of astringents which are found in our pharmacopœia have been tried in vain. I have not time here to enter upon the discussion of this question of the true pathology of nasal catarrh, nor the right, as it is but a short time since I presented the subject to you in a paper read from this desk on "Deflections of the Nasal Septum." I took the ground then that essentially the symptoms of so-called nasal catarrh are due to those morbid conditions of the nasal mucous membrane which interfere with the great respiratory function of the nasal passages—namely, exosmosis of serum. And, furthermore, that the so-called catarrh of the pharynx, larynx, and trachea are merely secondary to this condition, and not diseases in themselves, being amenable only to

[1] Read before the New York Academy of Medicine, April 21, 1887.

treatment directed to the real seat of disease—viz., the nose. I say that douches and sprays have never yet cured cases of catarrhal inflammation in the upper air-passages. I do not mean by this to utterly condemn their use. They have their uses, undoubtedly. They are of very great assistance to us in the management of our cases, but if we depend alone upon the use of local applications, no matter what special astringent we use, or stimulant or alterative ; no matter how elaborate our pumps and thickly plated our air-receivers ; no matter how expensive and complicated our machinery, we will fail absolutely and utterly in giving that amount of relief which our patients are entitled to receive at our hands —namely, a complete and radical cure.

The nasal douche, first suggested by Weber, afterward appropriated by Thudichum, and improperly called Thudichum's douche, has occupied a prominent place among our therapeutical resources. Its advantages have been lauded, and its dangers have been insisted upon. Its advantages are that it is an excellent method of reaching the whole nasal cavity for cleansing and palliative purposes ; radical good, it does none. Its dangers are vastly overestimated. I have never seen bad effects from its use.

Inhalations at one time filled a prominent place in our therapeutic resources. They have deservedly fallen into disuse, as it is very questionable whether they were ever of any permanent service. Sprays have always deservedly occupied the most prominent place among our therapeutic resources. Various forms have been suggested, and various methods of producing sprays have been in use, and what shall we say of these devices? Simply this : Sprays have been of great help to us as cleansing, as palliative remedies, and nothing more. Is there any special virtue in any one form of apparatus, or in any one form of spray? Unquestionably not. We frequently see in the columns of our journals some new invention, or new device, or new suggestion regarding the spray-tube, air-pump, air-receiver, which it is claimed possesses certain specified advantages over all others. The validity of these claims I should call in question. Compressed air, as a force for generating sprays, has been supposed to possess superior advantages. The moral effect on the patient undoubtedly is often very great. Its advantages over simpler apparatus I regard as nothing. I hold in my hand here a simple hand-ball spray, which is sold in the drug-stores for one dollar and a half. I think I am justified in saying that the spray produced by this little apparatus is as efficacious as any produced by the most elaborate and most beautiful and most expensive air-pump and receiver that can be made. In former days we paid higher prices for spray-producers with a double bulb, one of those absurd devices which, after its first introduction, it took us years to rid ourselves of. A far more vigorous spray, as you see, is produced with a single bulb, which gives the full pressure which can be exerted by the fingers, the double-bulb spray being projected by the contractile force of a thin India-rubber ball.

The treatment, then, of catarrhal affections of the upper air-tract, from my point of view, consists in the treatment of the nasal passages. And this involves the restoration of these passages to a normal condition by the removal of obstructing bone and cartilage, reducing hypertrophied membrane, and correcting hyperæmia or other morbid conditions ; in other words, in the use of the snare, the saw, the knife, and the cautery. I shall speak of but one of these devices.

The cautery has figured very extensively for many years in our literature as a valuable method for reducing obstructing lesions in the nasal passages. Now, I think I am justified in claiming that the object to be accomplished by the use of the cautery is not the destruction of tissue. If you stop to think for a moment of what the anatomy of the nasal mucous membrane is, I think you will see the truth of my reasoning. The superficial layer of epithelium is superimposed upon a bed of connective tissue containing blood-vessels, nerves, and beneath that we have a large plexus of blood-vessels—the falsely called erectile tissue. In hypertrophy the thickening largely involves the connective-tissue structures which are found in the intra-venous spaces and above. The epithelial layer is not thickened. Now, it is idle to suppose that a superficial destruction of this membrane reduces hypertrophy. It would be not unlike lowering a house by taking off its roof. We certainly should destroy its usefulness as a dwelling. The essential condition in what we call hypertrophic rhinitis is chronic hyperæmia of the blood-vessels, with increased nutrition. A caustic applied on the superficial layer of the mucous membrane reduces the amount of blood-supply to the part, arrests hyperæmia, diminishes nutrition, and in this way restores healthy action.

This is accomplished in the following way : The mucous membrane in a state of hyperæmia is treated with a solution of cocaine, which, as I first pointed out three years ago, exercises a specific action in causing vigorous contraction of the unstriped muscular fibres found in the coats of the blood-vessels. The blood-vessels thus become emptied, and the membrane, rendered pale and anæmic, clings closely to the turbinated bone beneath. A mild caustic then applied to its surface coagulates and destroys the superficial tissues, creates a closely adherent slough which, lying upon that membrane, acts much as a film of collodion would—clings closely to it, holds it down, prevents the return of the blood to the part, reduces hyperæmia, reduces nutrition, and encourages thereby a healthy, nutritive process. That this is a more logical view, more rational, than the one which directs our therapeutic resources toward correction of hypersecretion and the opening of the passages, I think will be generally accepted, and that soon. Certainly in my own experience—and it has not been a small one—I have failed to reach any intelligent comprehension of these diseases on the old theory. But acting on this view of it, directing my therapeutic efforts in this manner, I find myself able, not only in a very large majority of cases to give a favorable prognosis, but to verify the justice of it.

Accepting this view of the action of caustics in the nose, it follows that, what I have many times before claimed, the simple methods, such as chromic acid, possess advantages over the cumbersome and expensive devices, called the galvano-cautery, which should be recognized by all. A crystal of chromic acid accomplishes all that the platinum-wire can possibly accomplish ; accomplishes it in a better manner—it can be applied with far more accuracy, its action controlled with far more delicacy, and it also creates a more efficient slough. While the galvano-cautery, on the other hand, is a cumbersome, expensive, disappointing, troublesome device, and also is not unattended with danger.

It will be noticed that I have confined myself to the discussion of our methods of treating *catarrhal* inflammations of the upper air-passages. This, I take it, comprehends all diseases for which anyone will claim topical applications to be efficacious. The treatment of neoplasms, malignant and benign, syphilis and tuberculosis, paralysis, etc., of course does not properly belong to our subject to-night. Acute catarrhal inflammation I regard as merely a symptom of chronic. Most acute inflammations of mucous membranes nowadays are immediately eliminated by the local use of cocaine. My usual rule is, after the application of cocaine, by which the acute appearances are eliminated, to treat the chronic disease which underlies it.

I think I have gone sufficiently over the ground of our present methods. I may add one word, and keep within the limits of our subject to-night, regarding our elaborate methods of examination.

Soon after Czermak's publication Toboldt presented us with the laryngoscope. We still use it, as well as the elaborate modification by Sass. It presents a very im-

posing appearance in our office. I wish to say here that I do not believe Toboldt's laryngoscope or Sass' involve any optical principle in their construction. I regard them simply as a portentous arrangement of lenses in a metal cylinder, nor do they possess any special advantages as an illuminating apparatus over the head-mirror. Furthermore, as to head-mirrors, every young man twenty years ago who returned from Europe with a full outfit brought with him a five- or six-inch head-mirror mounted on a Schroetter head-band. I have here a small two and a half inch head-mirror mounted on a head rest perhaps one-sixth the size of Schroetter's, which I think possesses every advantage over the large, cumbersome affair of former days. The use of laryngoscopes is largely a delusion. The lenses have little to do with it. A good light renders this little head-mirror here, or Toboldt's laryngoscope, a very powerful aid in a thorough examination. A poor light renders one as well as the other of little account. No possible arrangement of lenses increases the lighting power of any kind of light.

We thus come, at the close of my paper, if my conclusion is right, to this: Elaborate laryngoscopes, elaborate air-pumps, nickel-plated air-receivers, have been of but trifling service to us in the development of our specialty. I hold in my hand a little hand-satchel which I can almost put into my overcoat pocket, which holds apparatus quite as efficient as the most elaborate piece of machinery that is set up in any physician's office in the land. We have ceased to treat by machinery since we have commenced to treat our cases with success.

In former days it would seem almost that the stock-in-trade of an accomplished laryngologist consisted of a large display of nickel plate, with the ability to place a brush into the laryngeal cavity charged with such medicament as fancy might dictate. Now, however, what I think we most demand is a thorough knowledge of the anatomy, physiology, and pathology of the air-passages and their lining membrane, a trained eye to recognize morbid conditions, and a notable amount of manipulative dexterity sufficient to deal with these lesions. In other words, as Dr. Daly very aptly remarked at the Copenhagen Congress: "The sooner we cease to be throat doctors and become throat surgeons" the better will be our success in the management of diseases of the upper air passages.

EFFICIENCY OF MEDICAL TREATMENT OF THE DISEASES OF THE UPPER AIR-PASSAGES.[1]

By ANDREW H. SMITH, M.D.,

NEW YORK.

The question for discussion this evening, as I understand it, is substantially this: How far are the topical measures at present employed in the treatment of the diseases of the upper air-passages, excluding those of a surgical nature, efficient and worthy of confidence? The very fact that this subject is brought forward for discussion shows that doubt has arisen in the minds of some as to whether we are not, to some degree, in error in supposing that the means we are in the habit of employing in these cases do really favorably influence the local conditions.

For my own part, this doubt does not exist as regards acute and subacute affections. Hyperæmia the result of hyperæsthesia is, in my experience, greatly benefited by the local use of anodynes, and especially of a weak solution of carbolic acid. Hyperæmia with little or no hyperæsthesia calls for astringents. A sluggish capillary circulation is benefited by stimulant applications, and mild escharotics are valuable in promoting the healing of abrasions and ulcers.

How very often it happens that a cough which has resisted every kind of internal medication ceases at once when the larynx is touched with a mild silver solution. A slight abrasion of the epithelium which has kept up a constant irritation, is caused to heal at once, and more is effected by a single local application, than a week of internal treatment could accomplish.

The value of disinfectants, anodynes, and anæsthetics, applied to phthisical ulcers and malignant growths, needs scarcely to be alluded to.

But when it comes to the question of the efficiency of local treatment in old chronic cases, and especially in what is known in general parlance as chronic catarrh, I confess that the doubt already alluded to has fixed itself very firmly in my mind.

It was suggested in the first place by the clinical results obtained in dispensary and private practice by myself and by other practitioners, and in the second place by *a priori* considerations as to the difficulty of reaching the whole of the affected surface in the majority of cases, and the still greater difficulty of finding remedies that will remove the diseased conditions, even when the latter are accessible to local applications.

In looking over the last report of one of our large throat clinics, I find that of 1,773 cases treated during the year 1886, 1,351 were cases of non-specific chronic disease, or a little more than seventy-six per cent. In private practice the ratio would probably not be very different. Now, the number of operations undertaken for the relief of these 1,351 cases was 370, or, in other words, only a little more than twenty-seven per cent. of these cases were considered as calling for an operation, or likely to be benefited by one. It follows, therefore, that seventy-three per cent. of the chronic cases were treated mainly, if not wholly, by topical means, exclusive of surgical procedures.

I bring forward these figures in order to show that surgical treatment cannot be made to take the place of other local methods, and that, when surgery has done all that it can do, there still remain nearly three-fourths of the chronic throat and nose cases for the treatment of which we are dependent mostly upon medicaments applied to the diseased surfaces.

Now, the conditions we have to contend with in these cases are for the most part chronic inflammation and its results. We all know how difficult it is to cope satisfactorily with these conditions, occurring in mucous tissues, even when most accessible. The ophthalmologists find in chronic conjunctivitis the opprobrium of their art, the otologists are not seldom baffled by chronic otorrhœa, and chronic inflammation of the uterus affords the chief support of the gynecologist if its treatment adds nothing to his laurels.

And no one who is familiar with the subject will fail to observe that many patients with chronic throat and nose diseases attend for very long periods at the clinics, and eventually give up treatment without having attained anything like a permanent cure. The same is true, also, of private practice. We constantly see and hear of patients attending for a whole winter at the office of this or that throat specialist without being materially benefited, and it must be a pretty frequent experience of any one who works much in this department to find his best efforts in cases of this kind leading to no tangible result.

Under the most favorable conditions all we can do toward promoting the resolution of an inflammation is to assist the reparative efforts of nature. No medicament has been or will be discovered that, by its own action, will dissolve out fibrin effused into the tissues, contract dilated vessels to their normal calibre, or reduce hypertrophied glandular tissue to its natural bulk. These are vital functions, and if influenced at all by therapeutic agents it is only in the way of being modified, not supplanted, by them.

Thus a local stimulant may induce a greater flow of blood to a part, and so bring about a more rapid absorption, or a local sedative may soothe irritated nerve

[1] Read before the New York Academy of Medicine, April 21, 1887.

filaments, and thus lessen hyperæmia. In all these cases, however, there is a tendency to repair by the unaided forces of nature, and what art does is only to develop this tendency. But in cases of long standing it may well be doubted whether this reparative tendency continues to exist; whether abnormality has not come to be the normal condition. Nature makes no effort to restore cicatrical tissue to the condition of the structure it replaces; muscular or glandular elements which have once perished are not renewed; a broken bone badly united does not try to straighten itself. In all these cases the much-talked-of *vis medicatrix naturæ* seems to have "stepped down and out." And when once glandular and vascular and interstitial changes have taken place in a tissue, as the result of long-continued irritation or inflammation, and the structure has thoroughly adapted itself to the new order of things, it may well be questioned whether there remains any tendency toward repair, and whether a change impressed upon the structures from without may not take any other direction as well as that toward the original normal condition.

To illustrate my meaning, let us take an old case of naso-pharyngeal catarrh, the most common disease that the throat specialist, at least in America, is called upon to treat. Here we find the mucous membrane thickened and infiltrated, its vessels enlarged and tortuous, its glands hypertrophied and secreting an excess of mucus, to which vast numbers of leucocytes are added.

This hypersecretion is in keeping with the altered structure, and is as natural to it as the normal secretion is to the normal membrane. Now, what reason have we to suppose that there is an effort constantly going on here to revert to the normal condition, any more than that the cicatrix of a burn is constantly trying to convert itself into normal integument, or the degenerated kidney to evolve new glomeruli or to reopen obliterated vascular channels. I do not believe that such a tendency exists; on the contrary, I believe that the tendency is to a still wider departure from the original condition.

Now, under these circumstances, what rational indication is there for the selection of drugs for local application? How are we to know that this stimulant or that astringent, things that have no natural relation whatever to the structures in question, is going to set right what is wrong, and bring the part again into a healthy condition. It is a sheer assumption, having no ground in reason and, I firmly believe, no justification in experience.

But even if we suppose that such effects are attainable by the local application of remedies, the fact still remains that a large portion of the mucous surface which is drained through the naso-pharyngeal passages is practically inaccessible to such treatment. The membrane lining the frontal and maxillary tissues, and the ethmoidal and sphenoidal cells cannot be reached efficiently by any method of application we possess. Each of these cavities communicates with the nose by a single narrow opening which becomes still narrower whenever the lining membrane is engorged by hyperæmia or thickened by inflammation. These cavities are filled with air which opposes the entrance of anything more. It is true that the frontal and maxillary sinuses may sometimes be injected, but the practice is fraught with so much discomfort and danger that it is very seldom resorted to. Vapors, sprays, and powders are practically excluded from all these regions by the physical conditions above alluded to. So that even if we could correct the abnormal conditions of the portion of the mucous tract within our reach, we should still have the disease intrenched in these remote fastnesses and ready at any time to sally out and regain the territory which had been wrested from it.

But these are not all the difficulties we have to contend with in the topical treatment of the upper air-passages. The diseases located here are for the most part the result of the long-continued operation of causes which are seldom wholly removable. The task set before us is therefore not only to restore the parts to health, but to make them invulnerable. We are required to heal the burn while the hand is held in the fire. Until we know better the causes of these affections and can shield our patients more effectually from these causes, we must be prepared to meet with many disappointments in our efforts to afford relief. As already stated, I do not wish these remarks to be understood as applying to the whole field of the diseases of the upper air-passages, but only to certain chronic forms. Nor do I wish to discourage efforts to relieve even these. I simply wish to insist upon the recognition of certain difficulties and limitations which are inherent, and are not chargeable to faulty methods or want of skill. I wish to insist upon our being just toward ourselves and frank with the public. So long as we are unwilling to meet this question fairly, but seek to evade it by the invention of new methods and new appliances, so long we shall be, perhaps unconsciously, abetting the charlatan and the pretender who live by the credulity of their patrons.

During the years that I have held these convictions and regulated my practice accordingly, the cases in question have brought me much less vexation and dissatisfaction, and also, I am bound to say, much less emolument. Not that I believe them to be entirely proof against intelligent treatment, for simply securing cleanliness will do much good, and the constantly recurring acute exacerbations can nearly always be benefited by sedatives and astringents. Hygienic measures and in some cases internal treatment are also of great value; and in many ways we can be of much use to our patients. But I have long since ceased to expect, as I have ceased to promise, complete and permanent cures.

THERAPEUTICS OF THE UPPER AIR-PASSAGES.[1]

By W. H. THOMSON, M.D.,

NEW YORK.

In complying with the request of the Chairman of the Section on Laryngology and Rhinology to address a few remarks, on the therapeutics of the upper air-passages, to the Academy this evening, I must, of course, deal with the subject from the stand-point of the general practitioner, rather than from that of the specialist. I do this the more cheerfully from my clear conviction that neither of these classes of our profession can do without the other; for I do not believe, on the one hand, that the progress of the medical art is becoming so unmanageable in extent that its field will have to be apportioned into wholly separate divisions, nor, on the other, do I believe that it is possible for the most thoroughly equipped physician to be able to do all that can be done for every patient without special help.

Shortly put, the case stands thus: The unity of the body renders the general practitioner useful to the specialist, while the complexity of the body renders the specialist often an indispensable associate to the general practitioner.

I begin, therefore, with the statement that, in my opinion, the treatment of chronic diseases of the upper air-passages should be directed chiefly by two principles, viz.: first, by taking cognizance of cutaneous nerve-associations in the causation and in the perpetuation of inflammations of mucous membranes; and, second, local disinfection.

First.—It can scarcely be questioned that the inhalation of irritating air is rarely the cause of either acute or chronic inflammations of the respiratory passages, except in the instances where infecting germs, as in pertussis, etc., are thus introduced. Rather we would say that some quite *local* chill of the surface is the occasion of a coryza or a pharyngitis or a tracheitis ten times to a direct irritation of the respiratory tract once. The peculiarity

[1] Read before the New York Academy of Medicine, April 21, 1887.

here, which is of great significance, though unknown in its mode of production, is that the internal disorders are not caused so much by general, but rather by very partial, external exposure. The whole body may be wet in a rain-storm, but no cold is thus caught with anything like the frequency that it is from sitting for some time with damp feet alone, while the rest of the body is warm and dry. On a winter day one may find the cold air blowing through a keyhole on the back of his neck give him a coryza which no walk would in the bitter wind itself. But while we cannot yet indicate all the steps in the causation of these familiar effects, yet a brief consideration may not be out of place of three laws of nervo-vascular association which may have some bearing on the question how internal congestions or inflammations follow upon external impressions.

The first law is that organs which exist in symmetrical pairs, such as the hands, the feet, the eyes, and the ears, are so closely associated in their vaso-motor relations that the same effect, so far as their circulation is concerned, is produced in both by an impression made only on one member of the pair. Thus Brown-Séquard showed that a thermometer held in one hand will drop 14° F. if the other hand be dipped in ice-water, while a thermometer in the axilla at the same time will mark no difference. On one occasion I made use of this fact while endeavoring to find the bleeding vessel in a pistol-wound through the palm of the hand, for as soon as the other hand was dipped in ice-water the bleeding was checked enough to make the examination much easier. In like manner, if the tip of one of the translucent ears of a rabbit be sharply pinched, the pulsating arteries in the other ear will at once contract into invisibility. It is on this principle that injury to one eye is so dangerous to the integrity of its fellow by consecutive inflammation.

It is fortunate that organs that are not in symmetrical pairs, as the lungs and the kidneys, do not show anything like such a close nervo-vascular association.

The second law is that there is a close association between the sensory nerves of any part of the skin with the vaso-motor nerves of the organs or viscera which are immediately within that part, so that like impressions on the cutaneous nerves produce like effects on the circulation of the inner structures. Thus, if a cold hand be suddenly laid upon the præcordium, the heart will give a bound and for a moment stop; so a cold hand laid on the abdomen will cause the uterus to contract; a dash of ether-spray on the chest is the quickest way to cause a hæmoptysis to stop, and I myself have often used a cold hand for the diagnosis of incipient phthisis. It may be tried by dipping the patient's own hand in cold water, so that he will not be so afraid of the procedure, and then laying it alternately over the right and left apex; if done suddenly he gives a short cough when the impression of cold is made on the affected side, but not when the application is made on the other. We need not multiply these examples, for this principle is illustrated in the recourse to all surface applications in internal disorders, such as rubefacients, blisters, and faradism to stimulate absorption, or poultices, etc., to allay irritation. No physician, in fact, should neglect cutaneous protection in all acute internal inflammations, such as pericarditis, pleuritis, etc., and I always give many details for such purposes in every case of phthisis or chronic bronchitis.

The third law is that there are certain special vaso-motor associations of widely separated parts which have no obvious functional connection with each other. The first of these which we would mention is between the vaso-motor nerves of the pelvic viscera and those of the feet. Thus, girls can stop menstruation by putting their feet in cold water, while, on the other hand, there is no emmenagogue which at all equals persistent application of dry heat to the feet; so also we find in males with an irritable stricture of the urethra, or an enlarged prostate, that nothing aggravates their infirmity so much as getting the feet wet or cold. On the same principle, if surgeons are troubled with bleeding in cutting for stone in an old case of vesical irritation, putting the feet in cold water will suspend the hemorrhage, as in the case of palmar wounds, above referred to. Again, irritation in the pelvis contracts the femoral artery; so that coldness and anæmia of the feet is the rule in all instances of ovarian irritation in women, and in cystitis or prolapse of the rectum, etc., in men.

Another such association, which bears more immediately on our subject, is between the feet and the circulation of the pharynx and larynx. Putting the feet in cold water is followed by an immediate paleness of the pharyngeal mucous membrane in contrast with the rest of the mucous membrane of the mouth. I should like to have this observation tested by others; for I am convinced that this association is quite unmistakable and peculiar, and best shown in normal cases.

Still another is between the nape of the neck and the circulation of the nasal cavity. While the relations of the cervical sympathetic, of course, are known to be very wide in the control of the circulation of the face, head, and throat, yet the close dependence of congestions of the nasal cavity on abnormal innervation of the cervical nerves has not been as fully recognized as I think it should in the management of some of the obstinate maladies of a region in which vascular disorders are so apt to be tedious, because we have so little muscular tissue to aid in restoring tone to the affected structures.

The limits of my paper, of course, will not allow me to follow up the statement or illustrations of principles further now than to say that we may expect in disease to find healthy nerve functions or properties often exaggerated to the degree of becoming serious complications which must be taken into account when we come to treatment.

Thus, no one would, *à priori*, have guessed that a healthy irritability of the sensory nerves of the bronchial mucous membrane may become so heightened in asthmatics that the mere presence of a little powdered ipecac in a room, or of buckwheat in a lower story, or the presence of a single cat in the house, would cause a sense of suffocation to set in immediately. But I have been satisfied from observation that many persons with chronic mucous catarrhs are affected by external influences which are wholly inappreciable by persons in health. We all of us, probably, have had a bad cold in the head on some occasion, which caused us to ask what door or window down-stairs was left open, when no one else perceived that a streak of cold air was stealing in from somewhere; and in chronic cases of nasal, pharyngeal, or laryngeal catarrh I am sure that many a patient has his trouble aggravated by a nocturnal exposure in bed of the neck or back of the shoulder which no healthy person would feel at all.

Hence, as regards treatment, I would say, first, that unfortunately we have but very few vaso-motor tonics or strengtheners, and for this particular weakness—for irritability is weakness—I know of nothing which will compare with the application of cold. The cold douche to the nape of the neck on rising, great care having been taken to keep the hair of the back of the head from being even dampened by the water, and cold salt-water sponging of the throat are measures which should be kept up for months together, in all affections of the upper air-passages. After the reaction from the douche is established and the skin is dried, the entire surface of the front and back of the neck and of the root of the neck, on the one hand, and then of the back of the shoulders, ought to be well rubbed with sweet olive-oil, to lessen the tendency to perspiration, or at least to check the chilling effects of rapid evaporation of the perspiration, which oils certainly do.

Our next indication is to protect the sensitive surface by special covering. Not only is muscular rheumatism strikingly benefited by sleeping in woollen night-shirts

and between woollen sheets, but I am sure that affections of the upper air-passages will be equally favorably affected by this measure, for I have repeatedly tried it. During the daytime a light woollen undergarment should be worn next to the skin, and over this a perforated buckskin shirt, made high in the neck before and behind and long in the sleeves. I cannot speak too highly of these buckskin protectors, not only in phthisis and bronchitis, but also in all chronic catarrhal affections. In my experience they are far superior to thick flannel underwear, and are to be dispensed with only during the really hot weather of summer. I have seen the same good results from buckskin drawers in cases of chronic diarrhœa and cystitis, which lead me to prefer this material to any other as a protective. The use, on the other hand, of partial coverings, like many of the chest-protectors which we find on our patients, I regard as almost worse than useless.

Second.—As to local disinfection. We are certainly living in an era of medicine in which it is difficult to keep one's head level in the midst of such a rush of discoveries and of pseudo-discoveries. Nevertheless, it is impossible to resist the steadily increasing mass of evidence, that purulent inflammation, as such, is always the result of infection. The demonstrations lately shown us by our distinguished fellow-academician, Dr. Herman Knapp, that rabbits' eyes operated on by the best-kept surgical blades by the best operator yet become disorganized by purulent inflammation, while eyes lacerated by rough pieces of iron heal without a trace if only the iron be sterilized first in the lamp-flame, are but in keeping with a multitude of similar positive proofs that no weakened living tissue—whether weakened traumatically, or weakened in its innervation, or weakened in its nutrition—can exist in our atmosphere without being at once attacked, not by chemistry, but by life. We are everywhere and always exposed to powerful living enemies, which have only recently been made visible to us, and we are safe in whole or in part against them only as we can keep up in whole or in part that resistant power which we call life. As soon, in other words, as a particular tissue begins to lose its normal amount of vitality, the enemy finds it out and begins the attack.

Now, the great difficulty in the treatment of chronic mucous inflammations doubtless lies in this very direction, owing to the structure of the tissue itself. For example, the micrococcus of gonorrhœa has a habit of retiring into the deep follicles and crypts of the urethra, where injections cannot follow. One germicide after another may be tried, and the canal will seem for a while to be thoroughly disinfected and cured; but after a time the reappearance of the gleety secretion shows that another generation of the coccus has come forth from some hiding-place to occupy the field again.

That the mucous membrane of the upper respiratory passages should be exposed above all others to these atmospheric intruders is of course obvious. In fact, many of them are visible enough, as the aphthæ in the dying frame of the consumptive. Others are plainly to be inferred as frequent visitors, as in the case of the communicable influenzas, or colds, which daily meet us, invading a family and spreading from one member of it to another. So, also, the clinical features of hay-asthma can be satisfactorily explained in no other way; but the most practical deduction is this—that, as pus can be prevented only by excluding germs, so all chronic mucous inflammations can be got rid of only by excluding the presence or preventing the activity of germs.

We may do this, I imagine, in two ways. One is by improving the resisting power of the tissues. Under this head would come the removal of all weakening influences, some of which we have already referred to—namely, by attending to local vascular innervation; another is by dealing with hereditary weakness of particular tissues which predisposes them to be attacked by invaders. Increased nerve- and cell-nutrition by cod-liver oil is an example of meeting this indication.

The second way is to use disinfectants directly. Here we may say that so recent is this whole subject, in its bearing on the etiology and treatment of disease to the profession at large, that we need not be surprised if our methods of attempted disinfection of the air-passages are both crude and ineffective. The chief obstacle in our way lies in our inability to prolong the employment of the disinfectants enough to be of any real service. An ideal respiratory disinfectant would be an ingredient of the air breathed continuously night and day for a week or more. Such a disinfectant is the air of the ocean several hundred miles out, or of certain mountain localities against the germ of hay-asthma. I believe that some such disinfectant will yet be found against the tubercle bacillus; but when we turn to attempts to fill the nostrils with vapors or insufflations, or the pharynx or larynx with spray, we are met at the outset with the difficulty of temporary effects—temporary either because to secure permanent effects the concentrated agents would be too irritating, or else from the impossibility of having our patients keep up voluntary inspiratory efforts for more than a few minutes. Nevertheless, it is in this direction that I look for the greatest progress to be made yet in the therapeutics of the upper air-passages. Undoubtedly a certain proportion of cases are dependent upon malformations, congenital or acquired, occurring in the nasal channels, and in them surgical measures promise the readiest relief; but otherwise the greatest advances will be made, I imagine, by discovering both how to use disinfectants and what disinfectants to use.

With respect to this latter indication, I would remark that there is considerable room for observation. I have long been satisfied that the carbolic-acid class of disinfectants has special applications, but not universal ones, and that for certain common purposes this class is much inferior to others. By the carbolic-acid class I mean derivatives, natural or artificial, from woody or vegetable tissues. All coal-tar derivatives come under this head, and also those products in nature whose purpose is evidently to keep the seeds or bark or texture of the plant from being attacked, such as the spices, camphorous and aromatic secretions, also salicin, quinine, etc. These numerous agents are all closely allied, both in their physiological effects on the human nervous system and on the temperature of the body, and as disinfectants they are the best for this one particular object—namely, for all suppurative disorders.

For necrotic affections, on the other hand, they are decidedly inferior to the chlorine class. This class is a chemical order of disinfectants which acts by the double process of affinity for hydrogen, causing it to kill fungi by decomposing the water of their tissues to get the hydrogen, while at the same time it sets free nascent oxygen, a no less powerful disinfecting agent in its way. To this class belong chlorine, iodine, bromine, and sulphur, and whenever we have a non-purulent secretion with malign odor, as in bone-necrosis and in many chronic thin mucous discharges, the steady employment of some member of this class promises, I think, much better results than any of the carbolic-acid class.

I have long used insufflations of calomel in bismuth in nasal catarrh, for disinfection, and have never yet seen any injury from them. I prefer this also as a means of affecting the pharynx through the nose, because of the greater adhesiveness of the powder on the parts than articles used in spray-solution. But as I doubt not that the Academy will have much more extensive and varied information about such measures from others, I will now close by saying that, with the principles of treatment established on much superior premises than was possible in former times, we have every reason to expect great triumphs in the healing of affections long the despair of our art.

THE Post-Graduate schools of this city are in a very flourishing condition, the classes being larger than ever.

A PAPER CONCERNING A FEW POINTS IN PRACTICAL LARYNGOLOGICAL AND RHINOLOGICAL WORK.[1]

By H. HOLBROOK CURTIS, M.D.,

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The following conclusions have been deduced from a close observation of over one thousand cases in which I have practised the enlargement of the upper air-passages, viz., the restitution of their normal calibre by means of the employment of chromic acid to erectile tumefactions and true hypertrophies; or surgical interference to remove cartilaginous or bony obstructions caused by septal deflection, etc.

Subacute catarrhal inflammation is present in all cases where there has existed for some time a nasal stenosis due to deviations of the septum or to hypertrophy of the turbinated bodies, or to erectile tumefactions due either to over-stimulation of the normal erectile tissue of the turbinated bodies or a lack of vaso-motor resiliency, allowing permanent dilatation of the venous plexuses therein contained. This subacute catarrhal inflammation extends to the pharynx and is generally accompanied by more or less glandular hypertrophy in the post-pharyngeal wall. This so-called granular condition of the posterior wall is due to mouth-breathing, and immediately subsides upon the free opening up of the nasal channels.

The more occluded the air-passages of the nose, the more extensive the glandular hypertrophies in the pharynx. Any treatment directed to these glandular masses without enlargement of the nasal fossæ is misdirected.

Chronic post-nasal catarrh unaccompanied by stenosis does not exist. Conditions that simulate this may be usually referred to disease of the ethmoid cells, especially in the anterior group.

Disease of the ethmoid cells is generally due to a hypertrophy of the middle turbinated bone and consequent occlusion of the exit of ethmoidal secretions.

The treatment of this most obstinate condition should consist in the application of chromic acid to the thickened middle turbinated body which is found to impinge on the external wall of the middle meatus, in order to allow of a free exit to the secretions of the anterior ethmoidal cells and a proper oxygenation of the cavity. By passing a thin flat probe between the pendulous-thickened middle turbinated body and the outer wall we demonstrate the existence of this retained muco-purulent secretion—a condition frequently overlooked by simple examination with the nasal speculum. The symptoms of this disease are those of ordinary chronic rhinitis, with perhaps more fulness attributed to the cribriform region, with free expulsion of the secretion at intervals into the pharynx. The patient will also blow the nose and entirely free the cavities, so far as an examination reveals, but often in a few moments will again have a copious discharge upon the handkerchief. When the disease has to do with the posterior ethmoid cells, the tenacious secretions are poured down between the middle turbinated body and the septum, coming from the superior meatus. This complication is easy to diagnose, but I consider it of rarer occurrence. I introduce this disease to elucidate what many writers consider a post-nasal catarrh.

I have made application of chromic acid to the inferior turbinated bodies for the past six years in my private and dispensary practice, and do not remember a case that has come to me for treatment for catarrh during that time, in which there was found to be hypertrophy or erectile tumefactions, where I have not employed it to the exclusion of all other escharotics.

So great is the importance, in my estimation, of a re-establishment of the air-current through the upper air-passages, and particularly through the inferior meati, in the treatment of all the affections of the larynx, non-specific or non-tubercular—and I say it with all premeditation—that I would not to day exchange the flat probe and chromic acid for the combined douches, sprays, and therapy of the best laryngological establishment. In saying this I would not, however, depreciate the employment of the spray as an adjunct to treatment.

In estimating the effects of enlarging the upper air-passages on the larynx and vocal bands, I would state that quite a number of professional singers have applied to me for the operation of "burning the nose," simply for the direct improvement of quality or *timbre* in the vocal resonance, so magical is the effect upon the voice. To sum up the benefits of the operation to the patient, we find comparative immunity from cold in the head and sore throat, softening of a dry post-pharynx, disappearance of glandular hypertrophy in the pharyngeal wall, and glosso epiglottic fossæ, disappearance of chronic congested conditions of the vocal bands causing huskiness of voice, relief to bronchitis, acute and chronic, relief of spasmodic asthma (sometimes immediate), and great strengthening of the power and endurance of the voice. A voice that has become cold and hard will in a day or two regain its sympathy and musical quality after an enlargement of the air-passages. Destruction of the erectile tumefactions, unless true hypertrophy exists, is not necessary, for when the erectile bodies become permanently dilated by paresis of the inhibitory nerve-force of the sympathetic ganglion (or acted upon by a permanent reflex impression from a correlated area, causing partial paralysis of the efferent vaso-motor fibrillæ), it is only necessary to use the acid in such quantity that a cicatricial envelope be superposed which will act as a bandage or retaining-wall to the dilated vascular plexus and permit the fossæ to remain unobstructed. That the correlated areas are in reflex sympathy directly by influence exerted through the chain of sympathetic ganglia seems to me to account for the direct impression imparted to the vocal cords by applying chromic acid to the turbinated bodies. The question of remote reflex phenomena has been the subject of much research by Woakes, Mackenzie, and others, and their theories are certainly borne out in my experiments. In no other way can I account for an immediate effect on the membrane covering the vocal cords. I would cite a case to illustrate:

Miss H——, a prima donna, presented herself on the occasion of a special performance in which she wished to appear to advantage. Vocal bands slightly congested, slight erectile tumors at anterior aspect of inferior turbinated bones; no pharyngitis worth noting. Said singing was a great effort, and she feared her inability to perform. I used chromic acid freely to the anterior enlargements, and was surprised to find her voice markedly improve at once, and she told me the following day she had made a brilliant performance.

Since that time the patient has, on two occasions, come to me from Philadelphia between performances to have chromic acid applied when, in her words, her voice was "used up," and she tells me that it always restores the brilliancy of tone, though there seems to be no necessity for the operation. I have on many occasions repeated this upon other singers with the same result.

This is manifestly a reflex impression and bears a striking relation to the immediate relief sometimes afforded in spasmodic asthma upon attacking the turbinated tissues with an escharotic. To illustrate a class of cases to show the effect on hoarseness due to subacute catarrhal laryngitis, I cite the following:

Miss C——, the leading lady in one of our theatres, had suffered from recurrent attacks of hoarseness for two years, and had been afflicted with hay asthma during the last six seasons. I found stenosis of both nostrils almost complete, due to erectile hypertrophies, granular pharyngitis, and subacute laryngitis. She had been treated almost daily with astringent sprays and inhalations. I stopped all applications to the larynx and

[1] Read before the New York Academy of Medicine, April 21, 1887.

freely destroyed the superabundant tissues, using the nasal saw to correct a slight anterior cartilaginous tumor of the septum. In a few days her voice was entirely restored. The treatment was continued at intervals of ten days for six consultations. The patient informed me a few days since that from the first application she had never been hoarse, now over a year ago, and she had escaped asthma during the summer of last year, though her eyes were somewhat affected during the corresponding period of her previous attacks. My case-book records very many parallel cases, and the wonderful relief afforded in cases of spasmodic asthma by this simple operation is a source of constant gratification

So much, however, has been written on the subject that it seems hardly worth while to allude to it here.

As to bad results from the employment of chromic acid, I have seen none. The acid should be carefully used, a deliquesced solution smeared on one side of a flat copper applicator, and a few moments after making the application to the tissues it should be washed off with a Dobell spray. A little care must be taken not to bring the acid in contact with the soft tissues of the palate, or a painful uvulitis may result.

True hypertrophies, which are of rare occurence and frequently need the trephine or saw to assist in their removal, seldom return. Erectile tumefactions which do not deal with proliferation, but simply dilatation, sometimes need cicatrizing once a year. A majority of these cases, however, are either permanently cured, or await exciting causes, such as continued colds, etc., for their recurrence.

From even my own rather limited experience I think that aurists have not as yet become cognizant of the enormous advantages to be obtained from the restitution of the lower, and especially the lowest, air-tract of the nose. The inferior meatus is the true oxygenator of the Eustachian tubes, and a deflection of the air-current to the middle meatus is, according to several authorities, often the origin of aural complications.

That the relief of obstinate tinnitus is ofttimes assured upon re-establishing the nasal respiratory function in the proper channels is unquestionably true, and this I find will often cure tinnitus after many other means have been attempted. I am at a loss to explain whether this is by reflex sympathetic action or by simply directing a stream of air into the Eustachian orifices, for, by a deflection of the nasal respiratory current to the middle meati, some writers contend that a vacuum may be produced by the air rushing downward over the projecting prominence of the tube, and thereby cause concavity of the tympanum and associated troubles. This subject I prefer to leave for another occasion. The reflex symptoms caused by polypi, which usually are attached to the middle turbinated body, are an exaggerated type of those reflexes which are, generally speaking, associated with stenosis. Operative procedure I have not touched upon ; but the results obtained by the application of the saw and trephine to the deviated septum are coincident with those of relieving the commoner forms of stenosis.

To conclude I would say that the sooner the farce of applying strong astringent solutions and nitrate of silver to the larynx and upper air-passages is done away with, and the proper appreciation given to the magnificent results obtained by restoring the function of respiration, as nature intended, the sooner laryngology will be placed on a higher plane, and an immediate relief given to countless thousands who imagine an incurable, so-called, post-nasal catarrh.

29 West Thirtieth Street.

Mrs. Kimura Hida, who is one of the promoters of the lately established Female College of Tokio, has been admitted to the medical course of the Japanese Imperial University. This is the first lady that has been admitted to the Imperial University—*Sei. I. Kwai Medical Journal.*

TOPICAL APPLICATION TO THE UPPER AIR-PASSAGES.[1]

By WILLIAM CHAPMAN JARVIS, M.D.,

new york.

Although the question of topical medication as applied to the upper air-passages has already received much attention, a discussion of its comparative value cannot fail to prove profitable, on account of the modifying influence which has been recently exerted by the great advances in nasal surgery. Foremost among the means employed for the treatment of affections of the upper air-passages stands compressed air. A pump and air-reservoir capable of withstanding great pressure are required to render this therapeutic medium serviceable. No argument is necessary to prove that the value of the spray has been greatly over-estimated in prescription and practice. It is quite possible that the confidence evinced by the advocates of this measure can, in part, be attributed to the scanty and unsatisfactory surgical measures at the physcian's disposal during several years following the period of its introduction as a therapeutic agent. That the spray-producer still subserves a useful purpose cannot be safely denied. I believe, furthermore, it is possible to determine the extent of the spray-producer's usefulness and to name the several conditions which indicate its employment. I consider it the most useful means we possess for the application of cocaine-solutions. It may occasionally be employed for cleansing purposes, and, even in the nostril, is sometimes preferable to the douche ; it offers us the only medium for the production of rhigolene anæsthesia ; it affords us a useful means for the application of the various preparations of vaseline, and can be profitably employed for the projection of medicated powders. A great deal of confusion seems to exist in regard to the true significance of pounds pressure. When speaking of compressed air, ten, twenty, thirty pounds mean nothing until we ascertain the size of the spray-tube's orifice. Thirty pounds pressure behind a tube with an orifice of one one-hundredth of an inch means a gentle spray ; the same, through an orifice of one-eighth of an inch in diameter, forms a powerful, intolerable blast. Hence, I think, one should always designate the dimensions of the orifice of escape in speaking of pounds pressure. My standard of pressure varies between ten and fifteen pounds. For cleansing purposes, I employ sprays whose orifices vary from one-sixteenth to one eighth of an inch.

Coarse sprays, when employed intelligently, constitute one of the most effective and agreeable means in our possession for cleansing the nasal cavities. The syringe-like action of the projected fluid is re-enforced by the mechanical effects of the compressed air. There is less danger from the entrance of fluid into the middle ear, a fact which determines its sole employment in certain cases. The spray-producer is valuable more as a means for obtaining relief than as an instrument for producing a cure, when considered *per se*. The utility of the syringe, however, is unquestionable, and in many instances it is to be preferred to the spray. Compressed air affords us a most valuable means for the satisfactory employment of medicated powders. The therapeutic action of powders, and particularly of iodoform, is promoted by the remarkably fine state of sub-division attained when they are applied according to the method of Ely.

In the employment of that most reliable and efficient of all intra nasal anæsthetics, namely rhigolene, and especially in the treatment of gelatinous polypi and turbinated hypertrophies, with the fluid, we rely upon compressed air as the only means for obtaining the benefits of this agent. Spray-tubes with very small orifices, $\frac{1}{32}$ to $\frac{1}{100}$ of an inch in diameter, are required for the production of rhigolene anæsthesia, in order to avoid the excessive escape of fluid.

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[1] Remarks made before the New York Academy of Medicine, April 21, 1887.

Inasmuch as the vast majority of catarrhal processes in the nasal cavities are due to nasal obstruction, and its natural results, impeded respiration and disturbances to nasal drainage, we must rely upon the practice of special surgical procedures, which have for their purpose the restoration of nasal respiration and normal drainage. I have already pointed out that excess of nasal mucus was due more to the inspiration of accumulated discharges from irregular conformation than from a true hypersecretion.

As regards the use of chromic acid, while I promptly recognize some of the good results which follow the employment of this therapeutic agent, its remarkable solvent action, for example, when applied to laryngeal papillomata, I find it impossible to subscribe myself in favor of its employment for the removal of turbinated hypertrophies. That chromic acid is capable of reducing turbinated hypertrophies, if persistently applied, cannot be doubted for a moment, but that it is the best therapeutic agent for this purpose must, in view of ample contradictory evidence at hand, be emphatically questioned. I have met with several forms of more or less severe annoyance where this agent has been employed, from the common traumatic rhinitis to extensive inflammation of the post nasal structures and œdema of the soft palate. I cannot understand why the employment of this caustic should be persisted in, for many days at a time, with the object of removing a small turbinated hypertrophy, when it is always possible to transfix the redundant tissue by means of a slender needle, and remove it by means of the snare-écraseur in a few minutes, with no inconvenient after-effects. The same statement applies with even greater force to the galvano-cautery.

There are many more interesting points relating to the subject, the consideration of which I feel compelled to omit on account of the necessary limitation in time.

Progress of Medical Science.

Paroxysmal Tachycardia.—In a recent lecture, Nothnagel directed attention to a case of "paroxysmal tachycardia, combined with failure of the heart." On the forenoon of October 6th, 1886, the patient, aged thirty-six, was admitted into the hospital, his pulse-rate being at that time 120 in the minute. In the afternoon it was 144; on the next morning, 90; during the following day 84 and 82; on October 9th, morning, 82; in the afternoon, 138; on the morning of October 10th, 178; at eleven o'clock the same day 170, and soon afterward 182; on the morning of October 11th 84, at half-past ten o'clock 176, at four o'clock 132, at five o'clock 144; the next morning at eight o'clock it was 176, at nine o'clock 144, at ten o'clock 146, at eleven o'clock 134, at mid-day 144, at four o'clock 168, in the evening 164; on October 13th it was 92 in the morning, at nine o'clock 88, and soon afterward from 170 to 180. This acceleration of the pulsations lasted from half-past one till half-past three; at five o'clock the patient's pulse was 96. On October 14th it was 72; on the 15th 76, and so on, the number of the pulsations being again normal. The temperature was normal throughout. The patient was seized with these paroxysmal attacks without any apparent cause, and they were very variable in duration. On one occasion the paroxysm lasted for two hours, another time about two days; the longest duration was from three to four days; the average duration was from one to one and a-half day. The attacks occurred without any artificial stimulant whatever, such as coffee or tea, nor were they caused by any psychical irritation; they showed no gradual transition, but came on and ceased quite abruptly. The patient happened once to be seized with a paroxysm of 176 beats immediately after laying down a book, the contents of which had not interested him in the least. The attack was accompanied with a feeling of anxiety, but Professor Nothnagel emphasized the fact that this anxiety was not such as was met with in angina pectoris. All the other characteristic symptoms of that affection were absent in the case in question. The attack disappeared quite suddenly, and the patient stated that he had then the feeling "as if something would fall away." The patient further stated that he "sometimes succeeded in suppressing the attack by a deep and prolonged inspiration, especially if he at the same time drank a glass of cold water." Professor Nothnagel told the patient to do this during an attack, and after the patient had swallowed half a glass, Professor Nothnagel was able to state that the number of the pulse-beats had decreased quite suddenly; he felt three slow and large beats, and soon afterward the number of the beats was again about 180. Professor Nothnagel also made other experiments; he told the patient to swallow a spoonful of common salt; he compressed the crural nerve very strongly, and wound a thread around the upper extremity, but these manipulations produced no effect. The patient himself stated that the draught of cold water had not much to do with the cessation of the attack, but that it was chiefly due to the deep inspiration. Professor Nothnagel remarked that some cases of paroxysmal tachycardia were to be found recorded, but that paroxysmal tachycardia in cases of organic heart-disease were very rare, and that he did not remember any similar case in medical literature. As to the explanation of this phenomenon, the lecturer said that of course there was no doubt that one had to do in such a case with a disturbance of innervation, but that the question as to what nerve-tracts were affected was very difficult to answer. As to the existence of an accellerator-nerve of the heart in the human species, this was still a matter of dispute. Only two nerve-systems could be taken into consideration in the case in question—the pneumogastric and the musculo-motor apparatus in the heart. It was conceivable that there might be some irritation of the cardiac musculo-motor apparatus in the substance of the heart itself; or again, there might be sudden paresis of the vagus. It was very difficult to decide which explanation was correct in this case, but according to the impression the lecturer had received from the observation of one of the attacks, he was rather inclined to the latter view. One might suggest that, in the same way that intermittent paralysis occurred in other motor nerves, such intermittent functional paralysis might also occur in the vagus. Professor Nothnagel thought it very probable that this hypothesis was correct.—*The British Medical Journal.*

Hyoscine in Kidney Disease.—Dr. Tisard, of London, believes (*The Practitioner*, February, 1887) that hydriodate of hyoscine is a drug which can be used with perfect safety in cases of kidney disease where morphine is inadmissible. It is a drug which may give rest when other sedatives fail. He also states that if used in two-minim doses, subcutaneously, it may give more satisfaction to the patient than to the attendants, since the unconsciousness may be accompanied by angry and combative delirium; should this occur it will probably be sufficient to diminish the amount employed. It is very rapid in its action, unconsciousness following in from ten to twenty minutes, and the after-effects are of a soothing character. Even when delirium is present in a violent form, it is followed by quiet sleep, and the patient, being unconscious, is much more refreshed than by a night of short snatches of sleep produced by chloral or bromide, and the result is a marked improvement in both aspect and temper. No irritation is produced around the site of injection.

Early Dentition.—Dr. Frank Groat, of Fremont, O., reports the case of a child, born in 1855, who had four lower incisors at birth. The parents were English, and there was nothing in the condition of the mother to account for the phenomenon.

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A NEW ERA IN THE THERAPEUTICS OF PULMONARY PHTHISIS.

THE discovery of the tubercle bacillus, as soon as its importance came to be fully realized, gave a new impetus to the efforts of those who had been occupied in what seemed to be the vain task of searching for some means of curing pulmonary consumption. If the cause were known, it seemed so simple a problem to apply the remedy. The remedy, indeed, was found—many remedies were found—but the difficulty was in their application. Many methods have been tried, some of them most ingenious in their conception, with more or less encouraging results. It may, perhaps, be of interest to our readers to review briefly the methods thus far proposed, to see what advances have been made, and to learn what is the hope of ultimate success in the cure of this scourge of man and beast.

Antiseptic substances had been given empirically long before the parasitic nature of the disease had been discovered, but now they were given with greater hope, though not always with greater success. It was soon recognized that the internal administration of germicidal remedies could exert but little curative effect on the local disease, and the attempt was made to apply the remedies directly to the seat of the affection in the lung itself. The different methods employed to effect this object may be divided into several groups. We have (1) the internal administration of substances excreted chiefly by the lungs; (2) inhalations; (3) intra-pulmonary injections; (4) gaseous rectal injections, and (5) the more strictly surgical procedure of incision into the cavity, evacuation, and drainage.

Among internal remedies, arsenic enjoyed a reputation long before the rise of the theories now in vogue, and it still holds its ground as a valuable tonic, even though its germicidal power in small doses may well be doubted. Tannin, in daily doses of from thirty to sixty grains, has also been recommended in the strongest terms by Arthaud and Raymond. Filleau gives carbolic acid, in doses of two grains every day or two, hypodermatically. He was led to employ it thus on the ground that the drug is largely excreted by the lungs, and he reports a number of successful cases. He never saw any serious toxic symptoms produced.

Naturally, inhalation has been the most frequently resorted to, as seeming to offer a simple and efficacious means of applying antiseptic substances directly to the focus of disease. The list of drugs so employed embraces nearly all the antiseptics and germicides known to medicine. Corrosive sublimate, hydrofluoric acid, anilin, naphthalin, sulphurous acid, iodoform, menthol, and camphor are only a few of the many which have been vaunted as specifics by various enthusiasts in all parts of the globe. Experiments have demonstrated two facts, however, which argue against the probability of much benefit being derived from inhalations. In the first place, the tubercle bacillus is destroyed with considerable difficulty, the ordinary antiseptic solutions having but little effect upon it. Then, again, the vapor or spray is not likely to penetrate far enough to reach the bacilli whose destruction is sought, unless it is driven in under a strong pressure, for the production of which expensive apparatus is needed.

The ingenious conception of Cantani should be mentioned here. He endeavored to effect the destruction of the tubercle bacilli by means of inhalations of pure cultures of bacterium termo, as experiments outside the body had shown that these two forms of micro-organisms were mutually inimical. These attempts, however, were not encouraging enough in their results to lead to many repetitions.

The introduction of microbicidal agents by means of injections into the lung-substance at the seat of the lesion is a more rational measure, and seems to be of greater promise than those above mentioned. These intra-pulmonary injections were, it is true, practised by Dr. Pepper long before Koch's discovery was published to the world. He injected a dilute solution of iodine with the object of favorably modifying the morbid process. But it is since the new theories of tuberculosis have come into vogue that this method has found most favor. When properly made, these injections seem to be devoid of danger and do appear to alleviate the more urgent symptoms, if nothing more. But those who have had the most experience with this method hope for more than palliation, and even look forward to permanent cures. The drugs that have been employed in this way rival in number those given by inhalation. A modification of this method is that of Riva, to which we referred very recently in these columns. He is not satisfied with the injection of a few drops of the antiseptic fluid, but seeks to bathe the entire parenchyma of the lung in the vicinity of the tubercular focus with the bacillus-destroying solution. It is not possible yet to determine whether this modification possesses any practical superiority over the older method of injection.

We have finally to notice the treatment of advanced pulmonary tuberculosis by incision and drainage of the cavity. This method is even older than that of intra-pulmonary injection, having been practised in the early part of this century. It has the appearance of being a formidable operation, and comparatively few have had the temerity to attempt it. The advocates of the operation argue that tuberculosis of the lung is as strictly a local process as tuberculosis of a bone, and is as certainly relieved by surgical measures. Some of the cases operated upon would seem to have justified these views by the results obtained, while others have been less happy in their sequel.

It is certainly very encouraging to see so much activity in this direction, and the hope of eventually bringing pulmonary phthisis into the class of curable diseases seems to be not without foundation. But, nevertheless, it is wise not to be too sanguine, and we may well close this hasty review of the modern therapy of phthisis with the words of Dr. Pollock, uttered at the conclusion of the Croonian lectures for 1883. "No parasitic theory," he says, "can lessen the importance of the use of tonics and cod-liver oil. Supposing we possessed a local remedy of sufficient power to insure the destruction of such bacilli as are met with in the secretions, their rapid reproduction would soon overtake our treatment." And the same may be said even after we have destroyed all the bacilli present in the lung-tissue. Until we have succeeded in overcoming the predisposition to the disease we are liable to disappointment in witnessing a speedy return of the malady which we had congratulated ourselves had been thoroughly and entirely eradicated.

THE QUESTION OF OPERATION IN PERITONITIS.

A GREAT change has taken place in recent years in the minds of surgeons as to the dangers of abdominal section. While formerly the peritoneum was regarded as a *noli me tangere*, only to be incised as a last resort in desperate cases, surgeons now feel scarcely any more compunction in opening the abdomen than in removing the breast or amputating a foot. Exploratory incisions are almost of everyday occurrence, and, speaking generally, the results of such operations seem to justify the contempt which is felt for the formerly dreaded peritoneum. Not only is operation resorted to for the removal of tumors and for the relief of other troubles falling legitimately within the province of the surgeon, but even in so-called idiopathic peritonitis it has been proposed to open the abdominal cavity and provide exit for the products of inflammation, and the operation has actually been done several times.

Dr. Albert, writing in the *Allgemeine Wiener Medizinische Zeitung*, No. 10, 1887, discusses the question of operation in peritonitis, and considers briefly the indications for its performance. Leaving aside the subject of exploratory incisions and operations for the removal of tumors and the relief of other diseases of the intra-abdominal organs, he treats of those cases in which the condition of the peritoneum itself serves as an indication for operative interference. These several conditions he classifies under three groups.

In the first group are those cases of acute septic peritonitis arising from rupture of the intestine and escape of its contents into the abdominal cavity. Here the indication is very distinct to open and cleanse the peritoneal cavity, at the same time closing the intestinal wound or stitching the gut to the external wound in such a way as to establish a temporary fecal fistula. When the rupture of the intestine has taken place without a previous wound of the abdominal parietes, the operation is rendered more difficult by reason of the trouble which is often experienced in finding the point of injury of the gut. The detection of this lesion may sometimes be facilitated by following up the hemorrhage or the clot to its highest point where this is possible.

The second series of cases comprises those in which a general septic peritonitis has followed after an operation in the abdominal cavity, undertaken for any cause. Such cases were formerly of more frequent occurrence than they are, fortunately, at the present day. In a case of this nature it would be necessary to reopen the abdominal cavity, wash the peritoneum, and provide for thorough and free drainage. The peritoneum should be repeatedly irrigated until the inflammatory process is arrested.

The third group comprises cases of so-called idiopathic or rheumatic peritonitis. Leyden proposed operation in these, and Rose performed abdominal section twice, but with fatal result. Since then, however, others have operated in cases of idiopathic peritonitis, and have saved their patients. The author believes that an operation is justifiable in such cases, as the results have shown that recovery is to be hoped for, whereas without surgical interference the disease would doubtless have gone on to a fatal issue. Nevertheless, it is not probable that the surgical, or rather the operative, treatment of simple primary peritonitis will ever, in this generation at least, find general favor among conservative practitioners.

CHARCOT ON THE DANGERS OF HYPNOTISM.

A LAW was recently passed in Italy forbidding public exhibitions of animal magnetism, mesmerism, and the like, which has given rise to considerable discussion in the lay and medical journals. Dr. Melotti wrote to Charcot for his opinion as to the justifiability of the measure, and received a reply, which is published in *La Riforma Medica*, reprobating in the strongest terms all such public exhibitions of hypnotism.

"Hypnotization," he writes, "is by no means so devoid of danger to the subjects as is generally supposed, and it is evident that it is only by careful clinical study that the indications and the contraindications for the employment of this therapeutic agent can be, with any accuracy, established. But this is not the only reason why such public exhibitions should not be permitted. The hypnotic state is nearly related to the hysterical neurosis, which, under certain circumstances, shows itself to be highly contagious." In support of this assertion, the author referred to the numerous cases of hysteria which had been observed in Milan, Turin, and elsewhere, in consequence of these popular representations of somnambulism.

Finally Professor Charcot says, "Medicine has taken possession, in the name of science and art, of hypnotism, and she demands that it shall be entirely her own, to develop and to use in the cure of disease. In this recently acquired dominion she is jealous of her rights, and wishes to reign as the absolute mistress, free from any outside interference. It is only in this way that such an agent can be made of use to mankind, and can be prevented from working injury to the human race."

THE NATURE OF FEVER.

IN the four-fold definition which the old writers gave for inflammation, "calor" occupied a prominent place. By mere tactile sensation they were able to make a rough estimate of the amount of bodily heat. Some of them

became very exact, even by this crude method. The introduction of the clinical thermometer placed the relations of body temperature to disease on a scientific foundation, and those of us whose years of practice are few can scarcely imagine a time when it was unknown.

It has remained for later years, however, to exhume many of the questions which were presumably settled decades ago. One of the questions discusses the essential nature of that condition which we call fever. It is not a final settlement of the case when we say that a patient has a temperature of so many degrees. Such a use of the thermometer is merely empirical. There is a constant access of heat to the body from various processes which go on within it. There is a constant loss by various channels. The condition at any time is the balance between these two opposing functions. We should be able to gain an accurate idea of the relations which these two functions are bearing to each other in each individual case. That the themometer does not tell us.

The discussion on this topic has received a new impetus from the recent Gulstonian lectures by Dr. MacAlister. It has been heretofore considered that the motor and heat-making functions were in very close relationship. We have come to learn, however, that this relationship may be profoundly modified in the living organism. The motor function may persist while the thermogenic or heat-making function may be in abeyance. The latter is now regarded as being directly under the control of the nervous system—so far at least as its regulation and distribution are concerned. "Wherever," says Foster, "metabolism of tissue is going on, heat is being set free." It is not a new idea that the nervous system controls this important function. Positive evidence, however, has been slow in accumulating. Half a century ago Brodie called attention to the fact that the temperature rose after injuries to the spinal cord. Tscheschichin noticed that in rabbits after section of the cord a fall of temperature occurred, but that a section carried through the line of junction of the medulla with the pons caused a marked rise. The latter fact suggested a "heat centre" in the higher nervous structures.

Dr. MacAlister regards the heat of the body as coming from a substance—thermogen. Stimulation of certain nerves connected with the centre gives rise to its destruction. This metabolism liberates heat, and these nerves are called catabolic. Stimulation of other nerves (anabolic) causes a reformation or restoration of this thermogen. There is a close relation between the heat-centre and the motor-area. This correspondence is what we might naturally expect in view of the association of motor activity with the heat formation. The exact location of the heat-centre we are not sure of. Sachs and Aronsohn found that stimulation on the inner side of the corpus striatum caused a rise in temperature.

There are therefore three different factors in any given temperature in the body—the heat-forming, the heat-losing, and the heat-adjusting or, as Dr. MacAlister says, thermogenetic, thermolytic, and thermotaxic. Combinations of these in varying intensity may give febrile symptoms without noticeable temperature, as in mania, and we may also have temperature without marked febrile symptoms. In cold-blooded animals the thermolytic function is the most prominent. In infants, with their characteristic unstable temperature, the thermolytic and the thermogenetic are both in action. In adults both exist, and in addition the thermotaxic. In the onset of any systemic fever the latter first becomes affected, next the thermogenetic, and finally the thermolytic. In convalescence the order is exactly reversed.

From this brief allusion to these important lectures it is evident that we have come to a new era in the study of body temperature, both in health and disease. The complexity of this and similar problems seems often to increase the farther we go. We are, however, bringing into acceptance theories which more and more explain observed phenomena, and therefore constantly approximating toward the ultimate truth.

News of the Week.

A Hard State in which to Practise.—Virginia is a State which quacks and the uneducated medical aspirant are likely to shun. At the last meeting of its Board of Examiners nineteen persons applied for licenses, and only seven passed the required examination. This is a severe, but we fear a just, commentary on the slovenly methods of teaching and the laxity of final examinations in many of our medical colleges. The *Virginia Medical Monthly* says: "The object of this Virginia Board is to test candidates for practice in Virginia only upon their merits as brought out by examinations. No college professor is on the Board. The Board stands as a higher court than the college faculties; it has to pass upon the work done by the colleges. Fortunately for Virginia, the Board is composed of men well qualified for the discharge of this duty. The standard of graduation claimed by most of the reputable colleges of the country is seventy-five per cent. The Virginia Board of Medical Examiners adopts the same standard, and tests applicants solely by this standard."

Medical Degrees for Women in Australia.—At a meeting of the Council of the University of Melbourne, on February 21st, it was decided by a large majority to admit ladies as students of medicine. The principle thus indorsed is all right, but practically it has been found that the co-education of male and female medical students is often attended with considerable difficulty.

An Intercolonial Medical Congress is being organized, to include physicians of Australia and neighboring colonies. It will be held at Adelaide, South Australia, on August 30 and 31, and September 1 and 2, 1887

The California State Medical Society held its annual meeting on April 20, 21, and 22, 1887, at San Francisco.

The Medical College of Virginia at its Commencement on March 31st conferred degrees upon a class of fifteen.

The Arkansas State Medical Society meets at Little Rock on June 1, 2, and 3, 1887. The enterprising secretary, Dr. Gibson, has adopted the excellent plan of securing early pledges as to papers and attendance.

University of Maryland.—The medical department graduated a class of ninety at its Commencement on March 22d.

Dr. J. F. Huntley, of Oneida, N. Y., died on February 12th, in the sixty-third year of his age.

International Medical Congress.—Dr. J. J. Chisholm writes that "Dr. von Wecker, of Paris; Dr. Herschberg, of Berlin; Dr. Mauthner, of Vienna; and Dr. Landolt, of Paris, have accepted positions of vice-presidents in the Section of Ophthalmology. They promise to prepare papers and attend the meeting."

The American Surgical Association meets at Washington on May 11, 1887. Dr. Hunter McGuire presides, and an interesting programme has been prepared.

Society of Trained Nurses.—The Agency for Trained Nurses on Thirty-fourth Street, which has been under charge of Miss Mabie, has been given up, and the work of supplying nurses transferred to the Philomena Society, No. 1,300 Broadway. This society is composed of trained nurses, and its objects are "to cultivate the science of nursing the sick in all its branches; to advance the character and honor of the profession; to promote friendly intercourse and good feeling among its members, and to assist as far as possible members in sickness and trouble."

The Mortality in American Lying-in Hospitals.—In connection with this subject, Dr. R. C. McDonald writes that, in the Boston Lying-in Hospital, out of three hundred and seventy-three confinements there were but three deaths, a percentage of .80. None of these deaths was from sepsis.

A Journal is published in France devoted to the study of mesmeric phenomena. It is called *Revue d'Hypnotisme*. A recent number contains the description of a young woman who "beats the record" in the matter of continued somnolence, being now in her seventeenth year of uninterrupted lethargy. She is known as "The Sleeper of Thenelles."

In Prussia there are over one hundred and sixty centenarians, the oldest being one hundred and twenty years. —*Berlin Statisch. Korresp.*

Medical Missionary Work in China.—We have received the following interesting items from Dr. J. C. Thomson, of Canton, China: "'The Medical Missionary Association of China' has just been formed, with Dr. J. G. Kerr, of the Canton Hospital, as president, several sectional vice-presidents, and Dr. E. M. Griffith, of Shanghai, secretary and treasurer. Its medical journal is expected to issue its first number about the last of March, of which there are four editors, Drs. Kerr, of Canton; Gulick and Reifsnyder, of Shanghai; and McKenzie, of Tientsin. On February 15th was opened the Woman's Hospital of Miss Dr. L. H. Hoag, at Chinkiang, in the presence of the United States and British Consuls, Tartar General, and other high officials. On February 17th the 'Alice Memorial Hospital,' in memory of the English wife of Dr. Hokai, was opened for the reception of patients of all creeds and nationalities. So China moves medically."

The Brooklyn Health Board.—The Brooklyn *Eagle*, summing up the results of the Bacon investigation, says: "The Health Board is an organized brutality and imbecility."

The Seventh Annual Meeting of the Ontario Medical Association will be held at Toronto on June 8th and 9th.

Dr. Milner Fothergill, of London, will give three lectures on "The Modern Tendency of Disease" at his residence on Thursday, June 2d, 9th, and 16th, at 4 P.M. All members of the medical profession admitted on presenting their cards.

Dr. Grant Bey, of Cairo, has been made an honorary member of the Associazione dei Benemerite Italiana, and has received from the society the gold medal in recognition of his services to humanity.

The Association of Medical Editors holds its next annual meeting at Chicago, on the Monday evening preceding the meeting of the American Medical Association.

In a Case of Ovarian Tumor with ascites, occurring in a girl of twenty-two, Dr. A. G. Willey (*Cleveland Medical Gazette*) removed over half a ton of fluid (1,270 pounds) in thirty-one different operations, extending over two years. The patient weighed one hundred and ten pounds, and died after the thirty-first tapping.

Literary Piracy.—The *Provincial Medical Journal*, an alleged monthly review of medical science, published at Leicester, England, contains among its original communications an article by Dr. W. R. Whitehead on "Hip-joint Disease," with a number of cuts, all taken bodily, without credit, from The Medical Record.

Dr. Frederick M. Dearborne, Surgeon in the United States Navy, with the rank of Lieutenant-Commander, died last week. Dr. Dearborne was made Acting Assistant Surgeon August 18, 1862; Assistant Surgeon in 1864; and Passed Assistant Surgeon in 1867. In 1875 he was promoted to be Surgeon.

The London Correspondent of the New York *Times* criticises the loud tone of voice in which Americans talk, and illustrates it by the following incident: "I walked up Cheapside the other day with a young New York surgeon, just arrived, a very gentlemanly and polite man, and he explained to me as we walked some of the structural peculiarities of the eye as affected by cataract. It was not, as they say in Parliament, a contentious subject, yet my companion yelled so fiercely in explaining his meaning to me that practically everybody passing on both sides of the crowded thoroughfare turned to look at him. From time to time I hinted to him not to talk so loud. He then would moderate his voice for a sentence or so, then back it would go to a literal scream."

A New State Insane Asylum.—At date of writing, it is uncertain whether the proposed new insane asylum for Northern New York will be located at Ogdensburg or Plattsburg. It is an interesting commentary on the management of these institutions that certain politicians are quarrelling each to have the asylum in his own locality.

Cholera and the State Board of Health of Wisconsin.—The Assembly of Wisconsin has passed a bill appropriating $15,000 as a contingent fund, to be used, if necessary, in the next two years by the State Board of Health in preventing the introduction of cholera into that State.

A Physician Charged with Malpractice for Giving an ordinary Dose of Morphine.—A Richmond, Va., physician was recently arrested, charged with having caused his patient's death by giving an overdose of morphine. The physician stated that he was called to see the patient, found her in great pain, and administered, hypodermatically, a quarter of a grain of morphia; in three-quarters of an hour, finding her still unrelieved, he administered, hypodermatically, a little less than a quarter of a grain. Soon alarming symptoms set in, and in a few hours, in spite of all treatment, she died. If this is the correct account, a manifestly great injustice was done; for medical practice could hardly be pursued, if the doctor were in danger of arrest when he gave half a grain of morphine. *The Southern Clinic* says that it was in evidence before the police-court that the patient had taken a certain amount of whiskey just before the administration of the morphia. In reference to the possible action of this agent in connection with morphia, Dr. Taylor, the coroner, testified that the alcoholic stimulant was antagonistic to the action of morphia, would retard its action, etc. *The Clinic* shows the error of this view, and cites the following authorities:

"Alcoholic stimulants often seem to intensify the toxic effects of opium or morphine."—*Waring's Therapeutics*, edition of 1886.

"In the treatment of opium-poisoning be careful of *alcohol*, for fear of *deepening the narcosis*."—*U. S. Dispensatory*, edition of 1886.

"Alcoholic stimulants are used by some habitues *to increase the effect of morphia*, which it does."—*Kane's Drugs that Enslave*, edition 1881.

Cancer is increasing in Victoria, Australia, the death-rate from it being 4.58 per 10,000 in 1880–84, as against 1.91 per 10,000 in 1861–70.

Columbia College was not as generous to the profession with her honorary degrees, on the occasion of her recent anniversary celebration, as Harvard was; the only two medical men on whom such degrees were conferred being Helmholz, of Berlin, and Dr. John C. Dalton, President of the College of Physicians and Surgeons of New York.—*Boston Medical and Surgical Journal.*

Some complaints have appeared, also, because in the arrangements for the Centennial celebration the Faculty and students of the medical department were not properly supplied with tickets.

A Tumor of the Cerebellum was recently removed by Mr. Bennett May, of England. The diagnosis was correct, and the operation "successful" as an operation; but the patient, a boy of seven, died.

Antithermin is the name of the latest antipyretic agent. It is allied chemically to antipyrin, and its scientific name is phenyl-hydrazin-leonlinic acid.

State Board of Health of Nebraska.—The bill proposing a State Board of Health for Nebraska has failed to pass the legislature.

Reform in Spelling.—Professor Skeat, in a recent number of *Notes and Queries*, says: "Those who know the whole history of our spelling from the eighth century to the present time best understand the harm done by the pernicious system of trying to transplant Latin and Greek symbols into the English language. The symbols *æ* and *œ* are not English, and are best avoided. Indeed, this is done in practice when once a word becomes common. *Æther* and *æthereal* have been sensibly replaced by *ether* and *ethereal*. No one now writes *æternal*. *Solœcism* is now *solecism*, and I trust that *primeval* and *medieval* will soon prevail over *primæval* and *mediæval*. Pedantic spellings are most objectionable, because they are useless and unphonetic." To this the *British Medical Journal* adds: "We heartily agree with Professor Skeat, and trust that *diarrhœa*, *leucorrhœa*, *dysmenorrhœa*, etc., will soon give place to *diarrhea*, *leucorrhea*, *dysmenorrhea*, etc." We can ourselves add a little illustration of some peculiari ies in medical orthography:

A man once caught typical phthisis
By being exposed to the bhrhisis;
So he, cold death to foil,
Took some cod-liver oil,
Which instantly brought on emhisis.

If such an illustration is insufficient, a study of any medical dictionary justifies the following:

A young man with a very marked ptosis,
Once met a sweet girl who sold prosis,
Said she, "Will you try
Some flowers for your eye?"
But he answered her pleasantly, "Pno, sis."

Investigating Leprosy in America.—The Norwegian Government has taken another step toward discovering the origin and nature of leprosy, which is so common on the west coast of Norway, by despatching Dr. G. A. Hansen, Director of the Leprosy Hospital at Bergen, to North America, for the purpose of inquiring into the heredity of the disease among Scandinavian emigrants to the United States.

Medical Work is closely allied with charitable work, and physicians will be both interested and profited by a knowledge of the results of the investigations of charity organization societies obtained in Boston and New York. These show that in large cities the proportions of worthy and unworthy applicants for relief is very nearly a fixed one, and that a general law can be laid down, which is as follows: Among one hundred applicants for charity there will be found nine worthy of continuous relief; twenty-two worthy of temporary relief; fifty-four needing work more than relief; fifteen unworthy of relief; this is the result of an investigation of 16,496 cases.

Phaseoli Vulgares, as they say in Boston, or baked beans, is the subject of a learned essay by Dr. Ephraim Cutter in the *Albany Medical Annals*. Dr. Cutter finds that baked beans are indigestible because the starch-granules are enclosed in an adamantine coat of cellulose, which is not destroyed by cooking. When properly cooked, however, the bean is a very nutritious food. Dr. Cutter, without intention, does not do the bean full justice, for he leaves it to be inferred that the chief nutritive ingredient is starch, whereas it really has a larger amount proportionately of nitrogeneous matter (legumine) than other vegetables. White beans contain 55 parts of starch, + 25 parts legumine, fat 2.8, giving a nutritive ratio of 1 to + 2, or about the same as that in perfect and normal food milk.

Reports of Societies.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, April 21, 1887.

A. Jacobi, M.D., President, in the Chair.

THE PRACTICAL VALUE OF OUR PRESENT METHODS OF TREATING THE UPPER AIR-PASSAGES.

The Section on Laryngology and Rhinology presented the above subject for discussion, and papers were read by Drs. F. H. Bosworth, Andrew H. Smith, W. H. Thomson, H. Holbrook Curtis, and W. C. Jarvis (see pp. 487–495).

The President acknowledged the donation to the Academy, by Dr. Andrew H. Smith, of

AN AUTOGRAPH LETTER OF RUDOLPH VIRCHOW,

written in 1866, and containing a biographical sketch of himself.

A like presentation had been made to the Academy by Dr. Allan McLane Hamilton, consisting of a manuscript in the handwriting of

JULIEN BOUVIER,

who was practising in New York in 1796. The letter was dated August 4th of that year, and was addressed to Alexander Hamilton, Secretary of the Treasury of the United States. The subject was *A Medical Inquiry into the Use of Cold Water in Malignant Fevers, especially Yellow Fever.*

The President also contributed a manuscript by

ERNST KRACKOWIZER,

with reference to the reorganization of Bellevue Hospital in 1874.

He then spoke of the great value of a large collection of similar manuscripts, a gathering which would finally become invaluable on account of their rarity and intrinsic worth. He asked as a favor to the Academy that such manuscripts be presented to the Library.

The Academy then adjourned.

SECTION IN PRACTICE.

Stated Meeting, April 19, 1887.

E. Darwin Hudson, M.D., Chairman.

Dr. Andrew H. Smith read a paper on the

SYMPTOMS, PATHOLOGY, AND DIAGNOSIS OF ACUTE OPIUM-POISONING,

in which he confined himself to the consideration of the grade of opium-poisoning which threatens the life of the patient, or causes solicitude to the practitioner. The *symptoms* are generally so distinctive as to leave but little room for error. The intellect is usually almost wholly dormant. The patient may be aroused, but immediately passes into his former condition. In a few cases active delirium occurs. One of the most constant symptoms of opium narcosis is *contraction of the pupil.* Contraction of the pupil, however, should not be allowed too great weight in diagnosis. Unless other symptoms point to a like conclusion it should not be accepted as indicating opium-poisoning, and it must also be borne in mind that as death is approaching the pupils become generally widely dilated.

The *respiration* is very commonly reduced in frequency. The most dangerous narcotism, however, may be developed while the respiration is

AT OR NEAR THE NORMAL FIGURE.

Doubtless, if the rate of respiration were always noted in reports of cases of opium-poisoning, such cases would not be very rare. Dr. Smith thought that this fact was first brought to the notice of the profession in a paper which he read before the Medical Journal Association in New York in 1875. The fact that such cases may occur renders it extremely important that absolute reliance should not be placed upon the respiration to sound the note of warning as danger approaches in the plan of treatment of certain diseases of which opium plays a prominent part. The contraction of the pupil and the effect upon the intellect will serve to put the practitioner upon his guard.

After referring to the *post-mortem* appearances, in which there are no specific lesions, and also to the pathology of opium-poisoning, Dr. Smith passed to the question of *diagnosis*, where he gave the differential points between

OPIUM-POISONING AND APOPLEXY,

such as inequality of the pupils in the latter and equal contraction (as a rule) in the former; inability to rouse the patient in the latter with ability to excite reflex movements, while in the former reflex movements cannot be induced, although the patient can be momentarily aroused; evidence of hemiplegia in the latter which are absent in the former, etc.

Uræmic coma lacks the characteristic pupil of opium-poisoning, and in *alcoholic* intoxication the pupils are not contracted.

The *prognosis* in opium-poisoning is extremely favorable if efficient treatment is employed. Persons have been rescued after the respiration had fallen as low as one in two minutes. Persons have recovered after taking five, six, and even eight ounces of laudanum. While, therefore, a sign of life remains, efforts at resuscitation should not be relaxed.

It is well known that in cases of *defective elimination by the kidneys* opium may cause dangerous or even fatal narcotism, when given in doses that would be considered trivial under normal conditions. The danger of using morphine when the system is under the influence of chloral, should also always be borne in mind.

The *treatment* may be considered under the following heads:

1. Evacuation of the stomach. (Tartar emetic should never be used, and ipecac acts too slowly.)
2. Administration of certain drugs, which are in some degree antagonistic to opium. (Nitrite of amyl, oxygen, coffee, and belladonna.)
3. Efforts to arouse the nervous system. (Flagellation, but not bruising; walking the patient; dashing cold and hot water alternately over the head and face; faradism, touching the tip of the nose or the rim of the ear.
4. Efforts to maintain respiration. (Artificial respiration, electricity applied to the phrenics in the neck, etc.)
5. Efforts to keep up the circulation and temperature. In connection with this point he referred to a paper by the late Dr. Gaspar Griswold, who showed that, in using electricity to stimulate the heart's action,

EXCESSIVE STIMULATION OF THE PNEUMOGASTRICS

tended to arrest cardiac action.

The withdrawal of a pint or more of blood from the veins and its replacement by a similar quantity of either milk or a saline solution, would be a rational method of getting rid of a portion of the poison circulating in the vessels, but Dr. Smith could not see any utility in adding a pint of milk to the undiminished bulk of the blood, as was unsuccessfully done by Dr. Gilliam, of Columbus, O., in a case reported by him a year or two ago in a St. Louis Journal.

Dr. W. H. Thomson spoke of the importance of recognizing the condition present, after the diagnosis had been made of opium-poisoning. He thought that the routine treatment was frequently to the detriment of these unfortunates, simply because what were supposed to be antidotes were remembered.

NEUROTICS HAVE NO ANTIDOTES.

All that could be expected, therefore, was that certain dangerous effects might be counteracted by the action of neurotics, to a certain limited degree and no more.

Probably no two cases of opium-poisoning were alike, nor would they be alike in the same person at different times. The same was true of chloroform. A woman with peritonitis bore chloroform badly; but in parturition she bore it almost without danger; while the same person in the dentist's chair might succumb instantly to the influence of the drug.

When called to a case of opium-poisoning, therefore, the exact condition of the patient should be studied with special reference to whether that condition could be counteracted by this measure, or that. He would look for indications somewhat as follows:

Are the cardiac stimulating effects of the drug still present or not? If the pulse was full and strong the patient was quite certain to recover. But in many patients depression of the heart, present previous to the taking of the opium, does not allow the drug to exercise its stimulating effect, and there is a weak pulse, and the indication then is for *the immediate use* of nitrite of amyl, nitro-glycerine, and oxygen, and with these belladonna. In one case he gave *twenty* drops of the tincture of belladonna every fifteen or twenty minutes until *four* drachms had been taken, and with marked benefit. He prefers the belladonna to hypodermatic injections of atropia.

But the cases which are dangerous are those in which belladonna is useless, if not injurious. The pulse has lost its strength, respiration is shallow, change cannot be produced in the pupil, the surface is cold and pale, and the perspiration is cold. In these cases do not try belladonna. Nor did he like to overstimulate with caffeine, for caffeine in large doses depresses respiration. In such cases, then, nitro-glycerine and nitrite of amyl were indicated, and also electricity.

But he would

WARN AGAINST THE USE OF ELECTRICITY

about the nostrils or throat, because all applications of that kind, including ammonia, to these parts slowed the respiration in health. On the other hand, the surface of the chest down to below the diaphragm should be faradized. One pole may be placed upon the nape of the neck, and the other passed over the precordia and down over the region of the diaphragm.

Dr. Beverley Robinson reported a case occurring in St. Luke's Hospital, in which there was generalized pulmonary emphysema, chronic bronchitis, enlarged heart, acute mania, and morphine-poisoning. The last-mentioned condition was treated with injections of atropine, artificial respiration, black coffee, the faradic current, and inhalations of oxygen. The patient was a man, sixty-eight years of age, and the case terminated fatally. The patient was also seen by Drs. Andrew H. Smith and James R. Leaming. After giving a detailed history of the case, Dr. Robinson made the following remarks:

"In reviewing this case I would add merely that it appeared to me, at the time, the patient was evidently suffering from the effects of an over-dose of morphine, and that he received as much benefit in starting the respiratory movements from

ARTIFICIAL RESPIRATION

as from the intelligent use of the faradic current. The battery employed was the small portable one of Gaiffe, in which the bisulphate of mercury is used as a chemical agent to start the current. An important observation of Dr. Smith's and of myself was that one pole of the battery could be employed with equal efficiency and less danger over the lower jaw and lobule of the ear than over the side of the neck, where the pneumogastric might be unduly stimulated, and thus, perhaps, occasion the sudden and complete arrest of the heart's action. This seems to be in accord with the conclusion arrived at by the late Dr. Gaspar Griswold, with respect to the use of electricity in morphine poisoning, who states (The Medical Record, February 28, 1885, p. 245) 'that under no circumstances should an electrical current, sufficiently strong to produce contractions of the muscles in any part of the body, be applied over the phrenic or pneumogastric in the neck.' It is also in accord with his statement (*Ibid.*, p. 246) that he would, under analogous conditions with those mentioned in the history of my case, rely more upon artificial respiration than upon electricity; in fact, this distinguished young observer remarks that in those cases 'in which morphine had entered a vein he would not use electricity at all.' That electricity may be applied, however, in these cases so as to stimulate respiration, and without at the same time occasioning any dangerous depressing effect, is obviously proven by the wise use made of the faradic current in the hands of Dr. A. H. Smith. I would also mention that even after the hypodermatic injection of one twenty-fourth of a grain of atropine, in all, there was no dilatation of the contracted pupils. Was our case one of those which succumb to the *secondary exhaustion* brought on by an an overdose of morphine? I scarcely believe so in view of the other complicating affections from which my patient previously suffered."

Dr. F. A. Castle spoke of the importance of estimat- the condition of the patient in each individual case. A considerable number of cases occur accidentally in those who are the subjects of chronic alcoholism. This class of cases give poor results from treatment. In suicidal cases the persons for the most part have as previous conditions, due to various causes, fatty hearts or disease of the lungs, with limited respiratory power, and in such cases the chances of recovery are comparatively small, and in proportion to the damage they have received from other poisons or previous diseases.

In persons who are not suffering from chronic alcoholism, etc., the chances of recovery are much better. But besides these, there are certain other conditions which require careful consideration, as already stated by Dr. Thomson, before resorting to

THE ROUTINE PLAN OF TREATMENT.

He believed that considerable caution should be enjoined in the use of atropine, lest thereby another source of danger was given to the patient.

Dr. H. B. Millard then read a paper [see p. 484] on

THE BEST TESTS FOR ALBUMIN,

with practical remarks relating to urinary examinations.

Dr. W. Mendelson had devoted much time to the making of urinalyses, and had reached the conclusion for himself that the method of boiling and then adding acid was relatively the best test for albumin that could be used. His method was to boil the upper portion of the urine in the test-tube, and then add a drop of acetic or dilute nitric acid. He regarded it as important to first boil the urine and then add the acid. By this method an excess of nitric acid would not dissolve the albumin. The substance most liable to be mistaken for albumin was mucin. He believed it to be doubtful whether exceedingly small traces of albumin were pathological. A point which he obtained from Dr. John G. Curtis, and which he looked upon as a valuable one, was the fact that albumin was generated in urine by the death of bacteria. In all cases where only very slight traces of albumin or of doubtful substance can be found, a microscopical examination of the urine should be made, and may materially aid in deciding whether or not

ALBUMIN IS PRESENT.

Dr. Charles A. Doremus said it was important to *first* ascertain the reaction of urine submitted for examination. In the second place, the urine should be perfectly clear; and to accomplish this precipitation was preferable to filtration. He believed it to be wise to use a corroborative test, whichever of the numerous tests might be adopted. The ferrocyanide test, it properly applied, he regarded as sufficiently accurate. Heat was a delicate test, but it was very apt to be used too hurriedly. The nitric acid, also, was extremely delicate.

Dr. George B. Fowler also spoke of the great importance of first ascertaining the reaction of the urine, and he indorsed the method mentioned by Dr. Mendelson, namely

BOILING FIRST AND THEN ADDING A DROP OF ACETIC OR ANY OTHER DILUTE ACID.

Heat does not precipitate albumin in alkaline urine, and too much acid will give the same result. Alcohol would clear up certain precipitations, with watery solutions, but in urine it would not answer. The best method he had employed for *filtering* urine was through thoroughly washed sand.

Dr. W. M. Carpenter doubted if such slight traces of albumin in urine as four one thousandths of one per cent. had a special clinical significance in the midst of so many external influences—and also internal, independent of renal disorders—that give rise to the transient presence of small quantities of albumin in the urine. At the same time, it was a wise precaution to keep such cases under observation. As to bacteria developing albumin, he had always declined to give an opinion concerning the presence of either albumin or casts when the urine was well charged with bacteria, and asked for another specimen. Urine that contains casts may become

FREED FROM CASTS AS BACTERIA MULTIPLY.

Heat and nitric acid were the tests for albumin on which he had relied.

Dr. Robert J. Devlin mentioned a filter which he had prepared by pouring upon it a freshly made precipitate of magnesia, obtained from dilute solutions, so that it may be as finely divided as possible. When the filter is thus coated with a thin gelatinous deposit, carefully add the urine—either the entire sample or the lower stratum simply, in such a way as to disturb the film on the paper as little as possible. Then scrape off the entire deposit while moist, and mingle in a test-tube with sufficient very dilute nitric acid to clear up the magnesia. The organized deposits can thus be obtained in a very concentrated condition for microscopical examination.

Dr. A. H. Smith had had satisfactory results from the use of picric and citric acids.

Dr. W. G. Thompson thought that the most accurate and delicate test was one which could be most easily applied, and that was boiling the urine first and acidulating it afterward. He preferred reflected to transmitted light in examining the specimen while the test was being applied.

Dr. F. J. Bowles had found that nitric acid would in some instances precipitate albumin when heat and nitric acid would not.

Dr. Fowler remarked that there were specimens which yielded a precipitate to nitric acid, but would not to heat, and *vice versa*, so that in each instance both heat and nitric acid were the most delicate respectively.

The Chairman asked if granular casts had been found in the urine without albumin being present at any time.

Dr. B. Robinson had seen kidneys that were the seat of chronic diffuse nephritis, in which repeated examinations detected both albumin and casts, and afterward neither the one nor the other.

Dr. Millard had met with a number of instances where albumin had been absent, and yet granular casts were found, and he believed that albumin might appear in the urine without disturbance of the uriniferous tubules. He had long since discarded the picric-acid test. Peptones and protein bodies would not always disappear under heat. Heat and nitric acid were very delicate tests for chemists, but he thought that they were less likely to prove so for the general practitioner. Heat was the most available of all tests, doubtless, if all precautions were observed. That casts would disappear when bacteria were present was a new point to him.

The Section then adjourned.

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, March 1, 1887.

Charles L. Dana, M.D., President, in the Chair.

Dr. H. M. Biggs reported a case of

ALCOHOLIC PARALYSIS DUE TO MULTIPLE NEURITIS.

The patient was a married woman, twenty-five years of age, who had been a moderate drinker. About six weeks before death she began to have pains in her legs, followed by weakness, and she rapidly developed a painful, wasting paralysis, involving the legs chiefly and the arms slightly. In the lower extremities there were hyperæsthesia, paræsthesia, and reaction of degeneration over affected muscles. The extensors were most involved. There was no implication of the bladder or rectum. The temperature on admission to the hospital was 100° F. The woman died of intercurrent pleurisy.

Autopsy.—Patient greatly emaciated. Legs and thighs markedly flexed. Muscles of the legs of a yellow color, and apparently converted almost entirely into fat. Muscles of thigh much less affected. Spinal cord and nerve-roots and -trunks normal in appearance.

Microscopical appearances.—Spinal cord apparently normal, with the exception of slight sclerosis in the columns of Goll in the cervical region. Nerve-roots normal. In one of the sacral nerves before its exit from the spinal canal was found a marked increase in the endoneurium, with diminution in the number of the nerve-fibres, and an irregularity and indistinctness in these appearances. The right sciatic nerve showed the same changes more marked. In the posterior tibial nerve the process was even more advanced, and in this only an occasional nerve-fibre could be detected. Microscopically, the gastrocnemius was composed almost entirely of adipose tissue; only here and there atrophied muscle-fibres were found. The small nerve-trunks in the muscle showed advanced degenerative neuritis, with comparatively little new growth of connective tissue in the nerves.

The President thought that in this case it had been fully demonstrated that the alcoholic paralysis was due to a neuritis, and not to a myelitis. This was the first case with autopsy presented in this country.

Dr. M. A. Starr had seen the specimens, and said there was no question with regard to the existence of neuritis, in this case, and the normal condition of the anterior cells of the spinal cord. There was slight sclerosis in the columns of Goll, which he was unable to explain. The same condition had been observed in a case of Hamilton's recorded by Granger Stewart.

Dr. Biggs said that, contrary to the ordinary condition found, the process seemed to be more a degeneration of nerve-fibre than an interstitial neuritis, especially in the smaller nerves.

Dr. Noyes spoke of the frequent occurrence of amblyopia with alcoholism, and said it was due to a partial neuritis of the optic nerve, referred, as had been shown, to the centre field, and not to the field at large. He suggested that in cases like the one reported by Dr. Biggs the neurologists should make careful examination of the optic nerves. In reply to Dr. Starr, whether scotoma was due as frequently to tobacco as alcohol, he said it might be due to either, but the patients frequently combined the two habits.

The President said the name alcoholic paralysis was in some cases rather begging the question; this patient, it seemed, had been only a moderate drinker. He had observed other cases in which the alcoholic element was small.

ABSTRACT OF DR. STEVENS' PAPER ON IRRITATIONS ARISING FROM THE VISUAL APPARATUS CONSIDERED AS ELEMENTS IN THE GENESIS OF NEUROSES.

Two classes of influences were recognized as causes of functional nervous disorders—the remote and the im-

mediate. The remote causes may be sufficient to perpetuate a neurosis when once a nervous irritation has been instituted. While immediate causes rarely induce long-continued disorders, a pre-existing influence may serve to continue it indefinitely. It is of little practical importance that some exciting circumstance has given rise to a nervous trouble. The event has passed and cannot be recalled. If there is an underlying cause it is of much more importance.

Persons in whom underlying causes of a neurosis exist are said to possess a neuropathic predisposition, and those subject to it are liable, from trifling immediate causes, to suffer from various neuroses. In a considerable proportion of cases the neuropathic tendency is hereditary; but the result is not always manifested in the same form in different generations.

A third class of cases which should be recognized may be designated as *modifying tendencies*, among which may be mentioned vitiated atmosphere, the period of life, and the performance of certain physiological functions.

Often, as a result of the predisposing influence, when one form of complaint is supposed to be cured, the subject of it is simply suffering from some other form.

Must the predisposing cause of neurosis be general, pervading the whole organism, or must it of necessity be located in the great nerve-centres, or may it be entirely local and outside those great centres? Undoubtedly it may be local, and confined to any portion of the nervous system.

Inasmuch as the tendency is often hereditary, may not the evil consist of some peculiarity of anatomical structure or of physiological adaptations which are inconsistent with the most regular and easy performance of the function of a part or parts, and may not certain classes of mechanical peculiarities be unusually liable to become factors of physiological disturbance?

If we answer in the affirmative we assume a hypothesis which must be maintained by long-continued observations, conducted in a spirit of judicial independence, and free from the bias which might result from occasional and exceptional experiences. The conclusions announced this evening are based upon observations in more than five thousand cases in private practice, and of a considerable number in public institutions, all of which have been made with as much precision as the exacting demands of an active professional life would permit. The central truth, as arrived at by these observations, may be stated as it has already been done in a memoir to the Royal Academy of Medicine of Belgium, in 1883, as follows:

"Difficulties attending the functions of accommodating and of adjusting the eyes in the act of vision, or irritations arising from the nerves involved in these processes, are among the most prolific sources of nervous disturbances, and, more frequently than other conditions, constitute a neuropathic tendency."

In the proposition all causes of nervous irritation are recognized. It is held that the influences indicated are pre-eminent, but not exclusively permanent causes. Let it be remembered that it has been universally conceded that the nature of the neuropathic tendency is unknown. If one pre-eminently important element is demonstrated, it is not to be rejected because it may not include the whole.

The speaker proposed only to illustrate the result of his experience by exhibiting some photographs of cases of notable neuroses which showed very remarkable changes of physiognomy, such as habitually occurred when certain hurtful tensions of the ocular muscles were relieved. If he had designed to present only the most remarkable cases of the class to which these belonged, he should have chosen only a few of them. The design was, however, only to show by these contrasting photographs the very notable improvement which, in obstinate, and by ordinary means hopeless, cases of the most important neuroses, might be expected from relief from certain hurtful tensions of the eye-muscles.

The portraits were in pairs, the first having been taken at the commencement of treatment, the second at a later period—the interval being, on an average, about one month. The first series represented cases in his private practice; the second series, cases which were under his care for a short time, at the Willard Asylum for the Insane, last summer. The first series had been made by various photographers; the second, by Dr. P. U. Wise, Superintendent of the Willard Asylum. Thirteen pairs of photographs were exhibited—nine of the first and four of the second series. In all these, very striking contrasts existed between the first and second portraits.

In No. 1, a weary and listless young girl, a sufferer from headache, and who had never been able to attend school, is seen to be transformed, in twelve days, into a vivacious and thoroughly awake child, following relaxation of each of the inner eye-muscles. The change in health was marvellous. In No. 2, an epileptic girl, whose vacant gaze and half-open mouth indicated a profound degree of dementia, within a single month put on an appearance of robust health and of lively intelligence. In another case, a boy, choreic from infancy, and imbecile, whose constant movements were too rapid even for the modern photographer, showed, in the second photograph, from which the distortions of the face and wrinkles in the skin had disappeared, a clever mental state.

The speaker related in brief some of the results of a short season among the most hopeless cases of the Willard Asylum for

THE INSANE.

Two of these hopeless cases, who had during the month preceding treatment directed to the eye-muscles been subjected to about one hundred and seventy convulsions, suffered only about forty convulsions in the month succeeding that treatment, notwithstanding the withdrawal of all bromides.

FIFTY PER CENT. OF EPILEPTICS

so treated had remained well for a length of time varying from many years to only a single year, but sufficiently long to indicate that a great change had been wrought. Thirty-two per cent. had received very marked relief, but little short of absolute cessation of the complaint. They were all better without drugs than they had formerly been with. In seventeen per cent. no good results had been obtained.

The speaker thought that, with a better understanding on his own part of the extremely complicated conditions of the ocular muscles often found in epilepsy, this record could be improved.

The methods of procedure in examining for muscular defects was given. It differed radically from that proposed by Graefe and generally adopted, and from other methods which had been suggested. His method of performing tenotomy was also described.

Dr. E. C. Seguin said, with regard to the etiology of neuroses and serious mental disorders, that he thought we ought to look a great deal deeper than the exciting and superficial causes which occurred in many cases of that kind. In epilepsy and chorea, for instance, he thought we had to look for the efficient cause, not in disturbed external apparatus, but to hereditary predispositions and faulty tendencies. That faulty external apparatus would cause more attacks, or possibly aggravate the mental disorder, he thought no one would deny; consequently the optic apparatus, the genital apparatus, etc., should be put in perfect order. As to the great improvement after tenotomy in epilepsy, the records of surgery and medicine were filled with cases in which trauma of various kinds had interfered with epileptic manifestations for months, or even years. It seemed to him the report of a case within six months after tenotomy was rather premature. He referred to one of his cases of epilepsy,

recently submitted to division of the ocular muscles, the bromides at the same time being withdrawn, and three days later she commenced to have from six to twelve convulsions in the twenty-four hours—more than she had ever had before the operation. He had had patients go three years without an epileptic attack, and then have a relapse.

Dr. H. D. Noyes thought the precise ocular conditions in the cases reported should have been recorded; perhaps they were in that part of the paper not read. He had with him exact records of a number of cases of ocular trouble, with the result of treatment. It had not fallen within his experience to meet with the class of cases referred to by Dr. Stevens. He dwelt upon the importance of making a thorough ocular examination, including that of the muscles of the eye, in every case. He had come to realize more and more the importance of insufficiency of the external recti. He had obtained benefit in many cases from prisms. He spoke of the method of examination and of performing tenotomy. The paper deserved the most careful consideration.

Dr. D. B. St. John Roosa said that the real point in the paper was, he thought, that the correction of errors of refraction, improper relation between the ciliary and internal recti muscles, and other deviations of the ocular muscles, was capable of curing constitutional disease. He took it that epilepsy was a constitutional disease, and not merely a functional disturbance. The same was true of chorea. The question was, Did these operations cure epilepsy and chorea? But it had been shown that people with chorea got well without ever having errors of refraction corrected. It had also been shown that the vast majority of people who were not myopes were hypermetropics, yet suffered no inconvenience from it. In this the author's second paper another step had been taken—namely, that these constitutional diseases, epilepsy and chorea, were due, not solely to errors of refraction, but to want of co-ordination between the recti and ciliary muscles. Then the prism-test came upon the field, and we had to exercise the ocular muscles by prisms. Then in the order of advance came the doctrines taught in the paper of to-night. Granting the claims of the paper, that the patients had for a time after correction of an ocular difficulty been greatly relieved, possibly cured, yet that was a long way from assuming that the ocular disturbance, whatever it was, was the cause of the epilepsy. Many great men having strabismus had not become choreic, epileptic, nor insane.

Dr. A. L. Ranney thought that, following the exhibition of the photographs, little need be said in confirmation of the views advanced by Dr. Stevens. The photographs were so startling that they would be accepted in any court of justice by an unprejudiced jury as proof that unmistakable benefits had been derived from the treatment. He had personally seen and examined several of the cases, and he considered the published histories as decidedly underestimated. Dr. Ranney had performed the operation for the relief of ocular insufficiency nearly two hundred times, and had carefully examined the condition of refraction and accommodation, as well as that of the ocular muscles, in several hundred subjects afflicted with various forms of nervous disease. He did not pretend to pose as an oculist, but as a neurologist. Originally he was a sceptic, but his scepticism became no longer tenable when he saw a choreic and epileptic imbecile, in Dr. Stevens' office, who was perfectly restored in a short time to health and mental sanity by the method he had described. He thought the paper would tend to establish a new era in neurology. Regarding the operation, in no case had he had bad effects from it, but the treatment required careful regard to detail.

Respecting the view that the eye is an important factor in creating and prolonging the so-called "neuropathic predisposition," the following facts were pertinent: 1. No one has yet shown in what this predisposition lies; hence, if Dr. Stevens has shown that eye-defect is an important element in these conditions a great advance has been made. 2. There is no recognized pathology in functional nervous diseases. 3. Heredity is very common in these affections. 4. My records, in common with those of Dr. Stevens, go to show that eye-defect is found in a very large proportion of such subjects. 5. Many of the eye-defects found can be shown to be congenital, being inherited like feature. 6. The manifestations of the neuropathic predisposition vary with each case, and are called forth often by trivial circumstances which are too frequently regarded as of great clinical interest.

In the treatment of the severer forms of functional nervous disease—for example, in chronic epilepsy—one radical cure without the aid of drugs offsets a thousand failures as a proof of the scientific value of a discovery. Dr. Stevens had seven cases free from epileptic seizures for more than five years after tenotomy of the eye muscles, and without the aid of drugs. This could not be explained by chance. Then the records of the Willard Asylum were hard to contradict.

During the past year and a half he had seen sixteen epileptics in private practice; in only one was no defect in the eye-muscles found. He had an opportunity to operate on the eyes in eight of the cases—three of these were cured; two had had no fits for over a year; in the five cases still under observation the attacks had been lessened in all, drugs having been withdrawn. One had been reported by Dr. Stevens. In headache and neuralgia he had had some very remarkable results from tenotomy of the eye-muscles; also satisfactory results in hysteria and hystero-epilepsy.

Dr. Hermann Knapp said his practice had not brought him much in contact with people who had neurotic conditions, and most of those whom he had seen had passed into other hands. He was very much surprised to learn that there was so high a percentage of ocular difficulties in the patients Dr. Stevens examined in the asylum. He thought nervous people generally showed not only one complaint. Many people, especially young ladies, who suffer from headache, etc., cease to complain after correction of a deviation of the eye-muscles, etc. He had listened with the greatest attention to Dr. Stevens, and he felt quite sure that his work was not only legitimate, but that it was highly promising. He was only afraid we would not be spared disappointments in that line of treatment.

Dr. Gruening said his experience had been very much like that of Dr. Knapp. He always examined for muscular defect, and said that when one placed a prism before the eye it disturbed binocular vision. For the correction of this apparent muscular defect an operation was performed, but the muscle was sewed to its original place, or the lateral attachment was not divided; and this was only the simulation of an operation. He had benefited many patients by cylinders.

Dr. Stevens, in closing the discussion, said there was no suggestion in the paper regarding cures. He did not believe in cures. Take away the cause of the trouble and they got well. If the patients could not be said to be cured, it was still a very fortunate thing that they had got rid of their chorea, epilepsy, etc.

Bicarbonate of Sodium in the Treatment of Gonorrhœa.—It is now generally admitted that gonorrhœa is a parasitic affection. Observation seems to prove that the parasite can only exist in an acid medium, and the injection of non-irritant alkalies naturally suggests itself. Before commencing treatment, Dr. Costellan ascertains by means of litmus paper the acidity of the pus—a sure indication of the nature of the affection. He uses a one per cent. solution of bicarbonate of sodium, to be injected three or four times daily. From seven to eight days' treatment is generally sufficient to procure a marked diminution in the quantity of discharge, and convalescence is rapid. The injections at once relieve the scalding which accompanies micturition.—*The London Medical Record.*

Correspondence.

LOCAL TREATMENT OF DIPHTHERIA.

A Note from Professor J. Lewis Smith.

To the Editor of The Medical Record.

Sir: When Dr. Jacobi writes on diphtheria, as indeed on any other subject, his remarks extend our knowledge and abundantly repay perusal. I read with great satisfaction his recent paper on diphtheria, until I came to the sentence recommending emetics, and especially the following sentence: "When Dr. J. L. Smith quoted me as having advised the inunction of mercurial ointment into the region of the larynx, he mistook my meaning." I am sorry that one who has contributed so much to pædiatric literature should find his views on diphtheria quoted wrongly. I cannot now remember in which journal I saw his remarks, which I looked over more than once. I will endeavor to find them when time permits. The mistake may have been with the reporter, who, at the society meetings, if there happen to be any unusual noise, as by the entrance of members, does not always catch the meaning. The late Dr. Peaslee, who will long be remembered in New York for his interesting, instructive, and pertinent remarks at our evening meetings, once said to the writer that he took little pleasure in seeing his opinions in print, on account of errors made by reporters. But he excepted in his general condemnation of reporters the one who has since, in the editorial chair, raised The Record to its present high position among the journals of this country. So Dr. Jacobi's wrongly understood remarks were probably not seen in The Record.

It was certainly gratifying to physicians, who wish to extend and establish in this country the best possible treatment of diphtheria, to observe how, at the recent discussion, with one exception, mild and unirritating, but frequent and efficient antiseptic applications to the local disease were recommended. Did I not know that the columns of The Record are overcrowded, and much matter excluded through want of space, I would be glad to extend my remarks. But allow me one word in reference to the instruments used for local treatment. Those most frequently used are the bulb with stem attached, the small syringe, glass or gutta-percha, various forms of atomizers, the probang, and camel-hair pencil. I will state my experiences with these instruments. In treating the nostrils we all agree that the solution should be used warm and as often as every second hour, if there be evidence of a nasal pseudo-membrane. The mixture employed should be antiseptic and non-irritating. The bulb with attached stem answers for this purpose, if the head be thrown back, but the stem presses against the nasal orifice, and if this, as is often the case, be inflamed and tender, it causes stout resistance on the part of the child, and in the struggle there is risk that the wash be thrown into the eyes, unless they are covered. If the slender and straight point of the medicine-dropper be substituted for the large and blunt stem, the application can be made with less pressure and less resistance. For infants under the age of eighteen months the hand-atomizer, as found in the shops, if the point be straight and the bulb be of large size, answers the purpose, but with this objection, that two or three compressions of the bulb and as many removals to fill it will be required for each nostril. The instrument holds nearly one drachm. I have used various syringes with tapering and bulbous nozzles, and Delano's hand-atomizer as employed by Dr. Billington. The objection to the latter is that the sharp point is very apt to prick the nostril and cause bleeding if the child resist and rotate the head. In former times I prevented this accident by drawing india-rubber tubing over the point. But I believe that the best of all hand instruments in the treatment of nasal as well as pharyngeal and laryngeal diphtheria is one constructed upon the principle of Millard's atomizer, not the one with long slender point, which bears this name, but with a bulbous end. This can be used when pressed lightly on the nasal orifice, throws a heavy spray which flows through the opposite nostril, even when the head is erect, and washes the fauces with only two or three compressions. In the treatment of laryngeal diphtheria by the ordinary atomizer, I have reason to think that much of the liquid is caught upon the tongue, but this does not occur in the use of Millard's atomizer, since the bulb acts as a tongue-depressor. The steam atomizer also has an important use in the treatment of the various forms of diphtheritic inflammation.

Yours truly, J. Lewis Smith, M.D.

SHOULD PREACHERS PAY?

To the Editor of The Medical Record.

Sir: Every now and then some doctor, with a queer notion of the dignity of his profession, insists, through the columns of The Record, that preachers ought to be charged fees for medical services rendered them. If the gentleman will allow me, I should like a word with him.

It seems to be your idea then, doctor, that, not getting a fee, you receive nothing at all for such work; that it is so much charity done, and that, too, where the recipient is no object of charity. We plead guilty, in the preacher's name, to the last specification. He is no object of charity, and though I don't profess to be able to speak for all who wear the badge of the profession, I feel that I may confidently answer for the very great majority of ministers of the Gospel, when I say that if there was no question involved but a mere one of dollars and cents, they would scorn your services upon such terms. They know, however, this custom is justified by the precedent of ages upon ages gone by. They know, too, that it is one which will hold for ages yet to come, and that it originated and has been fostered in the hearts of good men in medicine, who not only did it cheerfully, but who have felt it a privilege to do it—not, possibly, recognizing any peculiar claim upon them from ministers as men, but upon the much higher consideration of respect for the cause in which these men are engaged, and a desire to aid them in it. They honor the man "for the work's sake."

But is it really true that you get nothing back? If you appreciate the benefits Christianity bestows upon a country sufficiently to have it take you to church even once a week, and you would have this matter reduced to a commercial basis, even though you be a liberal subscriber to the fund for carrying on the church work, it is not at all likely your subscription amounts to as much as you would charge a man for an hour of your office-time once a week the year round. Yet your minister serves you, not only one hour per week, but several, and serves not only yourself, but all the members of your family share equally with you in the benefit derived. Balance this account, and tell The Record, honestly, are you loser or gainer? This, however, of course has no regard to the action of such physicians as doubt that any good at all accrues from preachers and their belongings. If you be of this opinion, then by all means collect your fees. The minister certainly has no claim upon you, at least none by virtue of his office, and only upon that score does he *allow* you to do this work gratis. Only please stop with the exercise of your own prerogative, and let the rest of us have the gratification of doing the minister's practice as often as the opportunity presents itself—thankful for the opportunity, first, of rendering a small service to the God who blesses us all the same as if we were better men than we are; and, second, to attest the real dignity of a profession whose aims and ends are a thousand miles beyond being estimated at a price.

Very respectfully, John C. Bogle, M.D.

Danville, Ky., March, 1887.

MORE ABOUT THE DOCTOR'S HORSE.

To the Editor of The Medical Record.

Sir: What, in part, a doctor's horse should be, as seen by one on the border line. Be it gelding or mare, it should not be large or small, weight close to one thousand pounds for road or city; it should have small, pointed, quick-moving ears; large, bright, prominent eyes, no deep cavities about them. Face should be broad—broad between the eyes. Nose straight, nostrils large. Head as a whole small, throat thin, no enlargements about the cartilages, neck arched, mane moderate in quantity and length. Breast only moderately broad or full. A great breadth indicates weighty strength and slowness of motion. The other extreme implies want of lung-capacity. Chest and body should be moderately full; abdomen should not taper rapidly or appear tucked up—it indicates feeble digestion. When driving the dejections should be studied; well moulded and moderately firm balls are desirable. The dock should be strong and resisting when raised by the hand. Fore-limbs straight, upper arm full; lower, good-sized, not small or thin; feet large, round, spreading, concave underneath. Hind-legs straight in line of long bones, not fine; feet good-sized, not so large as fore-feet. Coat fine, not too long. Now, Mr. Young Doctor, after driving the horse, if his style and action suit you, go to the stable, see him led into and out of the stall; wait until he is fed. If oats are given him, or any other grain, and he plunges into them with a will, chews actively, works as though he enjoyed his meal and is in a hurry to get them eaten up, buy before you leave the stable if the price suits you. Of course, you should know whether or not there is existing disease of any kind. In earlier life I bought on a warrant. The brown horse generally is sound, kind, and free from all manner of tricks.

Sig.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from April 17 to April 23, 1887.

Smith, J. R., Lieutenant-Colonel and Surgeon. Detailed as member of board to meet in Washington, D. C., April 28th, to prepare rules and regulations for the government of the Hospital Corps of the Army. Par. 8, S. O. 92, A. G. O., April 21, 1887.

Taylor, Morse K., Major and Surgeon. Relieved from duty at Fort Sill, Ind. Ter., May 10, 1887; to proceed home, San Antonio, Tex., preparatory to retirement. Par. 20, S. O. 92, A. G. O., April 21, 1887.

Heizmann, Charles L., Major and Surgeon. Detailed as member of board to meet in Washington, D. C., April 28th, to prepare rules and regulations for the government of the Hospital Corps of the Army. Par. 8, S. O. 92, A. G. O., April 21, 1887.

Ainsworth, Frederick C., Captain and Assistant Surgeon. Detailed as member of board to meet in Washington, D. C., April 28th, to prepare rules and regulations for the government of the Hospital Corps of the Army. Par. 8, S. O. 92, A. G. O., April 21, 1887.

Moseley, Edward B., Captain and Assistant Surgeon. Ordered for duty at Whipple Barracks, Ariz. Ter. S. O. 89, A. G. O., April 18, 1887.

Cabell, Julian M., First Lieutenant and Assistant Surgeon (recently appointed). To proceed to Fort Omaha, Neb., and report in person to the commanding officer of that post for temporary duty. Par. 19, S. O. 92, A. G. O., April 21, 1887.

Official List of Changes in the Medical Corps of the United States Navy for the week ending April 23, 1887.

Russell, A. C. H., Passed Assistant Surgeon U. S. N. Ordered to duty at Naval Laboratory, New York, May 2, 1887.

A. C. Heffenger, Passed Assistant Surgeon, U. S. N. Ordered to Widow's Island, Me., to superintend building a naval hospital, wharf, and other improvements under instructions of the Surgeon-General of the Navy.

Woodruff, Charles E., Assistant Surgeon, U. S. N. Resignation accepted, to take effect April 8, 1887.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending April 23, 1887:

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	4	1
Scarlet fever	53	12
Cerebro-spinal meningitis	4	4
Measles	75	9
Diphtheria	72	36
Small-pox	3	2
Yellow fever	0	0

Cauterization in Diphteria.—Dr. T. J. Hutton, M.D., of Fergus Falls, Minn., writes: "In The Record's report of my remarks at the Academy two errors appear which, if permitted to go uncorrected, would render my plan of treatment null and void. 1. The expression 'twenty to fifty grains of lunar caustic *to an ounce of water*,' should read 'twenty to fifty grains of lunar caustic *to a drachm of water*.' 2. I use solution of lunar caustic exclusively, having satisfied myself that a solution of nitrate of silver of equal strength by weight is not as efficacious for the purpose now under consideration."

The Earliest Reference to Syphilis (?) in the Bible.—Dr. J. H. Straughn, Lexington, Mo., writes: "I think I have discovered the earliest reference to syphilis which is to be found in the Bible. In Deut. xxviii. 27, we read: 'The Lord shall smite thee with the emerods;" in the French Protestant Bible we also read, 'hémorrhoïdes,' but in Luther's Bible the word used is 'Feigenwarzen.' Now 'Feigenwarze,' according to Adler, means 'a pimple, a venereal boil.'"

Biliousness and its Various Interpretations.—Dr. French of Noroton, Conn., writes that, on making inquiries of a woman about a former patient, he was told that the man's wife said he had "biles on the liver," which the informant interpreted as meaning abscess of the liver. Another neighbor, being asked about the same case, replied that the man had "piles in the liver, or something of that sort."

The Introduction of Cholera into Chili.—Dr. John Trumbull sends an interesting account of the mode in which the cholera found its way into Chili despite the greatest precautions taken to prevent its entrance. "No country," he writes, "could be better situated than Chili to withstand the attempted invasion of such a disease as cholera. No better boundaries could be desired than the extensive desert on the north, separating the country from Peru and Bolivia, the Pacific on the west, and the unbroken mountain range on the east. The Andes, furthermore, form a natural watershed, thus preventing contamination of the water-supply by the inhabitants of neighboring countries. the sole danger therefore lay in importation of the disease by infected clothing or in the person of fugitives from the eastern side of the mountains. Every

port of Chili was absolutely closed to vessels coming from the eastern coast of South America, and guards were stationed at the mountain passes. A dozen of the most frequented passes were thus closed, but, the winter being a dry one, the fall of snow was light, so that more than a hundred of the less well-known passes are said to have been open. The introduction of the disease was traced directly to a party of fugitives coming from the Argentine Republic. A cattle-dealer, with four servants, crossed the mountains and remained concealed for a time in the village of Santa Maria. One of the number was sick, and five days later, on Christmas, 1886, the first authentic case of cholera occurred in the person of a laborer in that village. As soon as the nature of the disease was recognized, a military cordon was placed around the infected district, and the branch railroad leading therefrom was closed. But an exodus from the place had already commenced, and on December 30th, one of the fugitives died immediately after his arrival at a small station of the main railway line, forty-five miles from the seaport. Four days later the man who had attended this case sickened and died, and thus a second centre of infection was established. This case was an exception to the general manner of the spread of the disease, the water having been the carrier of the infection. In Chili, artificial irrigation is relied upon in agriculture, and the river water is carried through small canals (*acequias*), traversing the valleys in every direction, and furnishing the supply needed for drinking, cooking, and bathing. The canals then act as sewers, the water-closets being built over them,are next used for purposes of irrigation, and finally empty again into the river. No cordon could be of avail under such circumstances, and it was along the banks of the acequias, carrying the waste matter from the village of Santa Maria, that the disease next disclosed itself. After that a section of country, miles away, but on the bank of the same river, and drawing its water-supply from this source, was invaded. As yet the disease has not spread from the district supplied by the Aconcagua River, but several suspicious cases have appeared elsewhere, and much anxiety is felt concerning the future." Dr. Trumbull's letter, of which we have been compelled from pressure of other matter to give but an abstract, possesses a peculiar interest, since it seems possible that the disease may be brought to this country from the west coast of South America. Cases of suspected cholera are said to have been noted at the Isthmus, and if the disease becomes prevalent there, there will be great danger of an invasion of our own country.

An Analysis of Two Hundred and Fifty Autopsies on Drunkards.—Dr. Formad, in a paper on the above subject, considered the most conspicuous lesions to be cyanotic induration of the kidneys, fatty infiltration of the liver, and a mammillated stomach. His cases had been those in which there had been a history of a long-continued series of debauches, the subject often dying in one of these debauches, and did not include moderate drinkers or those who perished after imbibition of an enormous quantity of alcohol without any previous chronic excesses. He thought that the exposure, irregularities, of diet, etc., incident to a state of drunkenness, had much—probably more than the alcohol itself—to do with the production of the lesions; but it was not at all possible to separate one from the other. He gave a long list of lesions considered by various authors to be results of chronic alcoholism, among which the cirrhotic liver with contraction held a prominent place. He had himself at one time considered cirrhosis a very frequent, if not almost necessary, concomitant of long-continued, excessive use of alcohol, and had even testified in court that a certain person was not likely to have been a hard drinker, because at the autopsy no cirrhosis of the liver was found. He had thought, too, that the connection between the two was so close that it was impossible to have a case of cirrhosis without a previous history of alcoholism, as is held by various authors. Therefore, it was surprising to him to meet in his two hundred and fifty autopsies with only six cases of cirrhosis of the liver with contraction. In two hundred and twenty cases the liver was considerably or even very much enlarged, the enlargement in most cases proving to be due to a fatty infiltration. Cyanotic induration of the kidney and chronic gastritis, with mammillation of the stomach, were found in nearly every case. This cyanotic induration is peculiar, and differs from the cyanotic induration due to heart disease.—*Philadelphia Medical Times.*

Nitro-glycerine in Suspended Animation.—An interesting case is reported in the *Sei-i-kwai*, a medical journal of Japan, of the resuscitation of a woman, apparently dead, by the hypodermatic injection of nitro-glycerine. A Mrs. Fraser, of Chicago, a few days after childbirth sank from collapse, and life was believed to be quite extinct. Dr. M. H. Sackersteen, who was in attendance, after having administered various remedies, was about to abandon the case as hopeless when it occurred to him to try nitro-glycerine. He injected ten drops of a solution into a vein. A minute elapsed before his patient gave a slight gasp; in another minute this was followed by three or four gasps, and after the third and fourth minutes the pulse was felt, and the heart was distinctly heard; a flush came over the face of the patient, the eyes opened, and the muscles, which had assumed the rigidity of death, gradually relaxed, and she became conscious. In a few days Mrs. F. made a good recovery. It has has been suggested that the hypodermatic injection of nitro-glycerine should be tried in all cases of collapse or death from an overdose of chloroform and shock from surgical operation. Martindale, in his "Extra Pharmacopœia," gives several forms for the administration of nitro-glycerine in solution, hypodermatic injection when the patient cannot swallow, or drops, tablets, etc., all being perfectly safe, stable, and palatable. His tablets or troches are quite attractive in appearance, and cannot be distinguished by taste from ordinary chocolate creams. No child would refuse them. —*Medical Press.*

Treatment of Psoas Abscess.—Dr. William A. Byrd, in his surgical report of St. Mary's Hospital, at Quincy, Ill., says: "There was one death from psoas abscess that was operated upon, in 1885, by making an incision at the lower portion of the abscess and passing a probe up through the sinus and opening upon the point of the probe above the ilium, then following the sinus along upward with the probe and opening at different points, so as to secure perfect drainage. He died worn out by suppuration. The autopsy revealed aberrant sinuses running down among the muscles of the pelvis and thigh that could not have been discovered by that method of operating. The next case of this kind that I saw was with Dr. J. C. Hearne, of Hannibal, Mo. In that case we cut into the pus cavity just above the pubis and laid the whole cavity open from there to the junction of the twelfth rib with the spinal column, a distance of nineteen inches. By that means every recess was reached, thoroughly cleaned and rendered as nearly aseptic as possible, although the inner wall of the cavity was the peritoneum; it was greatly thickened by the inflammatory process, and was strengthened by deep stitches of large catgut two or three inches apart, to allow of free drainage, and then a tightly-fitting bandage was applied. In five or six weeks he was up and around the streets.

Gelatine-Coated Pills.—Dr. C. C. Stockard, of Columbus, Miss., referring to a communication of Dr. Boyd concerning the insolubility of gelatine capsules, writes that he has frequently seen gelatine-coated quinine pills pass from the bowel undigested, even where there was no gastric inflammation. He has never known this to occur with freshly filled gelatine capsules, nor with gelatine-coated pills, except those of quinine. The latter he regards as so unreliable that he never prescribes them.

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BALDNESS: WHAT CAN WE DO FOR IT?[1]

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THERE is probably no one subject in medicine of which the average practitioner is less informed than that of the hair. And yet the subject is important, and everyone should have a clear idea of the resources and limitations of our art in the care of the hair and the treatment of baldness. It is the aim of this paper to point out the varieties of baldness, to throw as much light as possible upon its causation, and to show what and how much may be done in the treatment of it.

The four main varieties of alopecia are: 1, Alopecia adnata; 2, alopecia senilis; 3, alopecia prematura or presenilis; and 4, alopecia areata. The last variety will not be considered at this time, as I have recently contributed a paper upon the subject to the *New York Medical Journal*—in February, 1886.

Alopecia adnata is that form of baldness which is congenital, as its name would indicate. It is comparatively infrequent. An infant is born either with a good crop of long, colored hair which early falls out, to be replaced with light-colored permanent hair, which soon grows darker; or it is born with colorless hair in greater or less abundance, which gradually becomes darker; or it is born with a perfectly bald head. In the majority of cases this last condition is transient, and in a few days or weeks the scalp will be covered with hair. All these states of hair-growth are dependent upon the time when the change of type between the fœtal and permanent hair takes place. As a rule the change is complete at birth, when we find the colorless hair; if it is delayed until after birth, we have the long, dark hair; if at the time of birth the fœtal hair has been shed, but there has not been time for the permanent hair to grow, we have he bald head.

Now all these are normal conditions, and even the last, or bald head, is only to be considered as transient alopecia adnata. But in some cases the hair-growth is delayed for months, and in some of these there is a condition of lichen pilaris present, the scalp being rough and covered with pointed papules. The hair will usually grow in time, though a few cases have been reported in which the hair never grew. Delayed dentition, or even a deficiency of teeth, has been observed in these cases.

The *cause* of this form of baldness is an arrest of the development of the hair. Upon what condition such an arrest depends we do not know. Microscopical examinations of sections of the scalp in cases of inveterate alopecia adnata show either an absolute absence of hair-follicles or an aborted development of them. In some families the disease is hereditary.

As to *treatment*, the most we can do is to attend to the general nutrition of the child and the hygiene of the scalp. Happily in most cases the disease remedies itself. The scalp should be kept free of sebaceous accumulations, and thoroughly washed with soap and water. Should the parents and friends become restive under this expectant plan of treatment, some stimulating hair-wash may be prescribed, such as will be given when we come to the discussion of alopecia presenilis. If lichen pilaris is present, the free use of soap frictions, with the tincture of green soap every day, followed by inunctions with oil, will remove the accumulation of epidermis which clogs the hair-follicles, and thus give the hemmed-in hair a chance to grow.

Alopecia senilis is that form of baldness which occurs in old age, or after the age of forty-five, and is often preceded or accompanied by grayness of the hair. When this form of baldness begins, it is progressive. Commencing upon the vertex it forms the tonsure, and from there spreads forward so as to involve the whole top of the head; or it may begin anteriorly and spread backward; or the whole top of the head may show a thinning of the hair. When complete the scalp is smooth, oily, shiny, and looks stretched. It is unaccompanied by any disease of the scalp, excepting, perhaps, a slight seborrhœa. The region it affects is that part of the scalp over the aponeurosis of the occipito-frontalis muscle, while the occipital and lateral parts of the scalp are spared. It is always symmetrical.

The *cause* of this form of baldness is a gradual sclerosis of the subcutaneous tissues of the scalp, the retrograde process beginning in the arterial supply to the scalp, a fibrous endarteritis narrowing the lumen of the cutaneous arteries, till finally the capillary circulation about the hair-follicles is obliterated. This causes a lessening of the subcutaneous fat and a narrowing of the meshes of the connective tissue. It is but one expression of that general lowering of nutrition incident to advancing years.

When the scalp is atrophied we can do nothing in the way of *treatment;* there is no cure for alopecia senilis. Prophylaxis may do a good deal in postponing the loss of hair. Of what prophylaxis consists will be shown in the next section.

Alopecia prematura is that form of baldness which occurs before the forty-fifth year of age. It is true that the dividing line is purely arbitrary, but it is convenient, and the age of forty-five is usually considered to be that of man's prime, the top of the hill of life. There are two varieties of premature alopecia, viz., the idiopathic and the symptomatic, each of which deserves separate consideration.

Idiopathic premature baldness begins at any time before forty or forty-five years of age, most commonly between the ages of twenty-five and thirty-five. Its peculiarity is that it arises uninfluenced by any antecedent or concomitant local or general disease. When it once begins, it is generally progressive. Its course is the same as that of the senile form, beginning on the vertex and proceeding forward; or beginning on the forehead and running backward; or affecting the whole top of the head. It is a process of gradual loss of vigor, and a gradual lessening of the diameter of the hair. The hairs which first fall out are replaced by those of less vigorous growth; these in their turn are shed to make way for yet weaker ones, and so the process is repeated until complete baldness results, no new hairs being produced to take the place of those which are shed. The scalp in the affected region is atrophied, and often bound down to the underlying tissues so tightly that it cannot be slid about as easily as in the normal condition. It differs from senile alopecia in the earlier age at which it occurs, and in usually being unaccompanied by other signs of

[1] Read before the New York County Medical Society, April 26, 1887.

diminished physical vigor, such as canities, loss of teeth, and dulness of sight and hearing.

The chief *cause* of this variety of baldness is heredity, and everyone has known of families in which the fathers and sons for many generations have become bald at an early age. This is due, according to Pincus (*Berl. klin. Wochenschrift*, 1883, xx., 645), to the fact that in certain families there is a tendency to an early induration of the connective tissue under the aponeurosis of the occipito-frontalis muscle, the meshes of which, becoming progressively lessened in size, gradually draw the scalp down upon the underlying tissues, and the hair-papillæ, becoming more and more pressed upon, are at first lessened in diameter and at last completely obliterated.

Improper or deficient care of the scalp and hair is another cause of early baldness, or, at least, hastens its advent in those predisposed thereto. It is a very common practice for men to souse the head daily in water, and as Ellinger (*Virchow's Archiv*, 1879, lxxvii., 549) has noted this habit in eighty-five per cent. of his cases of baldness, it is probable that it is an important etiological factor. Thinkers and brain-workers are very often bald. Eaton (*The Popular Science Monthly*, October, 1886) has recently upheld the thesis that the coming man will be bald and toothless. He found by actual count that baldness was far more prevalent among the intellectual and educated classes than among the uneducated. Thus in the audiences attendant upon churches and operas in Boston, from forty to fifty per cent. of the men were bald; while the percentage was only twelve to twenty-five among the crowds visiting cheap museums and prize-fights. In active intellectual effort the circulation of the head is increased, and the scalp sympathizes and becomes warmer than usual. This increased warmth of the scalp in thinking may operate in the same way in the production of baldness as does the wearing of tight, unventilated hats, which sweat the hair more or less. Stiff hats may cause baldness by compressing the arteries that supply the scalp. Thus F. A. King says (*American Journal of the Medical Sciences*, 1868, April, p. 416): "Baldness of the vertex is due to compression, by stiff hats, of the anterior temporal arteries in their course over the frontal protuberances, and of the occipital behind. The reason why baldness occurs in different places in different individuals is probably due to differences in the shape of the head. The little tuft of hair often observed on top of the forehead is nourished by the two supraorbital arteries which escape pressure by passing over the forehead in the slight concavities between the frontal eminences." The existence of this little island or tuft of hair depends more likely upon its being located over the belly of the occipito-frontalis muscle, and not over its tendon.

That women do not become bald so often as men is probably because they preserve the cushion of fat under the scalp longer than men do. Pincus says that their comparative exemption is due to the fact that in them "the spaces between the connective-tissue fibres in the deeper and middle layers of the scalp are much larger than in men, the skin of women during their life preserving more of the characteristics of the skin of children." Other reasons for their comparative freedom from baldness are given, such as: Because they do not wear their hats as much as men, neither are their hats so close-fitting nor made of so impermeable materials; because they give more attention to the care of the hair than men; because they seldom wet their heads; because they are not so abundantly covered with hair as are men, and therefore have less drain upon the hair-forming elements; because their hair is less often cut. Of all these reasons those of most weight are the preservation of the subcutaneous fat and connective tissue, and the greater attention paid to the scalp.

The *treatment* of idiopathic premature baldness is mainly one of prophylaxis and of hygiene. Though hosts of remedies have been proposed from time to time, and more or less vaunted, I am inclined to believe that due attention to the proper care of the scalp and to the general hygiene of the body is more reliable than any so-called remedies. Unfortunately, men who most often are bald are least inclined to give the requisite time and trouble to the care of the scalp, and therefore our results are not as good as they should be. Women, though less frequently bald, are willing to give attention to their scalps, and with them our results are better.

Prophylaxis consists in giving early and proper care to the scalp and hair, and this especially in families in which baldness is markedly hereditary. Prophylaxis should be begun at the birth of the child in such families and continued throughout life. The proper care of the scalp consists in keeping it clean by an occasional shampoo of soap and water, borax and water, or some such simple means, and in brushing and combing the hair, and in the avoidance of all things that can harm the scalp. The shampoo need not be repeated oftener than once in two or three weeks, and whenever the scalp has been washed it should be carefully dried, and some simple unctuous substance applied, such as vaseline or sweet-almond oil. Women should dry their hair by sitting before an open fire or in the sun, and should not dress it until entirely dry. The first shampoo the baby gets is to rid the scalp of the vernix caseosa. This should be most carefully done, without the employment of force, the sebaceous plate having been thoroughly soaked with sweet-oil before the attempt to wash it off is made. After it has been removed the infant's scalp is to be oiled daily until the hair is growing nicely; this is done to guard the tender scalp from injury from atmospheric and other causes. So soon as the hair is grown the scalp only needs an occasional wash to keep it clean, unless there is some sebaceous concretions, when that condition is to be treated.

The hair should be thoroughly brushed and combed daily, not in the careless way in which it is done by most people, but systematically for some five or ten minutes, and with vigor sufficient to make the scalp glow. For this we need a good brush with long, moderately stiff bristles, set in groups widely separated from each other. Such a brush will reach the scalp and brush out all dust. A comb with large, smooth teeth, set wide apart, should be used with the brush to open up the hair to the air; first a stroke of the comb and then of the brush. After the systematic brushing the stiff brush should be laid aside and a softer one used to assist the comb in parting the hair and to polish it. This operation of brushing is rather difficult for women, and most women merely employ the comb. But the stimulation caused by the brushing is very valuable and should be insisted on.

What *not* to do is of nearly equal importance with what to do, in the care of the scalp. We should not allow the use of pomades on the healthy scalp, as they are quite unnecessary if the hair is properly brushed, and by becoming rancid are apt to irritate. The daily sousing of the hair with water should be positively interdicted. Women should not use bandoline or the like sticky substances; should not pull and twist the hair in all sorts of unnatural positions; should not scorch it with curling-irons and hot pipe-stems, nor smother it under false hair. The hair needs light and air for its growth, and will not endure forever the pulling and twisting which fashion demands of its votaries. Men should not constantly wear close-fitting hats or caps. If their avocation requires their heads to be covered, they should wear ventilated, easy-fitting hats. Working under hot artificial light should be avoided, so that the head will not be sweated. Withal, the general condition of the physique should be maintained at as high a standard as possible by exercise and moderation in all things; and worry and anxiety of mind should be combated by the cultivation of a more cheerful habit of thought.

When the hair is falling the care of the scalp, as just indicated, should be continued, or, if not already practised,

begun. In addition, local stimulation must be employed. Some remarkable results in making hair grow by hypodermatic injections of pilocarpine have been reported in the medical journals. This may be tried. I have found the drug more useful in alopecia areata than in ordinary alopecia. We know that jaborandi increases the circulation of the skin, and it would seem rational to suppose that in some cases of baldness, dependent upon malnutrition of the papillæ, it might do good. Pincus, who has devoted many years to the careful study of baldness, advises the application to the scalp for from two to five minutes, on two to four successive days, of a wash of

Bicarbonate of soda.....	4 parts.
Distilled water	180 "

M.

rubbing in one or two tablespoonfuls of it with a soft hair-brush or sponge. Then a pause is made for as many days as the wash was used. On the first and second day of the interval between the applications some oil is to be rubbed into the scalp. This treatment is to be continued for a year, and if the disease is then progressive, stronger remedies are to be used. As we will have occasion to speak of a number of stimulating hair-washes when we discuss the treatment of symptomatic baldness, it will not be necessary to mention them in this place.

As a rule, the treatment of idiopathic alopecia presenilis is unsatisfactory, and we should not encourage our patients to expect to see the condition of their hair improved to any great extent under one year, at least, of treatment. But if due attention is given to the care of the scalp and hair, the fall of the hair can be checked in many cases, and that is well worth the trouble it costs.

Symptomatic premature alopecia.—By this term is meant baldness occurring before the age of forty-five, and arising from some accompanying local or general disease. It has four varieties, viz.: 1, Alopecia furfuracea or pityroides; 2, alopecia syphilitica; 3, defluvium capillorum; and 4, alopecia follicularis.

Alopecia furfuracea is that variety which is due to dandruff—a seborrhœa, or pityriasis capitis. The dandruff may be in large amount, so as to form cakes of fatty matter on the scalp, or it may be slight, in the form of thin, easily detachable scales, which fly off from the scalp and fall upon the coat-collar like snow. This variety of baldness is met with in all ages, but is most serious between the twentieth and thirtieth years of age, and is by far the most common of the different kinds of alopecia. It has two stages; during the first there is a good deal of dandruff, and the hair is dry and falls out slightly. This stage lasts from two to seven years. Then the second stage begins, when to the dandruff is added a rapid fall of the hair. The location of the baldness is the same as in the preceding forms, though it affects most often the whole top of the head. The course of the disease is progressive and more or less rapid, the hair becoming gradually thinner both as to quantity and diameter, till at last complete baldness results. With the increase of the baldness there is a continuance of the dandruff, until the hair has nearly all fallen out, when the dandruff lessens or disappears.

Alopecia syphilitica next claims our attention. It occurs in the early stage of syphilis most often, but may occur quite late in the disease. Syphilitic exanthems may be present on the scalp and body, or the baldness may be the only symptom of the disease. When it is the result of the syphilitic cachexia we will frequently find more or less dandruff, and there will be a general thinning of the hair, giving the head a peculiar look, which may be likened to the effect produced by taking a pair of dull shears and cutting the hair away in a very irregular manner, so that the head will look ragged. The head is not completely bald in any extended area, but here and there over the whole scalp are irregular, partially denuded patches. Other regions besides the scalp may be affected, the broken arch of the eyebrows being characteristic. Besides this, which may be considered the characteristic species of syphilitic baldness, we have disseminated bald spots of cicatricial tissue due to the presence of syphilitic deposits about the hair-follicles, which have undergone absorption and caused destruction of hair-follicle and scalp tissue. This latter variety belongs rather to the category of alopecia follicularis.

Defluvium capillorum is the variety of baldness which follows acute diseases, especially fevers, or occurs in the course of some cachexia, such as mercurialism. The most common form is that which follows fevers. Usually the hair does not fall out till after convalescence has begun, and then it will be very rapid, the hair coming out by handfuls at times, and the whole scalp is affected. As a rule it does not cause absolute baldness, though in some rare cases all the hair may fall from the body, as in a case of alopecia areata maligna.

Alopecia follicularis is that variety of baldness which is due to local lesions, such as the syphilides, and the parasitic disorders. The appearances presented will vary with the cause. When due to pustular diseases, such as impetigo, the patches are not larger than from the size of a silver dollar to that of the palm. When due to some diffuse inflammatory disease, such as erysipelas, the bald patches are quite large and irregular in shape, and the scalp is hyperæmic. When due to favus or ringworm the hairs are altered, becoming lustreless, dry, and split; in ringworm they are often broken off near the scalp. The bald spots of favus are covered with thick, mortar-like crusts, or are smooth, cicatricial, and of a peculiar red color. In ringworm they are covered with scales, and sometimes crusts, which are not so thick as those of favus.

The *causes* of alopecia prematura symptomatica are manifold. We have already mentioned seborrhœa sicca, syphilis, fevers, impetigo, erysipelas, and parasitic diseases. Besides these may be mentioned violent shocks to the nervous system, mental distress, parturition, lupus vulgaris and erythematosus, lichen ruber and scrophulosorum, lepra, and other cachexiæ. The baldness following fevers, and with syphilitic and other cachexiæ, is due, in most cases, to seborrhœa, but may be purely a nutritive trouble, the hair-bulbs being poorly nourished, the hair becoming loose and falling out. The baldness accompanying or following the pustular and ulcerative diseases is due to the destruction of the hair-follicles. The baldness following upon the abuse of mercury, excess in venery, and intemperance, is due to their damaging effect upon the constitution of the patient. Anything which impairs the full vigor of a man may secondarily contribute to the production of baldness, especially if he have a predisposition thereto. This predisposition is an important factor in all cases of alopecia furfuracea. We often meet with people who have had drandruff for years without alopecia; but in many subjects dandruff does cause baldness.

As far back as 1874 Malassez[1] and Chincholle[2] described a parasite as the cause of pityriasis capitis and of the baldness following it. But Bizzozero[3] has recently shown that spores, identical with those of Malassez and Chincholle, are found quite generally upon the normal human scalp. Lassar and Bishop[4] believe that alopecia furfuracea is contagious, and is frequently transmitted by barbers' brushes and combs. They explain the comparative immunity of women by the fact that they are less exposed to infection at the hands of the barber. Their experiments with the scales taken from the scalp of a man who was losing his hair rapidly, and which they made into a pomade with vaseline and rubbed upon the back of a guinea-pig and a rabbit, in each case produc-

[1] Archiv de Physiol. norm. et path., 1874, pp. 451, 465.
[2] De la nature parasitaire du pityriasis capitis, etc. Paris, 1884.
[3] Vierteljrschr. f. Derm. w. Syph., 1884, xi., 523.
[4] Monatshft. f. prakt. Derm., 1882, i., p. 131.

ing baldness, are interesting, and seem to prove their thesis. They require and deserve repetition.

Much that has been given in the etiology of the idiopathic form of premature baldness, especially in regard to the use of water on the head, the wearing of hats, and the use of pomades, could be repeated here, since they tend to produce pityriasis, and in that way alopecia furfuracea.

The *prognosis* of symptomatic premature baldness will vary with its cause. When due to dandruff, it will be good if treatment is begun in time, before actual baldness is present. Even if the hair is quite thin and the scalp shows a large number of lanugo hairs, we may yet have hope, if there is no predisposition to baldness. Defluvium capillorum usually takes care of itself, and we can give our patients a favorable prognosis. Syphilitic alopecia, when dependent upon the cachexia of syphilis, is seldom permanent. The baldness following favus is permanent; that coming after ringworm is transient. Ulcerative processes are followed by permanent baldness. Pustular lesions will not cause baldness, as a rule, and if the hair is plucked early from the follicle the danger of its occurrence is lessened.

Rapid results cannot be expected from our treatment. We must have our patients understand that they must have patience and perseverance, and that the result of treatment will depend chiefly upon their faithful carrying out of directions.

The *treatment* of symptomatic premature alopecia is both prophylactic and curative. Of course, prophylaxis applies chiefly to alopecia furfuracea. If it were better understood that dandruff is often followed by baldness, it would be early submitted to treatment, and there would be fewer bald heads. The prophylaxis for this form of baldness is the same as for the idiopathic form, and need not be repeated here.

The curative treatment of alopecia furfuracea is first addressed to the ridding of the scalp of the seborrhœa or pityriasis. If there are thick crusts or cakes of sebaceous matter on the scalp they must first be soaked with oil and then removed by the shampoo. If dandruff is present in only slight amount the shampoo may be used at once. For this purpose we should use soap and water. For our soap we may choose the tincture of green soap. If the scalp is too tender for that we may use Sarg's liquid glycerine soap, Pears' glycerine soap, Castile soap, or any good toilet-soap. Or, if the scalp does not tolerate these, we may order a shampoo of eggs, made by beating up the yolks of three eggs in a pint of lime-water and adding half an ounce of spirits of Cologne, if we want perfume. Borax and water make another excellent wash. Do not stint the water. Rub the shampoo vigorously into the scalp in all directions, using either the fingers or a long-bristled, moderately stiff brush. When the scalp has been well rubbed, the soap or chosen shampoo is to be washed out with a copious stream of water of a temperature agreeable to the patient, or, if convenient, with alternate douches of hot and cold water. The scalp and hair are then to be thoroughly dried, and a little oil rubbed into the scalp. If an excess of oil has been used it may be readily removed by pulling the hair between the folds of a towel moistened with Cologne, alcohol, or ether. The shampoo should be repeated daily for a week or so, and then once every week or two.

While the care of the scalp and hair is, perhaps, the most essential element of success in the treatment of these cases, still they need stimulating treatment in addition. So many stimulants have been recommended that one is somewhat embarrassed by the excess of richness. We may use carbolic acid in alcohol, two per cent. strength; tincture of capsicum or of cantharides, one to three drachms to the ounce of water; chloral hydrate, or tincture of nux vomica, one drachm to the ounce; corrosive sublimate, one to three grains to the ounce; the stronger water of ammonia, pure, or diluted if too strong. These may be used either as lotions or ointments, separately or in combination. Then there is a wash of rum and quinine which every druggist keeps upon his shelves, and so many of the laity use. This list is by no means exhaustive, but quite sufficient.

An excellent ointment for use, as curative of the seborrhœa, is one which is known, in at least three different dispensaries, as "Bronson's Ointment," after my esteemed friend Professor E. B. Bronson, of the New York Polyclinic. It is made of

Hydrarg. ammon	℈ij.
Hydrarg. chlor. mitis	℈iv
Vaseline	ad ℥j.

M.

and when properly compounded forms an elegant pomade of the consistence of a Mayonnaise dressing, and effectual withal.

Pincus[1] advises, in the first stage of alopecia furfuracea, the rubbing of the scalp with a solution of bicarbonate of soda, strong enough to redden the skin, and following this with a compress and an oiled-silk cap to be worn all night. Unfortunately this stains the hair. In the second stage of baldness, when the hair-fall is pronounced, he advises the use either of

Tannin	gr. lxxx
Ungt. rosæ	℥j.

M.

rubbed in every night, or of

Ol. sabinæ	gtt. v –xxx
Alcohol	℥j.

M.

used in the same way. The latter he prefers, as it can be stopped for several weeks at a time, while the use of the former cannot be interrupted for more than six days. A hood is to be worn at night with either of these. The oil of savin often causes headache, nausea, vertigo, and sleeplessness, which interdict its use. Pincus further advises the use of a lotion or ointment containing two to four per cent. of lactic acid, and eight to ten per cent. of boracic acid, applied daily for two or three weeks, and then, after a pause of a few days, followed by an ointment of bicarbonate of soda, three to eight per cent. strength, for one week. Thus he alternates his ointments for one year.

Lassar (*Monatshft. f. prakt. Dermat.*, 1882, i., 131) has had good results by washing the scalp with tar-soap daily, following with a wash of

Sol. hg. bichlor. (1 in 300).	
Spt. cologne,	
Glycerine	āā ℥ij.

M.

Then the scalp is to be dried, and a one to five per cent. solution of naphthol applied. Finally, a one and a half per cent. carbolized oil is poured over the head. I fear that we would have difficulty in persuading our patients to carry out so troublesome a procedure.

Heitzmann, of our own city, reports ("Transactions of the American Dermatological Society," 1885, p. 32) favorable results from the use of crude oleum rusci in an ointment of vaseline and paraffine, in ten to twenty per cent. strength. This is to be alternated with sulphur and white precipitate ointments.

Piffard (*Journal of Cutaneous and Venereal Diseases*, June, 1885, p. 180) has had good results by using the following:

Picis liquidæ,	
Olei lavendulæ	āā ʒj.
Olei pini sylvestris	℥vj.

M.

In some cases sulphur is added at the commencement of treatment.

[1] Virchow's Archiv, 1868, xliii., 305; also, Berl. Klin. Wochenschrift, 1883, xx., 645.

Resorcin has been recommended by Ihle. I have not found it so efficacious as other remedies.

In the treatment of these cases I have seen the best results follow the systematic care of the hair, the avoidance of frequent wetting of the hair, and the use of an ointment of precipitated sulphur in the strength of one drachm to the ounce of vaseline, applied every night for a week or two, and then every other night, until the scalp no longer is furfuraceous, and then once a week for months. If care is used in applying the ointment there will be no excess of sulphur showing on the hair.

As illustrative cases of what may be done by this plan of treatment let me recite the following:

Case I.—J. D——, aged twenty. Hair has been falling steadily for past two years, excessively for last two months. Hair thin over whole top of head, dry, and dead-looking. A shampoo of borax was ordered, to be followed by the sulphur ointment, and directions as to the care of the scalp given. In three months the hair was growing luxuriantly, and the pityriasis was stopped.

Case II.—M. B——, aged twenty-six. Hair has been falling for three or four years, and over whole top of the head it is very thin. Was put upon the same treatment, and in nine months' time the hair had ceased falling, and was growing so nicely that the patient had discarded the wig which she had worn for many months.

Case III.—E. B——, aged twenty-two. Hair has been falling for two months; scalp scaly; hair thin and dry. After two months of the above treatment the scalp was looking healthy, and the hair was growing nicely.

Case IV.—Dr. A——, aged thirty-three. Hair has been falling for four years; is quite bald. After two months' treatment the fall of the hair was almost entirely checked. He reported to me, after ten months' treatment, that the hair had ceased falling, and was growing in to an appreciable degree.

Case V.—L. B——, aged twenty-two. Hair is falling and has a good deal of dandruff. After five months' treatment the scalp was in fine condition, and the hair was growing nicely.

The treatment of *syphilitic alopecia* is by the internal administration of mercury, the mixed treatment, or the iodide of potassium, according to the stage of the disease. Locally, if any lesions are on the scalp, we may prescribe a lotion of the bichloride of mercury, or an ointment of the ammoniate of mercury. If there are no lesions, then stimulating remedies may be used as in alopecia furfuracea.

Defluvium capillorum remedies itself in most cases, and only requires attention to the general condition and to the hygiene of the scalp. If this does not suffice, stimulating measures, such as those given above, may be used.

Alopecia follicularis needs the treatment appropriate to the disease present. If there are pustules on the scalp, the hair should be pulled from them.

In conclusion, I would place special emphasis upon the importance of the hygiene of the scalp; the nearer we can bring the scalp to a perfectly healthy condition, the more we can accomplish for the restoration of hair growth. Do not be too easily discouraged, nor allow your patients to despair until a year at least has been given to the faithful care of the scalp.

14 East Thirty-first Street.

In the Broncho-Pneumonia of children the treatment in Paris is ipecacuanha to the extent of vomiting the patient occasionally, the use of the bromide of potassium to quiet the cough, and the free use of alcohol. No opium is given. Mild forms of counter-irritation are applied to the chest. In croupous-pneumonia the treatment is expectant, and alcohol is used, though Professor Jaccoud gives tartarized antimony in the early stages when the patient is robust.—*Paris Correspondent of the Chicago Medical Journal.*

EXTERNAL URETHROTOMY. A PLEA FOR ITS EARLY PERFORMANCE IN MINOR TRAUMATISMS OF THE URETHRA.

By L. BOLTON BANGS, M.D.,

NEW YORK.

The object of this paper is simply to state certain propositions in regard to an operation with which you are all more or less familiar, and to invite your discussion of them. By "external urethrotomy" I mean the division of the tissues of the male perineum down to and into the urethra, for the prophylaxis and relief of stricture and its consequences, whether the stricture be acute or chronic, traumatic or otherwise. It may be qualified, according to the necessities of the case, by adding the words "with" or "without a guide;" but it is unnecessary to make the distinctions which some writers have made. Illustrations of this could be multiplied; but, for instance, Sir Henry Thompson in "Holmes' System of Surgery" separates it into "perineal section" and "external division." He limits the term "perineal section" to the cases which are impassable to any instrument, and the term "external division" to those in which one can be passed—an arbitrary distinction, because the tissues to be divided and the steps of the operation are essentially the same—the only difference being that in one the operator has no guide through the diseased urethra and in the other he has. Perhaps Gouley's definition is the most precise, viz., "external perineal urethrotomy," but it is unwieldy, and, moreover, the term which is employed in this paper is the one commonly used, and conveys to the surgical mind all the significance that is needed.

My first proposition is that the operation should be resorted to earlier than it is usually. The observation of cases which have come under my care in hospital service has led me to the reflection that their condition has been made infinitely worse by the want of timely operation. This is especially true in regard to traumatic cases. The "golden moment" is often immediately, or within a few hours, after the injury has been received, and before inflammatory processes have *fixed* the deviated urethra in a semi-cartilaginous mass which subsequent operation can never thoroughly divide. We all know the difficulty of radically curing so-called traumatic strictures. My belief is that the number of this obdurate kind would be lessened if the rule of performing early external urethrotomy were adopted in all cases which show even minor grades of injury to the urethra—for example, such as result from blows or kicks upon the perineum; or from falling astride wagon-wheels; or from falling upon stumps or sticks which penetrate the perineum and wound the urethra. If in these the presence of a tumefaction of the perineum, associated with dysuria, leads to the opinion that the urethra has received a contusion only, the operation should be done as a prophylactic, because contusion of the urethra has been known to be followed by formidable stricture at the locality. But when a few drops of blood escape from the meatus, with or *without* retention of the urine, and with or *without* obstacle to catheterism (or when it is evident that violence has been done to the urethra), the operation should be done without much delay. In the time allotted to me it will not be possible to elaborate the pathology of this part of the question, but some reasons for these statements should be given. The urethra is now damaged to a greater or less extent, probably torn at one or more points in its circumference, and the tissues surrounding it participate in the injury. The process of repair is soon to be instituted. This should go on smoothly and quietly, in order to be harmonious and conservative; but bear in mind that it is being periodically interrupted or interfered with by the necessity which exists for the urethra to perform its function. Urine is being constantly secreted. The bladder must expel its contents, and sometimes,

under the reflex agencies of the spinal cord, it does this with great violence. Even if extravasation of urine does not occur the process of repair is irritated into an inflammatory one, and cicatricial deposits, ultimately to contract, take place in and around the urethra. The same thing results in cases which necessitate and are susceptible of catheterism. The passage of the instrument is more or less irritating, and adds to the pathological status. And here it may be remarked that even these cases are not free from the danger of extravasation. I have known it to take place insidiously, little by little, into the periurethral tissues, in cases which were not supposed to require operative interference because the bladder could be emptied by the catheter.

Again, consider for a moment the pathology of another class of cases, in which the damage to the perineum and urethra has been greater. Here retention of urine has occurred. Failing in catheterism the practitioner in charge has made use of various remedial measures—opium, poultices; or, perhaps, aspiration has been resorted to, and after a while the patient feels better. His bladder ceases to trouble him, and he is at rest. In a few hours he experiences pain in the perineum, and red spots appear upon the skin, which, proving to be abscesses, are opened, and pus and urine escape. Subsequently a certain amount of restoration of the urethra takes place and some urine passes in the natural way; but finally we have a man presenting for treatment who has an indurated and strictured urethra, with urinary fistulæ communicating with the urethra at, and posterior to, the seat of original injury. What have been the steps in this case, which is one taken from actual experience? Manifestly urine has escaped from the urethra, possibly before the aspiration (or in spite of the latter, for the bladder often contracts spasmodically upon even a small amount of urine), and the patient has experienced the relief of having emptied his bladder. But this relief is temporary, for he has "voided his urine into his own tissues," which, sooner or later, have resented its presence, and inflammation with suppuration has resulted. Perhaps it may be said that healthy urine escaping into the cellular tissues does not account for the chain of pathological processes as I have stated them. Please observe that the tissues into which the urine has escaped are *already damaged*, and nature is about to *repair* them. The least additional irritation, such as the presence of even healthy urine, is sufficient to excite undue activity, and *inflammation*, rather than repair, is the result. Whatever may be the explanation of the formation of perineal abscesses in cases whose urine is presumably normal, the fact remains that we have them to deal with, and the treatment which I am advocating will, I am sure, obviate their development. In order, then, to place the urethra, with its associated muscular and nerve-structures, in the best possible condition to heal without inflammation, *rest* must be obtained for them; and further, all possible liability to extravasation of urine, with its formidable sequelæ, must be prevented. Now it seems to me that *early* external urethrotomy, before inflammation or extravasation has supervened, will meet these indications. A free linear incision through the perineum to the urethra, the latter opened, posterior to the point of injury if possible, and thoroughly distended with the forefinger, is an operation simple in execution (if performed early enough) but comprehensive in results. And what does it accomplish? It prevents the forcing of urine into the lacerated or lame urethra, and thence into the cellular planes. It enables the urine to drain away in drops, with scarcely any movement on the part of the muscles of the urethra or perineum, and without any effort by the patient. Functional activity being no longer required, physiological rest ensues. The nerve-relations of the patient are but slightly disturbed and *repair* of the injured tissues takes the place of inflammatory action.

It is obvious, then, that to obtain these ends the operation should be done at as early a moment as practicable after the receipt of the injury. I therefore submit, as a part (or corollary) of my first proposition, that the practitioner who is first called to such a case should be the one to do it. Of course, much depends upon his manual facility, and if he is at all doubtful, he should send at once for the one in his neighborhood whom he believes to possess the requisite knowledge and dexterity, without losing time in efforts at catheterism or in the giving of narcotics. A glamour of difficulty seems to have been thrown about the operation, and perhaps such an impression is conveyed by the text-books, but it should be borne in mind that for the most part these deal with cases which have become formidable because the pathological changes (which we are seeking to prevent) have already taken place. Permit me to assert that any medical man, with a fair amount of confidence and with a catheter and scalpel in his pocket-case, is competent to do the operation. The catheter may be gently passed (under ether) and the urethra opened upon it. If it be arrested, cease all further manipulations and open the urethra upon its point. The proximal end of the injured urethra, if not readily found, may be located by compressing the bladder over the pubes and causing a spirt of urine into the wound. The tissues, although they may be swollen and discolored by extravasated blood, are yet yielding, elastic, and separable, and the torn or displaced canal may be recognized by this manœuvre. A probe or the point of the catheter can then be inserted, a linear incision made, and the operation completed. If strictures are present in the penile urethra these may be treated at the same time, provided the patient's condition will allow. There is another class of cases to which the operation is applicable under this proposition. It is one in which are found perineal abscess and a urethra abnormal only from the presence of strictures of large calibre. Dr. Otis has called attention to this in his paper upon "Follicular Departure from the Urethra." In these cases it is not sufficient to evacuate the abscess and rely upon catheterism or dilatation. The urethra should be divided at the time that the abscess is opened, lest the cause of the latter persist and more deplorable results follow. In this connection permit me to cite a case which illustrates the fact that extravasation of urine may take place in spite of the fact that the urethra is open to the passage of a fair-sized instrument. I saw the patient in consultation with Dr. Craemer, of Brooklyn, by whose courtesy I am permitted to report it. J. L——, single, aged twenty-seven, was seen for the first time by Dr. Craemer on the evening of November 7th. He was found to be suffering from complete retention of urine, which had lasted for several hours. He was a reticent, uncomplaining person, and only an indefinite statement that he "had had stricture for some years" could be elicited. A No. 10 (English) soft catheter was easily introduced, and about half a pint of fetid, turbid urine withdrawn.

The next morning the catheter was again used, and twelve ounces of clearer urine drawn. The catheter was left *in situ*. The following morning it was found that, in spite of the constant drainage from the bladder, extravasation of urine had evidently taken place into the perineum and scrotum. Operation was advised and was refused by the patient. The effects of extravasation becoming more and more manifest, I was summoned, and saw the patient with Dr. Craemer a few hours later. He was then in poor condition, with a pulse of 120. Urine was escaping from the soft catheter still in the bladder. The scrotum was enormously swollen, livid in color, and on the left side of the median line was already a black mass of necrosed skin and cellular tissue, covering an oblong area two or three inches in diameter. The perineum was also deeply discolored, boggy, and so intensely swollen as to distort the raphé and bring it almost in contact with the left thigh. Plainly extravasation had been going on for some time. I counselled immediate operation, and, assent now being given, "external ure-

throtomy" was accordingly skilfully done by Dr. Craemer.

Now how can retention and extravasation of urine be accounted for in such a case as this? It might be said that the strictured urethra was suddenly plugged by mucus or muco-pus from the bladder, and that the urethra then gave way under the straining efforts of the patient. Such an explanation might be plausible or hold good in regard to a urethra which had been narrowed to filiform size; surely not in relation to one into which could be passed an instrument which *formerly* represented Sir Henry Thompson's gauge that the urethra was *not* strictured, viz., a No. 10 (English). In this case the catheter was not "bitten," not even held by the urethra, and at the time of the operation a No. 23 French grooved staff was easily and gently slid into the bladder. My own theory, based upon the study of other cases, is this: The *extravasation* was the cause of the *retention*. Thus, Otis' "Follicular Departure from the Urethra" had been quietly and insidiously taking place; that is to say, a minute quantity of urine had probably entered an ulcerated or inflamed follicle at or behind a stricture. Inflammation, with *swelling*, followed. This still further impeded the outflow of urine, and more of the latter aggravated the difficulty in the submucous tissues. The processes being reciprocal, sufficient swelling to compress the urethra finally occurred, and the more the patient strained the worse he made himself. Observe that this patient was not able to evacuate his bladder even after the catheter had been passed, and that the doctor was compelled to leave it in. My explanation of this is that the catheter could be made to traverse the urethra and "round the corners," so to speak, of the compressing obstacle, whereas the efforts of the patient simply drove his urine into the softened and infiltrated tissues. The foregoing theory was derived from observing two cases in my service at Charity Hospital. In each of these was a perineal abscess. *Before* the latter was evacuated only filiform bougies could be introduced, but after relieving the swollen and distended perineum a fair-sized staff passed readily. I therefore inferred that the swelling itself had increased the obstructing effect of the strictures.

The second proposition which I have to offer is, that the operation of external urethrotomy is in *itself devoid of danger to the patient*. Not absolutely, for this cannot be affirmed of any operation upon the living subject, but I believe that its dangers as well as its difficulties have been overstated. The danger is in the condition of the patient antecedent to the operation; or in the conditions which necessitate its performance. It is the disease of the kidneys usually present in cases of chronic stricture which predisposes to the dangers of exhausting hemorrhage and suppression of urine. I have caused search to be made in the records of autopsies of several of the large general hospitals of New York City, and have found that where death has followed the operation of external urethrotomy the patient was the subject of some debilitating, devitalizing disease, and usually of disease of the kidneys. For example, take the record of St. Luke's Hospital. Out of 140 cases of external urethrotomy for different causes there were 8 deaths; of these 4 died from the effects of diseased kidneys; 1 from chronic pyæmia, caused by abscesses in the scrotum (for which the operation was done); 1, aged sixty-one, from chronic cystitis and prostatitis; 1 from pulmonary phthisis; and 1, who had secondary syphilis, from peritonitis.

The treatment of stricture is better understood than formerly, and it is in the experience of hospital surgeons that fewer cases of extravasation of urine are now met with. And I believe, also, that in the next decade we will see fewer with perineal fistulæ and the aggravated forms of cystitis and suppurating kidneys which render the conditions of these patients so dangerous, for they will have received the benefits of treatment before serious pathological changes have taken place.

127 East Twenty-fourth Street.

THE USE OF STROPHANTHUS IN DILATATION OF THE HEART.[1]

By S. C. CHEW, M.D.,

Professor of the Principles and Practice of Medicine in the University of Maryland.

It is probable that many members of this Society are familiar with the admirable article of Professor Thomas R. Fraser, of Edinburgh, on the action and uses of strophanthus in cardiac affections, which was published in *The British Medical Journal*, in November, 1885. The article is deserving of the highest commendation for the careful way in which the observations reported were made, and the clear reasoning from those observations which it shows.

As some present may not have seen the paper, I may be permitted to refer briefly to its leading points before speaking of the use which, under its guidance, I have myself made of strophanthus in the case which I purpose to report here, and which was one of the first in which the drug was employed in America.

The strophanthus is an African plant, found both on the western coast of the continent of Africa, in Senegambia and Guinea, and on the eastern coast along the Zambesi River. It is endowed with very active properties, for which it is used by the native tribes as an arrow poison both in hunting and in war. The poison is said to be prepared from the seeds of the plant, which are formed into a paste for this purpose. These seeds contain a crystalline principle, soluble in water and in rectified spirit, with a strongly bitter taste, and not alkaloidal in character. This is found also in the leaves and bark of the plant, but in less amount than in the seeds. This principle Professor Fraser terms strophanthin. In its action upon the frog's heart strophanthus is synergistic with digitalis, increasing the strength of its contractions, more especially the contraction of the ventricle; and, when a sufficient amount is applied, producing a strong or even tetanic contraction of the ventricle, so that the heart ceases to act in extreme systole. It is asserted by Dr. Fraser that the strophanthus in like manner increases the contractile power of all striped muscles, rendering their contractions more complete and prolonged; but that the heart is more distinctly and powerfully affected than other muscles, because it receives a larger quantity of blood than others do. But while the strophanthus is like digitalis in this action, it is very much more powerful than that drug. Some experiments of Dr. Fraser on this point show that a solution of strophanthin of one part in 10,000,000 produces a ventricular contraction of a frog's heart greater in energy than that caused by a solution of digitalin of one part in 4,000; for the digitalin solution while producing the usual changes in the heart's action, *i.e.*, increasing its contractile force and slowing it, does not arrest it; but strophanthin solution stops it in extreme systole. The difference in the power of the two agents, as thus shown, is very striking. But another difference between them, and one that may be equally important from a therapeutic point of view, is this: that whereas digitalis by an action on the blood-vessels themselves, distinct from its influence on the heart, causes increased tension and resistance in these vessels, strophanthus, on the other hand, does not act in this way, except to a very slight degree, if at all. Here again the contrast in the action of the two drugs was well shown by experiment. A solution of one part of digitalin in 20,000 when passed through the blood-vessels produced in a few minutes such extreme contraction of them as to prevent the solution from passing any longer. A much stronger solution of strophanthin, one part in 3,000, on the other hand, caused no noticeable change in the vessels, while only a slight and temporary action was produced by a solution of one part in 2,000.

This difference would again seem to make in favor of

[1] A paper read before the Clinical Society of Baltimore.

stophanthus as a therapeutic agent. For it would seem likely that in embarrassment and retardation of the circulation the beneficial effect gotten from the increased power which digitalis gives the heart is, to a certain extent, antagonized and lessened by the resistance which it causes in the blood-vessels. But, on the other hand, by the use of strophanthus not only may we have increase in heart-power, but all of the power thus gained, unhampered by obstruction in the arterioles is directed against venous stasis.

These two circumstances therefore—first, more powerful action as a heart energizer, and second, non-action upon the blood-vessels—would make it probable that strophanthus is a more efficient therapeutic agent than digitalis in the treatment of cardiac dilatation and the symptoms resulting from it.

And so in the cases reported by Professor Fraser it proved to be.

The one case in which I have made use of the drug is, so far as I have yet been able to ascertain by inquiring among my professional friends, the only one in which it has been employed in this city, with the single exception of one case of later date than mine, in which Dr. I. E. Atkinson has used it, and in which either from the advanced state of disease or unsatisfactory quality of the drug, no appreciable result was obtained from it.[1]

The preparation of the drug which I have used is a tincture which was given to me by Dr. William T. Howard, to whom it was presented last summer, while he was in London, by Dr. Fraser, as a specimen made by himself. I should have used it in a number of other cases with hope of good results, but my supply of this tincture was small, and I preferred to test its value on one case as fully as was possible with the small amount at my command. In this case it has appeared to substantiate fully the claims made in its behalf by Professor Fraser.

Case.—Ella ——, aged about twenty years, came under my charge in the Hospital of the University of Maryland, in October, 1886, when I found her suffering with general cardiac dropsy. The feet and legs were considerably swollen, but the largest amount of fluid was in the abdominal cavity, which was very much distended, so that respiration was greatly embarrassed and the patient prevented from lying down. For this she had been treated with digitalis, without much benefit, and she had been twice tapped. On examination the area of cardiac dulness was much increased, the heart's impulse diffused and lessened in intensity, and a loud systolic murmur at the apex and in the scapular region showed extensive mitral insufficiency with consequent dilatation. The pulse ranged at from 112 to 120 per minute, and the amount of urine was from fourteen to sixteen ounces in the twenty-four hours. It contained no albumen. The condition of the patient indicated the use of digitalis or other agents synergistic with it; but it was evident that with the great pressure upon the abdominal viscera and upward against the diaphragm there could be no fair and satisfactory test of drugs directed therapeutically to the heart and kidneys. I accordingly tapped the girl on October 26th, drawing off more than a gallon of fluid, with the effect of relieving her extreme dyspnœa and allowing her to lie down. Two days afterward I put her upon the use of Dr. Fraser's tincture of strophanthus in the doses, at first of two drops, and after three days, of four drops, three times a day.

Now, it it is clear that in endeavoring to estimate the value of any agent given under such circumstances, there is an obvious fallacy to be guarded against. An effect really due to the tapping might be erroneously ascribed to the action of the drug; for such results as ability to take the recumbent position, and an increase in the amount of urine, could be brought about by the direct withdrawal of the fluid even more readily in many cases than by the use of medicinal agents. Against this fallacy I endeavored to guard carefully. In the first place, I ascertained that after the previous tappings, while the patient could lie down more comfortably than before, and the amount of urine was somewhat increased, yet this increase was but slight, and there was no noticeable change in the pulse either as regards diminution of its frequency or increase of its force. Prepared with this knowledge, on the second day after the tapping, October 28th, I began the use of Dr. Fraser's tincture of strophanthus in doses of two drops three times a day. In two days there was a conspicuous improvement in the patient's condition, and on the third day the dose was increased to four drops. The breathing was much easier; the recumbent position could be maintained longer; the pulse, which had pretty constantly ranged at from 112 to 120, and had not improved after the previous tapping, was reduced to 84 per minute, and increased at the same time in fulness and strength; the impulse of the heart was more forcible, and the urine was augmented in quantity from one pint or less, daily, to more than three pints. This improvement continued steadily for ten days, the patient being out of bed and walking about the ward, and expressing herself as feeling far better in every way; when, in order to guard more perfectly against the source of fallacy referred to, I withheld the drug. In two days the patient's breathing became more oppressed, the heart's impulse lessened in force, and the pulse rose above one hundred. She begged me to give her again the medicine from which she had experienced so much relief. Its use was followed as before by prompt mitigation of the symptoms; and with occasional omissions that were followed by a return of these symptoms, which were again relieved by a recurrence to the medicine, she took it until my supply of Dr. Fraser's tincture was exhausted, when, being left without the medicine, she had a return of the urgent distress. I then obtained a specimen of tincture of strophanthus from a New York importing house; but although some relief was gotten from this, yet, either from an inferior quality of the drug, or because of the more advanced and irremediable condition of the disease, the response to the medicine has become less and less, and finally has ceased to be afforded at all. The dropsy has increased in amount, the quantity of urine diminished, the heart's action has grown feebler, and the dyspnœa has become more urgent and distressing.

About one week after the reading of this paper the patient died. The post-mortem examinatiom confirmed the diagnosis of mitral incompetency and dilatation of the heart, both of which conditions were found in an extreme degree. The amount of morbid alteration in the mitral orifice and valve was very remarkable, the two leaves of the valve being destroyed to such a degree that only two small stubs were left, so that their function must have been completely lost. The circumference of the mitral orifice was converted into a hard and rough ridge of calcareous matter, and the ventricular wall was extremely attenuated. The death of the patient under such circumstances, so far from invalidating the efficacy of the medicine, showed its power the more clearly by revealing the great difficulty against which it had to contend, and which it for the time relieved.

Since my first use of strophanthus in this case I have employed it in others similar in character. I have also used it as a cardiac tonic in other cases of weak heart without valvular or other discoverable organic disease. In one case of double pneumonia, now convalescent, in which there was great danger from extreme feebleness and intermittence of the heart, it has been manifestly beneficial. Indeed, it has seemed to me to produce some good effect always in such conditions in the way of increasing the contractile power of the heart. Such uses of the drug are suggested by Dr. Fraser. But in no case has its efficacy been more conspicuous than it

[1] Dr. Atkinson has informed me since the reading of this paper that he has recently used the drug with strikingly good effect.

was in the one above reported, in which, nevertheless, the amount of disease was necessarily fatal.

That any response to a medicine should have been made under such circumstances, or any improvement have occurred, was remarkable ; and yet over and over again, in this advanced stage of disease, the most unmistakable benefit was wrought by the strophanthus.

Baltimore, April 15, 1887.

ANTIPYRINE IN MIGRAINE, PYREXIA, ETC.[1]

By T. S. ROBERTSON, M.D.,

new york.

In presenting this, my initial paper, I pray your kindly indulgence, as my subject, I fear, will not compare favorably with the average papers read before the Society. I only hope to throw a little light on a medicine that I might say we are only experimenting with at the present time, one that I hope will be a valuable addition to our therapeutic armamentarium—a remedy that in my hands, the past two years, has rarely failed in hemicrania and the pyrexia of nearly all febrile diseases. The drug I allude to is antipyrine.

Before giving my experience with the drug, I beg to give a slight history of it. First discovered by Dr. Knorr, of Munich, it was prepared synthetically by him from the constituents of coal-tar, etc. It is an oxygenated alkaloid brought into commerce in form of the free base. It forms a white crystalline powder which is easily soluble in cold water. It gives an intense coloration with chloride of iron, effects in high fever a reduction of temperature from three and a half to five degrees, without the unpleasant after-effects of quinine. The reduction of temperature takes place after half an hour ; the rise gradual without a chill. The duration of the effects lasts from six to eighteen hours. It is given in doses of from ten to sixty grains. When given hypodermatically it produces a greater reduction of temperature with greater rapidity and of longer duration than when taken internally, while the quantity so administered is smaller and the drug less frequently demanded. Hypodermatically administered, it produces no local symptoms of any general disturbances, the smarting quickly passing away.

Although antipyrine is best known for its quick action in pyrexia, which I will allude to later on, I have found it most valuable in migraine. We are well acquainted with the patients, generally neurotic, presenting themselves with the exclamation, "Cannot you do something for these frightful headaches?" Except by some narcotic we rarely succeed to the patient's satisfaction, and in using such soporific we often have to put the patient to bed, thereby incapacitating him from business, which to some is a very serious matter. I have found these headaches confined to no class of persons, or sex—their duration averaging from six to thirty-six hours, occurring at all seasons of the year, among anæmics as well as plethorics, although the majority of patients are those of neurotic tendencies. They are intermittent in character, most common in middle life, and the pain very acute. They begin generally over either eye, extending over the entire forehead, and are rarely occipital. The origin of these headaches is difficult to trace beyond the nervous system, the patients frequently being in every other respect organically well. This class of patients is generally easily worried, and their disposition hysterical. Although both sexes suffer, I find sixty-six per cent. among females, for which we have good anatomical reasons.

As my paper is not to treat of any particular disease, but of the action of antipyrine in migraine, pyrexia, etc., I will therefore proceed to give my experience with it. I first began, over two years ago, to use it as an antipyretic with remarkable success, and I may mention here, except in cases with a malarial tendency, I have used since that time no other febrifuge. Another advantage it possesses—our patients do not complain of the ringing of the ears usually following the use of quinine. I have never so far found it to leave any ill effects. It is pleasant to taste, rarely interfering with the digestive apparatus. In pyrexia I often use as high as sixty-grain doses. In one case of purulent metritis I gave forty-grain doses as often as every six hours, and kept so doing for one week, the patient making a good recovery. In the pyrexia of phthisis I find it very valuable. The reduction of temperature takes place after one or two hours; at the same time the patient becomes more comfortable and sleeps better. I find the same relief in the pyrexia of pneumonia, typhoid fever, and nearly all febrile diseases. In the pyrexia of acute scarlatino-nephritis, of acute follicular amygdalitis and pharyngitis, in the irritating pyrexia of disease, in the pyrexia of milk fever, of peritonitis, and of gastro-intestinal disturbances, Dr. Barnett, my former associate, has, by the use of antipyrine, obtained most gratifying results. In many cases of acute articular rheumatism antipyrine in combination with sodii salicylate and bicarbonate has, when persisted in for some days, yielded me very desirable cures. The acute pain was lessened, the fever disappeared, and the duration of the attack was curtailed. I have in my case-book a record of over forty cases so treated. In my hands in cases of acute amygdalitis and pharyngitis the temperature was invariably reduced to a normal status, the patient resting much more comfortably, and the disease tending to abate in a shorter time than was customary and without the formation of an abscess.

But the most pleasant results I see from the use of this drug is in migraine. I have a record the past two years of over eighty cases in which I have used antipyrine for the relief of migraine. These cases are not selected. In fifty-four the drug acted favorably in from thirty minutes to two hours. In fifteen cases the pain was much abated, and when I resorted to chloral, bromides, or other drugs, I had to use smaller doses than the patient had otherwise been in the habit of taking. The relief was greater and the attacks generally cut short. From eight cases I had little or no effect. The reports from successful cases were all in favor of this drug, not only that it was quicker in its action, but that it did not leave the ill effects generally left by other forms of medication they had been in the habit of using. The usual narcotic treatment of migraine is generally hurtful, the patient being too ready, on the slightest symptom of pain, to fly to his favorite drug, many times establishing a habit which is worse than the original disease. This objection cannot be applied to antipyrine, as it neither narcotizes nor stimulates our patients. I have recommended many patients who are subject to attacks of hemicrania to keep twenty-grain powders constantly on hand, instructing them on the first symptom of an attack to use one powder in a little Vichy, and repeat in two hours if the pain has not abated. In an editorial of The Medical Record, February 6th, of this year, I read an article in which Dr. J. Blake White, of this city, and Dr. Unger, of Berlin, are first said to have used antipyrine in migraine. I can state that over a year ago I mentioned to Dr. E. C. Seguin, Dr. C. K. Briddon, and Dr. Robert Watts, of this city, my experience with it. When I recalled the conversation to Dr. Seguin, a few days ago, he distinctly remembered it. I will not occupy any more of your valuable time, but finish by stating that in antipyrine we have a drug that is safe and quick in its action, leaving behind no ill effects, and filling a long-desired place in our therapeutic armamentarium. A number of writers in speaking of it have mentioned its tendency, owing to the rapid reduction of heat, to produce failure of the heart's action. I must say that in my experience, and I have watched its effects very carefully, I have never yet seen the slightest ill effects from its use. In a small percentage of cases an eruption simulating that of rubeola makes it appearance on face, neck, thorax, or abdomen—occasionally on the extremities. A

[1] Read before the Neurological Society, April 5, 1887.

profuse perspiration has likewise been noted and seen in some patients. These are the patients who are especially sensitive to the effects of any drugs circulating throughout the body.

I believe that in antipyrine we have a drug, *par excellence*, with which we are able to overcome high temperatures; that it may be used in diseases where an elevated temperature has been maintained for some time—and I believe that, as the drug is only a recent innovation, a careful scrutiny of the pulse for stimulation is not contraindicated; that it is to fever what opium is to pain; that it cannot compete with quinine in intermittent fevers; that in migraine an extensive field has been thrown open for its usefulness. Its method of action here appears to be by means of a reduction in the fever-pulse rate, exerting a calming of the vaso-motor system; the capillaries dilate, and local congestion disappears. Finally, I hope that these few suggestions, based on experience, may cause others to allow no opportunity for observations of its action to escape unnoticed and unpublished.

Clinical Department.

THE TREATMENT OF BURNS.

Dr. W. P. Copeland, of Eufaula, Ala., reports the following cases to illustrate the mode of treatment employed by him in burns. He writes that he does not know whether the plan has been previously recommended, but it is one that has proved very effectual in his hands:

"Case I.—A young man received severe injuries in a boiler explosion, his face, ears, and hands being very badly burned. At the time I saw him, some weeks after receiving the burn, he was being treated by daily removals of the dressings, washing the parts with warm water and castile soap, then dusting the entire burn with subnitrate of bismuth, followed by a reapplication of the bandages and of cotton anointed with cosmoline. The patient was rapidly acquiring the morphine habit, by reason of the large doses given for the relief of pain, and the burn was doing badly. I had the dressings left off, and put the hands in pasteboard boxes without any bandages, not allowing anything to rest on the burned surfaces. The ends of the boxes were cut out to fit the wrist, and they were covered with mosquito-netting to keep off flies. The face and ears were left unbandaged also, with mosquito-netting so arranged as not to touch the burned surface. On the next day the burned surface had become dry and was covered with a thin film of scab, which gradually thickened. When pus was found to be accumulating under the scab a small opening was made at one edge, and the secretions were pressed out by means of a soft, dry piece of lint. The case progressed satisfactorily and speedily to a cure, with very little disfigurement.

"Case II.—A little girl, aged two years, was standing by an open grate when her clothes caught fire and burned a place two by three inches in dimension on the right thigh. The child was treated with the usual household remedies for a week or two, but gradually grew worse and began to have fever. Being called in at this stage, I removed all the dressings and placed a perforated oval paste-board box over the burn and secured it in place by adhesive plasters, with instructions not to remove it for three days. At the end of this time it was removed, and the burn was entirely covered over with a dry crust that protected the parts, which soon healed without further trouble.

"Without taking up time and space to relate other cases, I would summarize by saying that the method, too often adopted, of daily washing off burns or open wounds with water, and removing the secretions, only breaks up the delicate adhesions that have taken place since the last dressing, and keeps up the irritation by pulling off and washing away the very substance with which nature is trying to repair the injury."

SOME TRIALS OF BERGEON'S METHOD IN THE TREATMENT OF PHTHISIS.

Dr. M. M. Johnson, of Hartford, Conn., writes: "For the last two months I have been using Bergeon's method at the Hartford Dispensary with most satisfactory results. The treatment has not been carried on long enough to enable an accurate estimate of its true value to be formed. The patients are for the most part in the advanced stages of the disease, and are treated as they present themselves without selection of the cases. A careful record of each case is being kept, however, by Drs. Root and Segur, and in time it will be possible to form some judgment of the value of the method and to determine what cases are most likely to be benefited by this mode of treatment. Thus far there has been an evident improvement in the symptoms. The night-sweats cease, the cough becomes loose and expectoration easy, the appetite improves, the patients sleep well and increase in weight, the circulation is quickened, and the cold, clammy extremities become warm. When it is remembered that dispensary patients, as a rule, live under bad sanitary conditions and are poorly nourished, so marked an improvement in so short a time augurs well for the success of the treatment, especially as the improvement took place during the inclement weather prevalent in February and March. The apparatus is similar to that already described, except that I purify the gas by thorough washing. After the carbonic acid gas leaves the generator it passes through two wash-bottles on its way to the gas-bag receiver. When administered it is forced from the bag through a wash-bottle filled with hot water, and it then passes through another bottle, where it is impregnated with the carbon bisulphide. Thus the gas is washed three times and administered at the temperature of the body. Before inserting the tube into the rectum the gas should be passed through the tubes and bottles long enough to expel all the air. When the gas is injected cold, or mixed with air, it causes severe griping pains, but when the proper precautions are used it excites no pain or discomfort."

Dr. Henry Ecroyd, Jr., of Newport, R. I., reports the following: "Dr. S——, thirty-two years of age, naturally weak, had overtaxed his mental and physical powers, which resulted in complete prostration in December, 1886. His mother died of 'lung fever,' and a sister of acute phthisis, but the family history was otherwise good. On December 20th he had a slight pulmonary hemorrhage, was delirious during the night, and when awake had a fear of impending dissolution. Examination of the chest showed flattening under the right clavicle, with prolonged and feeble respiration, but no râles. He was removed to the Newport Hospital, and on January 1st the following symptoms were noted: Temperature, 100.7°; pulse, 84; respiration, 28. On the right side of the chest there was a dulness anteriorly to the nipple, and flatness posteriorly to the angle of the scapula. Anteriorly, crepitant and subcrepitant râles, and the same posteriorly with pronounced bronchial breathing; the face and extremities were cyanotic. His condition remained practically unchanged until January 20th, at which time the symptoms assumed a more grave type; hectic developed, the evening temperature was 103.2°; pulse, 100; respiration, 32; and the pulmonary signs gave evidence of a breaking down of the lung-tissue. It was now determined to make a trial of Bergeon's method, and on the twenty-fifth Dr. Rankin and the writer administered one litre of carbonic acid gas impregnated with sulphuretted hydrogen. The subjective symptoms were a 'tingling' sensation and a peculiar but not disagreeable taste. The following morning the temperature was normal; pulse, 80; respiration, 24. On February 2d no gas was given, and that evening the patient's temperature rose to 101.2° The next day the injections were resumed, and the temperature fell 1°. After four days the treatment was discontinued to note the effect upon

the albuminuria which had developed. At that time the patient's condition was as follows: Physical appearance greatly improved, hectic gone, night-sweats decreased, appetite decidedly improved, three meals being taken each day with the addition of five pints of liquid food in the intervals; the lower part of the area of consolidation previously noted was free from bronchophony, but fine râles were heard throughout the right upper lobe. On the ninth the injections were resumed and continued for ten days. At this time the temperature was normal, a few fine moist râles were heard anteriorly at the apex, but none posteriorly, although the respiratory sounds were still feeble. The patient was able to sit up every day, and was gaining rapidly in flesh and strength."

A CASE OF SEVERE EPISTAXIS.

Dr. L. Deakley Rood, of Northampton, Mass., reports the following: "I was called in great haste one evening to see Mr. T——, twenty-seven years of age, who, the messenger said, was having a severe hemorrhage. I went at once and found the patient raising great quantities of blood. I at once instituted the ordinary treatment for such cases, and the bleeding was soon controlled. The next morning I saw the patient again. He had been raising some blood, but not very much. The pulse was small, weak, and frequent, and the patient was so prostrated that he could hardly raise his head. I had supposed that the hemorrhage came from the lungs, as all the symptoms pointed that way, but on inquiry I learned that the patient suffered from a chronic nasal catarrh, and that he was unable to distinguish odors—in fact, had never had any sense of smell. The patient recovered his strength quite rapidly, though he still occasionally raised bloody sputa. At the end of a week I made a thorough examination of the throat and nose. The larynx was fairly healthy, but the mucous membrane of the pharynx and nose was badly congested and more or less granular. A day or two later I was called again, as the patient was having another hemorrhage. This was controlled as before, but another and more obstinate attack occurred a few days later. I determined to prevent any further hemorrhage, if possible, as the patient was becoming extremely weak from loss of blood. I therefore applied solid nitrate of silver to the pharynx and nasal cavity, completely covering the mucous membrane. Twelve applications were made, and the patient never had another hemorrhage after the first application. One remarkable feature of the case is that the patient can now smell perfectly, whereas before he was absolutely without the sense of smell. My theory is that the blood ran from the nasal mucous membrane into the pharynx, and made the patient cough, when it was expectorated."

ARE SYPHILITIC ATTACKS MADE MORE PRONOUNCED BY THE WITHDRAWAL OF ALCOHOLIC STIMULANTS FROM THE INEBRIATE?

Dr. C. F. Barber, of Brooklyn, sends the following communication: "Voluminous as are the writings upon syphilis, I fail to find mention, save in a minor way, of the deleterious effects of alcohol upon the disease. True, we are cautioned again and again to induce our syphilitics to refrain from the use of alcoholic drinks, or, if habituated to their use, to curtail them as much as possible. But no stress seems to be laid upon the outcome of their abuse. It may be my misfortune to meet unfortunate cases, or perchance those made worse by neglect, but the fact impresses me most forcibly that the abuse of alcohol, while not retarding or checking the progress of the disease as to its ultimate results, causes relapses to occur more suddenly and with greater violence than they otherwise would. It may be objected that no inebriate (for it is from this class of patients I draw my inferences) takes care of himself as he should, to say nothing of following the directions of his physician. Granting the point of this statement, I nevertheless maintain that, while many neglect themselves to a dangerous degree, yet there are those who exercise more or less care and attend to their unhealthy condition. I have during my observations, extending through several years of service among this class of people, been forcibly impressed with the fact that syphilitics, as a rule, after the withdrawal of alcoholic stimulants by gradual reduction, suffer in a sudden and severe manner from the disease in some of its many forms. Whether alcohol has any controlling effect upon the disease I am unable to state positively, but certain it is that in some patients there seems to be a period of *stasis* during their excesses. I have in mind several cases in which the disease was dormant for a long period, and suddenly reappeared after a prolonged debauch. In one case this was marked by a most severe laryngitis, causing loss of voice, difficulty in swallowing (to such an extent that nothing but fluids could be taken, and these only in small quantities), swelling of the tongue, and sordes upon the tongue and inner side of the cheeks. This patient retired in apparently good health, but upon awaking the next morning found himself in the condition I have described. Another case is that of a man who invariably, after one of his debauches, is the subject of a syphilitic ulcer on the anterior pillar of the fauces. A third has to combat a serpiginous ulcer over the crest of the tibia. A fatal case which came under my observation was that of a laborer who had contracted syphilis previous to a prolonged debauch, which terminated only after he had been sent to an institution for the cure of inebriety. After being restored to apparently his healthy condition, and while at work among his fellow-inebriates, he was complained of on account of a terribly offensive odor which emanated from him. This could not have been a result of neglect of cleanliness, for he was compelled to bathe frequently. Upon examination he gave a syphilitic history, but said that he had not been troubled for some time by any manifestation of the disease. Upon the removal of his clothing there were found syphilitic papules scattered over his body, and his scrotum was found to be a complete mass of ulcers. There were also ulcers upon the inner side of each thigh. The testicles were no doubt involved; but the condition of the scrotum forbade handling, and the internal parts of the sac could not be examined. This condition had all come on within three days, as the patient had had his bath and a change of clothing, under the eye of a reliable person, but three days previous, at which time he was apparently in a perfectly healthy condition. Many other cases, varying as to intensity, might be cited, but these are sufficient to illustrate my belief. It is well for those who have the troublesome malady of inebriety to contend with to be on their guard, and at the first indication of a syphilitic nature take the case well in hand, and, by proper treatment, alleviate the sufferings which through neglect might cause results of the gravest nature."

SPONTANEOUS DELIVERY IN A CASE OF PLACENTA PRÆVIA.

Dr. B. P. Reese, of Staunton, Va., writes: "About two weeks ago I was called to see Mrs. T. C——, over forty-five years of age, of good general health, who was supposed to be pregnant about eight months. She was having slight pains at long intervals, with some hemorrhage. I directed her to remain quietly in bed and prescribed opium and camphor. Ten days later I was again called and learned that the patient had lost a good deal of blood. The vagina was filled with clots, and after removing these I found the os dilated to about the size of a half dollar. She was having very slight pains and at long intervals. I administered half a drachm of fluid extract of ergot. Dr. Gibson, who was called by me to see the case, di-

lated the os with his finger until it would have admitted the whole hand if necessary. The hemorrhage now ceased, and I repeated the ergot. The head of the child could be felt through the bag of waters, and we decided to wait upon the efforts of nature, unless some urgent symptoms presented themselves. I gave a third dose of twenty drops of ergot, and the pains soon became more frequent and forcible. The head could be felt advancing with what we supposed to be the bag of waters in front. But to my great surprise this proved to be the placenta, which came out in advance of the child with but little hemorrhage. The child appeared to be premature and was born dead. Among the other things that this case suggested to my mind was that we may sometimes be in too great a hurry to carry out the rules laid down in the text-books to deliver at once in a case of placenta prævia."

Progress of Medical Science.

The Treatment of Retro-deviations of the Uterus.—Since October, 1882, Fraenkel, of Breslau, has treated 5,180 persons suffering from gynæcological affections; of these, 936 or 18.07 per cent., were cases of retro-deviation, that is, 645 retroflexions and 291 retroversions; the latter figure, as contrasted with the number of retroflexions, proves, so Fraenkel says, the inaccuracy of Bantock's statement that retroversion is the most frequent form of retro-deviation. Of these 936 cases of retro-deviation, 417 were patients seen in private practice, and 519 were out-door patients, treated at the polyclinic; the latter class belonged to the lower walks of life, were women who, for the most part, had undergone frequent pregnancies were obliged to work hard, and had lacked the proper care during their confinements; these causes, coupled with habitual lack of suitable nourishment and rest, being fruitful in uterine misplacements, and especially retro-deviations. In forming a judgment as to the frequency and permanence of a cure in these misplacements, Fraenkel was obliged to rely on the 417 cases in private practice, not being able to follow out the results of the treatment of the out-door patients. Of these 417 patients 123 were cases where the uterus was irreducible, where no mechanical treatment was necessary, or where the patient was subsequently lost sight of; only 294 cases were left for a fair trial of the value of mechanical support. The first step in the treatment was, of course, to rectify the retro-deviation; this Fraenkel was generally able to accomplish with the hand alone, the patient being in the knee-elbow position; in only 23 cases was he obliged to make use of the sound to straighten out the uterus. In 47 cases he was compelled to call in the aid of an anæsthetic. The only pessary which Fraenkel has used for the past four years is the Thomas pessary, which, he thinks, is sure to retain the uterus in its normal position, keeps clean, and may be worn six months or more without being changed. Another advantage of this pessary is that it allows sexual connection as well as conception; it is, moreover, sufficiently flexible, may be moulded into any shape to fit the pelvis, and renders possible a permanent cure. It is hardly necessary to say that retroflexion of the uterus entails sterility, absolute or relative. Retroflexion of the gravid uterus demands only an expectant treatment—provided that symptoms dependent on stasis, or compression of the uterus or neighboring viscera, do not exist. The gravid uterus in retroflexion often spontaneously straightens itself as that organ rises out of the pelvis; it is not true, however, according to Fraenkel, that pregnancy cures the retro-deviation, which is almost sure to return after the accouchement. To prevent this, he advises, in cases liable to this accident, the application of a large Hodge pessary the eighth or ninth day after confinement. Of the 294 cases which Fraenkel has treated with the Thomas pessary, there are, he says, 24 in which there is no doubt as to an absolute and permanent cure. These patients have been continually under his observation. The average time during which the pessary was worn was a year. The maximum was twenty seven months, the minimum nine weeks and three months.—*The Boston Medical and Surgical Journal.*

The Danger of Sublimate Used in Dressing Wounds.—At a recent meeting of the Paris Biological Society, M. Lucien Butte made a communication respecting the danger of mercuric chloride when used in dressing wounds and washing out cavities. The digestive organs are those most easily affected by corrosive sublimate. When the poison has been absorbed in sufficient quantity, diarrhœa comes on a few hours after the dressing of the wound; at first it is simply watery but afterward becomes sanguinolent, and is accompanied by tenesmus, pains in the rectum, and abdominal colic, together with nausea and vomiting. Stomatitis and salivation are rarely observed. There is albuminuria, varying frequently in degree; the urine contains lymphoid and epithelial cells with granular casts. There is also severe headache, with slight transient disturbance of the intellectual faculties and insomnia. There is occasionally slight hyperæsthesia of the skin. Toward the end, although the intelligence is intact, sensation is less acute, the sight becomes dim, the pulse is weaker, the pupils contract, the temperature falls, and erythema appears, often in a very exaggerated form. The most important lesions are found in the alimentary canal, especially in the large intestine. The inflammation is generally limited to the colon, and rarely extends beyond the valve of Bauhin. There is violent hyperæmia of the mucous membrane, and the epithelium may be easily detached; the mucous membrane, which is superficially necrosed in some parts, is in others covered with a diphtheritic coating infiltrating the underlying layers. This coating is easily removed, when slight ulcerations with well-defined edges become visible. These ulcerations only affect the epithelial layer of the mucous membrane. These intestinal changes, which have been already observed by Prévost, of Geneva, have been recently studied by Charrin from an experimental point of view. Characteristic lesions are also sometimes found in the kidneys. These organs are large, pale, and anæmic, and show the changes indicative of acute parenchymatous nephritis. Moreover, at the periphery and in sections striæ are seen of irregular size and of a yellowish-white hue. Microscopic examination shows that these points and striæ are composed of deposits of amorphous masses of oxalate of lime, which are situated in the hooked tubules, and are more abundant in the cortical matter than in the pyramids. Saikowsky succeeded in producing these lesions experimentally in rodents. Prévost showed that the calcareous deposits were caused by the decalcification of the bones, which in this form of poisoning lose as much as nine or ten per cent. of their solid constituents. The peritoneum is sometimes slightly injected. The liver is generally pale and anæmic. The other organs are unaffected, excepting the brain, which, in an experiment of Doléris, was found to be slightly congested. The course and duration of the affection are variable. In some cases the patient after a time gets quite well; while, in others, death occurs in from three to fourteen days—*The British Medical Journal.*

The Cultivation of the Bacillus Tuberculosis—The Paris correspondent of the *British Medical Journal*, February 12, 1887, writes on this subject as follows: "At a recent meeting of the Paris Biological Society M. Nocard stated that the researches which he had made in conjunction with M. Roux showed that ordinary broth, gelatinized with gelatine or with gelose, was one of the best media for the cultivation of the bacillus tuberculosis, if from six to ten per cent. of glycerine be added to the broth. It was much superior to gelatinized blood, re-

commended by Koch, and was much superior even to serum with peptone and sugar, which was recommended last year by M. Nocard. The cultivations were not only richer and more abundant, but they developed much more rapidly, eighty days being sufficient to produce a very thick layer of micro-organisms. The tubercle bacillus may be cultivated under these conditions not only in a liquid, but also in a solid medium. MM. Nocard and Roux's discovery is not only of considerable theoretical interest, but also of great practical importance. It is well known how uncertain was the cultivation of tubercle bacilli in serum, and how long a time it took to obtain a result. This made experimental researches on this micro-organism, from a pathological point of view, almost impossible; but, with this new medium of cultivation, they become easy, and investigators may undertake researches that were before impossible, especially as, in a medium solidified with gelatine or gelose, they will be able to isolate the tubercle bacillus from others that may be present in the same substance."

Waking Numbness.—Dr. A. H. Smith describes, under this title, a heretofore undescribed neurosis, and reports four cases, from a study of which it appears that the numbness is something added to the normal condition. It is a purely subjective condition. There is no paralysis of motion or sensation, the tactile sense is unimpaired, there is no change in the temperature of the affected part, the surface is not blanched or mottled, there is no tenderness on pressure. These characteristics separate this condition widely from those known under the names of night-palsy, local asphyxia, digiti mortui, Raynaud's disease, erythromelalgia, and from the various paræsthesias and acroneuroses heretofore described. Doubtless the conditions upon which the numbness depends are present during sleep, but the sensation is not sufficiently strong to arouse the sleeper, and he first becomes conscious of it when awakened by some other cause. The cause of this condition is probably central, since the effect is usually symmetrical. It would seem to be connected with the lowering of the circulation which takes place during sleep, and to disappear when the circulation returns to the waking condition, whether the return be spontaneous, or the result of rubbing, etc. As to the latter, it is doubtful whether it has any other effect than that upon the general circulation which the muscular exertion would necessarily produce. As for treatment, in the only case in which the condition existed by itself, and independently of more serious conditions, ergot, digitalis, strychnia, and aconite were tried at different times, but without result. The inconvenience produced by the affection was so slight that no treatment was carried out efficiently, so that even these negative results were of no value. In each of the other cases there was a diseased condition present, to which the numbness was subordinate, and which afforded the indications for treatment. In proportion as the treatment of the underlying condition was successful the numbness disappeared. If it be true that the cause is central, no local treatment is likely to be of service.—*The American Journal of the Medical Sciences.*

The Treatment of Malarial Diseases by Picrate of Ammonia.—Dr. Martyn Clark, in charge of an Indian medical mission, has communicated the following to the *Lancet*: "Picrate of ammonia possesses valuable therapeutical properties, though it does not seem to have received the attention which it deserves. The characters, properties, and uses of this substance were carefully investigated by Dr. Dujardin-Beaumetz, and the results were communicated by him to the Therapeutical Society of Paris in 1872. The salt had previously been successfully used in the treatment of intermittent fever by Drs. Braconnot, Calvert, Aspland, Bell, and others. Dr. Beaumetz's investigations confirmed the results at which these observers had arrived, and showed that in this substance we have a valuable and efficient substitute for quinine in the treatment of malarial diseases. It appears to have passed out of mind, and, as far as I can gather, has never been used in India. My attention was directed to it accidentally in the following way: I had a patient under my care at a hill sanatorium who had suffered for seven months from severe intermittent fever of the quotidian type. Quinine, arsenic, and other antiperiodics had been, and were, freely used, but failed to give relief. After ten days' treatment the fever still recurred daily with its accustomed severity. At this juncture the local chemist told me of a remedy for fever, which he had received some years previously, but had never tried. This I found to be picrate of ammonia. I gave it to my patient, with very gratifying results. The fever did not recur next day, nor did it do so at any time during the three subsequent months in which she remained under my observation. I have since then constantly used the picrate of ammonia in the treatment of malarial diseases. There has been ample opportunity to test it fully, for Amritsar is notorious in the Punjab for its unhealthiness, and diseases of this kind are severe and frequent. During a period of four years and a half I have treated over ten thousand cases of these diseases with this agent, with the happiest results. So uniformly successful has it been that I have in our very extensive practice here given up the use of quinine and the cinchona alkaloids for the treatment of intermittent fever, and have substituted picrate of ammonia for them. A record was kept of five thousand cases of intermittent fever treated with this agent. Of this number, in nine cases only did it fail to cure, and in these quinine succeeded at once. I usually give it in doses of from one-eighth of a grain to a grain and a half four or five times a day in pill. Half a grain is a fair average dose. Thus given the result is soon visible. In the great majority of the cases treated, half-grain doses in the interval prevented the recurrence of the next attack of the fever, while in about twenty per cent. of the patients two or three attacks followed before the fever ceased. In one case of quartan ague, despite large doses of the salt, the fever recurred for six periods, gradually diminishing in intensity, and then yielded to it. It is equally successful in all the forms of ague, but it is a curious fact that the cases in which it failed to cure were all of the tertian variety. I have also employed this agent in the treatment of twenty-five cases of malarial neuralgia of various nerves, six cases of malarial headache, and one of malarial colic. In all these instances it cured completely and speedily. In remittent fever it does not appear to be of use; six cases of a severe type were treated with it without any effect. Neither is the enlarged spleen of ague benefited by it. I have given it in numbers of such cases in conjunction with ergotine with good results, but such results are secured equally by the use of the ergotine alone. My experience leads me to the conclusion that in all varieties of intermittent fever, and in malarial neuralgias, picrate of ammonia is a valuable antiperiodic, and it is an efficient and perfect substitute for quinia. It has the following advantages over quinine: 1. It is much less expensive. This is an important consideration where, as in Indian practice, hundreds of cases of malarial diseases have to be treated annually. 2. The dose given is very much smaller. 3. It does not produce the unpleasant effects that quinine does—headache, deafness, tinnitus, etc.; nor does it disorder the digestion or cause nausea, as quinine is apt to do, in the doses in which it has to be given in India."

Urethritis without Gonococci.—Chazeaux claims (*Lyon Médical*) that there occurs among rheumatics a virulent urethritis in which gonococci are wanting; that it is characterized by a purulent urethral discharge and other symptoms of blennorrhagia; that the entire absence of gonococci is the only positive point in differential diagnosis; that the rheumatic diathesis can of itself produce this disease, contagion or a specific organism being wanting.

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PHYSICAL TRAINING AND MENTAL CULTURE.

THE Annual Report of the State Reformatory at Elmira, recently issued, contains an interesting account of an experiment made to determine the value, if any, of physical culture in stimulating the mental faculties. The results, while not startling, were yet sufficiently noticeable to mark the experiment as a success.

A class was formed of twelve men, ranging in years from nineteen to twenty-nine, who had made no progress in their school work, and seemed incapable of prolonged mental effort, but who could not be classed among the feeble-minded. None of them had learned any trade, and their ignorance was almost phenomenal, many of them not even knowing the name of the State or country in which they lived. The plan followed embraced the substitution of a special dietary for the regular prison fare, frequent bathing, followed by passive exercise, kneading of the muscles, rubbing, and a manual drill and calisthenics. The course of studies pursued was the same for all, the general level of intelligence being so nearly even that no advantage was given to any by such an arrangement. The class was formed on June 5th, and was discontinued on November 6th.

The daily routine of the men forming the class was the following: Breakfast, consisting of eight ounces of bread with butter, and a pint of coffee or cocoa, was served at six o'clock. At eight o'clock the class went to the schoolroom. At half-past nine one-half of the number went to the bath. The men bathed three times a week, taking one vapor and two tub baths one week, and one tub and two vapor baths the next week. After the bath the body was spatted until the skin was in a glow, when the muscles were kneaded and pinched, passive motions of the joints were made, and then followed brisk rubbing with a coarse crash towel, all being done by a professional trainer. After the bath the men would generally sleep until dinner. Dinner was at twelve o'clock, and consisted of about five ounces of meat or ten of fish, and from nine to sixteen ounces of vegetables. After dinner they were put through a drill, supplemented with the use of dumbbells, lasting for about two hours. Supper was at five o'clock, and consisted of eight ounces of bread with butter, and one pint of tea, cocoa, or milk.

"With physical culture and improvement," reports the medical officer, Dr. Wey, "there came a mental awakening. For the five months preceding the experiment the average marking of the twelve men in school work, according to the school register, was 45.25 out of a possible 100, and during the five months of the experiment, 74.16. Figures are misleading and statistics frequently express nothing. The measure of improvement in these twelve men can hardly be expressed in numbers, but must be judged rather by the work they accomplished than by a numerical scale. The acquisition of mere book-learning was not so much an object as to determine if physical culture in men of coarse fibre and blunted sensibilities could not be made a means to mental effort and awakening. To those of us who were thrown in daily contact with the men a mental awakening was apparent, and, upon the whole, the results obtained were as great as we had reason to expect. The men became interested in their studies and strove to appear to the best advantage in the school-room, working diligently in their cells with pencil and paper to master their tasks."

The secretary of the schools, Mr. R. B. Corey, bears similar testimony concerning the progress made. He reports: "Upon realizing that an opportunity to better themselves was being offered, all the class entered heartily into the work. As their minds brightened, from being fairly contented to remain in the lowest grade an ambition to earn perfect records guided the conduct and work of all. At the present writing one man has reached the first grade, and the remaining eleven are in the second grade. The results proved that the mental faculties of the class of men under consideration can be awakened by the breaking up of former lines of conduct and by a physical training, corresponding to that enforced in this case. The record of perfect months has caused the class to use every effort to reach the first grade, and this desire, together with the educational progress already made, will undoubtedly tend to hold the men up to the average and progress that are demanded in the classes to which they are assigned."

It is difficult to say whether this awakened ambition in the minds of the men composing the class was in consequence of the improved physical condition, or was the result of a psychical impression produced by the novelty of their position. They were picked out from their fellows for a certain work, and were doubtless proud of their distinction. This, as well as their improved physical condition, made them feel in better spirits and better humor, and consequently they were in better mood for study. As Dr. Wey remarks, it will be interesting to note, now that the class has come to an end, and physical culture and stimulation as a means to an end have been discontinued, whether the men, assigned to the various shops and distributed among the primary classes, will be able to develop the mental power that the summer's work has revealed, or whether they will sink back to the level where they were before the experiment was begun.

PHYSIOLOGY "AS SHE IS TAUGHT."

A GREAT deal more has been made of the little work "English as She is Taught" than deserves to be the case. There are stupid children everywhere, and a compilation of their stupidities does not necessarily reflect upon their teachers. We should be much interested in seeing a col-

lection of examples of "Medicine as She is Taught," compiled from the green-room experiences of our medical faculties. We fancy that the misconceptions of public-school children would dwindle into superlative insignificance in comparison, as the following illustrations taken from the Western press will show: A student is asked to report a case and responds with this result:

"*History of present illness:* Stranded himself and spit of a brite red collor. *Present condition:* 'Have you any feaver or nite swets?' 'No.' Very little expanshun of scapular in rite. *Fisical examinashun:* Exagerated breading, herd fricton sounds. Herd snores valves [this statement much puzzled the examiners, ultimately they concluded the candidate referred to 'sonorous râles']. *Prognosis:* Can't be cured, but can be sent to mexico."

While too much should not be inferred from such specimens, the selections from "English as She is Taught," showing "Physiology as She is Taught" in our public schools are not only amusing, but have a suggestive interest. We append them here:

"Physillogigy is to study about your bones stummick and vertebry.

"Occupations which are injurious to health are carbolic acid gas which is impure blood.

"We have an upper and a lower skin. The lower skin moves all the time and the upper skin moves when we do.

"The body is mostly composed of water and about one-half is avaricious tissue.

"The stomach is a small pear-shaped bone situated in the body.

"The gastric juice keeps the bones from creaking.

"The Chyle flows up the middle of the backbone and reaches the heart where it meets the oxygen and is purified.

"The salivary glands are used to salivate the body.

"In the stomach starch is changed to cane sugar and cane sugar to sugar cane.

"The olfactory nerve enters the cavity of the orbit and is developed into the special sense of hearing.

"The growth of a tooth begins in the back of the mouth and extends to the stomach.

"If we were on a railroad track and the train was coming the train would deafen our ears so that we couldn't see to get off the track."

Such examination answers as the above lead one to the suspicion that the mysteries of the human body are not made very clear to public-school children.

Physiology and anatomy are difficult studies. Correct notions of our body and its functions can only be obtained by objective teaching, and then only where the student has some maturity of general knowledge. These studies should, therefore, be placed as late as possible in school courses.

THE TREATMENT OF PHTHISIS BY GASEOUS INJECTIONS.

The reports and discussions at a recent meeting of the Practitioners' Society, published elsewhere, give the first results of the experience of New York physicians with the Bergeon method of treating consumption. The cases so treated are not many, but those reported upon were all of a serious character, and the treatment has at date of writing been continued for nearly ten weeks. Improvement occurred under the use of the injections, but no striking results were obtained, and the conclusion so far reached seems to be that while there may be "something in it," the treatment is very far from a specific for consumption.

A substitute for the method has been proposed by Dr. Szerlecki, of Lyons. He thinks that the injections act through the stimulating influence of the carbonic acid gas on the respiratory centre, and through the disinfectant properties of the sulphurous acid. He, therefore, suggests submitting patients to an atmosphere containing one per cent. of CO_2, and 0.05 per cent. of sulphurous acid.

CHRISTIAN HEALING FROM A CHRISTIAN STANDPOINT.

We have so often been obliged to criticise the clergy, and especially such as control religious journals, for aiding and abetting medical quackery, that we turn with pleasure to a recent sermon, by the Rev. E. C. Ray, of the First Presbyterian Church, at Hyde Park, Ill., a report of which lies before us. The discourse is on the subject of mind-cures, faith-cures, etc., and its tenor may best be judged by a few extracts. The preacher says:

"*Apparent cures* are often followed by a relapse, temporary improvement by permanent decline. From reported cases of cure we must deduct many of unreported relapse; it is not in human nature, when a wonderful cure has been published abroad, to follow it up with an account of the relapse coming afterward.

"*Mistaken diagnosis* accounts for many supposed cures. Physicians often, patients more often, mistake the nature of a disease. Temporary swellings are called malignant tumors or cancers (thus cancer-doctors get their reputations); hysteria simulates almost every other disease, so as to deceive even the most elect of doctors; dyspepsia produces symptoms of heart-disease or other deadly illness. There can be no question that a large proportion of faith-cures and mind-cures, and a considerable proportion of cases under ordinary medical treatment, are cases of mistaken diagnosis, the disease being less serious in its nature than was supposed.

"*Mistaken prognosis* accounts for many cases; mistake as to what would be the outcome of the disease if no curative methods were employed. It is a truth seldom recognized by patients, though well known to physicians, that *in most cases not hopelessly fatal from the start, there is from the start a strong tendency toward recovery.* Dr. Austin Flint, Sr, than whom perhaps no abler physician has lived in this land, always urged upon his students the truth that not drugs but *vis medicatrix naturæ*, the healing power of nature, is the means of recovery. The wise physician and nurse seldom attempt more than gently and humbly to assist nature in her curative processes.

"Let me add the statement of a conviction derived from some years of such close scrutiny of medical practice of various schools as a pastor has good opportunity for—a conviction agreed to, I think, by most physicians. *The benefit of medicine is often not its direct action upon the disease or upon the body, but its action upon the mind,*

and through that upon the nervous system and the whole body, stimulating faith, hope, expectation of recovery, good cheer, which are probably nature's mightiest remedial assistants."

Discussing the question whether Christians can properly accept the theories and theological inductions of the supporters of faith- and mind-cures Mr. Ray says:

"In view of the positions thus far taken I am clear that faith-cure and mind-cure make no reasonable demand upon us to accept their theories of philosophy or of theology.

"It is clear to my mind that both the faith-cure and mind-cure theories are, though in widely different degrees, perversions of the Gospel, and injurious. A Christian may hold either one and still be a true child of God; for happily theological views are of far less importance than heart-love for God and man; but unfortunately perversions of the Gospel in the long run always do serious harm to other hearts and lives. I shall not now discuss the theology of the faith-cure, which I have on another occasion shown you to be unscriptural.

"It is also abundantly in evidence that while faith-cures and mind-cures, by their influence over the patient's hope and courage, often cure disease; yet, being ignorant of the human body, of anatomy, physiology, and pathology, and depriving sufferers of intelligent and skilled medical and hygienic advice and needed medicines, they not seldom cause death in cases which might have been relieved by proper treatment. They assume in their fanatical ignorance a responsibility which is fearful, and sometimes produces results inexcusable and criminal."

It is not often that such sound doctrines emanate from our brothers of the cloth.

THE AVERAGE INCOME OF THE FAMILY DOCTOR.

The average income of the family doctor in England, according to estimates made by Dr. E. Paget Thurstan in *The Lancet*, is £625 or $3,225. Deducting the average working expenses and the interest on capital sunk, the average net income is estimated at $1,775. If there be included all the physicians having only salaries, as assistants, etc., or having no practice, the average net income is placed at about $1,000.

An average gross income of $3,225 is very much beyond that earned by American physicians, if we include the younger men who are still striving to establish a practice. This is the natural result of the fact that we have twice as many doctors proportionately as there are in England. We have to divide the fees.

TEMPERANCE AND STATE MEDICAL SOCIETIES.

"The days of wine banquets at medical conventions in Texas, we trust, are over, never to return," says the *Texas Medical Journal*. This is *à propos* of a decision not to have a wine banquet, or, if we understand correctly, any banquet at all, at the coming meeting of the Texas State Medical Society.

There are doubtless some excellent local reasons for omitting the banquet, and we are not disposed to question the wisdom of our vinicidal brethren of Texas. It is a mistake, however, to think that medical meetings can flourish on scientific papers, cases, specimens, etc., alone. The doctor likes, as well as anyone, to get rid of the shop at times and indulge to his heart's content in the pleasures of good fellowship. State medical societies are most prosperous and enjoyable in proportion as they give occasion for the agreeable social intercourse, combined with the presentation of well-prepared papers and discussions. It is unfortunate if the liberality of spirit and self-restraint of Texans are not so cultivated that banquets can be held at which those wishing to drink wine can do so, while those not desiring it can be served with the potable waters of the locality. Such arrangements prevail at the present time in most civilized sections, and Texas is eminently a civilized and progressive country.

RAGS AND DISEASE.

In connection with the discussion recently brought by the suit of certain rag-importers to recover damages from a rag-disinfecting company in this city, we would call attention to the facts procured and conclusions adopted by the American Public Health Association.

The discussions in the daily papers upon this matter have not been temperate, to say the least, and have shown a disposition to ignore the really vital question, whether imported rags are not dangerous.

The Committee of the above association collected the following cases:

1. A rag-picker from Amsterdam introduced cholera into the city of Tilburg.

2. At Dresden a rag-picker was the first victim in that Commune.

3. At Mearsen the first one attacked with cholera was a rag-picker.

4. At Wormerveer, in 1886, rags communicated typhus fever to various people.

5. In the canton of Solothern, seventeen workmen, of whom eleven died, were seized with cholera, who were engaged among rags in the paper-mills. There was no cholera within the canton, and the rags came from a cholera district.

6. A sailor died of cholera in Europe; his clothing sent to Maine (U. S.) communicated the disease.

7. Cholera was introduced at Carthage, O., Crow Run, Minn., and Yankton, Dak., by the baggage of immigrants.

8. Nine cases of cholera, four of which were fatal, occurred at Muhlhausen (Thuringia) in 1873, introduced by clothing brought from St. Louis, in the United States, *via* Hamburg and Bremen. Rags in bales have much better conditions for preserving contagion than baggage.

The Report of the State Board of Health of Massachusetts, 1873, shows that one hundred and ninety-two cases of small-pox originated in the paper-mills of that State in 1872 and February of 1883.

The authorities consulted report hundreds of cases and numerous epidemics of contagious diseases communicated by rags.

The committee conclude that, in considering this question of disinfecting imported rags, it is well to remember these points:

1. Diphtheria and scarlet fever are very much more destructive everywhere than is small-pox.

2. Diphtheria and scarlet fever are never absent from any European country.

3. Rags collected from the homes of the people of Europe are more likely to convey diphtheria and scarlet fever than small-pox.

4. The sooner public attention is attracted to the many ways in which those diseases—scarlet fever and diphtheria—which actually destroy our people by the thousands, are introduced and spread, especially throughout the Northern States, the sooner will it become practicable to prevent the introduction of those diseases.

Although diphtheria and scarlet fever are believed to be the most important factors in connection with rags, statistics collected from paper-mills show that small-pox is much the oftener seen. Thus, as the result of Dr. J. H. Raymond's inquiries among Boards of Health and paper-mills, he found the diseases presumably carried by rags, were as follows: Small-pox, 71 cases and 24 epidemics; cholera, 1 case; scarlet-fever, 3 cases and 2 epidemics; typhoid fever, 1 case.

News of the Week.

Talmudic Medicine.—Dr. Carl von Klein writes that the so-called French work on Talmudic Medicine by Dr. Rabbinowitz includes only a part of the Talmud and is an "untasteful compilation."

Disappearance of Cholera from South America.—Despatches state that cholera has disappeared from Uruguay and the Argentine Republic, and is dying out in Chili, where there have been nearly three thousand deaths from the disease.

The Relative Smartness of Doctors' Children.—Galton has pointed out some very curious facts concerning the children of professional men. He found, from a study of the heredity of the members of some of the largest scientific societies of London, that the legal profession presented the most eminent men and the fewest idiots. The medical profession came next; and lastly clergymen, who produced the smallest number of eminent men and the largest number of idiots and feeble-minded. The lawyers gave origin to six times as many more eminent men as the clergy. The clergy gave origin to six times as many more idiots and feeble-minded as the lawyers.

Martineau's Remedy for Diabetes, to which we have already referred, is prepared as follows: Carbonate of lithium, 3 grains; arseniate of sodium, $\frac{1}{10}$ grain; carbonic-acid water, 2 pints. Effect the solution under pressure. The effervescing liquid is to be drunk at meals, mixed with claret, and the foregoing dose is to last for at least three meals, being taken at the two principal meals of the day customary in Paris. No change of diet is necessary.

Not Attacking the Root of the Matter.—The Michigan Legislature is considering favorably a bill to regulate medical practice in that State. The *Medical Age* does not favor the bill as a whole, because "it fails to deal with the question which, in our opinion, is the *fons et origo* of the evils which it is calculated to correct. It accepts the diplomas of medical colleges as a guarantee of the fitness of their possessors to practise medicine. Any medical act which does this is worthless for the end which all acts have ostensibly in view."

A Maison de Sante for New York.—An attempt is being made to establish a "private hospital for invalids," having for its design the accommodation of such patients as wish to have the advantages of a first class hotel and private hospital combined and be able to select their own physician or surgeon to attend them. The prices to be regulated according to location and accommodations.

Dr. Olshausen, of Halle, succeeds the late Professor Carl Schroeder, at Berlin.

State Medical Society of Wisconsin.—The annual meeting of this Society, was held at Oshkosh, on Tuesday, May 3d, at 8 P.M.

A Sign of Summer.—Ship Island quarantine station, off the Mississippi delta, has opened for the summer season, and quarantine has been declared by the Louisiana State Board of Health against all tropical ports where yellow fever generally prevails and where cholera is liable to exist. Until June 1st vessels will be detained only a few hours.

Water-supply and Typhoid Fever.—Dr. Charles Smart has made some comparisons between the death-rate from typhoid fever in New Orleans, a city without sewerage but using pure rain-water as its water-supply, and in Philadelphia, a city with a sewer system and a contaminated water-supply. The condition of soil in New Orleans is much worse than in Philadelphia, yet in twenty years the death-rate from typhoid fever in New Orleans, per 100,000 population, has fallen from 65 in 1866 to 16 in 1885; the average for one decade was 41.3, and for the second, 24.6. In Philadelphia the death-rate from typhoid fever, per 100,000, was 60 in 1866, and fluctuated between 41 in 1879 and 98 in 1876, while the average for the first decade was 55.8, and for the second decade it was 66.1, there being an increase of nearly 11 per 1,000. These figures point to the water-supply as the principal medium of communicating this disease.—*Sanitary News.*

Albuminuria in Diabetes.—Dr. A. Pollatschek, of Carlsbad, has published (*Zeitschr. f. klin. Med.*, xii., 4) some statistical results of the systematic examination of diabetic urine for albumen, with a view to determine whether the occurrence of the latter varies in proportion with the amount of sugar. He found that out of 1,187 specimens, containing sugar in amounts varying from traces to as much as five per cent., there occurred more or less albumen in 437. The percentage (thirty-seven) was almost the same, when reckoned on the cases examined in 1885, as on those of 1886, showing a curious uniformity. By grouping the specimens of urine according to their richness in sugar, he shows that there is no constant relation between the amount of albumen and of sugar—the lowest number of albuminurics (29.1 per cent.) occurring in cases of urine with a minimal quantity of sugar, and the highest (43.8 per cent.) in urines having from two to three per cent. of sugar.—*Lancet.*

The Death of Dr. Alfred Edwards Hooker.—We regret to record the death of our young friend, Dr. Alfred Edwards Hooker. He was born in New Haven, Conn., and was a son of the late Professor Worthington Hooker, of the Yale Medical School. He received the degree of A.B. from Yale in 1880, and (having continued post-graduate studies) of Ph.B. in 1882. In the fall of the latter year he entered the College of Physicians and Surgeons, and graduated with honor in May, 1885. On the first day of June, in the same year, he became an interne in the Presbyterian Hospital of this city, and at the time of his decease was House-Surgeon of the institution, having but a month yet to serve to complete his full term. He was stricken with diphtheria—contracted from a patient in the wards—on Saturday, April 23d, and died on the following Wednesday evening. Dr. Hooker was a young man of great promise. His professional attainments, his integrity and kindliness of heart, all greatly endeared him to his associates. He was buried at New Haven, Friday, April 29th.

University Medical College, New York.—Dr. Wesley M. Carpenter has been appointed Clinical Professor of Medicine, and Dr. A. M. Phelps, late of Chateaugay, N. Y., has also been made Lecturer on Orthopedic Surgery at this institution.

Interesting to Sportsmen.—Professor Parvin states that pruritus vulvæ may be sometimes due to wild hairs.

An English Surgeon-General and an Arabic Doctor.—Dr. Grant Bey gives an interesting account in the *Medical Annals* of the way in which Surgeon-General Hunter treated a distinguished native physician of Egypt, Dr. Sabin Pasha. The latter was president of the Egyptian Board of Health at the time of the cholera. He made a report about the origin of the epidemic not pleasing to the English surgeon. The political powers were invoked, Dr. Sabin was deposed, and the Board made practically ineffective. Dr. Hunter was knighted for these and other brilliant services.

A Case of Blackmail rather than malpractice was recently brought before the courts at Troy, N. Y. Dr. R. H. Sabin was sued by a woman for $10,000 damages on the ground of improper treatment of a case of Colles' fracture. The court dismissed the case and gave the doctor judgment against the plaintiff for $99.44.

The Amount of Alcohol or Distilled Spirits used in the Preparation of Medicines in this country annually is about seven million gallons, or about ten per cent. of the whole amount produced.

Creosote Treatment of Phthisis.—Dr. Sommerbrodt, who claims so much for the creosote treatment of phthisis, uses the following: ℞. Creosoti, 1.0; tr. gentian, 2.5; spts. vini rect., 25.00; vini xeric., q. s. ad 100. M. Sig.: One ounce t. i. d. in a wineglassful of water. The creosote is increased gradually up to 2 gm.

The Famine Specialist, Cetti, has finished an eleven days' fast at Berlin, and Professor Senator recently presented him to the Berlin Medical Society, giving a brief preliminary report of the observations made. It seems that M. Cetti is twenty-six years of age, and his weight was reduced from 57,080 gm. to 50,650 gm. during the eleven days, an average daily loss of 585 gm. Starvation was not absolute, since he was allowed to drink water *ad lib.* He also smoked cigarettes, which, however, could not be shown to have had any influence on nutrition. His general condition remained very good. The quantity of chloride of sodium eliminated in the urine sank from eight or ten grammes on the first day to less than one gramme on the last days. The temperature was always within normal limits, attaining on the seventh and eighth days nearly the physiological maximum. On these days it reached 37.4° C. (99.3° F.), at other times varying between 36.4° and 36.8° C. (97.5° to 98.6° F.); but it never rose above that level. On these two days he was not very well, complaining of colic and suffering from hiccough. The pulse was normal, but very excitable, merely sitting up in bed causing an increase of the rate from 76 to 120. Professor Senator did not enter into further details, which are reserved for later publication, but described the very thorough methods to which M. Cetti was subjected. These comprised accurate measurements of the body and estimations of the excreta, examination of the blood as to its corpuscular richness and hæmoglobin capacity, and sphygmographic studies of the pulse. Observations on the vital capacity and estimation of the oxygen and carbonic acid of respiration were made daily. Dynamometric records were kept. The urine was most thoroughly investigated, chiefly by Drs. Müller and Munk, the analysis including estimations of urea, chloride of sodium, phosphoric acid, sulphuric acid, soda, potash and ammonia, indol, phenol, acetone, and diacetic acid, and also of the digestive ferments which have been recently shown to be present in urine in certain conditions and absent in others. The saliva and the fæces were also submitted to examination.

The Indiana State Medical Society will hold its annual meeting at Indianapolis, on May 10 and 11, 1887.

Physicians' Protective Association.—The physicians of Columbus, Ind., have organized a "Physicians' Protective Association," the object of which is to protect themselves from those who are able but will not pay doctors' bills.

The Causes which make Syphilis Malignant, according to M. Fourier, are infancy and old age, scrofulotuberculosis (whatever that may be), alcoholism, malaria, hereditary or acquired predisposition, poverty and high living, insufficient treatment. But the foremost of all is getting the disease in the first place.

New Disinfectants.—At a recent meeting of the New York County Medical Association, Dr. Charles A. Leale presented samples of new antiseptics and disinfectants, which he had tested, with satisfactory results, in his own practice. The first of these was glycozone, which consists of chemically pure glycerine with four volumes of ozone. It was an entirely odorless fluid, and it effectually destroyed all bad odors. It was thus a very valuable application for cases of offensive cancer. The other agent exhibited was solution of peroxide of hydrogen, which, he said, constituted a most admirable substitute for Labarraque's solution of chloride of lime, which was very offensive to many individuals. Diluted with water, ten parts to one, it could be used in all cases for which the latter was employed; and, like the glycozone, it was entirely odorless and colorless.

Reports of Societies.

THE SIXTH GERMAN CONGRESS FOR INTERNAL MEDICINE.

Held at Wiesbaden, April 13, 14, 15, *and* 16, 1887.

PROFESSOR LEYDEN, PRESIDENT, IN THE CHAIR.

[Special to THE MEDICAL RECORD.]

WEDNESDAY, APRIL 13TH—FIRST DAY—MORNING SESSION.

AFTER the session had been called to order, the President, PROFESSOR E. LEYDEN, of Berlin, delivered the

OPENING ADDRESS.

He laid down the future work of the Congress, and also reviewed what had been done in the past. Every physician knows to what a great extent the medicine of to-day has to thank the natural sciences; he knows that science alone has saved medicine from the pool of arbitrary and inhuman speculation, and founded it anew on the basis of well-grounded facts. The physician must be a searcher of Nature. He must learn to observe, prove, and sift the causes of disease in a scientific manner. The task of the physician is, however, not yet exhausted. He has, besides the scientific problems, a practical side to which he must attend.

MEDICINE MUST BE PRACTICALLY HELPFUL.

Those who are inclined to elevate the scientific above the practical must acknowledge that medicine has not a scientific speculation but a practical need to thank for its origin. Every one who has chosen the calling of a physician must undertake its duties with conscientiousness. He must bring to his assistance, in the treatment of his patients, all the knowledge and means which, in his time, medicine will command. Medicine must be independent, quite sovereign, in this endeavor. To her there is no dogma and no method; she sees with her own eyes and hears with her own ears. Consequently the problem of medicine is not only that of the natural sciences, but there is also another problem which must be solved independently, and this must be done in every branch in its own manner. Above all things, we must not allow the consciousness of the importance of our art to fail us, for

MEDICINE IS DISTINGUISHED BEFORE ALL THE NATURAL SCIENCES

because it deals with the well-being of our fellow-men. "In this branch of the natural sciences which is called medicine," says Hüter, "is prominent the tendency to preserve the life and utility of man." This task gives to our profession its especial importance. Our age is eminently a practical one, and knowledge, to be esteemed worthy of acquisiton must be useful. In the laboratory we study the particular primary causes of disease, to investigate them in their laws, their connections, their actions. Still the experiments remain one-sided, necessarily, in that only one or few of the appearances are brought out; the great number of symptoms we can only learn at the bedside.

The first subject to come up for consideration was

THE THERAPEUTICS OF PULMONARY PHTHISIS.

DR. DETTWEILER, of Falkenstein, read the first paper on this subject. He said, through the discovery of Koch we have now won a victory over the infectious diseases, and especially over this, the most dangerous of them all. The first true efforts at prophylaxis are now practised, and we are still advancing in this line. The speaker referred to the present laudable desire of physicians to help each other in attaining the great aim in medicine, and then gave a concise historical review of all the points coming under consideration. His address closed with the following conclusions:

1. A specific treatment of phthisis has not yet been found. All investigations in this direction have so far reached no conclusion.

2. The rational treatment so far has for its object to bring the nourishment and functions of all the organs of the individual up to the physiological point. Especially is it of the greatest importance to enable the organs threatened with destruction to throw off the virus. Besides the greatest possible amount of benefit which is obtainable from fresh, bracing air, a certain degree of over-nutrition, the treatment of existing symptomatic fever, and long residence in the proper climate to insure that the patient will hold what he has gained, are essential. There must also be an accompanying treatment of the mind as well as the body, since strength both of mind and body is the surest bulwark against the first symptoms of the attack of all diseases.

3. A specific climate insuring entire immunity does not exist, and the worth of a climate depends, therefore, on the especial qualifications it possesses to attain the requirements stated in No. 2. Phthisis can be cured in any climate free from extreme changes, and the individual condition of the patient alone decides the choice, since the manner and method of living are the first essentials of proper treatment.

4. The underlying mistake in the therapy of phthisis to-day is the deeply rooted belief in the inability to obtain relief in this disease. To insure success we must enter earnestly into the case, and must sacrifice everything to the comfort of the patient and the pleasantness of his surroundings. He may have to be humored in changes from southern to mountain resorts or watering-places. The diagnosis of catarrh of the apex is bad, for catarrh of the apex is already phthisis.

5. The connection of the physician with his patient must be unbroken, and not depend on the whims of the latter; this requirement, as well as others, cannot be carried out to the letter except in an establishment or a special hospital. The part of the pedagogue and psychicist plays an important rôle in the treatment. On this account the physician must have a strong power of persuasion and a dominating will; he needs the greatest patience and resignation, true sympathy with the sufferer, and must, to use Nothnagel's words, "in this respect, if a good man, be a good lung-doctor." He then referred to the great success which had followed his individual method of cure, the so called open-air cure, which had proved, in all seasons of the year, to be his most helpful aid. Of ten hundred and twenty-two cases of pure bacillar phthisis pulmonum which had been in his institution at Falkenstein in the last ten years, one hundred and thirty two were discharged as entirely cured, and one hundred and ten as relatively cured. The last consisted of such cases as, from the condition of the lungs, the condition of the general health, and the vitality of the heart and lungs, would, from all appearances, yet become entirely cured. The speaker then gave as his opinion that, by more timely treatment, and longer duration of the treatment, much more than

HALF OF ALL CASES OF PHTHISIS CAN BE CURED,

and by following out a proper mode of life will remain cured.

PROFESSOR PENZOLDT, of Erlangen, followed with a paper on the same subject. He started with the statement that

PULMONARY CONSUMPTION CAN BE HEALED.

After proving this to his own satisfaction he discussed the question, What can prevent pulmonary phthisis? He answered this from the stand-point that its origin is nothing less than an infection coupled with a predisposition. He made the following points:

1. In the battle with the numerous and invisible tubercle bacilli which are scattered broadcast over the whole earth, the chance for eradication or control is but slight;

one can but hope that the government may take in hand this most dangerous of diseases as it has others.

2. We should seek to render harmless the nests of development of the bacilli in the tubercular patients.

THE POSSIBILITY OF DIRECT INFECTION

has long been known from clinical observation, although this origin of the disease is fortunately infrequent. Though this danger is small, yet it exists, and on this account it is the duty of the physician to call attention to the danger of intimate relationship with these patients. He must also insist on the greatest cleanliness in the care of the sick, freedom from sexual connection, and unnecessary intimacy. The physician should speak out boldly against the marriage of the tubercular, and should especially insist on the observance of the rules formulated upon our knowledge of infection. It is more nearly possible to remove the danger of infection on the part of patients in hospitals, and consequently there must be a hospital for consumptives or a department for them. The state should watch, with the greatest care, cattle suffering from murrain, as there is danger of infection from them; the well cattle should be regularly examined with respect to murrain, and the diseased animals should be removed, and, where it is possible, destroyed; the most careful examination of animals slaughtered, and of the meat put upon the market, should be made by competent medical authorities.

3. One must seek to prevent the people from forgetting the danger of infection; especially must this be the case with those who are predisposed, though others are also in danger. The nursing of children by tubercular mothers or wet-nurses, as well as kissing and tending by tubercular nurse-girls, should be positively forbidden.

Of great importance is the keeping up of the strength of resistance through very rich nourishment, especially meat diet; the carnivorous animals are less liable to tuberculosis than the herbivorous. The skin and mucous membrane should be hardened, the muscles should be developed as well as the lungs, and the heart and the respiratory organs protected from dust.

THE CHOICE OF BUSINESS

of the patient is of the first importance; the employments which insure plenty of fresh air—farmer, woodman, gardener, sailor, etc.—are to be recommended. With those who have brought the disease on them, the rules of life are in general the same as for those who have inherited the tendency.

The speaker then took up the question of the particular

CURATIVE THERAPEUTICS OF PHTHISIS.

There is, he said, no specific remedy for phthisis. On this account the greatest weight is to be placed on careful attention of the body; in the foreground is the air treatment—fresh, pure air, wherever found, must be used with faithfulness; the best locality is that where little or no phthisis pulmonum is found, or where many have already been cured. Parallel with the air treatment stands the rational nourishment.

The nourishment must be as rich as possible and consist principally of albumen easily digestible, and must be taken often—six or seven times a day. The third in order to be recommended is bodily exercise. The physician should watch over this closely, to see that it is carried out; walks, cautious climbing of mountains, gymnastics in the open air are especially to be advised. As the fourth point, the hardening of the skin in the case of stronger patients should not be neglected. Lastly, the mental treatment is to be recommended. The physician must encourage the anxious, cheer the despondent, but especially hold the reckless in check. The best guarantee for the carrying out of these rules is the treatment in a hospital, in a place possessing as great immunity from the disease as possible; for poor consumptives there is nothing better than good hospitals. The speaker begged his hearers to advocate, wherever possible, the establishment of hospitals for phthisical patients in places fitted for them. In the latter part of his address he discussed the medical treatment of phthisis.

Dr. Brehmer, of the Hospital for Consumptives, in Goebersdorf, concurred with the gentlemen who had just spoken. He thought that the discovery of the tubercular bacillus had established the therapy of phthisis upon a firm basis. The speaker dwelt particularly on the fact that the question of the immunity of a place is of the greatest weight. Such places are found especially in mountains; fresh air is there, also, a great assistance. The immunity does not depend wholly on the height, but also upon the geographical position of the place; indeed, the height must be the greater the nearer the equator it lies. According to Gauster, immunity is found in the Austrian Alps only in those places which lie at an altitude of more than two thousand four hundred feet.

Dr. Mess, of Scheveningen, Holland, said he had been treating tuberculosis for twenty-five years, in the light of the favorable experience he had had with patients in the tropical colonies of Holland. He would recommend the Germans to erect their hospitals for phthisical patients in their tropical colonies; he had cured thirty-six cases without medicine, but simply by work.

Dr. Haupt, of Soden, failed to find in the two essays just read the advice to use the mineral water of Soden, the action of which is well known to further the cure.

Dr. Theime, of Mentone, called to mind the fact that Dr. Fiedler, of Dresden, had treated his patients, suffering with lung diseases, in large airy barracks in quite a primitive manner, only giving them a cover of canvas at night. Dr. Fiedler obtained such good success that the speaker had been led to give his patients in Mentone abundance of time in the open air. He referred to the success obtained by Drs. Raymond and Apthard with tannin, and then spoke of the method of inhalation of gas used by Dr. Duremberg, of the Academy of Medicine of Paris. He had found this void of danger and followed by success. He asked the German clinicians to give this method of gas-inhalation a fair trial.

Afternoon Session.

Professor Ruhle, of Bonn, read a paper entitled

THE HEREDITY OF TUBERCULOSIS.

This was a very good continuation of the subject of the morning session. The speaker observed that from the commencement the Congress had been busy with the question of tubercular bacilli. The Congress has in a manner grown with this question, and it seems its duty not to allow it to become cold. The great discovery of Koch was made just before the opening of this Congress in 1882, and published at its first meeting. It is not to be questioned that the true tubercular poison can originate in the body. As long as tuberculosis has been discussed, heredity has been considered as influencing its propagation; there are two aids to acute infection—the poison itself, and a suitable ground to receive it. The speaker then asked how the poison gained entrance into the human race through heredity? This was investigated by Baumgartner in 1883. He was of the opinion that the poison penetrated the ovum by way of the semen; that it remained latent in the child ten years or more, and then made its first appearance. The speaker was of the opinion that this theory stood on a very weak basis. The most frequent manner of contracting tuberculosis is from a diseased person through the sputa, and also through the glands, exfoliations of the skin, or any way in which the poison may appear on the surface and be transported by means of pocket-handkerchiefs, washing, etc. The fact that the attendants in hospitals who have the care of consumptives are seldom attacked with

the disease convinced the speaker that it is not the air through which the germs are carried, but it is communicated in another mode; in fact, the way in which the members of the family kiss and fondle the patient and handle his linen. From one member of the family the tubercle goes to another. Instances can frequently be found, on inquiry, where the parents transmit the disease to their children; in such cases the family physician should put in his word of warning. It is possible that we will find that the so-called cases of heredity do not need to receive their predisposition through the semen or the mother's blood.

The speaker wished, further, to say that we should hold ourselves aloof from the idea that certain things will bring about certain forms of the disease; for instance, that pulmonary phthisis comes through inhalations, tuberculosis of the alimentary canal through the nourishment, etc. That is only a notion; and when we consider that

SCROFULOSIS IS ALSO TUBERCULOSIS,

and that undoubtedly the poison of the tubercles can remain latent an indefinite period, then we can understand that it is not so simple to lay the origin of tuberculosis to an inhalation of air or to any special primary cause. When a child had acquired a glandular tuberculosis and this heals, then after fifteen years he becomes tuberculous, according to the opinion of to-day we must believe he has had it latent in his system all this time. The speaker closed his paper with the assertion that we must abandon the theory of heredity as at present understood, and in its stead place the theory of infection, the family tuberculosis, and we should also closely study the question of scrofulosis and latency.

Professor O. Fräntzel, of Berlin, did not agree with the speaker in the statement that the attendants on the tuberculous in hospitals were not infected. He had often made the observation that these attendants died of the disease, and reported three such cases from his practice in the Charité at Berlin.

Professor Lechtheim, of Berne, made an interesting report on the

COINCIDENCE BETWEEN PERNICIOUS ANÆMIA AND TAPE-WORM.

From the case of this kind which the speaker had observed he has come to the conclusion that tape-worm (Bothriocephalus latus) plays no great part in the causation of disease, yet has its rôle. This, however, is different in the regions about the Baltic, where the people feed largely on fish. The speaker then dwelt upon the coincidence of pernicious anæmia with changes in the spinal cord. He had found the anæmia to be the cause of the disease of the cord in two cases in which there was degeneration of the posterior columns. He related the result of his investigations, and spoke of the treatment of pernicious anæmia with transfusion of blood and infusion of salt solution. The observations he had made led him to believe the transfusion of blood is of little use, and that the infusion of salt is dangerous to patients with advanced anæmia.

Professor Rindfleisch, of Wurzburg, read a very scientific article on

THE PATHOLOGICAL ANATOMY OF TABES DORSALIS,

which was listened to with great attention and received with applause.

(To be continued.)

Corsets and the Kidney.—Professor V. A. Manasseïn writes (*Vratch*, No. 8, 1887, p. 206) that he has collected a large number of cases which confirm the fact that movable kidneys are met with, other conditions being equal, in women who wear or have worn stays, far more frequently than in those who have never done so. This is true in regard both to nulliparæ and childbearing women.

THE PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, April 1, 1887.

George F. Shrady, M.D., President, in the Chair.

Dr. Henry F. Walker reported a case of

CEREBRAL EMBOLISM AND POST-PARTUM URÆMIA,

occurring in private practice, and attended by unusual symptoms and history.

"It was that of a primipara of remarkable health, who had never in her memory been in a physician's care, except once, when suffering from a catarrhal trouble, she was under a specialist's charge. She was of vigorous frame, rather inclining to stoutness. She was habituated to constant open-air exercise, to which her pregnant condition was no hindrance. The family type was healthful; but an elder sister, in a first and only pregnancy, had suffered from albuminuria, with convulsions, so that there was special watchfulness given to the condition of the kidneys during the last half of my patient's pregnancy. The urine was examined as often as once in ten days, and the last analysis was made on December 10th. At that time the report was: "Color, amber; reaction, acid; specific gravity, 1.014; chemical and microscopical examinations, negative." Previous tests had not differed materially from this. There had been at no time any albumen or casts. The low specific gravity seemed due to an unusually free renal secretion.

The night of December 16th was one of the coldest of the winter. Mrs. C—— was wakened by slight pain and a discharge of amniotic fluid. Supposing this was urine, and that the pain was intestinal, she rose, clad only in a night-dress of thin cambric, and, without waking her husband, passed into a neighboring room. The window was wide open. She closed it and went to the closet in the hall, where she remained for nearly half an hour attempting to empty bladder and rectum. Her husband was roused by her return to bed, and found it impossible to get her warm.

Pains continued, and I was summoned at 4.30 A.M.; the nurse also. On the nurse's arrival she found Mrs. C—— chilled and trembling with cold, but attributed it to "nervousness."

I was not informed of these facts till late in the progress of the case.

The child was born at noon of December 17th, after a perfectly normal labor, borne, by preference, without chloroform.

Mrs. C—— had a thoroughly natural convalescence. I saw her daily for nine days, and then desired her not to sit up until I should see her again.

On December 29th, twelve days after delivery, she began to suffer from

A SEVERE FRONTAL HEADACHE.

It differed only in severity from headaches which she occasionally had experienced, and neither nurse or family deemed it needful to acquaint me. There was a little nausea and slight vomiting.

On December 30th, as I did not call, and as the headache seemed no less, the family sent for me in the evening. My partner, Dr. Montague Swift, saw her for me. He found the pulse normal, the temperature 99½° F. The bowels had been freely moved and urine passed in usual quantity. Bromide of potassium (℈j.) and chloral hydrate (grs. v.) were administered every two hours, but without affording desired relief.

I saw Mrs. C—— on December 31st. Her head was no better. I examined the urine passed in the bed-pan and found it highly albuminous. I ordered it drawn by catheter and sent for analysis. To the patient I gave two grains of calomel and a scruple of bicarbonate of soda, and administered, with complete, immediate relief, ten drops of Magendie's solution with the needle. The morphine was thenceforward continued p. r. n.

January 1st.—The urine, drawn by catheter, was amber in color; acid; specific gravity, 1.032; contained fully twenty-five per cent. of albumen, and gave a decided saccharine reaction. The microscope showed red blood-disks, pus-cells, but no casts. The patient made no complaint save of headache when the morphine-influence was exhausted. She had a general look of fulness, but there was no œdema which would pit on pressure.

Dr. Delafield saw Mrs. C—— with me. He advised the use of caffeine in grain dose every two hours as a cardiac and renal stimulant. At this time the daily amount of urine was about two quarts. The caffeine was continued to the end. Dr. Delafield advised withholding the morphine, but the immediate return of severe headache made it needful to continue its use.

January 3d.—After a comparatively comfortable night the patient became quite restless toward morning, and had an attack of hysterical laughing and crying, with some twitching of the face and extremities. The amount of urine passed in the night had exceeded a quart. An examination of that drawn in the morning gave a specific gravity of 1.024, ten per cent. of albumen, but no trace of sugar. By microscope, pus-cells and small hyaline casts, with adherent granular matter, were found. Early in the forenoon, while making a sudden effort to rise, Mrs. C—— became

PARALYZED IN THE RIGHT ARM AND LEG.

There was some difficulty in the movement of her lips in receiving a drink, and of the muscles in swallowing. She was aphasic. Mentally she was dull.

This condition lasted through Sunday, January 4th, though there was apparent improvement in her mental action. At 1 P.M. Dr. Thomas, in Dr. Delafield's absence, saw Mrs. C—— with me, and concurred in the diagnosis of embolism. At 8.30 P.M. I saw the patient again, and found her cataleptic on the side not affected by paralysis. I gave her ten minims of Magendie's solution and she slept quietly for an hour, when, without premonition, she had a severe convulsion, lasting twenty minutes, which was finally controlled by chloroform, administered by the nurse. Dr. Draper, living near, was summoned and saw Mrs. C—— just as the convulsion passed off. He gave brandy hypodermically, which rallied the enfeebled pulse. I reached the patient at ten o'clock, and met Dr. Draper, who attributed the convulsions to the accumulating uræmic poisoning. Dr. Draper suggested the use, hypodermically, of digitalin in one-eightieth grain doses and, alternately with this, brandy hypodermically.

Mrs. C—— never rallied. She lay with head turned to the right; her pupils were contracted, perhaps due to morphine, and she breathed stertorously.

January 5th.—Save slight convulsive movements, controlled by chloroform, there was no change except perceptible loss of strength. She died at 11 P.M., from heart-failure and attendant pulmonary œdema.

My own opinion is, that in this case I dealt with an

UNUSUAL FORM OF URÆMIA:

one not due so much to the puerperal state as to an accidental exposure and consequent renal congestion.

"My reasons are—first, negatively, the entire absence of symptoms up to and for the twelve days subsequent to delivery, which days were passed without a single adverse symptom; second, and positively, the exposure to severe cold was sufficient to excite renal congestion, while the type of urine was that which would indicate such a condition of the kidneys. For the urine was, at first, loaded with albumen, and the microscope showed many red blood-disks, without casts of any kind; while later, with albumen, granular and small hyaline casts were found in large numbers.

The embolic complication of labor has not been wholly unknown to me in practice. I have seen four cases in all. In all of the cases there was albuminuria. In three there were convulsions. All occurred in primiparæ."

Dr. Dana stated that, so far as he could find, the pathology of the puerperal paralyses had been very inadequately worked up. The only comprehensive article he had seen was by Charpentier, who collected and analyzed one hundred and forty-nine cases. Embolism occurred in the minority of these cases. The current view that many, if not most, of the puerperal hemiplegias were due to embolism was not based on accurate pathological findings, but mainly on the symptomatology. The prognosis was very bad, twenty per cent. of mortality occurring in puerperal hemiplegia. Over half the cases were in primiparæ.

Dr. Beverley Robinson said that, from a clinical stand-point, he would regard the low specific gravity of the urine in Dr. Walker's case as an important indication of the presence of chronic disease of the kidneys. He added a case that occurred in St. Luke's Hospital—that of a man who at first gave no special evidence of kidney-trouble, but later on there was pronounced evidence of renal disease, and not long after that he went into a well-marked uræmic convulsion. The usual remedies failing, he bled the patient twice, and rapid recovery from the convulsions ensued.

For one, he had a decided

AVERSION TO HYPODERMIC INJECTIONS OF MORPHINE IN URÆMIC CONVULSIONS.

He did not believe that it was good teaching to advise the hypodermic use of morphine in this class of cases.

Dr. Kinnicutt believed that the theoretical objections to the use of opium in acute uræmia admitted of doubt as to their correctness, inasmuch as the exact pathology of this condition was still unsettled. In a large proportion of cases of acute uræmia markedly increased arterial tension was present, with undoubtedly an abnormal distribution of the blood throughout the body; theoretically, all therapeutic measures capable of relieving such tension might be considered as indicated. Opium certainly possessed this power in a measure, in addition to its sedative action in irritable conditions of the nervous system, and its use would therefore seem to be indicated in acute uræmia. Clinically, he had only seen good results from its use in the condition mentioned. In uræmic headache, vomiting, and convulsions, he considered opium an invaluable drug. At the same time he believed that blood-letting in certain cases of acute uræmia was of the greatest possible service. He suggested that the symptoms described by Dr. Robinson might reasonably be expected from uræmic poisoning.

Dr. Robinson did not believe that opium, as ordinarily given, either by the mouth or hypodermically in the form of morphine, produced any stimulating effect or strengthening influence on the heart, and therefore it did not stimulate the brain. The condition of the brain present just before the occurrence of the convulsion is one of anæmia.

The President remarked that there might be as much reason for believing that the convulsions were due to irritation of the nerve-centres, and that opium acted beneficially by subduing this irritation.

Dr. Robinson said it was astonishing to see how marked the relief was that was produced by a small blood-letting in these anæmic patients.

Dr. Kinnicutt did not doubt that blood-letting oftimes was very beneficial, but he would be very sorry if obliged to accept it as the only means for controlling the convulsions.

Dr. A. Brayton Ball believed that the remarkable

POWER OF OPIUM IN RESTORING THE RENAL SECRETION

ought not be overlooked. He did not know how it was to be explained, but he believed it was a fact recognized, that opium has the power to restore the renal secretion—a fact which he thought was worthy of consideration. At first he was very strongly opposed to the use of opium in these cases, because he had seen a fatal result in two instances due to its administration. But he had

changed his opinion, and was confident that he had seen a number of cases of uræmic convulsions in which opium appeared to be of very great benefit. He supposed it was a well-recognized fact that convulsions of themselves were a great source of danger, and that that fact was regarded as one of grave significance. The remedy, then, which will control these convulsions, will place the nervous system in a state of repose for the time being, and allow it to recover itself, other things being equal, possesses great advantage.

Dr. Robinson said he did not wish to affirm that bloodletting was the only means of arresting uræmic convulsions, but he thought that it was worth commenting on in connection with Dr. Walker's case.

Dr. Ball asked Dr. Walker if the practice of using morphine hypodermically was not generally adopted in this city by obstetricians.

Dr. Walker said that he thought it was. He had resorted to blood-letting in only a comparatively few cases. Of course, chloroform was used, and it was supplemented by morphine given hypodermically.

Dr. Ball remarked that morphine, hypodermically, was in general use in these cases in Bellevue Hospital.

Dr. Shrady thought that it was generally used by practitioners in the country, and he was rather surprised at the statements made by Dr. Robinson. All recollected how Dr. Alonzo Clark opposed the use of opium in chronic Bright's disease, and for a long time—and for the reasons given by Dr. Clark—Dr. Shrady was formerly opposed to the use of opium in this class of cases.

Dr. Ball was satisfied that there was a certain amount of

TRUTH IN DR. CLARK'S OPINION,

although that might not militate against the use of opium in acute uræmia. He believed it was well established that small doses of opium might produce poisonous effects in patients who had granular kidneys.

Dr. E. Darwin Hudson said that he once held to the view that opium was contraindicated in Bright's disease; that it diminished the action of the kidneys, and, therefore, the elimination of urea. But he gave up this view long ago, and had come to regard hypodermic injections of morphine as diuretic in action. Within the last two years he had had patients with chronic kidney disease to whom he had given a hypodermic injection of morphine every night with beneficial effect.

Dr. Ball mentioned a case which he saw in consultation with Dr. John G. Curtis. Dr. Curtis was counting the patient's pulse, and while doing this the heart suddenly stopped. At that instant he saw the beginning of a general convulsion. This observation confirmed what Dr. Ball had seen stated—namely, that immediately before the convulsion there is a failure of heart-action.

Dr. A. A. Smith believed that hypodermic injections of morphine were of great utility in uræmic convulsions occurring in acute renal disease. In uræmic convulsions occurring as the result of an acute attack ingrafted upon chronic renal disease of not very long duration they were of great utility. But he believed that there came a time in the course of chronic degenerative changes in the kidney, and perhaps elsewhere, when the use of hypodermic injections of morphine were

FOLLOWED BY DISASTROUS RESULTS,

and to know exactly where to draw the line when they might be safely used in chronic Bright's disease attended by convulsions was very frequently a difficult question to be answered. He felt that where chronic Bright's disease existed, and the observer knew of its presence, and knew that it had existed for some time, hypodermic injections of morphine should be used with a great deal of care.

Dr. Kinnicutt asked if any of the gentlemen present had, in their personal experience, seen bad results that could be attributed to the hypodermic use of morphine in *acute uræmia*.

Dr. Smith said that in acute uræmic convulsions he

HAD NEVER SEEN ANY BAD RESULTS.

Dr. James B. Hunter had never seen any bad results from this method of treatment.

Dr. Robinson had seen bad results in hospital practice, where there was a certain amount of reason for believing that the convulsions were due to uræmic poisoning. He had not seen that the secretion from the kidneys was increased; the convulsive attack was not, apparently, arrested; the general condition of congestion was increased, without manifest improvement in the condition of the action of the heart.

Dr. J. B. Hunter thought that the symptoms described by Dr. Robinson could not be ascribed to the morphine.

Dr. Smith cited an illustrative case occurring in a child that had had scarlet fever. The urine was very much diminished in quantity, there was œdema, and the child went into convulsions. A hypodermic injection of morphine was given, and the convulsions ceased. Within twelve hours the patient passed *ten* ounces of urine, and within twenty-four hours, *sixteen* ounces. The child got well.

GOUT OF THE HEART (?).

Dr. Walker also reported a case in which the gouty diathesis played an important part in an otherwise hazardous illness.

"I was called to see Mr. A—— in February, 1886. He was a man of fifty, of sedentary habits, and in weight turned the scale at two hundred and fifty pounds. He was subject to frequent attacks of gout, affecting chiefly the smaller joints of the feet, but occasionally involving the larger joints of both extremities. These, from frequent experience, he had "treated himself," or, rather, had done nothing for them, except to maintain quiet, preserve warmth, and wait the relief that nature brought.

I saw Mr. A—— incidentally while visiting his child, and found him suffering with what he termed "gouty bronchitis." For this he had confined himself to bed. Two days subsequent he had been attacked with severe pain in his right side, at the border of the ribs, which cut short respiration and made every abdominal movement unbearable. He had slight elevation of temperature, and somewhat quickened pulse. His diathesis made me consider this a development of rheumatism affecting the diaphragm. A tightly fastened girdle gave a measure of relief.

The following day, however, the true character was manifest—namely,

A DIAPHRAGMATIC PLEURISY,

while in the progress of the disease the friction-sounds of plastic effusion were heard over the lower part of the right pleura. In twenty-four hours these râles were obscured by serous effusion to the height of four inches. Considerable pain and tenderness remained in the right hypochondriac region over the extent of the liver.

The serous effusion quickly subsided, the serum disappearing in four days. At this time the patient complained of cramps in the right calf. His wife stated that the muscle bulged out in a knot the size of her fist. Taking her description as given, I did not inspect the leg or thigh, and attributed the cramps to the supine position enforced by the pleurisy.

One day later the complaint was of fixed pain in the calf, which suggested examination of the femoral triangle, and I found the evidences of adhesive phlebitis. The leg and thigh swelled enormously, but in twelve days returned to nearly the natural size. While suffering from the phlebitis in the thigh and leg there was a good deal of pelvic pain and soreness on the right side, attributed to the upward extension of the inflammation.

Two days after the onset of the phlebitis the patient began to suffer from hiccough; at first at intervals, then more constantly, and even during sleep. The hiccough

lasted five days; for the three latter days almost without intermission. The hiccough was painless, but annoyed the patient by its persistence. The last two days, besides the hiccough, as often as once in two hours attacks of

LARYNGISMUS STRIDULUS

occurred of a minute's duration. To relieve the hiccough many means were tried. The faradic current applied at the back and over the epigastrium for an hour at a time seemed to be useful. Chloral given in five-grain doses was early administered, but an attack of laryngismus stridulus occurring immediately after the exhibition of a dose so prejudiced the patient that he refused to take it. Morphine, hypodermically, gave comfort, though the hiccough persisted even when the patient slept. In five days these attacks passed off, both of hiccough and laryngismus.

"Coincidently with the relief from hiccough the patient's leg had so improved that he was allowed to sit in a reclining-chair. He still complained of the pain in the right side of the abdomen. Palpation and percussion could detect nothing abnormal, and auscultation gave no sign. The thickness of the abdominal fat would have obscured anything. The patient continued to mend gradually, though having shifting pains in various joints. All morphia had been suspended and only tonics given. He was sitting in the reclining-chair, and was reading the morning newspaper, when a look of faintness passed over his face and he seemed to be for a moment unconscious. A physician living opposite was summoned, who pronounced him dying. Stimulants, ammonia and brandy, were given without effect. When I reached the house with my partner, Dr. Montague Swift, I found Mr. A——'s pulse 160, his respiration 40, his hands cold, his face pale and anxious, with pinched nostrils and drawn mouth. He looked like a man suffering from internal hermorrhage, while his expression was that which we consider indicates abdominal suffering.

Supposing death imminent I sent for Dr. Thomas, who had previously seen him in consultation, and later for Dr. D. M. Stimson. We all thought he could not rally from the collapse in which we found him.

From 9 P.M. to 7 A.M. I sat by his chair giving him brandy and digitalin hypodermically, and brandy with ammonia by the mouth. His pulse during the night was for hours so feeble and rapid that I could not distinguish it at the worst, but at six o'clock it was 160, at seven 140, and from that hour its improvement was steady. There was at no time any fluttering or disturbed action of the heart other than extreme weakness. The aeration of the blood was perfect and there was no duskiness of countenance, as would have been the case had circulation through the lungs been impeded. The mind was clear; motility unimpaired. In fine, there was no indication of

EMBOLISM OF BRAIN, LUNGS, OR HEART.

In default of evident cause the family were told that gout had affected the heart—a statement plausible to them, but which at the time did not seem to me to really explain the symptoms presented. My own feeling was that there had been an internal rupture; perhaps a slow, leaking aneurism, which the patient's corpulency concealed. But the after-history seems to have proved the gout-theory correct. It was the gouty poison overpowering the heart in its action; not as rheumatism seizes on the organ, exciting acute inflammation, but by nerve-influence only.

From this seizure Mr. A—— steadily convalesced. He had more or less of joint-pains, but no severity of attack. His chief subsequent annoyance was a return of pain in the right side of the abdomen from the liver downward. A free purgative removed scybalous masses, and the pain measurably ceased. The purgative was a shot in the dark, as palpation could detect nothing through the thick abdominal walls.

Before this case came under my observation I had looked upon the phrases "gout of the stomach" and "gout of the heart" (as distinct from inflammations of these organs) as names used to satisfy a patient's friends, but really conveying a false pathological idea.

"Several years ago I had a patient in whom the rheumatic poison so affected the brain that she was delirious for days, and approached a comatose state, suddenly to be relieved by the transfer of inflammation to a knee-joint. But in this there was marked inflammation, and a subsidence of trouble in one part of the body with a transfer to another.

In the case of Mr. A——, in the light of its after-history, I feel inclined to attribute the symptoms—so grave that no one of the five physicians looked upon the patient as aught but a dying man—to the gouty poison, and to describe it as a layman would.

In pathology I supposed the poison exerted itself on the organic nervous centres, as no sign of acute inflammatory trouble was manifest either then or afterward."

DR. HUDSON said it had not seemed to him to be proved that pure diaphragmatic pleurisy could be diagnosticated.

DR. C. L. DANA reported the results of his experience with

GASEOUS INJECTIONS IN THE TREATMENT OF PHTHISIS.

He began the treatment in the middle of February last, and had employed it for eight weeks. It was too soon to give definite conclusions, but his experience in the technique of the operation might, he thought, be of some interest.

A brief synopsis of the reports on the treatment so far made by Bergeon, in August, 1886, and later by Cornil, Morel, Dujardin-Beaumetz, Bennett, and Hamon and Fougeray, was given.

Dr. Dana had given the injections in a number of cases, but had systematically followed them up in only three. These were all cases of catarrhal phthisis in the third stage. They were all men in age ranging from thirty to forty. They had all three decidedly improved since the treatment began. There was a gain in flesh and strength, with some diminution in cough and expectoration. The night-sweats were stopped in two cases, and the fever almost or entirely disappeared in all. In one case the improvement did not occur until two weeks after the injections were begun. Very similar improvements have been observed in other cases coming to the hospital.

The apparatus used was very simple. At first he used bisulphide of carbon vapor. The carbonic-acid gas was procured from a soda-water manufacturer. It was washed, and special instructions given to have it pure. It was bought compressed in cylinders. This was passed into a rubber bag holding about two gallons. From the bag the gas was passed through a glass cylinder containing a teaspoonful of bisulphide of carbon poured upon cotton. From the cylinder it passed through a tube and into the rectum. About a gallon of gas was injected at a time—at first once, then twice daily. The patient lies on the back, and the bowels are rubbed and kneaded during the operation, which lasts from twenty to thirty minutes.

The gas was smelt in the breath of one patient, but not in that of the others. It caused no pain, but did produce dizziness, and in one case nausea.

The results of the use of the sulphide were not very satisfactory, and after two weeks' trial pint-bottles of Sharon mineral water were substituted. This water, Dr. Dana found, corresponded fairly well in composition with the Eaux Bonnes water used by Dr. Bergeon. One bottle was sufficient to medicate about two gallons of gas. The three patients had been treated in this way for nearly six weeks, and as stated, they had all improved, one of them very decidedly. The gas was smelt in the breath and tasted by the patients. The speaker

thought that the results, though encouraging, were by no means brilliant, and believed that so far as facts at present go, we had better means of treating phthisis than by gaseous injections.

The composition of the Eaux Bonnes water used by Bergeon was given, as follows:

Bisulphide of soda	0.01150
Monosulphide of soda	0.00280
Hyposulphite of soda	0.00035
Carbonate of soda	0.00650
Silicate of soda	0.09520
Phosphate of soda	0.00070
Sulphate of soda	0.07637
Sulphate of lime	0.09975
Sulphate of potass	0.01353
Chloride of soda	0.10997
Chloride of lithias	0.02750
Organic matter	0.05707
Total solids	0.51180
Free H. S	0.00190

Dr. Robinson had tried gaseous injections in four or five cases in Charity Hospital. He used for mineral water that of the Blue Sick Spring, Ky.; but this was abandoned and the bisulphide of carbon substituted, and the patients were benefited somewhat so far as symptoms were concerned. There was a decided odor of the breath soon after an injection was given. In one case so much dyspnœa was produced that it became necessary to give up the plan of treatment. He did not notice that any special amount of pain was produced by the injections.

Dr. Hudson had made some inquiries concerning the gaseous injections made in cases of phthisis in Philadelphia, and had learned that they were in some cases administered by a druggist, the patients being walking patients, and it occurred to him that probably as much benefit came from the exercise, etc., as from the sulphuretted hydrogen which they received.

The Society then went into executive session.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, April 25, 1887.

Laurence Johnson, M.D., President, in the Chair.

Dr. L. Bolton Bangs read a paper (see p. 513) entitled

EXTERNAL URETHROTOMY—A PLEA FOR ITS EARLY PERFORMANCE IN MINOR TRAUMATISMS OF THE URETHRA.

The discussion was opened by Dr. F. N. Otis, who fully coincided in all that the author of the paper had said concerning the probable benefit to be derived from an early external operation in the cases of urethral injury under consideration. The most difficult cases came from traumatism, difficult from the very beginning throughout. Even the most thorough operations were apt to be followed by urethral trouble.

But when the tissues were in a comparatively good condition, and the canal was kept patent, the urethra probably could be left as well off as it was before the injury.

With regard to cases in which

DEPARTURE OF THE URETHRA THROUGH FOLLICULAR ULCERATION

had occurred, they were of importance to the surgeon, especially in their early recognition. Not long ago he saw in one of the foreign journals an account of a hospital case in which there was a perineal inflammatory swelling, not attended by closure of the urethra. The catheter was passed without difficulty, and it was regarded as a case of perineal abscess not connected with the urethra, and poultices were applied, the surgeon declining to open it at that time. Extravasation of urine, however, took place and the patient died. Dr. Otis thought that not too much could be said in favor of an early external operation in such cases as that. The operation was a simple one, especially where there was no displacement of the urethra, and the patient has thereby been saved at once from the danger of extravasation of urine.

It was deceptive to suppose that, where a comparatively large-sized stricture exists, the urethra could not be ruptured. He thought that probably nineteen-twentieths of the cases of perineal swelling were due to this cause, and that the earlier they were operated on the better it would be for the patient. As to the safety of external urethrotomy, he fully agreed with the author of the paper.

Dr. E. L. Keyes had nothing to say in opposition to the views advanced by Dr. Bangs. He not only indorsed them, but wished to add all that the weight of his experience could add to the view that in cases of

MINOR TRAUMATISM OF THE URETHRA,

at least in the curved portion, the patient should be immediately subjected to perineal urethrotomy; that is, in cases in which, after traumatism, there appeared, immediately or subsequently, evidence of advancing inflammation about the perineal urethra, the operation should be performed and free drainage established, provided no extra harm could be done to the patient by the procedure. He thought that the experience of all would favor a large open wound through which free drainage could take place, rather than treatment by dilatation or divulsion. He believed that this was true concerning any stricture which was not easily controlled by possibly the simplest of all methods, that of gradual dilatation.

Undoubtedly perineal urethrotomy was a somewhat formidable operation in "the older days," and it was still somewhat difficult and tedious where it must be done without a guide; but he could hardly conceive of an operation more simple than perineal urethrotomy upon a guide, and the after-effects were of the simplest kind. Of course, in cases of infiltration of urine, with sloughing and extensive disease of the tissues, the patients might die despite the incision.

Dr. Keyes also believed that

GRADUAL DILATATION IS FALLING INTO DISCREDIT

in the treatment of old strictures in this part of the urethra. The advisability of *divulsion*, he thought, had been nearly given up. *Internal urethrotomy*, in this region, according to his experience, was disastrous and dangerous. He was free to say that he should vastly prefer, in any kind of stricture in the deep urethra, the *external operation* to any other method of treatment; for, in healthy subjects, the external method was nearly or entirely devoid of danger.

Dr. C. McBurney was glad to hear that the ideas set forth by the author of the paper were gaining ground among surgeons. He regarded the operation of external urethrotomy, for traumatism of any moment at all, as undoubtedly an exceedingly good one, and because it was

THE ONLY MEANS OF AVOIDING DANGERS WHICH WERE IMMEDIATE AND GREAT.

Up to within a very short time the tendency had been to neglect to interfere with a urethra that presented on the outside the outline of integrity. The dangers of internal urethrotomy in the deep urethra were well recognized, and it was probable that when a man received a kick in the perineum, for example, he was in a worse condition than the man who had the condition which had received the internal operation.

Besides, secondary dangers were avoided by the external operation performed *early*, before infiltration or suppuration had taken place, and before sinuses had formed in various directions. It was better to anticipate the dangers than to wait until they came.

With reference to the operation itself, perhaps something might be said which would mitigate its terrors to the patient and also to the surgeon. The operation was to provide for *perfect drainage from the bladder*, and nothing more. External urethrotomy, to him, did not mean

division of the stricture from the outside. Therefore it was unnecessary to divide the whole of the stricture. The opening could be made very small, without hemorrhage of account, or involving any important structures, and it would heal with the greatest rapidity and without any danger. A small operation performed behind or in the middle of the stricture in the deeper portion of the urethra gave as good results as a full incision made throughout the entire length of the stricture.

Dr. McBurney believed, however, that there were cases in which external urethrotomy was not required. In a case in which there was no evidence of laceration beyond the escape of a few drops of blood, no tumefaction, no infiltration of blood, where it was perfectly easy to pass a large instrument, and also, and more important, where it was perfectly easy to introduce a *small* instrument, meaning that there was rupture of only small superficial vessels, he would not perform external urethrotomy. He would pass a large, soft instrument, after both a large and small instrument had passed easily without detecting lacerated tissue, evacuate the bladder systematically, wash it out after each urination, and in a certain number of cases the operation could properly be avoided. But it was difficult to define this class more accurately.

Dr. Bangs, in closing the discussion, expressed his gratification at the unanimity of opinion with regard to the best method of treating these cases. He then related a case that came under his observation since the paper was written. At present it was difficult to classify all these cases, but he believed that when traumatism was present to the degree he had mentioned there was only one proper mode of treatment, which was to perform external urethrotomy.

Dr. George Thomas Jackson then read a paper (see p. 509) entitled

BALDNESS—WHAT CAN WE DO FOR IT?

Dr. George Henry Fox said that in some cases local treatment alone sufficed to remove the abnormal condition of the scalp on which the alopecia depended. In other cases there was a good condition of the scalp, and baldness occurred in consequence of other causes, such as exhaustion of the nervous system, etc., and in those cases a general tonic and hygienic treatment might produce restoration of the hair, or arrest its falling.

Then there were cases of *inevitable* baldness, beginning as a small spot upon the vertex, or going up from the forehead, and in which the only thing which could be done was

TO MAKE THE BEST OF IT.

He doubted whether any style of hat had ever had anything to do with causing baldness. In very many cases the cause had not been explained.

Dr. W. M. Carpenter asked Dr. Fox and Dr. Jackson to express their opinions concerning the utility of either cutting the hair short or shaving the head in cases of falling of the hair after typhoid fever, for example.

The President took exception to Dr. Fox's statement with reference to stiff hats not being a cause of baldness, and expressed the belief, firmly, that the wearing of stiff hats had a great deal to do with the occurrence of baldness.

Dr. Fox doubted whether baldness was any more common now than it was before stiff hats were worn.

With regard to cutting the hair or shaving the scalp after fevers, unless there were special reasons for so doing, he believed that, in the majority of cases, where the hair could be attended to properly, it had better be let alone, and that its growth would be longer and stronger than it would be after cutting or shaving.

Dr. Jackson agreed with Dr. Fox with reference to cutting the hair or shaving the head after fevers. He would also remark that the English had always worn stiff hats, and it had not been shown that they were particularly the subjects of baldness.

The Society then adjourned.

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, April 5, 1887.

C. L. Dana, M.D., President, in the Chair.

Dr. T. S. Robertson read a paper (see p. 517) on the use of

ANTIPYRINE IN MIGRAINE, PYREXIA, ETC.

Dr. E. C. Spitzka had seen antipyrine once act magically in relieving the headache of a cerebral tumor. On repetition of the dose, however, the remedy failed.

Dr. B. Sachs had been using antipyrine for a considerable time in headaches and migraine, and he had found it to act very satisfactorily.

Dr. W. R. Birdsall and Dr. R. F. Weir

REPORTED A CASE OF SARCOMA OF THE BRAIN (OCCIPITAL LOBE), CAUSING HEMIANOPSIA, REMOVED BY OPERATION.

Dr. Birdsall gave the history of the case, of which the following is an abstract: The patient, a Hebrew, aged forty-two, first came under his observation, October 16, 1886. He had always been healthy, until the summer of 1886. He denied injury to the head or venereal disease. In August, 1886, he observed for the first time unsteadiness of gait, and had a severe attack of vomiting. Soon after, diplopia for distance, and increased awkwardness in walking were observed; also a disagreeable sensation, akin to numbness, in the right leg, hand, and shoulder, but not in the face. This and the diplopia were transitory. Headache, usually frontal, was present occasionally, but never severe. October 7, 1886, he consulted Dr. F. C. Seguin, who made a diagnosis of tumor of nasal aspect of right occipital lobe, involving, primarily, the cinereus, extending downward toward the tentorium cerebelli, and perhaps also upward toward the para-central lobule (leg-centre). Treatment: Large increasing doses of potassium iodide.

From January to July, 1886, his diplopia disappeared, and never returned; his gait improved somewhat. In October, 1886, Dr. Birdsall found double optic neuritis, most marked in left eye; left pupil somewhat larger than right; no diplopia; no ocular paresis evident. His movements were clumsy rather than ataxic, at times being accurate, at others wide of the mark, especially in left extremities; gait slow and uncertain. There was frequent expectoration of a viscid saliva. Left hemianopsia, Dr. Birdsall thought, could be accounted for only by a destructive lesion in the neighborhood of the gyrus cinereus of the right occipital lobe. The locomotory disturbances appeared to him to be due to pressure-effects of a tumor on structures below the tentorium; thus implying a growth of considerable size. His disturbance of equilibrium continued to increase in a very irregular manner. His intellect was not impaired. His family observed no change in his character or disposition. He was extremely uncomfortable mentally. An operation was proposed in February, 1887.

The operation was performed by Dr. Weir. Regarding the tumor, Dr. Birdsall said it was of so large size, so much of the occipital lobe was compressed by it, that the case was of little value for determining the limitation of the visual area in the occipital lobe. The growth was a sarcoma, originating in the meningeal structures, producing destruction of the cerebral tissues by pressure alone. Absence of severe headache should be noted, as it is usually a prominent symptom of tumors involving the meninges. One of the most important lessons that the study of cerebral tumors taught was, that growths remaining limited to the meninges may attain a large size before disturbing the function of neighboring parts of the brain. In these cases regions away from the tumor may give signs of importance before those in contact with the tumor. The extreme fatality of intracranial neoplasms was high warrant for taking an extreme surgical risk. The co-operation of neurological science and surgical art, in

the present state of each, could hardly fail to build up an experience which would in some cases save life that would otherwise be lost.

Dr. Weir described

THE OPERATION,

which was performed March 9, 1887. Special antiseptic precautions, prior to and during the operation, were taken. The periosteum was raised, two openings were made with the trephine, the first one inch above the occipital protuberance and the same distance from the median line; the other immediately above. The openings were joined, and enlarged by the rongeur forceps to two and three-fourths by two and one-fourth inches. The dura mater was divided two-thirds the extent of the bone-opening, its retained attachment being toward the median line. The tumor was at once recognized and enucleated. It was necessary, on account of its large size, to incise it, and press out some of its substance before it could be completely detached and removed through the opening. A great deal of venous bleeding took place, and sponges were stuffed in for temporary pressure. The cavity was inspected by the electric light, and showed that a great amount of pressure had been exerted upon the brain; the falx was crowded to the left of the median line; the tentorium was depressed to a horizontal line. The tumor weighed five and one-fourth ounces. It measured three and one-fourth by two and three-fourths by two and one-half inches. One of the bleeding points was found to be in the region of the straight sinus, not free enough to be from that vein, but probably from the pedicle of the tumor; the other, apparently arterial, probably from a terminal branch of the posterior cerebral artery. The flow from each was readily checked by direct pressure, and it was determined to control them by packing the cavity with iodoform gauze. The dura mater was partly united over the gauze by loose sutures. The operation was well borne until the final enucleation of the tumor, when the pulse fell, apparently from loss of blood. Some hours afterward slight diverging strabismus of the left eye was noticed; blood-stain appeared through the dressings; the pulse was weak; stimulants were given; the patient was restless. At night transfusion of a saline solution was made, with temporary improvement, and the dressings were removed to control hemorrhage, which was seen to be taking place in a small stream, but the pulse again gave out, and nothing further could be done than reapply pressure in the supposed direction of the hemorrhage. Death occurred at 2 A.M. An autopsy was not allowed, but in the lower part of the brain-cavity was seen a large collection of coagulated blood.

Dr. Weir said that, in another case where the hemorrhage was from vessels too deeply situated to apply a ligature, he would control it by leaving on clamp-forceps, to be removed after a period of twenty-four or forty-eight hours. The opening, although large, was not sufficiently large to enable him to remove the tumor entire. It was intended to adopt Macewen's method, and employ bone-grafts.

Dr. Weir had recently

REPLACED THE PIECES OF BONE

removed by the trephine in a case of epilepsy, the opening being nearly two and one-half by three inches, and now, about seven weeks after the operation, the wounds had healed save one, and the bones were felt to be solid, and were painless. Brief reference to the cases of tumors of the brain for which operations had been performed were made.

REPORT OF A CASE OF CYST OF THE BRAIN, WITH OPERATION.

Dr. Graeme M. Hammond related the case. The patient, a married woman, complained of severe pain an inch above the right ear, and had left hemiplegia. At the time her symptoms began she was about twenty-nine years of age; she had had four children; during the progress of her disease she had a fifth child. All were strong and well. Her sickness lasted about two years and a half. It commenced by sudden loss of consciousness, and convulsions limited to the left side. The left side of the face became, and remained, paralyzed. About a year later she noticed gradual loss of power in the left arm; things dropped from the hand. At the end of another year the left arm was completely paralyzed. She then noticed increasing weakness in the left leg. When Dr. Hammond first saw her she was able to stand, and walk slowly. While the paralysis was extending she had four or five epileptic seizures, confined to the left side. Headache developed about the time the legs became affected, grew more constant, and was described as agonizing.

She denied syphilis. Physical examination showed loss of motion on the left side of the face, tongue, and soft velum; of the left arm, and partial loss of motion in the left leg. There was no disturbance of sensibility of any kind. The reflexes were exaggerated on both sides. Sight, hearing, smell, and taste were normal. Choked disk on both sides was observed at a subsequent examination.

Under treatment the headache was controlled to a considerable extent. Dr. Hammond's diagnosis was probable cerebral tumor, involving the cortical or subcortical substance of the motor centres. An operation was refused. The patient grew worse until March 20, 1887, when her husband asked that the operation be performed. Dr. Spitzka then saw the patient with him, and made two examinations. He rather coincided in the diagnosis. The operation was performed on the Wednesday previous. Dr. M. Josiah Roberts assisted at the operation, removing the portion of skull by his electro-osteotome. Four buttons were removed by the electro-trephine; these were connected by straight lines made with the circular saw. The diameter of the opening was over two inches. A crucial incision was made through the dura. A hypodermatic needle was introduced in different directions, but no fluid was withdrawn. The dura was closed, a drainage-tube was introduced, the skin-flaps were sewed up, and the patient was put to bed. She lived only twenty-one hours, remaining unconscious after the operation. Prior to the operation she had become completely paralyzed in the left lower limb, she had delusions and hallucinations, she talked incoherently, and bed-sores developed.

The autopsy showed little hernial protrusion at the wound; the cortical substance here was thin. Incision through the motor region revealed three cysts in a line deep in the white substance. The fluid in the cysts had been only partially examined; it was serum, and contained broken-down brain-substance. The cysts were close together and in a position to affect the face, arm, and leg-centres. He could not explain why the syringe failed to bring forth fluid unless it was that the cysts were too deeply situated, or the needle passed between them. He added to the clinical history that the head was drawn to the right side the last three days of life.

DISCUSSION.

Dr. E. C. Seguin was partly responsible for the operation in the first case, but it seemed the patient would not live more than two or three months without it. He expected to find a large tumor, but was somewhat surprised to see it encapsulated and non-parenchymatous. During the early history of the case the symptoms pointed to destruction of brain-tissue.

Dr. E. C. Spitzka, referring to the case reported by Dr. Birdsall and Dr. Weir, said that an artery, large enough to cause fatal hemorrhage, entered the gray and white substance of the right occipital lobe. It had been overlooked in many text-books.

Dr. Roberts explained how the circular saw could be

used without injury to the brain, and described the operation of the electro-osteotome.

Dr. Starr suggested the desirability of an analysis of reported cases of cerebral tumors, for the purpose of determining their rapidity of growth and size.

Dr. R. L. Parsons read a paper entitled

NOMENCLATURE IN PSYCHIATRY: "MONOMANIA" OR "OLIGOMANIA.

The reader advocated the use of the term "oligomania" in place of "paranoia," primary monomania, partial insanity. Discussion was postponed.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from April 24 to April 30, 1887.

Woodruff, Charles E., First Lieutenant and Assistant Surgeon (recently appointed). Ordered for duty at Fort Wayne, Mich. S. O. 96, A. G. O., April 26, 1887.

Official List of Changes in the Medical Corps of the United States Navy for the week ending April 30, 1887.

Atlee, L. W., Assistant Surgeon. Ordered to the Receiving Ship Vermont.

Biddle, Clement, Passed Assistant Surgeon. Detached from the Naval Academy and ordered to Marine Rendezvous, Philadelphia, Pa.

Ashbridge, Richard, Passed Assistant Surgeon. Ordered to the Naval Academy.

Hudson, A., Medical Inspector. Ordered to the U. S. Ship Trenton.

Hibbett, C. T., Passed Assistant Surgeon. Ordered to the U. S. Ship Trenton.

Decker, Corbin J., Assistant Surgeon. Detached from the Receiving Ship St. Louis and ordered to the U. S. Ship Trenton.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending April 30, 1887:

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	5	2
Scarlet fever	55	14
Cerebro-spinal meningitis	1	1
Measles	69	5
Diphtheria	120	51
Small-pox	5	2
Yellow fever	0	0

Aniline Inhalations in Phthisis.—Professor Kremiansky's method (*Journal*, p. 579, March 12, 1887) was recently tried by Dr. Nesteroff, of Moscow (*Russkaia Meditzina*, p. 151, No. viii., 1887), in the case of a lady suffering from consumption, whose condition was not at all such as to cause immediate apprehension; in fact, she was about to start for a southern health-resort. Under inhalations of aniline dissolved in oleum gaultheriæ, the patient's state grew steadily worse; and after two weeks of the aniline treatment she died. Dr. Nesteroff emphatically declares that he will never venture to repeat the experiment; he maintains that the method is not only useless but directly injurious.

The New "Specific" for Diabetes.—Dr. Martineau gives full details in the last number of the *Annales Médico-Chirurgicales* of the treatment advised by him in diabetes. It was in consultation with the late Professor Rouget that he learned the formula which he now publishes with so much confidence. The patient in question had been the subject of diabetes for some years, and was suffering at the time from cerebral hemorrhage. Dr. Rouget proposed that they should not modify his diet in any way beyond restricting in a slight degree the use of farinaceous food, fruits, and sugar, and that he should drink during meals, and in the intervals of thirst, arsenicated lithia water, prepared as follows: In the upper part of a Briet apparatus of one litre for making aërated water were to be introduced 20 ctg. of carbonate of lithia, and a tablespoonful of the following solution: Arseniate of soda, 20 ctg.; distilled water, 500 gm. This water to be drunk at meals mixed with wine, and the contents of the recipient to last for three meals.

The Danger of Hypodermatic Injections of Morphine in the Treatment of Strangulated Hernia.—Dr. Routier had operated twice for strangulated umbilical hernia; the first operation was performed twelve hours after the strangulation and was a perfect success. He was not called to the second until five days after the onset of the trouble, and found gangrenous points scattered along about thirty inches of intestine; he resected the entire affected part, but the patient soon died. This patient had been treated with injections of morphine, which had relieved the pain and arrested the symptoms, and thus caused the grave error of permitting fatal temporization. He has ascertained that the use of injections of morphine is very common in strangulated hernia. Various cases have been published in favor of this treatment, but none are convincing; it is impossible to understand how morphine can favor spontaneous reduction; in that case it would be necessary for the strangulation always to lie in the ring and for the relaxation of the muscles to have an influence upon it, which is doubtful. Nothing, then, is further from being proven than the good results of this treatment; on the contrary, its dangers are self-evident, since, by diminishing pain and vomiting, it permits temporization, which is always exceedingly dangerous, for the operation is acknowledged to be the more dangerous as it is delayed. The treatment of strangulated hernia by morphine should be very energetically rejected, and it should be held as an axiom that a patient with strangulated hernia should not be left until relieved. —*Annals of Surgery*, April, 1887.

Turpentine Stupes for Tonsillitis.—Dr. Longstreth recently showed the class at the Pennsylvania Hospital some cases of tonsillitis which had simply been treated by applying turpentine stupes to the neck, with gratifying results.—*Col. and Clin. Record.*

Belladonna in Prurigo Senilis.—Belladonna given internally will often give very satisfactory results in prurigo senilis. It may be given with nux vomica as follows: ℞. Extract. nucis vomicæ, extract. belladonnæ, āā, gr. ¼. Ft. pil.—Sig.: Take morning and evening.—*Col. and Clin. Record.*

Infantile Constipation.—A very successful remedy for this is podophyllin, in small doses; iridin may be combined with it with good effect. Make a tincture of the following: Podophyll. resin, gr. viij.; iridin, gr. v.; spt. ammon. arom., ʒ j. Digest for several days, and filter. From one to two drops of this may be given at bedtime on a small piece of loaf-sugar, or the dose may be combined in mixture along with syrup of orange. This is the dose for a child of one year and under.

"Disease" is the name given to one of the swift yachts of the Burlington Ice Yacht Club. The Disease must be a kind of running disorder—possibly mastitis.

The Medical Record

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Original Articles.

DIGITAL EXPLORATION OF THE KIDNEY WITH REPORT OF THREE CASES.[1]

BY WILLIAM T. BELFIELD, M.D.,

GENITO-URINARY SURGEON TO COOK COUNTY HOSPITAL; PROFESSOR OF GENITO-URINARY DISEASES, CHICAGO POLYCLINIC.

OF some two hundred and fifty cases of nephrectomy heretofore reported, about forty-four per cent. have died from the effects of the operation. The chief causes of death have been: 1, Shock (forty-two per cent. of the fatal cases); 2, uræmia (fourteen per cent.); 3, peritonitis (twenty-one per cent.). Improvement in the results of renal surgery seems therefore to require means for the avoidance of these three chief dangers.

The chances of fatal shock are decreased by early operation, before the patient becomes exhausted and the destruction of kidney-tissue extensive. This self-evident proposition is illustrated by the fact that while about eighteen per cent. of all (250) reported nephrectomies have died of shock, yet after twenty-four excisions of sound kidneys in healthy persons—removed for wounds of the loin or ureter, mobility, etc., not a single death occurred from shock.

The greatest obstacle to the early surgical treatment of renal lesions has been *faulty diagnosis*. Such cases are frequently regarded as lumbago, sciatica, hip-joint disease, Bright's disease, and (especially) cystitis, for a long time before the true seat of the lesion is detected or even suspected.[2] The symptoms commonly ascribed to cystitis may be also produced by pyelitis; and as cystitis is still too often regarded as an entity, a disease—instead of a mere symptom requiring explanation—the patient is treated for "chronic cystitis." Finally, months or years later, a lumbar swelling or other symptom reveals the renal origin of the difficulty.[3] Meanwhile the patient has become so enfeebled that he succumbs to the shock of an operation that could have been safely borne at an earlier period. Early exploration of the kidney—a relatively safe operation—has in many cases not only solved a perplexing problem in diagnosis, but also, by drainage of the pelvis, has relieved a difficulty which at a later stage would have required nephrectomy—a formidable operation. Moreover, a preliminary drainage has been shown to be a valuable factor in diminishing mortality after nephrectomy; thus, of 73 nephrectomies for suppurative lesions collected by Gross, 12 were made after previous exploration, with but 1 death; of the remaining 61—without previous nephrectomy—31 died.

Uræmia rarely occurs after any renal operation, provided the second kidney be present and in healthy condition. While commonly associated with nephrectomy, one of the cases described shows that uræmia may be inevitable after simple nephrotomy; hence a necessary preliminary to any renal operation should be an attempt to ascertain the functional condition of the opposite kidney. In the female this can often be accomplished by catheterizing the ureter, after Pawlik's method; in the male, probably the best (though still an uncertain) means is Silbermann's instrument for compressing one ureter. The statement that the abdominal incision, by permitting palpation of the opposite kidney, obviates the possibility of uræmia, is fallacious; for in many cases kidneys which are indistinguishable by the finger, or even by the eye, from normal organs, are extensively invaded by disease—inflammatory, tuberculous, or calculous. The pair of kidneys exhibited by Dr. Steele this evening are signal examples—normal in size, contour, and consistence, yet each extensively tuberculous; palpation through an abdominal incision could have detected nothing abnormal in either of these kidneys. Certain gross renal lesions could doubtless be so detected, though at greatly increased risk.

To summarize: 1. Surgical affections of the kidney are frequently long masked by symptoms of cystitis, etc.; differential diagnosis may be practically impossible without palpation of the kidney.

2. Digital exploration of the kidney through a lumbar incision is, with proper precautions, almost free from danger, comparing favorably with perineal exploration of the bladder.

3. This operation, performed at an early period, may arrest a morbid process which would otherwise require nephrectomy; even it it secure no other immediate result than accurate diagnosis, it diminishes the danger from subsequent nephrectomy.

4. Before undertaking to incise the pelvis, the functional activity of the other kidney should be demonstrated by examination of its secretion.

S. M.——, widow, aged twenty-six, has long suffered from dyspepsia; for a year past has been much troubled with headache, pain in loins and left thigh; menstrual intervals were shortened to two or three weeks. In March, 1886, urination became unduly frequent and often painful; pus and sometimes blood appeared in the urine. In June began to have nausea and vomiting; also disturbances of vision, spots before the eyes, etc. Pain, of varying intensity, became constant in back, abdomen, and left thigh; has been confined to bed ever since. On admission in October she is emaciated and very feeble; requires morphine constantly; tenderness over both kidneys, especially left; no swelling nor logy feeling. Urination every half-hour or oftener, the act accompanied with severe pain at the bladder-neck. Urine varied from nine to twenty-seven ounces daily, and contained much blood, pus, and numerous sharp uric-acid crystals, often arranged in rosettes and surrounded with pus-corpuscles. The right ureter was catheterized, and urine found free from pus and blood.

November 29, 1886, the left kidney was exposed by transverse lumbar incision; to the eye and the finger it was normal; needles passed into the pelvis detected no foreign body. The pelvis was thereupon opened by cautery and explored with the finger; the mucous membrane was rough and ulcerated, and numerous clots of pus were evacuated. Aside from persistent vomiting for a few days, recovery ensued without notable interruption; the lumbar fistula was closed on the twenty-first day. The patient has since been free from her former symptoms and is regaining flesh and strength; the urine is free from pus and blood.

The case presented several interesting features.

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[1] Read before the Chicago Medical Society, March 7, 1887.

[2] An English surgeon recently removed both ovaries, at two operations, without relief to symptoms which disappeared at once after the extraction of a renal calculus by another operator.

[3] This masking of pyelitis by bladder-symptoms is particularly common in cases of primary renal tuberculosis, in which lumbar pain is rarely pronounced unless the ureter becomes obstructed by clots of pus. As five such cases have come under my observation within six months, I suspect that they are less rare than is generally supposed.

Though the symptoms—hemorrhages, suppression of urine, and extreme prostration—were such as might be expected from calculi in both kidneys, yet they were induced by aggregations of uric-acid crystals—the largest smaller than pinheads—in *one* pelvis. The menstrual interval was shortened, as the disorder became aggravated, to three, and then two weeks; after the operative relief they were again lengthened to four weeks. Especially noteworthy was the direct sequence of the urinary upon the digestive derangement. Several times during convalescence symptoms of indigestion—gastric distress and distention, belching of gas, etc.—occurred, and were invariably followed within a few days by pain over the kidney, irritability of the bladder, and the appearance of sharp uric-acid crystals and some pus in the urine; with the subsidence of the digestive disturbances the urinary function again became normal.

George F——, aged thirty, was struck by a cable-car, November 28, 1886, sustaining a laceration of the hand and various bruises. The patient had left his bed, though still sore from the contusions, when, December 11, after straining at stool, he passed a large quantity of bright blood with the urine, and had severe pain in both loins; temperature, 102. Ergot, gallic acid, and opium internally, ice locally, and absolute rest, were ordered. The hemorrhage ceased in seventy-two hours, but pain and tenderness over right kidney and pyuria persisted with varying intensity and same temperature. December 21st, he had several slight chills, followed by profuse sweats, fever, headache and vomiting; deep inspiration caused great pain in right loin.

December 22, a transverse lumbar incision was made for exploration of right kidney; there was found extensive adhesive inflammation, matting together the colon, peritoneum, and peri-renal fat; extravasated blood under the kidney-capsule; a laceration in the posterior surface of the kidney, extending transversely from the lower insertion of the pelvis about an inch into the renal substance; opposite this fissure were some blood-clots and about half an ounce of clear fluid. As the location prevented stitching of the capsule, drainage-tubes were inserted to the point of laceration. For several days the temperature remained high, and pus and urine were profusely discharged; then improvement was noted; the wound was healed in a month and the patient was discharged well a week later.

C. L——, aged forty-eight, enjoyed excellent health until two years ago, since which time he has suffered from gradually increasing frequency and pain in urination; urine has contained pus, and sometimes a little blood. A year ago he passed two small calculi, as large as buckshot. During last three months has had occasionally some pain in left groin and testicle, lasting some hours—evidently mild renal colic. Has been treated for Bright's disease and cystitis. When placed under my care, January 5, 1887, he was rather emaciated, urinating every half-hour, with pain in bladder and glans penis; urine alkaline, thirty to forty ounces daily, containing much pus and some blood-corpuscles; some tenderness on firm pressure over left kidney, none over right. There was evidently pyelitis on left side, of either calculous or tuberculous origin; a single examination of the pus revealed no bacilli.

January 26th, left kidney was exposed by lumbar incision; it was found to be above average size; at the junction of pelvis and ureter was a hard mass. To determine its nature the kidney was incised; the finger in the pelvis found this cavity dilated, and at a few points ulcerated; the hard mass consisted of thickened tissues, partly occluding the ureter. As the disease was evidently tuberculous and the condition of the opposite kidney unknown (though suspicious in view of the enlargement of the left), extirpation was deemed injudicious. The patient was not depressed by the operation, and was sitting up in bed on the third day. On the fifth day, however, the urine was tinged with blood, and decreased in amount; the usual symptoms of uræmia followed, ending in death from that cause on the eleventh day. A partial autopsy showed the left (explored) kidney slightly tuberculous and deeply congested; the right kidney extensively tuberculous; bladder and prostate normal.

In this case there was nothing in the history or physical signs to indicate disease of the right kidney; since this is the rule in tubercular, and not infrequent in calculous disease of the pelvis, the case teaches the necessity of examining the urine from the opposite kidney before opening the pelvis of the one under suspicion. The exciting cause of the uræmia was apparently not the slight wound in the substance of the working kidney, but the intense congestion following the sudden relief of habitual pressure in the distended pelvis; the case was, in fact, identical with those in which diminution of urine, renal hemorrhage, or even uræmia, follows a few days after the first catheterization in cases of enlarged prostate, etc., where the accustomed distention of bladder, ureters, and pelves is suddenly relieved—improperly termed "urethral" or "catheter fever."

THE CLAIM OF MORAL INSANITY IN ITS MEDICO-LEGAL ASPECTS.[1]

By JAMES HENDRIE LLOYD, A.M., M.D.,

INSTRUCTOR IN ELECTRO-THERAPEUTICS IN THE UNIVERSITY OF PENNSYLVANIA.

In the experience of the writer, which is largely based upon nearly three hundred cases of insanity, it has not been his fortune to see one case which answers to the description, given in the books, of moral insanity. The three hundred cases cited have all been studied with care for the purpose, chiefly, of certifying, under the law, to their mental condition. In most of them the antecedent history was attainable, and in many of them any unusual developments in their subsequent careers would probably have reached the writer's knowledge. These cases presented, I believe, all the recognized forms of insanity as laid down in all the classifications now in fashion. They came from all grades of society; some were committed to pauper asylums, some to the most select private and public institutions, and a few to an institution for feeble-minded children. They were representative of a very large insane population, because the writer formerly had the advantage of certifying almost all insane paupers of Philadelphia, and continues, through the kindness of the medical officers, to make out certificates of insanity for many patients coming from other States to asylums in or near this city, as well as to be retained not infrequently in private consultation for the same purpose. Records of all these cases have been preserved, and especially interesting features or unusual symptoms have been noted. In addition to the above cases the writer has studied a large number of brain cases during five years' attendance upon the Nervous Dispensary of the University Hospital. In an experience of this kind it could not be expected that no evidence of moral obtuseness or obliquity had been observed; far from this, the most diverse and extraordinary perversions of the moral ideas have been noted, just as perversions of all other cerebral activities have been recorded, but no case has been found in which that pure and simple dislocation of the moral nature existed, without lesion of the understanding, which we are led to believe by some writers is a not unusual form of insanity—especially of criminal insanity. It will be, therefore, the object, in part, of this paper, to compare briefly some of these cases of the writer with a very few of the most important cases mentioned by some of the most prominent writers who have described moral insanity.

I conceive this subject to have importance in two aspects. It has importance, first, to the medical nosolo-

[1] Read before the Philadelphia Medical Jurisprudence Society, April 12, 1887.

gist, or him who classifies and describes disease. It has still more importance to the medical jurist, or him who studies the actual legal relations of disease. With the first the subject is apt to degenerate into a mere quibble about *terms*. To the latter it presents itself as the most responsible question of *fact*. It thus appears that a brief definition of terms is of primary importance, while later it will be appropriate to make a short clinical analysis of cases and draw from them their proper deductions in medico-legal science.

It is not my intention in this paper to indulge in metaphysical abstractions, but it is imperative at once to consider briefly certain terms and distinctions which are constantly applied to this subject by medical writers, and which terms they have indubitably borrowed from the metaphysicians and theoretical psychologists who have been for generations thrashing this ground over and over again to find little wheat and much chaff. According to most of these speculators the mind is divided into (1) the intellect, (2) the emotions, and (3) the will. The "mind" itself is regarded by some of them as something immaterial, individual, and distinct from the organic brain. Each of these *faculties* has come to be treated in most systems as though it were a distinct thing in itself, with its own peculiar functions and diseases, just as the heart is a distinct viscus of the body apart from the arm, which, in turn, has its own partial independence. That such a division may have facilitated the study of abstract psychology, and may even yet furnish many convenient terms and much smooth rhetoric for the medical nosologist, is not to be doubted, but I think I am not mistaken when I say that the distinction is an entirely arbitrary one, and that there has never been offered an iota of evidence in anatomy, physiology, or pathology that these so-called "faculties of the mind" are anything more than varying phases or modes of action of one identical substance—the cerebrum. So thoroughly engrafted upon medical science is this creed of the metaphysicians that our books abound with classical descriptions of "intellectual" insanity as apart from "emotional" insanity, and a disease of "the will" has even been depicted under the dreadful name of *abulimia*. This latter so-called disease I saw exhibited in a poor woman who was suffering with melancholia, and had been cruelly treated and deserted by her husband. She stood in a corner of the room; she apparently could not speak nor perform any ordinary action. She was certainly without will or the active manifestation of it; but who can doubt that her mind was overwhelmed with depressing and stupefying ideas in which her intellect and emotions were hopelessly jumbled? Another case has been recorded of a man who sat immobile for a long time, having apparently lost his metaphysical "will," but who was found to be harboring the delusion that his body was glass and his only safety was in rest. The last effort of this doctrinaire school seems to have been in the direction of the conscience, or moral nature. Some call the moral nature a part of the emotions, while others give it a distinct place in classification, and this has led to corresponding confusion in moral insanity. With some it is purely an "emotional" insanity, with others it is "instinctive," with others it is a sort of *abulimia*, or loss of will, as in the "impulsive" varieties, etc. It is thus seen that there is much looseness with confusion of terms here, which is always suggestive of a confusion of thought. It is also apparent to my mind that in the cases reported by these writers there has been no strict, searching analysis of symptoms, or else the symptoms have been put down with strong bias in favor of the artificial classification employed.

A few weeks since a man came to the writer in great distress of mind, and said that as he was shaving one day recently the thought suddenly occurred to him that he might cut his throat, or possibly his wife's throat. He could not account for the thought, and neither could he cast it off, but was constantly haunted by the fear that he would yet commit one or both of these terrible acts of violence. If this man were to commit these acts he would probably be called by some writers a case of *impulsive* or *motiveless* insanity, in which, according to their favorite theory, his intellect would not be affected. Now it seems to me that this patient had a so-called imperative conception, which was delusional in character, and that he was in fact in a state of mind not unlike the hypochondriac who is constantly terrorized by the dread of what may be. This imperative conception *is* his motive, and if he falls a victim to it he is insane. The act would be as *intellectual* as any brain-act.

The truth about the brain-hemispheres, as far as we know it, seems to be that they are the seat of a special, highly differentiated reflex act. That they are, in fact, highly organized and developed masses of nerve-substance—which have probably by a process of evolution grown from the likeness of one of the inferior ganglionic masses to their present huge proportions and superior dignity, and that they are in no way exempt from the law, governing all nerve-centres, that upon excitation alone from without there comes a reflex act from within. This is, in other words, the law that upon sensation comes reflection, and is practically what was taught by Locke and Condillac, long before the era of Charles Bell or Marshall Hall, which is a curious confirmation of the truth that philosophic insight has often gone before scientific inquiry to demonstrate a fact. This highly specialized reflex act goes under a great variety of names, and is called memory, thought, intellect, reason, meditation, imagination, passion, will, talent, genius, etc., according to the point of view taken by the outsider rather than because of any known anatomical or histological changes or differences which take place in the insider. In other words, this special act has been given a legion of names according to its many and various phases, while in itself it can always be reduced simply to the condition of a reflex act, *i.e.*, perception, comparison, and action. This specialized act of the cerebral masses was named, I believe by James Mill, *ideation;* and as doing away with the innumerable artificial terms of the pseudo-psychologists, and being applicable to every conceivable mental act, it is the one for which I think medical writers ought especially to be thankful. From whatever point of view we take the human mind (by which I mean the human brain) we see it always reducible to this one term; for whether it meditates upon the highest problems of destiny or is tossed (metaphorically) with the stormiest passions of love or hate, it is essentially in the process of comparison, leading from perception to action, which conjoint act is this special process called *ideation*. Its diverse *manners* of acting, according to the character of the external objects which excite it, do not alter the essential unity and individuality of this special act. And yet it is according to its various modes merely that the classical and artificial distinctions have been made, by which even yet some practical alienists endeavor to steer their course, instead of by a more rational study of the identical acts of the brain itself—whose confusion, exaltation, depression, perversion, or disorganization can alone constitute either a scientific or a legal insanity.

I have never yet seen in actual practice a case of so-called moral insanity, or read the descriptions of such in the books, that it has not seemed easy to me to detect the fallacy which ascribes to such cases a normal intellect amid the ruins of the shattered soul. The following case was seen in Moyamensing Jail some six years ago, and has once since made some stir in the newspapers. A. B—— had fallen from his horse in boyhood and injured his head. He had preserved fair brain-power, and when he grew up had learned a profession, at which he attempted, without success, to practise. But he had grown up, nevertheless, a crooked stick, and was regarded by acquaintances as odd, ugly dispositioned, unreliable, and a crank. Upon a superficial view he fulfilled to the letter

the rôle of a moral lunatic; in fact he did out-herod Herod, and was a much better specimen of his class than is usually reported. He lived comfortably at the expense of his unmarried sisters, and talked so well that persons associated with him for months and did not suspect his mental integrity. He was affable to strangers, but of such rude and hasty temper to his family as to cause them sometimes alarm lest he should assault them. At last he began to excite a disturbance in the family about his father's estate, which had been divided and settled equitably years before, and announced that he had been defrauded of his share. In order to bring his sisters to terms he deliberately began to malign the reputation of one of them—who was a most estimable wife and mother—and set up an atrocious scheme of blackmail. When this became unendurable his family had him committed to jail to keep the peace, and in jail I signed his certificate, with a brother physician, to send him to Norristown Asylum. On examination of this man I found he had little correct reasoning power on any subject in which especially his own interests and relations were concerned, and that his disgusting egotism had culminated in a series of delusions of persecution in which he was as fixed as the earth in its orbit. If this man's *intellect* was not affected, it must indeed have been of the metaphysical variety in a literal sense, and have kept out of sight far above the physics of Moyamensing Jail when I saw and examined him.

He who has read Pinel on "Insanity," and has also a taste for the romance of history, has no doubt been pleased to find that author's science so illustrated with the events of the French Revolution. That momentous period made many men mad, and Pinel gives us many glimpses into some of the most tragic, but least known, acts of that historic cataclysm. I doubt, however, if any event he describes is more instructive than the breaking of the September mobs into the Asylum of the Bicêtre, and the liberation by them of a moral lunatic. It was announced in Paris that the asylums were unjust prison-houses, wherein were incarcerated many victims of kingly and priestly oppression, under the pretence of insanity. They would liberate these unfortunates. When they ransacked the Bicêtre, this patient loudly proclaimed that he was sane and a victim of tyranny. The keeper said he a was lunatic without disturbance of intellect, but of very bad passions—but the keeper came near being killed for his unphilosophic remark. The mob released this patriot prisoner, and led him in triumph through the streets. "The sight of so many armed men, their loud and confused shouts, and their faces flushed with wine, roused the madman's fury. He seized the sabre of his next neighbor and wounded several of his liberators. Had he not been promptly mastered he would soon have avenged the cause of outraged humanity. The savage mob then thought proper to lead him back to his cell, and with shame and reluctance yielded to the voice of justice and experience."[1] Pinel described this case as an example of mania without delirium, and subsequent writers who rely upon him have mistaken him, I believe, in considering that he meant a purely *emotional* insanity. I think he meant a mania without fixed, systematized delusions, and if he were here to-night I do not believe that he would say that this madman of the Bicêtre had an undisturbed reason.

Dr. Prichard, of England, is usually credited with being the progenitor of the school who teach the doctrine of moral insanity, although Dr. Rush, of Philadelphia, clearly indicated the same psychological distinctions. Prichard records seventeen cases as illustrative of this class of patients, and as a superstructure can be no more secure than the foundation upon which it rests I will briefly call your attention to a very few of these frightful examples. One patient was a literary man who was married to a literary wife, and became so suspicious that the world would say his wife wrote his books that he refused to let her know what he was writing; he acquired strange habits, placing everything in a certain order whether in his own or in other people's rooms. He would run up and down his garden a certain number of times, spitting alternately on one side and the other in regular succession. He spent much time rolling up little pieces of writing-paper, which he used for cleaning his nose. He committed several acts of violence, argued in favor of suicide, and finally drowned himself in a canal. This man evidently had delusions and insane suspicions, and his little foolish tricks are strongly indicative to my mind of failure of brain-power and possibly commencing dementia; that there was a strong element of melancholia beneath the surface of his disease appears evident to me from his committing suicide. Another of these moral lunatics is recorded as having the delusion that all the persons living in the house with him disliked him, and he confessed that he heard whispers of malevolence and abhorrence. This case was evidently one of the worst forms of insanity—the veritable insane demon who harbors delusions of persecution and hears irritating and deriding voices. To call such a man a moral lunatic without affection of his "intellect," is a use of terms which to me is worse than an error in definition—it is an injustice to humanity. Another case was a sober and industrious farmer, who became wild, excitable, full of schemes and absurd projects; bought cattle and stock for which he had no use, and a carriage which was much more elegant than he was accustomed to; he called on a man in the middle of the night to take him out to survey his farm. This man is reported to have recovered in an asylum, but my diagnosis of his case at this distance is *dementia paralytica* with an early remission, which deceived his physicians into the belief that he had recovered his lost conscience. This case I regard as an important pointer, for it suggests that many of these so-called moral lunatics are simply cases in the early stages of grave forms of insanity, who render themselves conspicuous by that erratic conduct and change of character which are early symptoms, and difficult often of interpretation. The whole texture of the brain is changed, and that specialized act which has been called ideation is perverted. The sensations received do not fall into a sound and active cerebral machine to be reflected again as conscious and intelligible acts, but the brain acts are perverted, weakened, and confused in all the relations and affairs of life. This suggests to me the difficulty often of following these abnormal brain-processes. There is no more difficult problem set before the physician than to unravel the complexities of the insane brain. Its suspicions are so varied and its associations so complex, that it seems sometimes as though it might require the prescience and insight of the greatest of poetic or philosophic minds. A patient whom I examined, and who afterward perished in the burning of the Blockley Insane Department, refused to eat because he had cursed the giver of food in his heart, but the connection of his conduct with a concealed delusion was for a long time not apparent. Another patient of the writer tore up her Catholic prayer-book, apparently in an unseemly rage of moral imbecility, but when questioned closely acknowledged the delusion that anyone who said the same prayers as she said would deprive her of a certain mysterious power which she possessed; and another patient, who had some extravagant religious delusions and a hyperæsthetic conscience, and who, nevertheless, without apparent reason slandered and abused her husband in the most heterodox manner, was at last brought to the confession of the astounding delusion that her husband had grown tired of his normal sexual relations with her, and intended to cut another hole in her abdomen in order that he might enjoy a change!

It is to be noted that moral insanity or imbecility is described especially in children, even more than in adults, and this is significant. In children cerebral activity is

[1] Pinel's treatise, p. 154.

more concerned about objects which immediately affect themselves, their comfort, amusements, and various gratifications. There is, in fact, much of the animal in them. They do not think or reason much about abstract and remote objects, relations and interests which claim the attention of the grown man, and about which the adult lunatic is apt to form his delusions. The child is pleased with a trifle, deeply interested in his animal appetites, and much harassed by discipline. The man is involved in the deadly struggle for existence, and is brought face to face with the anxious problems of fortune, friendship, religion, and destiny. To the deficient intellect of the imbecile child, bent upon self-indulgence, the greatest good and the readiest methods of self-assertion may seem to be obtainable by theft, incendiarism, and insubordination, while in the man the more complex delusions of persecution and religious melancholia fill up the measure of his woe, just as fidelity and worship widened the mental horizon of his perfect health. I speak now of those children who are real imbeciles, whose minds, if thoroughly tested, would show defective brain-power, and who are called moral idiots with good intellects because apparently their skulls are not as crooked as their conduct. I do not refer to the spurious cases who are occasionally reported, as, for instance, the kleptomaniac whose case is quoted by Bucknill and Tuke, who made bargains with the merchants that for a nominal sum of blackmail he would not steal from them. I do not call such a scamp by a Greek scientific word of five syllables, and I fear that his heaven-sent destiny is the county jail. Neither do I refer to such cases as these eminent authors describe in a patient who was a pyromaniac, and was such a bad girl that she resembled a serpent in her movements. "Her skin," we are told, "was also spotted like a common species of snake!" It is impossible for me to determine from this whether a spotted skin is a symptom of moral imbecility or whether it is a custom of serpents to set fire to houses, and in the double doubt I am willing to assign the tale to the other snake-stories of the newspapers.

Erotomania is not an insanity at all as described by many writers. Although increase and perversions of the sexual appetite are not uncommon in different forms of mental disease, I have seen several curious cases in which the trouble was entirely intellectual, rather than moral or sexual. A middle-aged buxom woman came one day, bewailing her uncontrollable lust, which she said she had endeavored to gratify with a number of men, although living an apparently happy and virtuous life with her husband. She was excitable and emotional as she talked, and easily became confused, almost incoherent, in her language. The longer she talked the greater the number of her paramours became, and the more exaggerated the details of her illicit relations grew. It was soon apparent that her self-accusations were delusions, and when questioned closely on the subject she broke down with the statement that her mind was so confused that she did not know whether she told the truth or not. I saw an old lady recently who was weeping constantly, and telling every person she met that she had committed adultery with a worthless fellow about town; but the good woman's age and appearance were enough to acquit her Lothario.

In the Annual Report of the Elmira State Reformatory, N. Y., for 1886, there is a most interesting account, by Dr. H. D. Wey, of an experimental class in physical culture. This class was composed of twelve inmates of the institution for the purpose of determining how far their cerebral condition could be improved by frequent baths, calisthenics, and physical culture. They seem to be as nearly moral imbeciles as could be well picked out, and in his admirable description Dr. Wey has taken the pains to give us an analysis of not only their "moral" but also their "intellectual" acquirements. Their ages were from nineteen to twenty-nine. The moral capital of these twelve men is summed up as follows: One was convicted for assault, five for burglary in the third degree, one for grand larceny in the first degree, three for grand larceny in the second degree, one for rape, and one for attempted rape. The doctor says truly that the offence of such men when against property is usually such as calls for no great amount of ingenuity, but when committed against the person is of an aggravated form and brutish in details, suggesting uncontrolled passion. This experimental class were serving an average sentence of seven and one-half years. Most of them had been intemperate. Not one had learned a trade. Their environment before their crimes was bad, many having had intemperate parents, and one an insane, and another an epileptic, mother. In physiognomy many in their photographs are typical of the crime class, and in two the receding forehead is almost typical of idiocy. The faces express mental hebetude and moral obliquity. The "intellectual" capital of these men is summed up as follows: The ignorance of some was so great that they were unable to tell in what country they lived. They were without purpose or ambition, and seemed simply to exist. "An idea of their mental attainments can be formed when it is said that one could neither read nor write; one barely do either; four understood the successive steps necessary to work an example in long division, but could never obtain the correct answer; while the balance were wrecked upon the shoals of rudimentary arithmetic from notation to simple division." It certainly cannot be said that the intellectual status of these men is any better than their moral status. Their whole cerebral activity is very bad.

The class of lunatics from whom are recruited most of the criminal insane comprises the patients with elaborate, systematized delusions. These are the monomaniacs, or, as the Germans call them, the cases of original insanity, or *Primäre Verrücktheit*. This has sometimes been called the "insanity of character." Its roots are deep in the very construction of the man's brain; he was born with a bad brain, which is bound not to perform properly its function of ideation. It will not elaborate good thought or sound sentiment in whatever environment it is placed and whatever sensations stimulate it to its special reflexes of comparison and action—at least thus we are taught to believe of these congenital fools. Just here is where a fallacy, I think, creeps into the admirable logic of those who have described this class. While it is true, in every sense, that there is a class of men born with poorly constructed brains, it is not so applicable a truth that they must necessarily be forever in the grip of a fate which holds them all equally irresponsible lunatics. Men are born with every grade of brain-power, from the microcephalic idiot to the sage whose cerebral masses weigh sixty ounces. Character is a varying quality, not always strictly in proportion to the amount and quality of a brain, but also in proportion to the character of the environments of that brain. If there is any truth in the doctrine of evolution, or any force in our systems of education, it seems to me to rest upon this truth. Otherwise we are all the most unfortunate fatalists, and, in a literal sense, the sins of our great-grandfathers are visited upon us without amendment or expiation possible on our parts. Hence this doctrine of original insanity, while attractive to the ear and eye, bears a fallacy with it if extended too far. Insanity is not a mere peculiarity of character, else this doctrine may extend its long arms until it embraces all the oddities and eccentricities and notions and fallacies and sins of mankind, or until one-half of the human race is caught by this *octopus* of the extreme school of alienists. Insanity must be conceded to be something more definite than this, especially criminal insanity, wherein arises the question of responsibility under the law. If Erskine's test of delusion is applicable at all, it is certainly to this class of lunatics, for insane delusion, fixed and logical, is the essence of their disease; it supplies the motive, usually, of their crimes (whether its connection with the crime can be traced or not); it dominates their lives and perverts all their conceptions of moral, social, and legal relations. Unless such a positive perversion of cerebral activity can

be shown it seems very doubtful if these "primary cranks" have passed from the borderland of folly and wickedness into the neighboring field of irresponsible lunacy. "No one," says an old legal writer, "is of perfectly sound mind but the Deity;" but while this may be conceded to the pessimist it can never be admitted as a scientific axiom in medical jurisprudence. We must have some secure ground to tread upon, and some certain landmarks when we come to pass judgment upon a man's mental health and his criminal responsibility, otherwise the decision may be no more admirable than that which declared General Beauregard insane after the first battle of Bull Run because he had lost the fight and yet was seen playing in an idle manner with a parrot in his tent; or the judgment which proclaimed Edmund Burke, the orator, to be an emotional lunatic because, when they brought him the favorite horse of his dead son, he threw his arm on the animal's neck and wept. The Philistines could see in this no more than the morbid sentimentalism of the author of "Tristram Shandy" when he wept over the agonies of a dying jackass!

The writer cannot but feel, in common with his profession, a prejudice against hard and fast dogmatic tests of insanity. It is in this respect that the physician has all along been apt to part company with the lawyer. This arises in part from the directly opposite positions taken by the two in regard to the case in issue. The physician, searching for disease, may be too apt sometimes to construe slight and irrelevant symptoms as indicative of what he seeks, while the lawyer, upon the bald assertion of the law that every man is in normal health until he is proved to the contrary, is always too prone to resist anything but the most glaring and unmistakable signs. It thus happens that the medical definition has sometimes been stretched so wide that it includes cases which shock the common-sense of the most intelligent, while the legal tests have been made so narrow and unscientific that it is difficult to include in them some of the most patent cases of insanity. The test of "delusion" is, I believe, in some forms of insanity an applicable one, but it certainly will not include all classes of mental disease, while the test of knowledge of "right and wrong" is founded, I think, upon a misconception of the unity of the brain-function not unlike that which has supplied the doctrine of moral insanity. A scientific diagnosis ought to be made in court just as in a hospital. I believe that the conception, and rigid adherence to the conception, of the cerebrum as an individual unit, whose special act is always a reflex process of ideation, tends to a satisfactory definition and classification of insanity, as well as to an intelligible application of our knowledge to the solution of medico-legal questions, much superior to anything attainable by the distinctions of the metaphysicians or the arbitrary tests of the judges. This process of ideation may be depressed or exalted (as in melancholia or mania), it may be perverted (as in monomania), it may be confused and incoherent (as in a variety of forms), or it may be utterly disorganized (as in dementia), but I certainly have not yet seen a case of insanity in which it was not in one or the other of these states.

Southwest Corner Walnut and Fortieth Streets,
Philadelphia, Pa.

Iodol in Diphtheria.—In order to test the statements of Dr. Mazzoni, Dr. L. L. Stembo, of Vilna, tried (*Proceedings of the Vilna Medical Society*, No. V., 1887, p. 114) the local use of iodol in seven cases of diphtheria, two of which were severe. The drug was applied either alone, in powder, or in the form of a solution (℞. Iodoli, ʒss; liq. vini, ʒss; glycerini, ʒiijss.). All the patients recovered after treatment lasting from four to six days. The advantages claimed by Dr. Stembo for iodol are its complete harmlessness, its freedom from unpleasant smell or taste, the painlessness of its application, and the absence of any untoward secondary effects, such as loss of appetite, nausea, vomiting, etc.

CONTRIBUTION TO THE STUDY OF CEREBRO-SPINAL FEVER.[1]

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Cerebro-spinal fever was probably unknown prior to the present century. It was recognized and described in Europe in 1802, and since then numerous epidemics of it have occurred in isolated localities in both continents. It was in the first half of this century regarded as a painful and dangerous epidemic malady, attacking chiefly the young, occurring suddenly and unexpectedly in places widely separated, among people engaged in diverse occupations, and living under different conditions as regards soil, climate, and food. After some weeks or months it suddenly or gradually, but completely, disappeared, so that no more cases occurred for a series of years; but since 1860 it has appeared in this country in another phase. It is becoming established, or, to use the phrase commonly employed in medical literature, naturalized in the cities of the United States. For some years not a week has passed, or but few weeks have passed, without the report of deaths from this disease in New York, Philadelphia, Jersey City, and Chicago—Chicago being the city in which it has caused the largest number of deaths in proportion to the population. During last year it occurred in Cincinnati, Minneapolis, Denver, Norfolk, Boston, Worcester, New Haven, Albany, Syracuse, Auburn, Milwaukee, Wilmington, Detroit, Baltimore, Charleston, Toledo, Mobile, Salt Lake, Grand Rapids, Providence, Chattanooga, Hartford, New Orleans, Fall River, Richmond, Knoxville, and Nashville. It is probably already permanently established in Cincinnati, St. Louis, Minneapolis, Newark, and San Francisco, since deaths from it have been reported in these cities during many consecutive weeks. It appears to be extending most rapidly, and causing the largest number of deaths in the cities along the line of western travel from New York. Whatever may be the explanation, it is extending much more rapidly in the Northern than in the Southern cities, or the cities in the late slave States. In the Southern cities usually not more than one death is reported during the week, and only in a very few weeks during the year.

In New York City, prior to 1866, only four deaths were announced from what might have been cerebro-spinal fever, since in 1838 two deaths were reported from so-called spotted fever, one in 1850, and one in 1861. What was the nature of this spotted fever is now a matter of conjecture. In 1866, 18 patients died of cerebro-spinal fever within the city limits, and not a year has passed since without deaths from it, and in the last few years not a week. From 1866 to 1872 the annual deaths from this disease varied from 18 to 48. Commencing in December 1871, and continuing during the first half of 1872, a severe epidemic occurred, producing a large mortality, destroying the eyes of some, and leaving permanently deaf many who otherwise fully recovered. In this epidemic the physicians of New York were fully aroused to the importance of the disease which was causing so much suffering, and which attacked the lower animals, especially the jaded horses of the city car and stage lines, not a few of them dropping down in harness, so suddenly did the attacks occur. In 1872, 782 deaths occurred from it within the city limits, chiefly of children. This epidemic appeared to produce a greater dissemination of the disease, and more firmly establish it in the city; for since then the annual deaths from it have varied between 97 in 1878 and 461 in 1881. In Philadelphia cerebro-spinal fever began in 1863, causing 49 deaths in that year, and it has never been absent from that city since. Professor Stillé states that between 1863 and 1882 it caused 2,049 deaths within the city limits. In Philadel

[1] Abstract of a paper read before the Northwestern Medical and Surgical Society of New York, March 16, 1887.

phia, as in New York, it has for some years produced a nearly uniform weekly mortality.

The etiology of cerebro-spinal fever is a matter of great interest. That it is produced by a micro-organism is generally admitted. Doctor A. Fränkel, as well as other European microscopists, have made a study of the bacteria found in the blood and tissues of those affected with it. At the meeting of the Berlin Medical Society, held February 12, 1883, Herr Leyden showed, under the microscope, specimens of micrococci found in a case of cerebro-spinal fever.[1] They had an oval shape, were mostly in pairs, and were faintly tremulous. They resembled those found in pneumonia and erysipelas; but Leyden did not think them identical. At the same meeting Herr Baginsky related cases which seemed to show that in some instances the exciting cause of cerebro-spinal fever and pneumonia might be identical.

Dr. V. O. Pushkareff,[2] connected with one of the barrack infirmaries in St. Petersburg, states that in five cases of croupous pneumonia, in which cerebro-spinal meningitis occurred as a complication, he discovered in the pus taken from the cerebral meninges swarms of micrococci, whose appearance under the microscope seemed identical with that of Friedländer's pneumococcus. They were either isolated or in groups of two, seldom in four, having distinct capsules, and they were absent from the fluid taken from the meninges in simple pneumonia. He was able to cultivate the micrococcus taken from the meningeal pus, and the cultivated microbes, like their parents, presented an appearance identical with that of the pneumococcus. Moreover, Eberth, in a case of meningitis following pneumonia, believes that he found the same micrococci in the lungs and in the liquid exuded from the inflamed pia mater; Fränkel[3] also states that he obtained from the purulent exudation in the pia mater in a case of meningitis, occurring with pneumonia, a microbe resembling that in the pneumonic exudation. From the investigations of so many competent microscopists, therefore, it appears that the microbe found in the exudate of the meninges in cerebro-spinal fever, and which is supposed to sustain a causative relation to this disease, bears a close resemblance in form to the pneumococcus, if it be not identical with it. But we would infer, from the fact that croupous pneumonia is such a universal disease, occurring in localities where there is no cerebro-spinal fever, that the causes of the two must be different; or if there be a form of croupous pneumonia which is produced by the same microbe as that of cerebro-spinal fever, the pneumonia which is of universal occurrence may have a different origin. The microbic causation of cerebro-spinal fever needs further investigation, which it will doubtless receive, before positive statements can be made.

Physicians have studied cerebro-spinal fever as an idiopathic or primary malady; but its occurrence as a complication of other diseases has not received the attention which it requires. Fagge, in his recently published "Practice of Medicine," calls attention to this fact, and especially to its occurrence as a complication of croupous pneumonia, fifteen cases of which occurred in Erlangen, and he alludes to its complicating pleurisy, tonsillitis, and scarlatinal nephritis. I have seen it occur as a complication of typhoid fever, in which there could be no doubt as to the diagnosis of the primary disease, and also as a complication of the intestinal catarrh of infancy.

It is evident, from the nature of cerebro-spinal fever, that wherever it occurs the full number of cases is not reported. Some cases terminate so quickly in convulsions and death that a clear diagnosis is not made. I might cite a recent case of this kind, occurring in one of the institutions, in which the diagnosis was not made until the autopsy disclosed the nature of the malady. Those who have seen much of cerebro-spinal fever and are familiar with its symptoms will, I think, often recognize this disease in cases which are reported in the journals under other names; such as *infantile cerebral paralysis*, *hemiplegia cerebralis spastica* of Heine, or Strümpell's *poliencephalitis acuta*. In a recent number of THE MEDICAL RECORD the case of a child of four and a half years is detailed, who was suddenly seized with eclampsia and high fever, followed by loss of speech and right hemiplegia. The case is reported under the heading "Infantile Cerebral Paralysis," but the symptoms so closely resembled those of certain cases of cerebro-spinal fever that there can be little doubt in my mind that this was the disease. Paralysis or aphasia, suddenly occurring, is not unusual at an early stage of cerebro-spinal fever. Thus a boy of ten years, treated for cerebro-spinal fever in 1878, was unable to move his legs one hour after the commencement of the attack, and in 1882 I attended a girl of three years, with the same disease, who lost her speech on the second day of the fever and did not recover it until the lapse of two and a half months. These remarks are made to show that probably the published statistics of cerebro-spinal fever only give approximately the number of cases. Perhaps, also, the mistake is sometimes made in the opposite direction, and what are cases of some other form of meningeal or cerebral disease are regarded as cerebro-spinal fever.

Many monographs have been published on cerebro-spinal fever, as it occurs in the epidemic form, and but little attention has been bestowed on the symptoms or character which it presents, or the changes which it undergoes when it occurs as an endemic or naturalized disease. The material of many of the papers has been obtained by observing epidemics and studying cases in rural localities. The naturalized disease must, of course, be observed in the cities, for there is no rural locality, so far as I am aware, in which cerebro-spinal fever is permanently established. In New York the naturalized disease differs in some respects from the form exhibited in the epidemic of 1872, and in other epidemics throughout the country. The naturalized disease appears to be accompanied by a less profound blood-change. Although every year seeing a considerable number of cases, I have not in the last ten years seen one with the livid spots upon the surface, due to subcutaneous extravasation of blood, which were so common in the epidemic of 1872, and which have been common in epidemics both in this country and in Europe, so that they have given the name "spotted fever" to the malady.

It is well known that in the epidemic form of cerebro-spinal fever the attack is abrupt and with little or no premonition. The exact moment of its commencement can be stated, but in some instances in the naturalized disease the attacks seem to me to come on more gradually, so that a day or more may elapse before we are certain that the sickness involves seriously the cerebro-spinal axis.

Some writers have expressed the opinion that the time in the year or the season influences the occurrence of epidemics of this malady; but the frequency of the naturalized disease seems to be pretty uniform in the different seasons and months. Thus, in this city, the reported deaths from cerebro-spinal fever in 1883 were as follows:

January	20	July	20
February	24	August	13
March	24	September	17
April	18	October	15
May	30	November	10
June	19	December	13

The bulletins of the Health Board for 1886, which I have been able to obtain covering thirty-three weeks, show that in every week the number of deaths from cerebro-spinal fever has been nearly the same, varying from two to six or eight. In the spring, summer, autumn, and winter months the rate of deaths was nearly uniform.

[1] Deutsche Med. Wochenschrift, April 4, 1883.
[2] Ejenedelnaia Klin. Gazeta, April 21, 1885.
[3] Deutsche Med. Wochenschrift, November 13, 1886.

My observations lead me to think that the younger the child the more frequently is cerebro-spinal fever overlooked, and some other disease diagnosticated. Nevertheless, the statistics of this city show that there is a larger number of fatal cases under the age of one year than in any other year, and the number of deaths gradually diminishes as the age increases. Thus, in 1883 the ages of those who died from this disease were as follows:

Under one year	57	Twenty to twenty-five years	7
One to two years	31	Twenty-five to thirty years	3
Two to three years	22	Thirty to thirty-five years	4
Three to four years	12	Thirty-five to forty years	3
Four to five years	9	Forty to forty-five years	1
Five to ten years	37	Forty-five to fifty years	2
Ten to fifteen years	18	Fifty to sixty years	1
Fifteen to twenty years	15	Over sixty years	1

The weekly bulletins of thirty-one weeks in 1886 give the ages of fatal cases of cerebro-spinal fever as follows:

Under one year	28	Fifteen to twenty years	7
One to two years	20	Twenty to thirty years	10
Two to three years	18	Thirty to forty years	4
Three to four years	7	Forty to fifty years	3
Four to five years	6	Fifty to sixty years	2
Five to ten years	16	Sixty to seventy years	4
Ten to fifteen years	6		

Not a few cases occur, in this city, in infants of the age of three or four months. An infant of four months died of cerebro-spinal fever in the New York Infant Asylum, the nature of the disease not being known until it was revealed by the autopsy.

Another interesting fact in reference to this disease, as it occurs in New York City, is that, although the city has a wide area, it occurs in every part of it. Thus the death-statistics in 1883 show that deaths occurred from cerebro-spinal fever in every ward except the First—the largest number, to wit, 39, being in the Nineteenth Ward, and the next largest, 20, being in the Seventh Ward. The death-statistics of thirty-three weeks of 1886—the statistics of the remaining nineteen weeks not being in my possession—show that deaths occurred from cerebro-spinal fever in all the wards except the Second, Third, and Twenty-fourth—the largest number, 24, being also in the Nineteenth Ward, and the next largest, 15, being in the Seventh Ward. Therefore cerebro-spinal fever has extended over the entire city, and, so far as we now see, is as firmly established as is diphtheria. These two scourges, admitted into this great and growing metropolis during the professional life of physicians now in active practice, are, from present appearances, likely to increase rather than diminish, notwithstanding sanitary regulations. We must submit to the inevitable fact that as they have desolated many families, producing an immense amount of suffering and blighting the hopes of parents in the present generation, so they will continue in full activity and probably increasing prevalence in the future, unless those who succeed us discover some more effectual way of preventing their occurrence.

The statistics, therefore, of this city show a wide diffusion of the specific principle of cerebro-spinal fever. If this disease have, as is believed, a microbic origin, the microbe has extended over the length and breadth of New York, and it has found conditions equally favorable for its development and extension in Jersey City, where for many months it has been as prevalent and severe as in this city. It is a remarkable fact, in reference to cerebro spinal fever, many times appearing in its history, that of two adjacent localities having apparently the same conditions as regards soil and climate, and with the same diet and occupations of the inhabitants, one is scourged by it while the other nearly or quite escapes. While New York has suffered so severely, Brooklyn has thus far nearly escaped. In the latter great city, with its population of 600,000, I find that in 1883 only two deaths from cerebro-spinal fever were announced. The wide diffusion of the specific principle of cerebro-spinal fever over New York island, adjacent portions of Westchester County, and across the river in Hudson County, New Jersey, in which county are Jersey City and Hoboken, contrasts with marsh miasm, which is indigenous in portions of the same localities, but has always been confined to limited areas.

Such are some of the more conspicuous facts relating to the establishment of cerebro-spinal fever in New York, and what is occurring in this city is probably also taking place in the other American cities where this malady has become naturalized. In some of these cities, as Chicago, the death-rate from cerebro-spinal fever is larger than in New York. Are the European cities undergoing similar experiences?[1] Professor E. Henoch, of Berlin,[2] describes a non-tubercular meningitis occurring among children, which he states is more frequent than is commonly believed. It is a protracted disease, attended by alternate aggravation and abatement of symptoms. It generally begins abruptly, with active fever, intense headache, frequent vomiting, and is attended by rigidity of the nucha, cutaneous hyperæsthesia, and sometimes contraction of the muscles of the extremities. After many weeks, during which the mind of the physician alternates between hope and despair, a majority of the patients, seen by Professor Henoch, gradually recovered. The writer adds that the true nature of this meningitis is unknown. Berlin, if I am not mistaken, was visited by an epidemic of cerebro-spinal meningitis in the spring of 1885, and I would ask the distinguished professor, whom we all honor for his contributions to pædiatric literature, if he is not now seeing and treating the naturalized disease.

Clinical Department.

A CASE OF COMPOUND COMMINUTED FRACTURE OF THE SKULL, AND EXTENSIVE CEREBRAL LESIONS WITHOUT CEREBRAL SYMPTOMS.

Dr. James S. Carpenter, of Pottsville, Pa., reports the following case: "John M——, a brakeman, about thirty-eight years of age, while coupling cars, had his head caught between the bumper of one of them and a heavy log of wood that had been jolted forward from the next car. He received several large lacerated wounds of the scalp, and a compound comminuted depressed fracture of the skull in the left parietal, temporal, and orbital regions. He walked quite a distance before falling, though bleeding profusely from his wounds. After being temporarily cared for, he was sent to his home, a distance of thirty-five miles, where he was operated upon by Dr. John T. Carpenter, assisted by Dr. D. W. Bland and the writer. The patient was comatose, with stertorous breathing, pupils contracted and insensible to light, and so restless that considerable restraint was necessary to keep him in bed. The pulse was 60, and the temperature subnormal. At first glance it seemed as though the whole of the left side of the skull, at a level with the ear, had been carried away. The scalp was extensively lacerated, and through the several openings cerebral matter was constantly oozing, while there was a depression, extending from the middle of the left supraorbital ridge to a point about midway between the anterior and posterior regions of the skull, into which the hand could easily be laid. The fragment of the left frontal bone had been driven downward and backward, and was partially rotated, so that its anterior surface alone was visible. It required considerable force to effect the removal of this fragment, as it had been driven into, and was very firmly held by, the body of the sphenoid. The second piece removed was a part of the sphenoidal wing. Like the first fragment, this was imbedded deeply in the brain mass, and after its removal, one could distinguish, with the index-finger,

[1] Schmidt's Jahrb., No. 8, 1886.
[2] Zur Pathologie der Meningitis cerebro-spinalis.

the body of the sphenoid and could make out the clinoid processes. The third and last fragment removed was a portion of the parietal bone. This had been driven so far into the brain as to escape detection, until the writer, wishing to determine for himself the extent of the brain injury, discovered it just over the petrous portion of the temporal bone. The driving in of this fragment had, of course, injured the meningeal artery, and on its removal quite a severe hemorrhage occurred, which was controlled by packing lint down into the wound close to the bone. The patient bore the operation well, and was still under the influence of the chloroform when it was completed. Carbolized dressings were applied over the wound, and an ice-bag was kept to the head. Consciousness was fully restored by the operation, and the patient was able to get up to urinate, and put on, almost unaided, a clean shirt. In fact, so fully convinced was the patient that he would recover that he wished to discharge his physician from any further attendance. During the three following days the patient's mental condition was good, the vision was unimpaired, and the temperature was normal. On the fourth day after the operation the temperature rose to 102.5°, there was some pain in the head, and the patient was restless. The next day there was muttering delirium, followed by coma, and death occurred five days after the operation.

"No post-mortem examination could be obtained. Most of the injury caused by the accident was dealt to that part of the brain whose surface boundaries may be defined as the fissure of Rolando and that of Sylvius, in which area are located many important centres, the destruction of which should have given rise to certain well-defined symptoms, but which the history of the patient does not show to have existed. At no time after the removal until the day before the patient's death was there noted any paralysis, either facial or of the extremities, nor was aphasia present. Indeed, so marked was the improvement in the patient's condition, and so complete was the absence of unfavorable symptoms, that it was a difficult matter to persuade the family of the unfortunate man that recovery was impossible."

POISONING FROM EGGS.

Dr. A. Brothers, of this city, reports the following: "On April 16th the family of Mr. S—— had supper at 7 P.M. The meal consisted principally of eggs which had been boiled that morning and allowed to remain all day in the warm kitchen. Although it was noticed at the time that the eggs had a bad odor, still they were eaten by the father and four of the children, ranging between two and twelve years of age. The mother and the remaining two boys did not partake of them. Within an hour every one of the five who had eaten the eggs became sick. I was sent for at 11 P.M. and found them suffering from symptoms evidently due to acute irritant poisoning. Prostration was very marked. Retching was present, and there was frequent vomiting. The matter vomited consisted of bad-smelling food and mucus, strongly tinged in one case with blood. Cramps referred to the stomach caused several of the children to cry out from time to time with pain. Thirst was extreme, but the water taken to quench it at once excited vomiting. Diarrhœa, with yellow watery movements having a strong odor of rotten eggs, was present in all the cases. Stupor, with a desire to be left alone, was also a prominent symptom. After awhile the father and two of the children passed into a condition of collapse, and it looked as if they might die at any moment. They lay with the eyes half closed, showing the whites of the eyeballs. The pupils in some were contracted, in others dilated. The extremities were cold and the skin was covered with a clammy sweat. The pulse in the father was about 70, but extremely soft and compressible, and at one time almost imperceptible. In the children the pulse ranged between 120 and 180. The temperature in most of the cases was subnormal. After several hours, improvement set in, and next day they were all out of danger. In the treatment of the cases I was assisted by Dr. J. Horn. After emptying the stomach by the use of sulphate of zinc and washing out the stomach in one of the older children, calomel in mucilage was given to clean out the intestinal tract. For the vomiting occurring after this and also to quench the burning thirst, ice proved to be of great service. When the cases passed into a condition of collapse, heat was applied to the extremities, tablets of digitalin were given by the mouth, and brandy was administered hypodermatically."

GONORRHŒA AND STRICTURE.

Dr. W. S. Richardson, of Marlborough, Mass., writes: "Does stricture cause irritation, or irritation cause stricture? The talk is all about stricture causing irritation. It increases irritation no doubt. The idea seems to be that if the stricture is removed the irritation will go away. It is a common thing for a sensitive urethra to contract so that a catheter cannot be passed till the urethra becomes habituated to its presence. The constant irritation of a gonorrhœal inflammation the urethra *never* gets accustomed to till the inflammation begins to subside. In every case of gonorrhœa the inflammation is a constant stimulus to contraction. When the irritation is removed, if it is removed soon enough, there is no more contraction. If, for any reason, the inflammation stays for any length of time, from two to six months, there is that constant tendency to contraction—the urethra trying to eject the cause of irritation. It is likely that this continued effort will be followed by the proliferation of the elements of the submucous tissue at certain parts of the canal. This idea suggests a treatment for gonorrhœa or gleet with stricture. In the treatment of a chancroid we seek to produce a healthy unhealed surface by using one or two strong applications, and then heal this surface by continued mild applications. With hard resisting strictures there is no doubt an organic change, but if a medium-sized instrument can be passed and applications made and the irritation removed, the stubbornness of the organic (?) stricture will not be troublesome. Has success in a few cases made one observer an enthusiast over a *false* notion; or is there some sense in the above theory? There has been some trouble somewhere or there would not be so much talk about the difficulty of curing gonorrhœa and stricture."

MARGINAL PLACENTA PRÆVIA.

Dr. J. M. Baldy, of Philadelphia, writes that the report of Dr. Brown's case in a recent issue of The Medical Record calls to his mind a similar case occurring in his own practice. "Mrs. W——, colored, aged thirty-two; married eleven years; has had seven children. She had expected to be confined in about two months, but thought she might possibly be sooner, as she had been bleeding freely at times for the past few weeks. I explained to her the probability of there being a complication, and she went home with the understanding that I was to be sent for immediately if she began to have pains or began to bleed again. There was at this time no dilatation of the cervix.

"Two weeks later a messenger summoned me to my patient at mid day. I found the anterior vaginal wall protruding from the vagina in a mass as large as a base-ball. This being reduced, the cervix was found well dilated. The pains were very weak and far apart. The lower margin of the placenta could easily be felt attached low down to the left and partially presenting. The finger could be freely swept around the os in other directions and readily introduced into the uterus. The presenting part was high up, and was found to be the breech The patient told me that she had been losing blood continually since she last saw me, and her appearance

testified to the truthfulness of her statement. She had, however, been losing very little blood that day, and was feeling better. I was forced to leave her for a short while, expecting to return in half an hour, rupture the membranes, and deliver rapidly. I was detained almost an hour, and on my return I found the labor over, with the child and placenta between the patient's thighs. All bleeding had ceased, and the uterus was well contracted. On inquiry I found that about half an hour after I had gone she 'suddenly felt something turn inside her,' and this feeling was followed by several very strong pains, which ended the labor. The woman in attendance informed me that the head was delivered first, and the placenta followed immediately after the breech, together with a free gush of blood. It was an eight-months' child, small and emaciated. The baby died the second day, but the mother did well and slowly regained her lost strength.

"The possibility of a mistake in the diagnosis of the presentation in this case has often occurred to me; but as I had made my examination most thoroughly and carefully, and as the patient was such an excellent subject for examination, the probability of such a mistake is very slight, and I have finally dismissed it altogether. I think that cases of marginal placenta prævia are often safely ended without any interference on the part of the attending physician. I know of a number of such among my friends. The proper treatment is, however, to deliver the child as quickly as possible, and run no unnecessary risks from hemorrhage."

CICATRICIAL ADHESIONS FOLLOWING A BURN.

Dr. W. P. Copeland, of Eufaula, Ala., reports the following case: "The patient was a negro, about twenty years of age. When a boy, he was burned from the left shoulder down the back, left arm, and side. He was not attended by a physician at the time, and from ignorance his parents allowed the arm to adhere to the side, to which it was firmly bound down from the elbow to the axilla in a continuous cicatricial band on both anterior and posterior aspects of arm. He was presented for operation eleven years after receiving the burn. The patient was chloroformed, and the arm was dissected from the side, leaving a broad uncovered surface on the inner aspect of arm and down left side. It was with the greatest difficulty that the arm could be moved away from the side, owing to its long confinement in one position. After stitching the skin together, a layer of dry navy-lint was applied. The wound on the arm healed readily, but the one on side, owing to the contractility of the cicatricial tissue, did not heal by first intention. The dressings were left off, and a loose garment was worn, with a towel around the waist to catch and absorb the secretions, which were soaked up once or twice a day with dry absorbent cotton. Neither water nor any medicated washes were used. The wound healed rapidly and well, and the man now has full and complete use of his arm."

A CASE OF PHTHISIS PULMONALIS TREATED BY BERGEON'S METHOD.

Dr. A. R. Jenkins, of Henderson, Ky., reports the following: "About three weeks since, in consultation on a case of confirmed phthisis, it was suggested to make trial of Bergeon's treatment. The patient, a fourteen-year old girl, was in the last stages of the malady—cough, indigestion, with continuous gastric and intestinal colic, were the most distressing symptoms. The injections were given twice daily for the first few days, without at first any improvement being manifest. Then the quantity of sulphuretted water and gas was increased considerably, after which the patient took food less fearfully, and there was an apparent improvement."

Progress of Medical Science.

On Chronic Poisoning by Tobacco.—At a recent meeting of the Royal Imperial Society of Physicians of Vienna, Favarger made a communication on the above old, but ever new subject, of which the subjoined is a *résumé*. The symptoms of chronic nicotism do not generally manifest themselves till after the usage of strong tobacco for ten years or more, and ordinarily follow the free smoking of Havana cigars. As for the manner of smoking, there are four types of smokers: (1) Those who swallow the smoke; in these cases the nicotine acts, probably, directly on the stomach; (2) those who only breathe in and breathe out the smoke: here the detrimental action remains limited to the pharynx and the larynx; (3) some smokers keep their cigar constantly between their lips, and are in the habit of swallowing a certain quantity of nicotine mingled with their saliva; (4) there are other smokers who use cigar-holders that are soon fouled with nicotine, and are never properly cleaned. Chronic poisoning by nicotine manifests itself generally by disturbances of the circulation and digestion. One of the most frequent symptoms is palpitation, then next in the order of frequency is cardiac asthma, and still more rarely occur attacks of angina pectoris. Physical examination of the heart gives sometimes negative results, and sometimes reveals the existence of chronic myocarditis, or of fatty degeneration of the heart. Among the digestive derangements are noted: loss of appetite, pain in the epigastric region, diarrhœa, or constipation. Among the symptoms pointing to disorder of the nervous system are insomnia and attacks of syncope. Favarger reported a remarkable case of fatty degeneration of the heart in a man, aged sixty, who had been for many years an inveterate smoker of strong Havanas. Several weeks before his death he was attacked, after a meal, with violent palpitation, and a paroxysm of dyspnœa came on the next day. Till the time of his death the temperature remained low (94°–97° F.), the pulse very frequent and small (140 to 160), and the pupils much contracted. At the autopsy were found pleuritic exudations, dilatation, with fatty degeneration of the heart, and an ulcer of the stomach, which had determined a mortal hemorrhage. In this case, said the reporter, the fatty degeneration of the heart could not be attributed to alcoholism, or any other known cause, except that which was the most obvious, namely, the excessive use of tobacco. This view was confirmed by the abnormal frequency of the pulse, by the great fall in the bodily temperature, and by the contraction of the pupils. Although no arterial atheroma was noted, there existed, nevertheless, in this case a functional stenosis (?) of the coronary arteries, equally attributable to nicotine, and to this constriction of the nutrient arteries of the heart, causing ischæmia, was due, presumably, the fatty degeneration of that organ. As for the ulcer of the stomach, it may have been directly engendered by the topical action of saliva impregnated with nicotine, or it may have been the result of circulatory disturbances, according to the process indicated by Rokitansky and Virchow. As for the treatment of chronic nicotism, Favarger recommends as prophylactic means: (1) Never to smoke when the stomach is empty, but always after a meal. In this way the number of cigars smoked will be limited, the nicotine will be made to act on a full stomach, loss of appetite will be prevented, and the antidotal ("anti-nicotine") action of the tannin contained in the wine, tea, or coffee of the meal will be obtained. Tannin, according to Favarger, is the best antidote to nicotine. (2) Smokers should avoid holding their cigars long in their mouths. (3) Cigar-holders should be frequently renewed, and regularly cleaned. Smokers should smoke the milder cigars occasionally, instead of always choosing the strongest. According to Erlenmeyer (Stillé, "Therapeutics," vol. II., p. 320) smoking

cigars is vastly more injurious than smoking a pipe, because the preparation of tobacco for the latter purpose destroys as much as two-thirds of its nicotia, while the former loses but little of its active principle in the manufacture. More than twenty-five years ago, Dr. B. W. Richardson presented the following conclusions as the result of an exhaustive study of the effects of tobacco-smoking: (1) The effects produced are very transitory. (2) The evils of smoking are functional in their character, and statements that it causes insanity, epilepsy, chorea, apoplexy, organic disease of the heart, cancer, and consumption are devoid of fact. (3) The habit of smoking is deleterious to the young. (4) Tobacco is a luxury, but probably the least hurtful of the luxuries. Stillé, in commenting on these propositions, remarks that there are several diseases not enumerated by Dr. Richardson which excessive smoking unquestionably develops. One of these is amaurosis, many cases of which have been traced to tobacco-smoking by no less competent authorities than Mackenzie and Sichel. "The former, many years ago, hinted his suspicion that it is a frequent cause of amaurosis, and the latter is now of opinion that there are few persons who have smoked during a long period more than five drachms of tobacco per diem, without having their vision, and frequently their memory impaired." Farnsworth, in the *American Medical Times* (October, 1862), cites a case of impaired vision from the same cause, with general anæsthesia. "In spite of a well-directed treatment the disease grew worse, until the discovery was made that the patient was in the habit of smoking a pipe almost continually, with the coarsest kind of tobacco. On relinquishing this practice he gradually recovered."—*The Boston Medical and Surgical Journal.*

The Distribution of Phthisis.—The third volume of Hirsch's great work, "A Handbook of Geographical and Historical Pathology," recently issued by the New Sydenham Society, contains, among much valuable information, some striking, and to many, no doubt, novel facts regarding the incidence of pulmonary phthisis. It is, as Professor Hirsch remarks, emphatically a disease of all times, all countries, and all races. No climate, no latitude, no occupation, no combination of favoring circumstances forms an infallible safeguard against the onset of tuberculosis, however such conditions may mitigate its ravages or retard its progress. Like typhoid fever, phthisis dogs the steps of man, wherever he may be found, and claims its victims among every age, class, and race. A summary of results shows that the average number of deaths from phthisis is about 3 per 1,000, or nearly one-seventh of the total mortality. The first fact which comes out clearly from Professor Hirsch's tabulated data is the relatively large mortality from phthisis in the large centres of population. Thus Vienna has a death-rate from this cause of 7.7 per 1,000, or more than twice the general average. Pesth is credited with 6.9 per 1,000, Brussels with 5.6, Stockholm with 4.1, Munich and Glasgow with 4, Berlin and Dresden with 3.8. In the smaller towns the rate sinks to 3 or 2.5 per 1,000, and in rural districts the mortality is still less. Many facts are at hand to show that an increased liability to phthisis goes, *pari passu*, with rapid growth of population, and especially with the massing together of large bodies of workers engaged in arts and manufactures. Impure air and hygiene are undoubtedly the most potent factors in the genesis of the disease, and take precedence even of hereditary predisposition and imperfect nutrition. Among nomad tribes, such as the Kirghiz of the Central Asian steppes, or the Bedouins of Arabia, the disease is practically unknown; but there is much instruction and warning for us in the fact that when, as sometimes happens, these wandering tribes settle in the towns their immunity immediately ceases. The influence of geographical position upon phthisis turns out to be much less than current opinion would indicate. We are prone to regard it as essentially a malady of temperate latitudes, and of the Anglo-Saxon race, but more accurate statistical information proves that it is very virulent in many warm countries, and that some of the inferior races, such as the negroes, the inhabitants of the West India Islands, and the peoples of the South Sea suffer more in proportion than the nations of Europe. It will be a great surprise to many people to learn that the death-rate from phthisis is as high in sunny Italy as in foggy England. Those who hold the old-fashioned notion that damp and cold are the main causes of phthisis will be puzzled to account for the almost complete immunity enjoyed by the inhabitants of the Hebrides and the Faroe Islands. Latitude is not, however, without a distinct influence, but upon the prevalence and the type of phthisis. The disease becomes rarer as we approach the poles, and is extremely infrequent within the limits of the Arctic and Antarctic Circles. In the Tropics the disease does not conform to the ordinary chronic form familiar to medical observers in this country, but in the brevity and severity of its course approximates rather to acute tuberculosis. While the influence of latitude is comparatively slight, irregular, and apt to be counteracted by other conditions, that of altitude is most potent. Among the higher Alps, the Andes, the elevated plateaux of Mexico, Persia, and South Africa, we approximate, though probably never quite attain to, conditions of absolute immunity. In India the disease is tolerably common, and very pernicious on the lowlands, while it is extremely rare upon the upper slopes of the Himalayas, the Ghauts, and the Neilgherries. At Bogota and Quito, in spite of the aggregation of large populations, the disease is excessively rare, and is practically limited to settlers from the lowlands or from other countries. Even at Potosi, among a population engaged in mining, and amid conditions of very imperfect hygiene, phthisis can scarcely gain a footing. It is thus evident that the protective influence of high altitude suffices to counteract other forces which usually occasion a widespread prevalence of the disease. The extremely low mortality from phthisis in Switzerland, namely, 1.86 per 1,000, is explained by the fact that so large a proportion of the people reside at a considerable altitude above the sea-level, although the sparseness of the population, no doubt, also operates in the same direction. The influence of a damp soil in promoting phthisis is now well established, and suggests obvious practical conclusions. The incidence of phthisis in the Australasian colonies is of much interest, in view of their popularity as refuges for the consumptive. The large towns of Australia have now a death-rate from phthisis of over 2 per 1,000, and present little advantage to the phthisical sufferer over his own country. On the other hand, the large inland plains of Australia are almost exempt from phthisis, and constitute a genuine sanatorium. In New Zealand phthisis has made frightful ravages among the Maoris, and is the chief factor in their approaching extinction; but the explanation of this fact is not to be sought in any adverse climatic influence, but rather in the miserable dwellings and wretched food of the native inhabitants of these islands. Professor Hirsch's conclusions may be thus briefly summed up: Phthisis is everywhere prevalent, but it is rare in polar regions, and rarer still at high altitudes. The main factor in its production is overcrowding and bad hygiene. Heat and cold, *per se*, have no influence. Damp, when conjoined with frequent oscillations of temperature, predisposes to the disease; but humidity of the air is less important than dampness of soil. Occupation is extremely important, but mainly indirectly, as tending to good or bad hygienic conditions.—*The British Medical Journal.*

Professor Virchow's address on myxœdema has called attention to this disease in Germany, and now another case is reported by Dr. L. Landau in the *Berlin. Klin. Woch.*, No. 2. This makes the fifth reported from Germany; Reiss, Erb, and Senator having reported the previous four in the same periodical (1886, No. 5; 1887, No. 1; 1887 No. 9).

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A NEW METHOD OF PREVENTING HEMORRHAGE AND TREATING ANEURISMS.

UNDER the above head Dr. C. S. Muscroft, of Cincinnati, describes his experience in the use of acupuncture previous to amputations as a substitute for digital compression, the tourniquet, and Esmarch bandage. He was led to an enthusiastic belief in the wide-reaching importance of this method by a successful application of it in a case of amputation at the hip-joint and in one of amputation at the shoulder. In the former case the method of employing the compression is described as follows:

As soon as the patient was fully under the influence of the anæsthetic, a needle, one-eighth of an inch wide, slightly bent at the point, about the thickness of a dime, and four inches long, was introduced perpendicularly into the front of the thigh, about an inch and a half below Poupart's ligament. The exact point of entrance was one-fourth of an inch internal to the combined sheaths of the vein, artery, and nerve. The point was pushed beyond the vessels, then turned outward until the needle had passed beyond them; the point was then pushed out through the integument. The needle was then behind the vessels and nerve. A piece of cord was passed under the heel and point of the needle, forming a figure-of-eight ligature. Before the ligature was applied the femoral artery could be felt pulsating strongly, but when it was tightened the pulsation below the needle had ceased entirely.

After the incisions had been made the femoral artery was found to be perfectly compressed.

Dr. Muscroft also claims that this method will be found useful in the treatment of aneurism in any part of the lower or upper extremities. He has found that the steel pin can be retained, without causing irritation, for four days. Then, if necessary, it can be removed and another introduced lower down.

While admitting that acupressure was an old surgical procedure, Dr. Muscroft claims that its application in the prophylaxis of hemorrhage, and in the surgical treatment of aneurisms, is new. The points made were summarized as follows:

1. The simplicity and easy applicability of the method.

2. There is no interference with the general venous circulation in nearly all cases.

3. The plan is so simple that it does away with all of the more complicated forms of compression of vessels by tourniquets, bandages, or tubing.

4. It is also a process for shutting off the arterial flow in cases of aneurisms.

5. The introduction of the pin or needle will, in most cases, be an entirely bloodless operation, and attended with very little pain. The pin used may be straight, bent at the point, or of any curve or shape to suit the operator.

6. It is also a ready, safe method of arresting hemorrhage in recent accidents from compound fractures or other causes.

7. Many cases will fall under the observation of the practising surgeon in which its utility will suggest itself.

8. The kind of metal of which the pin or needle is made is a matter of the utmost importance, experience teaching that steel or iron produces less irritation than the more costly metals, such as gold or silver.

9. Freedom from septicæmia.

10. The great facility with which the operator could obtain a pin suitable for the compression. For one of the larger vessels it could be obtained from a lady's toilet supplies, by using any of the long steel pins with glass heads, especially those used for fastening on their hats. Their being straight in most cases would be an advantage.

11. This manner of preventing bleeding in operations about the hip-joint (exsection), shoulder-joint, or knee, will be of the greatest importance.

12. It does away with the necessity of a most important assistant.

LOW MEDICAL FEES IN THE WEST.

WE have been informed that a late distinguished specialist of Chicago would receive and treat patients for ten dollars a month, that the office-visits to a leading and world-renowned general consultant in the same city are considered by him to be worth one dollar, and that this is the fee charged by a Cincinnati specialist and professor of deservedly great repute. The *Cleveland Medical Gazette* says that in that wealthy city the medical fees are lower than in any other large city of the United States. Some physicians of large practice have fallen into the habit of charging by the week, one or two dollars being the sum asked for services rendered, perhaps daily. Some oculists fit spectacles for one or two dollars, which is less than the optician charges. One practitioner fits a pessary for the same sum, and supplies the instrument himself. An eminent surgeon charged ten dollars for examining a case of tumor of the breast. He apologized for charging so much, and offered to remove the tumor without further expense, and he did so.

A SEVERE REMEDY FOR A MILD AFFECTION.

IN a recent number of the *Gazette des Hôpitaux*, Dr. Bertillon relates how he cured a child of the habit of sucking his thumbs. He placed the boy on a chair, and, forcing him to look intently at a bright object, induced hypnotism. Then he suggested to the child that he ought not to suck his thumbs, repeating the injunction three or four times. On being awakened, the boy complained of a feeling of weight in the head. The next day he refrained from sucking his thumbs, but resumed the habit a few days later. Then he was again hypnotized, and Dr. Bertillon commanded him sternly never to

suck his thumbs again. The habit was not resumed after this, and the cure was pronounced complete.

We have cited this case merely as an illustration of a tendency, which is altogether too prevalent at the present time, to employ heroic remedies carelessly and without warrant, simply because of their novelty, when other and well-tried methods will answer every purpose. Sucking the thumbs is not such a dangerous and intractable disease that it would seem to call for the employment of a remedy like hypnotism, whose effects, immediate and remote, upon the delicate nervous structures of a young child are as yet by no means perfectly understood and appreciated.

An experiment such as the one described, in a case possessing in itself no gravity, seems to be, in the present state of our knowledge at least, one that cannot be justified. Nevertheless, there is one suggestion which it offers that may be worth considering. If it is possible to cure one habit by means of hypnotic suggestion, another, and a worse, one might possibly be broken up in the same way. In a case of masturbation, for instance, the consequences of the habit are of such a nature that almost no remedy which would be efficacious in destroying the habit could be regarded as unjustifiable. Here an heroic remedy is called for, when milder methods fail, and hypnotism offers a plan of treatment which may be well worth considering.

KREMYANSKI'S METHOD OF TREATMENT OF PHTHISIS CONDEMNED.

We referred in a recent issue to the treatment of pulmonary phthisis by inhalation of anilin oil, as recommended by Dr. Kremyanski in a communication made at the Congress of Russian Physicians, held a short time ago in Moscow. Considerable incredulity was expressed at the time by the members of the Congress as to the results obtained, but the author's claims could not be overthrown, as the method had as yet been tried by no one but himself.

It was not long, however, before the new measure was put to the test, with the result, it would seem, of very seriously discrediting Kremyanski's assertions. At a meeting of the Moscow Medical Society (*Russkaya Meditsina*) Dr. Nesteroff reported a case of pulmonary phthisis which had been treated with the ordinary remedies without any very noticeable results. When Kremyanski's paper appeared, it was determined to make a trial of his method. The patient was accordingly put upon inhalations of anilin and oil of winter-green, and died at the expiration of two weeks. Dr. Nesteroff declared himself as perfectly satisfied with this one trial, and said that under no circumstances could he ever be persuaded to repeat the experiment. His conclusions were indorsed by the Society, and a resolution was passed to the effect that the method was not only useless but was actually dangerous to the patient, and therefore unjustifiable.

This was certainly something of a set-back for Kremyanski, but we need not be too ready to accept the verdict of the Moscow Medical Society as final. Russian physicians are no better than their brethren in other lands, and are, unfortunately, not always superior to the petty jealousies which sometimes actuate the rest of mankind. Dr. Kremyanski is from Kharkoff, and possibly may not be welcomed as an instructor by the residents of the metropolis. The author claimed to have treated two patients, with well-marked pulmonary tuberculosis, by his anilin inhalations, and both patients were apparently cured. If these statements were correct, and there seems to be no reason to doubt the honesty of the author of them, it is hardly fair to condemn the method in such strong terms because of a single failure, which may not have been justly chargeable to the treatment adopted. Any method which offers even a faint hope of cure of so fatal a disease ought certainly to be given a fair trial.

BORAX IN ENLARGEMENT OF THE SPLEEN.

In a communication made to the *Indian Medical Gazette* for January, 1887, Dr. V. Richards recommends very highly the use of borax in cases of enlargement of the spleen. It was first suggested to him, he says, by a native, and he has employed it many times with great success, some of the most severe cases showing rapid improvement and ending in a complete cure. He uses the borax in addition to the iron treatment, his plan being to give to an adult from thirty to forty grains, in a lump, which is allowed to dissolve in the mouth. One dose of this size is given early in the morning, and again in the evening.

Whatever the curative value of this method may be in other hands, it certainly possesses the merit of simplicity, and can do no harm except, possibly, to the reputation of the medical attendant, during a short trial. The spleen would seem, however, to be a very accommodating organ if it will contract its dimensions at the solicitation of so mild a remedy as borax. Nevertheless the method may be worth a trial.

THE PULSE.

We have read with profound interest the Croonian Lectures on "The Pulse," by Dr. Broadbent, and have pondered with admiration over the learned comments thereon by our erudite contemporary *The Lancet*. "One has only," says this estimable journal, "to turn to the writings of Hippocrates to learn how closely and how accurately its (the pulse's) variations were observed, with much remarkable result in prognosis and treatment." Alas for the uncertainties of historical reminiscence! Hippocrates was a great physician, and it is generally thought safe to credit him with first knowing, in a crude way, of course, a little of every part of our great art. But Hippocrates, in fact knew nothing of the pulse, wrote nothing about it, and quite neglected that time-honored source of professional information. Herophilus was one of the first to investigate it, while Galen erected its study into a separate science, and fixed irrevocably upon the profession the practice of fingering the wrist as part of every medical service.

A critical examination of Dr. Broadbent's lectures on the pulse will lead one to think that its study does not at the present day give us information commensurate with the religious exactitude of the examinations made of it. In acute disease the erudite finger learns something, indeed, at times, very much, as to the strength of the heart

and the activity of febrile or inflammatory processes, but the careful physician learns still more by direct examination of the chest. The stethoscope has supplanted the *tactus eruditus* in great measure; and he would be a narrow physician indeed who drew from a condition of the pulse alone such definite inferences as to the patient's disorder as ancient authorities laid down. The knowledge which a study of the pulse gives as to the condition of the arterial walls, and as to the presence of high or low tension, is often of extreme value. There is nothing which the student should be trained with more care to observe than these conditions of the pulse. Yet even here the information is not absolute. High and low tension are relative terms, having their importance only when studied in connection with age, sex, temperament, and such pathological conditions as may be found.

Dr. Broadbent declares that he has been unable to associate any condition of pulse, as regards low or high tension, with any special vigor of body or mind or any peculiarities of temperament. Persons with a pulse of low tension may perhaps, he tells us, be longer lived; they may not wear out so rapidly; but, if better able to endure the stress of life, they are less capable of withstanding the onset of acute disease.

Dr. Broadbent denies any practical utility to the sphygmograph in diagnosis or prognosis. In this he certainly goes too far, and perhaps if he had studied his cases of high and low tension with its aid, he might have reached more definite conclusions. It is an instrument which supplements the finger, especially in this matter of high and low tension. To those who have not yet the sensitive touch that comes from long training, it may be of especial help if intelligently used.

TRANSFERRAL OF THE DYING.

For some time complaints have been made regarding the transferral of dying persons from the various hospitals of the city to Bellevue. An investigation of the facts regarding this matter shows that some reform is urgently needed, both in the interests of humanity and of good hospital management. In the past six months there were brought to Bellevue Hospital from other hospitals of this city seventy-nine persons who died within the intervals of from five minutes to four days after their admission. During the previous six months the number of cases was probably larger, so that it is safe to say that nearly two hundred dying persons were transferred by ambulances during the past year and left to swell the death-rate of our city hospital. One patient from St. Vincent's died within five minutes after admission, another from the same hospital in fifteen minutes, two within seven hours. One patient from the Presbyterian Hospital died within two hours, two within twelve hours. One patient from Chambers Street Hospital died within thirty minutes, and one each within two, six, seven, thirteen, fourteen, eighteen, nineteen, and twenty-two hours. One patient from Gouverneur Hospital died in ten minutes, and another within twelve hours after admission. A total of seventeen persons died within a dozen hours after admission, while the average time before death occurred in the seventy-nine cases was thirty-six hours.

The institutions sending these cases were: Chambers Street Hospital, twenty-nine cases; St. Vincent's, sixteen; Presbyterian, six; New York, one; Roosevelt, four; Manhattan, two; Gouverneur, thirteen; Ninety-ninth Street, eight.

The largest number of cases came from Chambers Street Hospital. This is the reception branch of the New York Hospital, and it would seem more proper for it to transfer its cases to its own hospital, which is considerably nearer, instead of taking them to Bellevue and obliging that institution to have the credit of the mortality.

The cases brought from Chambers Street lived, on an average, 1.1 day; those from St. Vincent's, 1.7 day. The Presbyterian Hospital has the most unfavorable record for its transfers of .78, or about eighteen hours. These averages, of course, refer only to the moribund. A considerable number of cases come from the city's reception hospitals, and we presume that some transfers may really be cases brought directly from the streets.

It would be unfair to charge these institutions which thus send off their dying with intentional inhumanity or a specific desire to keep their own mortality-rate as low as possible by such means. But hospital-managers should avoid the appearance of evil intention, and still more, a very manifestly inhumane practice. Indeed, some instances might be cited which appear to be illustrations of actual brutality.

The leisurely labors of Charon, as he ferried the souls of the dead across the Styx, are nothing compared with the occasional scurrying of ambulances, from all parts of the city, bearing the *morituri* to Bellevue.

News of the Week.

The China Medical Missionary Journal is the title of a new journal published at Shanghai, and edited by Drs. J. G. Kerr, J. K. Mackenzie, and E. Reifsnyder. It is, we are told, the first medical missionary journal published in heathen lands.

Medicine and Surgery at the Paris Salon.—The sensation at the Salon is a large canvas by Brouillet, representing Professor Charcot giving a lesson at the Salpêtrière to his pupils. The professor is standing at a table facing the audience. His assistant is at hand holding in his arms a woman in a hysterical attack. Another painting of a similar character, by Gervex, represents Dr. Péan giving a lesson in surgery. A female patient, under chloroform, lies on the table before him, an assistant surgeon kneels beside her counting the pulse, while a sister of charity waits for the operation to begin.

The Double-headed Boy.—At the recent meeting of the Medical Association of Georgia, Dr. W. F. Westmoreland presented a case, the account of which, as given in the *Atlanta Medical and Surgical Journal*, is as follows: "The boy had, at the lower extremity of the spinal column, what seemed to be an extra head. The outlines of the nose, mouth, and eyes were well marked. The growth was covered, except what seemed to be the face, with long curls, not unlike the hair on the head. The boy was eleven years old. He had been exhibited in all parts of the United States as the double-headed

boy, and up to within a few months before he was brought to this city had enjoyed good health. About six or eight weeks before he was brought here the extra head began to give him pain, and very soon began to suppurate. In a few weeks the boy showed well-marked symptoms of septicæmia, and when presented to Dr. Westmoreland he advised the removal of the mass. The parents objected at first, saying that they had consulted the best surgeons in the country and they had advised against any operation, deciding that it would surely produce death whenever the mass was removed. They reluctantly gave their consent, however, and the operation was performed. Dr. Westmoreland stated that the coccyx and a portion of the sacrum were involved in the tumor, or head, and had to be removed. Dissection revealed very well-marked cranial bones in the mass, with a membrane similar to the dura mater, but there was no brain-substance in the sac. He presented the boy and the tumor. The boy had entirely recovered from the operation." We regret that the history was not reported in detail, as it is highly probable that a truly rudimentary skull was present.

The Recently Organized American Orthopædic Association holds its first annual meeting on the third Wednesday in June.

The Florida Medical and Surgical Journal has retired from independent existence, and incorporated itself with the *New Orleans Medical and Surgical Journal.*

Canadian Doctors take kindly to politics. About one-eighth of the Provincial Legislature consists of physicians.

The Medical Department of the University of Pennsylvania held its Annual Commencement on May 2d, and graduated a class of ninety-nine.

The Cow-house Treatment of Consumption, devised by Dr. Saiffert of Paris, and introduced into England by Dr. Beddoes in 1799, is said by Dr. Pick (*Medical News*) to represent the idea now carried out by gaseous enemata.

The Government Yellow-Fever Commission.—We learn with pleasure that the President has appointed Dr. Geo. M. Sternberg to investigate the merits of inoculation for the prevention of yellow fever.

Early Paternity.—A correspondent of the *British Medical Journal* reports a well-authenticated case in which a boy thirteen years and four months old successfully impregnated a woman. The *Journal* states that the earliest case heretofore recorded of precocious puberty is that of a boy aged fourteen.

Dr. Daniel G. Brinton, who has been for so many years the successful editor of the *Medical and Surgical Reporter*, has severed his connection with that journal. We are pleased to learn that Dr. Brinton will not retire from the field of journalism which he has so conspicuously ornamented, but will connect himself with some other journal in the early autumn.

Professor Kocher, of Berne, will be pleased to see the announcement in a contemporary that Professor Rocher, of Berne, will attend the next International Congress.

The Coming Meeting of the American Medical Association at Chicago will not, we trust, be "hippodromed" in the extraordinary and undignified way which characterized its session a year ago. It is not a question of codes, or climate or locality, but of the self-respect, the dignity and conservatism which ought to characterize a great representative body of physicians.

The Society of the Alumni of Bellevue Hospital is composed, as we learn from a member authorized to speak, of men who have served in Bellevue Hospital as junior and senior assistant and house-physician, and who hold a diploma given them by the Commissioners of Charities and Correction and signed by the entire medical board of the institution. It has no connection whatever with Bellevue Medical College.

Landoi's Rule for Estimating the Amount of Solid Matter in the Urine.—Multiply the last two figures of the specific gravity of the urine by the number of ounces of urine discharged in twenty-four hours, and the result will express in grains the quantity of solid matter discharged. Its practical value is apparent in view of the theory that peurperal convulsions are due "not to the diminution in quantity of urea only which is excreted, but to the diminution in the amount of all the solid constituents which are in solution in the urine."

Railway Mortality.—The returns of accidents and casualties reported to the Board of Trade by the several railway companies in the United Kingdom during the year 1886 show the total number of persons killed and injured in the course of public traffic during 1886, to have been 938 killed and 3,539 injured.

Obituary.

E. DARWIN HUDSON, JR., M.D.,

NEW YORK.

The death of Professor E. Darwin Hudson, Jr., of this city, which occurred on May 10th, was most sudden and unexpected. It is not only a sad blow to his family and numerous friends, but it is a serious loss to the profession of this city and, we may add, of the whole country. Dr. Hudson was one of our most active workers, and few are aware of the amount accomplished by him in promoting the success of the societies and school with which he was connected. After a good many years of untiring industry, he had begun to reap in full the well-deserved rewards of reputation and remunerative practice. And it is a sad and bitter reflection that just at this moment, when life held out its brightest promise, he should be suddenly taken away. Dr. Hudson was a man of sound and extensive knowledge, of ripe experience, and excellent judgment. He was affable and kindly in manner, and reached his position in the profession making only friends of his competitors and rivals. Yet he was a man of decided force of character, as his career abundantly showed. His contributions to medicine were not very numerous, but what he did was always well done, and his written contributions always attracted attention and drew forth discussion. His little work on "Physical Diagnosis" is a model of clearness and compactness. Dr. Hudson was identified with the prosperity of the Polyclinic and of the Academy of Medicine. In his earlier years he was Professor of Medicine in the Woman's Medical College of this city. Dr. Hudson was born at Northampton, N. Y., in 1843.

Reports of Societies.

THE SIXTH GERMAN CONGRESS FOR INTERNAL MEDICINE.

Held at Wiesbaden, April 13, 14, 15, and 16, 1887.

PROFESSOR KORTE, OF BERLIN, IN THE CHAIR.

[Special to THE MEDICAL RECORD.]

(Continued from page 529.)

THURSDAY, APRIL 14TH—SECOND DAY—MORNING SESSION.

After the transaction of some routine business PROFESSOR NOTHNAGEL, of Vienna, presented a paper on the subject of the morning session, viz.,

THE LOCALIZATION OF BRAIN DISEASES.

The speaker opened with a reference to the great and wide-spread interest taken in this subject. We have chiefly to thank Fritsch, Hitzig, Munck, Meynert, and Flechsig for their labors in this direction. This question belongs to the most complicated and difficult in all pathology. The subject was discussed in a most scientific and careful manner.

PROFESSOR NAUNYN, of Königsberg, read a second paper on the same subject, which agreed in substance with the previous communication.

DR. H. CURSCHMANN, of Hamburg, opened the discussion with some practical points from his own experience.

PROFESSOR HITZIG, of Halle, thought that from the nature of the subject it was only possible in a small way to come to a complete understanding of it. Since Broca's observation that disturbance of speech occurred almost without exception after right-sided paralysis, that is, left-sided brain disease, the fundamental question is, in general, on the ground of pathological observations, Can a localization of the cortex cerebri be made? This question, as far as the human brain is concerned, may be answered in the affirmative. Both essayists pointed out the best method of solving the problem which the clinical material could impart. Now, if a disturbance of function is always found with a lesion of a certain place, and never without this lesion, and if this lesion never occurs without the disturbance, then the conclusion is plain. This circumscribed spot must be the seat of the function in question. The speaker concluded with the following statements:

1. The disturbances of vision, which till now have been observed in connection with disease of the cortex are the following: (*a*) Hemiopia; (*b*) complete blindness; (*c*) psychological blindness; (*d*) disturbance of the sense of color; (*e*) subjective perception of light and of faces. (*a*) treats of blindness mostly of the lateral fields of vision; light-impressions are not felt in general. Under (*b*) the blindness, which is constituted only by double-sided foci, is described as double-sided hemiopia. The psychological blindness is not confined to those suffering from mental disease with general paralysis. In these cases the patient sees, but may not appreciate the retinal impression. The optical pictures are lost to him; he no longer combines ideas with them. Upon the ground of clinical and anatomical experience, it can be said with freedom: The appearance of continued cortical hemiopia is dependent upon the lesion of the cortex of the left lobe and of the left occipital depression. If the lesion occurs on both sides, then complete blindness occurs. For mental blindness we should seek an anatomical groundwork in the occipital lobes.

2. Motor cortex paralysis, for example, of the extremities, is the result of lesions of the gyri centrales and of the lobulus para-centralis.

3. The paralysis of the so-called muscular sense comes from lesions of the temporal lobes.

PROFESSOR NAUNYN directed attention to the localization of the aphasic disturbances in the cerebrum. By aphasia one understands those disturbances of speech which do not simply depend upon the general weakness of the mind nor upon paralysis and weakness of the vocal apparatus. The speaker described three great groups of aphasia: (*a*) Motor; (*b*) sensory, with word-deafness; (*c*) uncertain. In the motor group the patients are unable to form the words, but this is not in consequence of paralysis of the muscles of speech. The second group includes those cases in which an evident difficulty of understanding words, or "word-deafness," is present. The third group embraces the whole number of those very different cases in which we find as characteristics either the difficulty of forming words or the inability to understand words. The motor aphasia is located in the region of the convolution of Baroca, the sensory aphasia in the region of the temporal lobe of the cerebrum. These aphasias also depend upon the lesions of the cortex just mentioned. The cases of the third group, which generally appear to be more developed forms of the first two, depend upon a lesion localized quite near to those of the latter.

PROFESSOR ADAMKIEWICZ, of Cracow, read on the subject

THE CURE OF NEURALGIA BY MEANS OF CATAPHORESIS.

The reader had already, in a former article, expressed the opinion that by means of an instrument devised by himself and called "diffusion-electrode," chloroform could be forced through the skin until the patient was thrown into the deepest cataphoresis. He then reported the results obtained by this procedure in the treatment of neuralgia. The diffusion-electrode should be connected with the positive pole of a constant battery, and placed upon the painful part before the current was closed. Now the current should be closed and gradually increased to seven milliampères. It should be held at this height for two minutes, then slowly brought down to nothing. From this kind of an application the speaker had never seen any evil sequences. He had never observed the formation of eschars, but had found that the cataphoresis cured the neuralgia in all his cases, and that the cure followed more promptly the more recent the case. The nerves having a superficial course he found could be cured much easier when the conditions were favorable. One sitting is enough to completely remove the complaint. In chronic neuralgia the cataphoresis cuts short the duration of the attack, weakens its intensity, and can, for a longer or shorter time, bring it under control. Those neuralgias which depend on a trouble which cannot be reached by the cataphoresis are very unfavorable for its definite action.

PROFESSOR A. FRAENKEL, of Berlin, delivered an address on the subject of

THE ETIOLOGY OF TYPHOID FEVER.

This was discussed for a short period with considerable vigor. The discussion was concerning the infectiousness of the disease.

AFTERNOON SESSION.

PROFESSOR VOGEL, of Munich, read a paper on

THE PATHOLOGY AND TREATMENT OF WHOOPING-COUGH.

This disease is classified by Gerhardt among the infectious diseases, yet the contagion of whooping-cough is of another nature than that of the acute exanthemata. As concerns the pathology, the great clinicians of the last century presented a gastro-pathological theory. In the beginning of the present century the neuro-pathological theory had many followers, but this also fell to the ground as unsuccessful as was the attempt to prove whooping-cough to be a simple bronchial catarrh. There now remains no doubt that it comes under the list of infectious

diseases. In the pneumonia following measles and whooping-cough great numbers of microbes were seen by Thaon in the pus and lung-cells of the exudated matter, and, indeed, in the pneumonia of pertussis he had found diplococci and bacilli in greater numbers than in diphtheritic pneumonia. In the case of a nursing-child whooping-cough is a dangerous and pernicious disease; in older children the course of whooping-cough is favorable throughout. In an epidemic in Wurzburg 52 children under one year were taken ill and 13, or 25 per cent., died; 248 were attacked between one and five years, and 12, or 4.8 per cent., died; between six and fifteen years, 87, of whom 1, or 1.1 per cent., succumbed. The author lamented that the mortality tables followed the age so closely, notwithstanding the plan of treatment followed. The remedies recommended for whooping-cough are of two great classes,

ANTISPASMODICS AND DISINFECTANTS.

In treating the spasmodic cough by narcotics one resigns every chance of shortening the process; opium and all its preparations should not be given for any length of time continuously; however, a small dose of opium or morphia is a great relief to children who have passed sleepless nights. A combination of cannabis indica and belladonna is especially recommended by Vettersen. Of 116 children so treated a favorable result was recorded in 33; of these, 30 were completely cured in from eight to fourteen days. Prior recommended the painting of the oral cavity with a solution of cocaine of a strength of from 10 to 20 per cent.; the application of cocaine is not entirely without danger, however.

THE ANTISEPTIC TREATMENT

strives to shorten the attack by destroying the germs of the disease. The speaker mentioned the different modes of treatment by residence in gas factories, inhalations of carbolic acid, etc. Concerning

PSYCHICAL TREATMENT

nothing new has appeared in recent literature. No followers have been found for the opinion that whooping-cough can only be cured by the rod, fortunately for the poor little patients.

Professor Hagenbach, of Basle, read a second paper on this subject. He gave a large number of statistics; 240,000 children have the whooping-cough every year in Germany; in Basle, 1,000 per year, with 12 deaths. The mortality is on the average four or five per cent. Toplitz reports the mortality from this disease among the children of Jolichnic, in Breslau, in the years 1875 to 1885, as 7.9 per cent. In Basle during the last eleven years the mortality among children under one year has been 26.8 per cent.; from one to two years, 13.8 per cent.; two to five years, 3 per cent.; five to ten years, 1.8 per cent.; ten to fifteen years, 1.8 per cent. These figures show that whooping-cough is a serious disease in the tender years of childhood.

WHAT IS WHOOPING-COUGH?

The recent investigators are about all united that it is an infectious disease. It comes epidemically, seldom sporadically. In large cities it is endemic and contagious. In whooping-cough we have a catarrh of a certain part of the mucous membrane of the respiratory tract, which is dependent upon the lodgment of fungi. At these places, through irritation of the ending of the superior laryngeal nerve, attacks of coughing are excited by reflex action. Professor Hagenbach then discussed the question whether we have to deal with a local or a general infection. The disease is most frequent in the first year of life, and is found with rarity in the first months. The susceptibility is great up to the tenth year; after this age it becomes less. It is contagious in the first and second stages; so long as mucus is produced the disease may be carried. Outside of the human body the contagium seems to be unable to exist for any length of time. The speaker then discussed the question of

PROPHYLAXIS.

Schools for small children should be carefully watched, and children with suspicious coughs kept away as long as they cough in paroxysms. The expectorated material must be carefully removed; if the disease spreads the school should be closed. The moving of children infected with whooping-cough to various places for change of air is often the cause of an epidemic in places free from the disease.

Dr. Michael, of Hamburg, discussed the subject and recommended a method used by him, consisting of inhalations into the child's throat. In more than one hundred cases so treated he had more or less improved seventy-five. In twenty-five cases he had no success at all. The speaker laid more stress upon the qualitative improvement of the cases than on the shortened duration.

Professor Heubner, of Leipsic, considered the character of the disease to be that of a virulent catarrh, and not a blood infection. He agreed with the former speaker in thinking it possible to render these attacks fewer and lighter, and eventually to cause the shortening of the disease and its cure.

Dr. Schliep, of Baden Baden, recommended the treatment by the pneumatic cabinet, which he had used. The increased pressure of air in this cabinet acted mechanically as a sedative on the mucous membrane. He found from twelve to twenty sittings sufficient to cure a child suffering from whooping-cough; as a further remedy he recommended an emulsion of turpentine. He also had had success from burning sulphur in the room.

Dr. Sonnenberger, of Worms, advised the use of antipyrin. He had used it in an epidemic in Worms and vicinity with success, and claimed that it rendered the attacks milder and shortened their duration.

Dr. Cohen spoke of the favorable results from inhalations of bromide of potassium, and also of the use of the musk preparations.

Friday, April 15th—Third Day—Morning Session.

Professor Unverricht, of Jena, presented a communication on

EXPERIMENTAL EPILEPSY.

The lower half of the cortex of the brain contains the centres for the occurrence of epilepsy. Irritation of the cortex will cause attacks of epilepsy. The speaker knew, from experiments he had carried out upon a dog, the importance of the motor region for the muscular spasms.

Professor Rossbach, of Jena, read a paper describing

A BREATHING-CHAIR FOR EMPHYSEMATOUS AND ASTHMATIC PATIENTS.

While till now it has been necessary to use manual treatment of the thorax in order to lighten the severity of asthmatic attacks, a stool had been invented by a patient of the speaker which enabled him to breathe compressed air without manual aid. The patient takes a seat, and buckles about his chest a girth which is made fast to the chair; on both sides of the chair are arms, which the patient moves forward, and which movement tightens the girth four centimetres. By means of this continuous moving of the arms of the chair the patient is enabled to relieve himself. The professor had used such a stool six months in his clinic, and had improved several cases. The advantage this chair has over manual treatment is that through this band the whole thorax is regularly compressed, which is impossible with the hand. Besides, the physician or attendant would not be able to carry out the manual treatment for more than half an hour, while the chair can be used as long as desired. Also this instrument is always at hand, for attacks in the night or any time when manual aid may not be available. The

professor exhibited the chair, and presented the patient who had invented it to the Congress.

Professor Schreibe, of Königsberg, related how he had attained the same results by means of elastic corsets.

Professor Litten, of Berlin, next read a paper on the

CONNECTION BETWEEN DISEASE OF THE STOMACH AND CHANGE OF POSITION OF RIGHT KIDNEY.

The fact that distention of the stomach occurs in connection with dislocation of the kidneys, the so-called wandering kidneys, is not new. The only question is, if this stands in a causative relation to the other. The change of position of the kidneys is dependent on mechanical causes; in women it is often occasioned by too tight lacing. The speaker then related such cases of dislocation as had not yet appeared in the current literature. He had made the observation that the ectasia of the stomach occurs frequently in connection with dislocation of the kidneys in laborers, masons, and others whose mid-day meals often consist of indigestible food and are eaten in a very short time. He only found two women among his patients who were able to take their meals quietly. In 17 out of 28 cases of stomach distention observed by him, dislocation of the kidney was present; this brought him to the belief that the distention of the stomach is the cause of the dislocation of the kidneys. In the other cases the renal arteries are probably too short, so that on this account the kidney could escape. The greater or less mobility of the kidneys depends upon the greater or less tightness of the arteries. In closing, the speaker went into detail concerning his findings in post-mortems of such persons as had distention of the stomach with wandering kidneys.

Professor Nothnagel, of Vienna, opened the discussion. He was acquainted with the frequent coincidence between distention of the stomach and dislocation of the kidney, but disputed, however, the causative connection. He had in a period of three months found sixteen such cases. The stomach-distention in many instances was primary, the dislocation of the kidneys secondary. Most cases of dislocation occur in lean, broken-down, nervous women. The speaker then dealt with the treatment of this disease. He placed lean persons first on the malt cure, then placed a cushion over the kidney to hold it in position, and a waist over the cushion which covers the whole body.

Afternoon Session.

Professor Finkler, of Bonn, read a paper entitled

OBSERVATIONS ON THE MODE OF CONTAGION AND TREATMENT OF TYPHOID FEVER.

Modern investigations concerning the nature of the infective germs show how the infectious diseases reveal themselves. In some there is a direct carrying from a diseased to a healthy person, while others are not generally spread, but are confined to special place. Among the pure contagious diseases are small-pox, scarlet fever, diphtheria, etc.

A pure miasmatic disease is represented by malaria. Between these two we now place a third class, termed contagio-miasmatica, to which we refer cholera and typhus abdominalis. It is partly believed that the latter is not carried directly, but the germ coming from a diseased person attains a certain ripeness in the soil and is then able to generate the disease in another person. The knowledge of the quality of bacteria, and especially of those which would seem to be the generators of typhoid fever, goes to show that this indirect spreading does occur. It appears this is the rule, and direct infection is entirely denied by many. Recent observations prove that the infection is carried by many different kinds of vehicles. An excellent example is the epidemic in Mayence in 1884, which was undoubtedly carried by artificial mineral water (according to Dr. Helwig).

Typhoid fever is not confined to certain parts of the earth; it can be carried into a city like Wiesbaden, otherwise so favored as to health, and disturb this security. From numerous examples, we know that if the nest in which the germs are resting is destroyed the epidemic will be cut off for all time; and from this fact it must be believed that there is a difference between the medium which spreads the disease and the source of infection.

Professor Fleischer, of Erlangen, gave an account of some experiments bearing on the

PATHOLOGY OF THE KIDNEYS.

They consisted of numerous experiments on a dog.

Dr. Kühne, of Wiesbaden, read a paper on the appearance of

SPIROCHÆTA FORMS OF THE COMMA BACILLUS

in the tissue of the intestine in cases of cholera, with demonstrations of different fluorescent preparations. The speaker had examined a great many specimens from the epidemics of Paris and Palermo, when he accidentally came upon this variety. After discussing the comma bacillus *in extenso*, he closed by recommending his method of coloring to find the bacillus in the tissue. He then gave different methods of his own to bring to view the bacilli in the internal organs in typhoid fever, lepra, etc.

Dr. Fraenkel, of Dornheim, read a paper on

THE PERMANENT INHALATION OF FRESH AIR,

a treatise on the prophylaxis and therapy of lung-affections.

Professor von Mering, of Strassburg, followed with a paper on

DIABETES MELLITUS.

Dr. Cahn, of Strassburg, then presented a communication on

THE ACIDS IN CARCINOMATOUS STOMACHS.

This was followed by an earnest discussion, taken part in by Professor Riegel, of Giessen; Professor Fleischer, of Erlangen; Professor von Noorden, of Giessen; Professor von Mering, of Strassburg; and Dr. Stückel, of Cologne.

Saturday, April 16th—Fourth Day—Morning Session.

The Secretary, Dr. Emil Pfeiffer, of Wiesbaden, read the reports of the various committees, saying that the Executive Committee had chosen Wiesbaden as the place of the next meeting. The number of members at the last meeting was 209; 7 died, leaving 202 at the beginning of this Congress; 22 new members had been added, making a total now of 224. The number of those present at the Congress last year was 234; this year, 249.

Professor Liebenstein read a paper on

MUSCULAR EXERCISE OR QUIET FOR HEART DISEASE.

After enforcing the dictum of Professor Hoffmann, "Forbearance and exercise," the author said that the majority of the clinicians and physicians held out firmly against a more active treatment of chronic heart disease through exercise of the heart-muscles, and insisted that, above all things, all acute cases, also those where an over-distention of the heart had occurred, must be handled with care. Quiet does not, however, improve the chances of the patient, while a reasonable nourishment, combined with exercise properly carried out, causes a strengthening of the heart-muscles. In all chronic

cases we should change from quiet and care to the endeavor to strengthen the heart-muscles by exercise. On the ground of his rich experience the speaker felt sure that strong yet quiet movements, with quiet exhalations of air, work toward strengthening and slowing the action of the heart, as has already been made known by Schott, of Rauheim. In cases where there is failure in complete contraction, the distended ventricle is never entirely emptied and the heart-muscles become weary, and in the end incapable of performing their duty. Then by means of quiet but energetic muscular exercise the heart is strengthened, stirred up to effectual contraction, and, at the same time, the diastole grows in consequence of the slowing of the pulse. The increase of the arterial blood-pressure acts on the vagus centre, more of the distended blood is forced out of the heart, and thereby the cause of the dilatation removed. Further, the rapidity of the blood-stream increases in consequence of the increase of the arterial pressure. Then, after a number of strong contractions, this acceleration extends to the capillaries and the veins, and a better distribution of blood takes place throughout the entire vascular system. The improvement in the quality of blood lightens the work of the heart-muscles, and in consequence of the stronger stream in the coronary arteries the weakening remaining products are more promptly removed. For patients in the first stages of fatty heart, or with well-compensated heart-failures, every form of German or Swiss mountain-climbing can be recommended.

The speaker warned his listeners against over-exertion, and said that each performance should be followed by a sufficient period of repose. Those cases of failure, however, in which there is no compensation or in which it has been lost, must first pass through a period of quiet and forbearance, and then, by well-measured work, we may commence to improve the action of the heart. The watchful control of the physician is necessary, and only the most quiet forms of muscular labor are fitting. The Swedish method improved by Schott, brief and under medical control, interspersed with pauses for quiet, is to be recommended. On the ground of his experience of the last few years the speaker advised the Oertel-cure for chlorotics; but, above all things, it must be conducted with the greatest care, and its execution must not be left to the patient himself. The heart should not be allowed to be more rapid in its action than the lungs can follow, for deep, quiet breathing has a lightening influence. He closed with the wish that the therapy of chronic heart disease would be placed on the list of subjects for discussion in the Congress.

Dr. Theodore Schott, of Bad Nauheim, recalled the fact that his brother, now dead, had recommended strong but quietly carried out movements, with regular breathing, as a method of cure in chronic heart disease. The mountain-climbing method of Oertel the speaker could not sanction. It is useful only for a very small number of patients; we cannot say when we may commence with this treatment or how high or far the patient shall be allowed to climb. There is always decided danger connected with this plan of mountain-climbing, and the speaker had seen harm done to patients treated in this manner by Oertel and his disciples. It is better far to first strengthen the heart-muscles by means of baths, gymnastics, etc., so that it can stand the greater labor required for mountain-climbing. In other cases the danger incurred by climbing is too great; the indications are to be determined by the pulse-curve.

Professor Leyden, of Berlin, remarked that the mode of treatment originated by Oertel had given valuable therapeutic material and was also an advance. He advised great care in deciding which cases of heart disease could be improved by the gymnastic exercises, and when they are to be used. In light cases in youth, in which a valvular insufficiency can be compensated, careful gymnastics may be used. The President then recalled the fact that the method of Stokes had met with great objections, and he was of the opinion that in the very difficult question,

WHAT INFLUENCE HAVE MOVEMENTS, GYMNASTICS, AND MOUNTAIN-CLIMBING ON THE HEART?

the deductions are still arbitrary in many points. He closed with the expression of the hope that in one of the congresses not far in the future there would be sufficient material on hand to explain this weighty and difficult subject.

Professor Schultze, of Heidelberg, reported numerous cases of

ACUTE DISEASE OF THE CENTRAL NERVOUS SYSTEM,

in which the general anatomical changes fail and we must decide on a diagnosis of meningitis.

Professor Friederich Mueller, of Berlin, read a paper on the

RESORPTION OF FOOD IN CERTAIN DISEASES.

Professor Leyden then made a few short closing remarks, in which he expressed great satisfaction with the work of the Congress and hope for its future advancement.

NORTHWESTERN MEDICAL AND SURGICAL SOCIETY.

A. R. Robinson, M.D., President, in the Chair.

Stated Meeting, March 16, 1887.

Dr. J. Lewis Smith read the paper of the evening (see p. 542), entitled

A CONTRIBUTION TO THE STUDY OF CEREBRO-SPINAL FEVER.

The paper being open for discussion, Dr. R. C. M. Page said: "I have had but little experience with the disease; but I remember that in February, 1870, I was called to see a patient in a basement in Rivington street, a boy seven years of age. I found his temperature 107°. There was hemiplegia and delirium, with suppression of urine. It was in my earlier years of practice, and I did not exactly know what was the matter. Upon inquiring of the mother, she told me that the child had fallen from a chair at noon and hurt its back. She ascribed the whole difficulty to that, which, of course, I thought was a mistake. I prescribed for the patient, and went back to my office. About midnight I was called again to see the boy, and found him dying. I never knew exactly what was the matter with that patient; but the whole neighborhood was full of scarlet fever, and several of the children in that basement about a week after had scarlet fever, although there was none of it in the house at that time. I remember signing the certificate as of death from scarlet fever, but have since thought it might have been a case of cerebro-spinal fever. It may be interesting to inquire whether there is any connection between these two diseases. I have never had a case of it since."

Dr. J. H. Fruitnight said: "This subject is a very important one, and those gentlemen who have lived through epidemics of this disease will be able to give us much enlightenment in regard to it. I have seen at least eighteen cases here and there—three adults, and one case of pulmonary variety; the others were ordinary cases. I have never had any experience in epidemic cases, but recollect having seen one case, of a young lady, where I was struck by the appearance of the eruptions. They were all over the body, particularly over the abdomen, and about three or four inches in diameter. In the sporadic cases I have never seen any eruption whatever, and it seems to me that there must be a difference between the disease in its sporadic and epidemic forms. In complication with other diseases it again differs from either the sporadic or epidemic form. As such it is rather a local trouble, and the other diseases are *sui generis*. Dr. Smith has properly said that in cases occur-

ring here and there no contagion exists; but in the epidemic form I certainly think there is contagion. In one case, of a child who died within three hours, inquiries were made by the health officials later, and they formed the diagnosis, although no autopsy was made. The temperature in that case ran to 108°. As a rule, the temperature need not be regarded unless it rises above 103°. As regards the frequency of the disease at the various ages, with increasing years the tendency to the disease decreases; it is essentially a disease of infancy and early childhood. Most of my patients were from one to eight years of age.

"The author of the paper gave some statistics relating to the various wards of this city which are a little misleading. For instance, the Nineteenth Ward includes a vast amount of territory; and, again, the great proportion of cases occurring in the Seventh Ward may perhaps prove that where there is overcrowding the disease may result from that cause, for in that ward the population is more dense than on any equal portion of territory on this continent."

Dr. C. A. Leale said: "I can safely say that Dr. Smith has carefully observed more cases of cerebro-spinal meningitis than any other living physician. My first observation of this disease was in 1864, when I was instructed by the Medical Department of the United States Army to investigate the cause of cerebro-spinal meningitis as it commenced to appear in Elmira, N. Y. We had admitted to our ward a boy fourteen years of age, of whom I made a very thorough physical examination without arriving at a diagnosis. I found that he was then suffering from very high fever; his temperature was then up to 107°. He had a rapid pulse, indicative of feeble heart-action. His lungs revealed nothing abnormal. His kidneys were normal, as far as the examination of the urine indicated. There were none of the eruptions of typhoid fever, nor the usual characteristics of the disease locating itself in the intestines. I left the hospital for three or four hours, and on my return was met by a number who said that there was a general stampede there. I found this boy covered with spots as large as pigeon's eggs, and almost black. He had purpura hemorrhagica and was delirious. I did not know what such a change in a few hours could mean, and sent for consultation with the post-surgeon, who was familiar with the diseases of the Chemung Valley, having practised largely in consultation in Pennsylvania and Southern New York. He pronounced it a case of cerebro-spinal meningitis. This boy had very severe symptoms. He had paralysis below the waist. His anus was paralyzed. He passed his fæces involuntarily, and his urine passed from him without any power to retain it. The dark spots continued about two weeks, at the end of which time he died from exhaustion, never for a moment having been restored to consciousness. This was the first case in the hospital, although we had a large number of cases of measles occurring among our recruits coming from the country towns. I went to the place from which this boy was brought, and found in the outskirts of the city a large building, formerly used as a warehouse, and which had been recently converted into barracks. The cracks in the building were so frequent and large that streaks of light here and there could be seen, and there were draughts from all directions. Bunks had been placed in this building one above the other, so that I had to climb up eight or ten to reach the one from which this boy was taken. The theory current at that time as to the cause of rubeola in the army was that it was due to a peculiar fungus found in the straw. Our recruits slept on straw apparently fresh, and everything about the building seemed to be in as good a sanitary condition as possible, with the exception of the risks from exposure. The barracks were in a bleak, exposed place, and the boy undoubtedly was severely chilled in this loft. We had no recurrence of the disease during six months of duty at that station, although besides the inhabitants of the place there were ten thousand of our own troops and ten thousand Southern prisoners. This case arose *de novo*, as if it were of an acute specific origin, and after showing itself in this extremely violent form it ended.

"Another very important observation in regard to the etiology of this disease was made by me in the upper part of this city some years ago; it was in that part where the new streets had been laid out, forming, as it were, bridges across deeply sunken lots. The man in whose family this occurred had built a temporary house on a leased lot, and had his yard at least twenty feet below the level of the street. This man was a carter, who had been prosperous down-town and moved up there to have a larger place for his horses. He had six horses and four children, but one of the children was away from home. His six horses died of convulsions in that place within a period of four weeks. During their convulsions they were very violent and kicked out the sides of the stable. All the children at home died—one from malignant sore throat, probably diphtheritic, and two of what I then styled cerebro-spinal meningitis. All had been exposed to violent currents of air, as it was at a season of the year when severe impressions upon the nervous centres would be made by the sudden changes of temperature.

"Another instance occurred in a wealthy family living near Fifth Avenue on Fifty-first Street. The eldest son, about eight years of age, a precocious child, came home one cold morning with his nurse and complained of being so cold at the back of his head and neck that it was a long time before he could be made comfortable. This child had all the symptoms of cerebro-spinal meningitis. He lingered about sixteen or eighteen days and died from exhaustion.

"The case mentioned by Dr. Fruitnight was that of a school-teacher who passed through a severe form of the disease. She had very black spots, became blind and deaf, and about two weeks after the disease began she had gone through all the usual symptoms—high fever, dry tongue, cyanosis, etc. At the end of about three weeks her sight and hearing returned, but she always complained of an intense headache. On returning to her duties as teacher, she could not bear the ordinary noise made by the school-children. She found herself unequal to the position, but as it was her means of support I encouraged her to keep on; she did so until one day, when dismissing her school at twelve o'clock, she threw up her arms, gave a sudden shriek, and before anyone could reach her she was dead. An autopsy was made: As to the brain, a large amount of old exudation was found upon the arachnoid membrane; at the circle of Willis there was a rupture of a degenerated artery, and the sudden death was due to apoplexy.

"I wish Dr. Smith had presented more information in regard to the pathogenesis of the disease; whether he considers it a disease *per se*, or whether the result of some other disease. Is it due to the suppressed eruptions of rubeola, scarlatina, or even syphilis? The author calls attention to a foreign belief in the microbic theory of its origin. I think we find a great many micro-organisms in all diseases attended by high temperature, and in which disorganization of blood-corpuscles allows some atmospheric micro-organism to locate itself in the blood."

Dr. W. M. McLaury said: "During the time of my connection with the Northwestern Dispensary I saw a good many cases of cerebro-spinal fever. Among colored people the disease was always fatal, while among white patients recovery was always slow.

"In this city the disease is much more prevalent among children from four to fourteen years of age than among adults. In connection with this I was surprised to learn from the statistics cited in the paper that so few cases of cerebro-spinal meningitis have been reported from the Southern States. This is probably owing to imperfections

in the statistics from those States; whereas the disease is presumably as prevalent among these as among the Northern and Western States.

"During a part of the time of my connection with the Northwestern Dispensary there was an epidemic of what was then known as relapsing fever, and some of those cases were diagnosed as cases of cerebro-spinal fever; but whether so or not they were very tedious in their recovery."

Dr. S. H. Dessau said: "The point referred to in the paper regarding the alliance of cerebro-spinal fever with other diseases, such as pneumonia, is a very important one. It reminds me of cases of typhoid fever which presented considerable difficulties in diagnosis in their early stages. I have never met a case of cerebro-spinal meningitis as a primary disease, but these cases so closely resembled what I considered at the time was cerebro-spinal fever that it required time to settle the diagnosis. One case which was a source of disappointment occurred in my service at the New York Hospital, where the patient died. An autopsy revealed the characteristic lesions of typhoid fever."

Dr. C. S. Wood said: "It may be proper at this time to compare our present epidemic with one of the first we have any knowledge of in this country. In drawing that comparison an evident difference occurs. Dr. Smith has referred to the epidemic form which spread all over the country. It commenced here, although not as severely as some epidemics which we have had. In 1866, after the war, I was invited by some members of the Board of Health to confer about this disease, which was beginning to show itself in New York City. I may be permitted to refer to the connection supposed to exist, as the author of the paper has stated, between these different forms of disease.

"In Broome, Chenango, Cortland, and some of the western counties of the State, in 1847, there was a severe epidemic of dysentery, from which large numbers died. At the end of three years the disease had nearly disappeared. That was the only epidemic in the country at that time. In 1851 a second epidemic of dysentery occurred, extending all over the country among the farmers, and it even extended to the people living in the best hygienic conditions. After the subsidence of this epidemic, which was less severe than the former one, cerebro-spinal meningitis followed. This also occurred not in towns as much as in the surrounding country, and dysentery accompanied it. These two diseases progressed side by side for three full years with large fatality. In nearly all the severe cases the disease assumed the epidemic character of spotted fever. When the epidemic had begun to decline we saw very few cases of spotted fever, just as now, because the epidemic when on the decline is much less severe.

"At the time when the complications were, as stated by Dr. Fruitnight, of a pulmonary character, I recollect a number of cases where men would go about their business in the morning, would return in the afternoon with a chill, and become delirious before midnight.

"After the first year the number of cases did not diminish as did the severity of attack. In this epidemic there were comparatively few people attacked; the patients were, in large proportion, adults from fifteen to thirty-five years of age. There was no connection, so far as could be observed, between the disease and pneumonia.

"In New York City the disease is largely among children, just as is diphtheria. They are, of course, more susceptible to it, and if the epidemic is on the decline they would be the first attacked. I have seen here comparatively few adult cases of cerebro-spinal fever; perhaps one dozen altogether.

"It is always convenient to attribute disease to sewer-gas and defective drainage, whereas in the most severe epidemics I have ever witnessed there was no sewer-gas within twenty miles. In the epidemics here alluded to—from 1853 to 1856—cases attacked lived on rolling ground, on the hills, in the valleys, and beside running water. One case would occur in one locality and another perhaps five or six miles away, there being no connection whatever between them. Having seen those two severe epidemics of the fearful disease, with their heavy mortality, I have very grave doubts about the etiology usually attributed to it in this city. I do not think sewer-gas or defective drainage has much to do with its production. It seems that when one epidemic declines another succeeds; and whence it comes and where it goes we do not know. We are apt to attribute everything to bacteria and micro-organisms; but I am strongly of opinion that those organisms are rather the effect of disease than its cause."

In reply to the inquiry of Dr. Baruch, Dr. Wood stated that he did not regard the disease as contagious or infectious.

Dr. C. L. Dana said: "One question alluded to by the author of the paper is of particular interest, viz.; whether some of the cases that are reported as cases of cerebral paralysis in children are really not cases of cerebro-spinal fever. The suggestion is new to me, and is one I shall be glad to think upon and study. We have, as yet, however, no very great evidence that these paralyses are really due to that trouble. Almost all the cases of cerebral paralysis in children are hemiplegic, and this limitation of the lesion in most of the cases would preclude the possibility of cerebro-spinal fever.

"Cerebro-spinal fever is the precursor of chronic nervous disorders that are often very intractable. The fact of their origin in cerebro-spinal fever is a help to us in throwing light on the pathology. I have had cases of affection of the upper part of the cord especially, following cerebro-spinal fever. The patients were women, and they had severe pains and other symptoms characteristic of that disorder; and the fact that they once had a meningitis justifies us in assuming that many of the cases of spinal irritation are cases of chronic thickening of the meninges, with hemiplegia and irritation of the nerves. In spinal meningitis the lesions are in the upper part of the cord, and that would explain why, in those cases that I have seen, the spinal irritation is mostly an upper dorsal one, while the symptoms are sensory and not motor.

"The most common complications are such as Dr. Peck might speak upon—deafness and loss of sight. I am interested in the nature of the fever because I have been working more or less in the laboratory, and have had opportunities to see the micrococci found in investigations of this disease. It has been stated by bacteriologists that the micrococcus is pathogenetic of this disease, but on this point further research is necessary."

Dr. B. Thompson said: "I have not seen in my cases of cerebro-spinal fever any spots, and am glad to hear Dr. Leale and Dr. Wood speak of the microbes as being the effect rather than the cause of the disease. The statement has been made that it has occurred in the country where the drainage has been perfect. In this respect it resembles typhoid fever, some of the most typical cases of which I have seen in the mountains of West Virginia. While sewer-gas no doubt plays an important part in many of the diseases occurring in our cities, increasing their severity and possibly the death-rate, still I do not think they are always to be regarded as prime factors in their etiology."

Dr. Charles E. Young said: "I have a case at present under observation which has been diagnosed as cerebro-spinal meningitis. My experience with the disease has been limited to four cases. Two of these were of the epidemic variety, and were seen in the summer of 1882. They were children in the same family, and both recovered. Their temperature went up to 103° and 104°. Another was that of a woman, twenty-six years of age, who had the characteristic eruption and tympanitis. The temperature in her case was at no time above 102°. The fourth case may come under the head of some of those spoken of by Dr. Smith as belonging to a class of cases

often diagnosticated as simple paralysis. This was a child with temperature running up to 104°, 105°, and 106°. The attack began with most obstinate vomiting, which continued for several days; shortly afterward, before the death of the child, there was slight rigidity. No eruptions whatever occurred in this case."

Dr. H. D. Chapin said: "I desire to mention a case of cerebro-spinal fever complicated with syphilis. The individual had syphilis, and while this was in active progress the patient took cerebro-spinal meningitis and died."

Dr. Robert Newman said: "The case of the schoolteacher related by Dr. Fruitnight and Dr. Leale is interesting. It shows that in cerebro-spinal meningitis there may be an apparent recovery of the patient, while the result of the inflammation of the meninges may continue and cause an ailment which finally ends in death. I know of a similar case where death was not so sudden. The patient recovered slowly, and was particularly benefited by an ocean voyage. The fresh air had a great deal to do with making him feel better. As soon as the patient returned to New York, to the old locality where the disease was contracted, there were symptoms of depression, with piercing headaches, which finally ended in death in one night. In such cases an ophthalmoscopic examination of the eyes would be important, in order to see what changes have taken place there. I was in hopes that Dr. Peck would bring out these points and tell us about these examinations. In regard to the etiology, it is my firm belief that the chief factors are foul air and overexertion of the brain sufficient to bring about inflammatory processes. The first case I ever saw was unquestionably brought on by hard study in a small room in which the air was made still more foul by the burning of a kerosene-lamp. That case proved fatal."

Dr. E. S. Peck said: "I desire to pass around these two preparations of the temporal bone, one of which shows the cavity of the middle ear with the round and oval windows, the course of the chorda tympani and other tympanic nerves, the exceedingly thin roof of the tympanum, the near proximity of the lateral sinus and the osseous Eustachian tube; the other is opened so as to exhibit the aqueduct of the cochlea, the thin scale of bone over the aqueduct of the vestibule, the course of the superior petrosal groove, and the three semicircular canals. They are purely anatomical preparations, but they serve to explain the course of the aural complication of cerebro spinal meningitis by the aqueduct of the cochlea rather than by the middle ear.

"Among a number of bony preparations of aural disease in my possession, there are two specimens showing the involvement of the petrous bone due to cerebro-spinal fever. There is evidence in both these cases that the pus travelled along the acoustic nerve-sheath, and that exudations were present even in the labyrinth. The history of neither case conveys information as to whether there was pus in the middle ear, or even congestion of this portion of the auditory apparatus.

"I was fortunate enough to spend an afternoon with Von Tröltsch, in Würzburg, some years ago, when he showed me a large number of petrous bones, some of which were the results of autopsies in cases of cerebro-spinal fever. It was his opinion that the internal ear was the part of the auditory apparatus usually involved, by means of pus following along the acoustic nerve; and with this opinion the experiences of Luschka and Lucæ coincide. Von Tröltsch also states that some of the autopsies in cases of cerebro-spinal fever with deafness show pathological changes in the fourth ventricle of the brain. The distinguished author of the paper, in a valuable contribution on this subject published in The Medical Record, December, 1883, wrote of the frequency of a mild form of inflammation of the middle ear, with a return of hearing power. He also stated that suppuration of the middle ear may occur; and, further, that deafness occurs in one patient out of ten. With this opinion Roosa strongly concurs, and bases his conclusion on the fact that bone-conduction of sound remains to a limited extent, this being an indication of functional ability on the part of the acoustic nerve. I do not think, however, that autopsies will bear out this theory. A singular clinical fact in this connection is that facial paralysis rarely occurs as a complication. Its absence is used as an argument to prove the absence of inflammation of the acoustic nerve, with which it lies in close contact."

Dr. Smith asked Dr. Peck how he accounted for the fact that deafness is always bilateral.

Dr. Peck replied that it was due to the basilar tendency of the meningitis; that many cases of simple meningitis occurred with unilateral deafness or monocular amblyopia.

Dr. Peck, in reply to inquiries of Dr. Dana and Dr. Newman, further said that he had made ophthalmoscopic examinations of cases of chronic cerebro-spinal meningitis, and of simple meningitis, in which there was perioptic œdema, succeeding to infiltration of the optic sheath. Some of them had loss of central vision, total or partial, while in the equator of the eye the retina appeared normal. "Almost all cases of inflammatory œdema of the basal meninges are followed by *neuritis descendens* and *neuritis optica*. I am now treating a patient, sent by Dr. Leo, for the relic of an old meningeal œdema. The patient is a lad, seven and a half years of age, who, in infancy, had severe convulsions, evidently due to cerebral congestion. The child was sent on account of alarming beatings in the head and conjunctival trouble. The right eye could count fingers at two feet; the left eye had a vision of $\frac{2}{4}\frac{0}{0}$; there was no anomaly of refraction; both lower lids were slightly granular. Loss of vision was not suspected. The beatings could be traced along the superior longitudinal sinus, and over the parietal and temporal bones of the right side of the head. With the ophthalmoscope the right eye gives evidences of perioptic œdema, chiefly in the outer and inferior parts of the disk. There are, in addition, three dirty-white spots of good size around and very near the disk; they are spots of atrophic choroiditis, and are totally devoid of pigment deposits. Under the use of potassium bromide and ergot these beatings have disappeared; and in three months the right eye, with a previous vision of finger-counting at two feet, sees $\frac{2}{4}\frac{0}{0}$, and the left better than $\frac{2}{5}\frac{0}{0}$. I cannot believe that in all cases the ophthalmic involvement is peripheric, as shown in affections of the choroid, iris, and cornea, but often central, as in descending neuritis, optic neuritis, etc.

"I would like to add here that it must not be deduced from this that all infantile convulsions are manifestations of true meningitis."

Dr. A. R. Robinson said: "I think some of the cases cited to-night as cases of cerebro-spinal fever should be excluded. I do not think that there is any direct connection between syphilis and the special exciting agent of cerebro-spinal fever. The simple existence of micrococci alone is not regarded as sufficient proof of the bacterial origin of any disease. As regards cerebro-spinal fever and pneumonia, I have never noticed in the cases coming under my care any connection to exist between them. Three years ago I was called to see a child who had been vomiting, whose temperature was 102½°, and on whom these eruptions were present. The diagnosis was held in abeyance. The next day the child was, to all appearances, perfectly well, and I did not intend to go again. But on the next day I was informed that the child was not so well. I went to see it, and there was nothing to lead me to suppose that it was cerebro-spinal fever. On the fifth day the head was drawn back. I would like to know if that case was not an unusual one—the symptoms being so severe in the first twenty-four hours, and then the patient appearing to get well."

In closing the discussion, Dr. Smith said: "I think I can answer the question of the President. It is a remarkable fact, of which there is no satisfactory explanation, that patients occasionally present well-marked symp-

toms of the disease, such as intense headache and rigors, which entirely subside for some hours, perhaps for a whole day, and then recur, and the disease runs its usual course afterward. I have in mind a case seen some years ago in Thirty-fifth Street, where a young man had the disease so severely that he went into convulsions. But the convulsions did not occur the first day. The intense headache, however, came on with vomiting and fever. The next day he was so far relieved that he went to Brooklyn on business. On his return the symptoms reappeared with convulsions. This fact is stated by different writers as peculiar to this disease.

"In regard to its contagiousness, it has been said that in the epidemic form it is contagious, and in the endemic it is not. I do not believe that it is contagious at any time. If so, the degree is so slight that there is no need of isolating patients. In the epidemic of 1872 I saw perhaps over fifty patients. The great majority of them were single, isolated cases. There were some multiple cases—that is, in one instance, two in a family; in another, three; and in another, four; but in many of these cases the sanitary conditions were obviously very unfavorable. The four cases in one family occurred in Fifty-fifth Street, near the river. They carried on the business of making what is called head-cheese, and the heads of hundreds of cattle were there in a condition of decomposition.

"I have never seen any evidence of its contagiousness, and do not think that even in its most severe epidemic form there is any need of isolating those affected.

"As regards the diagnosis, I know that many cases do have hemiplegia on the second day. In the commencement of the severe form of the disease there is more or less congestion of the cerebral substance in connection with meningeal inflammation. In cases where there is any doubt, hemiplegia may occur a few days after the attack, and on that account some consider it a distinct disease from cerebro-spinal fever.

"I do not say that mistakes may not be made in the other direction—that many cases are called cerebro-spinal fever which are really not so. So far as my observation extends, we do not have full statistics of this disease.

"Cerebro-spinal fever is a disease *per se*; that is, it is due to a specific principle which is entirely distinct in its nature from any other disease. I simply stated what foreign observers have mentioned in regard to its occurring as a complication of pneumonia. I have met it occurring in connection with some other diseases, but not with croupous pneumonia; as, not long ago a case of entero-colitis, in which I expressed the opinion to the attending physician that in all probability the cerebro-spinal irritation had a reflex origin, but the physician afterward informed me that it was undoubtedly a case of cerebro-spinal meningitis, because the intestinal disease got well and the other disease continued."

Bad Breath.—Dr. Frank H. Gardiner believes that decaying particles in the mouth as far back as the pharynx vault taint the breath exhaled very little, if at all. Mouth-breathers have a bad breath when the tonsils are enlarged, or when cheesy masses exist in the tonsillary mucous folds. Certain gastric derangements taint the breath only when gases are eructated through the mouth. The principal cause of bad breath is decomposition in the intestinal canal, the retention of fecal matters in the transverse and descending colon, and the absorption of gases into the circulation, finally exhaled by the lungs. Catarrh (nasal, pharyngeal, laryngeal, or bronchial) causes bad breath. Medicines or aliments which undergo chemical changes below the œsophagus may, by rapid absorption through the stomach-walls, or immediately below, give to the breath the characteristic odor. This bad breath is often a source of serious annoyance to patients, and the fact that it has more than a local cause is too often ignored by the physician who, therefore, fails to cure it.—*Dental Review.*

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

PSORIASIS AND RHEUMATISM—INTUSSUSCEPTION CAUSED BY TUMORS—THE PRESIDENT OF THE COLLEGE OF PHYSICIANS—THE WHEELHOUSE AND FOSTER ELECTION EXPENSES FUND—THE PHARMACY BILL—THE LATE DR. BRADY—THE WIRE-TREATMENT OF THORACIC AND ABDOMINAL ANEURISMS—THE SOCIETY MEETINGS—THE BRITISH MEDICAL ASSOCIATION—EXCLUSIVENESS IN MEDICAL SOCIETIES.

London, April 12, 1887.

Psoriasis and its relations formed one of the topics discussed at the last meeting of the Clinical Society. Sir Dyce Duckworth read the notes of a case in which well-marked psoriasis was associated with rheumatism. Salicylate treatment was adopted, but it proved powerless to reduce the temperature or control the arthritic disease. Arsenical treatment was therefore substituted for it, and under this a steady improvement went on. Local treatment was also employed for the psoriasis. The latter gradually became transformed into diffuse exfoliative dermatitis (pityriasis rubra). Sir Dyce Duckworth observed that psoriasis was not uncommon in rheumatic persons, especially in those suffering from rheumatoid arthritis. Dr. Radcliffe Crocker remarked that his experience also pointed to the possibility of a connection between rheumatism and a previous dermatitis. Any form of dermatitis might be the antecedent. He also remarked that psoriasis was the most common antecedent of pityriasis rubra when the latter did not occur as the only disease. Dr. Barlow said he had also observed the triple association of psoriasis, pityriasis, and rheumatism. When once the skin-lesion had taken on the exfoliative type, this form would continue.

Mr. Arbuthnot Lane related a case of intussusception produced by the presence of a tumor growing from the mucous membrane of the transverse colon. The patient was a child, eight years of age. The tumor came down on two occasions and protruded from the anus. The second time it was removed, and on subsequent examination no signs of an intussusception could be made out. Mr. Treves said the mildest cases of intussusception were often those associated with large polypi in the colon. Polypi were present in five per cent. of the cases of intussusception. A mass of epithelioma in the wall of the bowel might also lead to the formation of an intussusception. Mr. Barker said he thought the latter was not a very frequent cause of intussusception. Mr. Bryant was of opinion that intussusception, caused by tumors were not very rare, but that in adults they were not recognized sufficiently. He believed a fair proportion of the cases in adults were due to tumors. In illustration, he narrated the case of a lady, eighty-four years of age, who had lately been under his care. The abdomen was tympanitic, and there was acute obstruction following on long-standing bowel-trouble. On examination per rectum a growth as large as an egg was detected. It was readily removed, and recovery ensued. The growth was of a coarse, villous nature.

At the Medical Society Sir Dyce Duckworth presented a case of ulcerative endocarditis simulating typhoid fever and acute tuberculosis. The patient was a girl, twenty years of age, in whom there was no history of rheumatic fever, but some of the joints were swollen. The necropsy revealed no tubercles or splenic infarctions, but the mitral valves were much diseased and fungating.

Mr. R. W. Parker read a paper on "The Alleged Dangers of Starch-containing Foods during the Period of Infancy." He thought these dangers had been greatly exaggerated. He was no advocate for artificial feeding, but he thought that too much stress had been laid upon its effects. He attributed more importance to the

hygienic surroundings. Mr. Parker said he thought that in many cases the mortality of artificially fed children was due to debilitating influences of various kinds acting on the parents before the birth of the children.

To the surprise of many, Sir William Jenner has been re-elected President of the College of Physicians for the seventh time. This is no doubt in consequence of the desire to carry through the new policy of the college of endeavoring to obtain powers to grant a degree in medicine. Sir William is a firm advocate of this scheme, and it is very doubtful whether any other man would be able to exercise the same influence. Sir Andrew Clark might, possibly, if Mr. Gladstone were in power. Sir William Gull is an able man, but has made many enemies. In connection with this election it is curious to observe that only one hundred and twenty fellows took part in it, of whom only seventy-three voted for Sir William Jenner at the first ballot. Neither members nor licentiates have a voice in this or in any other matter connected with the college. The presidency and all other offices are therefore in the hands of those few fellows who take an active part and settle many matters across each other's dining-tables.

The process of sending round the hat for the "Wheelhouse and Foster Election Expenses Fund" has not been attended with very happy results. No list of subscribers has been published, but as, with every effort that could be made, only some eighty pounds odd has been raised, it must be concluded either that the number of the admirers of these gentlemen whose admiration is sufficiently warm to unloose their purse-strings is very small, or that the greater number of those donating have reserved for this occasion the proverbial threepenny bit. As three hundred and thirty-eight pounds twelve shillings and twopence has been expended, Messrs. Wheelhouse and Foster have had, after all, to pay most of it themselves, and considering that the office to which they have been elected is a paid one, they can well afford to do it.

The Pharmacy Bill has passed the second reading in the House of Commons, and is likely soon to become law. It gives more power to the Pharmaceutical Society and authority to create a compulsory curriculum for pharmacists. Times are so changed that we can scarcely realize that it is but little more than a quarter of a century since anyone who chose could open a chemist's shop and sell poisons without let or hindrance.

A notable figure has just disappeared in the person of John Brady, F.R.C.S.I.—generally called by the public Dr. Brady. For twenty-seven years he was M.P. for Leitrim, on the Liberal side, but his genial and kindly disposition made him friendly with all parties. He was for years the only doctor in the House of Commons, and he was always ready to give his time and influence in the service of his professional brethren. One Act of Parliament was certainly entirely due to his efforts, and others he greatly assisted in passing. He practised in London for several years, on the south side of the Thames.

London, April 16, 1887.

The treatment of thoracic and abdominal aneurisms by the introduction of steel wire into the sac was discussed very fully at the last meeting of the Medical and Chirurgical Society, and the subject occupied the attention of the Society for the whole evening. Three cases were related in which this method of treatment had been adopted, but the record is not very encouraging, as all of them terminated fatally. In one of these, though, the operation did not apparently contribute to the fatal result. The first case was read by Dr. J. J. Pringle, and was that of a man, forty-six years of age, with an aneurism in the upper part of the abdominal aorta. He was admitted into the Middlesex Hospital, and general treatment was employed for a month. No benefit resulting, he was operated on by Mr. Henry Morris. It was not found possible to introduce more than a foot of the wire. No hemorrhage of consequence occurred, and the patient went on satisfactorily for two days. He then became almost maniacal, and died of asthenia in five days. At the necropsy both sides of the heart were found distended with mixed clot. The aneurism was also found filled with clot, more than a third of which was laminar, and presumably due to the introduction of the wire. The second case was one of sacculated aortic aneurism in a man forty-eight years of age. Iodide of potassium and a restricted diet having been tried for nearly two months without benefit, it was determined to operate on him. Mr. Pearce Gould operated on him in the Middlesex Hospital, and introduced thirty-two feet of steel wire through a Southey's cannula into the aneurism at the most prominent part of the swelling, viz., in the third interspace on the right side. A good deal of blood was lost at the time of the operation, and from one of the two punctures made a considerable quantity of reddish serum continued to drain for some days. On checking this by pressure, swelling of the subcutaneous tissue occurred, the skin became gangrenous, and death speedily ensued. At the necropsy the intra-thoracic portion of the aneurism was found to have a small but distinct sac springing from the first portion of the arch of the aorta, which was much dilated. The extra-thoracic portion of the aneurism, however, had no distinct sac, but was bounded by infiltrated muscle. A very dense mass (consisting of the wire and loose fibrinous clot) filled, but was not adherent to, the sac. The remaining case was also that of a patient at the Middlesex Hospital, but under the care of Mr. Hulke. The patient was a sailor, and the aneurism (subclavian) came on as the result of injuries received in falling from a height. After various treatments had been pursued at intervals for two years, the aneurism was a little smaller, but not otherwise much improved. The patient left the hospital, but returned in a month with increase of pain and swelling. Mr. Hulke operated, and introduced thirty-three feet of steel wire through a cannula. Some degree of hardness of the sac followed the operation, but no other change could be made out. Five days after the operation there was a good deal of pain and increased arterial tension. This was relieved by bleeding. On the thirteenth day from the operation the patient died. On examining the parts after death only a small amount of clot was found about the wire, and there was no appearance of inflammation. In the discussion on the three cases several speakers commented unfavorably on the great length of wire which was introduced. Mr. Bryant suggested that good fishing-gut would be preferable to steel wire. This opinion Mr. Morris seemed disposed to accept, but he remarked that he was not previously aware that fishing-gut could be made to coil up. Mr. Pearce Gould said he should not in future cases use anything approaching the quantity of wire used in his recent case. He agreed with Mr. Bryant that the evidence was against the employment of steel wire.

In the course of another month many of our medical societies will have suspended their labors for the season, only to resume them in October. By a sort of tacit convention nearly all the meetings of societies take place only during the winter months, and as they are nearly all held in the evening the temptation to quit a warm fireside is sometimes not very keen to doctors who have had a busy day. Taking both town and country into consideration the number of societies devoted to the medical sciences is very numerous. Almost every provincial city of any consequence has its own medical society, besides a local branch of the British Medical Association. The latter, indeed, is now almost co-equal with the distribution of the profession—in England, at any rate, though perhaps not in Scotland and Ireland. Its various branches, no doubt, fulfil many useful, social, and scientific purposes. As regards the parent association, its chief function is that of producing the weekly *Journal*, and it might fairly be described as "a co-operative journal-producing association." The importance attached to the *Journal* is evidenced by the fact that at the new offices

of the Association the inscription is *British Medical Journal.* The impression made upon an impartial observer naturally is that the Association is a mere appanage of the *Journal*, and that the sole use of its faithful members is to provide for the editor and his associates "the sinews of war" wherewith to carry it on. An organization so extensive is naturally not very exclusive. New members can be elected by the council of the Association, or by any branch council. In either case they must be nominated by three members of the Association, to *one* of whom they must be personally known. Under such conditions the term "member of the British Medical Association" really signifies little more than "subscriber to the *British Medical Journal.*" An association which is always seeking to extend its members cannot be very exclusive. Everything, in fact, is sacrificed to mere numbers. One of the younger of the medical societies in the metropolis—the British Gynecological—has fallen into the same error. When it was founded proposal forms were sent to all and sundry, inviting them to join, and a not very select body has been the result. As an inducement to country doctors to join, it is stated that "the Society holds meetings from time to time in the large towns of Great Britain and Ireland."

The Neurological and Dermatological Societies have been constituted on much narrower bases. The latter is, perhaps, the most exclusive medical society in the metropolis. Its number is limited to thirty. In the event of a vacancy occurring a candidate must be nominated by at least ten members, and one black ball excludes. Its meetings are devoted entirely to clinical work, viz., to the exhibition of cases, drawings, specimens, etc. They are not announced in the medical journals, nor are its proceedings reported. In this the Society but imitates the reserve of one of the oldest of the London societies—the Hunterian—which for many years conducted its meetings in strict secrecy and would allow no account of them to appear in the medical journals. This rigidity, however, has been relaxed of late years, and its members now frequently have the honor of seeing their sayings and doings recounted in print.

LARYNGOLOGICAL HERESY.

To the Editor of The Medical Record.

Sir: The pessimistic views advanced in the various articles relating to topical medication of the upper air-passages, published in The Medical Record of April 30th, contain, in the light of my own experience, so much heresy, and are, I think, calculated to do so much damage, that I cannot refrain from protesting. As an outcome of my own experience in private practice, I feel justified in asserting the following propositions:

1. That any practitioner who is not making a *successful* use of topical medication of the air-passages, from the nostrils down to the capillary bronchial tubes, is either behind the times in general knowledge, or is lacking in skill, or is not doing his whole duty by his patients.

2. That, although cure of chronic disease in these passages usually is dependent upon removal of causes, still most chronic cases need the help of topical medication to enable the tissues to overcome the bad habits of pathological action, which habits are likely to persist, without such outside help, even after the removal of the causes. Furthermore, that many chronic cases, without removal of causes, can be brought into practically normal states by such applications, and although having a tendency to relapse, can be retained in a normal condition by occasional applications.

3. That, although the bulk of such applications, as they are usually made, are of non-effect, absolutely harmful, or only alleviative, still, when *skilfully* made, can accomplish that which is really wonderful and which cannot be done in any other manner. Even such serious disorders as laryngeal phthisis and purulent bronchitis of many years' standing may be practically cured by the help of local medication, when constitutional and hygienic treatment by themselves have been unable to effect cure.

4. That, although the establishing of nasal respiration by the purely surgical methods is the most brilliantly satisfactory work we accomplish, still, nasal stenosis and irritation is not the sole cause of disorders of the pharyngeal vault, larynx, and trachea, but, on the contrary, has a causative influence small in comparison with climate, occupation, exposure, malnutrition, abuse of the stomach, and unhygienic habits.

5. That extreme laudation of chromic acid as a means of treating nasal hypertrophy, etc., is to be deplored, for the fact is, that of all known agents for effecting this purpose, it requires the most skill in its *safe* use. It is very easy to apply chromic acid in the nose, and it is very easy to inflict great damage by its use.

6. That instead of our *armamentarium* being uselessly large, we have need of its greater extension. Every case operated on differs in some respect from others; hence there is a field open for the continual production of instruments that shall be best fitted for each particular class of cases. It is true that there is need of greater visible simplicity in the fittings of our operating-rooms, for the exhibition of a large amount of complicated machinery is terrifying to the average patient. The ideal equipment should comprise a large, inexhaustible cautery battery, some reliable mechanical motor for drilling, powerful pumps and large reservoirs for compressed air for the extended production of sprays, especially of the nebulized sprays, means for the production of hot vapors and the convenient taking of fuming inhalations, as well as for administering air of varying processes and of medicinal gases. Such an equipment is quite complicated and bulky, and as most of it should be out of sight of the patient, it is apparent that there is an inventive field still open. The utility of all these mechanical means can be affirmed by others, as well as by the writer. In the not distant future, a chest clinic will not be considered well equipped without a complete apparatus for the topical application of remedies. The benefit that may be conferred by the topical treatment of the coincident bronchitis of phthisis is of itself sufficient to rank medication, by the inhalation of nebulized remedies, as one of the most valued practical procedures of medical therapeutics.

7. But the production of best results through topical medication of the air-passages does require *special* knowledge and skill, which can only be gained by experience on the part of those having natural adaptability. The art, so far as I know, in its refinement, is *not* taught in the books nor in the schools. Nevertheless there are many professional brethren who can, out of their individual experience, substantiate the propositions here made. In a general way, if I can judge from observation of the practice of the unsuccessful topical applicators, in comparison with those who are successful, those who fail err in judgment as to selecting the best means for fulfilling the indications presented, are too harsh in the treatment, use too strong remedies, stimulate too much, soothe too little, do not take sufficient time in making applications, nor make them with sufficient frequency. It is my habit to charge many of my patients a contract price, rather than to charge so much per visit, so as to encourage them to make as many visits as may be desirable. The curative treatment of most dispensary patients by the means now at command is practically impossible. The necessary time could not be given to the patient even if proper equipment and skill should be available. There is then some reason for the sneering remarks frequently made relating to the "specialists and their astringents." But when, without the anæsthetic aid of cocaine, a subacute nasal catarrh can be cured at one sitting; when post-nasal catarrh caused by habitual gormandizing, or by the congestive action consequent upon heart lesions, can be controlled by quite infrequent applications; when a painful sore-throat can be absolutely cured in five min-

utes; when a husky-voiced singer can at one sitting be put into condition to sing splendidly all day; when the destructive ravages of laryngeal phthisis can be stopped, the parts healed, in some cases the voice partially restored, and the patient restored to a partially useful life; when very great comfort, and in many cases curative aid can be extended to cases of pulmonary phthisis; when "colds" that would ordinarily run for two or three weeks can be instantly alleviated and cured within three days; when patients can be helped to reside in health and comfort in localities, the climatic disadvantages of which would be otherwise insurmountable; when all these optimistic facts, and others that could be named, as resulting from the skilful use of the present methods of local treatment of the air-passages are considered, I submit that the general tenor of the articles referred to in the beginning of this communication is an unjust disparagement of the art of laryngology as it now exists in its best forms.

J. M. W. KITCHEN, M.D.

168 WEST FIFTY-EIGHTH STREET.

SHOULD DOCTORS FURNISH MEDICINES?

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I beg to be allowed space to "second the motion" contained in Dr. McManus' communication in THE RECORD of the 9th inst., "Should Doctors furnish Medicines?" It is a timely and wise hint. The evil of counter-prescribing by druggists, to which he calls attention, is a growing one, and the exceptions to the rule of competent and honest druggists who attend to their own legitimate business, strictly limiting themselves to its proper bounds, are getting to be more numerous. Out of this evil have sprung nearly, if not quite, all the complaints of physicians in recent times against druggists; the nuisances of travelling salesmen, sample packages, and bogus journalism, or proprietary-medicine certificates and pamphleteering. If physicians would become skilled in the preparation of their remedies, many a doctor will not only acquire "a familiarity with drugs, which was, perhaps, sadly needed," as Dr. McManus suggests; but will do much to correct the evils of which physicians have so much now to complain. It will encourage legitimate pharmacy and tend to drive out of its ranks the class of druggists who deal in the cheaper and inferior sorts of drugs and proprietary preparations, and with them the manufacturers of them. We would be far from bringing about any antagonism between ourselves and patients on the one side, and honest and competent pharmacists on the other. We need their services and their hearty good-will and co-operation, and right well has the *science* of pharmacy in our times shown itself the handmaiden and servant of the medical profession in the elegant and efficient fluid extracts, properly prepared tinctures and pills, etc., so easy of carriage and dispensing by the physician. With such means it is easy enough for physicians to establish a suitable and proper independence in the matter of furnishing medicines for their patients.

There is no need, however, of *supplanting* the druggist's business. It is only the capacity of becoming his own druggist for such emergencies as may arise from time to time, to be able to secure the best remedies in his practice, and to prevent improper interference on the part of such druggists with his written prescriptions as need it, which the physician needs.

With such a knowledge as all physicians should have of the materia medica and of the drug market, there could be no difficulty on the part of physicians in having druggists fill their prescriptions with the best and purest medicines, or failing in this, to do it themselves.

In regard to the sources of supply it can be truly said that it requires some patience and care in making proper discrimination among the various pharmaceutical manufactories. If physicians are not hopeless gudgeons in this matter (and they need not be), by shunning the drumming and advertising humbug and nuisance, and by a little patient inquiry and observation at the large centres of medical supplies, they will readily find out whose fluid extracts assay nearest to the claims set forth, and are of most uniform strength, and whose entire list of drugs and officinal preparations are most correctly prepared, and nearest to the officinal standard of purity and uniformity.

There is no need that "every physician should be his own druggist" at all times and always, any more than that every lady-housekeeper should do her own cooking and housekeeping, etc. The lady-housekeeper should thoroughly understand these things, however, to supervise her servants, and to do it herself when emergencies may arise requiring it; and by actual practice only can these arts be mastered. There is no intention to cast any slur on the highly developed science of modern pharmacy and scientific pharmacists by contrasting them with a menial order of work and servants. The contrast is used simply as the best illustration at hand to set forth the proper relation of physicians to their medical supplies and to pharmacists.

Very truly yours,

POCKET-CASE.

APRIL 13, 1887.

THE BEST TESTS FOR ALBUMIN.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In your report in to-day's issue of the discussion of my paper, "The best Tests for Albumin," it is stated that I said: "Heat was the most available of all tests, doubtless, if all precautions were observed." This is incorrectly reported, and is so entirely at variance with my belief and experience, as well as with the opinion expressed in my paper to the effect that heat is "one of the most cumbrous of the important tests" (see p. 486), that I beg to correct it.

I will avail myself of the opportunity of saying that I am confident that a trial of the nitric-magnesian test will abundantly compensate anyone for the slight labor of preparing it. Thus far I have found no test cover so much ground.

Respectfully yours,

HENRY B. MILLARD, M.D.

NEW YORK, April 30, 1887.

LOCAL TREATMENT IN DIPHTHERIA.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In a communication in THE MEDICAL RECORD of this date, from Dr. J. Lewis Smith, the following sentences occur: In speaking of "treating the nostrils" Dr. Smith says, "I have used various syringes with tapering and bulbous nozzles, and Delano's hand-atomizer as employed by Dr. Billington. The objection to the latter is that the sharp point is very apt to prick the nostril and cause bleeding if the child resist and rotate the head." It is impossible that this should be true, for the reason that neither the Delano nor any other atomizer has ever been "employed by Dr. Billington" in the treatment of the nares in diphtheria, and such use of it has been mentioned by him only to be deprecated. As this has so lately been twice done by me in THE MEDICAL RECORD, it is with mortification that I am compelled to ask further space for this correction. Not doubting that this misrepresentation, though so extreme, was quite unintentional on the part of Dr. Smith, I shall only, by way of pointing a moral, crave his indulgence for the inaccuracies of the average "reporter" to which he alluded.

Yours truly,

C. E. BILLINGTON, M.D.

NEW YORK, April 30, 1887.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 1 to May 7, 1887.

FRYER, BLENCOWE E., Major and Surgeon. Ordered for examination by Army Retiring Board at San Francisco, Cal. S. O. 101, A. G. O., May 2, 1887.

STERNBERG, GEORGE M., Major and Surgeon. Assigned by the President to the special duty, under the Treasury Department, of "investigating the merits of the method practised in Mexico and Brazil for preventing yellow fever by inoculation." Relieved from duty as Attending Surgeon and Examiner of Recruits in Baltimore, Md. S. O. 101, A. G. O., May 2, 1887.

BILLINGS, JOHN S., Major and Surgeon. Granted leave of absence for ten days, to take effect May 3, 1887. S. O. 98, A. G. O., April 28, 1887.

MIDDLETON, J. V. D., Major and Surgeon; HAPPERSET, J. C. G., Major and Surgeon; AINSWORTH, F. C., Captain and Assistant Surgeon. Appointed to assemble at U. S. Military Academy, West Point, N. Y., on June 1st, to examine into the physical qualifications of the members of the graduating class and of the candidates for admission to the Academy. S. O. 102, A. G. O., May 3, 1887.

LORING, LEONARD Y., Captain and Assistant Surgeon. Sick leave of absence still further extended six months, on surgeon's certificate of disability. S. O. 103, A. G. O., May 4, 1887.

BIART, VICTOR, Captain and Assistant Surgeon. Sick leave still further extended one year on surgeon's certificate of disability. S. O. 99, A. G. O., April 29, 1887.

EWING, CHARLES B., First Lieutenant and Assistant Surgeon. Ordered from Fort Leavenworth, Kan., to Fort Lewis, Col., for temporary duty. S. O. 100, A. G. O., April 30, 1887.

Official List of Changes in the Medical Corps of the United States Navy for the week ending May 7, 1887.

SHAFER, JOSEPH, Assistant Surgeon. Detached from the Minnesota, and ordered to the Ossipe.

SIMON, W. J., Surgeon. Ordered to the U. S. Steamer Boston.

HENRY, C. P., Assistant Surgeon. Detached from Hospital, Philadelphia, and ordered to the Boston.

MEANS, VICTOR C. B., Assistant Surgeon. Detached from Hospital, Mare Island, and ordered to the Hospital, New York.

SIMONS, MANLY H., Passed Assistant Surgeon. Detached from Naval Academy, and ordered to the Constellation.

DIEHL, OLIVER, Passed Assistant Surgeon. Detached from Hospital, New York, and ordered to the Hospital at Philadelphia.

CHLORAL ERUPTION.—Dr. Barbillion has described a variety of erythema appearing in patients under the influence of chloral, upon the administration of alcohol. The chloral eruption was first recognized by Jastrowitz in 1869, and has since been met with by numerous observers. The point to which Dr. Barbillion calls attention is the almost mathematical regularity with which the exanthem appears under certain circumstances. Given a child of from four to eight years of age, who is taking from one-half to one drachm of chloral daily in repeated small doses, the administration of alcohol in the form of wine or spirit mixture will cause the appearance of the rash in from fifteen to thirty minutes.—*The Lancet.*

Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending May 7, 1887:

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	5	1
Scarlet fever	48	11
Cerebro-spinal meningitis	12	9
Measles	85	5
Diphtheria	78	44
Small-pox	30	7
Yellow fever	0	0

"INSTANTANEOUS" REMEDY FOR LUMBAGO.—Professor Burggraeve, Germany, recommends the following: ℞. Collodion, tincture of iodine, liquid ammonia, equal parts. M.—Sig.: Apply widely over the parts with a camel's-hair brush.

ARTIFICIAL HUNYADI JANOS WATER FOR CONSTIPATION.—℞. Magnesii sulphatis, sodii sulphatis, āā ℥ ss.; potassii sulphatis, gr. ij.; sodii bicarbonatis, gr. viij.; sodii chloridi, gr. xx.; aquæ ad ℥ viij. M.—Sig.: Wineglass before breakfast.

FORMULA FOR RHEUMATISM (St. Luke's Hospital).—℞. Potassii iodidi, ʒ iij.; vini colchici seminis, ℥ ij.; tincturæ opii camphoratæ, ℥ ij.; tincturæ stramonii, ʒ vj.; tincturæ cimicifugæ, ℥ iij. M.—Sig.: Teaspoonful three or four times a day.

SOOTHING MIXTURE FOR CONSUMPTIVES.—Dr. J. B. Johnson, of Washington, writes to the *Medical and Surgical Reporter*: "Of all the mixtures for stimulating the consumptive patient, allaying his cough, and quieting his nervousness, I have found none equal to the following: ℞. Syrup liquorice root, ℥ j.; aromatic syrup rhubarb, ℥ ss.; fluid extract of opium, ʒ j.; liquor ammon. acetat., ℥ v. M.—Sig.: Shake well. Dose: A tablespoonful every two or three hours. Patients become very fond of this mixture, and it in nowise interferes with the stomach or appetite. Should constipation ensue, it is easily overcome by an occasional dose of comp. liquorice powder.

INEQUALITY OF PUPILS IN HEALTHY PERSONS.—From an examination of one hundred and thirty-four healthy recruits, Dr. G. S. Ivonoff, of Kïrïlov, came (*Vratch*, No. vii., 1887, p. 162) to the following conclusions: 1. Equal or symmetrical pupils, as well as equal or symmetrical halves of the face, are met with but very seldom, the former only in nine per cent. of the persons examined, and the latter only in 2.2 per cent. 2. The inequality or asymmetry is probably dependent upon an asymmetrical development of the cerebral hemisphere. 3. In 54.5 per cent. of persons, the left pupil, and in 73.9 per cent. the left side of the face, is larger than the right one.

FATAL POISONING FOLLOWING TWO VAGINAL DOUCHES WITH CORROSIVE SUBLIMATE SOLUTION.—Fleischmann, of Prague, has reported the following case (*Therapeutic Gazette*): A perfectly healthy primipara, aged seventeen, exhibited no symptom of kidney disease or of any other complication of pregnancy. To disinfect the vagina before labor two douches of 1 to 2,000 solution of sublimate were given, one before and one after examination by a midwife. It was noticed that a small amount of bloody mucus was expelled from the vagina after the douches. In a few hours abdominal pain, diarrhœa, and a rise of temperature occurred, all the symptoms and lesions of mercurial poisoning developed, nephritis, salivation, and continued diarrhœa, and, after giving birth to a living child, the patient died in coma on the ninth day after

the douches were given. The pathological anatomical diagnosis made at the autopsy was "corrosive sublimate intoxication, acute nephritis, dysentery, stomatitis and pharyngitis in the stage of ulceration, parenchymatous degeneration of heart and liver, lobar and lobular pneumonia, bilateral acute cystitis." On investigation it was found that after receiving the douche the patient had left her bed and gone about her work in the ward. It is not probable that any considerable amount of fluid remained in the vagina after the douche, as all ordinary precautions were taken to secure its expulsion. It is, however, quite possible that some of the fluid may have gone into the uterus and become absorbed by any superficial lesions which had occurred in the beginning dilatation of the os uteri. It was also true that the patient had diarrhœa before the douches were given, and in his remarks upon the case Fleischmann calls attention to the danger attending the use of sublimate in puerperal patients in whom any lesion or disordered condition of the kidneys or bowels exists. He quotes the words of a well-known obstetrician, who asserts that the use of sublimate should be limited to the disinfection of the external genitalia and hands and instruments.

Drugs which Increase and Drugs which Decrease the Secretion of Milk.—Giurleo calls attention to the peculiar properties of *Ditana digitifolia*, which, he claims, possesses the power to stimulate the secretion of the mammary glands. The author found an opportunity to try the remedy on a number of wet-nurses, and pronounces himself as extraordinarily satisfied with the results obtained. In some instances, in which the secretion was almost wholly absent, the ingestion of an infusion of the plant produced a copious supply of milk. In Italy an ethereal tincture of *Ditana digitifolia*, combined with syrup, has been known for a long while under the name of "galatiofore." The blossoms and buds of the plant, besides, possess diaphoretic properties. The same author asserts that *Rhamus alaternus* and *Ligustrum vulgare* have properties precisely opposite to those of *Ditana digitifolia*—*i.e.*, they decrease the secretion of milk. The author uses an infusion of these plants (forty-five grains of the leaves to six ounces of water), and orders for several days this quantity of the infusion to be used up twice a day.—*Therapeutic Gazette.*

Bright's Disease.—Professor Dieulafoy says, in relation to Bright's disease, that the nice points that authors try to make as to the particular form of lesion that exists in any given case will all fail you generally at the bedside. That, in fact, all the different lesions are often found in the same kidney, and as to which one predominates is a point that can only be determined with certainty by a post-mortem examination. His treatment all resolved itself into a milk diet and blood-letting. He insists on blood-letting whenever the patient presents any symptoms that portend uræmic convulsions. Professor Jaccoud's treatment is the same, in addition to which he is now using the inhalation of oxygen gas. He says that the number of casts or the amount of albumen in a given case he considers of less importance in a prognostic point of view than the specific gravity of the urine.—*Paris Correspondent of the Chicago Medical Journal.*

Peptone Suppositories.—Sauter prepares these suppositories with cacao butter, each containing twenty-five grains of peptone; they are mixed, and kept cold to prevent the fat from becoming rancid. In cases where patients cannot be nourished in the normal manner, they serve an excellent purpose, fifteen grains of dried peptone equalling two and one-half drachms of meat in nutritive value. Children may be given one suppository four times daily; grown persons, two or three times daily. The suppository should be lubricated with olive-oil, and the rectum previously cleansed by an enema.—*Therapeutic Gazette.*

Salol.—Dr. Kleefeld (*Berliner klin. Wochenschr.*, No. iv., 1887) gives the following report on the action of salol, a substance composed of sixty per cent. salicylic acid and forty per cent. carbolic acid: "The composition of salol induced me to give it a full trial in the town hospital (Goerlitz) during the last month, and the very satisfactory results compel me to bring it before the notice of the profession. According to our experience of salol in thirty-five cases (in which a thousand separate doses were administered) it has, like sodium, salicylate and antipyrin, a specific influence in rheumatic polythritis, but is preferable to them for the following reasons: 1. No untoward symptoms, such as collapse, arvomiting, etc., follow its use. Singing in the ears is rarely complained of, and is never severe. 2. The drug has no taste or smell, and is pleasanter to take than either of those just mentioned. 3. Its cost is low, the wholesale price in Germany being 30 marks per kilo.—30s. for 2½ lbs. The full dose, beyond which we have never found it necessary to go, is two grammes (half a drachm) three times a day, but half this amount has often been sufficient. Finally, I am of opinion that salol is a very acceptable addition to our materia medica." Dr. Georgi, Dr. Kleefeld's assistant, will shortly publish details of the cases thus treated.—*British Medical Journal.*

Piperonal.—Piperonal is the aldehyde of piperonilic acid, which is obtained from the oxidation of piperine. It crystallizes in small, colorless prisms. Its odor is that of vanilla; its flavor like that of menthol, but more lasting. It is insoluble in cold water, but soluble in alcohol and ether. Dr. Riccardo Frignoni first discovered its remarkable antipyretic properties. It is given in doses of 75 ctgr. every two or three hours. When given in larger doses it causes nausea and eructations, but produces no more serious results. It is principally valuable as an antiseptic.

Time is Money.—Patient (to young doctor): Why do you charge me so much, doctor? I had a similar trouble last year, and Dr. Pellet cured me for half this amount. Young Doctor: How long did it take him to cure you? Patient: Three days. Young Doctor: Well I've been working on your case for nearly two weeks. You can't expect to get two weeks' work for a three-day price.

Paris Hospital Therapeutics.—It may be useful to give, in a short way, as complete as possible, the kind of medicinal treatment employed in the hospitals, and we take the service of Professor Germain Sée as a guide. The following is from the official book of the Salle (or Ward) St. Jeanne, Hôtel-Dieu:

Diagnosis.	Treatment.
Anæmia	Hæmoglobine and pepsin.
Chlorosis	Sodii arsenias.
Zona	Antipyrine, 4 gm.
Hemiplegia	Todd's potion.
Peri-uterine phlegmon	Injections, terpine, nux vomica, and gentian.
Syphilis, cerebral	Biniodide of mercury, sulphur-baths.
Chlorosis	Ferri et potassii tart., sulphate of aconitine.
Albuminuria	Tannin pill, ergotin pill, terpine pill.
Mitral insufficiency	Sparteine sulph., convallaramin.
Pericarditis and aortic ret	Iodide of potass., digital., sparteine.
Myocarditis	Caffeine, sparteine.
Thoracic varix	Tinct. hamamelis, antipyrine, Vichy water.
Typhoid fever	Charcoal powder, naphthaline, quinine sulph., rectal injections.
Amyothropsia	Pill opium, mercurial frictions.
Mitral insufficiency	Digitalis infusion.
Dyspepsia	Charcoal powder, benzoate of soda, terpine.
Diabetes	M. Sée's régime, arsenic.
Hydroarthrosis	Antipyrine.
Phthisis	Arsenic, pill opium.
Dilatation stomach	Ipecac powder (5 ctgr.), cocaine hydrochl. (5 ctgr.); suppress all vegetables.
Not made	Jalap.
Emphysema	Terpine, iodide of potassium, pill opium, sparteine sulphate.

—*Phila. Med. Times.*

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Original Articles.

NAPHTHOL.

SOME OBSERVATIONS UPON ITS USE IN DISEASES OF THE SKIN.[1]

BY CHARLES W. ALLEN, M.D.,

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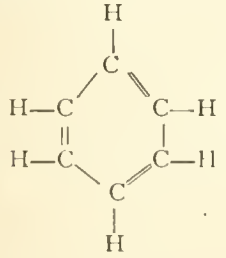
BEFORE entering upon a consideration of the therapeutic value of this comparatively new remedy, let us direct our attention for a few moments to the study of its chemical nature and the arguments to be drawn from this standpoint why it should be a drug of value to the physician. New remedies are being forced upon the profession faster than their names even can be committed to memory, and it is not to be wondered at that the busy practitioner, as a rule, practically and justly, too, ignores many of these new drugs, until those whose work and opportunities favor experimentation and investigation have determined their just value and separated those of real efficacy from the worthless. I believe the good book admonishes us to "prove all things, hold fast that which is good," but the man who hastens to carry out this precept by trying upon his private patients every new remedy proposed, will frequently find cause for regret, and his patients will often find it to their advantage to seek advice elsewhere.

I presume, therefore, that there are present to-night some who have had but little experience with naphthol, and that it will not be amiss to consider it from a chemical as well as a clinical basis, in order to appreciate better its *raison d'être*, and why, theoretically, it should be as useful as experience proves it *to* be. To premise, then, naphthol is a product of coal-tar. Now, this does not imply that the substance is found, as such, in coal-tar, but that it is produced indirectly from a substance which is so found. The substance from which it is directly obtained is naphthaline, a prominent constituent of coal-tar.

In the same way thousands of other bodies known in medicine, science, and art are produced, and are all known as coal-tar products.

Now, coal-tar itself, as is well known, is composed of a series of similarly or rather symmetrically constituted bodies. The most simple of these bodies is known as benzol, having for a formula C_6H_6, the molecule of which is graphically represented by a hexagon, thus:

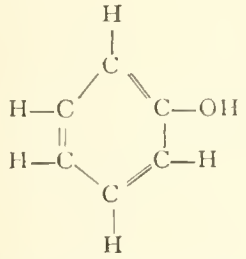
Benzol.—



This is known as the benzol nucleus, upon which other bodies are built.

Of this body there are several variations found in tar, in which one or more of the hydrogen atoms are replaced by other radicals. One of the most important of these is phenol or carbolic acid, the same being a benzol molecule in which one hydrogen atom has been substituted by an oxhydrogen radical thus:

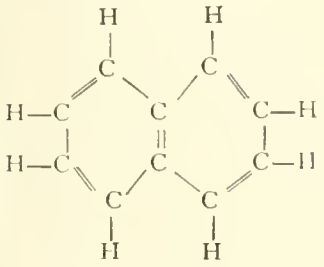
Phenol.—



Giving a formula C_6H_5OH.

Now naphthaline is very similar to benzol in its chemical constitution, being simply a double molecule of the latter.

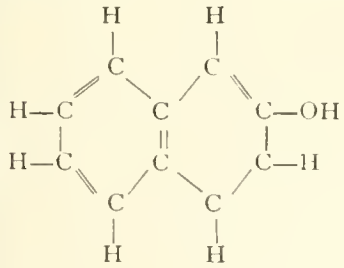
Naphthaline.—



Giving the formula $C_{10}H_8$.

Now, in the same way that phenol is derived from benzol, we find that naphthol is derived from naphthaline, and by substituting again in this double molecule an oxhydrogen radical for a hydrogen atom, we have

Naphthol.—



Giving the formula $C_{10}H_7OH$.

Naphthol is known commercially as alpha-, beta-, and hydro-naphthol. The distinction between the first two is due to the different positions of the OH radical in the molecule. The constitution of hydro-naphthol is not definitely known, but it is claimed by some to be synonymous with beta-naphthol. There is probably very little difference in the therapeutic action of these two products.

Beta- or hydro-naphthol is, then, the drug, now employed for external application, of which we speak.

It is a solid body, slightly soluble in water, having a peculiar odor, which, however, is not a very strong nor disagreeable one. It occurs in grayish-colored scales, or when redistilled as white, yellowish, or pinkish-white, large, leaf-like scales. I pass for inspection several varieties of beta- and hydro-naphthol, now to be had in New York. The imported article, prepared by Merck, in the first bottle I pass, is that which I first employed and

[1] Paper read before the Manhattan Medical and Surgical Society, April 2, 1887.

with which I have had the most experience. It has a stronger, more pungent odor than the others, and a strong whiff of it will probably cause sneezing. The second specimen resembles it in color but is more finely divided, the scales being more powder-like and the odor is much less pronounced. This is the preparation put upon the market under the name of hydro-naphthol.

The third specimen is a purified naphthol almost devoid of odor. As you see, the scales are large and flaky, and present a beautiful appearance. The next specimen is one of alpha-naphthol, which I am sorry to say is to be found upon some dispensing shelves. The reddish crystalline mass in the next bottle is an example of the impure drug, still sold and dispensed in some public institutions, if not in private shops.

Hydro-naphthol makes a darker solution in alcohol or ether than the others, but clinically it has given equally good results in my hands so far as I have employed it. Naphthol is soluble in alcohol, ether, the fixed oils, but only very slightly soluble in water. It can therefore be employed in almost any manner desirable. I have used it mostly as an ointment or collodion dressing, but have also at times employed solutions in alcohol and oil. I show you a solution of the drug in flexible collodion which I have had prepared, and you see it makes a clear brown-colored paint. I have been much pleased with this fixed dressing, and have found it of value in psoriasis, eczema, syphilitic ulcers, and a variety of other conditions

I also show you some naphthol soaps, of five per cent. strength, which are now obtainable in the shops, and which appear to me to be useful in many affections in which baths are indicated, and they can be used in conjunction with ointments or other preparations.

Unna, of Hamburg, has included among his salve and plaster muslins one of naphthol. This I have not used as yet, but theoretically it should prove an excellent application. Just now these muslins are not to be had in this city, the leading drug houses will have a supply within a short time.

I have requested some well-known manufacturers to make me some naphthol plasters, and I hope to report upon their use at a subsequent meeting.

Tar has ever been one of the most highly prized substances for external employment in diseases of the human integument. In eczema, in psoriasis, in the parasitic diseases, and in all conditions attended with pruritus some preparation, made with one or the other forms of tar has often been found to give relief and speedily prove curative. Until chrysarobin was introduced for the cure of psoriatic lesions, tar was the great remedy for this disease. Now tar, as known in therapeutics, is a product of the destructive distillation of wood of various kinds, giving, according to the variety employed for the process, the ordinary pix liquida, or that known as pix burgundica, canadensis, or one of the derivative tarry oils, such as oil of cade (oleum cadini), oil of white birch (oleum Rusci), oleum fagi (beech), etc. Now, in hospital practice the application of tar and tarry preparations does well enough, but in practice in private families it will not do. Again, children and those possessed of delicate integuments will not tolerate its application. There are, furthermore, individuals who show a decided idiosyncrasy as regards tar, and at its first application suffer from inflammation, redness, burning heat, and intolerable itching in the parts to which it has been applied. For these reasons, and because of its, to many, objectionable odor and staining properties, and the fact that it occasionally produces toxic symptoms, it becomes an unavailable drug in many cases, although its virtues may be well recognized.

This well-known therapeutic value of tar is explained by a study of the constituent parts of coal tar in a measure, for all tars are quite similar, chemically. The presence, however, of a large amount of benzol (one to two per cent.) in coal tar makes this less desirable than the wood tars as a therapeutic agent; besides there is an absence of all balsams and ethers, which are peculiar to the wood tar and make it valuable.

Now, although coal tar is not, in its crude state, applicable to skin therapeutics, the presence of very large quantities of carbolic acid, naphthaline, and other more complex multiplications of the benzol nucleus has made it indirectly of vast importance in medicine.

When coal tar is distilled, the most volatile products, such as benzol, toluol, etc., come away first, and under a greater heat crude carbolic acid comes over.

Carbolic acid was first discovered some forty years ago, by Calvert, and some twenty years later became recognized as a valuable disinfectant. In course of time its value in skin diseases was recognized, but it never supplanted tar, although in many respects it has served a useful purpose. The knowledge of its antiseptic properties has lately led chemists to believe that, owing to the similar chemical construction of benzol and naphthaline, if the derivative of the former possessed such marked properties, the derivative of the latter should prove of equal value. Naphthol has therefore been elaborated, and for a number of years has been subjected to trials and experiments to prove its value. Kaposi first recommended it as an application in dermatology in 1881, and in the *Wiener Medic. Wochen.* of July 29, 1882, gives a tabular statement of the cases treated at his clinic from April, 1881, to the end of March, 1882.

The cases aggregate 710, 454 of them being cases of scabies.

He regarded naphthol as one of the essentially curative ingredients of tar, and used it as a substitute for the latter.

His observations led him at this time to regard naphthol as a very active remedy, and one never to be employed without due caution. He found it of greatest benefit in scabies, a single application in many cases being sufficient to effect a cure. He used in this disease the following formula:

℞. Axung	100 parts.
Saponis viridis	50 "
Naphthol	15 "
Cret. alb. pulv.	10 "

After being briskly rubbed in, the patient is powdered with starch and wrapped in flannel blankets.

In prurigo naphthol is highly praised, and it gave good results in ichthyosis and eczema. Engelsted, physician-in-chief to the department of cutaneous and venereal diseases in the Copenhagen city hospital, reported, upon his use of naphthol in 1881, that he found it less reliable than linimentum styracis (bals. styracis liq., 200; ol. oliv., alc., āā 50), linimentum Hebræ, or preparations of tar in general.

He regards a solution (fifteen per cent. in alcohol and water) of naphthol as of great value in psoriasis, but not so sure and prompt as an ointment of chrysarobin. For itching diseases he recommended a one-half per cent. solution in alcohol and water (*Hospitals-Tidende*, 1882). Dr. Paul Sombret ("Thèse de Paris," 1883) speaks favorably of the drug in parasitic diseases and their concomitant eruptions, but found it of no value in psoriasis, and although the pruritus of Hebra's prurigo is rapidly dispelled by it, the curative action was found to be no greater than that of other well-known medicaments.

Dr. Van Harlingen read a paper upon the use of naphthol in skin diseases before the American Dermatological Society, August, 1883, in which he reported that he had found it of great service in scabies, and also of some value in psoriasis. In seborrhœa of the scalp he regarded it as a decided addition to our means of treatment. In his hands, however, it had failed to give relief in hyperidrosis, in which troublesome complaint Kaposi had found it useful. In ringworm its effects, he says, are inferior to almost all of the remedies at present used, and in most cases of tinea versicolor it is almost entirely inefficient.

In pediculosis, up to that time, he had had no personal

experience. In eczema it had failed to give the same beneficial results obtained by Kaposi. He was inclined to predict for it a not unimportant place in dermic therapeutics. Dr. Shoemaker read a paper upon the medical use and value of naphthol before the Philadelphia County Medical Society, October 17, 1883 (*Boston Med. and Surg. Journal*, October, 1883). He had found naphthol of benefit in the treatment of oily conditions of the skin, and that in scabies it fully maintained the claim that Kaposi had made for it. He found it also acted well in psoriasis and chromophytosis, as well as in some of the chronic forms of eczema, lessening infiltration, and especially in squamous and fissured forms of eczema. In fetid exhalations from the feet, bromidrosis, etc., Shoemaker recommends naphthol mixed with talcum, and dusted into the shoes and stockings.

Closely allied substances used in the therapy of the skin are carbolic, benzoic, salicylic, chrysophanic, and pyrogallic acids, many of which have a marked beneficial influence on those diseases in which tar was formerly found to act well. I do not propose to claim for naphthol that it will displace any of these named substances, but that it is in many respects preferable to tar and carbolic acid. At the present day it is an indisputable fact that no drug removes the eruption of psoriasis with the same certainty and celerity as chrysarobin. Pyrogallol acts well in many cases of this disease, as I have found by repeated trials, and has the advantage over chrysarobin of not producing irritation of the surrounding skin and discoloring both skin and clothing. I have notes of several cases of psoriasis in which the application of naphthol collodion has greatly benefited the patient, removing the scales and decreasing the thickened patches after a few applications.

Naphthaline is a substance which has been known to chemistry for some time, but has only recently found a practical application in medicine. It exists as such in coal tar, and is obtained from it by distillation at a high temperature, and occurs as white, glistening crystals. It has an aromatic odor and a burning taste, is soluble in hot alcohol, ether, and benzine, but not in water.

Besides having been recommended and, indeed, quite largely used internally in various intestinal disorders, it has had somewhat of a reputation as a dressing for wounds. When used for this purpose naphthaline should be purified by redistillation. It is said that naphthaline crystals can be better powdered by the addition of boracic acid. It is said to excite granulation in ulcers when applied in the strength of one to four each of alcohol and ether. Naphthaline, when applied to the skin continuously in strong solution, has sometimes been followed by irritation of the urinary passages, and even hæmaturia.

Dr. Lindenbaum (*St. Petersburg Med. Wochensch.*, June 2, 1883) recommends applications of naphthaline in frost-bite, and it has also been praised as a local application in erysipelas.

I show you a specimen of this substance, which was sent to me by a druggist upon an order for naphthol, and I wish to warn you against this error, which may lead you to attribute ill success to the drug when this error is the cause of your failure to secure the results expected. Naphthaline undoubtedly is an excellent drug, but it is not the same thing as naphthol, and does not give the same results, and there is no excuse for its being furnished when naphthol is ordered. My own experience with naphthol has extended over five years, but I have employed it more extensively during the past year than formerly. Indeed, the greater part of the two hundred and eighty cases of which I have record and now report, have been treated during this time, and many of them during the past six months. Some, on which treatment has but recently been commenced, I have not included, and in the neighborhood of one hundred cases of scabies treated in an institution I have also omitted. In these, partly because the nursing facilities could not be thoroughly carried out, and partly, as I now suspect, because naphthaline was being furnished instead of naphthol, as ordered, many of the cases did not improve rapidly, although many, on the other hand, soon recovered. The treatment was abolished, and sulphur baths were substituted to complete the cure.

In institutions, I may say, the treatment of scabies is not always satisfactory where many inmates, as here, are simultaneously affected, for as fast as one is cured he may become reinfected from others or from the bed-clothing, unless proper facilities are afforded for isolation.

I have preserved record of 280 cases in which I have employed naphthol. The diseases were distributed as follows: Eczema, 67; ulcers, 23; scabies, 32; impetigo, 21 (mostly from ped. cap., face, and scalp); pruritus, 10 (1 p. ani, 1 hiemalis, 3 senilis); pityriasis cap., 13 (6 males, 7 females; all more or less associated with alopecia); pityriasis cap., 6 (not associated with alopecia); alopecia premat., 5 (not associated with pityriasis); alopecia areata, 3; pediculi capitis, 12; furunculosis, 8; psoriasis, 7 (1 of scalp; in 2 cases collodion paint was used); ulcerating syphilis, 9 (1 vegetating syph. of nose); dermatitis, 9; pediculi corporis, 5; combustio, 2; epithelioma, 2; ecthyma, 3; acne, 4; tricophytosis, 10 (2 barbæ, 7 cap., 1 corp.); abscessus, 1; œdema and excoriation, 1; prurigo, 2; erysipelas, 1; trauma, 2; intertrigo, 1; favus, 4; sycosis, 3; ecz. marginatum, 2; fissure, 1; herpes, 1; urticaria, 3; pityriasis maculata et circinata, 1; dermatitis exfoliativa, 1; dermatitis squam 1; acne rosacea, 4; total 280.

Eczema.—The 67 cases of eczema represent a variety of forms of the disease. The scaly varieties were found to be those most benefited. In the moist forms the irritation produced by naphthol was too great, unless used in a mild form, as in a starch-paste in strength of from five to fifteen grains to the ounce. The feature of itching was almost always relieved, but the application at first causes smarting if strong. Eczema of the scalp was almost always greatly benefited, and several cases were quickly cured. Internal treatment was usually employed at the same time.

In several cases the use of naphthol was abandoned for tar and zinc, but in almost an equal number, in which tar had produced irritation and aggravated the condition, naphthol was substituted and acted well.

Ulcers.—Old chronic, indolent, and foul ulcers were stimulated by naphthol and usually improved. Syphilitic ulcerations, I found, were more satisfactorily treated by naphthol than by iodoform, and appeared to have the fetor destroyed more effectually, while it assisted the internal treatment in bringing about healing. This was especially noticeable in those extremely foul-smelling syphilitic ulcerations of the scalp.

In scabies, with the exception of a few cases which were seen but once, and the result thus left doubtful, it proved curative in a short time, often after one prescription, and rarely more than two were required. Where the patient can be controlled and the application thoroughly made, it will undoubtedly be found all that has been claimed for it.

Impetigo.—In impetigo and impetiginous eczema, which in most of my cases were associated with pediculi capitis, naphthol ointment gave great satisfaction, and speedily caused a disappearance of the lesions.

Pruritus.—In general idiopathic pruritus, pruritus hiemalis pruritus senilis, and pruritus ani, it invariably acted well, giving quick relief and proving often speedily curative. One patient with an obstinate pruritus ani of many years standing, finds relief from the application of the naphthol soap I have shown. A ten per cent. ointment will cause severe burning if the parts have previously been irritated by scratching, but the burning ceases after a few minutes and the itching frequently does not return for several days. Carbolic acid has been regarded as the great anti-pruritic, but naphthol appears to me quite as efficacious, if not more so, and has advantages over it besides.

Pityriasis capitis.—Dandruff of the scalp, whether associated or not with alopecia, has been without exception cured. (Sometimes, to be sure, relapses are noted, as is the case when other remedies are employed.)

Alopecia, when due to this condition, has in all cases been improved, and in seven of the patients, who were ladies, has been practically cured. There were three cases of alopecia areata in the list treated with naphthol. Two were brothers living together. One made a remarkably rapid recovery while applying daily to the bare spots beta naphthol crystals in substance, rubbing the substance well in with his fingers. The other had obtained, at the time I saw him last, a new crop of fine hairs after using a ten per cent. ointment, having previously had the spots blistered with blistering collodion, and using other stimulating applications. The third case disappeared from observation before the effects of treatment were noted.

In *pediculi capitis* results were always highly satisfactory, the eczema and other changes due to irritation quickly subsiding under the treatment.

In treating *pediculi vestimenti*, or *corporis*, the results were all that could be desired.

In the cases of *furunculosis* mentioned, I used a drachm or half a drachm of naphthol to an ounce of lard or vaseline and avoided poultices. The patients reported that it "drew" well, and in all the cases I shared the satisfaction of the patients. Sulphide of calcium or a tonic was given at the same time, with one or two exceptions.

One case of *carbuncle* upon the neck was likewise treated in this manner, and it gave the patient as little discomfort and healed as quickly and as well without lancing as any I ever treated myself or have seen treated.

Seven cases of *psoriasis* are recorded. One, of the scalp, was cured in a short time. Two now under treatment, in which the collodion is being applied, are doing very well. The patches lose their scales and disappear as quickly as they often do under chrysarobin, without the danger of inflammation of the surrounding skin and the disagreeable feature of staining both skin and clothing.

In *dermatitis* the results have been favorable, but strong applications must not be used.

In *tricophytosis* of the scalp in children I have been pleased with the use of naphthol. In adults where the lesions are upon the skin, and in tricophytosis barbæ, I cannot speak so favorably.

In two cases of papular eczema closely resembling Hebra's prurigo, it acted like a charm. In one, arsenic was given conjointly with it, but the relief from the intense pruritus at least was unmistakably due to the naphthol.

In *favus*, of which there were four cases, its benefit consisted in a removal of the sickening odor and in keeping the heads in good condition in the intervals of more energetic treatment. Its beneficial action was marked and appreciated by the patients themselves. I believe it might prove curative if properly introduced within the hair follicles deep down where the spores have a hiding-place and stronghold.

In *eczema marginatum* and in *urticaria* it appeared to be a valuable application. It has been said to aggravate urticaria, but I have not found it so. In the other affections on the list I do not know that it can be said to have any advantage over hundreds of other local dressings.

Whenever antisepsis is desired, and bacteria or germs are to be destroyed, I believe naphthol has an important rôle to play; it is a valuable detergent and deodorant. In almost all diseases of the scalp it appears to exert an influence for good.

Does naphthol exert any deleterious effects? Under my own personal observation it never has, but I have had reported to me that three patients with scabies in my wards at the Charity Hospital were thoroughly rubbed at the same time with an ointment of naphthol applied to the whole surface of the body. Some hours later they were all seized with symptoms closely resembling those of intoxication from alcohol—singing, shouting, and acting in a dazed and disorderly manner. The house surgeon made the diagnosis of naphthol intoxication, and it was only reported to me after the patients were discharged. The orderly was sure they had had no alcohol, and thought the drug which had been applied had affected them. I have not been able to get a full account of the condition of these men at the time, but hope to obtain a full report from the physician who saw them.

Neisser has reported toxic effects (*Centralblatt für die med. Wissenschaft*, No. 30, 1881).

Kaposi saw a boy suffer from hæmaturia, ischuria, vomiting, unconsciousness, and eclampsia.

Blistering and irritation of the skin have been reported by Squire (*British Med. Journal*, January 14, 1882).

Shoemaker in his valuable paper refers to these reports of poisoning, and gives the results of his experiments to prove the perfect harmlessness of pure odorless naphthol. He experimented on rabbits, and also on medical men who volunteered. Two gentlemen began by taking a quarter of a grain every two hours, and increased the dose, until on the seventh day they were taking five grains at a dose, twice daily, without the least bad effect, and no production of albuminuria. He concludes, then, and his conclusion seems to me highly probable, that the drug used abroad at the time the toxic effects were reported was an impure article, similar, perhaps, to the reddish crystalline mass I have shown to-night.

Be sure, then, the drug you use is pure, and no ill effects need be feared.

Now, a word in conclusion regarding the manner of using naphthol and the various preparations of it.

The mode of applying naphthol most commonly employed by myself has been to order an ointment made with vaseline or lard, containing from five grains to a drachm, rarely more, to the ounce.

I have used lanolin as a base in some instances, but have recently given up its use.

Where a penetrating effect is desired, I have used a salve made in the following proportion:

℞. Naphthol (beta) ..... 5 parts.
Adipis ..... 10 "
Lanolin ..... 85 "
M.

The following paste has given me greater satisfaction than the salve:

℞. Naphthol (beta) ..... gr. v. to xxx.
Pulv. amyli ..... ℥ iij.
Adipis ..... ℥ j.
M. Ft. pastam. Sig.—Apply thickly.

To this oxide of zinc may be added at times with benefit. The fixed dressings with naphthol serve a useful purpose.

Having observed the marked benefit often to be derived from the variously medicated collodia and other fixed dressings, I had a naphthol collodion prepared, and have employed it quite extensively. It acts well in psoriasis, ulcers, tricophytosis, etc.

Mixed with starch powder, talcum, Fuller's earth, or mineral earth, it has given excellent results in moist syphilitic lesions about the anus and scrotum, also in intertrigo, venereal warts, and ulcerations.

I have also mixed the powdered naphthol with boracic acid or oxide of zinc to apply to moist or suppurating surfaces.

Among the various preparations of naphthol we find soaps. In the *Pharmaceutische Rundschau*, October, 1885, Unna has a valuable article on soaps. Among other things, he says that carbolic soap has the least

medicinal value, in his opinion, of all those advocated. The more stable substances—tar, camphor, and naphthol—offer surer success.

Among the soaps he has put forward are a five per cent. naphthol and a five per cent. naphthol and sulphur soap. These are useful where an antiseptic is required for the hands, or for bathing in a great variety of skin diseases. I have found these soaps useful in pruritis and in winter itch.

Aside from the important place I believe naphthol is destined to fill as an antiseptic, I predict for it a place as a remedy in dermatology alongside of tar and many other valuable drugs, rather than as a substitute for them.

102 East Fifty-seventh Street.

SOME NEW FEATURES IN THE MECHANICAL TREATMENT OF LATERAL ROTARY CURVATURE OF THE SPINE.[1]

By CHARLES F. STILLMAN, M.S., M.D.,

Clinical Professor of Orthopedic Surgery in the Woman's College of the New York Infirmary; Orthopedic Surgeon to the New York Infant Asylum.

In the treatment of lateral rotary curvature of the spine, the reduction of the deformity by traction should be effected before any other measures are adopted, and although of primary importance, too little emphasis has been placed by orthopedic writers upon this most necessary procedure.

In the erect position of the body, the head and upper extremities constitute a burden, which naturally presses the vertebræ together. As a result of having its constituent vertebræ forced together in the abnormally rotated position characteristic of this deformity, the spine becomes restricted in its movements and locked; and this locking is so firm and unyielding while the burden is borne upon it, that this burden must first be removed by *traction* before other treatment can be thoroughly effective.

It is simply useless to attempt to overcome the abnormal curves by mechanical means, however perfect, without first exercising traction; and the great variety of ingenious braces which have during the history of modern surgery been devised to relieve this deformity, without success, are simply monuments to attest the truth of this statement.

Traction for the relief of lateral rotary curvature may be directed in either of four directions—(1) *horizontal*, (2) *vertical*, (3) *oblique*, or (4) *curved*. The first, or horizontal traction, is the governing principle of the various flat extension couches, which are now happily obsolete; while the second, or vertical traction, is the principle on which is based the practice of suspending the patient in a properly devised sling, and while thus suspended, a plaster-jacket is usually applied to retain the improved position thus secured.

When the patient is suspended, it will be noticed that the abnormal curves have become modified by the traction force of the suspended weight. The vertebræ being thus unlocked and freed from the pressure of the burden (the head and upper extremities), tend to rotate into their normal relations; and if the tone of the muscular system be not too much impaired by long continuance of the deformity, and no absorption changes have been caused in the osseo-ligamentous and cartilaginous structures by pressure, so that when the patient's spine resumes its burden no reappearance of the abnormal curves takes place, no mechanical after-treatment with braces will be necessary.

If, however, the suspension is followed by the resumption of the abnormal curves, *brace-treatment* becomes a positive necessity, and may be either *passive* or *active*.

A *passive brace* simply serves to hold the spine in the position assumed when the brace was applied; while an *active brace*, by means of levers or elastic force, tends in addition to remove the deformity.

After employing suspension or vertical traction to unlock the spine, Sayre advocates the employment of the plaster-jacket as a splint to retain the spine in a correct position, and thus prevent, as far as possible, resumption of abnormal curves.

Now, the *plaster-jacket* is a *passive brace*, and is not actively effective even in this capacity, owing to the fact that it embraces only part of the spine. Especially is this the case where the primary curvature is high, for the jacket in these cases, holding but half of the spine, the latter, being undulatory in its movements, is not encompassed to prevent entire resumption of its abnormal curves when the superincumbent weight is again sustained.

Besides, the plaster-jacket, being passive, encircles the trunk in a rigid frame, which tends to restrict respiration and the proper exercise of the muscles; and thus, when its use has ceased, if there has been no treatment locally applied to the feeble muscles, etc., relapse is sure to follow.

To avoid this and to allow facilities for local treatment, the jacket has been divided anteriorly, which admits its removal for exercise, etc., but once so divided, it does not prevent the resumption of the abnormal curves to the same extent as before; so that, while the suspension—*i.e.*, vertical traction—unlocks the spine, the passive plaster-jacket constitutes a very inefficient agent for permanent cure of the deformity, and should be prescribed if an *active brace* can be obtained.

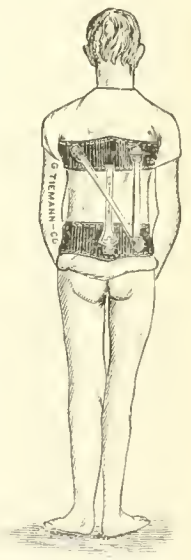


Fig. 1.—Stillman's Vertical Extension Brace for Lateral Rotary Curvature.

Meeting these difficulties in practice suggested to the writer a plan for overcoming them by means of an active brace, which would exert vertical traction by the use of extension-rods, and in 1881,[1] he read a paper before the Surgical Section of the American Medical Association, illustrating a method for dividing the plaster-jacket into two segments and connecting these segments by extension-rods provided with facilities for motion in various directions, and with elastic cords to assist the weakened muscles and produce oblique elastic tension upon the segments of the brace, and thereby upon a corresponding portion of the trunk and spine—the *idea* being to create an *active* jacket, instead of a passive one, which should produce vertical extension, of course not to the extent produced by suspension, but still to an effective degree, and yet allow exposure of surface for the local treatment indicated (see Fig. 1).

Since that time the vertical extension-jacket has been modified to suit the various forms of the deformity, without, however, changing the essential principles. The stretching has in some cases been made by elastic extension-rods, instead of slotted bars and clamps, or the cog and key; and in some cases the rods have been placed on four sides of the body, instead of two, for increased support.

In some cases, also, when the curvature has been high up, a headpiece has been added to allow vertical extension of the whole vertebral column; but these are all modifications which interest the instrument-maker rather than the surgeon, and do not affect the principles involved.

In this manner an *active splint* was formed, which not only partially retained the effect upon that part of the

[1] Read before the Orthopedic Section of the New York Academy of Medicine at its annual meeting, Friday evening, January 21, 1887.

[1] The writer first established his priority, in the matter of dividing the plaster-jacket, in The Medical Record, 1879.

spine between the segments produced by suspension, but also, so long as it was worn, produced permanent tendencies toward the restoration of the back to its normal condition, without interfering with any measures of a therapeutic or physical nature for the amelioration of the disease.

There is, however, a limit to the efficiency not only of splints founded upon this plan, but also to vertical traction itself.

This is primarily owing to the fact that traction in this direction cannot, in severe cases, bring to bear sufficient *oblique* force to overcome extensive rotation; for the value of vertical traction is limited by the amount of weight which is suspended—this being the active agent in the reduction of the deformity, and in many cases sufficient weight cannot be thus utilized without discomfort to the suspended patient; and if the vertical traction-brace be used in such a case, sufficient stretching of the spine to lift the superincumbent weight from between the segments of the brace cannot be produced without too much infringement upon the soft parts, so that there was still something lacking to complete success.

To supply this need the writer devised the method of *backward oblique traction* in the treatment of this spinal affection (see Fig. 2).

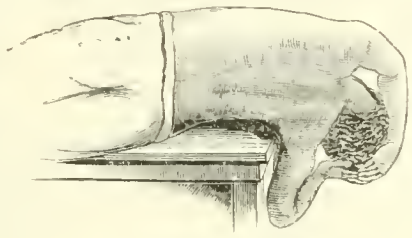


Fig. 2.—Backward Oblique Posture for Reduction of the Deformity in Lateral Rotary Curvature.

This method, as its name indicates, consists in *stretching the spine by traction exerted obliquely backward*, accompanied by *direct pressure against protruding parts*—a feature not possessed by vertical traction, and which tends to reduce the deformity more completely.

To illustrate this principle in detail the patient is placed upon a table in the sitting position, the buttocks being at a distance from its edge corresponding to their distance from the convexity of the dorsal deformity.

The patient then gradually *reclines backward, twisting* at the same time in a direction *opposite* to the twist of the curvature, until the spine is dragged upon by the weight of the head and upper extremities. This, in severe cases, is at first painful, for it tends to exactly *reverse* the abnormal curves. The traction-force is the *burden* which the spine usually bears, and which is the cause of the deformity, so that we have the very weight which, pressing constantly on the spine, causes the deformity, now used as a traction-force to relieve it.

In addition to the *traction*, which from the position assumed by the patient is exerted in an obliquely backward direction, we have *pressure* exerted upon the prominent scapula and ribs by the edge of the table. This is a corrective feature not found in vertical traction, and proves very efficacious.

It may at first seem that such a position as above described would be harsh and painful to the patient, but this is not true, for; practised daily as an exercise, it soon becomes not only tolerable, but grateful to the patient, causing, as it does, the spine to become flexible, and tending to obliterate the deformity more rapidly than any other procedure.

Another method of obtaining this backward oblique traction is to *reverse the process*, allowing the lower extremities to fall over the edge of the table in a position opposite to that of the deformity, this being particularly efficacious in curvatures in which the lumbar region is most involved.

These *postures* should be practised as exercises, and in the less severe cases, accompanied by electricity, gymnastics, etc., the use of the double-bar trapeze, and other adjuncts, is sufficient to correct the deformity without the use of a brace; but if the muscles have become so weakened, or anatomical changes have taken place in the osseo-ligamentous structures, so that the normal curves cannot be retained when the erect posture is assumed, a brace will be found necessary.

This *brace* should be *active*, not passive, and so constructed as to imitate as far as possible the forces exerted in the posture shown in Fig. 2.

Fig. 3.—Illustrating the Curvature when Patient has no Support.

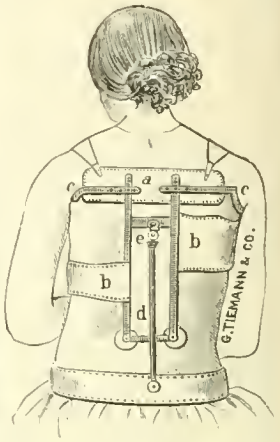


Fig. 4.—Illustrating the Principal Features of Stillman's V-Lever Brace when applied to Patient shown in Fig. 3.

It should insure a *backward oblique traction* and *forward oblique pressure* corresponding to the backward oblique traction-force exerted by the *gravital-force* and the forward oblique pressure occasioned by the *table*.

The brace is made in two parts, and is entirely unlike anything ever before introduced into orthopedic surgery for the treatment of this deformity (see Fig. 4).

A glance at the human skeleton shows that both lumbar and cervical vertebræ move freely upon one another as compared to the *dorsal*, which are restricted in their movements. This dorsal portion of the spine is therefore used as a base for the brace, instead of the pelvis, as in other braces.

The brace is constructed in *three parts*—dorsal, pelvic, and cervical. The *first*, or *dorsal*, consists of a broad pad placed high up across the shoulders, and from this descend two metallic strips, terminating in pads in the lumbar region. From these strips the stiff metallic semi-girths (bb) pass practically around the body, the upper one being over its protbuerant scapula, and the lower one carried around to press upon the protuberant ribs anteriorly.

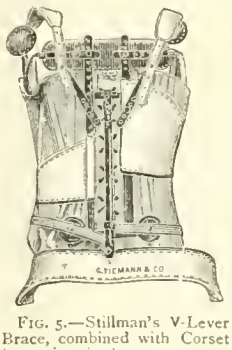


Fig. 5.—Stillman's V-Lever Brace, combined with Corset (posterior view).

From each side of the transverse pad (a) pass axillary crutches (c, c), terminating anteriorly in large pads which lift and press the shoulders backward without impinging or pressing upon the infraclavicular spaces.

The material of which these crutches are constructed is of sufficient firmness not to yield to the twisting efforts of the patient, although they may be bent into any position by the orthopedist's hands, and they serve a very important purpose in regulating the position of the shoulders and upper extremities.

This dorsal portion of the brace may be incorporated into a corset if desired (see Fig. 5), several of the straps which are used to fasten it firmly to the body being omitted in the drawing, as they might tend to confuse

the reader in understanding the construction of the brace.

The *pelvic* portion of the brace consists of a padded pelvic girth which locks in front, is very stiff, and is attached to the dorsal portion by a long bar (d), which terminates superiorly in my compound clamp (e). This clamp has been described before in various journals, and permits the pelvic portion to be fixed at three different angles with the dorsal, to which it is attached. By it we may exercise a *rotary active* force, *an antero-posterior force*, and a *lateral* force, thus bringing a compound twisting force to bear upon the spine. If the dorsal portion of the brace be *first* securely fastened to the body and the clamp regulated properly, when the pelvic portion is secured, we have the body held hyper-erectly, the protruding scapulæ and ribs pressed upon, and the shoulders squared by an *active backward latero-oblique force* from which the patient cannot escape.

The *cervical* portion is only necessary when the curvature is high, and then a chin-piece is used, attached to the dorsal portion by a bar provided with the compound clamp already described; but this portion of the brace is not shown in the drawing. In applying this brace the patient is first suspended so that the abnormal curves may be reduced as much as possible before its application. It will then tend to retain the favorable position produced by the suspension, and, indeed, improve it by means of the active twisting force it brings to bear.

But the use of a brace alone is but a small portion of the treatment of this curvature. *We must also aim to strengthen the deficient muscles during such time as traction is being exerted upon the spine itself*, and for this purpose the writer has recently devised two frames, which are unique and accomplish the purpose admirably with but little fatigue to the patient.

Fig. 6.—Stillman's Vertical Frame for Backward Curved Traction during Exercise.

The first, or vertical, frame (see Fig. 6) produces suspension on the curved board or *curved traction*, and while thus suspended, either partially or wholly, the patient takes arm exercises by means of the weights and pulleys with which the apparatus is provided.

The second, or horizontal, curved frame (see Fig. 7) produced the same results, but perhaps not to the same degree; and their conjoined use not only increases the vitality of the patient by expanding the chest and strengthening the muscles, but tends to diminish the curvature very materially.

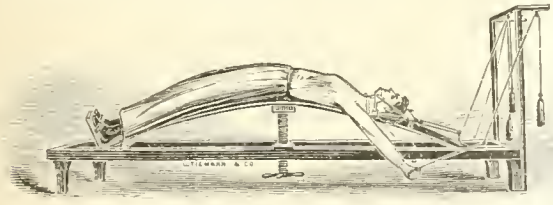


Fig. 7.—Stillman's Horizontal Frame for Backward Curved Traction during Exercise.

The horizontal frame is also used by phthisical patients with good effect, and also in cases of persistent backache, with or without spinal irritation.

In conclusion, it is my opinion, based upon many cases of this deformity, that the best results are obtained by the conjoined use of an *active brace* and proper exercise upon curved frames.

A brace alone is of but little use, serving merely to hold the body erectly; but to exert any *curative power it should be made to fit the patient accurately and be readjusted often*, so as to exert its active effects through all the stages of improvement; and, in addition, the patient should be obliged to take systematic exercise, and, if necessary, should receive the benefit of massage, electricity, and other tonics. The diet and habits of life should be regulated carefully, and all work avoided which tends to increase the deformity.

THE PATHOGENIC MICROBE OF "ACUTE CATARRHAL CONJUNCTIVITIS."[1]

By J. E. WEEKS, M.D.,

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The form of conjunctivitis to which I call your attention is described under different names by different writers. Thus Travers, Lawrence, Mackenzie, Howard, and others term it catarrhal ophthalmia, Mackenzie giving as synonyms catarrhus oculi, ophthalmia purulenta mitior, and conjunctivitis puro-mucosa catarrhalis. Stellwag, Saemisch, Wells, Williams, Noyes, and others give it the name of catarrhal conjunctivitis. Nettleship calls it muco-purulent catarrh. The severer forms of this disease are termed blennorrhœa, and on the occurrence of certain complications the same disease is known under other names. Howard appears to be the only writer who regards this form of conjunctivitis as a distinctive disease. He writes: "This disease is purely specific, and differs in every respect from all other diseases of the conjunctiva. It never runs into perfect chemosis or induces sloughing of the cornea." Mittendorf describes the milder forms of this affection under the name of "simple inflammation of the conjunctiva."

If we glance at the causes of catarrhal conjunctivitis as given by the various writers, and consider some of the expressions of these writers, we must conclude that under this head a number of distinct diseases are included. The causes briefly are as follows: Atmospheric—sudden changes in the temperature, cold rains, draughts of air, exposure to east or west winds, night air, etc. Mechanical—dust and smoke, foreign bodies, wounds; combustion with steam, lime, powder, acids, etc. Transmission from contiguous tissue—as in facial erysipelas, catarrh of the nasal cavities, dacryocystitis, eczema of lids, hordeoli, pityriasis, etc. Accompanying the eruptive fevers—as scarlet fever, measles, small-pox, etc. Asthenopic—as in astigmatism, hypermetropia, insufficiency of ocular muscles. Work with bad illumination, protracted use of eyes, bright light, violent emotion of the mind, high living, use of ardent spirits, etc.

Contagion as a cause of conjunctivitis is admitted by almost all writers. Saemisch goes so far as to say that all discharges from the conjunctiva are capable of producing conjunctivitis when brought in contact with the normal conjunctiva. Mackenzie, Howard, Wells, Williams, and Noyes consider conjunctivitis to be infectious through the atmosphere, but none hint at a possible bacterial origin. In the mild form of conjunctivitis, usually termed catarrhal, brought on by exposure to cold winds, rain, snow, particles of dust, and larger foreign bodies entering the conjunctival sac, exanthematous fevers, errors of refraction, insufficiencies of ocular muscles, close work with insufficient illumination, high living, etc., there is profuse lachrymation and small secretion of mucus with but few leucocytes, but no pronounced muco-purulent secretion. This form does not run a specific course, but subsides as soon as the cause is removed. It is probably not contagious—at least, we do not see it spreading throughout families and communities. In conjunctivitis resulting from more severe injuries—as from combustion from lime, steam, and powder, laceration of the lids and

[1] Read at the Academy of Medicine before the Section in Ophthalmology and Otology, January 17, 1887.

conjunctiva—if one eye only is affected, even if the discharge is purulent or muco-purulent, the other eye remains unaffected, and there is no spread of the conjunctivitis in the family of the patient. Quarantine precautions are seldom resorted to in these cases, as intact, normal conjunctivæ are not affected by contact with the discharge.

There is another form of conjunctivitis, specific in nature, which, in its early stage, is described under this head. Later it develops into trachoma and is then described as such. It is admitted to be contagious, and is the form in which Michel and others have found a coccus, which Michel asserts to be the cause of the disease in one epidemic at least.

We might mention a number of other forms, more or less distinctive, included under the name of catarrhal conjunctivitis in one or all of their stages, but will close the list with one other form, the one that will be described in this paper. In this the discharge is muco-purulent and is highly contagious. The disease runs a specific course and does not tend to destruction of the cornea or to develop into trachoma. It is the ordinary contagious muco-purulent conjunctivitis met with.

The general signs and symptoms of this form of disease are as follows: During the first twenty-four hours after the receipt of the virus nothing abnormal is noticed. In the second twenty-four hours the following occurs in the order named: Slight itching and burning sensations in the lids, congestion of the palpebral conjunctiva, the sensation as of a foreign body in the eye, sometimes very annoying; increased lachrymation, and a not very profuse secretion of mucus, which contains a few pus-cells. On the third day the above symptoms are aggravated, the ocular conjunctiva becomes injected, and the appearance popularly known as "pink eye" is present. The secretion contains more pus-cells and is much more profuse; the lids are glued together in the morning. The secretion, which generally does not mix with the tears (distinguishing it from the pyorrhoic pus of Stellwag), lies in stringy masses in the conjunctival sac, or is heaped up in harder yellowish masses at the inner canthi, the watery or fluid portion having been carried into the nasal cavities by the canalicular system of the lachrymal apparatus. On the fourth day the inflammation usually reaches its height. Then all the symptoms are more marked. Frontal headache and coryza frequently occur, the former in adults only, and the temperature of the body is usually slightly elevated. But slight photophobia is experienced. This stage may last for a week or ten days, with evening exacerbations, but it usually subsides in from three to five days. Some obscuration of vision occurs from deposits of secretion on the cornea. More or less swelling of the lids is present, and during the latter part of the acute stage considerable swelling of the papillary body is observed. The acute passes into the subacute stage, in which the ocular conjunctiva becomes normal, the secretion less profuse and thicker, lachrymation becomes less than normal, no photophobia is present, and the irritation experienced is less. At this stage the enlargement of the papillary bodies often resembles the so-called follicular conjunctivitis of Saemisch. If not properly treated the subacute passés into the chronic stage, in which there is marked congestion of the palpebral conjunctiva, some secretion, and a sensation of dryness due to insufficient lachrymation. This condition may last indefinitely.

Report of cases.—On March 21st Dr. R. O. Born kindly sent a patient to me who was suffering from acute conjunctivitis, with the request that I should examine the rather profuse muco-purulent discharge microscopically. The patient, Anna F——, aged thirty, first noticed that her eyes were sore three days previous to her visit to me. *Status præsens.* The ocular and palpebral conjunctivæ are greatly congested, lids slightly swollen, quite marked photophobia, profuse lachrymation, and mucorpurulent discharge. A cover-glass preparation of the secretion was made, stained with a watery solution of gentian violet, and examined with a one-twelfth oil immersion. *Large numbers of small bacilli were found.* These were aggregated on and in the pus-cells, and some were free in the mucus. The patient complained of frontal headache and had some coryza. By the use of constant cold applications for three or four days, and the subsequent use of mild astringents, the patient recovered in two weeks from the beginning of the attack.

There were two children in the family, one of twenty months and one of four years, both of whom had sore eyes. These cases had passed into the chronic stage. There was no photophobia, and the children did not appear to be troubled by the scanty discharge. The first had had conjunctivitis for two months. The second was a case of six weeks' standing. In both the palpebral conjunctiva was congested and was discharging muco-pus. The secretion from both cases contained many bacilli, such as were found in the secretion from the mother's eyes. By keeping the eyes clean and the use of a zinc collyrium, both children recovered in one week after treatment was commenced.

In frequent examinations of conjunctival secretions at the Ophthalmic and Aural Institute, for some months previous to March 21st, I had never met with this form of microbe. With a view to determining how frequently cases like the ones described occurred, all the secretions from conjunctival diseases that presented subsequently were examined. The bacillus did not appear again until May 21st, when

Peter C——, aged twenty-three, presented himself for treatment. He was attacked on May 17th, and suffered severely. The pain, irritation, swelling of lids, and profuse muco-purulent discharge made it impossible for him to continue his vocation, which was that of a pedler. He had slept but little since the 17th. By the use of cold applications and astringents he recovered in five or six days, but returned again in three weeks with a fresh attack, as severe as the first, which readily responded to the same treatment. On inquiry I found that his wife, three children, and a servant-girl, still had, or had recovered from, a similar form of conjunctivitis. They were attacked as follows:

Russel C——, aged five. Attacked May 1st, both eyes. Discharge still persists.

Thomas C——, aged two and a half. Attacked May 4th, both eyes. Discharge still persists.

Joseph C——, aged fifteen months. Attacked May 7th, both eyes. Muco-purulent discharge still persists.

Eliza C——, aged twenty-eight. Attacked May 9th, right eye only. Much irritation and pain. Recovered.

Katie O'C——. Attacked May 16th, right eye only. The muco-purulent discharge still persists.

When two eyes were affected the disease appeared in one first, following in the other in from one to three days. The children played and slept together. By cleanliness and the use of a zinc collyrium all the members of this family recovered in a few days.

In order to call attention to the complications that arise in this disease the following cases are given:

May 22d.—Gustave V——, aged one. Attacked May 8th. The ocular and palpebral conjunctivæ are still swollen and congested. Muco-purulent discharge profuse. A *false membrane* covers the tarsal conjunctiva of both upper lids, which when removed leaves minute bleeding-points. The membrane is tenacious and comes off whole. The membrane renewed itself after removal, and in spite of repeated removals persisted for about ten days. The child recovered by the use of cold applications, and a zinc collyrium applied after the membrane had almost disappeared. Other members of the family were affected with muco-purulent conjunctivitis at about the same time, without the formation of false membranes. Specimens of the secretion from all showed the small bacillus.

June 2d.—William F——, aged two. Attacked on May 29th, right eye only. June 4th, left eye discharging

muco-pus. June 7th, a few marginal phlyctænulæ appeared on the right eye. With the same treatment as in the previous cases the patient soon recovered. Other members in the same family had the uncomplicated muco-purulent conjunctivitis.

October 20th.—Clara M——, aged eighteen months. Attacked, October 13th. The muco-purulent discharge has been quite profuse. *Status præsens:* The lids are much swollen but are soft. The discharge, which is muco-purulent, is not very profuse, corneæ clear, a dusky white, tenacious false membrane occupies the tarsal conjunctiva of both upper and lower lids, being very thin and narrow below, wide and about one millimetre in thickness above. The membranes commence at the margins of the lids and cover the tarsal conjunctiva, extending to the fornix above. The membranes, although quite adherent, came off whole by rather vigorous rubbing with the sponge, leaving a number of small bleeding-points. This case resembled diphtheria somewhat, and was entered as such, with an interrogation point, by the receiving surgeon. Cold applications were recommended. October 25th, membrane still present but not so dense; swelling of lids less marked. The membrane disappeared in ten days from the first observation, and the child was well shortly afterward. Corneæ intact. The secretion contained many bacilli.

Microscopical examination in the fresh state showed the membrane to be composed of leucocytes, blood-corpuscles, epithelial and short spindle-cells and débris, all contained in a fine meshwork of fibrin. Bacilli, few in number, were found scattered throughout the mass. Microscopically and macroscopically the membrane resembles that found in the so-called croupous conjunctivitis.

November 1st.—Benjamin B——, aged nine, has had a muco-purulent discharge from the eyes nine days. A false membrane is present in this case, with the same characteristics as the one just described, except that the process is not so severe. Recovery without injury to the corneæ occurred. The membrane was present a little more than one week.

From the fact that in the spring of 1884 the disease was wide-spread throughout the southern part of the New England States, it would appear to be epidemic and transmissible through the atmosphere.

From the following, it appears very probable that this form of conjunctivitis may become endemic:

At the New York Infant Asylum, Mount Vernon, muco-purulent conjunctivitis has affected a large number of the inmates every year, for some years back, beginning about the latter part of August and disappearing in January. In 1885 almost all the inmates, mothers and children, were affected. The disease appeared again in 1886, and although those suffering from the affection were isolated as soon as the discharge showed itself, nearly all of the inmates, to the number of three to four hundred, were attacked. By the courtesy of Dr. Coggeshall, the physician in charge, I visited the wards of the institution on December 20th last, and examined some of the inmates. At that time there were more than one hundred cases of conjunctivitis present, of from two days' to six months' duration. The patients had been treated from the beginning with a one per cent. solution of the nitrate of silver applied twice daily. The average duration of the disease in these cases was about four weeks. Phlyctænulæ had been observed in but very few cases. I saw one case in an adult. Blepharitis ciliaris occurred in a small number. False membranes had been observed in five or six of the severer cases, the membrane usually lasting six or eight days. One of the cases that I saw, that had lasted six months, had had a false membrane. One of the doctors and two of the nurses in attendance had been affected. There was no tendency whatever to development into trachoma. Numerous specimens of the secretion were taken for microscopical examination. All contained the small bacillus in greater or less numbers. In none of the cases occurring at this institution had the cornea been affected.

In one of the institutions for the care of destitute children in this city, I observed, in the early part of June last, ten cases of this form of conjunctivitis. They were isolated, and recovered in a short time by the use of cold and astringents. The disease appeared again among the children in September, and within ten days about forty-five children were affected. These were isolated, and were treated with cold applications and a zinc collyrium. The average duration of the disease in these cases was two weeks. False membrane occurred in two or three cases, phlyctænulæ in two, blepharitis ciliaris in two. There was no tendency to the development of trachoma, and no injury to the cornea in any case.

If this form of conjunctivitis is a specific disease, as I hold it to be, the secretion (selected carefully to prevent external contamination), if introduced into the normal conjunctival sac, should produce this form of conjunctivitis and no other. Saemisch, in speaking of this form, writes that the disease produced by contagion does not always resemble the case from which the secretion is obtained. As is known to be the case in other specific diseases, as scarlet fever, small-pox, etc., there is in this a wide range in the severity of the cases. Within this range the following report of experimental cases will, I think, prove the position taken by Saemisch to be untenable. The experiments were made with the purpose of fixing beyond a doubt the contagious character as well as for the purpose of deciding the specific nature of the disease.

March 22d.—The eyes of two rabbits were inoculated with secretion taken from the first patient. No inflammatory reaction followed.

May 21st.—Inoculated two rabbits' eyes again with fresh secretion. Result as before. No reaction. As the rabbit's conjunctiva was not susceptible to the disease, I determined to inoculate the human conjunctiva of eyes where vision had been lost.

Case I.—May 22d.—J. B——, aged fifty-four. Right, phthisis bulbi; left, old irido-cyclitis. Both eyes were inoculated with a small amount of muco purulent discharge taken directly from the conjunctival sac of Peter C——. Half an hour before inoculating the eyes the conjunctival sac of the patient had been cleansed with a $\frac{1}{5000}$ solution of sublimate. The eyes were then kept closed until the secretion formed, after which it was transferred to the normal conjunctiva with a sterilized platinum wire.

May 23d.—No change in the appearance of the conjunctiva. No marked symptoms.

May 24th.—Hyperæmia of palpebral conjunctiva; increased lachrymation; some muco-purulent discharge; no pain.

May 25th.—Quite severe pain at night; patient unable to sleep; lids swollen; ocular conjunctiva injected; profuse muco-purulent discharge. The patient was kept from contact with others and no treatment except frequently washing with water was employed, until the end of the second week, at which time the congestion of the ocular conjunctiva had subsided. Thickening of the palpebral conjunctiva remained and the discharge persisted. From this time zinc was used, and the patient recovered in four weeks from the time of inoculation.

Case II.—May 22d.—J. C——, aged fifty-eight. Right eye inoculated as in Case I.

May 24th.—Lids of right eye glued together in the morning; some discharge of muco-pus during the day.

May 25th.—The inflammation is at its height; ocular conjunctiva deeply congested.

May 29th.—The left eye has become affected and is discharging muco-pus. The subsequent conduct of this case corresponds to that of Case I.

In all, the normal conjunctivæ of five sightless eyes were inoculated, in four of which the typical muco-purulent conjunctivitis was produced. The eyes of one patient who was suffering from trachoma were inoculated

The acute form was produced, with the result of benefiting the trachoma.

The bacilli were present in the discharge from all of these cases as long as it lasted.

After a close study of fifteen or twenty cases of this disease I came to the conclusion that it possessed no tendency to destruction of the cornea or to the formation of granulations. Feeling sure of this, I inoculated my own eye in order that I might more carefully study the signs and symptoms. On June 4th at 3.30 P.M. Dr. F. Smith, at my request, placed a small amount of muco-purulent secretion which had been removed from the conjunctival sac of a patient, with a platinum rod, into the lower conjunctival sac of my left eye.

June 5th.—In the afternoon a very slight burning sensation in the upper lid was experienced.

June 6th.—Slept well. Lids of left eye glued together in the morning (forty hours after the inoculation was made). Ocular and palpebral conjunctivæ congested; lids feel a little stiff and swollen; no chemosis. The discharge of muco-pus was very little until after noon, when it became quite profuse. At 9 P.M. the irritation became so intense that cold applications, by means of iced cloths, were resorted to. This was kept up until twelve o'clock.

June 7th.—The eyelids do not feel as sore as they did last evening; discharge profuse. The painful sensations and the quantity of the discharge increased toward evening. Temperature, 100° F.; pulse accelerated; some frontal headache. Cold applications, commencing at 5 P.M. and continued until 11 P.M.

June 8th.—Was a repetition of June 7th.

June 9th.—Cold applications all day and late into the night.

June 10th.—Eye much better; cold applications discontinued.

June 11th.—Eye much worse; stiffness of lids; irritation and discharge increased. Hypertrophy of the papillary bodies above and below. Ice-applications far into the night.

June 13th.—Eyelids painful, but less secretion. Ice-applications in the evening. As the lids became glued together often, I rubbed their margins with vaseline combined with the yellow oxide of mercury, one-half per cent.

June 15th.—Eye much better. Ice-applications discontinued.

June 19th.—Ocular conjunctiva almost white; lids glued together in the morning. Papillary bodies swollen.

July 4th.—No secretion for some days, but a dryness of the lids, from insufficient lachrymation, becomes very annoying whenever an attempt is made to read or use the eyes for close work, by insufficient illumination. In about six weeks from the time of the inoculation the eye was in a normal condition, not a trace of the inflammatory action remaining.

The bacilli were present in the secretion as long as it persisted, but they were vastly reduced in number after the cold applications had been made two days.

"*Cultivation.*—By the kind assistance of Dr. T. Mitchell Prudden, attempts were made to cultivate the small bacillus on agar and gelatine in tubes and on plates from secretion from the first case and from the case of Peter C——, without success. Peter C—— went to the laboratory and the secretion was transferred directly from the conjunctival sac (after having thoroughly cleansed the sac and permitted fresh secretion to form) to the tubes and plates. Although the conditions were made as favorable as possible, the *bacillus did not develop*. On particles of pus transferred to the tubes and kept in the breeding oven, at a temperature of about 36° C., the bacillus developed, but it could not be induced to feed on the agar or gelatine."

Subsequent investigations were carried on at the Ophthalmic and Aural Institute with apparatus that Dr. Knapp kindly placed at my disposal.

An endeavor was made to render the agar, which was a one per cent. preparation, acceptable to the bacillus by the addition of a little sugar, in some tubes, increasing its alkalinity in others, and by making it more acid in others, *without success*. I did not experiment further with the gelatine, which was a ten per cent. preparation. Conceiving the idea that possibly the agar was the objectionable factor, a food jelly which contained only about 0.5 per cent. of agar was prepared. The *bacillus developed* rather feebly in this preparation in tubes, but would not grow on plates. Having found a medium on which the bacillus would develop, although feebly, my next endeavor was to make a *pure culture*. The bacillus in the tubes was contaminated with a club-shaped bacillus (or one that soon became clubbed) which developed about as rapidly as the small bacillus, and repeated attempts to separate the two proved fruitless. It was very easy to obtain a *pure culture* of the *clubbed* bacillus, as it grows, quite readily, on one per cent. agar and on ten per cent. gelatine. Very many attempts were made to obtain a pure culture of the small bacillus by employing the plate method. The same medium on which the bacillus would grow in tubes would not support it on plates. An attempt was made to produce a pure culture by inoculating many tubes from an attenuation of the mixture, in "normal saline solution," without success. In the one-third to one-half per cent. agar in tubes the bacillus, with its contamination, was carried to the *sixteenth generation*. Repeated attempts have been made to cultivate the small bacillus on coagulated, sterilized blood-serum, but all these have failed to carry it beyond the second generation. It develops in beef-tea.

Its development on agar is as follows: But little or no growth can be observed during the first twenty-four hours. At the end of forty-eight hours a slight haziness appears along the tract of the needle, and on the surface of the agar a very small patch is noticeable; this is of a pearly color and possesses a glistening surface. By the formation of concentric colonies the growth extends for a short distance from the point of puncture on the surface of the agar. The growth reaches its height in from five to seven days, at which time the above-described appearances are but slightly exaggerated. The bacillus then gradually degenerates, breaking up into small particles which take the stain poorly. I have not seen the well-formed bacillus in any tube-growth later than *one month* after the tube was inoculated, when the tube was kept at a temperature of 36° C. The club-shaped bacillus retains its form and vitality much longer. The 0.5 per cent. agar is the best medium that I have found on which to cultivate the small bacillus; it leaves, however, much to be desired which further experiments will probably satisfy.

The method of inoculating tubes with the secretion has been to thoroughly cleanse the conjunctival sac with clean water and cotton, direct the patient to keep the eyes closed, and, after five or ten minutes, to transfer a small portion of the newly formed secretion from the bottom of the lower conjunctival sac to the tube, using a previously heated platinum rod for the purpose. An even temperature from 34° to 38° C. is most favorable for the development of this microbe; it is also necessary to have abundant moisture. I have never succeeded in making a cultivation of this bacillus below a temperature of 30° C., nor on agar from which the water was in part removed.

Description.—The bacillus varies considerably in length, being from one to two micro-millimetres long; in thickness it is always the same, namely, about 0.25 of a micro-millimetre. Compared with the tubercle bacillus, it is of about the same thickness, but is shorter. In specimens from cultures on agar I have observed a number of the bacilli joined end to end, forming quite long threads (6 to 12 together), the division between individual bacilli being very indistinctly marked. There was no tendency to a double arrangement, as in bacillus subtilis.

The formation of spores is not determined. The small bacillus stains readily with watery solutions of fuchsin, gentian violet and methylene blue, taking the stain a little less deeply than do the cocci and bacilli ordinarily met with. When the bacillus commences to dengenerate it stains much less readily. It does not stain well with Bismarck brown, ammonium, or picro carmine, or with hæmatoxylin. Attempts at double-staining have, so far, proved unsatisfactory. In staining sections of the conjunctiva, Gram's method with gentian violet has given the best results. I find nothing peculiar to this bacillus in the effect produced upon it by the various acids, alkalies, alcohol, chloroform, or ether. In strong nitric or sulphuric acid the bacillus is soon destroyed. If colored with gentian violet or fuchsin, the bacillus is quickly decolorized when treated with alcohol or a ten per cent. solution of either nitric, acetic, hydrochloric, or sulphuric acid; taking the color again readily after the decolorizing agent is removed by washing with water.

Inoculation experiments.—Not having succeeded in making a pure cultivation of the small bacillus, pure cultures of the clubbed bacillus were made, and experiments conducted with this and with the mixture.

Experiments with the clubbed bacillus.—No. 1. The right eyes of two rabbits were inoculated by placing some of the pure culture into the lower conjunctival sac. Absolutely no inflammatory reaction occurred.

No. 2. The eyes of two rabbits were inoculated by introducing the bacillus into the anterior chamber, after piercing the cornea with a cataract-knife which had previously been dipped in a thick emulsion of the germs. The wounds healed without inflammatory action. The human conjunctiva was then tried.

Case I.—July 10th.—T. B——, aged twenty. Right eye inoculated by placing a small amount of the pure cultivation (seventh generation) in the conjunctival sac. The patient was under observation one week. *No reaction.*

Case II.—July 10th.—I. M——, aged forty-two. Right eye inoculated as in case No. 1. No reaction.

Case III.—August 8th.—D. L——, aged six. As in case No. 1. No reaction.

Case IV.—August 8th.—S. G——, aged six and a half. As in case No. 1. No reaction.

Case V.—August 13th.—W. W——, aged seven. As in case No. 1., with sixth generation. No reaction.

The above five inoculations of the human conjunctiva and four of rabbits are sufficient to prove the innocence of the clubbed bacillus in the production of acute conjunctivitis and in the formation of pus.

Experiments with the mixture of the small and club-shaped bacilli.—In these cultivations the small bacillus largely predominated.

Case I.—July 29th.—M. I——, aged six. Right eye inoculated from a *fifth generation*, proceeding as above.

July 31st.—The ocular and palpebral conjunctivæ of the *inoculated eye* are markedly congested, and are secreting a small amount of muco-pus; profuse lachrymation; no photophobia, and but slight pain. Left eye normal.

August 2d.—The congestion of the ocular and of the palpebral conjunctivæ of the right eye is very intense. Profuse discharge of muco-pus, which collects at the inner canthi, escaping over the cheek at this point. Lachrymation, slight photophobia, some pain in the lids, and mild coryza. The *left eye* is becoming injected, probably having been inoculated with the discharge from the right eye.

August 4th.—Both eyes present a typical picture of acute conjunctivitis, with intense congestion and slight swelling of the ocular and palpebral conjunctivæ. Chemosis not present; swelling of lids marked. Continuous cold applications were ordered.

August 8th.—The ocular conjunctiva is becoming white. The discharge still continues, but is less in quantity and is thicker.

August 10th.—Still greater diminution in the congestion of the conjunctiva and in the amount of the discharge. A zinc collyrium was ordered.

August 16th.—Ocular conjunctivæ white; palpebral still congested. Thick yellow masses of the secretion form at the inner canthi—an appearance quite characteristic of this disease. No photophobia, and but slight pain.

August 30th.—Still a very little secretion. Conjunctiva almost normal.

The patient had entirely recovered on September 1st.

Case II.—July 29th.—S. D——, aged seven. Right eye inoculated from a *fourth generation.* The disease ran a course exactly like that in Case I., except that nine days after the inoculation numerous sub-conjunctival hemorrhages in the ocular conjunctiva occurred. The discharge ceased about August 28th.

Case III.—July 29th.—A. S——, aged six. Right eye inoculated, as in the two previous cases, from a *fifth generation.* This case was like the two preceding, except that it was milder. Recovery took place three weeks from the time of the inoculation.

Case IV.—July 29th.—F. F——, aged six. This case was in every respect a repetition of the previous case.

Case V.—September 1st.—M. T——, aged thirteen. The inoculation in this case was made from the *eleventh generation* of the small bacillus. A typical conjunctivitis appeared on the second day, and ran a course as in Case III. of this series, except that on the fifth day a very few marginal phlyctænulæ appeared.

Case VI.—September 1st.—J. A——, aged ten. Right eye inoculated from the *eleventh generation.* The typical conjunctivitis appeared as in Case III., running a somewhat more protracted course.

Preparations of the secretion, for the microscope, were made from time to time. *The bacillus was present in all as long as the yellowish discharge persisted.* Sections of the conjunctiva from three of the cases, obtained by cutting out small portions from the bottom of the lower conjunctival sacs, were examined microscopically after staining by Gram's method. The bacilli, in rather scanty numbers, were found in the anterior layers of the epithelium, either singly or in groups, lying between the cells. Some leucocytes or pus-cells, found in the epithelial layer, showed the bacilli apparently in the interior as well as on the surface of the cells. Cultivation from the secretion from all of these induced cases were made which corresponded in appearance to the original culture.

No corneal complications have occurred in any of the two hundred and fifty to three hundred cases that I have observed. The cornea is affected but seldom if ever in this form of conjunctivitis, unless it is complicated by some intercurrent disease. In Case V. a few phlyctænulæ appeared on the fifth day. This I consider to be the development of a distinctly different disease ingrafted on the older conjunctivitis—an accidental complication. Pyogenic germs, as the staphylococcus, which in the *normal* conjunctival sac are innocuous, and which are probably the cause of phlyctænulæ, undoubtedly find easy entrance to the deeper epithelial layers in the roughened condition of the epithelium due to the former inflammatory action. It will be noticed that in the last six cases described the inflammation in the inoculated eye (O. D. in all) appeared uniformly in about forty-eight hours from the time that the bacilli were introduced. In order to produce this effect there certainly must have been some causative agent in the cultures employed.

Care was taken not to convey any of the original secretion from the first tube to tubes in which the subsequent generations were produced; certainly the fifth, sixth, and eleventh generations were too far removed from the first to admit of the possibility of such an accident. Had it been a simple chemical irritant to the conjunctiva we would have expected to see an immediate inflammatory result, as occurs after the introduction of quick-lime, acids, strong solutions of the nitrate of silver, etc. As it was, no redness of the conjunctiva, no sense of

discomfort, or anything outside of the normal condition was experienced by the patient until thirty-six to forty-eight hours after the inoculation. A period of incubation was necessary to enable the bacilli to multiply sufficiently to produce an inflammatory condition of the mucous membrane.

The researches of numerous observers have demonstrated the fact that quite a large variety of microbes are found in the conjunctival sac. I have myself cultivated four forms of bacilli and six varieties of cocci from conjunctival sacs which were normal or but slightly congested. These, of course, do not include the coccus of Neiser, nor the one recently described by Michel as the causative agent in trachoma. The bacilli of which pure cultures were made were as follows :

1. The clubbed form of which I have spoken.
2. That described by Leber and others as always present in the secretion in xerosis of the conjunctiva.
3. A short, thick bacillus very common in normal conjunctivæ.
4. The bacillus subtilis, or one resembling it very closely.

The following varieties of cocci were found :

1. Staphylococcus pyogenes aureus (Rosenbach).
2. Staphylococcus pyogenes citreus.
3. Staphylococcus pyogenes albus.
4. A large coccus about one and one-half times the diameter of the staphylococcus.
5. One form of the streptococcus.
6. Micrococcus cinnabarens.

The bacilli are met with most frequently in the following order : The short, thick bacillus ; the clubbed bacillus ; Leber's bacillus and the bacillus resembling the bacillus subtilis. The cocci : Staphylococcus aureus, albus, and citreus ; streptococcus, one form ; micrococcus cinnabarens ; the large coccus.

Experiments were made with all of these varieties, except the streptococcus, to show their innocence in producing conjunctivitis by placing small amounts of the pure culture into the normal conjunctival sac. Rabbits were first used, but as no inflammatory result occurred the human conjunctiva was employed. This method of inoculation produced no effect whatever, although tried repeatedly. The different forms were introduced into the corneal tissue and into the anterior chamber of rabbits' eyes, by means of infected instruments and by using the platinum rod. Of the bacilli, Leber's produced an opacity of the cornea in the immediate vicinity of the wound, which cleared up in a few days. The different forms of staphylococcus invariably produced either corneal abcess if introduced into the corneal tissue, or panophthalmitis if well introduced into the anterior chamber. All the other varieties, except the streptococcus, which was not experimented with, were perfectly innocent in wounds of the cornea or when introduced into the anterior chamber.

All of these microbes, except the very small bacillus, grow on ordinary ten per cent. gelatine and on the ordinary agar food preparation.

"In numerous examinations of secretion from the normal conjunctiva and from the conjunctiva in all its phases of disease, I have never met with this small bacillus except in the form of acute conjunctivitis described ; in this disease its occurrence is *constant*." A short time ago Dr. H. Knapp showed me some specimens of microbes, obtained from the deposits about the teeth in one case, and from a corneal ulcer in another, which in form resembled the small bacillus that I have described. No cultivations or experiments to ascertain their character were instituted.

The diagnosis of this disease is not difficult, even without the microscope, if a few cases have been recognized and examined. The discharge is muco-purulent, does not mix with the tears except in very severe cases, and has a tendency to form in light-yellow masses at the inner canthi. The flushing of the ocular conjunctiva, without chemosis or very marked pericorneal injection, is present in its acute stage. There is usually but little photophobia. The absence of marked chemosis and great swelling of the lids is sufficient in most cases to distinguish it from diphtheria and gonorrhœa, but in some cases where a false membrane is present, and in others where the discharge is more puriform, the microscope must be employed to arrive at a correct diagnosis.

The complications that may arise in this form of conjunctivitis are blepharitis ciliaris, phlyctænulæ, false membranes, and possibly trachoma and corneal ulcer—all of which, with the possible exception of the false membrane, being due to the addition of another *germ* factor.

Blepharitis ciliaris makes its appearance, in the cases which it complicates, in from one to three weeks after the commencement of the attack, and sometimes persists long after the original inflammation has subsided. Phlyctænulæ occur in a small proportion of the cases. The false membranes have occurred in six cases that I have observed. In these cases the membrane was quite persistent, lasting in one case more than two weeks ; in another, eight to ten days, etc. They appear in cases where the bacilli are numerous, where proper cleanliness is not observed, and where the hygienic surroundings are bad. The condition is one resembling the so-called croupous conjunctivitis described by Mackenzie, Saemisch, Knapp, Noyes, Manz, and others, and is, I am inclined to believe, identical ; the severity of the cases described by Knapp and Manz probably being due to personal peculiarities, as hyperinosis or cachexia. Papillary excrescences in the fornix conjunctivæ I have not observed, but papillary enlargements, with thickening of the conjunctiva at the fornix, are of frequent occurrence. This disease must not be confounded with the vernal catarrh of Haynes, Walton, Nettleship, and others, the Frühjahrskatarrh of Saemisch and Standke, as it in no way resembles that affection. Relapses are not infrequent, and having once had the affection does not protect the patient from a subsequent attack. The disease may affect the conjunctiva when trachoma or blepharitis ciliaris is present, and possibly when other chronic inflammatory processes are in progress. It runs the usual course in these cases. The trachoma in the three cases that I have watched was much improved when the muco-purulent conjunctivitis had subsided. In one case, that of a nurse who had infected her right eye while cleansing the eyes of a child who was suffering with muco-purulent conjunctivitis, the disease was permitted to run its course, except that the very severe symptoms were modified by making cold applications to the lids. The left eye was treated with sulphate of copper. At the end of five weeks, at which time the acute conjunctivitis had subsided, the infected eye was in much better condition, so far as the trachoma was concerned, than the other ; in fact, the granulations had almost entirely disappeared, while the cornea, which before was quite hazy, became quite clear. It is not improbable that the secretion from this form of conjunctivitis, and cultivations of the bacillus, may become valuable agents in the treatment of trachoma with or without panus, the absence of any tendency to attack the cornea or cause any loss of tissue rendering it a safe agent to employ. Repeated inflammations may be produced at pleasure.

This form of conjunctival disease is most plentiful in the spring and fall months, but isolated cases are met with at all times of the year. It attacks young and old, being more severe in adults than in children.

The observations and experimental results given above, notwithstanding the defect in its cultivation, are, I believe, sufficient to establish the causative effect of the small bacillus in this form of conjunctivitis. The difficulty experienced in cultivating this microbe on artificially prepared food is not unprecedented. Many, in fact the greater number, of known pathogenic varieties are cultivated with difficulty, and some are problematical in this

respect. What the relation is, if any, between the club-shapped and the small bacillus I am not prepared to say. In cultivations that apparently consisted of small bacilli only in the first and second tubes, subsequent inoculations either did not develop or developed in company with the clubbed variety. I do not think that the clubbed variety is a form of the small bacillus in one phase of its development, as I have never observed any transition forms and as I have cultivated the clubbed bacillus from the normal conjunctival sac, the small bacillus, of course, not being present.

"So far as I am aware, no one has heretofore described a microbe as the cause of this form of acute conjunctivitis. Koch (*Wiener Med. Woch.*, 83, p. 1,550), while at Alexandria, Egypt, investigating the cholera epidemic, examined the secretion from fifty cases of conjunctivitis, which included two forms. One of the forms of conjunctivitis, which runs a very severe course, he asserts to be due to the presence of a bacterium which closely resembles the gonococcus and is probably identical with it; the other a very much less severe process, in which a constant condition was the presence of a very small bacillus in the pus-corpuscles. The latter is probably the same form that I have described. Dr. Haensell (*Bulletin Clin. Nat. Oph.*, January and March, 1886, p. 7) mentions having observed a microbe peculiar to acute conjunctivitis, but refrains from describing it, as he has made no cultivations or experiments with it."

In view of the above, and of the ambiguity of the term "catarrhal conjunctivitis," I would suggest the term acute contagious conjunctivitis for this form of disease.

Treatment.—Thorough isolation is the first thing to be resorted to, especially when the disease appears in asylums or residental schools, as it is very contagious. A glance at the long list of remedies advocated by the various writers is enough to show that no specific remedy is recognized. Given a specific cause, we may hope to find a specific remedy. Patients suffering from a disease due to the presence of a germ would probably recover rapidly if a germicidal remedy could be brought in contact with the germ without detriment to the tissue. Usually the germ is so deep in the tissue that applications to the surface cannot reach them; hence the inability to abort gonorrhœa, after the inflammatory stage is well established, by applications of strong solutions of the nitrate of silver, or to stop the progress of diphtheria by the local applications of strong solutions of the bichloride of mercury, although these agents would destroy the specific germs if brought in contact with them. If we cannot reach the germ with a remedy applied to the surface, is it not possible to place the tissue in such a condition that the development of the germ will cease, or be much retarded, without interfering with the vitality of the tissue or with cell-change, sufficient to prevent expulsion of the germ in a comparatively short time? This condition, in many cases, may be produced, I think, by reducing the temperature of the tissue below the point at which the microbe will develop. Many pathogenic microbes require a temperature above 30° C. for their development; this is the case with our small bacillus. If we reduce the temperature of the conjunctiva to 30° or 32° C. we retard the development of the microbe, but do not prevent cell-change. Can this be done? The temperature of the normal conjunctival sac is 97½° F. By *actual experimentation*, I find that the temperature of the conjunctival sac may be reduced to 30° C., providing the lids are but little swollen, by the simple application of iced cloths, and can be easily kept at that temperature without discomfort to the patient. *In the acute stage, cold applications are always grateful to the patient.* Pressure on the lids should be avoided, as this interferes with the vitality of the tissues. The applications should be made with small square pieces of linen, in two or three thicknesses, large enough to cover the lids nicely. Twelve or fifteen of these pieces should be placed on a block of ice and changed to the eye every minute; except frequent cleansing with clean water, to keep the eyes free from the secretion, nothing else is needed for from two to four days. If the applications are made carefully and constantly the acute stage usually subsides in two days. The succulent or lax condition of the conjunctiva, then, requires the use of some mild astringent solution, as of zinc sulphate or the nitrate of silver, applied twice or three times daily.

The above appears to be a rational method for the treatment of this disease, and in practice it proves to be most efficacious.

The average duration of fifty cases by this method of treatment was *two weeks*. In more than one hundred cases where the nitrate of silver solution, one to two per cent., was applied twice daily from the commencement of the discharge, the average duration was about *four weeks*.

Note.—The passages in quotation marks are extracts from a paper published by the writer in the Arch. of Ophthalmology, vol. xv., No. 4, 1886.

MELANOSIS OF THE URINARY TRACT.

By ALEXANDER W. STEIN, M.D.,

VISITING SURGEON OF CHARITY HOSPITAL, NEW YORK.

Melanosis of the bladder is extremely rare in man, and in the few isolated cases, incompletely recorded, other organs were simultaneously involved. The distribution of the pigment in the present case was so general and so extensive as to make it almost unique. It should be noted that this disease is not at all infrequent in some of the domestic animals, notably the horse. In gray and white horses it occurs quite commonly. In them it remains stationary for an indefinite period, and then manifests a disposition to ulceration; but the disease is always tardy in its progress, and I am told the animals rarely, if ever, die in consequence of it. Scarcely anything is known of the clinical features of these deposits, except their tendency to multiplicity, which is remarkable. They have little influence over the vitality and function of the part in which they are found. Where an impairment of function exists, it must, as a rule, be attributed to the causes which have given rise to the formation of the pigment, and not to the deposit itself, unless the latter accumulates in sufficient quantity to interfere, mechanically, with the functional activity of the part, as it not infrequently does in the horse, necessitating removal of the tumor. In the present instance the disease existed in the kidneys, bladder, prostate, corpus spongiosum, corpora cavernosa, and all the principal organs in the body; but how long they were affected it is impossible to say, as the disease did not manifest itself by any symptom during life. About nine months had elapsed from the first external sign until death. Melanotic sarcoma, or carcinoma, are simply growths, with the well-known characteristic structure of these tumors, in which pigment-granules are deposited in such quantity as to make them appear black or brownish-black in color, and this, as in the benignant form of the deposit, is the result of certain changes in the blood-vessels, or in the circulation, in which the coloring matter of the blood escapes and is converted into pigment;

but what these changes are we do not as yet understand. Patients suffering from this disease sometimes pass black colored urine, even when the kidney-substance is not affected.

As in neither of the standard works on diseases of the bladder is there any mention made of this malady, I have transcribed this history, with the autopsy from the hospital records, to which I have added an engraving of the bladder and urethra :

Man, aged thirty-three, German, married, cabinet-maker, vaccinated in infancy. Has several scars, one of them very well marked. Has never had small-pox before, or other exanthematous fever. Cannot say when he was exposed. Has been delirious for some time ; how long cannot be ascertained, nor, consequently, any history of the invasion of the disease. He was brought in on the evening of December 13th, violently delirious, requiring restraint ; he was given two grains of quinine every hour, and slept well after a while, and this morning, the 14th, is apparently entirely rational. There is an eruption, apparently four days old, of thinly scattered small umbilicated vesicles all over the body. Feels pretty well now, appetite good, slightly constipated, tongue a little furred, considerable conjunctivitis, much thirst, but pulse is good. Ordered to grease the face and take two grains of quinine three times a day.

December 17th. — Pretty weak to-day ; pulse, 114. Throat quite sore ; is to gargle with chlorate of potash.

December 18th. — Complains more of throat and tongue, which latter is much ulcerated. Pulse good, but says he feels feeble.

December 20th.—Eruption has run a most rapid and rather incomplete course, and has now dried up. Complains of diarrhœa, which he has had some days, and which was stopped promptly by powders of acid tannic, subnitrate of bismuth, opium, camphor, and creta præparata.

December 21st.—Eruption all gone.

December 22d.—To-day a history was taken of what appears to be a case of melanosis. This eruption began last Easter ; it was first noticed as a little hard knot in the cartilage of the ear, immediately followed by a number of similar knots on the back, and in a little more than a month the whole surface of the body became invaded with innumerable hard lumps of variable size, from that of a duck-shot to that of a large hickory-nut.

These lumps first appear as small knots under the skin, increase in size, approach the surface, become ulcerated, assume an almost black-purple color, with a thin, shining cuticle, and then desquamate ; the scab being moist, leaving at first a moist, purplish surface, and afterward an ordinary red surface, such as that left by any small healing ulcer after the scab has come off, and eventually healing, leaving no scar, only a slight hardness in the integument, to mark its former site. About nine weeks ago the entire skin began to assume a grayish-bronze color and a slightly greasy character. At present there is a horrible, heavy, and altogether indescribable odor emanating from his body. Can't say how long this odor has been about him. In the mouth there is an eruption similar to that on the rest of the body. It has been there about seven weeks. After he came in he had a diarrhœa for six days, but that was controlled by a single dose of bismuth, tannic acid, opium, and chalk. He has no vomiting.

Before this eruption came out he had perfectly good health, but from the beginning of this he began gradually to emaciate and lose strength, and is now much reduced in flesh and power. Seven weeks ago he grew so weak that he had to take to his bed.

He makes no complaint of pain. It is worthy of remark that the small-pox pustules with which he has just been attacked have appeared indiscriminately upon these black papulæ as well as on the sound skin. He says his family who are living are all perfectly healthy, that his father died of dropsy and his mother of cancer of the stomach.

January 12th.—Has been growing steadily weaker for the past three weeks. During the two days past he has been having involuntary evacuation.

January 14th.—Died last night.

Autopsy, thirty-six hours after death. No rigor mortis. Body below medium size, thin, but not extremely emaciated. Color of skin, dark ; upon face and neck, almost olive. Whole surface of body spotted with black tumors, varying from the size of the head of a pin to a half-dollar, generally rounded in shape, projecting perhaps one-eighth inch above surface ; smaller upon upper extremities, smallest upon neck and face, largest upon trunk. These tumors (very small) were to be observed on the conjunctiva ; not upon the scalp, nor in or under the nails. Head : Black tumors in substance and on both surfaces of dura mater, those on the outer surface following course of vessels ; also in falx cerebri. Inner surface of calvarium covered with pigment-spots corresponding to tumors in dura mater. Arachnoid covering convex surface of brain thickened and opaque, generally along course of vessels and in spots ; melanotic tumors in substance of brain generally small, larger upon surface ; also upon surface of lateral ventricles. Thorax : Pleura, both parietal and visceral, studded with small black masses ; also the pericardium. Heart : Weighed fourteen ounces. Walls of left ventricle very thick. External surface covered with pigmented spots, some projecting, some not. In substance of heart the pigment seemed to follow course of muscular fibre. The columnæ carneæ, as well as all the internal surface of the organ, were mottled with the same masses, but not the valves nor the aorta or pulmonary artery. Lungs : Old adhesions on right side ; a few small cicatrices at apex of left lung. Lower lobe of right lung in first stage of pneumonia. Both lungs infiltrated with pigment-matter throughout. Mucous surfaces of larger bronchial tubes containing spots of pigment. Bronchial glands enlarged and black. Diaphragm, containing the melanotic tumors on both surfaces and in substance. Abdomen : The peritoneum, both visceral and parietal, and the omentum and the stomach and the intestines, large and small, and the pancreas and the mesenteric glands, were also invaded and enlarged. Spleen : Six ounces, firm, and dark in color. Liver : Three pounds nine ounces, dark in color, containing many small tumors, especially near surface and in the thin portions ; one large one in the right lobe, size of walnut, extending three-fourths of an inch into substance, softer internally than on surface. Kidneys : Left, three ounces ; right, seven and one-half ounces. Pelvis, especially that of the left, spotted with the little black tumors ; substance, especially the cortical portion, much pigmented ; pyramidal portion comparatively free. Bladder and urethra : Internal surface studded with melanotic tumors (small) ; a few in substance of corpus spongiosum and corpora cavernosa and the prostate. The tumors present also in the testicles and tissues of the cord. The muscles throughout the body, wherever examined (neck, chest, abdomen, back, thigh, lower extremities, etc.), were infiltrated with the same black pigment, which followed, to a marked extent, the course of the muscular bundles. Muscles pale and flabby.

Tracheotomy at the Hamburg General Hospital.—In the year 1886 there were 219 tracheotomies done in the hospital, of which number 151 died, making a mortality rate of about sixty-nine per cent. In January and February of this year there were 48 tracheotomies done for diphtheria, of which number 34 died, a mortality rate of about seventy per cent. ; but it should be mentioned that the endemic of diphtheria which at present prevails here is of a very severe type. The after-treatment of tracheotomies consists in keeping the atmosphere of the room saturated with salicylic acid spray, produced by steam atomizers.—*Cor. Cincinnati Lancet and Clinic.*

Clinical Department.

LOBELIA AS A REMEDY IN ASTHMA.

Dr. J. S. Prettyman, Jr., of Milford, Del., writes: "The result of this isolated case of asthma accords with my past experience in the use of lobelia as a remedy. On April 15th I was called to visit G. W——, aged seventy. Found him exceedingly nervous, supposing himself to be dying. His heart was depressed, and he was struggling for breath, with the sweat rolling from his person. I diagnosed spasmodic asthma and ordered half an ounce of compound tincture of lobelia in half a glass of hot water. There was no occasion for repeating the dose, as he was entirely relieved in fifteen minutes, and slept the rest of the night without recurrence of attack. During his course of lectures four years ago, at the University of Pennsylvania, Dr. H. C. Wood said that this drug (lobelia) was more dangerous than veratrum viride, and advised against its use. To indicate the absurdity of his position, before retiring that night I swallowed and retained half an ounce of the simple tincture in presence of several of my classmates. I slept well and in the morning was in my usual good health. I have frequently used this drug, not only in asthma, but in almost every form of inflammatory and febrile disease, and have yet to meet with a single case of the so called alarming symptoms."

TYPHOID FEVER AND CONTAGION.

Dr. G. W. Robinson, of Trinidad, Col., takes exception to a statement in a recent article by Dr. Benjamin, that typhoid fever can arise only by contagion from a preceding case of the disease. He writes: "Trinidad is located in the foot-hills of the Rocky Mountains, at an elevation of about six thousand feet. Part of the water-supply is obtained from a well on the edge of the river, covered by the sand and gravel of the river-bed. The water is pumped into a reservoir situated on a hill several hundred feet above the town. Another source of supply is a well about a hundred feet from the river, and quite a distance from any houses or out-buildings. There are, in addition, a few wells in the city. The river is a rapid mountain-stream, pure and sweet, except after a hard rain, when it becomes turbid and smells badly. The summer of 1883 was noted for the large number of cases of typhoid fever in Trinidad. I attended three cases in one family. They had used water from a well. About the time that the first case occurred, the river flooded the lower part of the town, and the well was filled with surface water. Other cases seen by me had used water from the water-works, and others again received their supply from the large well above mentioned, lying about a hundred feet from the river. Some lived in the river bottom, and others upon high hills. The water from the reservoir is used only in cases of emergency, the water being usually forced directly into the pipes. At this time it was said that the water from the reservoir and pipes was unclean, and at times tasted and smelled badly, but that from the other public source was, to all appearances, pure and sweet. I would ask how all these different sources could be contaminated with typhoid germs from patients? In November, 1884, I was called thirty-five miles into the country to see a boy who presented a typical case of typhoid fever. There were no other cases in the neighborhood. The water-supply was from a spring gushing out of the mountain-side, the water being carried in troughs for a distance of about a hundred feet. It was cold, clear, and pure. The nearest neighbor was about a quarter of a mile up the cañon. The house was rather open, and there were too many chickens, pigs, dogs, etc., around to render the sanitary arrangements of the best. Two other cases developed in the same family. In July, 1886, I was called to see a girl at a saw-mill camp about forty miles in another direction in the mountains. She was sick with typhoid fever. The water used was from a spring at the bottom of a cañon, about a quarter of a mile from the house. There were no other cases of the disease in the camp or neighborhood, as far as I could learn. From these and other cases I have concluded that, while unsanitary surroundings and the impregnation of water with decomposing material may cause typhoid fever, the germs from a previous case are not necessary to its development. A word about treatment. I am, with Professor Bartholow, a firm believer in iodine and carbolic acid. These and salicylic acid, when the stomach will retain it, with perhaps small doses of aconite and turpentine externally and internally for dry tongue and tympanites, have proved successful in my hands, as in eight years I have not lost a case."

ANTIPYRIN IN DYSMENORRHŒA.

Dr. Z. T. Dellenbaugh, of Cleveland, O., writes: "In your editorial on some of the less common uses of antipyrin, in The Medical Record for February 26, 1887, I do not find any reference to the use of this drug in dysmenorrhœa. Some time in July or August of last year it occurred to me that if antipyrin will relax a hyperæmic and dry skin by virtue of its action on the vaso-motor dilator centres, why will it not relieve an evident hyperæmia of the endometrium? In the first case of painful menstruation to whom I gave it, one of essential and oft-repeated trials with opiates and stimulants of all kinds with their unpleasant sequences. the antipyrin gave immediate and continued relief for that menstrual period, though the patient took but one dose of fifteen grains. Since then I have found that repeated doses of five grains do not afford the relief obtained by an initial dose of fifteen to twenty grains. Whether it will afford the prompt relief in painful menstruation complicated with membranous exfoliation or obstructions I am not prepared to say. I would, however, expect it to, since we occasionally meet with cases of obstruction, flexions, coarctations, and even exudative membranous exfoliations without pain at the menstrual period; an analysis of these, with the cases of essential dysmenorrhœa, inclines one to believe that dysmenorrhœa may, after all, be a neurosis allied to neurasthenia in its various manifestations."

THE HYPNOTIC EFFECTS OF ANTIPYRIN.

Dr. J. Edward Stubbert, of Bloomfield, N. J., writes: "In the editorial columns of The Medical Record of February 26th you refer to the use of antipyrin in cases of hemicrania, and suggest that the hypnotic action is due to 'cessation of pain.' In forty-seven cases of hemicrania I have failed to relieve pain in only one instance, *provided hypnotism was first produced by the drug.* If the attack is fully developed I administer fifteen grains of antipyrin and order the patient to lie down immediately and close the eyes. Sleep comes on rapidly, and in about twenty minutes the patient awakes free from pain. In two cases I was obliged to administer a second dose at the expiration of the first nap because the pain had not fully disappeared, although it was mitigated. In a few other cases, where the remedy was administered during the prodromal stage, no sleep was required, but when the hemicrania is fully developed the hypnotic effect of antipyrin is, I believe, absolutely necessary before relief from pain can be hoped for. In cases of fever, where the drug has been used for its antipyretic properties, I have noticed the same hypnotic action, and here it will be noted no pain is present to be relieved and *thereby* cause sleep. The hypnotic effect is the more marked in proportion to the size of the dose of the drug and the idiosyncrasies of the patient, and I have found that children require proportionately a much larger dose than adults. So confident am I of the hypnotic action of the drug that I at times have successfully substituted it for morphia."

Progress of Medical Science.

Therapeutics of Asthma.—Since the publication of Hack's article suggesting abnormal changes in the turbinated bones as the cause of asthma, specialists and general practitioners have, with the aid of highly magnifying reflectors, seen hypertrophied turbinated bones in many a patient, which there was a great temptation to reduce, either with some ingenious instrument, with the galvanic cautery, or with a powerful escharotic. Although the results have not been so gratifying as Hack's, they have gone far toward affording an appare. t verification of his theory; for, if the so-called hypertrophied turbinated bones could be detected at first only with the aid of magnifying reflectors, it was not long before they were sufficiently hypertrophied to be distinct even to the naked eye. The pendulum, however, is beginning to swing back, as is evident from a recent lively and protracted discussion at several consecutive meetings of the Berlin Medical Society. A number of speakers took part in the discussion, and there seemed to be a consensus of opinion that cases in which asthma was benefited by cauterizing the nasal mucous membrane or the turbinated bones were extremely rare. Such treatment, it was said, should not be employed until a careful examination had been made with a sound, the parts having been made anæsthetic with cocaine, and an area discovered a touch upon which would call forth an attack. Schadewald broached a novel method of treatment, based on his no less novel theory of the pathology of the disease. He maintained that bronchial, or true asthma was due to a neurosis of the trigeminal nerves, and should be treated by faradization of those nerves, the applications being made during an attack, as if made in the intervals they would call forth a paroxysm. Lublinski emphasized his previous remarks as to the benefit to be derived from inhalations of pyridine, but the drug must be used with caution, as disagreeable and alarming symptoms may follow its injudicious use. Amyl nitrite nitro-glycerine, and sodium nitrite act in the same way as pyridine, but all these remedies find their more appropriate application in cardiac asthma. If any drug deserves the title of a specific in this affection, it is potassium iodide. The remedy was first recommended in asthma by Trousseau, but this use of it fell into oblivion for a number of years, to be only recently restored by the publications of Leyden and Germain See, the latter of whom recommends its administration with lactucarium. Potassium iodide is of great service also in the purulent bronchitis which occurs as a sequel to asthma. In many cases of this condition the various balsams are efficacious, and Lublinski has observed excellent results from the use of the Peruvian balsam combined with myrrh, the former in doses of from a grain and a half to three grains three or four times a day. If there is really a nasal affection, it should be treated according to its character, and not on any far-fetched theory of its etiological importance. But, in the treatment of asthma, it is of the greatest moment to distinguish true, or primary, asthma—by no means a common affection—from that which is secondary to disease of the heart or lungs. We need scarcely say that we have had only the former in view in this writing.—*New York Medical Journal.*

Tonsillitis and its Relations to Scarlatina and Diphtheria.—Dr. Hingston Fox sums up his conclusions on this subject as follows: 1. There is a commonly occurring form of tonsillitis, symmetrical, varying much in severity, distinct from suppurative quinsy, due to septic causes, often attacking several members of one household, and frequently prevalent at the same time as scarlatina and diphtheria. 2. Short-lived outbreaks of so-called infectious sore throat occur, associated with unsanitary conditions, the cases often varying much from one another, but intermediate in their general characters between tonsillitis and the two specific fevers. 3. The throat lesion is the symptom most constantly present in both scarlatina and diphtheria, but its degree and character very greatly vary; it is in some cases apparently identical in nature in the two fevers; and it may be absolutely indistinguishable from the common form of tonsillitis first alluded to. 4. There is some reason for regarding scarlatina and diphtheria as essentially forms of tonsillitis which have acquired the power of infecting the system generally. 5. The virus of these two fevers may probably enter the lymphatic system through the tonsil, producing tonsillitis as a primary effect. 6. The specific character of these diseases is connected with the power of the poison-germ to overcome the resistance of the tissues so far as to reproduce itself in the human body without deterioration; a certain series of lesions is thus set up before the poison is destroyed, and in the meantime its multiplication affords a supply of *contagia* for the communication of the disease. 7. This power of withstanding the resistance of the tissues and reproducing itself within the human body has probably been acquired under a process of evolution. 8. There is nothing in the occurrence of scarlatina and diphtheria of wounds, and of other mucous surfaces than the fauces, to contravene the hypothesis that the poisons of these diseases in ordinary cases enter at the tonsils. 9. The tonsils are absorbent glands, and their function may not improbably be connected with the absorption of certain elements from the saliva.

The Reciprocal Influence of Diabetes upon Syphilis.—The question of the connection between diabetes and syphilis is of recent date. Different authors have only kept in view the fact of syphilis being regarded as the cause of diabetes, and have paid but little attention to diabetes coexisting with syphilis. It is the latter point which gives great interest to the recent thesis of M. Arnaud. Two circumstances may arise where diabetes and syphilis are coexistent: (1) The patient may have been suffering from diabetes for a longer or shorter period when he contracts syphilis, and the latter complaint is modified in its evolution and progress from the fact of diabetes having preceded it; (2) diabetes developing after syphilis seems to be the direct or indirect consequence of that disease. The result of M. Arnaud's observations on this subject have led him to the following conclusions: When diabetes has pre-existed, it modifies the clinical aspect of syphilis, either because it induces cachexia, and thus renders the patient less able to resist the invasion of the disease, or because it exercises an injurious influence upon the anatomical elements by bringing them into direct contact with the sugar contained in the pathological secretions of the human economy. It cannot be denied that syphilis may give rise to diabetes, which may be more or less persistent, owing to the changes in the blood and tissues which it constantly produces. Syphilis may bring on another form of diabetes through tertiary products (gummata) becoming developed in the surrounding parts of the fourth ventricle, and compressing the centre of glycosuria described by Claude Bernard. When syphilis develops in a diabetic patient, infective chancre and secondary lesions have a tendency to ulcerate. As these deviate from their ordinary aspect, they may give rise to an error in diagnosis. Under these circumstances, the evolution of syphilis appears more rapid than in a normal case of the complaint. According to some writers, sugar disappears when specific symptoms show themselves. M. Arnaud's observations prove that sugar seems to leave the urine more rapidly in these cases than in ordinary diabetes. Syphilis will prove more serious in diabetic patients than in others. Anti-diabetic should be combined with anti-syphilitic treatment in such cases.—*British Med. Jour.*

The Late Sir Thomas Watson received, for many years, $1,000 annually from the sales of his book.

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THE CAUSE OF THE RHYTHMICAL CONTRACTION OF THE HEART.

THERE have been two opinions held by physiologists concerning the mechanism of the rhythmical pulsations of the heart. Some have held that the beats succeed each other regularly by muscular action simply, without the intervention of the nervous system, at least as far as the rhythmical action is concerned. Others, and the majority, believe that the rhythm is under nervous control. But as the heart of a frog, for instance, will continue to beat for some time after its removal from the body, and consequently after all connection with the central nervous system has been severed, the regulating ganglia are supposed to reside in the substance of the heart itself. These ganglia, the most important of which are situated in the sinus, are not supposed to originate the cardiac pulsations, but simply to regulate them and give to them that character of rhythmical succession which is so characteristic of the cardiac muscular movements. Two German physiologists, Kronecker and Schmey, claim to have located the co-ordinating centre, in the heart of the dog, at the point of union of the upper and middle thirds of the anterior interventricular sinus.

Some experiments recently undertaken by MM. Germain Sée and E. Gley, and reported by them to the Academy of Sciences of Paris, seem in a measure to confirm these views. The experiments were made on curarized dogs, the two vago-sympathetic nerves being sometimes divided and sometimes left intact, artificial respiration being maintained, of course, during the continuance of the experiments.

A needle being thrust into the heart at the point indicated by the two physiologists above mentioned, there ensued immediately very energetic contractions of the ventricles, which were, however, wholly irregular, rapidly becoming weaker, and finally degenerating into mere tremulous oscillations. These soon ceased, and the ventricles became fully dilated, while the auricles continued to beat rhythmically. As soon as these trembling movements became established, the arterial pulse disappeared, the arterial blood-pressure fell to zero, and it was impossible to re-establish the ventricular movements. This effect was observed but three times out of fourteen experiments, a fact which the authors regarded as showing that this anatomical centre is either indefinitely located as yet, or else that it is very limited in its area.

Trial was then made of electrical stimulation of this supposed co-ordinating centre. Faradization of this point by a current of moderate intensity caused tremulous movements of the ventricles, and it made no difference in this respect whether the pneumogastric nerves had previously been paralyzed by atropine or divided, or left intact. These results were obtained not only after electrization of the upper third of the interventricular sinus, but also when the stimulus was applied to the middle and lower thirds, or even to any part of the ventricular walls.

These results, the authors thought, were not conclusive as to the existence of a co-ordinating centre for the muscular movements of the heart. The fact that a lesion of the heart at the point above indicated excited ataxic movements of the ventricular walls could not be gainsaid, and this would plainly point to the presence of a group of nerve-cells in this situation. But the question that still remained unsolved was the functional nature of this centre. It was possible that stimulation of this group of cells might excite such violent contractions of the cardiac muscle as speedily to destroy its irritability, so that it was incapable of recovering its normal function.

These researches may have a practical bearing in a strictly medical point of view, for, according to M. Sée, angina pectoris is due to the obliteration of the nutrient arteries of the heart-wall. He has also demonstrated that the injection of an inert powder into the coronary arteries, or the ligature of one of them, is followed by tremulous movements, apparently identical with those excited by electrical stimulation or injury with a needle. It is therefore allowable to assume, they conclude, that irritation of this collection of cells, following obliteration of a coronary artery, may transform the ventricular contractions, already disturbed, into the above-described oscillations, quickly becoming fatal.

However this may be, it seems reasonable to believe with the authors that much light may be thrown in the future upon the mechanism of angina pectoris by a careful study and increased knowledge of all the facts relating to this vital ganglion or group of nerve-cells lying in the interventricular sinus.

BEQUESTS AND DONATIONS TO THE NEW YORK ACADEMY OF MEDICINE.

AT the stated meeting of the Academy on May 5th the Treasurer for the Trustees reported the following munificent additions to the permanent funds:

1. From Henry S. Rokenbaugh, Esq., executor of the estate of Mrs. Celine B. Hosack (widow of the late Dr. Alexander E. Hosack, formerly of New York), the sum of $70,000, upon the following conditions, as expressed in the testatrix's will:

"Third: I estimate the total value of all the property which I acquired from the estate of my lamented husband as not exceeding the principal sum of seventy thousand dollars, and I do give and devise and bequeath unto the society or corporation known as 'The New York Academy of Medicine' the sum of seventy thousand dollars, payable within one year after my decease, which it is my

will and desire shall be devoted or applied by the board of trustees of the said society or corporation to the purchase or erection of a library building or lecture-room, or some other suitable building adapted to the purposes of said society, which, in memory of my dear husband, Alexander E. Hosack, shall in some appropriate manner be designated with and known by his name forever.

"If the said sum of seventy thousand dollars shall be insufficient to defray the entire expense of constructing the whole of any building, to the erection of which the board of trustees of the said society may deem it proper to apply the money, then it shall either be allowed to accumulate at interest until the amount shall be sufficient for the purpose, or it may be used and applied to the construction of any separate part of the building, or any particular room or suite of rooms, or any wing or addition to any building belonging to the society, and devoted to the objects for which the said society was incorporated, which can be separately distinguished from the other parts of the same building so as to be dedicated and designated in some suitable manner as a monument in memory of my husband."

2. From the same source, a free bed in perpetuity in the Roosevelt Hospital, as follows:

"Eighth: I do give and bequeath unto my executors hereinafter named, the sum of ten thousand dollars, in trust, to apply and pay the same (or so much thereof as may be necessary) to 'The Roosevelt Hospital' in the city of New York, to purchase a bed which, in memory of my husband, shall be known as the Hosack bed, and which shall be occupied from time to time by such sick and needy physicians as may for that purpose be named or designated by the President and Treasurer for the time being of the New York Academy of Medicine."

3. Through the President of the Academy, Dr. A. Jacobi, the donation of $5,000, largely due to the generosity of Mr. Jacob Meyer, of New York, upon the following conditions:

1. "The fund is to be forever known as 'The Philippine Meyer and Ernst Jacobi Library Fund,' and be so borne and described in the accounts of the New York Academy of Medicine and in any publication by the Academy enumerating the several trust-funds in its possession."

2. "The income from the fund to be applied to the purchase of books for the reference library. Each book so purchased to be appropriately marked and designated so as to indicate that it is the proceed of this fund."

3. "It is also covenanted and agreed that the existence of this fund shall in no way affect the appropriation of such other moneys or funds as the Academy may find desirable for the acquisition of journals or other books."

THE DOCTOR'S SUMMER PRACTICE.

The approach of the summer months brings to physicians reminders of the great change which has occurred in the course of medical practice during the past fifteen years. In this time there has been a constant development of, and increase in, the custom of moving to the country or seaside for the summer, so that now in cities all the wealthy families and a majority of those of moderate means leave their homes for three or four months in the year.

The result is that the general practitioner in the city often finds himself almost without paying patients when the hot weather comes on. And it has come to this, that many physicians have to earn their living for the year during the fall, winter, and spring months.

The exodus of citizens from the cities in summer is bound to continue, for it is a practice based on good sense and good hygiene; therefore the wise physician will lay his plans accordingly. If the patient goes out of town, the doctor should go also. He should select some locality agreeable to himself and family, make it his summer home, and attend with diligence and skill to the physical ills of the exiles about him. By judicious continuance in such a course he will find that he can spend his summers pleasantly and with little expenditure of the hard earnings of the winter.

The charges made against the city doctor at summer resorts is that he is extortionate in price, and that he interferes with the practice of local physicians. These are, perhaps, true as regards a few of our profession who have the hard-headedness, the fine business instincts, and the advanced ideas in economics so much admired by some; but, on the whole, we incline to the hope that the vacation practice of the city doctor is conducted very honestly, and to the benefit of his fellow-men. But, at any rate, the physician who looks ahead will, if he is wise, so arrange his affairs that he can do a little work in the summer and make all the twelve months of the year contribute to his support.

RECENT VIEWS OF THE PATHOLOGY OF THE RENAL TROUBLES OF PREGNANCY.

At a meeting of the Berlin Medical Society, not long ago, Professor Leyden read a paper upon dropsy and albuminuria in pregnancy. His contribution to the subject was one tending mainly to show how diverse are the present ideas as to the pathology of these disturbances. Renal disease in pregnancy is, according to Leyden, a form of disease caused solely by "the conditions of pregnancy," and diagnosticated by the fact that it begins in the second half of a first pregnancy chiefly, and progresses steadily until parturition occurs, when it generally disappears.

The anatomical appearances of the kidney have been found to vary greatly, from that of acute parenchymatous nephritis to that of congestion or anæmia. Leyden holds that the condition is one resulting from long-continued arterial anæmia.

Dr. A. F. A. King (*American Journal of Obstetrics*, March and April, 1887) has advanced "A New Explanation of the Renal Troubles, Eclampsia, and other Pathological Phenomena of Pregnancy and Labor." Dr. King's views evince originality and ingenuity, and they are presented in the attractive and logical style characteristic of this distinguished obstetrician.

Professor King's idea, in brief, is that the renal and other troubles referred to are brought about by the uterus not keeping above the pelvic brim—as it ought to do—until the time of labor is reached. The normal position of the pregnant uterus and fœtus is one of lateral obliquity, the head generally lying on one iliac fossa. If, for any reason, the womb stands vertically, then the head or breech presses down upon the renal and iliac vessels.

It is very evident that if this theory is true there should be no eclampsia or albuminuria with transverse presentations, except from extrinsic causes. Professor King has industriously collected a large number of facts bearing upon this point.

Thus, he states that Schanta, who had 315 cases of eclampsia in 134,345 deliveries at the Vienna Hospital, found the head to present 304 times; face, 4; breech, 5; foot, 1; and transverse, 1. In 306 of these cases, 253 were primiparæ. From an analysis of Rambotham's 59 cases of eclampsia, it is fair to assume that there was not one of transverse presentation. Of the 14 cases in 7,404 deliveries in Guy's Hospital Lying-in Charity there were 13 head presentations and no transverse. In a total of 300,018 labor cases collected by Dr. King, with 212 cases of eclampsia, there is only one distinctly isolated coincident occurrence of eclampsia and transverse presentation during labor; and in regard to this case there is no detailed account.

Dr. King's views have a distinct practical outcome, for he states that disturbance of the normal lateral obliquity of the womb and child, with consequent descent below the pelvic brim, is caused by tight and ill-fitting dresses, corsets, coitus, and certain abnormal postures, all of which things can be measurably prevented.

MARTINEAU'S TREATMENT OF DIABETES.

In a recent issue of The Medical Record we referred briefly to the plan adopted by M. Martineau in the treatment of glycosuria. The results obtained by this method, as reported by the author, are, to say the least, remarkable. And, in view of the large number of cases, the length of time that the patients were under observation, and the professional standing and credibility of the reporter, the method would seem to call for a more extended notice than it has hitherto received.

The plan was adopted by M. Martineau, at the instance of Dr. Rouget, some twelve years ago, and in seventy cases in which it has been employed since 1875, a cure of the disease has been obtained in sixty-seven, or nearly ninety-six per cent. The method, which is simple enough, is described by the author in a paper read by him at a meeting of the Société d'Hydrologie, and published in the *Annales Médico-Chirurgicales* for March, 1887. The patient is not obliged to modify his diet to any great extent, except that he is, of course, advised to abstain, as far as possible, from starchy foods, fruits, and sugar. Instead of the ordinary beverages at meals he is to drink a solution of carbonate of lithia and arseniate of soda. A paper containing twenty centigrams (three grains) of carbonate of lithia and a tablespoonful of a solution of arseniate of soda, twenty centigrams to five hundred grams (three grains to the pint) of distilled water, are put in a syphon-bottle holding about a litre (two pints) of aërated water. The patient uses this water as his only beverage, drinking it with his meals and at any other time when he is thirsty. At meal-time, however, it may be taken mixed with wine, if the patient so desire. This is the whole treatment, and no other drugs are given, except for intercurrent troubles which may arise independent of the original malady.

The author reports several cases *in extenso*, one of which, the first, we will reproduce in brief to show the rapidity with which the sugar disappeared from the urine.

The patient was a man sixty years of age, who had suffered from glycosuria for five or six years. In September, when the treatment was begun, he was passing one hundred and twenty-three ounces of urine in the twenty-four hours, which contained three thousand one hundred and eighty grains, or over six and a half ounces, of sugar. Three weeks after the commencement of treatment he was passing seventy ounces of urine and six hundred grains of sugar. In December, three months after the patient first began treatment, he was passing but thirty-five ounces of urine, which contained three hundred and five grains of sugar. From this time until the patient's death, four years later, analyses of the urine were made every month, but no trace of sugar was found at any time.

This method, the author is led by his experience to believe, is efficacious only in those cases of diabetes occurring in individuals of a gouty or rheumatic diathesis. In the three cases in which no benefit was observed the patients presented no evidences of an arthritic tendency.

M. Martineau has shown a commendable degree of patience in thus waiting twelve years before giving his method to the world. But, as he says, this was because he desired to test it thoroughly, and to satisfy himself that it was really of value, before making for it any claims which later trials would show to be not borne out by the facts. He now, however, makes positive claims for this plan of treatment, and the confidence with which he asserts its efficacy in suitable cases will doubtless induce many others to make trial of the same remedies, with what results the future will show.

THE NECESSITY OF EXAMINING THE MOUTH BEFORE GIVING AN ANÆSTHETIC.

It may seem superfluous to repeat a caution which is contained in every text-book on minor surgery, but one is apt at times to grow a little careless, and to forget small details when the mind is occupied with anxious thoughts. When an operator has so many assistants that one can give his undivided attention to the administration of the anæsthetic, as should always be the case where possible, any omission of such details is, of course, inexcusable. But it often happens, in cases of emergency, that the assistant must not only give the anæsthetic, but also assist the operator in many other ways. He is then liable to forget the possibility that something may be in the mouth which is not unlikely, when anæsthesia is complete, to become loosened and fall back into the air-passages. It may be that the patient has a false tooth, or several false teeth attached to a plate, or a palate obturator, or some other apparatus to supply a deficiency in some part of the jaw. Children are very apt to have marbles, lumps of sugar, pieces of cake or candy, or the like, which some fond relative has given them to help them to bear the approaching ordeal with greater courage. Any one of these objects is liable to be drawn into the larynx when all the muscles are relaxed and reflex movements abolished, and when the patient is taking deep inspirations.

An accident of this nature is related by Dr. Trossart in a recent number of the *Lyon Médical*. The patient was

observed to be vomiting almost continuously at the commencement of anæsthesia, and afterward, when the head was turned over, a plate, with four teeth attached, fell out of the mouth. The object in this case was so large that it could not enter the larynx, but was drawn into the pharynx, and excited reflex efforts to vomit. Had it passed farther down, and become lodged in the œsophagus, the results might have been far from trivial.

Similar accidents have happened more than once, and a repetition of this caution would seem, therefore, to be worth the while. The cautious and those who always have their wits about them will pardon the repetition for the sake of their brethren with weaker memories. Always, as a matter of routine, examine the mouth of every patient before commencing to administer an anæsthetic. A neglect of this apparently trifling detail may cost a life.

THE NOMINATION OF A HEALTH OFFICER OF THE PORT

The nomination again made by Governor Hill, of Dr. Charles Phelps for Health Officer of the Port, excites the most general and hearty approval. The recent investigation regarding the disinfection of rags has rather, whether justly or not, cast a cloud over the present health officer. His term has expired, and a new appointment is in order. Dr. Phelps is a gentleman widely esteemed and widely known; and it would be gratifying to the profession of this city to have one of its own distinguished members elevated to such an important trust.

THE QUESTION OF THE COMPENSATION OF EXPERTS AGAIN.

In 1875 the Supreme Court of Alabama confirmed a fine imposed upon a physician who had refused to give expert surgical testimony on the ground that he had not been remunerated therefor. In 1879 the Court of Appeals of Texas held a somewhat similar doctrine, viz., that a medical expert could be compelled by the Court to testify as to the results obtained by a post mortem examination. The law of Indiana (Rev. Stat., 1881, p. 94) is that experts may be compelled to appear and testify to opinions without payment other than that allowed to ordinary witnesses. The action of a certain Ohio court and the unfavorable state of affairs in New Mexico and Dakota has been set forth in The Medical Record of January 8th and February 5th.

It must have been from experiencing the hardships of decisions which prevail in Alabama, Texas, and Ohio that leads a correspondent to write a most emphatic protest against the decisions of judges who do not allow extra compensation for medical experts, and leads him to suggest the bringing out of a test case.

In our opinion, however, a test case is not needed. The majority of decisions, and in many States the law itself, favors the view that medical men should be adequately compensated for giving expert testimony. Indeed, in the present state of the matter it can be only ignorant or grossly partisan judges who refuse to allow such compensation, except, of course, in the States or Territories in which a law, like that passed by the stupid legislators of Indiana, exists.

News of the Week.

The Second Annual Meeting of the Association of American Physicians will be held in the Army Museum building at Washington, D. C., June 2 and 3, 1887.

New York Pathological Society.—The meetings of this Society will be held hereafter, beginning Wednesday evening, May 25, 1887, at the New York Polyclinic, 214–216 East Thirty-fourth Street.

The Ninth Annual Congress of the American Laryngological Association will be held in the hall of the Academy of Medicine, New York, May 26th, 27th, and 28th. The profession is cordially invited to attend.

The New Hospital at Poughkeepsie.—The following gentlemen of New York City have been appointed the consulting board of the Vassar Brothers' Hospital at Poughkeepsie: *Consulting Physicians*—Drs. Fordyce Barker, A. L. Loomis, and J. H. Douglas; *Consulting Surgeons*—Drs. George F. Shrady, T. M. Markoe, and E. L. Keyes.

New York Academy of Medicine and the late Dr. E. Darwin Hudson.—The Section in Practice met at the Academy, Tuesday evening, the 17th inst., and was called to order by the President, Dr. A. Jacobi, who spoke of the great loss sustained by the death of the Chairman, Dr. E. Darwin Hudson. The Section then elected Dr. Charles L. Dana Chairman, to fill the unexpired portion of the term. On motion by Dr. T. H. Burchard, a committee was appointed to prepare appropriate resolutions on the death of Dr. Hudson, to be reported at the next meeting of the Academy. The Section, as a mark of respect to the memory of its deceased Chairman, then adjourned.

Anæsthesia of the Anterior Two-thirds of the Neck can be produced by making an incision, even a very slight one, in the skin in the neighborhood of the larynx. Laryngotomy, thyrotomy, and cutting the throat ought to be performed almost painlessly therefore. Such are the conclusions reached by the experiments of Dr Brown-Séquard.

Women and their Odors.—Hysterical women under sexual or other excitement exhale an agreeable odor, say several eminent neurologists. A French writer goes further and says that in early youth many women exhale a perfume whose entrancement extends even to the clothes they have cast aside for the wash. Again, "in general hospitals one is never deceived, the female wards smell of butylic acid." With all due respect to distinguished experts in olfaction, it appears necessary to say that the foregoing is more or less preposterous nonsense. Female wards do not smell of butylic acid, and the perfume which extends to the clothes that have been given to the wash is more liable to be perspiratory, axillary, and leucorrhœic than an entracing emanation from Araby the Blest. Those who have observed an agreeable odor in women under sexual excitement are liable to the accusation of suffering from subjective disturbances at the time.

Reports of Societies.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, May 5, 1887.

A. JACOBI, M.D., PRESIDENT, IN THE CHAIR.

DR. F. A. CASTLE, Treasurer of the Trustees, reported that the Academy had received, from the estate of Mrs. Celine B. Hosack, widow of the late Dr. Alexander E. Hosack, the sum of

SEVENTY THOUSAND DOLLARS.

That Mrs. Hosack had also given *ten thousand dollars*, for a *free bed* in honor of her husband, in Roosevelt Hospital, to be occupied by such sick and needy physicians as may for that purpose be named or designated by the President and the Treasurer of the Academy. The Treasurer further reported that the Academy had received, as a special library fund, the sum of *five thousand dollars*, to be known as

THE PHILIPPINE-MEYER AND ERNST-JACOBI LIBRARY FUND,

the income from which was to be spent annually in the purchase of books for the library.

DR. P. A. MORROW then read a

MEMOIR OF H. P. FARNHAM, M.D.,

which was a fitting tribute to the memory of a most worthy man.

THE ULTIMATE RESULTS OF THE MECHANICAL TREATMENT OF HIP-JOINT DISEASE.

DR. NEWTON M. SHAFFER read a paper on the above subject, in which he gave an analysis of fifty-one cases occurring in the service of the New York Orthopædic Dispensary and Hospital. In the performance of the work necessary to the ascertaining of the results he had been largely aided by Dr. Robert W. Lovett, of Boston, Mass. The principal object of the writers of the paper had been to arrive at *the ultimate results* of mechanical treatment of the disease in *dispensary* cases, where facilities existed for making and modifying the instruments and a competent corps of surgeons were in attendance. He then spoke of the difficulties in managing chronic dispensary cases, and also of the fact, which none would deny, that better results could be obtained in private practice. One of the objects of the paper was to demonstrate that it was not only possible, but

COMPARATIVELY EASY,

to treat hip-joint disease successfully and satisfactorily with the means offered by a well-equipped dispensary. To be sure, there were many cases which required hospital facilities, but there were very many bad cases which could be cured by dispensary treatment, with an occasional visit in addition to the general supervision of the surgeon. Dispensary treatment meant an interested parent or friend who would carry out the directions of the supervising surgeon.

THE OBJECTS AIMED AT IN TREATMENT

had been (1) to overcome, by mechanical means, any acquired deformity which existed before treatment was commenced; (2) to protect the diseased joint from traumatism; (3) to permit the patient to have an almost unlimited amount of out-of-door life; (4) to maintain that position of the limb which would reduce the deformity to the minimum, and at the same time favor locomotion when anchylosis occurred.

Abscesses, as a rule, were not interfered with. They did best when allowed to open spontaneously. As a matter of necessity, little or no medication could be employed in the treatment under these circumstances. The mechanical treatment consisted in the use of the long hip-splint, without a joint, from beginning to end. An intermediate splint would be used sometimes in the course of treatment in private practice.

Of the 51 cases, the histories of which *could be traced*, death occurred in 4, but after the lapse of several years from the date of their discharge from the dispensary. Six patients had relapses; they had been under treatment two, two and one-half, four, four, five, and seven years, respectively, and from two to five years passed before the relapse occurred.

Of the remaining 41 cases, 3 were reported well, but they could not be examined. The remaining 38 patients were examined carefully. They were under treatment from two to eight years. Eighteen were cured before ten years of age, with more or less of shortening, and not less than an inch of atrophy of the limb. In 19 cases there was practically anchylosis. In 3 cases there was

FREE MOTION IN EVERY DIRECTION.

Of these there was abscess in two, and no abscess in the other. But the amount of motion *grows less* as time passes.

As to the position of the limb, *adduction* was a very serious ultimate result. In only one case, notwithstanding the shortening of the limb, was there true lateral rotary curvature of the spine. The amount of shortening does not depend upon abscess. The muscular atrophy never entirely disappears.

Conclusions.—The authors of this paper concluded, *first*, that the conservative method of treatment promised better ultimate results than exsection of the hip-joint; *second*, that of the 51 patients discharged cured, 4 died, 2 presumably of tubercular disease, and 2 of acute affections; 6 relapsed, and of these 2 had been cured the second time, and 2 were under treatment; *third*, of the 41 who recovered no one had been incapacitated for doing a full day's work, and none of these had given any evidence of tubercular disease.

Dr. Robert W. Lovett, of Boston, did the work of measuring and otherwise examining the patients at their homes, and he found them to be of the average of dispensary cases. They were exceptionally healthy people, having recovered from their hip-joint disease. Only a few wore high-soled shoes on the affected side. Adduction was the most important deformity. A good deal of shortening with flexion was carried without serious inconvenience, whereas only a slight amount of adduction gave rise to marked impediment in locomotion.

DR. J. F. RIDLON believed it had been proved that dispensary patients with hip-joint disease could be treated successfully. It had been assumed that all these cases were tubercular in character, but he believed there were cases which were due to traumatism, and also to inherited syphilis. These facts should modify treatment. In a case due to traumatism, he thought it was good surgery to remove the dead bone, as was done when death of the bone occurred elsewhere. And he also believed that surgical interference could save the life of some patients which would be destroyed by the disease, treated only by mechanical means. If due to syphilis, anti-syphilitic measures should be adopted in addition to the splint, and he had seen syphilitic cases

RECOVER WITHOUT THE SPLINT

under anti-syphilitic treatment. In dispensary cases and tubercular patients, he thought that some gain could be obtained by the use of internal remedies in addition to mechanical means.

DR. S. KETCH said, while at the New York Orthopædic Dispensary and Hospital it was held that, in the majority of cases, the tubercular diathesis was present, such was not the absolute doctrine of the institution. Besides, it could be said, he thought, truthfully that a great many of the patients who came there received considerable internal treatment, such as cod-liver oil, etc. His personal experience with mechanical treatment had led him to believe that it was the most satisfactory method of

treating hip-joint disease. It was not only the ultimate result which made mechanical treatment so satisfactory, but it were quite as much the present relief which could be afforded by it. He believed that many of these patients were saved from the knife by means of mechanical treatment.

Dr. Lewis A. Sayre believed that, if mechanical treatment were properly applied, recovery could be expected in nearly all cases, whatever might be the predisposing cause. So far as his experience went, in almost all cases

SOME EXCITING CAUSE HAD DEVELOPED THE HIP-JOINT DISEASE,

and it could be traced to some injury. "A thousand and one" little injuries might start the trouble in a child that had some constitutional taint, whereas in a robust, healthy child no trouble whatever would follow these little thumps and bruises. And by recognizing the disease early and treating it with mechanical appliances, a cure could be effected in the great majority of cases, and also, as he thought, with much better motion than had been secured in the cases reported by Dr. Shaffer in his valuable paper. He knew of scores of patients who had recovered, with excellent motion.

But in some cases the peculiar constitutional condition of the patient prevented the disease from yielding to this method of treatment, and then the knife should be used. If under local and constitutional treatment the case progresses favorably, do not resort to the knife; but if, notwithstanding this, the disease progresses, he would, instead of allowing it to go on for six or eight years,

PERFORM EXSECTION

and remove the dead bone. So far as ultimate results were concerned, after exsection, there was no question. His own cases, taking the list as a whole, had not yielded as satisfactory results as could be obtained, because the operation had been performed in the very worst cases, many times in opposition to the opinions of other surgeons, and in cases in which the patients had been given up to die. In some of these cases, however, the final result had been as nearly perfect as it could be, and motion had been better than it was in the opposite

Dr. V. P. Gibney had been interested in the paper, because heretofore but little had been known concerning hip.

the ultimate results of mechanical treatment. There were two points that had interested him especially, namely: (1) The ultimate result with reference to motion, and (2) the ultimate result as to atrophy. It seemed to be proved by the paper that motion would *diminish* instead of increase as time went on, and that a certain amount of atrophy was permanent. Both of these results were important.

His facilities for observing mechanical treatment had not been very good until within a few years, and during that time he had not allowed an opportunity to pass without putting it to the practical test.

Dr. Sayre.—Thank God.

Dr. Gibney continued that, so far as his experience went, the immediate results had been most gratifying with regard to affording relief from pain, and the general comfort the mechanical treatment afforded the patient. Notwithstanding all these good results, both immediate and ultimate, he believed that

MUCH WAS YET TO BE LEARNED ABOUT THE METHOD.

Dr. A. B. Judson appreciated the fact that adduction was the most troublesome feature of the deformity attending hip-disease. Walking with an adducted limb was attended with a characteristic spasmodic lordosis at every step, and another striking peculiarity was found in the fact that the natural rhythm of the gait was destroyed.

Now, if the patient can be induced to restore

THE NATURAL RHYTHM OF THE GAIT

and to divide the time spent on the ground equally between the two feet, he will gradually and unconsciously substitute abduction for adduction in order to place the affected limb and the splint in the most favorable position for doing their share of the work of progression. It was his rule of practice to require the patients to observe the natural rhythm of the gait. He believed that adduction had been thus prevented and reduced.

Some children have a natural excellence in walking. They will easily balance themselves on the hip-splint when sitting on the perineal strap, and secure grace by giving the well limb ample time to take its step forward. Such patients will escape adduction. So will a child who, through parental watchfulness, has acquired the habit of walking with as much grace as the hip-splint allows; but the awkward and unrestrained lad will have adduction.

He was also of the opinion that after recovery the patient should persistently cultivate the natural rhythm of the feet, and that advantage should be taken of the dancing school and military drill, not only to assist the recovered patient to bear gracefully existing disability, but also to reduce or prevent the occurrence of adduction.

Dr. H. Ling Taylor regarded adduction as the most important deformity, but he thought it was due to the fact that patients shrank from putting their entire weight upon the perineal band. He believed that in private practice adduction could be overcome in every case; for he would then use, in the later stages of treatment, the jointed splint, which gave better results than the long splint alone, and would also use

THE ADDUCTION CRUTCH,

which transferred the pressure to the opposite groin, a piece of accessary apparatus that had superseded entirely the adduction screw. He would further remark that the patients who were so long under treatment were not necessarily doing badly, but they were retained under observation and treatment as seemed necessary.

Dr. L. H. Sayre thought that great credit was due to the authors of the paper and to the institution of which Dr. Shaffer had charge, as the results were very much better than anyone would have expected twenty years ago. He was pleased to hear Drs. Gibney and Taylor express their favorable opinions of mechanical treatment. By length of time, mentioned by his father and referred to by Dr. Taylor, he understood that it had reference to cases which were not progressing favorably, and in such cases he believed that it was better to exsect rather than to wait for the bone to exfoliate by the natural processes of the disease, which might require six or eight or more years, with the danger of involving the liver, kidneys, etc. After the operation, give the patient the benefit of mechanical treatment. At the same time he would not advise

EARLY EXSECTION,

as he believed that the results would not compare with those obtained by proper mechanical treatment.

The President said that, owing to the lateness of the hour, he would not prolong the discussion further than to state that he believed that treatment by mechanical appliances could be aided and shortened by general therapeutical means, of which he would speak in some future meeting of the Section on Orthopædic Surgery.

Dr. Shaffer said that he had been unable to differentiate between tubercular and syphilitic cases, except that in some instances the patients recovered under the influence of what was known as anti-syphilitic treatment, while in others they did not. In private practice he would use internal medication as an adjunct. The cases which they had observed as the basis of the paper were dispensary cases, and showed that, with a proper workshop and a competent corps of assistants, the work

of four or five hospitals could be done successfully in an institution of that character.

He did not intend to consider

MECHANICAL TREATMENT *vs.* EXSECTION,

but merely to show that a large number of cases of hip-joint disease could be treated at home. He believed, however, that under proper internal medication, with mechanical treatment and the patients under the best hygienic influences, a larger percentage of recoveries with better results could be obtained—provided that amyloid degeneration of any of the organs was not present—than would be secured by excision.

Eight years were not consumed in controlling the discharge and sinuses, but in getting the limb into the proper position for the patient's discharge from treatment—the position which would render the limb most serviceable. Most of the long cases were

DRY CARIES,

in which the worst position of the limb and the greatest deformities were most likely to be encountered. He was not opposed to excision, but believed that the cases were rare in which it should be performed.

THE PRESIDENT announced that at the next meeting the subject of *Empyema* and its treatment would be discussed in a series of short papers; after which the Academy adjourned.

AMERICAN SURGICAL ASSOCIATION.

Annual Meeting, held in Washington, D. C., May 11, 12, 13, *and* 14, 1887.

WEDNESDAY, MAY 11TH—FIRST DAY—MORNING SESSION.

THE PRESIDENT, DR. HUNTER MCGUIRE, of Richmond, Va., delivered the opening address, on

THE NEED AND VALUE OF CO-OPERATIVE WORK IN SURGERY.

He said that he would occupy the time briefly, not with a discussion of some surgical subject, for the programme showed how rich the supply of material was in that direction, but with some remarks concerning the need and value of co-operative work in our profession, and afterward in suggesting some changes in the management of the meetings of this Association. Nearly every advance in whatever is accomplished by human enterprise is secured by co-operative effort. Every department of life is full of illustrations of the power of association in the accomplishment of great purposes, while the illustrations are almost as numerous of the failure of individuals to attain those ends, because they work unaided and alone. Advance in surgery can be more surely made by associations such as ours than by any individual efforts of man. The day has passed when the dictum of one man, no matter how exalted he may be, is received without question. The difficulties which beset us are numerous. Disease presents problems difficult of solution. We cannot apply to the human machine the fixed rules by which inanimate bodies are governed. The result of the work of the surgeon in private houses and in public hospitals must be different. Besides this, it is necessary to get rid of the rubbish with which we are too often flooded by ignorant but ambitious contributors. This is an easy task, but it is more difficult to know when to reject the material presented by skilful but unscrupulous workers who, to gratify their own personal vanity, make false returns of their labors.

I have mentioned only a few of the difficulties by which we are surrounded. Their influence over the true man, the true surgeon, should be to make him more patient, inspire him with more zeal, and teach him more plainly the value of co-operative industry. For the developments yet awaiting us we must be indebted to the contributions which every patient and conscientious laborer may bring to the common stock of ascertained knowledge, and we shall accomplish this best by the cultivation of a broad and generous appreciation of each other's work, from which every particle of envy at the success of others has been eliminated; by the hearty commendation which we give to all who have enlarged the boundaries of surgical science or who have improved its art.

In concluding his address the President made the following suggestions:

1. The formation of a business committee to prepare the work of the Association. The committee should select two general subjects in surgery to be discussed at the morning sessions of the first and second days.

2. The address of the President should be limited to half an hour, readers of papers to the same length of time, and those who take part in the discussions to fifteen minutes.

3. I venture to suggest the abrogation of Article 9 of the Constitution. This will allow us to admit to fellowship some men in this country who are really needed in the Association. While I believe in the rigid observance of the Code of Ethics of the American Medical Association and the absolute necessity of its enforcement in that body, there is no need for it in our Association. The only code that we should have is scientific work.

4. That the report of the committee with reference to the American Congress of Physicians and Surgeons be adopted.

5. That the constitution be so amended that propositions for membership shall lie over for one year. The qualifications for fellowship should be age, experience in surgical work, scientific attainments, with general culture.

A committee of three was appointed to take into consideration the suggestions offered by the President. The committee consists of Drs. S. W. Gross, C. H. Martin, D. W. Yandell, Moses Gunn, and C. Johnston.

The Association then went into executive session.

AFTERNOON SESSION.

DR. F. S. DENNIS, of New York, read a paper on

THE EXPLORATION OF THE BLADDER BY THE SUPRA-PUBIC METHOD.

A brief historical account of the operation was given. The first reported operation was that of Franco, in 1561. From that period to 1879 the operations were not numerous, but from 1879 to the present time the operation has been done with such success as to attract attention throughout the world. The time is not far distant when practically the only two operations will be supra-pubic lithotomy and litholapaxy. Supra-pubic lithotomy is simple in technique, safe in execution, free from injury to the reproductive organs, radical in results, curative in application, and brilliant in statistics. The many serious accidents attending the lateral operation are avoided. For a few days before operation a milk-diet should be employed. The day previous to operation the bowels should be moved with castor-oil. The morning of the operation an enema should be used, so as to empty the rectum for the introduction of the rubber bag. The parts should be washed with antiseptic solution. After the patient has been etherized the surgeon should introduce a rubber bag into the rectum so as to be above the internal sphincter. Into this twelve ounces of warm water is to be introduced. This quantity will have to be increased or diminished according to circumstances. The danger of rupture of the rectum in elderly people and young boys should be borne in mind. The urine should be withdrawn and six ounces, more or less, of an antiseptic solution introduced into the bladder. The catheter may be left in the bladder and stopped with cork, and this will serve as a guide to cut upon. The distention of the rectum and bladder increases the distance from the pubes to the anterior cul-de-sac of the

peritoneum to three inches. The incision should be made in the median line, and should extend for three or four inches above the pubes. When the transversalis fascia is reached the use of retractors, on the principle of the eye-speculum, facilitates the operation. Having divided the fascia, the end of the catheter can be felt and cut upon as a guide. The bladder may then be seized with two tenacula and opened. Where free exploration is desired sutures are introduced on each side of the incision. The stone is removed either with the fingers or forceps. The bladder may then be washed out. A catheter should be introduced through the urethra, but not left longer than twenty-four hours, on account of the danger of exciting traumatic urethritis. In the majority of cases the wound of the bladder should be left open. In cases of calculi the condition of the tissues is such that primary union is unlikely. In certain other conditions, such as rupture, the wound may be closed, for here the condition of tissues is different. The abdominal opening is to be closed and a tube introduced.

This operation is indicated (1) for hard, large calculi, and in persons suffering with paraplegia and deformities rendering lateral lithotomy difficult; (2) for removal of certain foreign bodies, such as hair-pins, etc., and for the treatment of chronic cystitis; (3) in cases of tight stricture, fibroma of prostate, tumors of the bladder, and for rupture. In its extraordinary simplicity, its reduced mortality, its freedom from danger, and safety for the general practitioner, it compares well with litholapaxy.

The speaker had collected one hundred and twenty-four cases of supra-pubic operation for stone done since 1879. Previous to this date the rate of mortality was thirty per cent. Since then the mortality has been reduced, there being eighteen deaths, a mortality of fourteen per cent. Seven of these deaths may be justly excluded, giving a mortality of nine per cent. According to Sir Henry Thompson's statistics, the death-rate from the lateral operation is twelve per cent. According to the same authority, the mortality of lithotrity is six per cent. In considering the mortality of this operation, two facts are to be considered. The mortality may be improved by more rigid antiseptic precautions. The second fact is that the operation has been limited to the largest stones. When the smaller stones are included the death-rate will be reduced. Specimens showing the position of the bladder under various conditions were then shown.

Dr. John H. Packard, of Philadelphia, read a paper on

SUPRA-PUBIC CYSTOTOMY FOR OTHER PURPOSES THAN THE REMOVAL OF CALCULI.

In 1883 the speaker removed, by supra-pubic cystotomy, a piece of shawl-pin five inches in length, which had been passed through the urethra. Since then he has done this operation a number of times. In cases of retention of urine from stricture, where a fair attempt to pass an instrument fails, he draws the urine by aspiration. In a short time an instrument can usually be passed. He did not recall a case in which it was necessary to repeat aspiration. The following cases were cited:

July 7, 1855. — Mr. G——, aged eighty-five, had retention due to large prostate. The bladder was greatly distended. The urine was drawn off with a long catheter; but he desired more permanent relief. Supra-pubic cystotomy was performed, and a glass ovariotomy tube, bent like a tracheotomy tube, was introduced. The patient improved decidedly, but suddenly died, July 9th, from heart, failure, the result of sudden exertion.

J. C——, aged forty-three, came under observation, January 21, 1885, at the Pennsylvania Hospital, with a history of retention, the result of old stricture. The bladder was greatly distended, and no instrument could be passed. There were frequent chills and profuse sweats. The next day Dr. Thomas G. Morton made a perineal incision, opening an abscess; the catheter then passed into the bladder. The following day the bladder was again distended. Supra-pubic incision was then done, a catheter passed through the abdominal opening, and the neck of the bladder escaped through the perineal wound. On February 7th a large mass of slough came from the abdominal wound. The patient then rapidly improved, and was discharged cured, April 21st.

H. F——, aged forty-three, had retention for four days. The penis, scrotum, and skin of abdomen were swollen, tense, and rigid. Free incisions were made. The bladder was opened and a tube introduced. On June 4th an instrument was passed by urethra. On July 13th the patient was discharged, and has continued well.

Mr. S——, aged sixty-three, admitted with enlarged prostate and frequent attacks of retention. August 13, 1886, supra-pubic incision was performed and the bladder opened. Although the condition was improved the patient died of exhaustion, August 29th.

The next two cases occurred at the Pennsylvania Hospital within the past few weeks. W. E——, aged seventy, was admitted, April 24, 1887, with retention due to enlarged prostate. Supra-pubic cystotomy was performed and a large quantity of putrescent urine removed. A rubber tube was passed into the bladder. The urine contained albumen to the amount of one-half its bulk. Granular casts were also found. A typhoid condition developed, and the patient died on the fourteenth day after admission.

R. W——, aged forty, was admitted the same day; he had double inguinal hernia and double hydrocele. He had passed no urine for fourteen hours. Catheterization was attempted without success. Supra-pubic incision was then performed, and a rubber tube introduced. He has done well since then, and is beginning to pass some water by the urethra.

Method of procedure.—The fullest antiseptic precautions should be observed in these cases. In most of the cases on which the author had operated the question whether or not the bladder should be distended had not presented itself, as the bladder was already over-distended. The bladder should never be more than moderately distended, not more than six or eight ounces of a boric-acid solution being employed. To retain the water in the bladder a convenient method is to bend the urethra on itself and hold it in this position. There seems to be more advantage and less risk from distention of the rectum. Many writers recommend that the bladder be steadied by an assistant, but this was regarded as needless and objectionable.

The incision through the skin should be free enough to give ready access to the deeper parts. When the bladder is reached it is desirable to secure it in some manner before puncturing. For this purpose a small double hook may be used; a small tenaculum may answer. When a large opening is to be made a double ligature is, perhaps, the best device. In cases of retention the curved trocar and cannula may now be at once used; the cannula should afterward be substituted by the tube. The speaker's custom is to make the opening in the bladder just large enough for the tube. The proper point for making the opening seems to be about at the middle of the exposed portion of the wall of the bladder, which would be about one inch or one and one-half inch above the pubes.

The drainage-tube should go well into the bladder and have lateral openings only near its extremity. The external end may be closed with a cork or clip, or by bending it. In old men with atonied bladders he had sometimes used glass tubes. If a large opening has been made in the bladder it may be closed around the tube with a few catgut sutures. The tendency of the wound is to close quickly, except where the tissues, as well as the general system, are in bad condition. The edges of the wound in the skin can be apposed with sutures of catgut or silkworm gut.

In concluding, the speaker asked: If the supra-pubic section had been first tried and generally adopted, is it likely that the perineal operation would have been afterward performed on account of its greater ease, simplicity, and efficiency?

Dr. A. Vander Veer, of Albany, N. Y., read a paper entitled

TO WHAT EXTENT CAN WE CLASSIFY VESICAL CALCULI FOR OPERATION? WITH A REPORT OF CASES AND REMARKS ON THE DIFFERENT METHODS EMPLOYED.

The speaker gave the detailed histories of forty-one cases which he had operated on. The various methods employed were lithotomy, rapid dilatation of the urethra, and Bigelow's operation (litholapaxy).

There were seven cases of perineal lithotomies, with two deaths and five recoveries, the former being very old men with large stones. Of attempted litholapaxies and an immediate perineal lithotomy there were two cases, both resulting in death, one occurring in the speaker's practice, the other in the practice of a friend. Both were severe cases of large stone, the patients presenting a history of much suffering through many years. Of dilatation of the urethra in the female, and washing out of fragments or removal of stone entire, there were six cases, all recovering, with no complication whatever. Of urethral calculi in the male there were four cases, all recovering. Of simple lithotrity in the male there was one case, followed by recovery.

Of attempted litholapaxies, but which were not completed, there were four cases, three ending in death and one, the stone hiding in a sac, later underwent perineal lithotomy and recovered. One was probably complicated with some form of tumor of the bladder, and a history of chronic disease of the kidneys. One was a case of chronic alcoholism, one was complicated with sacculated bladder, and the last two were cases of surgical kidney of the very gravest kind.

Of the litholapaxies in the male there were eighteen patients, having twenty-two operations, four requiring a second operation. Of the number, sixteen recovered and two died; of the latter, one after the first and one after the second operation.

With reference to supra-pubic lithotomy, the author said that, with the excellent results we are ever likely to obtain from rapid lithotrity, the operation must necessarily deal with severe cases of large, and in some instances sacculated, stone. He did not believe that we should ever expect from it as great a per cent. of recoveries—it is hardly possible. A table of reported cases of supra-pubic operations was given, showing in 142 adult cases a mortality of twenty-two per cent.; in children under fifteen years of age 113 cases gave a mortality of 10.5 per cent.

The operation of litholapaxy is certainly indicated where the stone is small or of moderate size, and, contrary to the teachings of a few years since, can be done in very young male children with proper instruments. In male adults, if there is severe chronic cystitis, no matter what is the size of the stone, the supra-pubic or some form of perineal lithotomy seems best. The cystitis can then be successfully treated, and there is less danger of a reformation. The speaker thought that it would be found by future statistics that cystitis has much to do with the necessity for a second or third operation. He thought that contracted bladder in the male, with adhesions, had not received the attention which it demanded. This must, in some instances, embarrass supra-pubic lithotomy. On anatomical grounds the supra-pubic operation will be much simpler in the youth, as the bladder is much higher in the pelvis at this time of life. In girls rapid dilatation or supra-pubic lithotomy will undoubtedly reach all cases. In adult women vaginal lithotomy may be added.

The discussion of these papers was postponed until Thursday morning. Adjourned.

THURSDAY—MAY 12TH—SECOND DAY—MORNING SESSION.

THE COMMITTEE OF CONFERENCE WITH REFERENCE TO THE CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS

reported that it had attended the meeting of conference held in Washington, September 24, 1886. At this meeting the following resolutions were adopted:

Resolved: 1. That it is desirable that the following special societies, The American Surgical Association, The American Ophthalmological Association, The American Otological Association, The American Neurological Association, The American Laryngological Association, The American Gynecological Association, The American Dermatological Association, The American Climatological Association, with the Association of American Physicians, shall arrange for a conjoint meeting in the city of Washington, September, 1888, and subsequently at intervals of three years at the same time and place.

2. That this arrangement shall not interfere in any way with the autonomy of each special society; and that each society shall retain the right to withdraw at any time from this conjoint scheme.

3. That the special feature of the meeting shall be the conjoint assemblage of the special societies on two evenings during the session, on one of which there shall be an address delivered by the President of the conjoint meeting, and on the other there shall be communications by a referee, and a referee on some subject of general professional interest.

4. That each special society approving this report is invited to appoint one representative (with an alternate), and that the representatives so appointed shall constitute an executive committee to serve for one year, with power to select such officers for the first conjoint meeting as may be deemed necessary; to propose a programme for said meeting; to make all other arrangements, and to prepare and submit a plan of organization for future meetings.

5. That all expenses connected with the conjoint sessions shall be apportioned equally by the Executive Committee among the special societies participating.

Owing to the views entertained by the Committees of the Ophthalmological and Dermatological Associations with regard to the interval of times of meeting, they abstained from voting upon the first resolution.

The report was adopted, and Dr. C. H. Masten, of Mobile (with Dr. J. Ford Thompson, of Washington, as alternate), was appointed as the representative of the Association.

The following was announced as the Nominating Committee: Drs. J. Collins Warren, J. Brinton, T. F. Poewitt, N. P. Dandridge, and D. W. Yandell.

The Treasurer, Dr. P. S. Conner, reported a balance of $738.46 in the treasury.

The discussion of papers read on Wednesday was then taken up.

Dr. W. T. Briggs, of Nashville, held that the surgeon should have all operations at his command, and should select the one adapted to the particular case. In certain cases, such as large stones, or deformities of pelvis and lower extremities, supra-pubic lithotomy is undoubtedly the best operation. The operation which he regarded as the best is one through the median line. There is no reason why fragmentization of a large stone should not be combined with the medio-lateral operation. The operation is easier than the lateral operation. Incision in the manner mentioned, with the removal of all stones at once, he thought would have a less mortality than litholapaxy.

Taking all kinds of cases, at all ages, his first seventy-four cases were operated on by this method without a death. Then he had two deaths; in one a pelvic abscess complicated the case, and in the other there was scrofulosis. Forty-six cases were then operated on, with one death. This case died three months after operation, of

general tuberculosis, with wound ununited. It is probable that in properly prepared patients, without organic disease, the mortality will be nothing.

Dr. D. Hayes Agnew, of Philadelphia, said we cannot commit ourselves positively to any one operation. The median operation is undoubtedly the safest operation through the perineum. The only damage likely to be done is in extraction; but this can be avoided by nicking the neck of the bladder, which admits distention to almost any extent. Where the stone is large, and yet is one which should come through the perineum, an incision may be made on each side. Drainage is more readily effected by the perineal operation.

Dr. J. R. Weist, of Richmond, Ind., had performed the medio-bilateral operation in eight cases, all of which recovered. With one exception all the patients have been old. From the accounts of the supra-pubic operation given yesterday, he inferred that the operation is more difficult of performance than the one described by Dr. Briggs.

Dr. H. H. Mudd, of St. Louis, stated that his first operations were performed by the perineal method, with good results. He then began the use of litholapaxy, which, in the majority of cases, takes the place of the perineal operation. The supra-pubic operation is of service for the removal of certain large stones, and for exploratory purposes. In considering this operation it must be borne in mind that the existence of contracted bladder with adhesions will render the supra-pubic operation difficult or impossible. Instances in which this condition was present were related.

Dr. J. Collins Warren, of Boston, stated that during the past year he had seen two cases of the supra-pubic operation, both in the practice of others. One was for stone and the other for tumor. There seemed to be no difficulty in the operation. Both cases recovered without a bad symptom.

Dr. Theodore Varrick, of Jersey City, had removed through the perineum a stone weighing seven ounces and two scruples. There was no perceptible laceration, and the boy recovered completely.

Dr. David Y. Yandell, of Louisville, had performed ninety-two operations by the perineum, eight by lithotrity and six by litholapaxy. It did not seem to him that the supra-pubic operation was an easier or better one than those which he had mentioned. There were seven deaths from the lithotomies. In none of the cases was there any return of the stone. In the eight lithotrities there was a return of the stone in two cases. In the six Bigelow operations there was a return in two cases.

Dr. John B. Roberts, of Philadelphia, considered the high operation certain to be a very important one. If we wish to make a free exploration of the bladder, the high operation is better than the one through the perineum. In cases of stone operated on by a surgeon without special experience in this direction, the supra-pubic operation is the safer. With reference to Dr. Packard's suggestion to treat retention of urine from stricture by supra-pubic cystotomy, he considered this too serious a step to take in the first place. His view was that persistent efforts should be made to introduce a filiform bougie which will drain off the urine. Simple aspiration above the pubes will give a chance for the passage of an instrument through the urethra in two or three days.

Dr. J. E. Michael, of Baltimore, said that supra-pubic aspiration seems to be all that is necessary for retention due to stricture or prostatic disease, and, under proper precautions, is safe. In prostatic cases the use of a soft catheter will accomplish all that can be done, unless some radical operation is attempted. As to the advisability of the supra-pubic operation for exploration, for some cases of prostatic enlargement, and for exceptional cases of foreign bodies, there can be no question. It was an operation which promised more in selected cases, than any procedure with which he was acquainted, and taking all considerations into account, was not attended with special danger.

Dr. J. Collins Warren, of Boston, read a paper entitled

A STUDY OF THE PROCESS OF REPAIR AFTER RESECTION OF THE INTESTINES AND SOME OF THE COMPLICATIONS WHICH OCCUR.

The author referred to the anatomy of the wall of the intestine, calling particular attention to the thin submucous, fibrous coat, which was the strongest of the various coats of the intestine. In introducing the sutures in cases of wound of the bowel it is desirable that a few fibres of this fibrous coat be included, but care must be taken not to perforate the mucous membrane. A number of experiments made upon dogs was then described. The operation consisted in removing a portion of the intestine and a V-shaped portion of the mesentery, and then bringing the parts together. The Lembert suture was the one used. The dogs were killed at varying times after operation, from three to eight days. In these cases the intestines were found matted together around the seat of operation, but a current of water flowed freely through the gut. In one case the abdomen was opened a few days after operation, and this matting together of the various coils of intestine found. The intestine was replaced and the wound again closed. Six months later most of the adhesions were found to have disappeared.

Dr. Charles B. Nancrede, of Philadelphia, read a paper on

SHOULD LAPAROTOMY BE DONE FOR PENETRATING GUNSHOT WOUNDS OF THE ABDOMEN INVOLVING THE VISCERA?

Reference was made to the experiments of Wegner and Grawitz, showing that the healthy peritoneum can dispose of air, serum, bile, and healthy urine. When, however, air and putrescible fluids in greater amount than could be disposed of in a short time were introduced, decomposition occurred and septicæmia resulted. A notable exception was that living, defibrinated blood never decomposed under these circumstances. This seems to prove the truth of the suggestion of the author that the presence of fibrin-ferment, and probably its absorption, is one of the dangers of peritoneal traumatism. The ordinary micro-organisms produce no evil effects, provided the quantity of putrescible matter does not exceed that which may be disposed of in a short time. In small quantities the pathogenic micro-organisms produce no harm. Suppurative peritonitis is produced by these micro-organisms when stagnant fluids are present capable of nourishing the bacteria, when the surface of the peritoneum has been destroyed by caustic fluids, and when there is a wound of the peritoneum.

The practical application of these experiments teaches that all blood and serum should be removed and free drainage provided; every wounded surface must be coaptated; if a tube is used, the opening must be carefully guarded; the depression of the circulation present during shock must be removed, and the vascularity of the peritoneum must be kept as near the normal as possible.

When visceral wounds do undoubtedly exist the tendency of these cases is invariably toward death. Hemorrhage in itself is rarely fatal, but a very small collection of blood may be followed by fatal consequences, either through the induction of sapræmia, or by furnishing pabulum for the development of organisms productive of suppurative peritonitis. In nearly every case death is due to septic peritonitis caused by extravasated matters. Of those attacked with peritonitis ninety per cent. die within twenty-four hours. When recovery ensues the effused matter is absorbed, and a limited adhesive peritonitis glues the injured organ to the abdominal walls or to a neighboring viscus. This process is successful in about eight per cent. of the cases.

Shock and the risk of rendering a peritonitis septic and diffused, which might have remained local and simple, are the dangers of laparotomy. But as we have the

power of rendering the inflammation resulting from the manipulations innocuous, shock is practically the only result to be dreaded.

If these facts and the deductions from them be true, all ball wounds of the abdomen involving the stomach, intestines, bile, or urinary bladder should be treated by suture or by resection and suture; injured omentum should always be excised, and the serous surfaces carefully sutured. Wounds of the liver and pancreas are to be treated in the manner to be described. A wounded spleen or kidney is to be removed, provided certain contraindications do not exist. Even penetrating wounds of the abdomen without involvement of the viscera are better treated by exploratory section than by the expectant method. In many instances unsuspected injuries of the blood-vessels and viscera will be found and appropriately treated. The track of the ball should be enlarged, under aseptic precautions, until it has been determined whether or not the peritoneum has been opened. Then median section should be performed to ascertain the existence of and repair any damage that may have been done. The above remarks can only apply to wounds of the anterior and lateral walls of the abdomen. When the posterior wall is involved, it is unadvisable to ascertain the fact of peritoneal penetration by direct exploration. In these cases a correct opinion is almost always difficult and often impossible without laparotomy.

Profound shock, if not due to hemorrhage, is a contraindication to operation. The surroundings should not contraindicate operation in a proper case provided the operator be expert in abdominal surgery. Most cases will do better if left to nature than they will if operated on by a bungling surgeon. If well-advanced peritonitis exists, laparotomy is contraindicated. Where there is no visceral complication, operation under these circumstances may sometimes be justifiable. Laparotomy, if done at all, should be done at the earliest possible moment that the condition will admit of it. Shock is the only thing that should delay the operation, and this should not do so if the condition is produced by hemorrhage.

In operating strict antiseptic precautions should be carried out. The incision should always be median, extending from a short distance above the umbilicus to two inches above the pubes. Unless there be free hemorrhage the small intestines should be carefully gone over, keeping them constantly enveloped in towels wrung out of hot water. Afterward the stomach, spleen, kidneys, bladder, etc., must be carefully examined. The source of a severe hemorrhage must at once be sought after. Wounds of the bowel should be secured with the Lembert suture and dusted with a little iodoform. Wounds of the liver, if occupying its free border, should be coaptated, if possible, with dry aseptic catgut, which will soon swell and fill the track made by the needle. If this cannot be done, the hemorrhage possibly may be arrested by the thermo-cautery, or if the bleeding is free, the wound should be plugged with an iodoform gauze tampon. If at the close of the operation the bleeding is almost completely checked, the cautery may be used as a further protection, and the tampon removed. If, however, the bleeding is still free, the tampon should be replaced and allowed to remain permanently. Wounds of the pancreas, spleen, and kidneys are to be treated in a similar manner. If these measures fail the spleen or kidney is to be removed. Wounds of the bladder had better be united with dry catgut. Contused portions of the bowel should be excised. Wounded or contused omentum or mesentery should also be removed. In removing a portion of the bowel the cuts should correspond to the distribution of a large mesenteric branch. Should the pulse fail during the operation, flushing the abdominal cavity with hot water is often of service. The peritoneal toilet is most quickly and effectively made by irrigation with warm sterilized water and subsequent removal with sponges. Wounds of the peritoneum should be united. In closing the abdominal cavity, the peritoneum should be sutured with fine silk or catgut. The muscular aponeurotic and cutaneous structures should then be united with strong silk. The wound should be dusted with iodoform, and the dressing completed by the application of a pad of absorbent cotton and a flannel bandage.

Alimentation should be carried on by the rectum for forty-eight hours when possible. Where peritonitis comes on after the operation, the treatment will depend upon whether it has developed rapidly or gradually. In the former case there is often evidence of shock from vasomotor paresis, and in these cases small doses of morphia with atropia will be of service, while large doses of opium may prove fatal. This should be continued until pain is relieved and the patient falls into a quiet sleep, from which he is readily aroused. In the latter stages of peritonitis one or more hypodermics of atropia will at times save otherwise hopeless cases. For the control of the vascular processes involved in peritonitis we have two powerful measures in the ice-coil to the abdomen and in the use of leeches if applied early and the patient has not lost much blood. If the temperature continues to rise, despite treatment, it is probable that ptomaines are being absorbed, producing sapræmia. In such cases, irrigation with safe antiseptic fluids is indicated.

(To be continued.)

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 8 to May 14, 1887.

ALEXANDER, C. T., Lieutenant-Colonel and Surgeon. Granted leave of absence for four months, with permission to go beyond sea, to take effect May 23, 1887. S. O. 105, A. G. O., May 7, 1887.

HARVEY, P. F., Captain and Assistant Surgeon. Granted leave of absence for four months, with permission to go beyond sea, to take effect June 10, 1887. S. O. 105, A. G. O., May 7, 1887.

BIART, VICTOR, Captain and Assistant Surgeon. Ordered for examination by Army Retiring Board at Fort Leavenworth, Kan. S. O. 107, A. G. O., May 10, 1887.

ELBREY, F. W., Captain and Assistant Surgeon. Ordered for examination by Army Retiring Board at Washington, D. C. S. O. 109, A. G. O., May 12, 1887.

Official List of Changes in the Medical Corps of the United States Navy for the week ending May 14, 1887.

GRAVATT, C. U., Surgeon. Detached from U. S. S. Michigan.

LUMSDEN, G. P., Passed Assistant Surgeon. Ordered to the U. S. S. Michigan.

ASHBRIDGE, RICHARD, Passed Assistant Surgeon. Detached from the Naval Academy and ordered to the Practice Ship Constellation.

STREETS, THOMAS H., Passed Assistant Surgeon Promoted to Surgeon.

THIRST IN YOUNG INFANTS.—It is a mistake to suppose that because milk is a liquid food it is at the same time a drink which is capable of satisfying the thirst of infants. Although milk appeases hunger, it makes thirst more intense after it has remained some time in the stomach and digestion of it has begun. It is thirst which causes healthy, breast-nourished infants to cry for long periods of time in many instances. There are many cases of indigestion due to weakness or insufficiency of the child's gastric juice which would be greatly benefited or even cured if the child were allowed an occasional drink of water.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending May 14, 1887:

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	8	2
Scarlet fever	72	9
Cerebro-spinal meningitis	2	2
Measles	91	8
Diphtheria	120	46
Small-pox	11	5
Yellow fever	0	0

To Arrest Nasal Hemorrhage.—In persistent hemorrhage from the nasal cavity, plugging the posterior nares should not be done until an attempt has been made to check the hemorrhage by firmly grasping the nose with the finger and thumb, so as completely to prevent any air from passing through the cavity in the act of breathing. This simple means, if persistently tried, will, in many cases, arrest the bleeding. The hemorrhage persists because the clot which forms at the rupture in the blood-vessel is displaced by the air being drawn forcibly through the cavity in the attempt of the patient to clear the nostrils. If this air is prevented from passing through the cavity, the clot consolidates in position and the hemorrhage is checked.—*Edinburgh Medical Journal.*

Sugar in the Blood.—A series of researches has been completed by Professor Seegen, of Vienna, which would appear to show that the sugar formed by the liver is derived from albumen and fat. Seegen also believes that the blood passing from the liver contains an infinitely greater quantity of sugar than that entering the organ. That the newly formed sugar in the liver is wholly independent of saccharine food, as well as of the carbohydrates introduced with the food. That even the hepatic glycogen is unconcerned in the production of sugar in the liver. The fact that sugar is formed from fat is a new one, and is not in accord with previously entertained chemical and physiological ideas. It appeared to the author, therefore, of much interest to experimentally demonstrate the conversion of fat into sugar. This was accomplished by bringing together fatty bodies and blood with finely divided liver-substance. The settlement of this question, that sugar is formed from fat by the liver, seems to point to that organ as the great laboratory in which the food is changed for the purpose of life, for the performance of work, and the production of heat. It has a great practical significance, inasmuch as it teaches us the full worth of fat as material for food. —*Weekly Medical Review.*

For a crying, irritable, peevish infant, Professor Bartholow speaks very highly of the following:

℞. Sodii bromidi..... gr. v
Mist. asafœtidæ.....f ʒ j M.

Sig.—*Pro re natâ*

If there be no flatulence, simply give the bromide in camphor water.

Fasting Exhibitions.—They do these things differently in Germany. The enterprising individual named Cetti, whose exhibitions in Italy and in Paris last year will be remembered, proposed recently to make exhibition of his fasting powers (for money) in Berlin, but the authorities very properly prohibited the stupid exhibition. The *Medical Press* supposes an Act of Parliament would be required in our favored free country (*i. e.*, England) before any city authorities would dare to take such high-handed action in the case of an exhibition, however senseless, so long as there was no actual danger to life.

Chloroform and Ether.—Dr. J. P. Wilson, of Poughkeepsie, writes that, after a considerable experience with anæsthetics, he has come to the conclusion that the best way is to use both chloroform and ether. He begins with ether, and after the choking sensation has passed away, combines the two until complete relaxation has been produced, when chloroform alone is used. In childbirth and for children he uses chloroform alone.

The Prognosis in Acetonæmia.—Dr. J. C. Neal, of Archer, Fla., referring to the article by Dr. Cheesman on "Acetonæmia," writes: "For some years I have felt obliged to pronounce a fatal prognosis in the fevers incident to Florida, whenever the fruity, vinegar-like odor appeared in the breath, especially if the urine had a specific gravity of over 1.024. This odor is noticeable a day or two before death, and the wine-red reaction of the urine with ferric chloride occurs generally within a few hours of the fatal coma. I look upon these tests as exceedingly valuable, especially the fruity odor, and when it has occurred in cases of malarial hæmaturia, marasmus, cholera infantum, and continued fevers, I have never witnessed a recovery."

Professor Ball's Treatment of the Morphine Habit consists, first, in placing the patient under strict watch in a maison de santé; second, in taking away the morphine more or less completely; third, in giving hypodermatic injections of sparteine to relieve the cardiac depression. Sometimes a little morphine is added, and sometimes nitroglycerine is given also.

A Six-fingered Family.—A communication having reference to twenty-seven individuals and five generations is summarized as follows in the *Rev. Internat. des Sci. Méd.* First generation: Man, born in the year 1752, had six toes on one foot. Second generation: A son with six toes on one foot; a daughter, normal. Third generation: This daughter had five children, among whom were a son and daughter each having six fingers on each hand. Fourth generation: The daughter last mentioned had eight children, including one son having six toes on one foot, another son and two daughters each having six fingers on each hand, and one daughter having both six fingers on each hand and six toes on each foot. Fifth generation: The daughter last mentioned (the *Revue* makes a mistake here) had three children, including a son doubly deformed like his mother, and a son with six fingers on each hand, the feet being normal. Moreover, one of the two daughters of the fourth generation (with only the hands affected) had eight children, several of whom were normally developed, but the rest were deformed as follows: One daughter had an osseous thickening at the digital extremity and on the outer border of the fifth metacarpal; one son had six fingers on each hand and six toes on each foot; and another son had six fingers on each hand. Thus, in the first generation, one person was affected, and in the second also one; in the third, there were two cases of deformity; in the fourth, five; and in the fifth, in all five; that is, fourteen deformed persons altogether during five generations of this interesting family.—*British Medical Journal.*

Wiring the Patella—Pyæmia—Death.—A patient was brought to St. Mary's Hospital, Quincy, Ill., in the service of Dr. William A. Byrd. He had an old fracture of the patella, the two pieces of bone being separated for five inches when the leg was flexed. The limb being perfectly useless as it was, he was very anxious for the patella to be repaired. The bones were cut down upon, and each piece transfixed by two wires. By tightening the wires the parts were brought nearly together. Tenotomy of the quadriceps femoris was required before they could be brought into close apposition. The wires were twisted; through and through drainage established at the lower part of the knee's joint. He did well for a while, but pyæmia ensued, of which he died.

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Original Articles.

A RARE FORM OF SEPTICÆMIA FOLLOWING OPERATION FOR URETHRAL STRICTURE; SEPTICEMIE GAZEUSE FOUDROYANTE.[1]

BY R. W. TAYLOR, M.D.,

SURGEON TO CHARITY HOSPITAL, NEW YORK.

THREE reasons prompt me to report the following case. First, because it illustrates a form of septicæmia not generally known or systematically described in the English language; second, because its history presents a typical clinical description of this rare and deadly affection; and third, because it is unique, I think, in literature, as an illustration of the complication of an urethral operation by this form of septic infection.

In the spring of the year 1878 I was asked by an esteemed colleague, now deceased, to assist him in an operation for urethral stricture, and, if the precarious state of his health rendered it necessary, to take more or less complete charge of the subsequent treatment. The patient was a man, aged twenty-eight, of temperate habits and athletic build. His stricture had followed several attacks of gonorrhœa, from which he had suffered during the previous nine years. Otherwise he had enjoyed perfect health. His urine was examined several times prior to and just before the operation, and found to be normal. The stricture was at the bulbo-membranous junction, and admitted a No. 4 bougie, French scale. Under ether this stricture was incised by means of Maisonneuve's instrument, and a steel sound No. 32, French scale, was passed, without any hitch, into the bladder. The operation was performed on Sunday at 4 P.M. I need scarcely add that every attention to cleanliness was observed, and that the operation was uncomplicated by any drawback, such as we sometimes experience, requiring withdrawal and reinsertion of the cutting instrument, or repetition of the confirmatory introduction of the sound. In fact, the utmost care and gentleness were observed, and we both thought that there had been no unnecessary wounding of the tissues. Quinine was given when the patient came out of the ether. All seemingly went well, until Monday morning. The urine was passed freely four hours after the operation, and the patient slept tolerably well all night. At noon on Monday he complained of a dull, uneasy sensation in the perineum, of languor and want of appetite, and informed us that he had not urinated since the previous evening. His temperature was 101° F.; tongue rather dry and coated, and skin dry. A hydragogue cathartic was given at once, which operated freely on the bowels. A small quantity of urine was voided. In the evening the general condition was similar to that of the morning, except that the temperature had reached 104° F. Infusion of digitalis was given to stimulate the kidneys, and ten minims of Majendie's solution were injected into the arm to cause sleep and relieve the restlessness and anxiety of the patient. A specimen of urine, of which a small quantity had been passed during the evening, was examined by me and found to be bloody in appearance, acid in reaction, of a specific gravity of 1.028, highly albuminous, and to contain hyaline and granular casts in abundance, and blood- and pus-corpuscles. His sleep was broken and troubled during Monday night, and on the following morning we found him utterly prostrated by weakness, very nervous, anxious, restless, with headache, nausea, and great thirst. Temperature was 102° F., tongue parched, skin dry, urine scanty, and bowels inactive He had taken Vichy water and milk and infusion of digitalis. The patient complained of great pain in the perineum. We found the tissues in the course of the urethra from the base of the scrotum to the verge of the anus swollen and boggy. A flaxseed poultice was ordered to be applied continuously. The situation in the evening was similar, but rather more pronounced. The temperature was 105° F. The bogginess, which had early in the day been limited to the perineum, had at 9 P.M., Tuesday, extended fully six inches to the left and was the seat of preternatural heat. Poultices were continued. The existence of the extravasation of urine was at first suspected, but the subsequent course of the case showed that that diagnosis was not warranted.

To quiet the extreme anxiety and restlessness fifteen drops of Majendie's solution were injected into the hypogastrium, with the hope of also allaying the local pain. At 2 A.M. on Wednesday I was summoned in great haste, my colleague being too ill to leave his bed. I found the patient in great mental and physical agony; so restless was he that he could hardly remain in one spot, and so utterly weak and prostrated that he could scarcely move. His sufferings had been much increased within the past six hours by severe dyspnœa. The temperature had fallen to 102° F., the pulse was 110 and filiform, and the action of the heart tumultuous. His facies wore a pinched and agonized look, with a deadly earthy pallor, and sunken eyes surrounded by dark circles. The whole of the left buttock, beginning at the urethral region, presented a very peculiar appearance. The integument, as far as the crest of the ilium, was distended, tense, and hot. Pressure upon it revealed œdema and emphysema. The peculiar crackling noise, as if air was present underneath, could be distinctly heard. Over this morbid expanse the integument had undergone striking changes. A marked lowering of the temperature of the skin was noted at this time. In patches it had a bronzed color, comparable in hue and density to the rind of ham. Intermediate to these hand-sized patches of pigmentation were irregular ecchymotic spots, and between these discolorations the normal hue of the skin was present, traversed by dark-blue lines of swollen, congested veins. The edematous and emphysematous condition of the skin ended in a well-defined margin. The perineal region was of a deep red, and edematous. Nausea was so great that scarcely any fluid could be retained, while the thirst was unquenchable. A small quantity of urine had been passed. He begged continually for hypodermic injections of morphine, which would for a short time steady his pulse and in a measure relieve him of the dyspnœa which intensified his sufferings very much. At noon the œdema and emphysema had extended to the hypogastric region, had invaded the left side and right gluteal region, and was rapidly increasing in every direction. The bronzed and ecchymotic patches developed coincidently with the œdema. The temperature in the axilla was 98⅕°. With the exception of a few short naps the patient had been without sleep since Monday night.

The condition of the patient in the evening was simply an intensification of that of noon. The greater

[1] Read at the first meeting of the American Association of Genito-Urinary Surgeons, at Lakewood, N. J., May 18, 1887.

part of the trunk and the right leg had been attacked, and the face, which all along had been pinched, became somewhat swollen. Amid these terrible sufferings the intellectual faculties of the man remained perfect. At this time his great restlessness, his agony, utter prostration, and dyspnœa were painful to behold. His unceasing appeals for death were piteous in the extreme. At 10 P.M. the axillary temperature registered 97° F., and the pulse so small and rapid that it was impossible to count it. His condition continued to grow worse until 7 A.M. of Thursday, eighty-seven hours after the operation, when he died in untold agony, in the full possession of his mental faculties, of failure of the heart's action. The corpse presented a horrible appearance, and emitted an intolerable, sickening stench. The head and neck were swollen beyond recognition. The scrotum was as large as a man's head, purple, gangrenous, and oozing. The body was nearly twice its normal size, and when tapped by a small instrument, such as a pencil, gave resonance similar to that of a drum. The bronze and ecchymotic patches had invaded the whole integument, and large bullæ, some distended with bloody serum, others ruptured and exuding a fetid fluid, were scattered over the trunk.

Though spoken of by Larrey in 1792, and again in 1836, and at different times described in a more or less imperfect manner by Martin de Bazas, 1836; Chassaignac, 1849; Maisonneuve, 1853; Velpeau, 1855; and Salleron in 1858, this affection was really not well known until 1870. It is to French surgeons, moreover, that we are indebted for the bulk of our knowledge concerning it. A multiplicity of names have been applied to it, many of them unprecise, while others, based on opinions as to its nature or upon individual symptoms, were more or less imperfect. The following list includes the chief titles: Emphysème gangréneux ou empoisonnement traumatique (Chassaignac), érysipèle bronzé (Velpeau), pneumohémie putride (Maisonneuve), gangrène foudroyante (Maisonneuve and Frèry), emphysème du moignon (Salleron), infection putride aiguë (Perrin), gangrena invadente (Bottini), septicémie gangréneuse aiguë (Morand), gangrène foudroyante traumatique (Jubin), œdème aigu purulent (Pirogoff), panphlegmon (Fischer), septicémie aiguë à forme gangréneuse (Terrillon), gangrène gallopante (Gosselin), gangrène gazeuse (Mollière), gangræna septica acutissima (Hueter), acute traumatic and spreading gangrene (W. Maccormac), acute spreading gangrene (Sydney Jones), and traumatic gangrene of many authors. Though so much has been written on this affection by so many observers, there is really but one systematic and exhaustive article on the subject, and that is written by a French surgeon of marine, Dr. Trifaud,[1] who, though he adopts the name given to the affection by Mollière, thinks that the expression septicéme gazeuse foudroyante is more exact. In this I fully agree with him. Trifaud's admirable study is based on one hundred and twenty-three cases, twelve of which were his own.

This disease occurs in greatest numbers among the wounded of armies and in the navy, and is particularly deadly in persons addicted to alcohol. It may have its point of departure in any solution of continuity exposed to the air, but seems to follow injuries of the leg rather than of the arm. Out of the one hundred and twenty-three cases collected by Trifaud it was found seventy-five times in wounds of the leg, and was more rapidly fatal where the wounds presented extensive anfractuosities. It always begins thus locally, and from the point affected spreads, and unless arrested by amputation involves the whole body, constituting one of the most terrible and deadly accidents known to surgery. While in most cases it appears in epidemic form in camps, ships of war, and crowded hospitals, it may also appear sporadically, as in the foregoing case, in a recent case at the St. Thomas Hospital,[1] London (Mr. Sydney Jones), and in one case in private practice, and another in hospital practice, both patients of my friend Dr. R. F. Weir. During the Crimean War, Salleron, out of sixty-five amputations, saw this form of septicæmia develop in fifty-eight cases within eight days, and seven times after the eighth day, while in Jubin's experience in the Hôtel Dieu, at Lyons, he observed its appearance in nine cases on the second day after traumatism. It rarely appears after pus-formation occurs in wounds. It is a singular fact that, while this affection was of frequent occurrence during the Crimean War, Salleron reporting sixty-four cases in six hundred and twenty-nine operations, during the Franco-German War of 1870 and 1871 French surgeons knew but little of it and regarded it as a form of hospital gangrene, and, further, that in 1881, when it became epidemic at the Hôtel Dieu, at Lyons, it was not seen in the equally crowded hospitals in Paris.

Septicémie gazeuse foudroyante has a clearly marked clinical history which, in the majority of cases, varies very little from the type-form; hence there is no necessity for errors in diagnosis. Beginning in the wound, it manifests itself by pain of varying severity. The parts look unhealthy, red, and swollen, and a thin, reddish, ichorous fluid exudes therefrom. Unless then arrested by ablation and thorough cauterization the disease inevitably extends. Then we find the painful and boggy point of departure, and very soon the œdema, the emphysema, the bronze and ecchymotic patches, the tortuous lines showing dark and swollen veins generally by continuity of tissue. In some cases, however, spots of the disease appear at points remote from the original focus, transmitted by the circulation. Soon we find the whole body invaded—its great distention, the formation of bullæ and oozing surfaces, and its rapid disintegration. French observers lean to the opinion that there are two forms of this affection—the one in comparison slow, pursuing much such a course as that observed in the foregoing case; the other extremely rapid, and fully meriting the adjective *foudroyante*, or its English equivalents, thundering, fulminating. In a case reported by Morand, the disease, beginning in the middle of the leg, spread to the base of the thigh during the eight or ten minutes necessary for anæsthesia and the preparation of instruments. According to my reading, however, it is only in the epidemic form on fields of battle and in crowded hospitals that this lightning-like course is observed. Unwholesome surroundings and debility from any cause undoubtedly tend toward such a result.

The subjective symptoms of this form of septicæmia are very constant and typical. They are quite fully portrayed in my details of the case. We find in a short time the thin, rapid, arhythmical pulse and the early appearing and increasing dyspnœa, which causes the patient so much suffering. Then comes the earthy pallor of the face, its pinched, anxious expression, with its deeply set eyes, surrounded by black rings. Besides there is the indescribable weakness, the restlessness and jactitation, and anxiety which increases to agony. The tongue becomes parched, the stomach more or less intolerant, though the thirst is severe and continuous. Sometimes there is bilious vomiting, sometimes diarrhœa, and at others constipation. And so do these symptoms become more intense until death relieves the sufferer, who usually is perfectly conscious to the last. During the first few hours of the disease the temperature may rise several degrees, but very soon it falls until several degrees below normal are reached.

In the light of our present knowledge of the rôle of micro-organisms in the causation of disease, the origin of this terrible affection is readily understood. At the time the foregoing case occurred we knew very little of these organisms, and less of their effects. It was quite natural, therefore, that my colleague and myself should look upon the complication as being caused by decomposition of

[1] Revue de Chirurgie, October, November, December, 1883.

[1] Lancet, February 4, 1887.

the tissues and fluids, and as being an anomalous form of septicæmia. It is the opinion of recent observers that this fulminating form of septicæmia is caused by a specific septic bacterium. Trifaud says that an absolute experimental demonstration of the rôle of the microbe of this form of gangrene has not as yet been made out. But certain facts point to it as the direct cause. These are, the constant presence of the microbe in the fluids of the body, and its extensive and rapid multiplication therein; the reproduction of the disease in animals by inoculation with the fluid containing this microbe, and the failure to reproduce it when the serum used has been previously filtered; and lastly, the negative fact that where perfect antisepsis is followed the disease has not been known to occur. I think, therefore, that a very strong case has been made in favor of the microbian origin of this deadly disease. We know as yet very little of a precise nature of the life-history and physical appearance of this bacterium. Trifaud thus describes it, and I prefer to use his own words and to let other observers make their own translation: "Cette bactérie est anatomiquement characterisée par un bâtonnet long et grêle, présentant à l'une ou aux deux extrémités un nucléole; elle possède des mouvements nombreux et variés; elle monte, descend, tournoie dans le liquide de préparation au milieu de nombreux corps lenticulaires et de spores."

The bacterian origin of this affection being conceded, the practical application of the fact forcibly suggests itself. When we know that such a terrible and deadly scourge as this disease may originate in so simple a lesion as a leech-bite, and in all wounds, traumatic or surgical, our duty to use all intelligent and conservative measures toward thorough antisepsis is plainly and forcibly indicated.

As to the origin of the disease in the case which I have detailed, I am constrained to say that I think the morbific agent was carried to the deep urethra either by the urethrotome or the sound. I must here add that the operator was a man thoroughly versed in all genito-urinary operations and one of the most careful and painstaking of men in all details incident to an operation and as to care and cleanliness of instruments.

Owing to the rapidity of decomposition, in all cases of death from this form of septicæmia autopsies must be made immediately. It is then found that the disease has involved the cellular tissue, which is softened and permeated by a reddish fetid fluid and by gas, which is generated in large quantities after death. There is also a diffluent condition of the blood, but pus and metastatic abscesses are never found.

Trifaud very pertinently asks whether many cases of death from supposed poisoned projectiles were not those of septicémie gazeuse foudroyante.

40 West Twenty-first Street.

Mortality in Public Lying-in Hospitals of Germany.—Döhrn, in *Zeitsch. f. Geb. und Gyn.*, p. 121, 1886, draws attention to the great diminution in the mortality of lying-in women which has taken place in the above-mentioned establishments since the introduction of antiseptics. He selected the period of 1874–83, since in 1874 antiseptics were scarcely used anywhere, while in 1883 they had become very general. The total number of cases of labor was 104,287, and 1,429 women, or 1.37 per cent., died. The vast improvement indicated by this percentage will be clear on comparison with the statistics of previous years. Thus, in 1866, Lefort found the average mortality in the lying-in hospitals to be 3.4 per cent., while Winckel, in 1869, calculated the mortality on 500,000 births to be 3 per cent. Even this great improvement, however, in lying-in institutions leaves their mortality far behind that of women attended in private practice; in the latter the percentage of deaths is only 0.6 to 0.7 per cent. Various influences contribute in bringing about this result.

ON TEMPORARY OVERSTRAIN OF THE BLADDER, PRODUCING LOCALISED ATONY AND CHRONIC RETENTION OF URINE.[1]

By F. N. OTIS, M.D.,

Clinical Professor of Genito Urinary Diseases in the College of Physicians and Surgeons, New York.

Long continued obstruction to urination, as through organic stricture or enlargement of the prostate gland, while often causing a general thickening and rigidity of the bladder-walls, is recognized as capable, in certain cases, of producing a mechanical overstrain and consequent thinning of the muscular structure of the bladder, diminishing its contractile power, and thus preventing, to a greater or less extent, the complete discharge of urine from the bladder by voluntary effort.

This condition is called atony or inertia of the bladder, to distinguish it from the paresis or paralysis of the bladder which is dependent upon nerve-lesions.

While, however, atony of the bladder, as a rule, is due to long-continued urinary obstruction, and is chiefly found in elderly persons whose muscular structures are already more or less enervated, yet this is a form of this trouble which results from a sudden overstrain through even a single attack of retention, at any period of adult life, and independent of any organic obstruction. Such an attack may be the result of spasmodic stricture caused by irritation of the muscular urethra through a contracted meatus urinarius or a stricture of the urethra (even though slightly narrowing its lumen), or through inflamed hemorrhoids in persons otherwise healthy. It may occur through temporary loss of sensibility, as from the effects of alcohol or narcotics; or during the course of a low fever; or from a convulsion or any nervous shock; also from disregard of desire to urinate, or from sexual irritation or excess. A retention from any cause may, within the space of even a few hours, produce an overstrain of the muscular structures of the bladder, causing entire loss of the voluntary power of urination; a loss which, especially if occurring in advanced life, not infrequently necessitates the use of the catheter for the passage of every drop of urine during the remainder of the patient's lifetime.

The frequency with which such accidents as the foregoing have been brought to my notice has impressed me with the importance of, if possible, a greater solicitude in regard to the condition of the bladder in all persons who have been for any period insensible from any involuntary cause, or who have experienced any decided nervous shock, or who are the subject of any urinary difficulties.

I desire on this occasion to call attention to a few cases in my own experience bearing on this point.

In the first place, in order to illustrate the cause which I believe to be the most frequent in producing urinary retention, and thus atony of the bladder, to a greater or less extent, I will cite a case reported to me by the late Prof. R. W. Pease, of Syracuse, some time since:

General H——, aged sixty-five, previously free from all urinary trouble, while walking was seized with a desire to urinate, and on attempting to do so was quite unable to pass a drop. Dr. Pease was called some few hours after, and attempted to draw his urine by means of a flexible catheter, No. 20 (F.); the size of the meatus passed the instrument readily as far as the bulbo-membranous junction and there it was arrested. Various sizes, soft and metallic, were used with the same result. A consultation was called, in which several prominent physicians and surgeons of Syracuse took part. The patient was etherized, and efforts were made with various instruments, from No. 20 (F.) to the filiform size, to enter the bladder, but without success. There was no enlargement of the prostate. As the bladder was then considerably above

[1] Read at the meeting of the Association of Genito-Urinary Surgeons of America, at Lakewood, N. J., May 18, 1887.

the pubis, it was determined to relieve it by aspiration. Just as the aspirating-needle was about to be inserted, mention was made of the fact that such cases were claimed by Dr. Otis to be sometimes due to a spasm of the compressor urethræ muscle, caused by a contracted meatus urinarius. The meatus was forthwith divided, and the largest catheter available (30), of the French scale, was introduced, and passed readily into the bladder. As the doctor expressed it, "It slid into the bladder like a boy sliding down an ice-covered hill."

Professor Alfred C. Post relates the following:

In March, 1884, he saw in consultation a lawyer, aged sixty-two, with a retention of urine. There was a history of several previous attacks, which were relieved by the introduction of a small catheter into the membranous portion of the urethra. The urine flowed at this point, but the instrument could not be passed into the bladder. The trouble was believed to be caused by senile enlargement of the the prostate. Examination by the rectum showed that there was no such enlargement. The orifice of the urethra was contracted to 15 of the French scale. Dr. Post incised it and passed 24, the largest catheter he then had, easily into the bladder and relieved the retention. On the following day he incised the orifice still farther, and passed a solid sound, No. 33, with ease. The patient regained at once the power of emptying the bladder voluntarily, and, after a period of several months, was found to have retained this power.

Mr. C——, aged seventy-two, referred to me by Dr. C——, of Ohio. History of difficulty of urination for two years previously. His trouble was assumed to be from prostatic hypertrophy, and the use of the catheter was commenced, using it twice in the twenty-four hours. Twice within the next few months he had a complete retention of urine for a day, with much pain; since that time was able to void but a very small quantity of urine voluntarily. Examination showed but slight prostatic enlargement. Urine increased at will through the catheter. Highly ammoniacal and purulent. Attempts at voluntary urination frequent, with pain in glans penis at close. Examination of the bladder failed to detect stone. Examination of urethra showed a normal calibre of 38, a narrowing at 4 inches of 5 mm., and at 3 inches one of 8 mm., also a narrowing at the orifice to 26; these strictures were divided to 38, and 32 solid sound passed into the bladder.

The immediate result of the operation was slight constitutional disturbance, lasting forty-eight hours, frequent necessity of use of catheter every hour or two for twenty-four hours, then a sudden improvement—intervals, six to eight hours; complete loss of pain at glans penis after voluntary urination and gradual increase of quantity voided. On the seventh day he emptied his bladder voluntarily. He went home on the tenth day with the understanding that the occasional use of the catheter should be continued until the power of emptying the bladder was fully restored. A recent letter from his physician informs me that the use of the catheter is still required to completely empty the bladder, but that there has been no retention; the pain in the glans penis, originally relieved by the operation, had returned. In this case, on account of the age of the patient, 32 sound only was introduced through the deep urethra after operation; a full distension at this point would probably have produced more permanent results, although increasing the risk of constitutional disturbance.

Mr. F——, a gentleman of seventy, suffered with posterior spinal sclerosis for several years, but was able to walk about his apartments, though with difficulty. He lived alone, declining to have any personal attendant. One morning in January last was troubled with slight diarrhœa; he took an accidental overdose of Squibb's tincture of opium. During the narcosis which followed he had a retention of urine of from twelve to eighteen hours' duration; previously to this he had no urinary difficulty. The bladder was gradually emptied by catheter, during the next twenty-four hours from three to four pints being withdrawn. The use of the catheter was continued for twenty-four hours longer, when, having completely recovered from his narcosis, it was found that he was unable to pass a drop of urine voluntarily. He was found not to have any prostate enlargement. This complete retention continued, relieved only by catheter, for the next two weeks, requiring its passage every two hours, day and night, when he regained voluntary power of urination to the extent of passing an ounce or two while in the closet. As a 24 F. catheter had been easily passed, no examination was made for stricture. This was now done, resulting in finding several points of contraction, strictures of large calibre, of 13 mm. (27 F.) in a normal urethra of 40; meatus, 32 F. These were divided and 40 sound passed through the strictures, 38 into bladder. There was not the least constitutional reaction. There was an immediate increase in desire to urinate, requiring now the use of the catheter every hour or two for about a week, caused by a slight cystitis of the vesical neck. This, however, yielded to ordinary measures and he began to urinate voluntarily at irregular intervals, and requiring the passage of the catheter less and less frequently, until at the end of a month he would go five and six hours without the necessity of emptying his bladder. His general health continued excellent, his mental condition improved in a very marked degree, and even his power of locomotion was increased, but his inability to empty his bladder completely continued, having habitually from two to four ounces of residuum after every voluntary micturition. In the meantime ergot, strychnia, iron, cold-water injections into the bladder, douches, etc., had been administered, without apparently affecting the local difficulty in any way, and the case continues in about the same condition to-day.

Another case was one where a slight paresis of twenty years' standing and of central origin complicated the atonic condition. The patient was able to pass the urine voluntarily, with the exception of an ounce or two of residuum. About a month since a uræmic convulsion occurred. Two hours preceding this the urine had been drawn by catheter. Two hours after, when I saw the case, the bladder was prominent above the pubis and I drew off twenty-three ounces of urine of a specific gravity of 1.005. This retention was followed by a complete loss of the voluntary power of urination, which continued for several days.

In May, 1885, Mr. M——, was referred to me by Dr. B. of Canada, with complete loss of the power of voluntary urination. His history was as follows: Three years ago, having had no previous difficulty in urination, he, on one occasion, forgot to void his urine on going to bed. Attempting it on the following morning, he found himself unable to pass a drop. A catheter was introduced by his physician without much difficulty, and a large amount of urine drawn off. This loss of power continued. He was obliged to learn the use of the catheter. From this time, in spite of much treatment by electricity, strychnia, mineral waters, and a thorough course of mercury (as syphilis was suspected by a physician at one of the springs which he visited), he went on without improvement in his urinary function. After a year he had an attack of cystitis, lasting some five weeks, during which his power of urination returned and he was compelled at times to urinate every half-hour. When this cystitis passed off, however, his ability to urinate also departed and he remained in this condition absolutely without being able to pass a drop of urine voluntarily, and was obliged to use a catheter on an average of once every few hours up to the time when he came under my observation, fully two years from the date of his first attack.

The general health of the patient was enfeebled. He was the subject of great mental depression, and was much of the time absorbed in the contemplation of this bladder trouble, but he suffered no pain.

On examination, patient passed a No. 20 gum-elastic

catheter with ease, although at times there was some difficulty from urethral spasm. The urine drawn was clear. There was apparently no atony of the bladder, as the urine was propelled through the catheter with force and was promptly increased at will. There was no prostatic enlargement, and nothing abnormal could be detected through examination of the bladder by metallic sounds or bimanual touch. Penis, 3¼ inches in circumference. By urethrometer, 32 mm; at bulb and anterior two inches then there was a narrowing to 25 mm. (7 mm.), for half an inch anterior to which the urethra was contracted at several points from three to five millimetres; narrowing at the meatus to 28 mm.

The presence of more or less stricture had been recognized by his physician, and as all measures used had failed to afford relief, he was referred to me for any operation which might promise to restore his urinary function.

The presence of strictures of large calibre, as in the present instance, had been associated in my experience, in many cases, with repeated retention of urine of a temporary character, in several instances producing more or less atony of the bladder. Here, however, the muscular structures appeared not to have been impaired.

I had seen and reported cases where long-continued partial obstruction to voluntary urination was caused by the reflex influence of strictures of large calibre, as proved by the immediate and permanent relief afforded by their division and the introduction of a full-sized sound, one a notable instance where a retention of three years' standing (the bladder habitually containing two pints of urine) was relieved in a similar manner; but in all the cases there was either inability to pass any instrument through the membranous urethra, or to such a degree as to warrant the assumption that the difficulty, if not organic stricture, was dependent upon spasmodic closure of this portion of the urethra from reflex irritation. In this case, however, while there was, from time to time, much annoyance from such cause during catheterization, yet, as a rule, a 20 F. catheter was readily passed into the bladder, while at no time could a drop of urine be passed voluntarily.

The complete removal of these strictures was advised, with the distinct understanding that while a complete restoration of the urethra to its normal calibre might restore the urinary function, yet it was not improbable that some condition at the vesical neck was the chief cause of the trouble, and if not relieved by the internal urethrotomy a digital exploration of the bladder through perineal section would be required.

On June 1, 1885, Mr. M—— was etherized, his strictures thoroughly divided by dilating urethrotomy, and a No. 32 solid steel sound passed, without force, well into the bladder. The urine was drawn by catheter, as usual, and a No. 32 sound was passed through the urethra as far as the bulb every other day for a week after the operation. A few drops of urine had, from time to time, passed involuntarily during a passage from the bowels after the third or fourth day. On the morning of the eighth day, the urine having been allowed to accumulate until some distention of the bladder was recognized, the attempt to urinate was made; a few drops of urine only responded. This, however, gave a distinct sense of relief, but the remainder required to be drawn with the catheter. Although disappointed at the result, the patient, whose constant brooding over his trouble amounted almost to a monomania, was comforted by a rapid improvement in his general health and in his mental condition, which began immediately after the operation. The ability to void a few drops of water while at stool was the only approach to an improvement in the urinary function which had been attained by the operative measures; and it was evident that the cause was not in the urethra, but in the bladder. It was determined, however, to delay any further operative measures until the autumn, when, if the difficulty still remained, and his general condition seemed to warrant it, the digital exploration of the bladder through the perineum should be made.

Mr. M—— returned early in October, four months after, in excellent condition; but he had had no voluntary passage of urine, except the few drops when his bowels were moved. His sexual powers, which had been greatly impaired before the operation, were fully restored, and he had only the necessity of passing the catheter once in six hours, as against once in four hours previous to the urethrotomy. His urine was examined and found to be normal.

On October 9th Mr. M—— was etherized and the perineal section performed, Dr. L. B. Bangs, Dr. Norris, and Dr. W. K. Otis assisting. Introducing my finger through the perineal opening, I was unable to detect any abnormal condition in the prostate or in the bladder, which was, by means of bimanual touch, thoroughly exposed in every part. The only part that even suggested any further interference was an unusual tightness at the vesical orifice, notwithstanding the thorough dilatation which it had undergone, and this was not, however, considered to require any further operative measures. A tube was introduced and retained for the next five days, when, on removing it, no urine passed through the sound or through the penis. Complete retention occurred, which was relieved by the passage of a catheter through the wound, twelve ounces of urine being withdrawn. With a Davidson's syringe I subsequently introduced water up to fourteen ounces through the tube, without producing any desire to urinate, or any tendency to flow out through the wound or urethra. My urethrometer was introduced through the perineal opening into the bladder, turned up to 45, and withdrawn without resistance. It was then evident that a faulty action of the muscles of the vesical orifice had in some way produced the obstruction. On the previous exploration no organic obstruction like a bar could be detected. It was determined to make a further digital examination under the local influence of cocaine. This was accomplished without difficulty, and with but little pain; nothing new was recognized—the slight constriction at the vesical orifice previously noted was again detected, and it was determined to incise the constriction at that point. This was effected on introducing a straight, blunt bistoury through the perineal wound and dividing the tissue, guided by a finger in the rectum; until, upon a reintroduction of the finger into the bladder, no sense of constriction could be felt at the orifice. The tube was then replaced. There was no constitutional reaction. Forty-eight hours after the operation, for the first time since his original retention, two years previously, Mr. M—— felt a natural desire to urinate, and a few drops of urine were passed through the penis. During the entire period since the commencement of his trouble the call to urinate was only through a sense of distention, which, if not responded to, was soon followed by a pain over the pelvis. On removal of the tube, urine now leaked through the perineal opening.

The day following, October 21st, the patient passed with natural sensation ten ounces of urine through the penis. From this time he passed his urine for a few days about equally through the perineal opening and through the penis, until after a couple of weeks, the perineal wound rapidly healing, the introduction of a catheter was again required, as he could not fully empty his bladder voluntarily, having always from two to four ounces of residual urine. He was advised not to make any straining effort, but in order to completely prevent this he was to use the catheter regularly for at least three or four months. Iron and strychnia internally. By November 30th he went to his home in fair general condition, using his catheter faithfully, but mentally much disturbed that his hopes of being able to void all his urine voluntarily were indefinitely deferred.

I heard nothing from the case until December, 1886, a little over a year after, when I received a letter from

Dr. B. stating that our patient had recovered completely from his urinary troubles and was in excellent health and spirits. He went along worrying and using his catheter for several months after returning home, getting finally into a state of hypochondriasis—complaining of inability to walk and of various discomforts. His physician sent him abroad for a few months, but he returned in the same condition. Being then unable to find any real cause for his alleged suffering, his physician then insisted upon his getting in his carriage and driving about, although the temperature was considerably below zero. He at once improved. Finally he was induced to ride on horseback, and within a very short period the doctor states that our patient had found himself able to fully empty his bladder voluntarily, and from that day to the present has been able to do so, as was reported to me by letter dated April 22, 1886, thus, "Mr. D. is as well as he ever was in his life."

The manner in which the original retention of urine occurred in the foregoing case points clearly, it appears to me, to spasmodic closure of the membranous urethra as the immediate cause, apparently due to the presence of anterior strictures of large calibre. Speaking of this condition, Esmarch says:[1] "My experience enables me to state that spasm of the urethra occurs frequently, and is often, if not principally, the cause of retention of urine."

The direct result of the retention was not to cause a general atony of the bladder, but a disability of the muscular structures in the vicinity of the vesical neck alone.

The chief diagnostic point in the recognition of atony of the bladder, according to Sir Henry Thompson, is the "diminished power of discharging the urine after a catheter has been placed in the bladder." In this case the power to increase the stream under such circumstances was normal, except when the bladder was nearly emptied. A localized instead of a general atony was present, and under conditions that would seem to indicate that this is the form of accident which most commonly occurs when a sudden temporary over-strain is the recognized cause of interference with voluntary micturition.

The contents of the full bladder, when acted upon by the detrusor muscle as a whole, reinforced by the diaphragmatic and abdominal muscles, appears to bring the greater force to bear on the bas-fonde; and if the pressure be so great as to cause over-distention, it would be most likely to occur in the greatest degree at this point.

According to Esmarch, "the outermost longitudinal layer of the detrusor muscle passes vertically into the prostatic ring, and consequently opens the ring as soon as the detrusor contracts over the liquid ball within the bladder. The urine now enters through the prostate into the membranous portion, etc." Here, however, the condition which we call spasmodic contraction of this portion of the urethra arrests the progress of the urine, and the chief strain then falls upon the muscular fibres, which in a normal condition serve to open the vesical orifice. These, too, being attached vertically to that orifice, the force would act directly upon it, and here the atony would be most likely to occur, causing a more or less permanent disability of the emptying power of the bladder. The anterior portion of the detrusor, not having been subjected to such a degree of over-strain, might by its superior tonicity cause a change in the situation of the orifice so as to form an additional barrier to the outflow of urine, which would be increased by voluntary effort to empty the bladder. The operation of incising the vesical neck, as in the case reported, it appears to me, would serve to correct in some degree the disturbed muscular relations of the parts; but chiefly to diminish the resistance of the so-called sphincter vesicæ, and thus make the action of the detrusor more effective, both resulting together in an immediate partial restoration of the function of urination, which as the detrusor gradually gained strength through the rest afforded by the long-continued catheterization, finally brought about a restoration of the voluntary power of emptying the bladder.

The suggestions which, in reviewing the foregoing cases, appear to me most salient are:

1. The necessity of appreciating the fact that slight urethral contractions, at any point from the meatus to the bulb, are a possible cause of retention of urine, through reflex irritation, and should enter into the consideration of such cases, especially in elderly subjects, whenever such contractions are known to exist.

2. The importance of an early recognition and relief of an acute retention by catheterization.

3. That localized atony at the base of the bladder may be present in sufficient degree to wholly prevent voluntary urination, while the contractile power of the superior portion remains practically undiminished.

4. The understanding that the failure to relieve, through the removal of sources of reflex irritation which might be considered sufficient to produce and perpetuate the spasm of the muscular urethra, should suggest the possible relief, even in long-standing cases, which may be afforded by an incision of the vesical neck.

5. That any local or general treatment which may be adopted independently of the removal of the cause upon which it depends is of but little avail for permanent cure.

6. That a period of several months of freedom from the cause producing it must not be considered too long to wait for recovery from over-strain or atony of the bladder.

[1] Ueber harnröhrenkrampf, Arch. f. Klin. Chir., Berlin, 1879, xxiv., 589–665.

A PLEA FOR THE MORE GENERAL USE OF THE NITRATE OF SILVER IN THE DEEP URETHRA, WITH AN IMPROVED INSTRUMENT FOR ITS APPLICATION.[1]

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Inflammatory troubles and irritative disturbances about the deep urethra and the neck of the bladder are to the patient disproportionately offensive, if the subjective annoyance is weighed against the actual gravity of the affection, and to the surgeon often unsatisfactory, because the ordinary methods of treatment are usually slow, uncertain, and at times totally ineffective. I think the above statement is not too broadly drawn.

Our general rules of treatment are, for irritative disorders, alkalies, diluents, diet, the sound, moderate anodynes, the correction of sexual irregularities, and the division of points of narrowness along the anterior urethra. For acute and chronic inflammatory and suppurative disorders we use alkalies, diluents, diet, rest, stronger anodynes, sometimes the balsams internally, and perhaps blisters to the perineum. Local treatment, except the sound, is considered totally ineffective in irritative disorders; it has to be used with great caution in subacute inflammatory conditions, and its employment is commonly interdicted in the acute stages of a given disorder—gonorrhœal or otherwise.

In many of these conditions, and their number is very great, and in others of a sexual sort, such as pollution, spermatorrhœa, lack of sexual vigor, nervous impotence, imperfect erectile capacity, and the like, I have of late years derived such signal advantage from the use of nitrate of silver in the deep urethra, that I feel impelled to lay an outline of the facts before you and to show the instrument upon which I have come entirely to depend. I think I may say that in customary office-practice at the present day my average employment of the nitrate of silver in the deep urethra is greater than the use of any other one single means of treatment of urethral disease, and my success with the method, although, of course, far

[1] Read at the meeting of the American Association of Genito-Urinary Surgeons, May 17, 1887.

from universal, is greater than that which I have derived from any other one means in the management of similar disorders.

I think it necessary to make this statement because I find a wide-spread fear in the profession in America regarding the use of nitrate of silver in the urethra. No less than two members of this Association have declined to use deep urethral nitrate of silver injections upon patients in whom I had already successfully instituted a course of treatment by that means, objecting on the ground of a fear of present or future harm to the patient, if the course were followed out, and in each instance they have advised the patient against it. This same experience at the hands of other surgeons outside of this Association is to me a matter of very common occurrence.

I may state here that I have been almost constantly using the nitrate of silver in the deep urethra for the past four years. I believe it safe to estimate that I have administered no less than three thousand injections upon private patients in my office in that time. I have never seen any harm come of it more than a temporary local irritation lasting a few days, occasionally a show of blood, and one very moderate attack of epididymitis, which possibly was produced by one of my earlier injections. At the hands of my assistants I have seen one case of cystitis and two of swelled testicle caused by it, while they (the doctors) were yet young and inexperienced in the use of the method. These remarks apply only to the last few years, since I have used the instrument of Ultzmann and the one of my own construction, which is a modification of Ultzmann's instrument.

In former days, when I used nitrate of silver injections with old-fashioned instruments I caused considerable havoc and probably more inflammatory disturbance than I cured, so that I gave up the use of deep urethral medication almost absolutely, and it is only upon taking it up again with more knowledge, more care, more sense, I hope, and better instruments, that I have obtained results of what I consider great excellence. I have never gone above the strength of a ten per cent. solution—forty-eight grains to the ounce—except in one instance of nocturnal pollution, and I rarely use a solution stronger than ten grains to the ounce, and usually a much weaker one.

The maladies in which I have had the greatest success are: Gonorrhœal cystitis, acute and chronic; ordinary irritability of the bladder; acute or chronic suppurative inflammation of the deep urethra, with or without surface prostatitis; double relapsing epididymitis, due to the foregoing cause; tendency to relapsing cystitis in connection with large prostate; prostatorrhœa; spermatorrhœa, with abnormal deep urethral sensations, often accompanied by oxaluria, depression, melancholia, etc.; nocturnal pollutions, with apparent lack of sexual vigor; nervous impotence. These cases are sometimes rebellious to this as to all other treatments.

It is proper to state that the treatment does not suit all cases of each of these maladies. On the contrary, cases occasionally turn up which are not at all benefited by this treatment, and even cases which are positively harmed by it. Their number is very small. I never decide to use the treatment in a given case until I have made one, possibly two, tentative injections. If they are well borne and no disturbance follows, even if no good results, I push the treatment, still tentatively. If good is to come of it the fact is apparent after three or four injections, sometimes after the first. The method I employ is always the same. It is based upon a theory which I shall first set forth.

The instrument I use is like Ultzmann's in being open only at its tip. I have seen other instruments so constructed (that is, with one opening only, and that at the tip), but this form, as you know, is not the usual one, most instruments being perforated with a certain number of minute holes or slits for a given distance from the tip, or terminating in a bulb which is variously perforated.

Ultzmann's instrument has, in my opinion, only four defects—the length of the shaft, ample in the vast majority of cases, is sometimes scant in big-bellied old men; the mark upon the hard rubber to show the direction of the tip is not definite enough; the coupling between the syringe proper and the long nozzle is unnecessary, likely to get out of order, and liable to cause the operator to soil his hands; the syringe is flimsy, constantly becoming uncemented at its lower junction. Outside of these minor defects, I consider Ultzmann's syringe perfect.

My own changes have been to meet these requirements. The shaft is seven inches long, with moderately

long curve; the size, 13 French. I have a shorter instrument with different curve for young, small, thin persons. The whole instrument is metal and solidly constructed in a single piece, making leakage impossible and a giving way of any part of the syringe out of the question, unless the piston-packing dries or the glass breaks. I have wide lateral wings, which greatly facilitate the easy use of the instrument, and a pronounced indicator to show the direction of the curve. The metal out of which the long nozzle is made should be pure silver—to prevent decomposition of the solution of nitrate used, which otherwise continues to take place for a long time, until the inside of the tube has become thoroughly coated with the black precipitate, which is at first thrown down if the tube is made of German silver. This coating is liable to flake off in German-silver instruments and clog the tube. The syringe proper may be as well made of German silver. The cost of the pure silver tube is moderate.

The theory upon which I have used the instrument is this. Deep urethral inflammation, when it gets past the hole in the triangular ligament, does not yield to injections of the anterior urethra, because the injected fluid does not penetrate deeply enough. The same power of the cut-off muscles which prevents urine from getting out of the bladder (against one's will) also prevents fluids thrown from the outside from entering the bladder, unless considerable force is used, a violence paid for in some instances by inflammatory reaction. But the passage of an instrument, even very gently, through the deep urethra is not devoid of risk, and the less deeply it is inserted the better for the patient. With an instrument of this kind it is only necessary to simply enter the front part of the membranous urethra. Two or three minims of solution there deposited diffuse themselves backward over the entire membranous and a portion of the prostatic urethra, and do as much good, in my opinion, as if a quart had been used, and far less harm in the way of setting up irritative and inflammatory reaction or the possibility of exciting disturbing complications.

This is the amount of injected fluid used, and the position in which I place it in all the conditions treated, except gonorrhœal (or other suppurative) cystitis of the neck of the bladder. In the latter instance, I inject in the same way from just barely within the beginning of the membranous urethra, but I use more of the injected fluid, generally five minims, occasionally even a little more. This amount diffuses itself backward, and appears to do all the good possible, with no harm. This I consider to be the great advantage of using a syringe open at the tip. By its employment and simply introducing it just within the membranous urethra the whole bladder may be injected, if it is so desired, or as much or as little of the very seat and focus of the irritative part of all the disorders situated in this region, namely, the middle and back parts of the membranous urethra. And this can be

done without passing any instrument into this middle and back part of the membranous urethra, the position of greatest danger, in my opinion.

In treating neuralgic, irritative, and deep urethral inflammatory disorders, I endeavor to inject while the patient holds water in his bladder, preferring to have no traces of urine at the point to be injected (on account of the decomposition of the nitrate solution which it causes). In gonorrhœal cystitis when there is much pus, I prefer to ask the patient first to urinate, so as to clear away the pus and leave the bladder empty, that a drop or two of the injected liquid may reach the bladder just at the urethral orifice. The greater amount of injected fluid in these cases more than compensates the decomposing action of the urine. Under no circumstances do I first wash out either the urethra or the bladder.

The seat of greatest sensitiveness about the neck of the bladder, and the focus of the disease in gonorrhœal cystitis, is the back part of the membranous urethra. It is at this point that the ordinary sensation of a desire to urinate is experienced by the patient; it is here that the same sensation is called out during the passage of a sound. This sensation is not felt at the beginning of the membranous urethra. As the nozzle of the syringe enters this region no complaint of a desire to urinate is usually made. In inflamed conditions it is made. In gonorrhœal cystitis and in the other conditions I have mentioned, a few drops of a nitrate of silver solution, placed accurately in the membranous urethra, in many instances promptly turns the whole course of the malady, and even in grave cases of serious inflammatory disease it often comforts when it does not cure.

The treatment often fails in irritability of the vesical neck due to enlarged prostate; it often seems to fail in directly influencing deep urethral spasm; and it appears to aggravate cancerous and tubercular trouble at the neck of the bladder. Guyon [1] has observed this same peculiarity. Indeed, he has gone so far as to consider that failure of nitrate of silver to do good is a differential diagnostic point between cystitis of the neck due to cancer or tubercle and the same affection dependent upon other causes. My own experience teaches me to doubt the value of the method when the cystitis is due to traumatic causes, notably the cystitis following sometimes upon internal urethrotomy. The method is most often effective where the surface tissues only are involved, there being no considerable thickening, inflammatory or otherwise, about the urethra. I make a fresh solution for each case injected—using a standard ten per cent. solution, and diluting it suitably in a minim-glass. I generally commence at about one grain to the ounce, and work up, making the intervals two to five days longer as the injections grow stronger.

The desire to urinate usually comes on sharply a few moments after the injection is placed. I allow patients to yield to this, but urge them to hold back the second call as long as is reasonably possible, and particularly not to strain after urinating.

The treatment of deep urethral and vesical troubles by instillation of the nitrate of silver and by a method somewhat similar to the one I have described, but, I believe, less gentle and more liable to be attended by risks, has for some years been advocated in Vienna by Ultzmann, his admirably concise and practical ideas being set forth in this country in a translation of his little monograph on "Pyuria" by W. B. Platt,[2] of Baltimore, and for fifteen or twenty years in France, by Guyon, who uses a bulbous-headed, soft bougie for his instillations, the perforations for the passage of the fluid being behind the shoulder of the bulb. His ideas about the efficacy of the treatment and the manner of using the bulb have been quite recently set forth, both for the treatment of disease in the urethra and the neck of the bladder, in the *Annales des Maladies des Organes Génito urinaires.*[1]

I have experimented with other substances for deep urethral injection, such as hydrastin, sulphate of zinc, permanganate of zinc, glycerole of tannin, hydrochlorate of cocaine, sulphate of copper, but I have as yet little to say in favor of any substance except the nitrate of silver.

I append the short history of a few illustrative cases, some of the best and most typical out of many examples, in justification of what is written above:

Case I. *Acute gonorrhœal cystitis.*—In November, 1884, a young man, aged twenty-eight, acquired a gonorrhœa, for which his physician administered injections. In a few days acute bladder-symptoms set in. At the end of the fourth week I was called, to find the patient in a pitiable condition, pale, sleepless, depressed, thin, without power or inclination to eat, taking herb-infusions, alkalies, and twelve grains of opium a day, urinating every half hour, night and day, a mixture of urine, pus, and blood, with an intensity of pain following the act which it was distressing to contemplate.

I cut down the opium at once, administering a hypodermic injection in its place, and a deep urethral injection of nitrate of silver, gr. iij. to ʒ j., put the patient on a milk-diet, and ordered a cathartic. A few hours after the first injection improvement commenced. Ten injections were given at intervals varying from two to five days, and at strengths varying from two to five grains to the ounce. Improvement was uninterruptedly continuous from the first injection, and at the end of the fourth week the patient reported at the office, well, with perfectly clear urine. This is the best result I believe I have ever attained. The patient was so ill that his friends confidently expected him to die. His recovery was brilliantly prompt and perfect, and his bladder has remained sound ever since.

Case II. *Subacute gonorrhœal cystitis.*—A young man, aged twenty-three, came to my office, March 27, 1885, complaining of frequent urination, with pain during and after the act. He had been suffering for four weeks, in spite of treatment and the use of opium. His symptoms began shortly after the commencement of a gonorrhœa in the shape of urgency of urination with pain and the appearance of bright blood after the urinary act. The urine was thick with pus. In my office I injected the deep urethra of this patient with a solution of nitrate of silver two grains to the ounce. After three days I used a five-grain solution, three days later a solution of seven and a half grains, in a week a ten-grain solution, and at the next visit the patient reported himself practically well, urinating only four times in the twenty-four hours. This case also was admirably prompt in its response to treatment.

Both these cases are exceptionally good ones. I do not cite them as average specimens.

Case. III. *Irritability of the bladder.*—A gentleman, aged thirty-four, consulted me in October, 1882, for frequent and painful urination, night and day. He had to get up twice at night, and was tormented excessively by day at times; at other times his intervals of urination were nearly normal. Exercise and fatigue, nervous worry, and bad weather, all aggravated his trouble. He was married, and of temperate habits. His urine was acid, 1.027, contained a little pus, no blood, and enormous quantities of crystals of the oxalate of lime. His urethra was ample, except for a linear stricture at three-fourths of an inch, admitting 15 F., with difficulty. The deep urethra was exquisitely sensitive to the sound.

I cut the anterior urethra to 30 F., and five months later the patient reported great improvement, but he was not satisfactorily well, and such improvement as he had was ascribed rather to passing instruments through

[1] Annales des Mal. des Org. Génito-urinaires, vi., p. 345, June, 1884.
[2] New York, D. Appleton & Co., 1884.

[1] 1883, i. i., p. 613; and 1884, i., iii., p. 330.

the membranous urethra than to the urethrotomy. He suffered occasional relapses, in one of which, in October, 1885, I injected his deep urethra with nitrate of silver three times at intervals of three days, once with a five-grain, once with a six-grain, and once with a seven-and-a-half-grain solution.

This entirely relieved him, and he stated that he never had had anything do him so much good. He remained well for seven months, when overwork and mental worry, in the spring-time, caused slight relapse, which was again at once relieved by a six-grain solution. This was a year ago. The patient returned to his home in the country, and I have not seen him since.

This patient was essentially neurotic, oxaluric, overworked, over-anxious, and I have on that account selected him as an illustration. His relapses are accounted for by his nervous peculiarities. The relief afforded by the treatment in his case was most striking. I might describe a number of ordinary cases of common vesical irritability, but space does not allow. All are not cured by this treatment; a few cases are not helped at all; but most cases are materially relieved; many are cured.

Case IV. *Acute deep urethral inflammation.*—In November, 1886, a youth, aged nineteen, got into a serious condition of general urethral inflammation along the entire length of the canal. The discharge anteriorly had been suppressed by irrigation, so that the deep urethra suffered mainly. Indeed, the bladder became moderately involved, so that for a few days there was urgency and precipitancy of urination, blood once, and always a considerable amount of pus in the urine. The bladder symptoms moderated promptly under deep urethral nitrate of silver injections—from five to twelve grains to the ounce—but the flow of pus forward continued, the meatus was puffed up and livid, the frenum and foreskin œdematous, distress was complained off in the perineum, and the urine was loaded with pus, although the symptoms of cystitis had ceased.

This case was obstinate, but yielded entirely to deep urethral injections, varying from three to twelve grains to the ounce, at intervals of about five days, continued somewhat over a month. Poland water was used freely, a mild anterior injection which the patient used himself, and a little balsamic medication. The urine became as clear and sparkling as possible, and all urethral discharge—even the little shreds of pus in the urine—totally disappeared.

Case V. *Chronic deep urethral inflammation.*—A gentleman, aged thirty-five, came to me in November, 1885, complaining of gleet. Eight years before, for a persistent discharge after gonorrhœa, a surgeon had cut his orifice, and afterward had cut him for two alleged strictures of large calibre farther back. He improved, but did not get quite well. Then a spontaneous discharge appeared, which disappeared in six months under injections. Then other discharges appeared spontaneously, and finally one testicle swelled. Then another discharge, and his surgeon wanted to cut him again—he had already been cut to 39.

In this condition, with a moderate discharge coming partly from the anterior, but in great part from the deep urethra, the patient applied to me. During five weeks he took a mild anterior injection himself, and I injected the deep urethra six times, the strength of injection varying from one to ten grains in the ounce. This cured him—so that he was better than he had been for several years. This spring he had a moderate relapse, which again promptly yielded to the deep urethral employment of the nitrate of silver.

Case VI. *Double relapsing epididymitis due to deep urethral inflammation.*—A married man, aged thirty-one, came to me in July, 1885, with double swollen testicle. He stated that during his youth he had had gonorrhœa most of the time. At the age of twenty-six, under treatment by the endoscope, he got well and married. A year later first one, then the other, testicle swelled, and he had had shreds of pus in the urine and occasional urethral discharge and trouble in the testicles most of the time since. When I examined him both testicles had been swollen for some time; the right was getting better, the left worse; he had a gleety discharge and much pus in the urine; bladder symptoms were moderate.

I injected the deep urethra, as in the foregoing cases, at a strength varying from one and a half to ten grains in the ounce. Both testicles improved promptly and were well, so far as active symptoms were concerned, in less than two weeks. In five weeks the discharge was cured, and the bladder symptoms overcome. The patient remained well for eighteen months, when he returned for a commencing mild urethritis, said to be due to leucorrhœa in his wife. The testicles were well and had remained so since the deep urethral injections.

Case VII. *Vesical irritability due to enlarged prostate.*—A gentleman, aged fifty-five, came to me in July, 1885, complaining of frequency of urination, every three hours by day in summer, every hour in winter, and of being more or less disturbed at night. The urethra was free from constriction, the prostate double its normal size. During the past his winters have been very distressing, so that, to escape his irritability, he had been obliged to pass the winter in the South. He had been treated by the use of the sound and internal medication without success. I gave this gentleman deep urethral injections of the nitrate of silver, about once a week for three months, varying the strength from one up to nine grains in the ounce. The result was entirely satisfactory. His pain and feeling of fulness in the perineum almost disappeared. He gave up his projected trip to the South in the winter of 1886, and his intervals of urination, even in the cold weather, became prolonged to three and a half hours by day, while he got up only once at night. This condition satisfied him, and during the winter just past I have had no occasion to repeat the injections.

Case VIII. *Oxaluria, with prostatic neurosis.*—A married gentleman, aged thirty-one, suffering from premature ejaculation, imperfect erections, and fulness, throbbing, with dull pain in the perineal region and over the pubis, applied to me in November, 1885. His urine was heavy, 1.030, and full of crystals of oxalate of lime. His general health was good, but his local sensations seemed to incapacitate him for work. His urine contained a few shreds of pus from the urethra. I ordered his medical attendant to use the deep urethral injections of nitrate of silver. Only one was administered. It was probably badly done, for it set up mild urethritis, and the patient declined to make further trial of the method. He became gloomy and despondent, and went for several months to a sanatorium for rest. This relieved his mind, but did not cure his local sensations.

I then personally instituted a course of deep urethral injections in March, 1886, and carried them out by the aid of Dr. Alexander, my then assistant. Improvement commenced at once, and has persisted, so that at present the patient is practically well, fully able to attend to business, and almost free from his local sensations and sexual defects. He still comes up for an injection about once a month, but his intervals are getting longer, and he proposes to live in the country this summer and give up all local treatment.

I might multiply cases showing the value of this means of treatment, but I think the foregoing will suffice to justify the claim I make for a more extended general application of this method in cases of inflammatory and irritative disturbances of the deep urethra and prostatic region, including the neck of the bladder.

In cases of nocturnal pollution the influence is sometimes markedly advantageous, sometimes it fails. In these cases I often make the injections stronger, and once carried the strength up to sixty grains to the ounce, before a satisfactory result was reached. In nervous impotence and lack of erectile power the effect is often

strikingly good. In spermatorrhœa benefit is obtained, but rarely a cure, although I have occasionally in mild cases seen the spermatozoa cease to appear under a course of injections.

I must add, finally, and emphasize the fact to which I have already called attention, that although the range of applicability of the injective treatment is very wide, it is not appropriate for all cases. In some instances it fails totally, but these exceptions are a minority of all cases treated.

1 Park Avenue.

THE TREATMENT OF EMPYEMA IN CHILDREN, WITH PARTICULAR REFERENCE TO THE RELATIVE ADVANTAGES OF ASPIRATION AND INCISION.[1]

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The subject of empyema is a large one, and one of great importance, especially in children, since more than half of all the cases occur during the first ten years of life. Alongside of the greater liability of young children to this form of pleurisy we have, fortunately, another fact—viz., that the prognosis is much better at this time than later in life. This is so well established that I need scarcely more than allude to it here. It depends chiefly upon the difference in the etiology of the disease at the different ages. Thus, of 110 cases in children, collected by Simmonds, empyema followed pneumonia, the fevers, traumatism, or was idiopathic in 94 cases, while in 12 only was it associated with tuberculosis. This is in striking contrast with the well-known frequent association of empyema and tuberculosis in adult life.

It will be manifestly unfair, then, to contrast results in children with those obtained in adults.

An empyema untreated may result in recovery (1) by spontaneous absorption of the effusion, (2) by evacuation through a bronchus, or (3) by opening externally through the intercostal muscles.

That spontaneous absorption of a purulent effusion in the pleura may occur is beyond dispute; it is equally certain, however, that it is one of the rarest of terminations. I have found reported but two undoubted cases—one by Dr. G. M. Edebohls, of this city, and one by Dr. Eustace Smith. The former case was one of localized empyema; the latter was general. In both the diagnosis was confirmed by exploratory puncture. Three other cases—one by Dr. J. E. Winters, and two by Goodhart—cannot be positively accepted, inasmuch as they lack the demonstrion of the hypoderatmic needle, which alone can be regarded as settling such a doubtful point, although in Goodhart's cases the occurrence subsequently of considerable retraction of the affected side makes the probability a very strong one.

Evacuation through a bronchus and external opening were regarded by the older writers as the best that could be hoped for. With the former I have had no personal experience, and have found it extremely difficult to gather from the literature of the subject enough facts for any generalizations regarding the frequency and termination of these cases. Leichtenstern has met with six cases, with four recoveries. Wilks saw in a single year five deaths from this form of opening, although the age of the patients is not given. It is the almost unanimous opinion that pneumothorax is rarely produced by it in children, on account of the greater elasticity of the chest-walls.

To what extent may we rely upon nature to cure empyema?

Rilliet and Barthez mention 33 cases which received no surgical treatment, of which 4 recovered, 21 died, and 8 were lost sight of. Goodhart reports 8 cases, with 4 deaths. These are rather striking facts, but not more so than the following quotation from Condie's "Diseases of Children," published in 1844:

"When effusion of pus has taken place in the pleura, the case is generally hopeless; nevertheless," he adds, "we are assured that even in a child only seven years of age pus has been evacuated by an operation, and entire recovery has ensued, except some contraction of the affected side."

It is evident that the chances of recovery by nature's unaided efforts are not great.

Before going on to discuss the surgical treatment, let us consider for a moment what empyema is. Essentially, it is nothing but an abscess, the peculiarity being that the outer wall, with which we have to deal, is rigid, and the inner wall is yielding. One of the conditions of cure in every abscess is that the two walls of the cavity come into contact. This is accomplished in the chest by the expansion of the lung. The more completely and the more rapidly expansion takes place, the more certain will be the recovery and the shorter the period required. The chief obstacle to re-expansion is the organization of the lymph covering the pulmonary pleura, which binds down the lung. Every day of delay in removing the pus increases the firmness of these adhesions, and consequently the difficulty of expanding the lung fully, and prolongs the period of discharge. In addition to this condition of the pleura, we have the danger of the development of tuberculosis in the lung itself, and, further, the deleterious effects upon the system of the retention of pus in the chest.

We are now prepared to lay down the indications for treatment—viz., *to get rid of the pus, by the easiest, safest, and most thorough means, as early as possible.*

The only means we shall discuss are aspiration and incision with drainage. Puncture with a trocar, and siphon drainage through a cannula, seems to be really only an incomplete operation of incision. It cannot well be carried out in children, as it is difficult to keep the patients sufficiently quiet to secure perfect success, and as the cannula is apt to become plugged with lymph, which the exudation in children usually contains in abundance.

The advantages claimed for aspiration are as follows:

1. Its simplicity.

2. Freedom from danger. With ordinary skill and clean needles the dangers from aspiration are almost nil.

3. It does not remove the fluid rapidly, and hence allows a gradual expansion of the compressed lung. While in the case of serous effusions collapse has been known to follow the rapid evacuation of the fluid, there does not seem to be the same danger in the case of pus, so that this cannot be regarded as a point of great weight.

4. It does not require general anæsthesia. In view of the dangers of anæsthetics in these operations, this is of some importance.

5. It does not require confinement to bed. In the intervals of aspiration the child may be allowed to be up and about, if the case is not an acute one, and thus get the advantage of fresh air. This possible advantage, unfortunately, is more than counterbalanced by the danger of converting the pleural cavity into a chronic abscess-sac, by frequent tapping and prolonging the case indefinitely.

6. That many cases are cured by aspiration alone; the fluid after one or two aspirations becoming serous, it then being readily absorbed.

The advantages, except the last mentioned, are not sufficient to demonstrate the superiority of aspiration to incision. It remains, then, to discover in what proportion of cases, and in what particular variety of cases, we may expect aspiration to cure empyema.

Of 121 cases so treated, collected from various sources, mostly English and American, 23, or nineteen per cent., were cured, 6 died, and the rest came to some other method of treatment, usually incision. Of the 23 cases,

[1] Read before the New York Academy of Medicine, May 19, 1887.

8 were cured by a single aspiration. The variety of the disease was noted in 13 cured cases, and in all but one the empyema was localized.

It is only just that the statistics of Branthomme should be mentioned. I have not had access to his thesis, but his cases are quoted by Moizard. Of 43 cases treated by aspiration, 18 were cured by a single operation, 11 cases by two operations, 3 cases by three, and 11 by a variable number, ranging from six to one hundred and twenty-two. The last case extended over a period of eleven months. These French statistics are quite at variance with the results published by German, English, and American writers. I present them without comment.

Aspiration has some very obvious objections :

1. By it not all the pus can be removed ; there is always a residue to be gotten rid of by absorption.

2. When the exudation is divided by septa, we may empty one sac, but leave another untouched ; while after a free incision the finger or a catheter may be introduced and all these septa broken down.

3. The terror of the child at the operation, in cases where it becomes a necessity to repeat it, is a very serious objection, the full force of which one can only appreciate who has had to contend with it.

4. There are certain cases to which, from their nature, aspiration is not applicable ; as when the pus has become septic, when empyema is associated with gangrene of the lung, or when the exudate contains much fibrin, clots, or shreds of necrotic pleura.

5. It offers, after all, only the *possibility* of cure ; by persisting in it valuable time is consumed, by which the success of incision is jeopardized, and the time of treatment prolonged, so that the patient is exposed to the dangers of septicæmia, exhaustion from long-continued suppuration, and imperfect expansion of the lung.

Incision possesses the following very decided advantages over the method we have been discussing : Its universal applicability ; the fact that it enables the surgeon to explore the cavity with the finger, breaking down adhesions or septa which may prevent perfect evacuation, to remove clots and shreds of necrotic tissue, to wash out the pleura in case it may be necessary from the septic character of the pus, and to drain completely.

The admission of air into the chest and septic absorption from the wound have been regarded as the chief dangers in empyema operations. Since the thorough use of antiseptics in these cases, these objections can no longer be said to have any weight. A comparison of the results given below of simple and antiseptic incision is a conclusive argument upon this point.

The use of general anæsthetics remains to be considered. I have twice known rupture into a bronchus to take place while the patient was unconscious, and death to result from suffocation. These cases were both in adults. I have not found upon record such an instance among children ; but it might easily occur in a case of long standing. The conclusion to be drawn is, that in such cases, at least, local anæsthesia should be relied upon, perhaps in all. I am not aware that cocaine has been applied to this operation, but it would seem that with it we might be able to dispense with general anæsthesia altogether. With it I am sure no more pain and fright would be produced in a child than by aspirations.

Considering the results they obtained, it is not strange that the older surgeons should have held this operation in very low esteem. Thus Astley Cooper held that it was always fatal. Dupuytren operated in 50 cases, with only 4 recoveries ; and when himself suffering from empyema, refused to have it performed, saying that he "preferred to die by the hand of God than the hand of man." Diffenbach had better success ; he operated in 46 cases, two-thirds of which recovered. In the above statistics the ages of the patients are not given, so that it is impossible to say what were their results in children.

Coming down to more recent times, 59 operations in children, with 8 deaths, have been collected by Blume and Simmonds, in most of which antiseptics were used to some extent. While of the latest reported cases treated with full antiseptics, I have collected records of 63 operations, with 2 deaths. Of this number, 26 successive cases were treated by Goodhart and Taylor in the Evelina Hospital, London, with one death, that being from complicating pericarditis and peritonitis.

Could anything be a more complete demonstration of the merits of this mode of treatment ?

A case mentioned by Gwynne illustrates so well the necessity of complete antisepsis that we may be pardoned for introducing it.

A child five years of age was operated on for an empyema of the right side, and the wound dressed antiseptically. On the sixth day the patient pulled the dressings off, and the wound was exposed to the air for some time. On the next day the temperature rose from 98.6° to 105° ; the discharge, which had been free from odor, became fetid and death occurred in a week.

I have collected 80 cases treated by antiseptic incision, in which the *duration of the discharge* was given. In 5 cases it was four months or over ; these being, for the most part, cases of long standing at the time of operation. Of the remaining 75 cases the average duration of the discharge was six weeks. In 21 of these, most of which were operated upon early, the duration was one month or less.

The discharge lasted, in cases where no antiseptics were used, in 5 cases (Hobson) an average of six months ; in 40 cases (Blume), where they were partially used or not at all, three to six months ; in 11 cases (Simmonds) an average of eleven weeks.

The following conclusions may be drawn from this consideration of empyema in children :

1. All methods of treatment yield better results than in adults.

2. We are never justified in leaving a case to nature.

3. Aspiration holds out a reasonable prospect of success in cases of localized empyema ; but a very slender one when the exudation is general.

4. If, after two aspirations at most, the pus reaccumulates and shows no tendency toward a transition to serum, this method should not be persisted in.

5. In cases of a large effusion, one aspiration may be done preliminary to the cutting operation, to avoid any possible danger which might result from a too rapid withdrawal of the fluid.

6. In all other cases a free incision should be made as early as possible, preferably under local anæsthesia, always with the strictest antiseptic precautions.

7. The operation of puncture with a trocar and drainage aims at a cure by the same means as incision ; but it is not more safe and very much less certain.

8. Excision of the ribs is rarely required ; never in early operations, as it appears to prolong the discharge without giving any corresponding advantages.

9. The treatment of empyema cannot better be epitomized than in the words of Wagner : "*Early incision, perfect drainage, and complete antisepsis.*"

Under this method this affection, from being one of the most fatal of childhood, has become one of the most amenable to treatment.

15 East Fifty-fourth Street.

Pruning Shears for Use in Autopsies.—Dr. T. E. Quimby, of Fayetteville, N. Y., writes : "I have been using at autopsies the 'pruning shears No. 52,' to be obtained at hardware stores at a cost of fifty cents. They sever cartilage or ribs with rapidity and ease, being vastly superior, I find, to the cartilage-knife. It is an excellent instrument as regards size, weight, strength, and finish, keeping sharp a long time."

Women are more often hungry than men, says M. Delaunay.

ACUTE EMPYEMA IN CHILDREN.[1]

By FRANCIS HUBER, M.D.,

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"Of all chest diseases in children, mistakes in diagnosis are most frequently made with pleuritis." This is particularly true of cases which, from the outset, are attended by the secretion of pus, and which have been termed acute suppurative or purulent pleurisies—acute empyema. Acute empyema is not at first a simple, and later on a suppurative, process; it must be regarded as a distinct variety, the inflammation of the pleura being severe in type and accompanied by the secretion of pus from the very beginning. Such cases are met with principally in the thickly populated districts under poor hygienic conditions. Some of the patients are, or have been, rachitical. Others may apparently be in fair health, running about as usual, and without any history of exposure or other assignable cause be taken down in a few hours with chill, nausea, or vomiting, or convulsion. The onset is sudden. The fever is high from the commencement, and varies from 103°, 104°, 105°, or over. There is marked prostration with severe constitutional disturbance. The children are restless, crying continuously.

The cough, suppressed at first, is more or less severe later on. Respiration is short and catching in the beginning; soon dyspnœa becomes more and more pronounced. Emaciation is rapid. The fever may continue for six, eight, or ten days, and then subside. The other symptoms gradually improve to a certain extent, but the little patient continues weak, pale, emaciated, and troubled with occasional diarrhœa, until the disorder is correctly diagnosed and the proper treatment instituted. The fall in the temperature is a favorable sign. In other cases the fever persists, the vital forces are seriously involved, there is rapid failure, and the case terminates fatally within ten days to two weeks. These children die from the intensity of the suppurative inflammation. The effusion, as shown by the physical signs, appears at a very early stage, and increases very rapidly. In a child eighteen months of age, the physical signs showed considerable fluid on the third day; on the fourth day a hypodermic syringe was introduced and its purulent nature established; the next day about twelve ounces of pus were removed by aspiration. In a boy eleven years of age, seen in consultation with Dr. Neufield, I removed a pint and a half on the fifth day. In another child aged eleven months about twelve ounces were taken away on the ninth day.

In some instances—I have three such in my own practice—the purulent process may be coincident with an acute pneumonia, the two going on at the same time, and it is impossible to say which occurred first.

A fourth I saw quite recently, in consultation with Dr. J. Horn, and about six ounces of pus were drawn off on the fourth day.

In another case, which I saw with Dr. Denhard, there was, at the same time, a pneumonia of the right side and an extensive purulent effusion on the left. We were obliged to postpone active interference in this case, on account of the collapsed condition, until the eleventh day.

A careful physical examination of the chest, with the early use of the hypodermic syringe, will enable one to arrive at an early diagnosis in the complicated cases.

The primary acute empyemas in children are more serious than those running a subacute course, and a guarded prognosis should be given during the first fortnight. A number prove fatal before the end of the second week. Thus I have seen four cases which terminated fatally as follows: First, aged nine months, died on the tenth day; second, aged eleven months, died on the eleventh day, two days after aspiration; third, eleven years of age, died on the eighth day, with a pericardial complication; fourth, aged eighteen months, died on the sixth day, fifteen hours after aspiration.

[1] Read before the New York Academy of Medicine, May 19, 1887.

Barthez and Sanné report that of twenty-one non-tubercular cases not operated upon, seven died in from eleven to sixteen days.

The physical signs and clinical history do not enable us to arrive at a positive diagnosis of acute empyema. We can determine the presence of fluid in the pleural cavity at an early stage; the character of the fluid, however, remains doubtful. Chills, fever, diarrhœa, and other hectic manifestations are observed in the late cases. Localized œdema on the affected side is frequently absent. The presence of a soft, fluctuating tumor in one of the intercostal spaces in a case of pleural effusion ought to lead one to suspect the purulent nature of the disease. This does not occur until a late period in the disease, though in one instance I saw it appear as early as the nineteenth day. If the quantity of fluid continue to increase in an acute case of pleuritic effusion, in spite of measures intended to promote absorption, pus is probably present. Or if in an acute pleurisy the fever be intense and the constitutional disturbances severe, the inflammatory products are very likely suppurative in character.

An absolute diagnosis, however, can only be made by an exploratory puncture with a hypodermic syringe, a large needle being used. It is a simple and safe procedure, and with ordinary care no harm can result. An early resort to puncture is warranted in view of the importance of a positive diagnosis in its bearing upon the prognosis and treatment of the case. Attention to the points developed above has enabled me to make the diagnosis as early as the fourth, fifth, sixth, seventh, ninth, and eleventh day, of the disease.

The treatment by medicinal means is symptomatic and palliative. No reliance can be placed upon measures intended to produce absorption of the purulent products. Our therapeutic resources enable us to combat special symptoms and improve the general condition with the aid of tonics, good food, and stimulants of various kinds. Whenever possible, the children should be placed under better hygienic surroundings. In the active inflammatory stage the treatment is symptomatic. Caffein, camphor, carbonate of ammonia, and other heart stimulants are particularly indicated.

An expectant plan of treatment is dangerous and ought to be condemned. "One of the large serous cavities, connected as it is with the lungs, is not only disabled, but contains a deleterious fluid which cannot remain in a closed cavity without sooner or later affecting the processes of nutrition." The amount is too large to allow it to become encysted, and nature cannot remove such quantities by absorption. We must get rid of the pus and stop the suppurating process. An empyema can never be cured unless the cavity of the pleura is obliterated by the expansion of the lung, the ascent of the diaphragm, the displacement of viscera, or the falling in of the chest-walls, or all of these together. Surgical measures only enable us to meet these requirements. The more promptly we act, the greater the prospects of cure. Not only must we endeavor to save life, we should at the same time aim to save the lung and secure to the patient the power to expand the lung fully. An early diagnosis and early resort to surgery will aid us materially in this respect.

The presence of pus being established, its removal may be accomplished by aspiration or incision. The question now arises, When shall we interfere in the early cases? Though I am in favor of early puncture in order to arrive at a positive diagnosis, I would defer aspiration until the acute febrile condition has subsided—say until the tenth or twelfth day—provided the presence of the fluid in the early stage does not endanger life in any way. In acting accordingly, I do not forget that some authorities as Castiaux, Wedal and Montard-Martin have practised aspiration in acute pleurisies (serous in character) with advantage at a very early period (second to tenth day). The two conditions are not analogous.

The shock to the system in acute purulent pleurisy is profound, the pulse is weak and feeble from the beginning. Waiting a few days, if the fluid be not excessive, allows the patients to rally and improves their condition and chances. I would not be misunderstood here, for I do not favor temporizing; it is only during the first week or ten days that I would advise a judicious delay, in order to allow the little patient to recover from the collapsed condition.

As a matter of fact, I have, on several occasions, waited for from four to seven days, and have not had occasion to regret the conservatism. On the contrary, the pulse was improved and the general condition better when operative means were employed.

Aspiration may be resorted to in the first instance. My individual preference is to puncture in the sixth or seventh intercostal space, near the posterior axillary line, a hypodermic needle being first employed to establish the presence of pus at the spot selected. As a general thing, an anæsthetic, local or general, is not required. Enough to relieve pressure may be removed, or the attempt may be made to rid the pleura of all the deleterious fluid. Too much ought not to be attempted at one sitting. If the cough becomes annoying we must rest contented with the removal of a small quantity, and further attempt can be made later on. If, after aspiration, the pus is found to be laudable and inodorous, and if it does not refill rapidly, or if the fluid at subsequent punctures becomes less and less purulent, the tappings may be repeated with fair prospects of ultimate success. In acute empyema, according to my experience, it is merely a temporary expedient and does not succeed even when employed early. Within a few days the pus reaccumulates to the same extent, or may even exceed the quantity removed. Under such circumstances more radical measures are indicated, and when I find that the physical signs, a few days later, show as much or a greater amount of fluid, the aspiration is not repeated, but the chest is incised at once. Not only do we have pus in large quantities in these cases, fibrin is thrown out at the same time, too dense and abundant to be removed through the needle. The infrequent cures after this method must, in my mind, be attributed to the presence of fibrinous deposits upon the pleural surfaces and in the the cavity. In several of my cases septic symptoms developed after aspiration, and upon opening the pleura the fibrin was found in a decomposed state. I do not think that the infection was carried in by the needle, for the usual precautions were taken to keep the instrument aseptic. It is probable that the fibrin interspersed with pus is decomposed more readily when the liquid portions are removed. Delafield states that the fluid in the pleural cavity, the fibrin and pus coating the pleura, and the pleura itself may putrefy, with the production of bacteria and the evolution of gases. This may take place either in a closed pleura or in one which has been opened ("Pathol. Anat.," etc., p. 213).

If the patient be cachectic, the hectic fever of a severe type, if perforation have taken place, septicæmia be present, or the fluid return quickly, or contain considerable fibrin, aspiration will fail, and we are then forced to employ the open method.

In acute empyema a simple incision an inch or an inch and a half long, with insertion of drainage-tube and antiseptic irrigation and dressing will answer.

A preliminary explorative puncture is made in the sixth or seventh intercostal space near the posterior axillary line. If pus be not found in this situation another puncture is made posteriorly, about an inch below the angle of the scapula. A grooved exploring needle is now introduced until the pus cavity is reached, and an opening sufficiently large to admit a director is then made with a tenotomy knife, so as to permit the pus to escape slowly. Finally, a probe-pointed curved bistoury is introduced and the opening enlarged to an inch or an inch and a half. The edges are then held apart by means of dressing-forceps or Trousseau's tracheal dilator to permit the escape of large fibrinous masses. The drainage-tube is then introduced and the cavity washed out with an antiseptic solution, and an antiseptic dressing is now applied. In order not to wound the diaphragm, the cutting instruments are introduced but a short distance and the intercostal artery is avoided by keeping close to the upper border of the rib. General anæsthesia is not required in these cases—cocaine injected locally will suffice.

I have resorted to this plan in thirteen itstances; of this number three died—one of exhaustion, one of acute gastro-intestinal catarrh, and in the third case erysipelas set in. Of the remaining cases, one is still under treatment was one is left with a sinus secreting a few drops of pus daily, and the others have recovered with power to expand lungs freely. The youngest was aged nine months, oldest five years. The average period of treatment about seven weeks.[1] The most rapid recovery occurred in a child patient of Dr. Neufield, aged twenty-one months (rachitical and the weaker of twins). In this case the chest was incised on the fourteenth day of disease. Under injections of bichloride, and bichloride gauze and borated cotton dressing, the cavity (originally holding about one pint) was obliterated and the external wound closed within three weeks.

Injections have been employed in all cases, for fibrin is present in large quantities and decomposes very readily unless removed by irrigation. Solutions of bichloride of mercury, 1–5,000, the final flushing being of the strength of 1–10,000, allowed to flow in gently, answer the purpose and give excellent results. The cavity contracts quite rapidly, and after three to six weeks does not secrete more than a drachm daily. Several weeks more elapse before it is wholly obliterated and the sinus healed. The drainage-tube should not be removed too early, we ought to wait until a mere sinus is left.

A word as regards the rubber drainage-tube. A good tube is recognized by the following characteristics: 1, Transverse markings in the rubber; 2, lightness—should float on water; 3, it should bear being tripled in length without breaking. To prevent it slipping into the pleural cavity I have adopted the plan suggested by Baxter, of Kings' College Hospital. A round hole is cut in a piece of rubber sheeting about one-twelfth inch in thickness and an inch and a half to two inches square. A tube of the size required is then split at one end into two pieces and drawn through the aperture in the flat piece of rubber, turned down, and fixed in position by stitches of silver wire. The tube should be just long enough to project into the chest cavity—one and a half to two inches. Nothing is gained by curling up an enormous length of tubing in the chest. The retraction of the chest on the affected side is temporary and disappears in a month or six weeks, under proper gymnastics and outdoor exercise.

In concluding, though I may not present anything new, I would lay stress upon and call particular attention to a few points frequently overlooked in acute pleurisies in children.

1. In acute pleuritic effusions pus is probably present in a case in which the constitutional disturbances are severe and the fever is high at the outset.

2. If the effusion does not diminish, but continues to increase under treatment, it is probably purulent.

Under the above circumstances an early explorative puncture is indicated.

3. If aspiration reveals a purulent fluid containing numerous flocculi of fibrin, or if (after aspiration) the pus returns quickly to the same extent or is increased in amount, aspiration is of no avail and more radical means must be employed. Finally, if septic symptoms are present, in cise at once.

[1] Chest incised as follows: Case 1 on the twentieth day: Case 2 on the twentieth day; Case 3 on the twenty-first day: Case 4 on the twentieth day; Case 5 on the fourteenth day: Case 6 on the twentieth day: Case 7 on the twentieth day; Case 8 on the twenty-fourth day; Case 9 on the fifteenth day: Case 10 on the sixteenth day.

THE SURGICAL MANAGEMENT OF EMPYEMA.[1]

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In considering the surgical handling of cases of empyema, as Dr. Hudson, our late lamented chairman, desired I should do, very briefly, I would say in beginning that the first thought that should come to the mind of the physician in the presence of such a purulent collection, should be, "Abandon all thought of promoting absorption of the pus and rid the patient of it by the quickest and safest means."

No fixed and settled rule of procedure can be formulated for the management of all cases. Each has a character that determines which is the best method of relief. The practitioner of limited experience finds himself confronted by a choice between methods, each of which has advocates. He asks himself shall I do simple aspiration, or thoracentesis by trocar and cannula, or aspirate and irrigate through the needle, or shall I simply incise and evacuate, or incise and insert drainage-tubes, and if so, shall I work with or without antiseptics; and shall I drain the pus into a dressing or put the end of my tube under water (the so-called "subaqueous" method), or shall I have "through drainage" with two openings, and, if so, with or without antiseptic or aseptic irrigation. If I incise, he may further ask, shall I resect one rib, or remove a piece from several ribs (thoracoplasty), or lastly, shall I adopt "perflation?"

A brief review of these proceedings will promote an intelligent understanding that will lead to the wisest decision for each case.

Every surgeon of experience admits that aspiration repeated several times is competent to cure a small number of cases of empyema. They are of the simplest type and would do well by any method of treatment, except the expectant. It is specially adapted to cases before puberty and the aspiration may be often repeated. A few well-authenticated cases have been cured by one aspiration. Yet to the surgical mind there is always regret at leaving ever so little pus that will ultimately make an inspissated residuum, which in adults has been known to make secondary abscesses years after. If, after the aspiration of all that can be removed, the pulse and temperature rise, chills follow and the patient is no better no time should be lost in freely opening the pleura. It was long ago proposed to irrigate the cavity through the aspirator needle with antiseptic solutions, but there is no literature to show that the results are good, and the method does not appeal strongly to practical operators.

Thoracentesis by trocar and cannula is the oldest and one of the best methods of evacuation, though second to the aspirator on account of the possibility of air being sucked in. If this does not happen it is conceivable that adhesive union of costal and visceral pleura may take place after the complete emptying of the cavity. A few older operators advise a simple incision and letting the pus flow, but it is only after months of tedious suppuration that healing is thus accomplished and then after untold labor in keeping open the wound, with the incidental risk of blood-poisoning.

By far the best results yet attained, however, are known to follow, in most cases, free incision followed by the insertion of drainage-tubes. Some have advocated the opening made as low as the ninth or tenth interspace, so as to drain from the lowest point of the cavity, others at the fifth space somewhat forward of the axilla, because this seems most often nature's point of election in spontaneous opening. Accumulated experience now shows, however, that the seventh or eighth intercostal space is best, for the reason that, in the natural process of closure, all the boundaries of the contracting cavity approach that point. Just in front of the posterior axillary fold, on the line of the eighth space, a free incision two inches or more in length, parallel to and above the upper border of the rib, should be made by a couple of bold strokes of the scalpel. As the pus flows freely, being at first under some intrathoracic tension, no time should be lost in inserting two large drainage-tubes the size of one's little finger, not more than two inches long. They are transfixed at the skin level by a safety pin, just outside which they are cut off. Each inspiration tends to draw in air as the fluid level falls, and we must be prepared with a spray, for which I have found sufficient a hand-bulb atomizer, using carbolic acid (three per cent.). As soon as the flow ceases on inspiration, the tubes must be covered either temporarily by a cloth wrung out of carbolic water or by the sublimate gauze dusted freely with iodoform. Thus what air gets in is practically pure. Is it necessary that the cavity fill up with air? No! for we might conduct the pus to a bottle half full of carbolic water into which the end of the tube is thrust and thus effect subaqueous drainage. This seems simple and rational, but in practice this drainage is inefficient.

What we want *first and last* is a *thoroughly free outlet.* One operator says he succeeds best because he stuffs his wound full of drainage-tubes. I thoroughly believe that the size of the wound and completeness of the evacuation will determine the speed of convalescence. The purity of the wound is the other important factor, and is gained, first, by the carbolic spray, and, second, by dressings. Undoubtedly there are atmospheres like our Colorado and mountain air which are for practical purposes aseptic and the spray may be discarded, but in cities and hospitals I have no doubt the course of suppuration is very greatly abbreviated by Listerism.

There is no need of irrigation of the cavity in the great majority of cases. Those only where the pus is putrid at the initiative and offensive when evacuated, or where, from neglect of the precautions mentioned, the cavity has become septic and the patient has pronounced hectic, need to be irrigated, with antiseptics first and hot water afterward. Bichloride of mercury solution (1 to 3,000) is best, or very weak carbolic or iodine water—made with tincture of iodine until the solution is the color of sherry.

The two risks of irrigation are the toxic action of the solutions and the sudden death that has occasionally been known to occur in cases undergoing washing out of healing cavities. The latter accident has happened equally often when carbolic or iodine solution or pure water was used. Post-mortems have not revealed the cause of these fatalities and the suppositions left to explain the event are that either thromboses or reflexes from the pleura have caused fatal syncope.

Toxic action after irrigation only seems to happen when the drainage is not perfect and some fluid is left for absorption. The result of using "through drainage," so called, is to leave the cavity drier perhaps than by other means and thereby to insure a greater immunity from absorption.

Through drainage is accomplished by inserting a metal sound into the cavity through the first opening and pressing its point outward at the lowest intercostal space, cutting a counter opening there, through which a drainage-tube is drawn and brought out above.

While this does drain well for a short while, it is soon shut in by the natural reparative action which usually seals the diaphragmatic and costal pleura together in this region as one of the earliest of nature's steps toward repair.

How these processes bring about the ultimate union of the lung to chest-wall, in direct antagonism of the collapsing, retracting power of the lung-tissue, is quite a puzzling question. Mr. Godlee thinks, if I understand his idea aright, that, in view of the occasional discovery of areas of adhesions in advance of the border of the sac, the lung thus creeps up by grasping ahead, as it were, and then the sac draws close behind that point.

[1] Read before the New York Academy of Medicine, May 19, 1887.

It seems to me the general contractility of this plastic lymph-sac drawing on the yielding lung-tissue is a sufficient force to bring about the closure of the pleural cavity, adhesion between lung and wall following close behind the contracting angles of the sac. Thus the diaphragm is lifted, the mediastinum drawn to the affected side, and so on, as contraction progresses.

The presence of drainage-tubes between ribs usually causes the bone to be denuded of periosteum at the point of contact. This is wrongly spoken of as necrosis of the rib, and some eminent surgeons advocate the removal of a section of one rib, an inch and a half long, at the first thoracentesis, thus anticipating what is frequently needed later. It is certainly, I think, unjustifiable at the first, and the patient can usually bear it better later.

The question of the use of anæsthesia confronts the operator anew in each case.

For children a few whiffs of chloroform are sufficient to allow incision and adjustment of tubes, and is always desirable—for they usually bleed rather freely from their highly vascular skins, and one is annoyed by their unmanageable struggles.

In adults the local anæsthesia of ether spray, rhigolene, or freezing by ice and salt, are quite satisfactory, but a superior method is by cocaine anæsthesia. Twelve drops of a four per cent. solution are amply sufficient if placed rightly. One-third of this may go into the intercostal muscles, and the rest under the skin or in its substance on the posterior edge of the area to be invaded, for one sees here that the numbness extends from behind forward along the peripheral distribution of the nerve filaments bathed by the cocaine. It is folly to attempt to cut until complete local anæsthesia, which occurs in from ten to fifteen minutes after injection. I have no doubt one might resect a piece of rib without other anæsthetic and without pain, though I have not done it.

The resection of a rib is needed where it is necessary to clear the cavity of a quantity of decomposing fibrin exudation that often lies detached in large, ragged masses, blocking the exit if it is not large. This may be freely torn from its site, if not loose, without fear. Such cavities usually need irrigation with one per cent. carbolic acid or boiled water.

The patient requires ether anæsthesia for resection. The instruments needed are very few. I have usually found a scalpel, after a longitudiual incision has been made down to the bone, furnishes in its handle the best periosteum elevator. This peels off readily, and the handle insinuated under the rib raises it for the action of a rongeur, with which the rib can be gnawed through at two places as quick, if not quicker than it can be sawn, and the instrument is at hand to round off the ends of bone. An inch and a half of rib should be removed. It is better to take too much than too little. The scalpel may incise the pleura just where the rib was, and then cut upward to the next rib, avoiding thus the intercostal arteries. But these, after all, are not to be dreaded, as popularly supposed, for their hemorrhage usually stops spontaneously without ligature. One should have forci-pressure forceps, however, in case of need.

There is usually but little difference in breathing, so far as the patient is aware, for the air entering the cavity only replaces pus that had compressed the lung against the vertebra.

Drain-tubes should be shortened, but retained until the discharge has nearly ceased. In children they may come out in two or three weeks. In adults twice as long.

If, after the tubes are out, the hectic returns, the wounds must be reopened and free vent given to the discharges.

This simple aid to nature in giving free drainage is not successful in curing every case. There are seen from time to time advanced cases that have resisted all ordinary attempts at closure by stimulation, drainage, and irrigation; the cavity walls are indurated and secreting poor pus, the chest has heavy, resisting ribs, or there may, perhaps, be phthisis combined with empyema, where many months, or even years, have passed since tapping. The cavity has usually become reduced to the size of one's fist, and cannot spontaneously close farther. They may easily pass for old phthisical cases, as readily as an acute empyema, when discharging into a bronchial tube, with its hectic, emaciation, and expectoration, may resemble an acute phthisis case.

To meet such cases a simple plan was devised by Estlander, and put in operation in 1877, though not published until 1879, in the *Revue mensuelle de Med. et de Chirurgie*, pp. 157–159. He argued that to resect from one to three inches of half a dozen neigboring ribs in the axillary line would allow the ribs to approximate and the cavity to collapse, and thus be put in a condition for repair. He held that the operation ("thoracoplasty") should not be done under six or eight months after primary evacuation of the pleura, and showed that it may be resorted to at very late dates in cases emaciated to a skeleton, and so weak as only to be able to walk a few steps. Carefully done, it causes but slight disturbance to the system, and almost incredibly rapid improvement follows.

The method of removal of portions of several ribs varies from that for one only in that the incision may be made vertically in the axillary line, crossing all; or, several cuts parallel to the ribs may be made, each lying between two ribs, and through it both can be reached. Enough of each rib must be removed to correspond with the depth of the cavity from the rib to the lung—those on the edge of the cavity requiring, perhaps, an inch, while the centre one may require three.

The bones may be removed without opening the pleural cavity, the approximation of the cut ends allowing the outer wall to fall inward. It is, however, often advantageous to cleanse an old cavity, and even, in some cases, to pack it with iodoform gauze and encourage granulation.

The plan of relief is so rational that it appeals to surgical minds everywhere as the most available method for relieving the occasional cases where a suppurating cavity remains after empyema, and the results have not been disappointing to those who have resorted to it. It is rather evident, though, from published cases, that it has been tried in some patients before the natural course of healing through a single drain had come to a stop.

Finally, a method of forced evacuation of the pus from the chest was last year devised by Mr. William Ewart (*Lancet*, July 31, 1886), who proposed forcing carbolized air into the pleura, and causing the pus to be emptied through a drain carried to the bottom of the sac. The stream of air thus also ventilates the sac in every corner and keeps it sweet. It could be used with force enough to expel shreds of membrane that would otherwise plug the tube of exit. The method he calls "perflation," but offers no proof of its benefit except on theoretical grounds.

It may fairly be said that it will never supplant free drainage, because it cannot be more aseptic, more thorough, or more simple than this, if rightly applied.

Unhesitatingly, then, I would say that the quickest and safest relief from acute empyema is in the early and liberal incision, with large drainage-tubes and strict antisepsis; while for very chronic cases the method of Estlander offers great hope of relief.

A Good Prescription for Asthenic Bronchitis.—℞. Ammoniæ carbonatis, gr. xl.; spiritus ætheris sulph. co., ♏ xl.; spiritus ætheris nitrosi, ♏ lx.; sodæ bicarbonatis, ʒ j., syrupi tolutani, ʒ j.; tr. nucis vomicæ, ʒ ij; inf. cascarillæ vel serpentariæ vel senegæ, ad ʒ viij. Fiat mistura, de quâ cochlearia duo magna secundis vel tertiis horis exhibeatur sæpius rariusve pro ut tussis vehementior vel mitior fuerit.

Clinical Department.

A CLEAN DOUBLE-BARRELLED CATHETER.

Dr. H. N. Allen, of Seoul, Corea, writes: "Such an instrument may be readily improvised for washing out the bladder (especially of a female), by making an eyelet on the opposite side of a No. 12 rubber catheter, and passing into the No. 12 one of say No. 4 size. The fluid can then be injected through the No. 4, coming out through the regular eyelet of No. 12, and returning through the newly made eyelet. As this idea occurred originally with myself, I presume it has already occurred to many other practitioners. But as it may not have suggested itself to every one to whom it may be useful, I mention it for what it is worth. It allows of the employment of a new, clean instrument for every case, as well as supplies the demand when the regularly made article is not at hand."

A CASE OF CHOREA GRAVIDARUM.

Dr. G. W. H. Kemper, of Muncie, Ind., reports the following case: "Mrs. E. F——, aged twenty-three, became pregnant the second time in March, 1882. She had usually enjoyed good health except in the fall and winter of 1880, when she suffered from an attack of inflammatory rheumatism. On July 21, 1882, while residing near Alexandria, Ind., she was seized with some acute illness which was diagnosed by the medical attendant as "brain fever." On the morning of the 27th, while confined to her bed with this attack, the house in which she lay was burned, and she received a great fright. The next day after this event choreic symptoms appeared, and the characteristic phenomena gradually became more marked. On August 12th her condition being temporarily improved, she was brought to her parents' home in Muncie. After her arrival she was under the professional care of Dr. E. J. Puckett. I was requested by that gentleman to visit his patient in consultation, and did so on August 31st. Her condition at that time was most pitiable. She was utterly unable to perform any voluntary movement. The bedstead was covered with cushions to guard her from injury, and she was incessantly tossing from side to side, while the extremities were constantly exercised in irregular spasmodic efforts. The facial muscles alternately contracted and relaxed. She was unable to articulate with any distinctness, and deglutition was so imperfectly performed that she was badly nourished. Her tongue had been repeatedly bitten and was swollen. The expression of her face was decidedly idiotic. I was told that this condition had existed for a number of days previously. Large doses of opium had been given without relief. We gave chloral in half drachm doses, with only temporary and partial relief. In short, inhalations of chloroform alone gave rest and ease. Her temperature was 104° on the day of her death, which occurred September 2, 1882. No attempt was made at labor, and owing to her weakened condition, I did not deem the induction of labor proper at the time I saw her."

INTUBATION OF THE LARYNX IN A NEGRO —RECOVERY.

Dr. Frank Tipton, of Selma, Ala., reports the following case of intubation of the larynx, which he claims is the first performed in that State: "I was called, on March 28th, to see a negro child on my plantation, adjoining this city. I found on my arrival a well-marked case of obstructive laryngitis, with all the symptoms of imminent suffocation. The child was four years of age, of unusual intelligence, but of feeble physique and stunted development. No false membrane could be detected in the faucial tract, on the tonsils, or in the pharynx. Having been called hurriedly from my office, I had no laryngeal mirror, and could make no examination of the air-passages. Even depression of the tongue caused such violent suffocative paroxysms that I was obliged to desist. I was unable to see the child again until the following morning. Some time before, my partner, Dr. Furniss, had insisted on adding to our stock of instruments a set of O'Dwyer's tubes. These I took with me, thinking to try them first, and if this failed to resort to tracheotomy. I found the child so nearly dead that I could not stop to make a critical examination with the laryngoscope, but proceeded at once to intube the larynx. The child was then cold, pulseless, covered with a profuse clammy sweat, and deeply cyanosed in those parts which are normally pink in the pure negro. The breathing was distressing, and was so stridulous and rasping that it could be heard even before we entered the cabin. I at once directed a strong negro to wrap the child in a blanket and hold him in O'Dwyer's position, while my student, Mr. Coleman, held the head and watched the gag, and I proceeded to make my first attempt at intubation. The writers all say, 'Do not attempt it without some preliminary practice,' but I felt assured that I could do it. After about five unsuccessful trials I slipped the tube into its place, and the bad breathing stopped as if by magic. I turned away to clean the introductor, and hearing the boy say 'I want to pit,' told the grandfather to wipe away the saliva with a towel. The old man, in his excitement, caught the silken cord which I had not yet cut, the tube was dragged out of the larynx, and was swallowed before the cord could be grasped. I was so upset that I did not know what to do, but the child soon became so bad that a second tube had to be inserted. This time I succeeded beautifully, and have never had any trouble since. The child took food well, the pulse returned, the body became warm, and from his moribund condition the boy returned to a state of comparative comfort. I cannot refrain from relating an incident exemplifying the faith that the negro has in the Supreme Being. As I was telling the mother that the chances of recovery were pretty slender, the little fellow looked up with an expression of perfect faith and said, 'O Lord, Thy will be done.' The child did well from the time that the second tube was inserted. On the sixth day after the intubation I removed the tube, but was soon obliged to reinsert it. The swallowed tube was passed from the rectum on the tenth day without having caused any trouble. I learned that the key to the successful insertion of the tube is to put the index finger well on the upper surface of the vocal cords. If this is done it is very easy to slip the tube over the pulp of the finger to the glottis; the point of the tube should then be pressed well against the anterior surface of the vestibule of the larynx by elevating the introductor, when it slips easily into the chink of the glottis. I also learned that the physician should never leave his patient without first putting the index finger well down to the head of the tube to see if it is in proper position. Failure to do this nearly caused the loss of my patient, who coughed up the tube one day, in consequence of my neglect to take this precaution. On the suggestion of the patient, I succeeded in feeding him without much trouble by using a nursing-bottle for his milk and other fluids. The great trouble in feeding these cases generally comes from the difficulty in swallowing fluids, some of which will go the wrong way despite all our precautions. This is caused by the failure of the epiglottis to completely close the opening in the tube, and is best prevented by the nursing-bottle, which obliges the patient to swallow slowly. The points of interest in this case are, that it is the first recorded case of intubation in a negro, the first in this State, and the first in which the tube was swallowed and passed per anum. The suggestion of feeding with a bottle is also, I think, of value."

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THE ANTISEPTIC ACTION OF IODOFORM.

IT seems rather odd that anyone should, at this day and in the face of clinical experience, deny the antiseptic action of iodoform. Yet not long ago Drs. Heyn and Rovsing, of Copenhagen, published in the *Fortschritte der Medicin*, a report of some experiments undertaken by them, the results of which seemed to prove that this substance was inert in the presence of bacteria, and they therefore concluded, on purely theoretical grounds, that iodoform should not be used as an antiseptic in surgical dressings. This might have been sufficient to condemn the drug at the time when it was first introduced into practice, but at the present day surgeons would hardly be influenced by any theory which years of practical experience had taught them must be fallacious. However, the experiments were there, and it remained to explain them away.

At the meeting of the German Surgical Congress, held in Berlin in April of this year, Dr. de Ruyter read a paper in which he showed that, while the experiments were correct as far as they went, the conclusions drawn from them were erroneous. He found that, as the Danish physicians had asserted, iodoform in the form of a dry powder, outside of the body, exerted no influence upon bacterial life, but that in solution it was powerfully antiseptic. When the powder was dusted over open wounds of the skin, from which there was little or no secretion, the admixture of pathogenic germs was speedily followed by infection and the death of the animal. But in sacculated wounds, in which there was an abundant secretion, the iodoform prevented or retarded infection very noticeably. In these cases the iodoform did not remain unchanged, as in the first experiments, but was split up and partly absorbed. The speaker concluded, therefore, that the activity of iodoform was in abeyance as long as it remained unchanged, and that its antiseptic properties were exerted only when its chemical decomposition had begun.

In order to determine how the decomposition of the iodoform was brought about, he added some of the substance to pus containing only the micrococci of suppuration, and protected from any contamination with microbes in the atmosphere. At the end of a few days the decomposition began. A dialyzer, filled with water and placed in the vessel containing the pus, was found to contain new iodine compounds. Then iodoform was added to blood-serum, but it was unchanged even after several weeks. The addition of streptococcus pyogenes and of staphylococcus aureus, in different experiments, caused a splitting up of the iodoform in a short time. From this he concluded that the micro-organisms were the cause of the decomposition.

But as the specimens of pus to which iodoform had been added remained free from odor, the author was led to believe that the ptomaines were the bodies to whose presence the decomposition of the drug was to be attributed. He therefore experimented with cadaverine and other ptomaines, and found that they speedily lost their poisonous qualities upon the addition of iodoform. At the same time the drug underwent chemical decomposition. That the ptomaines were the bodies which caused a splitting up of the iodoform was, he thought, further shown by the fact that the latter could be used only in small quantities in the rectum without producing toxic effects. And again, with certain forms of bacteria, the action of the drug was noticed only after a few days, that is, after ptomaines had been produced.

The conclusions to which Dr. de Ruyter came, as a result of his experiments, were wholly in accord with the teaching of clinical experience, viz., that iodoform is a most valuable antiseptic, limiting the advance of pathological processes by reason of its destructive effect upon the ptomaines, the product of pathogenic micro-organisms. The author's studies had not yet reached the point where he could say what was the nature of the chemical decomposition, or what was the real antiseptic substance to which the effects of the drug were to be attributed. Free iodine exerted no such marked effect, but possibly iodine in a nascent state might have a more energetic action.

THE TREATMENT OF ANEURISM BY BACELLI'S METHOD.

ATTEMPTS to induce coagulation in an aneurismal sac by the introduction of foreign bodies have been made at different times during the last quarter of a century. Horse-hair, iron wire, and various other substances have been used for this purpose. But, although coagulation has been induced in some instances, the patients have, we believe, all died, so that the experiment can hardly be pronounced a success. Nevertheless, in so desperate a disease a desperate remedy is justifiable, and the results of several of these trials have been sufficiently encouraging to give some ground for the hopes that have been entertained of ultimate victory.

Theoretically, the best of these methods is that of Bacelli. It is based upon the early experiments of Hewitt Moore, who introduced fine iron wire into the sac. Bacelli uses, instead of wire, a very long, slender watch-spring. A trocar, one-sixteenth of an inch in diameter, is passed into the sac at right angles to the axis of the blood-current, and through the cannula is pushed the watch-spring, varying in length according to the size of the aneurismal sac. The theory of Bacelli is that the presence of the foreign substance, coiled up within the sac, will induce coagulation, and that subsequently the iron will become oxidized, and then dissolved and absorbed.

In the *Gazzetta degli Ospitali*, of March 16, 1887, is

a report of a thoracic aneurism treated after this method by Professor Saboja, of Rio de Janeiro. The patient was a man, twenty-two years of age, suffering from an aneurism of the thoracic aorta. Three watch-springs, aggregating six feet in length, were passed into the sac through a fine cannula. The operation was followed by no bad results, and the patient seemed to be in a fair way to recover, when, fourteen days after the operation, he suddenly died. The autopsy showed that a rupture of the sac had taken place. An end of one of the springs was found presenting at the point of rupture, but it was thought to have been carried there by the escaping blood-stream, and not to have been the cause of the accident. There was no sign of inflammation in the walls of the aneurism. The springs were found embedded in the clots, and broken into fourteen pieces of various lengths. A second tumor was found which communicated with the aorta by the same opening as the larger aneurism.

The result of this trial, notwithstanding the death of the patient, was sufficiently encouraging to convert the operator into an enthusiastic advocate of Bacelli's method, which he calls the most rational treatment for thoracic aneurism of any hitherto proposed.

NEWSPAPERS AND SURGICAL OPERATIONS.

A CORRESPONDENT has kindly favored us with a very interesting collection of daily newspapers containing descriptions of various important surgical operations. These have been culled from New York, Philadelphia, and Western newspapers, and also from weekly local newspapers in various parts of the country. The variety and wide distribution of these articles gives to them a peculiar interest, for it shows that the outbreak of newspaper surgery is not a local disorder. Perhaps the richest and most numerous contributions come from Philadelphia and the great but wicked city of New York. We have, however, some fine illustrations from Chicago and St. Louis, as well as from smaller cities.

One thing is very evident from the clippings furnished us, and that is, that no city can claim that it is better than the rest. It is plainly not a question of codes, but of medical morals as against newspaper enterprise. Many can remember that the late champion of the Old Code, Dr. John P. Gray, published a whole series of his lectures on insanity, delivered before students at one of the colleges here, in the columns of the New York *Tribune*.

FEET.

"How beautiful are thy feet in shoes, O prince's daughter," sang Solomon, nearly three thousand years ago. But time works wondrous changes, and we fear the wise king could not repeat his compliment, were he living in the midst of us now, without doing violence to his conscience. There is no beauty left in the feet of the princess after she has tortured them for years in the narrow leather case raised up at one end, which we miscall shoes.

The foot has struggled bravely to become something more than a mere base of support, and often a painful one, for the human animal. In our supposed progenitors it was so flexible and handy a member as even, though erroneously, to receive the designation of hand, and the apes were called, by Cuvier, quadrumani. Even in some of the human races at the present day the foot is almost as useful for prehension as is the hand. Thus the New Caledonians are said to run up trees with the agility of a cat by grasping the trunk and boughs with the feet and hands alternately, using the two with equal facility. And the instances of individuals, born without arms or having lost these members in early life, who have been able to write, paint, and perform other tasks requiring precision and accuracy of touch by means of their feet alone, are not unknown. But these rare cases of what might be called compulsory atavism only serve to emphasize the failure of the foot in its attempt to raise itself higher than nature intended it should be raised. The moralist might draw from this a warning for those who are ever striving to do what their limited capacities render impossible of accomplishment.

The size of the foot varies in individuals within wide limits, but the average length among different peoples is pretty constant, and would appear, with certain exceptions, to be an indication of the degree of civilization to which the community had attained. Thus, according to a series of measurements collected from various sources by M. Topinard, and quoted by M. Manouvrier in the "Dictionnaire des Sciences Anthropologiques," we find the proportionate length of the foot to the height of the individual, represented by 100, to be as follows: Parisians, 14.8; Russians, 15.5; Hungarians, 15.4; Chinese, 15.1; Australian Aborigines, 15.1; Algerians, 14.8. The Chicago foot is said to bear a much larger proportion to the size of the individual, and a similar disproportion has recently been affirmed of the pedal extremity of the Bostonian by a popular writer, but neither of these reports is substantiated by scientific measurements, and, coming from lay sources, they are not to be relied upon as scientific facts.

The shoes worn by the majority of civilized men are an abomination. They are wrongly constructed and are the cause of most of the acquired deformities of the foot. The axis of the sole of the shoe should not be a straight line, but should be curved, following the natural curve of the foot, with convexity looking outward. The sole should be of moderate thickness and flexible, and the uppers should fit snugly, but not so as to cramp the foot in any part.

ORIGINALITY AND AMERICAN MEDICINE.

THE query must occasionally arise in the American physician's mind whether the profession of this country is not losing some of the originality and inventive power with which we have been in the habit of crediting ourselves. As a faithful chronicler of all important discoveries, devices, and original views or methods, we are obliged to confess that the study of foreign literature brings to us the richest material. That there should be a preponderance of foreign work is natural, since numerically the profession of Europe exceeds that of the United States, to say nothing of the numerous well-established centres in which opportunities for research are freely given. But even admitting this, it seems just now as though American energies were spent mainly in following out lines of thought, modes of research, or methods

of treatment originated in Europe. Our pathologists are pursuing the study of bacteriology along the lines laid down by Koch, at one time a plain country doctor in a small German town. Our surgeons are trying to rival Tait, Keith, Martin, Billroth, and Schede while following strictly the principles first enunciated by a Scotch professor. The brain is being operated upon according to methods devised by Horsley, and the neurologist furnishes indications obtained from a study of the researches made by numerous English and Continental investigators. Our therapeutists are kept busy testing various German antipyretics, antiseptics, antirheumatics, narcotics, and other drugs in almost innumerable amount.

A thorough and logical advocate of the doctrine of protection might claim that there was good reason why the importation of foreign ideas, foreign methods, and foreign alkaloids should receive a prohibitory tariff. If our physicians and surgeons had no oportunity to experiment with things imported, they would have a little leisure for thinking out new ideas of their own. We would not deny that this is done already to some extent, but remembering that the number of American physicians is about one-third of that in Europe, it seems that the proportion of original contributions to our art is below what it should be.

News of the Week.

The Medical Society of New Jersey.—The next annual meeting of the Medical Society of New Jersey will be held in the Baldwin House, Beach Haven, on Tuesday and Wednesday, June 14 and 15, 1887, commencing at 4 o'clock P.M., on Tuesday.

American Climatological Association.—The fourth annual meeting will be held in Baltimore, Tuesday and Wednesday, May 31 and June 1, 1887, in the hall of the new physical laboratory of Johns Hopkins University, Monument Street, near Eutaw.

The Florida Medical Association held its thirteenth annual session at St. Augustine, on May 23, 1887.

A Case of Yellow Fever was observed at Key West, Fla., on May 21st.

A New Hospital in Harlem was opened in January of this present year, under the auspices of the Commissioners of Charities and Correction. It is to be known as the Harlem Hospital, and it is situated at the foot of East 120th Street. The Hospital contains forty beds, and is supplied with two ambulances. The Visiting Surgeons are Drs. F. S. Dennis and Thomas H. Manley; the Visiting Physician is Dr. J. G. Truax. The House-staff of four are paid a salary of $800, $700, and $600. Dr. Grauer is Pathologist.

Hospital for Paralysis.—We learn that there has been opened in this city a hospital for the treatment of paralysis, which, it is truly stated, is a very prevalent disease. Whether the institution treats paralysis of the eye, throat, bladder, brain, or legs, we are not informed. But an institution for the treatment of "paralysis" must be as extremely comprehensive in its accommodations as it is inexhaustibly philanthropic in its scope.

The Crown Prince Frederick William.—A cablegram from Rome, under date of May 23d, says: "Dr. Mackenzie operated on Crown Prince Frederick William's throat on Saturday. The result was assuring. Professor Virchow made a microscopic examination and does not believe the trouble is serious."

A Surgeon Refused His Fee.—The newspapers give prominence to a dispute between Dr. Marion Sims and Nat. Goodwin, the husband of the late Eliza Weathersby, the actress. Payment is refused on the old ground that "the treatment did no good." Dr. Sims was called in consultation by the attending physician, Dr. T. S. Robertson, who was in doubt as to the nature of an abdominal tumor from which his patient suffered. The result of the consultation, that an operation afforded the only hope of cure, being communicated to the patient, she earnestly requested its performance. The outcome being fatal, the husband claims that the operation did no good and should not be paid for! Under this extraordinary theory surgeons would soon have to abandon their work. Such actions as those indicated above are particularly unjust. Many surgeons undertake desperate operations against their own inclination and even interest, solely to give the patient an only chance. In such cases the attempt to escape the payment of the fee by claiming that "treatment did no good," furnishes an illustration of colossal meanness, beyond the power of dramatic art to exaggerate or even burlesque.

Dr. Edward D. Griffin, of Lynn, died on May 8th, aged forty-seven years. Dr. Griffin was a graduate of the New York College of Physicians and Surgeons.

Dr. W. Hack, Professor of Laryngology and Dermatology in the University of Freiburg, in Baden, was last week found dead, apparently from heart disease, upon his tricycle, which was standing still in the middle of the road near Staufen, in the Untermunsterthal.

Professor Gosselin. — French surgery sustains a severe loss in the death, on May 1st, of Professor Léon Gosselin, Professor of Surgery in the Paris Faculty, and President of the Academy of Sciences. He was sixty-nine years of age.

Punished for Refusing to Give Expert Testimony.—On May 4th the Circuit Court at Lebanon, O., in the case of Dr. Derby against the State, affirmed the decision of the lower court, by which Dr. Derby had been imprisoned and fined for refusing to give expert testimony unless guaranteed the fee of an expert. The circuit court upheld the decision of that of the common pleas upon technical grounds, and without touching the important question as to whether a physician could be compelled to testify as an expert without receiving the fee of an expert. The fact that the doctor voluntarily attended the examination by the coroner made him liable to summons as a witness, in the opinion of the court, without regard to whether his evidence should be in the nature of a knowledge of facts in the premises or of a professional opinion. We are glad to learn that Dr. Derby proposes to carry the case up, and trust that the profession of his State will support him in endeavoring to obtain a final and just decision upon this matter.

Ultimate Results of the Mechanical Treatment of Hip-joint Disease.—Dr. Henry Ling Taylor writes: "On reading over the report of the discussion on Dr. Shaffer and Dr. Lovett's paper on the 'Ultimate Results of the Mechanical Treatment of Hip-joint Disease,' at the New York Academy of Medicine, May 5, 1887, I notice some important errors in the abstract of my remarks. I did not say and do not believe that adduction is 'due to the fact that patients shrank from putting their entire weight upon the perineal band;' such an idea is nothing short of preposterous in my opinion. I said that the peculiar gait of patients wearing the long splint was partly due to their common disinclination to allow the weight of the body to rest fully on the band for more than an instant. For *adduction* crutch and screw, read *abduction* crutch and screw, since these means are employed to produce abduction. I did not say I would use the abduction crutch in every case, but where a strong and persistent tendency to adduction exists; in the majority of our cases it is not necessary to use it."

The Boylston Prize of the Boylston Medical Society, of Harvard University, has been awarded to Mr. Charles L. Scudeler, for an essay on "Congenital Talipes Equinovarus."

A Chair of Laryngology has been created in the Berlin University, and Dr. Bern. Fraenkel has been made Professor.

The Oregon State Medical Society holds its fourteenth annual meeting at Portland, on June 14, 15 and 16, 1887.

The Old Building used by the College of Physicians and Surgeons of this city is to be turned into a business college. Some have hinted that that was what it has been in times past.

By the Will of the late Oliver Hoyt the sum of $20,000 has been bequeathed to the Methodist Episcopal Hospital of Brooklyn.

Dr. Wilson Fox, Physician-in-Ordinary to the Queen, Professor of Clinical Medicine at the University College Hospital, died of pneumonia, on May 3d, in the fifty-sixth year of his age.

"Literary Piracy."—Dr. W. R. Whitehead writes that his article, published first in The Record, and subsequently in the *Provincial Medical Journal* without acknowledgment, was sent to the latter journal by request, and with the understanding that due acknowledgment would be given.

The American Academy of Medicine holds its annual meeting on Friday and Saturday, September 5 and 6, 1887, at Washington, D. C.

Reduced Fare for Delegates to the American Medical Association.—Delegates to the American Medical Association, at Chicago, on June 7th, who go from New York and vicinity, by using the Baltimore & Ohio R. R. can have the privilege of stopping over one train, or almost an entire day, at Washington, and are returned from Chicago via Niagara Falls, thus affording a change of scenery. The rate via this line is $17 going, and $6.67 returning.

The Bill to Regulate the Practice of Medicine in New York State passed the Legislature on May 23d.

An International Congress of Inebriety is to be held in London on July 5th and 6th, under the presidency of Dr. Norman Kerr.

The Late Dr. E. Darwin Hudson.—At a meeting of the Faculty of the New York Polyclinic, held Thursday, May 12th, the following action was taken regarding the death of Professor Hudson: "The announcement of the sudden death of Professor Erasmus Darwin Hudson came upon us with such crushing effect that we have not yet had time to recover from the blow which overwhelmed us. Just entering upon the period of mature middle life, where the student passes from experiment and crucible to philosophic thought and ripe judgment, he was well equipped to reap a rich harvest of new scientific knowledge to add to the general stock; but which is now lost to us forever. His honorable positions of visiting physician to Bellevue Hospital; Chairman of Section of General Medicine in the New York Academy of Medicine; Professor of General Medicine and Diseases of the Chest in the New York Polyclinic, afforded him rare opportunities and gave his wide following of admiring disciples the means for becoming acquainted with, and availing themselves of, the rich store of practical knowledge which he had always so ready at hand. Thus deeply impressed, be it therefore

"*Resolved*, That the Faculty of the New York Polyclinic are sensible that they have lost in Professor Hudson an able coadjutor, a popular, learned, and gifted member, and that the graduate pupils in attendance from all parts of the country have lost an eloquent and skilful teacher; and all of us a genial friend."

At a meeting of the Section of Practice, New York Academy of Medicine, held May 17, 1887, on motion of Dr. Thomas H. Burchard the regular order of business was postponed and a committee of three, consisting of Drs. A. Jacobi, T. H. Burchard, and R. C. M. Page was appointed by the chairman to draft a suitable memorial in regard to the death of Dr. E. D. Hudson, late Chairman. The committee reported the following:

"In the full strength of intellectual vigor and the flood of professional success, E. Darwin Hudson, Jr., A.M., M.D., has closed the volume of his life.

"In an age of rivalries his frank and generous nature, his unsullied integrity and loyalty to truth, made friends of his competitors, and won for him universal esteem.

"In his profession his faithful scholarship and untiring energy secured his elevation to a professorship and his election to the chairmanship of an important section in the New York Academy of Medicine.

"As a man he was true and generous. As a physician he was skilful and wise. As a teacher he was clear, practical, and thorough, his large and enthusiastic classes testifying not only to his personal popularity, but to the value of his teachings. What he said and wrote was not *for* practice, but *from* practice, and his untimely death has robbed his profession of one of the most promising and useful men.

"To the public and profession at large the New York Academy of Medicine desire to give expression to their high appreciation of his worth, and to testify their personal sorrow in his untimely decease. To his family and friends they tender a most sincere and respectful sympathy. R. C. M. Page, M.D., *Sec'y.*"

Reports of Societies.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, May 19, 1887.

A. JACOBI, M.D., PRESIDENT, IN THE CHAIR.

THE Statistical Secretary, DR. A. B. JUDSON, announced the deaths of

LOUIS SCHULTZE, M.D., AND E. DARWIN HUDSON, M.D.

THE PRESIDENT acknowledged the receipt for the library of *three* manuscript letters by the late

E. G. FOUNTAIN, M.D.,

of Davenport, Ia., on the question of the *oxysulphate of antimony* and *chlorate of potash*. It was Dr. Fountain who lost his life from nephritis produced by chlorate of potash through therapeutic experimentation on himself. The letters were written in the autumn of 1859.

The President also presented the letters written by the late Dr. Hudson with reference to the question to be discussed in the Academy this evening.

The Academy adopted the recommendation of the Council, and voted to place the name of

MRS. CELINE B. HOSACK

on the list of *benefactors*.

THE MANAGEMENT OF EMPYEMA, MEDICAL AND SURGICAL.

The above subject was presented by the *Section in Practice*. The discusssion was opened by DR. L. EMMETT HOLT, who read a paper (see p 602) on

THE RELATIVE ADVANTAGES OF ASPIRATION AND EARLY INCISION IN THE TREATMENT OF EMPYEMA IN CHILDREN.

DR. FRANCIS HUBER followed with a paper (see p. 604) on

ACUTE EMPYEMA IN CHILDREN.

DR. ROBERT ABBE then read a paper (see p. 606) entitled

GENERAL CONSIDERATION OF THE SURGICAL TREATMENT OF EMPYEMA.

The discussion was continued by DR. T. H. BURCHARD, who said that his experience was limited to *eleven* cases of chronic empyema, the youngest patient being three years old, and the oldest a man fifty years of age. In all the cases the patients had been subjected to aspiration before the cutting operation, which consisted in making a free incision from one inch and three-quarters to two inches long, usually along the superior border of the eighth rib. The smallest quantity of pus evacuated was *seven ounces*, in a boy seventeen years of age, and the most chronic case which he had seen. The largest quantity of pus evacuated was twelve quarts, drawn from the left chest of a man twenty-eight years of age, three days after an aspiration had removed one and a half pints. The previous health of the patients was good in five cases, delicate in four, and in two there were evidences of phthisis. Three patients recovered entirely, two developed phthisis subsequently, from which they died; one has phthisis now, and one died of dysentery (evidently tubercular), fourteen months after the operation.

HEMORRHAGIC PLEURISY

followed the operation in two cases and proved fatal. Dr. Burchard regarded the hemorrhage as due to capillary oozing, the same as occurs occasionally in old men whose bladders are emptied suddenly while suffering from retention of urine. He advised early performance of the operation to prevent fatal results from diseases liable to develop.

DR. H. N. HEINEMAN contrasted the two conditions —empyema in children and in adults—and pointed out that they differ notably in their clinical history. The disease is common in children, very frequently has associated slight involvement of the opposite lung, and when on the left side is apt to be complicated by pericarditis. Distinct flatness on percussion is not so common in children as in adults, and when he heard distinct cavernous breathing or gurgles close under the ear at a fixed level, he always suspected that he had to deal with pleurisy rather than pulmonary consolidation.

So far as treatment was concerned, he used the aspirator once, perhaps twice, and then if there was not a prompt subsidence of the disease, he made an incision into the cavity. During the last ten years he had used, with very satisfactory results,

THROUGH DRAINAGE.

DR. E. G. JANEWAY said that if the first aspiration failed to afford permanent relief, he advised that free incision be made immediately. There were some cases, however, in which

INCISION COULD NOT BE PRACTISED.

Empyema as a complication of pyæmia could not be cured by incision. Double empyema with pericarditis did not permit incision; and there were cases in which the fluid was septic, where the surgeon was debarred from the operation. He also referred to a case seen in consultation with Drs. E. S. Warner and J. Woodman, one of gangrene of the lung with pyo-pneumothorax, and the foul fluid was so shut in with consolidated lung above that an exploratory puncture made where an incision would have been of service, only made the patient spit up a small quantity of blood. That man is now so well that Dr. Janeway had found it difficult to say which side was affected.

There are cases in which the aspirator will not evacuate the cavity, even though the fluid be such as will flow through the needle freely. Free incision in these cases at the spot where

THE ASPIRATOR FAILED TO OBTAIN FLUID

has allowed a large quantity of sero-purulent fluid to escape without flocculi of fibrin. He was decidedly in favor of *early operation* in preference to aspiration; an incision where, as a rule, a single aspiration has failed.

DR. W. H. KATZENBACH'S experience had been derived, chiefly, in the treatment of empyema in adults. The rules by which he had been guided were to make an exploratory puncture with a hypodermic needle, and if pus was found, to aspirate. If the pus was fetid, he incised, irrigated, and drained the cavity. If the pus was laudable, but reaccumulated rapidly, he would make the incision and drain. Where the pus points externally he endeavors to make an opening at that point, and also a counter-opening perhaps, and either through drainage or irrigate and drain, and treat the case antiseptically. Dr. Katzenbach then referred to a case already partially reported, in which the duration of the empyema was from October, 1878, to February, 1886, in which aspiration was performed frequently, and very large quantities of pus withdrawn.

DR. ALFRED L. LOOMIS had been accustomed to regard pleurisy in children as very different from the pleurisy of adults. Acute suppurative pleurisy in children, according to his observation, was very common, and the management of these cases had been very satisfactory, according to the general rules which had been so clearly set forth by those who had preceded him in the discussion. But

ACUTE SUPPURATIVE PLEURISY IN THE ADULT

was a very different affection, and, according to his observation, it was dangerous in the great majority of cases. He had come to recognize it as an *infectious pleurisy* in almost all cases, and, as a rule, as in children, there is some—perhaps slight—involvement of the

opposite lung. The rapidity with which the cavity fills in these cases is remarkable. He had seen cases in the adult in which the pleural cavity filled completely with pus within twenty-four hours, and it had seemed to him that the withdrawal of the fluid had influenced the course of the disease but very little. If the acute stage could be gotten over, then the case is one of simple empyema, and the complete recoveries that have taken place after that stage has been reached speak decidedly in favor of free incision. But

THE FREE INCISION DOES NOT PREVENT A FATAL ISSUE

during the acute process of the disease. He believed that these cases were fibrinous at the beginning, for the first twenty-four hours, and then the chest fills rapidly with fluid.

With regard to *chronic empyema in the adult*, there was always something behind the pleurisy that must be looked for as the cause of the pus in the pleural cavity. Simply evacuating the pus in these cases, without change of air and medical treatment, was not so likely to be successful as in chronic empyema in children.

Dr. J. West Roosevelt thought that the chances for success with aspiration in children should be better than in the adult, because only the superficial epithelia of the pleura are destroyed in children, whereas the lesion is very much deeper in adults. He then referred to a case of pyo-pneumothorax, in which aspiration was practised, and finally the cutting operation was undertaken as a palliative measure, as there was phthisis of the opposite lung. The patient took ether badly, and he was turned upon his left side, when the heart and respiration ceased, and the pus poured out of the mouth, and the patient was dead.

He was unable to understand why it was that anyone should wish to wash out the pleural cavity, as it was impossible to bring the antiseptic fluid into contact with all parts of it. So far as *perflation* was concerned, he regarded it as

AN EXCELLENT METHOD OF PRODUCING RUPTURE OF THE LUNG.

Dr. A. Caille had operated 22 times—19 in children and 3 in adults. The children were from five to six months old. There were *six* deaths, *fifteen* recoveries, and one case was under treatment. He uses the aspirator needle for diagnosis. When empyema is present, it should be treated just like any other abscess, an incision made, and free drainage established. He was thoroughly in accord with Dr. Abbe's views. He would not use carbolic acid in the thoracic cavity, especially in children, because of the liability to produce its constitutional toxic effects.

Dr. J. E. Winters took strong exception to the statements that pleurisy in children "almost always ends in the formation of pus." Of 90 cases seen by him in the Demilt Dispensary, empyema occurred in only *four*. Of the 86 cases not one terminated in purulent effusion; every case had been followed to its termination, and the termination had been in complete recovery.

He also took exception to the statement that pleurisy with high temperature at the beginning is almost always suppurative. He did not think it was true. There were two cases in his number that required an operation, but the fluid was not pus. He had not seen a case without abundance of serum with the pus, and it was because of that fact that

THE EMPYEMA OF CHILDREN IS CAPABLE OF ABSORPTION.

He had not interfered, except to remove the mechanical effect produced by pressure. He seriously objected to the use of either the hypodermic needle or that of the aspirator, until it was decidedly necessary, because he believed that they tended to the formation of pus. From what he had seen of pleurisy in children with large effusion, termination in empyema was exceedingly rare, and in almost all cases pleurisy could be treated successfully, without the use of the aspirator and without incision. But when it was necessary to operate, he preferred the free incision.

The President said that Dr. Huber spoke of empyema and not of pleurisy, and did not say that every case of pleurisy commenced with chill and high fever, and then turned into empyema. Therefore his statements were not untrue.

Dr. A. Seibert said, with regard to the use of the hypodermic needle, that whenever it was used antiseptically it was absolutely impossible to do any harm. It should be the rule of every practitioner to have a needle which was perfectly clean and a syringe that was not used for any other purpose.

One of the speakers had said that the washing out was not beneficial. He believed that the benefit was due less to the antiseptic fluid than to the force with which the fluid came out and carried with it the flocculent material. He had seen a large number of cases of empyema in children, and he believed that a large proportion of cases are developed by

THE USE OF DIRTY NEEDLES.

He would never treat a simple case of serous pleurisy by aspiration. He believed in tapping every large effusion and removing as much as possible, antiseptically and slowly, and the results will always be good.

Dr. Heineman referred to a case under Dr. Scharlau's care at the Mount Sinai Hospital, where it had been arranged to adopt the "subaqueous" method of drainage. The moment the fluid was let out there came also a quantity of blood so great that the child went into collapse. The doctor at once reintroduced fluid into the cavity, and the child rallied, and from that the case went on as an ordinary case of empyema.

The President spoke of the *severe cough* set up during the operation, which might continue for hours, perhaps for days. Why did it occur, and how was it to be remedied? A case was related in which aspiration had been practised several times with temporary relief, but it came finally to the operation, and when *thirty* odd ounces of pus had escaped the man began to cough, and it could be stopped only by

RETURNING TEN OR TWELVE OUNCES OF FLUID TO THE PLEURAL CAVITY.

He believed that this procedure would be found to be a good method of stopping this distressing cough. This patient coughed every time the cavity was emptied, and the cough ceased when fluid was returned to the cavity. The final operation in the case must be resection of several inches of ribs. He thought it was evident that in this case the cough was due to sudden filling of the blood-vessels, which also carried with it the tendency to bronchopneumonia or œdema, and also a tendency to hemorrhage from the same cause. Cough had been attributed to irritation of the pleura during the operation, but he had been unable to convince himself that it was true.

Dr. Abbe thought it was quite as probable that the cough was reflex in character, as aphonia, disturbances of vision, etc., had been produced apparently by disturbance of the nerves in connection with the pleural surface.

The President: If reflex, why cease when liquid is introduced into the cavity?

Dr. Abbe: The fluid covers the sensitive portion of the pleura.

The President could explain the loss of voice by the sudden development of hyperæmia of the larynx, and the disturbance of vision by the probable anæmia of the brain in consequence of the sudden change in the chest.

The President announced that at the next meeting of the Academy the subject of *Intubation of the Larynx* would be presented in short papers.

Dr. R. C. M. Page, Secretary of the Section in Practice, reported resolutions on the death of Dr. E. Darwin Hudson, prepared by the committee appointed at the last meeting of the Section, Drs. A. Jacobi, T. H. Burchard, and R. C. M. Page, which were unanimously adopted.

The Academy then adjourned.

AMERICAN ASSOCIATION OF GENITO-URINARY SURGEONS.

First Annual Meeting, held at the Laurel House, Lakewood, N. J., May 17 and 18, 1887.

TUESDAY, MAY 17TH—FIRST DAY—MORNING SESSION.

THE meeting was called to order by the PRESIDENT, DR. E. L. KEYES, of New York, at 11.30 A.M.

THE PRESIDENT'S ADDRESS.

Dr. Keyes, in his address of welcome, first alluded to the circumstances which had led to the formation of the Association. Then, speaking of the objects of the Association, he said he need not enter into the question of specialism as distinguished from general medicine and surgery. That distinction was being made for us by the circumstances of the times. The concentration of labor certainly yielded more perfect results than its general distribution. There was a field ready, and those who wished might enter in and work. Because a man belonged to this Association did not imply that he at all confined his ability to its peculiar line of study; but it furnished to him an arena in which he might develop his ideas and display the work he had done under the keen criticism of minds familiar with the subject-matter treated, and capable of still further refining, by their discussion, the quality of his work and enhancing its value.

DR. F. B. GREENOUGH, of Boston, read a paper entitled

A FEW STATISTICS ON THE COMPARATIVE FREQUENCY OF THE CHANCROID.

He referred to the marked individuality that was given to the chancroid by the text-books, in spite of which the great difference in the statistics by different observers would show that they must have used a different system of classification. Throughout this divergence of statistics, however, two facts appeared. First, that this lesion had diminished in its relative frequency to the true chancre, with the exception of two periods in Paris, that is, during the war and siege (1870–71) and during the Exposition (1876), and that it occurred more frequently in hospital than in private practice. Dr. Greenough's records at the Boston Dispensary from July 1, 1873, to March 31, 1887, gave a total of 1,593 cases, of which 391 were chancroids, 219 true chancres, 931 doubtful, and 52 cases of herpes progenitalis, making the chancroid stand in proportion to other lesions in the ratio of 1 to 3. These records were not satisfactory, as they showed only the diagnosis made at the time of the first visit. In private practice, out of 100 cases seen 10 were chancroids, 63 were true chancres, 13 were doubtful, and 14 were herpes progenitalis, being a ratio of 1 to 10. The diagnosis in these cases was much more reliable. Both sets of cases showed diminution in the frequency of chancroid. The author thought this was due in part to a change in the type of the disease, and a change in the severity of the cutaneous manifestations in syphilis. Herpes progenitalis not having been recognized by earlier writers was undoubtedly often mistaken for chancroid, and probably also a not uncommon inflammation of a sebaceous follicle on the shaft of the penis, and the treatment of either of these lesions by cauterization, universally practised at that time, would make a very good imitation of a chancroid. The fact that the chancroid had just been recognized and described as a local venereal sore, distinct from the chancre, would make it largely sought for at that time.

Dr. Greenough thought that at the present day a virulent bubo was not more frequently seen in connection with a chancroid than with a true chancre, which he considered was due partly to the fact that this lesion was not so frequently initiated by caustics, and he also ascribed the greater variety of the chancroid to the fact that they were no longer manufactured by cauterizing every venereal sore that was not a typical true chancre.

DR. F. R. STURGIS said that, according to his observation in Charity Hospital, New York, and dispensary practice, the number of cases of chancroid compared with those of chancre were diminishing.

Dr. R. W. Taylor, Dr. Hyde, Dr. Morrow, and Dr. Rockwell had observed a diminution in the relative frequency of chancroid to chancre.

DR. HYDE thought the need of time in which to form an opinion whether a given lesion would or would not be followed by the manifestations of syphilis should be more generally recognized.

DR. OTIS did not agree in so general a condemnation of the cautery. When used early it was of benefit, used late it might do harm.

THE PRESIDENT agreed in the remarks made regarding statistics, but he expressed his belief in the virulence of chancroidal pus as compared with ordinary pus. He agreed with Dr. Otis that cauterization of virulent sores within the first ten days was good practice.

THE PRESIDENT read a paper entitled

SUPRA-PUBIC CYSTOTOMY FOR VESICAL TUMORS AND LARGE CALCULUS; A RECORD OF THREE CONSECUTIVE SUCCESSFUL CASES, WITH COMMENTS UPON VESICAL SUTURE, AND A SUGGESTION FOR DRAINAGE.

He advocated supra-pubic cystotomy for vesical tumors, for certain foreign bodies, in cases of very large stone, and in certain exceptional instances for exploration. The method should not be adopted as the usual one in stone. He gave statistics showing that it was especially objectionable in children. He had operated for the relief of large fibro-papilloma, for flat villous growth, and for a large calculus. He described his way of dealing with hemorrhage and of applying the vesical suture. A double curved retractor was exhibited, and a description given of his method of effecting perineal drainage by puncture, probe, and catheter, making only a small perineal incision. The drainage is considered by Dr. Keyes a most essential step in the operation, and the one feature which makes vesical suture safe and likely to be generally effective; while drainage in the perineum avoids one of the discomforts of supra-pubic section, namely, obstinate fistule.

He prepares a No. 30 French red rubber catheter by passing a string through it, the string being knotted inside the tip. This he passes by means of a long probe inserted through a puncture made upon a broadly grooved staff, and by aid of a finger in the rectum, thus entering the draining-catheter through a hole only just as large as itself.

The paper was discussed by Drs. Cabot, Rockwell, Bryson, and Otis.

DR. A. T. CABOT, of Boston, read a paper on

A CASE OF HYSTERECTOMY FOR THE RELIEF OF PYELITIS FROM OBSTRUCTION.

and referred first to a case in which an operation was not performed. The patient died, and the autopsy revealed the fact that the symptoms of obstruction of the ureters which came on late in the history of the fibroid was probably due to settling of the fibroid in the pelvis and contraction of former adhesions while it was in that position.

In the case which was made the basis of the paper the pyelitis occurred as an early symptom while removal of the pelvic tumor was possible. A second tumor, the size of an orange, was felt near the umbilicus, thought to be probably attached by pedicle to the one, the size of a child's head, projecting deeply into Douglas' pouch.

Later the condition of the urine and the character of micturition, pain, etc., pointed to cystitis from pressure. Two weeks later the symptoms were those of probable suppuration in one or both tumors. The smaller abdominal tumor was removed, after which micturition was less frequent. But the appearance of pus in the urine and other symptoms pointed to pyelitis, the condition of the kidney being considered due to pressure of the pelvic tumor. At an operation for its removal it was with difficulty that it could be pushed up into the abdominal cavity, so tightly was it wedged in the pelvis. The adhesions were not important. The uterus was removed with the tumor, only a part of the cervix being left. The patient rapidly regained strength, and wished to return to work. The urine had become almost clear.

In the absence of the author the Secretary read a paper by Dr. George Chismore, of San Francisco, entitled

SOME CASES OF PYELITIS, IN WHICH FREQUENT AND PAINFUL MICTURITION WAS THE CHIEF SYMPTOM.

Two cases in particular were cited to call attention to the fact noted in the books, but not sufficiently emphasized, namely, that frequent and painful micturition might be so pronounced a symptom in pyelitis as to mislead the experienced observer as to the nature of the case, and cause him to address treatment to the bladder alone while the real malady was in the kidneys. In one of his cases, in which frequent and painful micturition was the chief symptom, the man had sustained a violent muscular strain in the region of the kidney, and for some years afterward suffered in the extreme, and was treated for cystitis by some of the most distinguished specialists; but finally the abscess of the kidney discharged and the patient recovered.

In the second case treatment was directed to presumable cystitis, and at the autopsy the kidney was found riddled with abscesses. He asked, how many times has the healthy bladder been subjected to every variety of persistent treatment while disease of the kidneys has gone on, only shown to be present by post-mortem examination?

He believed that in many cases the diagnosis of pyelitis could be made only by exclusion.

Evening Session.

ON HORNY GROWTH OF THE PENIS, WITH EXHIBITION OF A REMARKABLE CASE.

Dr. J. H. Brinton, of Philadelphia, read the paper, exhibiting a specimen, and referring to those on record. His specimen was from a man on whose penis a horn had existed more than four years, having started from a wart. The wart had itched occasionally, and the patient had scratched it for this reason. Gradually it turned into horny substance. It caused no trouble, except mechanical interference with coition. The horn sprang from the base of the glans, at the coronary border, and was attached to both the glans and prepuce; it was one and seven-eighths inch long, one and three-eighths inch in circumference; it was curved forward. A peculiar feature in this particular case was the fact that the horny plate surrounding the meatus almost occluded the meatus, so that the urine passed only in drops. The urethra behind the horny plate was not contracted. The horn was cut off, and the man left the hospital after about three weeks.

The rarity of horny growths upon the penis was somewhat remarkable. He was surprised to find only fourteen cases recorded in English, German, and French literature. A few more cases had been vaguely alluded to. They occurred either as well-marked projecting horns, or as rough, flat, horny plates occupying the glans penis; they were sometimes multiple. The longest on record was three inches.

Dr. Cabot had seen a horn, perhaps the size of the thumb-nail, occupying the dorsum of the glans penis, in a patient of Dr. Bigelow's, about twelve years ago. He could not say whether it had been reported.

Dr. J. P. Bryson, of St. Louis, then read a paper on

THE CHOICE OF OPERATION FOR THE REMOVAL OF VESICAL CALCULUS IN CASES COMPLICATED BY PROSTATIC OBSTRUCTION.

It seemed strange to the author how little influence prostatic enlargement has upon the cutting or crushing operation for stone in the bladder. He believed that very rarely was section made purely for prostatic reasons, that is, with the intention not only of removing the stone, but for reducing the size of the prostate as well, and thus reducing in intensity, at least, the causes which were most active in the production of stone, as well as lessening the sufferings of the patient in after years. Since 1884 he had operated for stone by prerectal section in four cases, all complicated by a large hypertrophic prostate gland, and had had opportunity to observe one other similar case in the practice of a friend. The age of the patients varied from sixty-five to seventy-four years. The operation in each case was successful. In one of his cases he had occasion again to make an incision and enter the tip of his finger, having failed at the first operation to entirely evacuate all the fragments; in two others opportunity to remeasure the size of the prostate was offered during an operation for return of the stone. In one case he estimated the reduction in size of the prostate after the first operation to have been about one-third in its length, and in the other about one-fourth; in none was there now any residual urine of importance. He did not believe that any other operation for removal of the stone would have been attended by so marked reduction in the size of the enlarged prostate.

The President remarked that while the success of the cutting operation in the cases reported by Dr. Bryson as occurring in old people, had been all that one could ask, yet this operation was shown by statistics to have a much larger mortality in the aged than lithotapaxy. Whatever the effect of the cutting operation upon the size of the prostate, he thought we should do the crushing operation first, if it were practicable, as it was much less dangerous, and if it failed to relieve the symptoms to consider afterward the propriety of any other procedure. He regarded Dr. Bryson's paper as very suggestive.

Dr. Bryson said that in none of his cases was the cutting operation the operation of choice. The effect upon the prostate having been noticed, he thought it was worthy of consideration. The discussion was participated in by Drs. Otis and Cabot.

Dr. P. A. Morrow read a paper on

IDIOSYNCRASY AS AFFECTING THE SPECIFIC TREATMENT OF SYPHILIS.

The author first refers to the ample justification of the claims of mercury and iodide of potassium to be ranked as "specifics" in the treatment of syphilis. These agents, when introduced into the organism, directly attack and cause to disappear the organic lesions as well as the functional disorders created by the syphilitic virus. Experience shows, however, that the action of these drugs is by no means constant and infallible—all syphilitics are not equally susceptible to this curative action. The definite peculiarities of constitution which are generally included in the term idiosyncrasy exert a dominant influence in modifying drug action. The therapeutic action of specific remedies is especially subordinated to conditions of aptitude inherent in the individual.

Idiosyncrasy in relation to the action of mercury and iodide of potassium may be manifest in various modes and degrees of intensity: 1. In an abnormal susceptibility to their physiological or toxic effects. 2. In the produc-

tion of incidental ill effects which may be associated with the drug's physiological action, or may take the place of it, constituting an aberration of the drug's typical mode of action. 3. In an insensibility or failure on the part of the system to respond to the curative action of these drugs.

Various clinical examples were given illustrating the foregoing propositions, particularly cases of idiosyncrasy against the iodide so marked that the local and constitutional disorders caused by the drug surpassed in severity the symptoms of the disease itself. In one case under recent observation ordinary medicinal doses of the iodide repeatedly caused a multiform eruption, consisting of pustular, bullous, nodular, and keloidal lesions, attended with the most pronounced symptoms of constitutional "iodism." The specific lesions were much aggravated under its use.

The various expedients which have been recommended to secure tolerance of these drugs by counteracting their ill effects were enumerated in detail, and their comparative value considered.

In conclusion the author suggested that the practical significance of idiosyncrasy and its bearing upon treatment had not received from specialists the consideration its importance demands. The rules of treatment had been rigorously and mathematically formulated—so many months of mercury, and after a certain date recourse to the iodide of potassium, without reference to the immense variance in the constitution and idiosyncrasies of patients, not only in the toleration of those drugs, but in susceptibility to their curative action.

Dr. R. W. Taylor, of New York, related some

OBSERVATIONS ON THE USE OF OIL OF WINTERGREEN IN THE TREATMENT OF GONORRHŒAL RHEUMATISM,

in which he detailed the histories of about twenty cases of gonorrhœal rheumatism occurring in Charity Hospital the past year, in which he had given the oil of wintergreen a thorough trial. In about nine of the cases the disease was of that chronic kind, in old or neglected subjects, in whom no treatmeut could prove of much benefit. In the others the benefit was marked, and most of them after some weeks recovered entirely. The drug was administered in capsules in pretty large doses, varying according to the circumstances. The urethral secretion also became bland under the action of the drug, and disappeared. Other remedies had in most cases been tried with little or no effect.

Dr. Algernon S. Garnett was the author of a paper, which, in his absence, was read by the Secretary, entitled

A FEW PRACTICAL OBSERVATIONS ON THE TREATMENT OF LATE NEOPLASMS OF SYPHILIS.

The author thought it was an error to give fixed doses, especially in the latter stages of syphilis, without due regard to the nature of the case. He believed in removing neoplasms, slight or grave, and considered no patient safe as long as there was the slightest evidence of the disease. The iodide of potassium or mercury should be pushed in every stage of syphilis as far as it could be borne. If cachexia in the latter stage prevented the free use of mercury, tolerance of the drug must be cultivated until the patient could be put under its full influence. Syphilis, he thought, was not a benign disease at all.

The President exhibited a Reverdin instrument which he had modified for the purpose of performing subcutaneous ligation in varicocele in the manner he had described about two years ago.

Wednesday, May 18th—Second Day—Morning Session.

Dr. Keyes was re-elected President, and Dr. R. W. Taylor Secretary and Treasurer.

A paper on

TEMPORARY OVERSTRAIN OF THE BLADDER, PRODUCING CHRONIC RETENTION OF URINE.

was then read by Dr. F. N. Otis (see p. 595).

Dr. J. N. Hyde, of Chicago, read a paper entitled

EARLY SYPHILITIC EPIDIDYMITIS.

The author cited cases which had come under his observation with a view of presenting the negative side of the subject. The following propositions, he thought, rested on fairly sound clinical grounds: 1. A male patient may suffer from blennorrhagic epididymitis on one side, subsequently contract syphilis, yet escape syphilitic involvement of the epididymis. 2. A male patient may suffer from blennorrhagic epididymitis, involving first one organ, then the other, finally acquire syphilis, and escape syphilitic epididymitis. 3. A male patient may suffer from blennorrhagic epididymitis of one or both organs, become so irritable as to exhibit by inflammatory accidents sympathy with successive blennorrhagic attacks, yet throughout a final syphilis betray no sensitiveness to the last-named disease. 4. A male patient affected at the same time with syphilis and blennorrhœa may suffer from an epididymitis, evidently a complication of the last-mentioned disease—namely, blennorrhœa—and yet escape syphilitic involvement of the organ. 5. A male patient may suffer from tuberculosis, subsequently incur syphilis, yet the epididymis escape involvement. 6. A male patient who has suffered from repeated attacks of blennorrhœa, and that lately, may exhibit the typical form of early syphilitic epididymitis.

Dr. A. T. Cabot, of Boston, reported two cases of

PROSTATOTOMY FOR OBSTRUCTION.

In one the operation was followed by almost complete recovery of the function of the bladder. In this case litholapaxy was done on the stone before the operation of prostatotomy. In the other case, although the first result of the operation was satisfactory, a certain amount of incontinence appeared some months later. Dr. Cabot ascribed this to the hypertrophied condition of the bladder, which was sufficient to overcome the constrictor muscle weakened as a result of the incision into the membranous urethra. He queried whether in a case like this, with good evidence of a hypertrophied bladder, and in which the obstruction was a narrow bar, the internal prostatotomy of Mercier might not prove the better operation.

Dr. Keyes read a paper, entitled

A PLEA FOR THE MORE GENERAL USE OF THE NITRATE OF SILVER IN THE DEEP URETHRA, WITH AN IMPROVED INSTRUMENT FOR ITS APPLICATION.

In the full discussion on the paper which followed, most of the members expressed hopes of better results from deep urethral injections of nitrate of silver than had hitherto been generally attained. Dr. J. H. Brinton was one of the strongest advocates of this method, which he had practised extensively. To relieve the discomfort or pain which the patient experienced after treatment by this or other methods, he had the patient stand by the basin and allow a small stream of water to run over the corona of the penis; the relief was almost immediate. Dr. Mastin referred to the practice of Professor Richardson, consisting in injecting a drachm of almost a saturated solution of nitrate of silver into the bladder in gonorrhœa and chronic cystitis.

Dr. R. W. Taylor, of New York, then exhibited

SECTIONS OF TUBERCULAR TESTES WITH BACILLI, AND THE COEXISTENT BACILLI IN THE SPUTUM.

The Association then adjourned to meet next year, time and place to be announced.

A Case of Infantile Eczema of six months' duration was cured by Dr. Meigs in one week with the following: ℞. Unguent. zinci oxidi, ung. petrolati, āā, ℥ ss.; hydrarg. chlorid. mitis, gr. x. M. Sig.: Apply freely.—*Col. and Clin. Record.*

AMERICAN SURGICAL ASSOCIATION.

Annual Meeting, held in Washington, D. C., May 11, 12, 13, *and* 14, 1887.

(Continued from page 591.)

THURSDAY, MAY 12TH—SECOND DAY—AFTERNOON SESSION.

DR. R. A. KINLOCH, of Charleston, S. C., presented a case of

PISTOL-SHOT WOUND OF THE ABDOMEN TREATED BY LAPAROTOMY AND SUTURING THE INTESTINES.

J. B——, colored, aged twenty-seven, was admitted into the City Hospital, January 21st, at 7.50 P.M. He had been shot two hours before in the abdomen with a pistol ball (38 calibre). The ball entered one and one-half inch to the left of the umbilicus. There was slight shock. The patient seemed to be comfortable, with the exception of a slight pain on the inside of the left thigh, which was intensified by movement. Pulse, 88; respiration, 24; temperature, 99°. At 10 P.M. half a grain of morphia was given hypodermatically, and shortly afterward anæsthesia was induced by the A. C. E. mixture. Penetration of the peritoneum was first determined, and the abdomen was then opened by median incision. A weak carbolic spray was used. The intestines were examined piece by piece, and wrapped in towels wrung out of a one to ten thousand bichloride of mercury solution. The jejunum presented four wounds, two of entrance and two of exit. The ileum had two wounds. The mesentery was perforated in two places and was also badly torn. There was free bleeding from a mesenteric branch, which was controlled by pressure-forceps and subsequently by ligature of silk. All the wounds were closed with the Lembert suture, using a fine round needle and antiseptic silk. The wounds of the mesentery were brought together, as far as was possible, but there was an infiltration of blood which could not be removed. The abdominal cavity was washed out with a weak solution of hydrarg. bichloride. The abdominal wound was closed with silver sutures, and a large rubber drainage-tube introduced. Antiseptic precautions were observed throughout the operation. The next morning vomiting occurred, and an examination of the wound showed that a suture had given way, and a knuckle of intestine protruded. This was returned and the opening closed. At 5 P.M. the temperature was 102°. Vomiting again occurred, and shortly after midnight the patient expired suddenly.

Autopsy—No adhesion of the parietal peritoneum had occurred. Half a pint of dark, sero-sanguinolent fluid was found in the cavity. All the intestinal sutures had held, and there was no fecal extravasation. A circumscribed abscess was discovered in the meso-colon, out of the line of the bullet. The ball was found behind the body of the fourth lumbar on the left side.

This was the third case in which the author had performed laparotomy for bullet-wounds of the abdomen without visceral protrusion. In two cases of such injury the patients recovered without operation. The first operation was performed May 27, 1863; this patient recovered. The operation was performed seven months after the injury. There had been but one discharge from the bowels, and the patient was gradually sinking. This was the first time that laparotomy was done for gunshot wound without protrusion.

DR. W. W. KEEN, of Philadelphia, gave an account of a case of

PISTOL-SHOT WOUND OF THE ABDOMEN, INVOLVING THE LIVER, STOMACH, SUPERIOR MESENTERIC VEIN, INTESTINE, AND KIDNEY—LAPAROTOMY—NEPHRECTOMY—DEATH ON THE FIFTEENTH DAY—AUTOPSY.

Miss B——, of Vineland, N. J., a girl aged nearly eighteen, shot herself with a pistol, calibre No. 32, at 6.30 A.M., April 1, 1887. Dr. O. H. Adams, who arrived in a few moments, found that the ball had entered over the liver, and after a careful search found it lying under the skin of the left flank.

I saw her at 2 P.M. The wound of entrance was over the ninth rib, four and a half inches above the level of the navel, and three and three-fourths inches to the right of the median line. Skin not burned. The ball was located eight inches to the left of the median line, one and a half inch above the level of the navel. There was moderate tenderness over the entire belly, hepatic dulness not changed, stomach resonant from fifth interspace, no cough, no râles, vocal fremitus normal; renal dulness began at tenth rib on left side, and was the same on the two sides. There was severe pain in the left shoulder. She had vomited a drachm and a half of clear, bright blood, she told me, immediately after the accident. About a pint of urine, the first since the accident, was drawn by the catheter. It was not bloody. Pulse, 104; respiration, 30. No material rise of temperature. As after consultation with Drs. Adams and Bidwell it was deemed almost certain that the belly was invaded by the ball, exploratory laparotomy was advised, consented to, and begun at 3 P.M., and lasted nearly three hours, with every antiseptic precaution. The ball was easily removed, just under the skin. Neither wound could be traced positively into the belly. On opening the belly neither blood nor serum escaped; nor was any extravasated food or fæces noticed. There was no peritonitis. Two fingers were passed in and an effort made to discover the wound of entrance or exit, without any being revealed by touch. The wound was then enlarged and the stomach drawn out. A small round wound near the pylorus was found and was closed by four sutures (Lembert) of the finest iron-dyed silk, a round, ordinary sewing-needle being used. This wound was practically closed by the ponting mucous membrane. As the ball had entered the stomach, search was made for the necessary wound of exit. None was to be found, but the manipulation showed that a small amount of bloody serum existed in the belly, and a large area of extravasation was seen in the mesentery. But little blood had escaped into the peritoneal cavity. The mesentery was carefully torn through and a small artery tied. The chief bleeding came from a hole nearly one-eighth of an inch in diameter in a large vein, so large and lax that at first I thought it the vena cava, but its position just below the head of the pancreas convinced me that it was a large superior mesenteric vein just before it forms the portal vein. After much difficulty I seized it with hæmostatic forceps and placed a lateral ligature of chromicized catgut on it.

The anterior border of the liver had been scalloped by the ball, but as there was no bleeding it was let alone. In addition a large wound in a coil of small intestine in the left flank had been found. Ten Lembert sutures were used in closing it.

Returning now to the stomach, a very careful search was again made for the wound of exit. It was found obscured by a slight coating of blood. This was closed by three black silk Lembert sutures.

A systematic investigation of the entire bowel from the stomach to the sigmoid flexure showed no other wounds. The left kidney was badly lacerated, and was immediately removed by peeling it out of its capsule and tying the pedicle with a stout silk ligature. A rubber drainage-tube was inserted through the wound of exit into the abdominal cavity.

The wound of entrance was cleansed and closed by three stitches, and the wound of exit by two. Sublimate gauze, rubber dam, and a wide flannel bandage completed the dressing.

During the day following the operation suppression of urine was threatened, only ℥ iijss. being secreted. This was quite albuminous. The next day, however, the amount rose to ℥ xxiv. and on the third day to ℥ xl., and

the albumen gradually disappeared. For the first three days nothing was given her except a little cracked ice, ice-water, and a little whiskey and champagne. On the fourth day peptonized milk in frequent but small quantities was allowed, with rectal enemata of the same, and later other liquid foods. Menstruation appeared regularly when due on April 3d, and saw its usual course of four days. On the 8th she had a chill lasting twelve minutes, and the temperature rose to 104°, but as the most careful examination revealed no spot of special tenderness, no dulness, no fluctuation, and, she was almost, it seemed, in *articulo mortis*, it was not deemed prudent to reopen the belly.

The next day, the 10th, she improved somewhat; on the 13th she had another chill with a temperature of 105.4°, had vomited several times, and also had some involuntary evacuations. But as her condition was fair —pulse, 136, temperature, 101.4°—the belly was reopened and explored. The intestines were bright and glistening, and no peritonitis existed.

Surgical bimanual examination revealed no pus or special tenderness at the site of the removed kidney, or, so far as it could be located, at the intestinal wound. No shock followed. The next day (14th) she had two bloody motions, and gradually failed, dying on the 15th day.

The autopsy by Dr. H. C. Smith revealed general peritonitis, except in the pelvis; but no free pus was found anywhere. Only one wound was found in the stomach, near the pylorus, and this was healed, the four stitches being seen in place. The blood in the mesentery was disintegrating and suppurating, though no abscess existed, nor was there any free pus in the peritoneal cavity. The suppuration was chiefly marked along the mesenteric attachment of the intestine. On the other side of the mesentery, corresponding in position to this wound, was a spot in the bowel-wall as large as a five-cent coin, which was gangrenous, and in its centre were two perforations of the bowels. No wound was found except that discovered at the operation. No trouble was found at the site of the removed kidney. Although it was nearly ten hours from the accident to the time when the intestine and stomach were sutured, no intestinal or gastric juice or fluid escaped, though the intestinal wound was so large and vomiting occurred three times.

The kidney, I believe, has never before been removed at a laparotomy for gun-shot wound; but it was clearly the right thing to do. The day following the operation the remaining kidney worked badly, only three and a half ounces of albuminous urine being secreted. But the next two days dispelled all anxiety on this score, the urine rising to twenty-four and forty ounces respectively, and the albumen soon disappeared. The early and marked compensatory enlargement of the right kidney is also of great interest and importance, though, of course, now well known to follow nephrectomy.

Dr. P. S. Conner, of Cincinnati, said that when an operation is required we are all agreed as to what should be done. But the most important point to determine is, when should the abdominal cavity be opened? There is no single symptom or collection of symptoms to be relied upon. If, however, the temperature remains subnormal four, five, or six hours, penetration and perforation may be considered almost certain. Diagnostial laparotomy is admirable in certain cases. Many of these cases necessarily involve legal investigation, and it is a very simple matter to show that death resulted not from the original injury, but from the surgeon's knife. While it is wise to lay down the general rule that penetrating wounds of the abdomen, and still more, perforating wounds of the viscera, should be submitted to laparotomy, at the same time we are not justified in laying this down as a hard-and-fast rule.

Dr. Moses Gunn, of Chicago, thought that we are now all prepared to say that laparotomy under these circumstances is a proper measure to pursue, but the only question is how to make the diagnosis? We have, as has been said, no positive signs of visceral injury. He held that we are fully warranted in saying that we may resort to laparotomy for purposes of diagnosis when we are in doubt.

Dr. T. Richardson, of New Orleans, gave some statistics of the Charity Hospital of New Orleans, showing that in the last five years there had been thirty-one cases of penetrating knife-wounds of the abdomen, of which twenty-four recovered and seven died. There were thirty-three cases of gun-shot wound of the abdomen, with thirteen recoveries and twenty deaths. Laparotomy was performed in one of the fatal cases of gun-shot wound; all the others were treated on the expectant plan.

Dr. D. Hayes Agnew, of Philadelphia, believed that where there is a reasonable degree of evidence that there is a penetrating wound of the abdominal wall, especially if a shot wound, it is the surgeon's duty to make an exploratory incision. We are not to be deterred by the possibility of some legal technicality if the case should come into court. We are to do our duty without reference to the consequences.

Dr. J. Edwin Michael, of Baltimore, read a

REPORT OF A CASE OF VENTRAL HERNIA SUCCESSFULLY TREATED BY OPERATION, WITH A SUGGESTION AS TO THE METHOD OF OPERATING.

A stout woman, forty-five years of age, had a ventral hernia, and on account of the great annoyance experienced in the use of pads and bandages, she insisted on operation. March 15, 1886, a free incision was made in the median line. The sac was carefully separated from surrounding tissues, and was then emptied of its contents and opened. The sac was cut off close to the margin of the ring. Strong silver-wire sutures were passed, a little less than half an inch apart, having a hold of half to three-fourths of an inch. The sutures included the peritoneal, muscular, and tendinous structures only. These were twisted, and perforated shot employed. The wire was then cut off close. The skin and subcutaneous tissues were secured with catgut sutures. The wound united rapidly. In October examination of the wound showed it to be firmly united. The sutures could be felt, but gave no inconvenience. In his remarks the speaker stated that his object in using the wire sutures in this manner was the expectation that they would be surrounded by a mass of cicatricial tissue, making a permanent closure of the ring. As far as he was aware he had used the wire for this purpose without precedent.

A paper on "Prognosis in Sarcomata of the Breast," by Dr. S. W. Gross, of Philadelphia, was read by title and referred to the Publication Committee.

Dr. D. Hayes Agnew, of Philadelphia, read a paper entitled

THE MEDICO-LEGAL ASPECT OF CRANIAL AND THORACIC WOUNDS (SUICIDAL).

The study of this subject had been suggested to him by a recent case occurring in Newport, R. I. The question was as to the possibility of a cranial wound and a wound of the heart being self-inflicted. A colored man was found one morning lying dead under the breakfast-table. He had food in his mouth, and had a wound of the head and of the heart. The coroner's jury rendered a verdict of suicide, and the body was buried. Subsequently it was disinterred and the verdict reconsidered, and the conclusion reached that the man had been murdered. Suspicion then fell upon the son-in-law of the man, who had up to this time borne a good reputation. At the trial five medical experts were called for the prosecution, and their general testimony was that these wounds were incompatible with the idea of suicide. Subsequently the prisoner confessed that he had committed the murder. As this was an important question, the author had investigated it. There are two conditions resulting from injury of the head which would prevent the infliction

of a second injury. These are unconsciousness and paralysis of one or both upper extremities. Injury to the brain is not necessarily followed by loss of consciousness or by paralysis. Many cases were cited to show the truthfulness of this statement. Numerous instances of heart-injury were given in which, after the reception of the accident the individual was able to perform many acts. Cases were also given in which persons, in attempting suicide, had produced injuries of the head and of the heart. As the result of his study, the speaker concluded that it is possible for a ball to enter the brain without destroying consciousness, although for a moment it may cause mental confusion, and that a suicide may shoot himself in the head, and, after a moment, shoot himself in the heart.

In the discussion which followed, numerous cases were related in which the heart or brain had been injured and the individual had lived for some time, and had not been unconscious. Cases were also given in which both a wound of the heart and of the brain had undoubtedly been produced by the individual himself.

Adjourned until Friday morning.

(To be continued.)

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 15 to May 21, 1887.

TAYLOR, MORSE K., Major and Surgeon. Retired from active service May 14, 1887. S. O. 111, A. G. O., May 14, 1887.

WHITE, R. H. Promoted to be Surgeon with the rank of Major, to take effect from May 14, 1887.

HALL, JOHN D., Captain and Assistant Surgeon. Granted leave of absence for one month, with permission to apply for one month's extension. S. O. 74, Department of Colorado, May 11, 1887.

SUTER, WILLIAM N. Appointed Assistant Surgeon, U. S. Army, with the rank of First Lieutenant, to rank as such from May 16, 1887.

Official List of Changes in the Medical Corps of the United States Navy for the week ending May 21, 1887.

CURTIS, L. W., Passed Assistant Surgeon. Ordered to the Quinnebaug.

BAKER, J. W., Passed Assistant Surgeon. Ordered to the Hospital, Chelsea, Mass.

PRICE, H. F., Surgeon. Ordered to Board Duty, Annapolis, Md.

GRAVATT, C. U., Surgeon. Detachment from Michigan revoked.

LUMSDEN, G. P., Passed Assistant Surgeon. Orders to the Michigan revoked.

SIEGFRIED, C. A., Surgeon. Ordered to the Quinnebaug.

PERSONS, R. C., Surgeon. Detached from the Saratoga.

FARWELL, W. G., Surgeon. Ordered to the Saratoga.

DIXON, W. S., Surgeon. Ordered to special duty, Baltimore, Md.

ROGERS, B. F., Surgeon. Ordered to the Marine Rendezvous, N. Y.

WELLS, HOWARD, Passed Assistant Surgeon. Ordered to the Jamestown.

WISE, J. C., Surgeon. Detached from the Jamestown.

HARVEY, H. P., Surgeon. Ordered to the Iroquois.

WAGGENER, J. R., Surgeon. Detached from the Iroquois.

WHITE, S. STUART, of Frederick, Md. Commissioned Assistant Surgeon in the Navy, May 19th.

Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending May 21, 1887:

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	6	3
Scarlet fever	68	6
Cerebro-spinal meningitis	3	3
Measles	79	13
Diphtheria	115	63
Small-pox	29	7
Yellow fever	0	0

SOOTHING MIXTURE FOR CONSUMPTIVES.—On page 563 of THE MEDICAL RECORD for May 14th is published a formula, entitled "Soothing Mixture for Consumptives," of which the dose is stated to be "a tablespoonful every two or three hours." A tablespoonful would represent about four and one-half grains of opium. Obviously a teaspoonful is meant.

MINERAL WATERS OF THE UNITED STATES.—We find in the *Therapeutic Gazette* (March, 1887) the following statement, compiled from the report of Dr. A. C. Peale, in the "Thirty-second Bulletin of the United States Geological Survey." In this report Dr. Peale mentions 2,822 localities of mineral springs. "In the Northern Atlantic States there are 405 localities and 637 individual springs; in the Southern Atlantic States, 371 localities and 1,048 individual springs; in the Southern Central States, 1,201 localities and 1,911 individual springs; in the Northern Central States, 601 localities and 1,276 individual springs; in the Western States and Territories, 722 localities and 3,949 individual springs; making a total of 8,821 springs. But a small proportion of this immense number of waters has been analyzed. Thus, out of nearly 4,000 known mineral springs in the Western States, only 132 have been studied by the chemist, and only 18 have been used as health-resorts.

NOTHNAGEL ON BATHS IN TYPHOID FEVER.—In a recent clinical lecture Nothnagel says: "Our views regarding the use of baths have now become clear, and we have returned to what observation had long since taught us, that eclecticism was here the right method. When I look back upon what, as a young man, I saw with Traube, I must say that Traube, without making it out as something essential, carried out in principle what we have come to after twenty years of struggles and turnings aside, viz., that Traube did not treat all his cases after a routine method, after a fixed plan, but that individualizing his cases he treated them sometimes with warm, and sometimes with cold baths. A little scene that I witnessed there I can never forget. I was in Breslau, and in the Lazareth there had to treat some young soldiers, typhoid patients, strong young men. In the case of one young soldier the temperature would not go down in spite of all our efforts. He was put into a cold bath at 16° C. (60° F.) every two hours, the temperature remained at 40° C. (104° F.). A journey accidentally took me to Berlin, I spoke with Traube about this case, and he said to me: 'When you return put the man into a warm bath.' The man was put into a warm bath and the temperature went down. When we see such sharp contradictions, we come to the conviction that there is not *one* method that is alone successful, but that we must individualize."

THE ANTISEPTIC TREATMENT OF GONORRHŒA, which is being strongly urged by several surgeons in this city, is also endorsed by Dr. J. Edmund Güntz, of Dresden. He recommends the use of pencils of flowers of zinc (zinc oxide), made up without fat or any other ingredient.

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Original Articles.

THE DEFORMITY TERMED "PUG NOSE" AND ITS CORRECTION, BY A SIMPLE OPERATION.[1]

BY JOHN O. ROE, M.D.,

ROCHESTER, N. Y.

THE nose is the central and most prominent feature ot the face; and on its shape, size, and appearance, to a great degree, depends the relative facial beauty of the person.

Physiognomists emphasize the importance of the nose in the category of anatomical conformations that are indicative of special traits of character; and regard it as a measure of force in nations and individuals.

Says Wells: "A skilful dissembler may disguise, in a degree, the expression of the mouth; the hat may be slouched over the eyes; the chin may be hidden in an impenetrable thicket of beard; but the nose will stand out 'and make its sign' in spite of all precautions. It utterly refuses to be ignored, and we are, as it were, compelled to give it our attention."

Even in ancient times much attention was given to its shape and appearance. Among the ancient Persians no man who had a crooked or deformed nose was allowed to sit upon the throne. Cyrus, it is said, had an asymmetrical nose, which was made a thing of beauty through the kind assistance of his emasculated attendants. In order to secure symmetrical and handsomely formed noses, in the children of the royal blood, the eunuchs who had charge of the royal offspring were accustomed to mould their noses into perfect shape (Mackenzie).

Considered from the profile point of view alone, noses are classified according to their shape by students of physiognomy into five main classes:

1. The Roman noses;
2. The Greek noses;
3. The Jewish noses;
4. The Snub or Pug noses; and
5. The Celestial noses.

These classes of noses, considered in the light of the characteristics of the race or class to which they are peculiar, are observed to indicate prominent traits of character, as follows:

The Roman indicates executiveness or strength; the Greek, refinement; the Jewish, commercialism or desire for gain; the Snub or Pug, weakness and lack of development; the Celestial, weakness, lack of development, and inquisitiveness.

"Le nez retroussé" of the French is applied to the Celestial nose, which is simply the pug lengthened and turned upward so as to form a gentle curve from the root to the tip.

The fact that the deductions of physiognomists almost completely harmonize with the anatomical and physiological facts in the case of the last two classes becomes striking, when we consider that those deductions have been made from observation alone.

Mr. Warwick says: "A snub-nose is to us a subject of most melancholy interest. We behold in it a proof of the degeneracy of the human race."

Tristram Shandy's father, regretting his son's misfortunes, remarked: "No family, however high, could stand against a succession of short noses;" and his grandfather "when tendering his hand and heart to the lady who afterward consented to 'make him the happiest of men,' was forced to capitulate to her terms owing to the brevity of his nose."

There are three conditions that may occur during the development of the nose that give it the appearance called snub or pug. They are: (1) Excessive development of the alæ and cartilaginous portions on the end of the nose; (2) a lack of sufficient development, or a sunken or flattened condition of the base and bridge of the nose, while the end of the nose may be but normally developed; 3, the combination, to a greater or less degree, of the conditions just mentioned. This last condition is the one most frequently found.

During development the nose and parts comprising the central portion of the face, as the ethmoid and sphenoid bones, and parts adjacent, are late in developing, and are also the last portions of the face to undergo ossification. At birth the nose, at its base and central portions, is flat and nearly level with the face, but later this depressed line is replaced by a more prominent one as the nose becomes developed. From this it will be seen that anything interfering with the proper development of these parts so as to cause them to remain in their infantile condition, while the end of the nose undergoes due development, will give the nose a snubbed and unsightly shape.

The best developed and most beautiful noses are one-third the length of the face. But noses often vary from this proportion, and in some instances an ill-formed nose is inherited, it being a special family mark. Ribot says, "that of all the features, the nose is the one which heredity preserves the best" ("Hereditary Traits," Richard A. Proctor). But in other instances it is the result of diseased conditions affecting its growth and proper development during infancy and early childhood.

There are many conditions that operate to produce this result. The principal one is obstruction of the nasal passages which cuts off nasal respiration. During the inspiratory act of respiration and deglutition, when the nasal passages are obstructed, a partial vacuum is produced in the naso-pharynx. This suction force, being exerted on the inner side of the yielding cartilaginous nasal tissues, tends thereby to draw them inward, and thus in a corresponding degree retards or prevents their normal expansion and development. This obstruction of the nasal passages may also cause an enlargement or undue development of the portion of the nose below and beyond the obstruction, especially if this obstruction is composed of firm tissues, through interfering with the return circulation. The end of the nose thus becomes engorged, the vessels distended, and a marked thickening of the tissues takes place. The importance of attention to obstructed nostrils in infants, commonly called snuffles, is thus clearly demonstrated.

All chronic affections of the nose, even when unattended by obstruction of the passages, tend to produce by sympathetic irritation more or less congestion of the vessels of the end of the nose, and, by reason of these vessels having less power of resistance, an undue distention of them takes place; the surrounding tissues become thickened, and an enlargement of the end of the nose occurs. This is very commonly observed during the treatment of nasal diseases.

[1] Read before the Medical Society of the State of New York, February 1, 1887.

This diminished resistance of the peripheral vessels explains the effect of alcohol in the coloration and enlargement of the end of the nose in "old topers," which is so often observed. Alcohol produces congestion of, or sends the blood into, the capillaries and terminal blood-vessels. Since the capillaries in the nose have less resistance than the other superficial vessels of the face or other parts, the effect of imbibition is first shown in the end of the nose.

A crooked and wrinkled septum will have the effect to lower the contour of the nose, as well as to cause an undue arching of the palatine vault.

A snubbed appearance may be given to the nose by injuries to its bridge or base, and also by ulceration and necrosis of the bones of the nasal chambers, especially the vomer, resulting in the removal of the support to the centre of the nose, which then falls inward.

The operation for the correction of the deformity under consideration is easily performed, although I can find no record of it, and have no knowledge of its having been proposed or performed.

It may be classed about the same as the operation for strabismus, and, like many other operations, is mainly to improve the personal appearance of the individual.

The operation consists in the removal from the end of the nose that tissue which is in excess, or which is disproportionate in amount to the other portions of the nose. In other words, we are to make the nose symmetrical from one end to the other.

In cases where the bridge is low and undeveloped, if the end is lowered, made smaller, and brought down so that the top of the nose forms a straight line from its base, or junction of the frontal and nasal bones, to the end, the nose ceases to be unduly noticeable or unsightly; and, although the nose will be smaller, it will appear much larger than before by reason of its being symmetrical and proportionate throughout.

The nose does not appear ugly by reason of the fact that its size is disproportionate to that of the face (for noses vary greatly in this respect), but by reason of the disproportionate relations to one another of the different parts of the nose itself.

In those cases in which the deformity consists in an undue enlargement of the end or cartilaginous portion of the nose, while the bony framework is normally developed, it will be seen that the main portion of the nose is straight until we come to the enlarged end, which suddenly tilts upward. Even in this class of cases it is not the end of the nose that really appears too large, but it is the base or bridge that appears too small or depressed.

Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

This fact is shown by the foregoing illustrations, made from photographs taken in each case shortly before and shortly after the operation.

In Fig. 1 the bridge of the nose appears much lower than it does in Fig. 2, although it is of the same height. This is also true of Figs. 3 and 4.

The expression of the face in Fig. 2 is decidedly different from that of the face in Fig. 1. The same is also true of Figs. 4 and 3. This change is due entirely to the alteration made by removing the excessive tissue in the end of the nose. It will also be observed that in the case of the boy, excepting the nose, the features are the same in both pictures; and so in the case of the girl. This can be very easily demonstrated in the foregoing illustrations by comparing the shapes of the noses before and after the operation.

The operation is performed as follows: We first deaden the sensibility of the interior of the end of the nose by cocaine (general anæsthesia being unnecessary) and then brightly illuminate this part.

If the tissue is to be removed from that portion where the mucous membrane is not too firmly adherent, the membrane should be dissected back, to be replaced after the operation.

The end of the nose is turned upward and backward, and held with a retractor by an assistant; then sufficient of the superfluous tissue is removed or dissected out to allow the nose to conform to the shape that we desire. Great care must, however, be exercised not to remove too much tissue, and also not to cut through into the skin, lest we may have afterward a scar or a dent in the external surface of the nose.

In some cases no after-treatment is required, but in others it is advisable to mould a saddle or splint, as it were, to the top of the nose, so as to make it, while healing, assume the shape we wish to obtain.

In some instances the large and unsightly end of the nose is not due to an excessive tissue but to a malformation of the cartilages of the alæ, bulging outward with a corresponding concavity on the inside.

These noses can be very readily moulded into a handsome shape by cutting, with a small tenotomy knife, through these cartilages, in different places, sufficiently to destroy their elasticity. Then by inserting a silver or hard-rubber tube, of the proper size and shape, into the nostril, and conforming the saddle to the outside of the nose, we have it encased in an outside and inside splint that compels it to conform to the exact shape we desire.

While performing this operation and moulding the nose into shape, we must not neglect to preserve the nasal passages free and unobstructed.

Thus far I have performed this operation on five persons. I have, however, illustrations of but the last two, although all have been successful. With the first two patients it did not occur to me to have photographs of the nose taken before the operation, and the third patient would not permit it.

A Suggestion for the Suppression of the Masturbation Quacks. — A correspondent writes us: "Having repeatedly seen articles in The Record calling attention to quackery and the demoralizing effects of the publications sent by mail, broadcast, to almost every book-keeper, cashier, and to business men generally in the land, and having been consulted many times by young men of this class who have been 'worked' by different parties, I can but observe that articles of this class in The Record do no good unless the profession as a whole is willing to move in this matter and stop the evil. This, it seems to me, can be done only in one way, viz., by calling the attention of the 'Post-office Department' to this use of the mail." Another correspondent states that a certain Buffalo quack floods the neighboring cities of Canada with insanity-breeding literature.

MIDDLE MENINGEAL HEMORRHAGE—ITS TREATMENT BY TREPHINING AND COUNTER-OPENING OF THE SKULL FOR DRAINAGE—WITH REPORT OF A SUCCESSFUL CASE.[1]

By CHARLES A. POWERS, M.D.,

SURGEON TO OUT-PATIENTS, CHAMBERS STREET HOSPITAL.

As a contribution to the subject of cranial surgery, Mr. Chairman, I beg to present the following case of middle meningeal hemorrhage—interesting because of the extensive clot, the implication of the basis cranii, and the employment of an operative measure hitherto adopted but little, namely, a counter-opening in the skull with thorough cranial drainage.

Frank M——, twenty-eight years of age, a native of the United States, a barber by occupation, was brought to the Chambers Street Hospital in an ambulance at 11.55 P.M., November 22, 1886, with a history of having been found in an unconscious condition on the Bowery sidewalk about fifteen minutes previously.

On admission he was comatose and could not be aroused. His pulse was 60 per minute and full, his respiration 15 and normal in character, temperature 98°. The pupils were both dilated, equal, and responsive to light. The plantar reflexes were preserved on both sides. At times the patient would move slightly in bed, but it was not noticed that he moved one extremity less freely than the other. There were no wounds or other evidences of injury to be found on the body at any point. There was moderate hemorrhage in the right auditory canal. The breath had a strong odor of alcohol. About four ounces of urine was withdrawn from the bladder; this was negative in character. An ice-cap was applied to the head, and one-half hour after admission there was a single attack of vomiting. This was free and of a projectile character.

I saw him for the first time at 11 A.M. the following day. His pulse was then 70, respiration 16, temperature 99.5°. He was semi-conscious, and when aroused would give his name and address and stupidly answer questions. He could give no account of his injury; remembered drinking with companions the night before. On being asked to move his arms and legs he would do so, but the movements on the left side were less free than on the right. Pricking the extremities, both upper and lower, with a pin, elicited rather more decided movements on the right side. There was no anæsthesia. The tongue did not deviate and there was no facial paralysis. The pupils were normal. The discharge from the right ear continued; it was now rather more thin and scanty than when the patient was first seen. Careful palpation of the scalp revealed nothing. The disability of the left arm and leg, associated with the discharge from the right ear, led me to suspect intracranial hemorrhage, but I thought it well to delay a few hours in hope that additional symptoms might make their appearance. The external auditory meatus was washed out and packed with iodoform gauze, and the ice-cap reapplied.

During the afternoon his condition was slightly improved, but this was only temporary.

During the night he was restless; there was at times slight delirium alternating with semi-stupor, but the patient could at all times be roused to consciousness.

On the morning of the 24th, thirty-six hours after the injury, the pulse was 80, respiration 18, temperature 99°; the patient was perfectly rational. There was complete paralysis and anæsthesia of the left upper extremity, also a slight degree of fluttering on the left side of the face. The patient said he did not feel a pin-prick as acutely on the left side of the face as he did on the right. The tongue did not deviate; the right pupil was a little larger than the left; both responded to light. There was no

[1] Read before the Section on Surgery of the New York Academy of Medicine, April 11, 1887.

aphasia. The scalp in the occipital and the back part of the right parietal region had a rather "pulpy feel." The serous discharge from the right ear continued, and there was now an area of ecchymosis over the right mastoid about the size of a silver quarter.

In the absence of Dr. William T. Bull, the surgeon in charge, Dr. R. F. Weir saw him in consultation, and he agreeing with me in the diagnosis of meningeal hemorrhage, and concurring in the advisability of operative interference, I proceeded as follows, the strictest antiseptic precautions being observed throughout :

Ether having been given, the head was completely shaved and the bregma located by means of two straight strips of thin bass-wood, the first or alveolar mastoid passing from the alveolar process of the upper jaw to the apex of the mastoid process, the second or auriculo-bregmatic intersecting this at a right angle, and passing through the external auditory meatus to the vertex. Here a point was marked with an aniline pencil, and

Fig. 1.

one and three-quarters inch behind this a second point marked, locating the commencement of the fissure of Rolando. Its termination was found just behind the auriculo-bregmatic line, on a line parallel with the alveolar mastoid, but passing through the apex of the lambdoid suture. From the commencement of this fissure in the median line a line was drawn parallel with the auriculo-bregmatic, and midway between these, about two and one-quarter inches from the vertex, a point was marked on the right side of the head, approximately locating the motor area for the left arm. Here a free crucial incision was made in the scalp, and the tissues found markedly congested. On reflecting back the flaps there was found to be a fissure in the parietal bone. This ran antero-posteriorly three inches from the median line of the vertex, and was about one-sixteenth of an inch wide. Blood was oozing through this fissure. A trephine three-quarters of an inch in diameter was applied over the fissure, rather more above than below it, at a point where a line drawn from the commencement of the fissure of Rolando to the external auditory meatus would intersect the fissure in the skull (Fig. 2, *A*). A button of bone was removed, and a large jelly-like clot discovered beneath it. Bone was taken away by the rongeur forceps over an elliptical area measuring three inches antero-posteriorly by one and one-half inch at its greatest width (Fig. 2, *D*). This enlargement was made from the trephine hole, principally in a direction downward and forward. The clot was now cleared out by the handle of a teaspoon, the finger, and irrigation, and was found to extend over a superficial area measuring six and one-quarter inches from before backward, and three and one-half inches from above downward. At its centre it compressed the brain to such an extent that the dura was one and three-quarter inches from the inner table of the skull. On reaching the dura it was found to pulsate and to be intact ; there were many oozing points, and about opposite the centre of the skull-opening there was sharp arterial hemorrhage. Owing to the distance of the dura from the skull, and the smooth, yielding surface presented by it, it was found difficult to seize the bleeding points. They were finally ligated, however, after being caught up by a clamp, and the cavity thoroughly irrigated with a warm 1 to 6,000 solution of mercuric bichloride.

The fissure in the parietal bone, above mentioned, extended beyond the limits of the incision, both in front and behind, and was not followed out (Fig. 2, *C C*). The large cavity between the dura mater and the skull extended some three inches behind and below the skull-opening. Obviously this cavity would not drain. Accordingly, at the suggestion of Dr. Weir, I trephined a counter-opening for drainage at the lower and posterior limit of the cavity, just above the point where the lateral sinus crosses the lambdoid suture (Fig. 2, *B*). The edges of bone were then smoothed off, the cavity thoroughly irrigated, and a soft rubber drainage-tube inserted through its entire length, emerging at the posterior counter-opening.

There was still some oozing from the dura, and the cavity was moderately packed with strips of iodoform gauze, one yard by one inch. No attempt was made to sew up any of the scalp wounds ; antiseptic gauze was put beneath them at all points, thus assuring perfect drainage. A large dressing of bichloride gauze and borated cotton was applied to the head. The external auditory meatus was irrigated and packed with iodoform gauze.

The operation occupied something over two hours, and at its close the patient's condition was in every way good. He rallied well from the ether, and three hours later the pulse was 104, respiration 23, and temperature 98°. His bowels were moved by calomel, followed by Rochelle salts. An ice-cap was applied to the head, and he was nourished by small quantities of peptonized milk, beef-tea, and milk punch.

He passed a quiet night, and the following morning, November 25th, his pulse was 108, respiration 20, and temperature 99°. He was perfectly rational, and could feebly move the left arm, forearm, and fingers. Sensation was present in them, but was not acute. The face was about as on the previous day ; the pupils were equal. The dressing was removed from the head, and the iodoform gauze withdrawn from the cavity.

The dura had advanced about half-way to the inner surface of the skull, and there was no hemorrhage from it. The cavity was washed out with one-sixtieth per cent. sublimate solution, the drainage-tube was found to be free, and was left in place. The cavity was repacked and redressed as on the day before. The serous discharge from the right ear was decreasing ; the auditory canal was redressed antiseptically.

8 P.M. : Pulse, 80 ; respiration, 20 ; temperature, 99°. Redressed as in the morning ; dura nearly in contact with inner table. Small strips of iodoform gauze simply inserted between dura and margins of skull-opening.

November 26th (forty-eight hours after operation).— Pulse, 106 ; respiration, 22 ; temperature, 99°. Dura and skull in contact and agglutinated by plastic exudation, except at site of the tube and of the iodoform gauze about the margins of the skull opening. Tube removed, and ten strands of carbolized horse-hair substituted. Antiseptic irrigation and dressing. Discharge

from ear had ceased. Sensation and power in left upper extremity was increasing, and now almost normal. Hand-grasp nearly as firm as on the right side. The patient's general condition was in every way good. The bodily functions were normal.

November 27th.—Pulse, 80; respiration, 18; temperature, 99°. Redressed. Five strands of horse-hair removed. There had been, and was at that time, no suppuration whatever.

November 29th.—Pulse, 80; respiration, 16; temperature, 99°. All but two strands of horsehair removed. Patient sleeps a good deal, and seems somewhat stupid. Condition of wound good. Since the day of operation the ecchymosis over mastoid has gradually extended, and now occupies an area 2 × 4 inches, extending down the neck. There are no evidences of suppuration in this. External auditory canal still treated antiseptically.

November 30th.—Drain entirely removed. Pulse, 76; respiration, 16; temperature, 100°. During the past twenty-four hours patient has been stupid most of the time, but has at times had short spells of wakeful delirium. Condition of wound in every way good. Ice-cap discontinued, and patient given potassic bromide—fifteen grains every six hours.

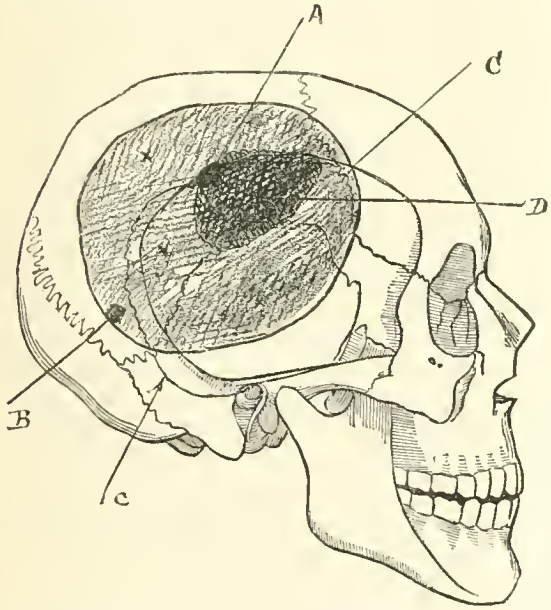

FIG. 2.—Case of M——. *A*, The original trephine opening; *B*, posterior counter opening trephined for drainage; *C*, *C*, fissure in skull not followed out; *D*, area of bone removed; xxx, area of clot.

During the following ten days the patient's temperature ran from 99° to 101°, his pulse was 70 to 90, his respiration 16 to 22. He was slightly delirious most of the time. His urine was normal in quantity and negative in character. No lesions were found in the chest. The wounds of the head assumed a healthy granulating character, with moderate purulent discharge. No pockets could be found. His medical treatment was limited to small doses of potass. brom., tinct. nuc. vom., and dil. hydrochlor. acid.

The delirium and other untoward symptoms gradually subsided, and on December 22d, twenty-nine days after the operation, the patient was up and about the ward. Rational pulse and temperature normal, wound in a healthy granulating condition. Functions of left arm equal to those of right.

Since then his history has been uneventful. At the time of operation the periosteum was elevated from a portion of bone which was not removed, and there is now an area of necrosis about the size of a silver half-dollar (Fig. 1).

The patient is, however, in every way well. As it is not thought best for him to go back to his work until the necrosed bone comes away, he remains in the hospital, assisting the orderly in regular ward duties.

At the time of injury thorough examination of the ears was impracticable, but they have recently been tested by my friend Dr. N. J. Hepburn, whose report I herewith append: "I find in the *right ear* cicatricial tissue over the posterior half of the tympanic cavity, with a fissure in it at the inco-stapedial junction. Malleus present, but displaced backward. H. D.: w., 4″; after inflation, 3½″; tuning-fork, aerial, 8 sec.; bone (mastoid), 15 sec. The bone-conduction, in a horizontal line backward from the 'point of election,' was almost nil, but below was as above given. The *left ear* shows a moderate degree of otitis media catarrhalis chronica. H. D.: w., 30″; after inflation, 40″; tuning-fork, aerial, 35 sec.; bone (mastoid), 15 sec.; improved by inflation. I conclude that the same violence that produced the cranial fracture also ruptured the membrane and dislocated the ossiculæ, and that the hemorrhage may have been entirely due to the middle-ear lesion. The line of loss of bone-conduction in the mastoid would appear to indicate a break at that point."

The subject of middle meningeal hemorrhage has been so fully treated, during the past year, by Jacobson, of London, and Weisman, of Zurich, that I shall content myself with a brief synopsis of its more interesting features.

The sources of blood, in extra-dural hemorrhage, as given by Nancrede, are threefold: First, small vessels between the dura and the skull; second, from the venous sinuses; and third, from the arteria meningea media or its branches.

Of these, the last are by far the most common, and this frequency is rationally explained by the thinness of the bone in the region through which the vessel courses, the fact that the artery channels the osseous structures, and the exposed position of the temporo-parietal region.

Thus, of 31 cases of hemorrhage collected by Mr. Holmes,[1] 27 were from the artery or its branches.

Jacobson,[2] in an exhaustive analysis of 80 cases of middle meningeal hemorrhage, in which there were 69 deaths and only 11 recoveries, divides them into three classes:

In Class A the violence is slight. There is laceration of the middle meningeal or its branches. If a fracture of the skull be present it is slight, and limited to the side of the skull. There is compression of the brain, but little or no contusion of that organ. These cases he considers the most hopeful for trephining. He presents 27 illustrations of this class; of these, 18 were trephined, 9 were not. All treated expectantly died, while of the 18 operated upon 11 recovered.

Class B he considers less hopeful cases. There is laceration of the artery or its branches; fracture implicating the basis cranii—that is, through the middle fossa. There is some injury to the brain, but this is trivial. In this class there are 20 cases, all of which died. (The case of M——, which forms the basis of this paper, would properly belong in this group.)

Class C comprises cases probably hopeless from the first. The violence is very great. There is laceration of the artery or of some of its branches. The fracture of the skull is very extensive, perhaps implicating several bones and sutures both in vault and base. The injury to the brain is very severe. Twenty-three cases, all fatal.

The nature of the injury, or the manner in which it was received, is, I think, of minor importance. By the symptoms alone must we be guided. In hospital practice patients are frequently brought without history, and the surgeon must depend on present and developed evidences in making his diagnosis.

Weisman,[3] of Zurich, tabulates the following symptoms as pointing to middle meningeal hemorrhage.

1. Interval of consciousness between the concussion and the appearance of pressure-symptoms, somnolence, stupor, coma, death. Compression-symptoms may

[1] Surgery, vol. i., p. 575. [2] Guy's Hospital Reports, 1886.
[3] Deutsche Zeit. für Chir., vol. iv., parts 1-3.

appear at any time from fifteen minutes to eleven days after the commencement of the hemorrhage.

2. Hemiplegia on side opposite to injury. This is explained by the position of the artery exactly over the motor centres for the arm and leg. Isolated paralysis of the leg is never observed, but only paresis when the arm is paralysed, or both may be similarly affected at once. Convulsions may precede the affection.

3. Changes in the pulse—infrequency and hardness, generally increasing; sometimes the pulse becomes frequent at the last (paralysis of pneumogastric).

4. Anomalies of respiration—slow, embarrassed, stertorous breathing.

5. Vomiting.

6. Changes of the pupil; generally speaking, dilated pupils point to considerable pressure. The pupil on the side of the hemorrhage may be dilated and may not react.

7. Unilateral impairment of sensation.

8. Aphasia.

9. Disorders of the bladder and rectum.

10. Automatic movements, lying always on one side.

11. Rise in temperature (highest observed being 108.8° F.).

He thinks the diagnosis sufficiently accurate if the first four of these symptoms are present, whether there be a lesion of the skull or not, or even if there be one on the opposite side.

Aphasia, he says, points to an extension of the hemorrhage toward the front; disorders of sensibility to one behind; paralysis of the third pair of nerves to one toward the base of the skull.

This latter symptom, first explained by Mr. Jonathan Hutchinson,[1] is of much importance. Should one pupil be dilated and irresponsive, and should that be on the side opposite the hemiplegia, it would conclusively point to pressure on the oculo-motorius.

To these symptoms Jacobson adds one which I think especially worthy of note, viz.: Ecchymosis or contusion of the scalp in the temporo-parietal or parieto-occipital region, giving rise to a puffy or pulpy feel. This was present in M——.

Given, then, a case in which the evidences point to the existence of a clot, what are the indications regarding treatment? Operative procedures, and at the earliest possible moment. On this point there can be no question.

Roberts[2] says that removal and elevation of bone are needed more for liberation of blood-clot and control of hemorrhage than because of depression of bone.

Weisman presents 257 cases; of these, 147 were treated expectantly and only 12.88 per cent. recovered; of the 110 cases operated upon sixty-seven per cent. recovered; 88 of his cases were closed fractures; and of these, 59 were treated expectantly and only 1 recovered, while of the 29 trephined 9 got well.

We have already seen that in Mr. Jacobson's most hopeful class of cases not one who was denied operative procedures recovered.

In those cases in which the soft parts give no clew to the location of the lesion, where should the brain be uncovered? Fortunately the vessel and its various branches course over and about the fissure of Rolando, and here in almost every instance the seat of the compression will be found. Here, also, are grouped the cortical centres, pressure upon which directs the symptoms.

One mode of locating the fissure has been given in the history of my case, but I may briefly outline a procedure recently advised by Mr. Horsley,[3] and which he believes comparatively free from error.

He locates the upper end according to Thane—*i.e.*, a point one-half inch behind the mid-point of a line drawn from the root of the nose to the occipital protuberance. Hare, of Edinburgh, has shown that the angle which the fissure makes with the mid-line is fairly constant, and is one of sixty-seven degrees. Mr. Horsley accordingly uses an instrument consisting of a long (ten-inch) strip of soft iron, from the middle of which branches off a short (six-inch) strip, the two making an angle anteriorly of sixty-seven degrees. He lays the long arm on the middle of the head, which has previously been marked; the angle between the arms is then made to coincide with the theoretical situation (Thane) of the upper end of the fissure of Rolando; a line drawn down the anterior border of the short arm will now give the situation of the fissure perfectly accurately for the upper two-thirds of its course. He finds that the flexure which the fissure makes in the lower part of its course varies slightly but distinctly in different individuals, and says that no line can accurately determine it. Mr. Horsley does not, however, think accurate location of the lower part important.

Dr. Roberts, in his admirable article on the "Surgery of the Human Brain," already referred to, gives a table showing the exact point, over or about the fissure, which should be opened when any of the various symptoms exist, either singly or combined.

These minute directions must be indispensable when the surgeon seeks a cortical tumor; but in almost every case of middle meningeal hemorrhage the clot will be so large that the surgeon will, I think, meet some part of it if he trephine at the junction of the middle and lower thirds of Rolando's fissure. This view is supported by an analysis of the 80 cases which Jacobson presents; in 68 of these the clot is described as being large, in 6, only, small, while in 6 the size is not mentioned.

Krönlein[1] says that supra-dural hæmatomata may be put in two large classes. The first are *diffuse*, over nearly one-half of the head. The second are *circumscribed*, some part of the dura remaining adherent to the bone. The last have a sharp, well-defined outline, the periphery circular or oval. They are lenticular in shape, thickest at the centre. These circumscribed clots he subdivides into three varieties: *Temporo-parietal*, occupying the middle fossa; *occipito-parietal*, due to laceration of the posterior branch of the artery; and *fronto-temporal*, from laceration of the anterior branch (Fig. 3). He considers the temporo-parietal the most frequent, the fronto-temporal the least. He says that the site of the ruptured vessel determines the location of the hæmatoma, and he gives methodical rules for finding the clot, whether it be anterior, middle, or posterior.

He draws a line through the external auditory meatus and the lower border of the orbit, and calls this the horizontal line of the head. Then he draws a second line parallel with this into the supra-orbital margin, and on this superior line he makes one or two openings, if necessary, in his search for the clot. The first three to four centimetres behind the external angular process of the frontal will discover both the anterior and middle clots; the second opening, which shall be at the intersection of the superior line with a vertical which shall pass just behind the mastoid process, will be over the posterior clot (Fig. 3). Krönlein says: "In any given case in which the surgeon feels sure that there must be a circumscribed clot, let him make the anterior opening, and if he fail to find the clot, let him trephine again posteriorly." He cites four cases, in all of which he trephined anteriorly. In two he found the clot, cleared it out, and cured his patient. In two he failed to find the hæmatoma, and the patients died. In one the autopsy revealed a posterior hæmatoma, which the second opening would have uncovered.

When the clot is found it must be thoroughly removed, all bleeding-points checked, the cavity irrigated and well drained. Bone about the trephine-hole may be removed by the rongeur, over an area sufficiently large to admit of intelligent work in the cavity. Weisman says:

[1] London Hosp. Reports, vol. iv., p. 29.
[2] Annals of Surgery, September, 1885, p. 219.
[3] Am. Jour. Med. Sciences, April, 1887.

[1] Deutsche Zeitschrift für Chir., vol. xxiii, p. 212.

"The main object in operating is to entirely remove the extravasated blood and thoroughly disinfect the cavity which it occupied."

If there be hemorrhage from the dura, it may not be easy to check it. The membrane presents a smooth, yielding surface, which provokingly eludes the forceps. If the dura be near the skull, a needle may be passed under the vessel, but if it be at a considerable depth, as in the case of M——, this is difficult, as one is working through a small hole. Under such circumstances a fine tenaculum will hook up the dura at the site of the hemorrhage, then a blunt forceps may be applied, and the ligature slipped over this.

If the main artery be torn and bleeding below the site of the opening, it would be well to trephine again at a point one and one-half inch behind the external angular process of the frontal bone, and one inch above the zygoma. This will uncover the artery, which may then be ligated. I see no reason why this button should not be replaced. In trephining for pathological conditions, Clark, of Glasgow, and Weir, of this city, have successfully replaced the removed button. Horsley[1] recommends that the bone be finely divided, and then put back between skin and dura.

Persistent oozing from the dura may best be checked by the iodoform tamponade, as in the case of M——, and I call your attention to the fact that in his case the dura and the inner surface of the skull became coated with a layer of plastic lymph, and when they came in contact were agglutinated by it. I have several times packed scalp-wounds in which there was persistent oozing by this iodoform tamponade, and twenty-four hours later found the surfaces coated with lymph, brought them together, and obtained primary union. This procedure was originally proposed by Kocher.

The cavity must be thoroughly drained, and if this is not possible through the original opening, a counter-opening must be made in the skull opposite the most dependent point of the cavity. We would not hesitate to do this in the soft parts, why should we in bony? There is no additional risk to the patient; his danger all lies in a lack of drainage, which, as Weisman says, "results in changes in the extravasated blood which is left in the cranium."

Roberts believes drainage more essential in wounds of the brain than in other structures.

Amidon,[2] of this city, cites 115 cases of trephining, in 20 of which mention is made of free drainage. Of these 20, 18, or ninety per cent., recovered.

Finger and Lee [3] think brain-abscess should be drained as should abscess elsewhere, and report a successful case.

Krönlein says that in diffuse hæmatomata a counter-opening should be made for drainage at the one posterior point which he indicates (marked P, in Fig. 3).

I do not think, however, that any fixed point should be indicated; the counter-opening must be made, as elsewhere in the body, at the most dependent part of the cavity, and the surgeon should not hesitate to make it. Of course, he should not trephine over a venous sinus.

I have been able to learn of but seven previous cases of cranial drainage by a counter-opening in the skull; three of these, unpublished, are from the records of the New York Hospital, and I beg to acknowledge the courtesy of Drs. Markoe and Weir in allowing me to report them.

Case I.[4]—*A case of lodgement of a foreign body in the cavities of the nose, orbit, and cranium, where it remained five months; removal by operation; subsequent trephining for pus in the brain through cranial drainage; death; autopsy.*—Dr. Noyes removed from nose, orbit, and cranium of the patient, a young man, aged nineteen, a piece of iron, four inches and a half long, leaving a hole in the roof of the orbit which would admit the end of the little finger. Drainage between eyelids, moderate suppuration, and on the eleventh day fetid pus evacuated from the brain through the orbital opening. On the fourteenth day patient developed paresis of left forearm and hand, and a counter-opening was trephined three inches above the external angular process of the frontal bone, just in front of the coronal suture. The dura did not pulsate, and pus was found at a depth of three and one-fourth inches. Through drainage, antiseptic irrigation. Pockets of pus and sloughs found all along the track of the tube. The patient retained intelligence, but grew progressively weaker, and died on the thirty-ninth day.

The autopsy revealed suppurative destruction of the orbital surface and interior of the right frontal lobe.

Case II.—New York Hospital, service of Dr. Weir. Necrosis of frontal bone; removal of the diseased bone; dura mater not opened; frontal and suboccipital pains followed, and on the fifth day the patient, a male of forty-five years, was seized with right hemiplegia and aphasia. A hypodermic needle plunged into the dura discovered pus, and two ounces of it were withdrawn from a brain-abscess. Symptoms of compression continuing, a grooved director was passed into the abscess backward and downward to a point one inch and a half behind the ear and three inches and a half above it. Here a counter-opening was made and a drainage-tube inserted. The patient died on the following day. There was no autopsy.

Case III.[1]—Male, aged nineteen. Pistol-shot wound of centre of forehead; course of the bullet traced through the brain; posterior trephining, removal of the bullet through cranial drainage. A rubber drainage-tube was first used, but on the seventh day a composite drain consisting of ten strands of horsehair and four of catgut was substituted for it. Four strands of the horsehair were removed on the fifteenth day. On the seventeenth day it was thought that the removal of the horsehair, as well as the presence of the remaining strands, excited irritation; accordingly they were all withdrawn Hernia cerebri and additional evidences of cerebral irritation appeared later, but these gradually yielded to treatment, and four months from the date of the injury the patient was well.

Dr. Fluhrer concludes that whenever the track of a foreign body can be followed, with reasonable certainty, to an opposite bony point, a counter-opening should be made there and through drainage established, even if the missile be not found. He thinks that a ball, tending in the line of least resistance, would seek that track, and that a later attempt to extract it might be successful.

The following case I report at somewhat greater length as it bears such marked resemblance to my own.

Case IV.[2]—*Subcutaneous fracture of skull; contralateral paresis of face, arm, and leg, with collateral facial paralysis; aphasia; trephining, with counter-opening of skull for drainage on the eighth day; removing a colossal left-sided supradural extravasation; recovery.*—Male, aged thirty, admitted to hospital on diagnosis of fracture of basis cranii. Injury received two days before his admission, at which time there were no external evidences of injury. The patient was fully conscious, but was aphasic. There was left facial paralysis, with occasional facial spasms on the same side. The pupils were strongly contracted, but reacted to both light and distance. There was paralysis, but no anæsthesia of the right arm or leg. The day after admission right facial paralysis came on, but after this the condition remained about the same until the eighth day, when the symptoms in general all became worse, and stupor set in. Firm pressure on the left temporal region seemed to occasion pain.

Krönlein now made a diagnosis of fracture through the left middle fossa and left temporal region, with contusion of the left facial nerve in its passage through the aqueductus Fallopii; supradural hemorrhage.

[1] British Med. Jour., October 9, 1886. [2] Annals of Surgery, vol. i., p. 203.
[3] Am. Jour. of the Med. Sciences, July, 1884.
[4] Dr. H. D. Noyes: Am. Jour. of the Med. Sciences, July, 1882.

[1] Dr. W. F. Fluhrer: New York Med. Jour., vol. xli., p. 345.
[2] Krönlein: Deutsche Zeitschrift für Chir., vol. xxiii., p. 218.

He trephined over the middle meningeal artery and found a clot filling the middle fossa, and reaching back to the internal occipital protuberance. The finger in the trephine-opening could not reach the posterior limits of the clot; accordingly, to completely remove the hæmatoma he trephined again at the point marked P, in Fig. 3.

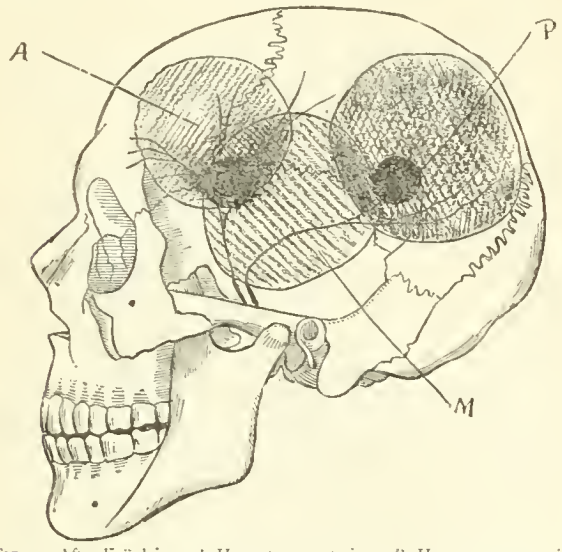

FIG. 3.—After Krönlein. *A*, Hæmatoma anterius; *P*, Hæmatoma posterius; *M*, Hæmatoma medius. The areas in black show the points at which Krönlein would trephine in his search for the clot.

He cleaned out the clot and found the dura uninjured; the cavity, left, measured six inches antero-posteriorly by four from above downward, and at its greatest depth the dura was one inch from the skull. A fissure was found in the field of operation, posteriorly, running downward.

Irrigation with a one-tenth per cent. sublimate solution, through drainage by rubber tubing, large antiseptic dressing applied.

Three hours after the operation the patient awoke and tried to speak. Two days later the facial paralysis disappeared. On the third day the dressing was changed and the dura found approaching the skull. On the fifth day all paralysis was gone, but the patient was still slightly aphasic. On the eighth day the dressing was again changed and the dura found in contact with the skull, except at the site of the drain. Tube removed. On the thirty-second day the wounds were all healed, and the patient completely well except for a resulting diplopia.

CASE V.—New York Hospital, service of Dr. Markoe. S. B——, male, aged forty-eight, admitted May 14, 1885, without history. On admission, left hemiplegia and facial paralysis were present. There was a hæmatoma over the right parietal bone, and on section a fissure was found running backward and downward. He was trephined, and a clot found separating the dura from the skull, over an area five by seven inches. At the suggestion of Dr. Weir a counter-opening for drainage was made three inches behind the first hole. The clot was only partially removed. The cavity was irrigated with a sublimate solution, drainage inserted, and an antiseptic dressing applied.

He became conscious during the operation, and for several days the paralysis steadily lessened. The cavity was washed out daily with a three per cent. carbolic solution. May 16th (two days after the operation), the temperature rose to 104° F., erysipelas appeared on the buttocks, and on May 23d (the ninth day) he succumbed to acute alcoholism and erysipelas.

The autopsy showed a small blood-clot under the dura, but no meningitis.

CASE VI.—New York Hospital, service of Dr. Weir. F. P. W——, male, aged twenty-one; admitted April 20, 1886, with a self-inflicted gunshot wound of the head. The bullet entered one inch behind the external angular process of the right orbit, and came out a little above and behind the same point on the opposite side. Both wounds were enlarged, and two pieces of bullet removed. Bullet-track traversed by a bougie à boule carrying a silk thread, and a rubber tube passed through the brain. Antiseptic irrigation and dressing. The patient retained consciousness, but his temperature steadily rose, and on the second day he died of heart-failure.

The autopsy showed fissure of both orbital plates and extensive laceration of both frontal lobes, especially the left.

CASE VII.[1]—Male, aged forty-four; gunshot wound of head. Bullet entered right squamous bone, passing through the brain and cracking the skull at the left frontal eminence. Both points trephined, the bullet removed; through drainage. Hemorrhage from the inferior longitudinal sinus the following day. Death.

The eighth case forms the subject of this paper.

In the foregoing review of cases in which through cranial drainage was employed, there are five deaths and three recoveries. In no fatal case can the issue be traced, even remotely, to the additional opening, while in each of the others a successful result is due, I think, mainly to its employment.

Regarding the form of drain to be used, soft rubber is the safest and best which we have at present. It is non-irritant, yielding, and efficient. Aseptic horsehair may well be substituted for it at the end of thirty-six or forty-eight hours as the dura approaches the skull. If the cavity is kept thoroughly aseptic these strands may be quickly removed.

In Krönlein's case he left the tube in till the eighth day, but the dura and skull were then in contact, and as the wounds had not been dressed for five days, it is safe to assume that it might have been removed earlier. If the surgeon and all of his assistants work, as they must, antiseptically, I think these cases may well be dressed often at first. Irrigation will surely prevent serous accumulation at any point.

Mr. Horsley, in his exceptionally successful cases of trephining for pathological conditions, sews up the flaps and removes the drain at the end of twenty-four hours; but this is an entirely different condition from the subject under consideration. In the former the dura has been opened, the brain tends to protrude, and Mr. Horsley allows wound exudation to accumulate between the skin-flaps and the brain to exert pressure on the brain. This exudation, he says, organizes and protects the brain in after-life.

Should the flaps be sewn up? Guided by a somewhat extensive experience in the treatment of scalp-wounds, I am free to say that at present I think it safer to leave them open. After all, the cure of the patient is the end we seek, and I think there is less risk in loosely packing the flaps with an antiseptic gauze than in suturing them. In the former case drainage must be perfect; in the latter there may be pockets of pus which can excite mischief. If the patient lives, the wounds will close over, and though healing may be delayed, we shall be satisfied with his recovery. A subsequently increased faith in the infallibility of the antiseptic closure of wounds may probably modify this view.

The prognosis in extra-dural hemorrhage, based on the statistics which I have gathered, has been bad; but I feel sure that in the future, with the steady progress in the physiology of the brain, and the rapid strides now being made in cranial surgery, early and thorough operative procedures will so modify results that this, which has hitherto been deemed a mortal lesion, will be placed high up on the list of curable injuries.

18 EAST TWENTY-FOURTH STREET.

CHILDREN do not like meat until they are five years old.—DELAUNAY.

[1] R. T. Morris: Annals of Surgery, December, 1886.

A REASON FOR MR. TAIT'S SUCCESS IN DEALING WITH SEPTIC ACCIDENTS.[1]

By ROBERT T. MORRIS, M.D.,

NEW YORK.

An incision two inches long, through the synovial membrane of the knee-joint, cannot be made with impunity, unless microbe-destroying agents are employed in a scientific way for preventing subsequent fermentation in the wound.

An incision two inches long can be made through the peritoneum of the abdominal wall almost with impunity, without the employment of antiseptics, if decided cleanliness on the part of the surgeon be observed.

Considering that inflammation beginning at the site of either wound would be due to the growth of micro-organisms, we naturally inquire why it is that nature's methods are so inefficient in preventing extension of the inflammation at the knee-joint, while they are so efficient in preventing extension of the inflammation in the peritoneal region.

We have recently been told by pathologists that when a limited number of certain micro-organisms enter the circulatory system, they are surrounded at once by leucocytes and are not allowed to multiply, and further, that these microbes and their products are discharged quickly from the body along with other blood-rubbish by the excretory apparatuses.

We learn that it is only when certain species of microbes enter the blood in such quantities that the leucocytes and excreting organs cannot easily manage them and their products, that the patient suffers from their presence.

Evidently, then, the lymphatic vessels and the capillaries of the synovial membrane of the knee-joint are not able to remove microbes from that rich pasture with sufficient rapidity, and in a short time the joint-cavity is filled with swarms of the parasites.

The peritoneum, on the other hand, by virtue of its phenomenal absorbing power, is able as a rule to remove the food of the microbes, and to turn the little parasites over to the leucocytes before they have had any opportunity to increase to a dangerous extent.

After an extensive operation within the peritoneal cavity, there is an excessive exudation of fluid from the serous surroundings, and in many cases microbes would increase in this fluid as they do in the synovial fluid, if nature were not aided in her efforts to reabsorb the microbe food.

Mr. Tait's method of aiding nature successfully in this sort of work has not been generally appreciated, but a few quotations from the reports of Wegner's experiments, when placed side by side with some of Mr. Tait's statements, will bring out an exceedingly important point in a clear way.

On page 100 of volume xx. of the *Archiv für Klinische Chirurgie* Wegner says: "Twenty-five cubic centimetres of filtered ichor (Gauche) containing numbers of bacteria were injected into the peritoneal cavity of a healthy rabbit. The animal was killed one hour and fifty-five minutes later. Blood was taken immediately from different parts of the body, and in this blood were found quantities of bacteria. The abdominal cavity was empty. There was mild hyperæmia of the serous membranes. The lymph-vessels of the centrum tendineum were completely blocked up with heaps of bacteria. For persons who doubt that in ichorous peritonitis the ferment organisms enter the circulation in remarkable quantities, there is no more comfortable way of learning something about it than by trying the simple experiment. One finds the bacteria in every drop of blood, look wherever he will, in whatever vessels."

Again, on page 100 (op. cit.), Wegner says: "Twelve cubic centimetres of fluid containing actively moving bacteria and innumerable micrococci were injected into the peritoneal cavity of a medium sized dog. Fourteen days later the dog, having shown no signs of illness in the interval, was killed. Peritoneal cavity absolutely normal and empty. In the heart, in the upper surfaces of the kidneys, and in the marrow, were found minute punctate spots of yellowish color, composed of groups of bacteria and micrococci. In the kidneys some of the herds of microbes lay in the capillaries, especially in the

Table showing Comparative Results when Parasitical Microbes grow in the Knee-joint Cavity and when they grow in the Peritoneal Cavity.

Knee-joint. First, second, third, and fourth conditions not very dissimilar.	Peritoneal Cavity. First Condition.	Peritoneal Cavity. Second Condition.	Peritoneal Cavity. Third Condition.	Peritoneal Cavity. Fourth Condition.
A few microbes removed slowly by lymphatics and capillaries.	A few microbes present. Removed rapidly.	Many microbes present. Removed rapidly.	Vast quantities of microbes present. Removed rapidly.	Vast quantities of microbes in subserous connective tissues, blocking channels of escape (dry peritonitis).
Increasing more rapidly than they can be removed, and causing exudation of food.	Little or no exudation of food (lymph-serum).	Much exudation of food. Microbes increasing faster than they are removed.	Much exudation of food. Rapid increase of microbes, causing still greater exudation of food.	
Invading surrounding tissues in great numbers.			Invading surrounding tissues in great numbers. Channels of escape blocked.	Invading surrounding tissues in great numbers.
Microbes taken up from tissues surrounding centre of infection so continuously and in such numbers that leucocytes and excretory apparatuses cannot manage them and their products.			Microbes taken up from tissues surrounding centre of infection so continuously and in such numbers that leucocytes and excretory apparatuses cannot manage them and their products.	Nature failing to keep the patient.
Opening exits by purgation, etc., gives partial relief from the constitutional disturbance.	Opening exits by purgation, etc., clears away all microbes. Treatment, perhaps, unnecessary.	Opening exits by purgation, etc., causes reabsorption of food and removal of microbes.	Opening exits by purgation, etc., helps to quiet constitutional disturbance.	
Patient suffers great injury, and dies unless the microbe growth ceases through natural or artificial causes.	Patient suffers no injury.	Patient suffers little injury.	Patient suffers great injury, and dies unless the microbe growth ceases through natural, aided by artificial causes.	Patient suffers great injury, and dies unless the microbe growth ceases through natural causes aided by artificial causes.
Occurs after operative work, with lack of antiseptic treatment.	Occurs regularly after operative work, with or without antiseptic treatment locally.	Occurs after operative work in some cases, with or without antiseptic treatment locally.	Occurs after operative work in a very few cases, with or without antiseptic treatment locally.	Occurs rarely after operative treatment, with or without antiseptic treatment locally.

[1] Read before the Surgical Section of the New York Academy of Medicine, April 11, 1887.

glomeruli, and some of them lay in the urinary canals." In the fourth edition of his work on the "Pathology and Treatment of Diseases of the Ovaries," Mr. Tait, in speaking of the early signs of septic trouble after ovariotomy, says, on page 314: "For the treatment of the sickness I find the most efficient remedy to be thirty or forty grains of sulphate of magnesia, repeated every hour or every other hour, until the bowels move. . . . As soon as distention is visible . . . I use still more active measures to get the bowels to moving. . . . It is sometimes necessary to use drainage-tubes. Very soon after the wound is closed it will be found that the serum drains from it and the amount of fluid in a short time is simply amazing. . . . My own view about drainage is, that it will be useful only when some addition to this lymph-stream is made, greater than the outlets (natural outlets) can carry away. The fact that I have been so successful in my own operations without drainage makes me think it probable that I have *unconsciously substituted purgatives for drainage* (italics writer's); I find that in very many cases where Keith would have drained, I have purged."

Purgatives, instead of opium, for septic peritonitis after ovariotomy will save the lives of the patients, says Tait with emphasis. (I wonder why he has not assisted with diuretics.) The testimony of the two authors is, therefore, in a nutshell, as follows: Wegner shows that microbes are sent speedily from the peritoneal cavity to the excretory apparatuses, and Tait describes his own successful method of helping on the same work in the cases in which microbes are increasing so rapidly that nature unaided could not deal with them. *Tait's hydragogue purgative, therefore, amounts to a first-class antiseptic measure.*

The majority of operators prefer to employ some other modern antiseptic method, and one which will not only lessen the necessity for purgation, but which will prevent all suppuration in the wounds, notwithstanding the fact that in Mr. Tait's skilled hands his methods of work are so satisfactory.

ON THE DOSAGE OF THE GALVANIC CURRENT.

By A. D. ROCKWELL, M.D.,

NEW YORK.

The more thoroughly one studies electro-therapeutics in all its relations, medical and surgical, the clearer it becomes that the real scientific basis for the use of electricity in medicine and surgery is found in electro-physics more than in electro-physiology. The *rationale*, therefore, of the various methods of electrization, of electro-cauterization, and the important department of electrolysis, can be satisfactorily understood only by those who have grasped the elementary principles of electro-physics —the laws of resistance and conductibility, and, above all, the law of Ohm. Those who have been once well-grounded in these laws of electro-physics, find that the various special problems that arise, whether of a theoretical or practical character, very quickly resolve themselves. I do not propose, however, in this presentation, to discuss the complicated subject of electro-physics, but to offer a few practical suggestions in regard to the important topic of electric dosage. In some conditions and with some individuals the difference in result between a very gentle and short application and a very strong and protracted one is nothing more nor less than the difference between agreeable success and painful failure, while in other conditions and with other individuals the difference between success and failure is measured by the difference between strong and short applications and mild and protracted ones.

There are persons who must be treated not only mildly, but at long intervals; and there are persons with perhaps the same maladies that can bear, with advantage, powerful and frequent applications; to distinguish between these classes and the various gradations that lie between the extremes of tolerance and of susceptibility is the first duty, and oftentimes the hardest study, of him who makes much use of electricity in medicine. To state in definite terms the solution of the problem of electric dosage as it relates to these various classes and gradations is a task that I by no means propose to undertake. The ability to measure with the utmost nicety the strength of the current does not solve the problem.

Such precision may be of the utmost value in the continued treatment of any given case of neuralgia, for example, but the strength then used may in no way answer for the next case, and, therefore, recorded statements of the number of milliampères used in different forms of nervous disease, especially, are by no means as valuable as one might be led to believe.

A clear appreciation of the fact that the human system

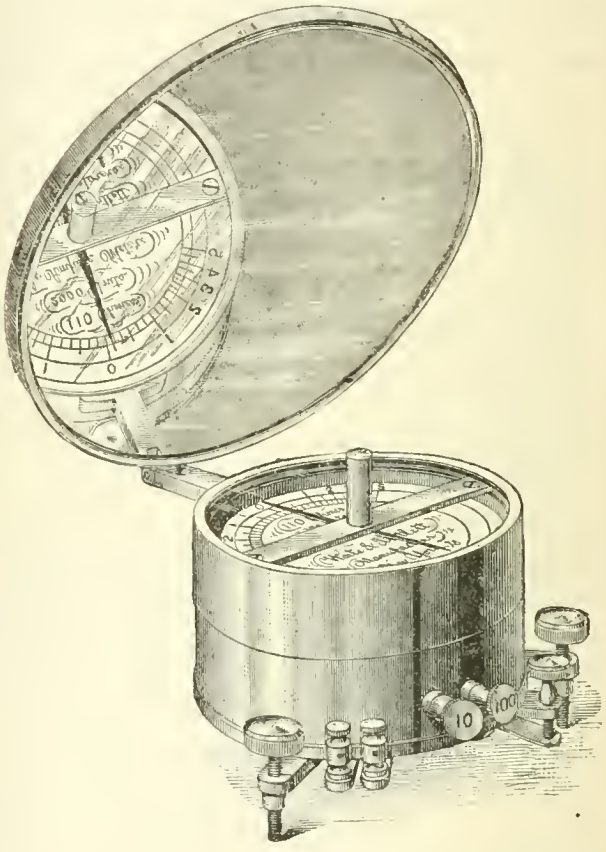

Fig. 1.

reacts to no drug with such varying susceptibility as to electricity is one of the first and most important lessons to be learned.

When we come, however, to the department of electro-surgery as represented by electrolytic action, the case is widely different. To produce certain local effects requires a certain definite expenditure of force, and the question of idiosyncrasy cannot be so much considered, although even here it is not to be altogether ignored.

In a brief consideration of this subject of electric dosage I propose:

1. To describe a new and improved milliampèremeter, and say a few words about current measurement and resistance.

2. To speak of electric dosage in its relation to some nervous disease.

3. In its relation to gynecology and electrolysis.

1. The dead-beat milliampèremeter (Fig. 1) is a great improvement upon anything that we have hitherto had for the measurement of current strength. Those ordinarily in use register but forty or fifty, and oscillate so persistently as to greatly inconvenience the operator.

This instrument, by means of two shunt-coils, will accurately measure as high as five hundred, or as low as one-tenth of one milliampère.

The dead-beat or damping effect is obtained by suspending the needle in a cylindrical block of copper—three times the diameter of the needle. The current in the copper induced by the swinging of the powerfully magnetized needle causes the number of its oscillations to be reduced to three or four, making it possible to take a reading almost instantly.

In ordinary milliampèremeters these oscillations amount to thirty or forty.

The milliampèremeter has been used in therapeutics only a comparatively short time, but for many years nervous as well as other diseases have been treated by electricity, with different degrees of success, according to the individual experience and skill employed in its use. Personally, although acknowledging the great utility of accurately measuring the strength of the current, I cannot claim greater success in the treatment of most nervous diseases, now that the milliampèremeter is employed with every application, than formerly when it was unknown, and this experience is, I fancy, common to all those who have through years of work become practically familiar with the routine of electro-therapeutical treatment. It is, notwithstanding, an immense convenience. It relieves the mind of all anxiety in regard to many minor details, and he who has once tested it will never willingly be without it. To the tyro, however, I am sure that it is a necessity.

Without it he will find himself working entirely in the dark, and a beginner should no more think of attempting serious work without his indicator of current-strength, than he should administer his drugs without his apothecary's measure. Another appliance convenient to have, but in no sense essential, is the rheostat, the utility of which I will briefly illustrate. To-day, for example, the observer notices that the current from a given number of cells is painfully felt by the patient, while to-morrow the same strength applied to the same patient may be felt but slightly. If no milliampèremeter is used, the mystery seems very great, and I know not how many times I have been asked for an explanation.

If, however, the current is measured the mystery is solved, for it is observed that when pain follows the application a greater number of milliampères is registered than when no pain is produced.

All this is explained by the fact that the skin varies very much on different days and in different physical conditions as to its conductibility.

Now if on one day, in an application to a patient of a current from thirty cells, the meter registers thirty milliampères, and on the next the same number of cells, with the electrodes applied on the same portion of the body, causes the meter to indicate but twenty, we know that the patient is offering a far greater resistance to the current on the second day than on the first. It is not essential, for practical purposes, that we know just what that resistance is, but it is desirable and interesting to know, and the rheostat supplies this knowledge with absolute exactness. In order to find out the resistance when the registration is thirty, we substitute a rheostat for the body of the patient and introduce a number of ohms in the circuit sufficient to hold the needle at thirty. If the number of ohms found necessary is three thousand, then three thousand is exactly the resistance offered by the body of the patient on the first day. To find out the resistance when the meter registers but twenty, the same process is repeated, and if the number of ohms registered is five thousand, we know that five thousand ohms is the amount of resistance offered.

The utility of the rheostat in therapeutics is more especially in the direction of enabling us to increase or decrease the current gradually and without shock. After intercalating a resistance of one thousand or more ohms we bring into action the number of cells that will probably be required. By gradually reducing the resistance in the rheostat, the milliampèremeter soon marks the degree of quantity required. To decrease the current the resistance in the rheostat is as gradually increased until the needle points to 0, an indication that the resistance equals the strength of the current. The Germans taught the use of ridiculously weak currents, and, influenced by these teachings and by a natural respect for an agent so subtle, the average degree of strength employed when first I began the use of galvanism, and for years subsequetly, indeed, was in many cases entirely inadequate. In the applications to the head ten or twelve cells were, as a rule, considered quite sufficient. Beneficial results were often seen to follow such mild treatment, it is true, and it was seldom that more was attempted, but that the dose of electricity thus obtained was exceedingly slight, and far more inefficient than was then supposed, can be readily demonstrated. The cephalic electrode was a broad, thick sponge, while the other, applied generally to the pit of the stomach, was of sponge also, but much smaller. The resistance thus offered is necessarily very great, and if the milliampèremeter is used, it will be found that the actual quantity of electricity passing through the body of the patient hardly exceeds six or seven milliampères. Now, to use a current of only this strength in applications to the nerve-centres is, as a rule, little more than child's play, and I make this assertion in remembrance of the fact that I formerly advocated the efficiency of currents even milder than this. Sometimes benefit may undoubtedly accrue from these very mild applications, but I have for so long a time observed the effects of a bolder line of treatment that I have no hesitancy in advocating it in preference to former methods.

In place of a current strength of five or six milliampères, substitute one of twenty, and the superiority of results will soon become manifest. But if, by the method in common use, twelve ordinary cells, in the treatment of the head, deflect the needle but about five degrees, it would take some forty-eight cells to give a strength of twenty milliampères, and few physicians have any such number at command as that. For this purpose the electrodes should be as large as possible—that is—broad, and flat or curved according to the part of the body to which they are applied, but with little bulk.

With electrodes such as these and a series of eighteen Leclanché cells, a current of twenty milliampères can readily be obtained in applications from the head to the solar plexus. Thirty-six cells would therefore give forty milliampères, an intensity of current seldom necessary to exceed in central galvanization.

In making these strong applications to the brain there is an element of danger which cannot be emphasized too strongly, and that is, the possibility and, indeed, the probability, considering the utterly hap-hazard way in which electricity is too frequently used, of the current becoming suddenly broken.

Even with very weak currents applied to sensitive nerves, or to the head, interruptions are as a rule undesirable, and when strong, as indicated by a deflection of the needle of twenty or more, they may painfully aggravate the very symptoms that you are endeavoring to allay. As an illustration of this most important fact I may be allowed to refer to two out of a number of cases upon which this statement is based. The first was a case of epilepsy, one which had been helped, up to a certain point only, by a persistent use of the bromides, but which had very greatly improved and finally recovered, when this treatment was supplemented by galvanization of the brain.

The attacks had been growing far less frequent, and at this time some three months had elapsed since the last. The patient was feeling exceedingly well, and this in itself was with her regarded as a guarantee of exemption; for invariably, before a paroxysm, she was accustomed

to feel far from well. With one pole at the epigastrium and the other on the head I was gradually increasing the current, until it probably indicated some fifteen or twenty milliampères.

In some way the connection was suddenly broken, and, with the characteristic cry, the patient fell over in an epileptic fit, and, as I afterward learned, one of far greater severity than usual. The other was a severe case of chorea, of long standing.

This patient was slowly but surely recovering, and had so far regained command of his lower limbs that he could walk with but slight evidences of any lack of co-ordinating power, and could use his knife and fork with ordinary readiness. About this time he inadvertently received a shock through the head of a current strength of some twenty milliampères. Results of a most unpleasant character followed. The choreic movements of the legs and arms returned in a marked degree, so that he walked with uncertain step, and could no longer feed himself These aggravated symptoms continued for about ten days, and then began gradually to subside. I would by no means be understood to say that a galvanic shock, even though severe, will usually cause marked increase of symptoms that are subsiding under the use of an uninterrupted stable current. Such shocks are many times given without any apparently evil results. They should, nevertheless, be guarded against in every possible way, as their tendency is undoubtedly harmful. One of the diseases to which I will refer in giving more definitely my own experience in regard to electric dosage, is epilepsy, a condition in which electricity is far from being generally recognized as capable of any special service. I am not aware that in this connection the disease has been discussed in any treatise or article excepting my own. As far back as 1878 I wrote upon the subject, and only lately gave, before the New York Academy of Medicine, the results of my observation in twenty-eight cases.[1] Of these twenty-eight cases of epilepsy almost all of them were treated without the aid of accurate current measurement, since the milliampèremeter in therapeutics is of comparatively recent introduction. It is, however, possible for me to give approximately the strength of current used in most of these cases.

The range was between fifteen and forty milliampères. I have found no patient suffering from epilepsy who could not endure, without ill effects, a current of fifteen milliampères, provided the cephalic electrode covered a surface sufficiently large and was accurately adjusted, while most of them bore without discomfort a much stronger current. Seldom, if ever, should I regard more than forty milliampères desirable, and the strength that I have found most generally acceptable, and of service to my patients, has been from twenty to thirty milliampères. In chorea, substantially the same rule prevails in regard to strength of application, or would prevail, if the average age of choreic patients was not much less than that of epileptics.

The strength of current applied to the head in a case of chorea under twelve years of age should rarely exceed twenty milliampères, and generally should be about fifteen. We cannot approximate the relative dose of electricity for different ages as accurately as we can that of drugs. This observation, however, will be found to be uniformly correct : The very young bear proportionately very much stronger currents than adults. A child of three, who should, according to rule, tolerate only about one-fifth the adult dose of any powerful drug, will easily bear one third the adult dose of electricity.

Old people bear stronger currents than those in middle life ; it is, indeed, quite astonishing to observe the very marked insusceptibility of some very old people to electricity, due in some measure, perhaps, to blunted sensibility, but in a higher degree to a loss of conductibility of the tissues, and especially the skin. It will not answer, however, to presume too much in the application of electricity to the old on account of this apparent insusceptibility, as it is not uncommon to meet with patients advanced in years who, while they may feel the application of a certain strength of current but little at the time, yet are exceedingly susceptible to its secondary effects. Another disease for the relief of which the galvanic current is but indifferently appreciated is exophthalmic goitre. Without it, indeed, it is often impossible to obtain results at all satisfactory, but with it marked amelioration of the symptoms almost invariably follows, and complete recovery, many times, in cases that respond but slightly to other methods. The strength of current indicated varies according to the position of the poles. An important point for local application is the auriculo maxillary fossa, immediately below the lobe of the ear, where but a comparatively small electrode can be used.

A strong current would produce both pain and vertigo, and five to seven milliampères is about all that will be well borne with the electrodes in this position.

As we gradually move the pole down along the inner border of the sternocleido-mastoid muscle, the strength can be increased very materially, and with a large pole at the back of the neck, near the sixth cervical vertebra, and the other on the enlargement, currents of twenty and thirty milliampères can be profitably utilized. The variation of current strength in the treatment of neuralgia and pain in general is as wide as the symptoms are varied in character and seat, and more, perhaps, than in disease in general is it necessary to carefully discriminate in the selection of the proper current.

True neuralgia (pain directly along and confined alone to the course of a nerve) calls almost invariably for the galvanic current, while the so-called pseudo-neuralgias, which are simply forms of pain occupying certain areas, and running seemingly in the direction of certain nerves, yield most readily to faradism.

Five to ten milliampères are, as a rule, amply sufficient for the relief of neuralgia about the face and head, while in sciatica it is often necessary to use as high as forty and fifty, or even more. The efficacy of very strong currents in the treatment of sciatica should be more generally recognized.

As ordinarily used it often fails to relieve, because of an insufficient current. The operator is simply self-deceived. He is using perhaps a large number of cells, freshly and properly charged, but his electrodes are of a pattern and size to offer the greatest possible resistance. Let him substitute electrodes that are broad and flexible, readily adapting their shape to every inequality of surface, and this difficulty of lack of strength will quickly resolve itself. In the treatment of paralysis, whether central or peripheral, the dose of electricity is determined by so many modifying factors that it cannot be fully discussed here. The general law, that when a muscle fails to respond to the faradic current recourse must be had to the galvanic, is now usually appreciated, but it is not so generally understood that paralyzed nerves are not to be indiscriminately stimulated by sudden shocks. Many a paralysis that might have recovered has been made permanent by such ill-directed and culpable interference. After it has been determined, by careful interrogation of the affected muscle, what is the degree of quantitative or qualitative change, it is in many cases imperative to use the continuous and not the interrupted galvanic current Especially is this true in those cases of local paralysis where responses utterly fail to be elicited by the faradic current, but are *more* readily obtained by the galvanic current than in the normal condition of nerve and muscle. In such cases mild currents of about seven milliampères, increased to twelve and fifteen as improvement increases, and applied without interruption, will succeed in lessening the irritability of muscular fibre and in restoring the lost vitality of the intramuscular nerves, upon

[1] New York Medical Journal, April 16, 1887.

the integrity of which the faradic current depends for its ability to call forth muscular contractions, far more effectually than when interruptions are attempted.

In most forms of paralysis, however, much stronger currents than these can be applied. In infantile paralysis fifteen or twenty milliampères may be used, and in the spinal paralysis of adults (poliomyelitis) twenty-five to thirty are usually indicated. In both these conditions, but more especially in infantile paralysis, the same rule should be observed as in the treatment of the form of facial paralysis to which allusion has been made—for the most part, continuous and not interrupted currents. Given a case of infantile paralysis in which reaction to faradism is entirely lost and only faintly appreciable to galvanism, it is entirely possible, by sudden shocks in the beginning, to quite obliterate the little remaining vitality and render the case incurable. In hemiplegia, again, while

Fig. 2.

electricity possesses but a limited value, it is yet capable of doing decided harm. I have at this time under observation a hemiplegic patient whose arm was in such a condition of heightened irritability that contractions to both currents were called forth far more readily than in health. He fell into the hands of one who possessed greater activity than insight, and was subjected to a series of treatments by the faradic current in which the muscles of the arm were jerked about in a most merciless manner. As might have been expected, there soon supervened an entire loss of motility, together with neuralgic pains of a distressing character. In alluding to epilepsy and chorea I spoke of central galvanization and its dosage in those diseases. Central galvanization is also a valuable method in many neurasthenic conditions, in hysteria, and in cases ot melancholia. I illustrate in Fig. 2 the process which has given me most satisfaction.

The hair being thoroughly wet, a light wire-gauze helmet, lined with some soft, conducting material, is fitted as accurately as possible to the head. To this is attached the positive pole, while the negative is applied to the pit of the stomach, and a current passed varying according to the disease and individual idiosyncrasies from five to forty milliampères.

It may seem an easy thing to make use of central galvanization satisfactorily, but, like most easy things, its efficient use demands knowledge, care, and some experience, all of which are within easy reach of those who desire to utilize the method. The wide area which this helmet-electrode covers lessens by just so much the resistance to be overcome, and enables us to pass through the head a current of many milliampères, without pain or other ill results. To this end, however, the electrode must be made to adjust itself accurately to every inequality of surface, otherwise a painful concentration of current will be felt at various points, and the efficacy of the applications interfered with.

Any discussion of the subject of electric dosage would be incomplete without reference to gynecology, in which electricity has accomplished much good. Here, more than in any other department of medicine, is illustrated the great superiority of strong, and comparatively short, over weak and prolonged applications.

Much of the ill-success that formerly attended the treatment of female diseases by electricity was due to the use of too feeble currents, and the same misapprehension as to its actual working power alluded to when speaking of central galvanization exists here. With the ordinary form of small, and comparatively thick, sponge-electrode applied externally to the abdomen, and the other internally, a current from thirty-six cells will cause the galvanometer to register but twenty or twenty-five milliampères.

A current of this strength is entirely insufficient to successfully treat many uterine difficulties that experience has shown to be amenable to electrical applications, and, in order to obtain the requisite strength without resorting to the great number of cells that would ordinarily be required, electrodes of an entirely different pattern are necessary. I have for some time used an abdominal electrode similar to the one represented in Fig. 2. It was made for me by Waite & Bartlett, of this city, and can be prepared of any form and size, suitable for application to every portion of the limbs and trunk. Like the helmet-electrode, it is made of finely plated wire, and a layer of absorbent cotton used, sufficient to cover both its face and back, for the more completely a metal electrode is enclosed in its covering the greater is the quantity of current that can be utilized. Apostoli, whose experience has probably been greater than any other in the electrical treatment of the uterus and its appendages, uses electrodes made of sculptor's clay, held in place by gauze, and sufficiently large to cover much, and sometimes the whole, of the abdomen. The principle involved is simply this—the larger the electrode the less the resistance, and, other things being equal, an electrode of six square inches will yield but one-half the strength of current of one of twelve square inches.

In the treatment of uterine diseases it must be remembered that the internal is the effective, while the external is the indifferent or dispersing, electrode.

Bearing in mind, also, that the genital mucous membrane is remarkably insusceptible to painful impressions, while the skin is the reverse, the necessity of large, flexible electrodes that can be accurately adjusted is readily appreciated.

In the treatment of indurations and enlargements of the uterus, and the exudations resulting from pelvic cellulitis, direct applications frequently result in complete recovery. Currents of from thirty to fifty milliampères are indicated and should not cause the slightest pain. On the contrary, there is often instant relief afforded to an ever-present pain, as well as the more remote results as seen in the correction of painful menstruation. This is the safest and easiest method.

More rapid results follow electro-puncture, through which we get in more concentrated form electrolytic and absorbent effects. With the needles, fifty to one hundred milliampères can be used at each sitting.

If the metal electrode is applied directly, without the intervention of some covering, care must be taken not to use currents sufficiently strong to produce eschars. This mishap may occur even without the knowledge of the patient, and it is, therefore, always safer to use a covered electrode. I have seen this treatment, judiciously

and persistently carried out, melt away, as it were, not only large pelvic deposits, but in two instances dissipate a most severe and chronic sciatica that had been caused and continued by the pressure of these pelvic deposits.

In ovarian and fibroid tumors the electrolytic method is undoubtedly worthy of consideration, although the results have not as yet been sufficiently satisfactory, in ovarian tumors at least, to commend themselves strongly to authorities in the department of uterine surgery.

It is perfectly safe to use currents of one hundred and one hundred and fifty milliampères in the treatment of uterine fibroids; indeed, both Apostoli, of France, and Englemann, of this country, claim to use with advantage much stronger currents than this. Whenever, in the use of electrolysis, our aim is simply destruction, and destruction only, I see no reason why a current of even several hundred milliampères might not be freely used. It must be remembered, however, that some of the best results of electrolysis are not measured by the degree of chemical action, and that when various external tumors, such as goitre, disappear under electrolytic action, it is through a process of absorption that is set up, and not because of the destruction of tissue. In the treatment of goitre currents of forty milliampères are indicated. Absorption is hastened by the chemical changes that occur, and takes place both during and after the treatment. In most cases it is not at all observed during the operation, but goes on slowly for weeks following. Stimulation of absorption is especially marked when electricity acts on hydrocele and small cystic tumors. For their treatment a current of thirty to forty milliampères is required. In erectile tumors, where the object is to coagulate the blood, we use about the same strength as when treating cystic tumors.

AMPUTATION OF THE BREAST UNDER COCAINE ANÆSTHESIA.

By DANIEL LEWIS, M.D.,

SURGEON TO THE NEW YORK SKIN AND CANCER HOSPITAL.

A PATIENT was admitted to hospital March 17, 1887, who furnished the following history:

Mrs. K——, widow, seventy-eight years of age, always healthy until fifteen years ago, when the right clavicle was fractured, and the breast of the same side considerably bruised. After the immediate effects of the injury disappeared she noticed a lump in the breast which has never disappeared, although smaller at times and at other times larger. Four years ago an ulceration began, and on admission was about two inches in diameter. The discharge has increased, and for several weeks hemorrhages have been frequent, although readily controlled. The entire mammary gland is involved in the tumor, which is not adherent to the chest-wall however, nor are there any diseased glands in the axilla. She is quite feeble from loss of blood, and has a double cardiac murmur. There is no family history of cancer.

Here was presented a case where the removal of the tumor was demanded, and yet the advanced age and general condition of the patient rendered the administration of ether positively dangerous. It was therefore decided to attempt amputation of the breast under cocaine, although, as far as could be learned, the operation had never been performed under local anæsthesia.

On March 27th Dr. J. Leonard Corning applied one of the largest rubber-covered iron rings which he has devised for retaining the injected solution within the area of operation. The ring was made elliptical, and would have answered our purpose a little better if made of flexible material, so as to be readily adjusted to the convexity of the chest. The line of incision was traced by tincture of iodine, and injections of a two per cent. solution of cocaine *into* the layers of the skin were made, at intervals of about one-half inch, entirely around the tumor. The patient felt only the first insertion of the needle. Several larger injections were also made beneath the tumor. Less than three drachms were required.

There was no pain during the operation until after the ring had been removed and the last of the sutures were being applied, when she felt the needle in a small section of the lower flap only. There were no after-symptoms due to the anæsthetic. Twenty-five minutes were consumed by the operation. The wound was closed with the continuous horse-hair suture, which I always use for such operations, and drainage of the same material. Healing was complete in ten days.

The result of this case was sufficiently satisfactory to warrant recommending cocaine anæsthesia in any such operation where ether is contraindicated, and there is no necessity of opening the axilla. In the latter event it seems probable that some modification of Dr. Corning's ingenious apparatus could be easily adapted to the requirements of that region.

62 PARK AVENUE.

Clinical Department.

NOTE ON EMPYEMA.

DR. M. PUTNAM-JACOBI, of New York, writes: "In connection with the discussion recently held at the Academy of Medicine on empyema, the following case may be of interest: A child, five years of age, after an attack of scarlet fever, contracted an empyema of the right pleura. The diagnosis was made by the attending physician, but the mother refused to allow an operation, and the case dragged on for six or eight weeks. During this time the patient suffered from attacks of localized œdema, confined to one limb, and constantly shifting from the upper to the lower extremities, and from one side of the body to the other. There was occasionally some œdema of the abdominal walls; none of the face. The urine remained free from either casts or albumen. I saw the patient only once, twenty-four hours before death. At that time the right leg was markedly swollen and œdematous. The right pleura was evidently full of fluid; the condition of the child markedly cachectic. An operation was again proposed, but for some reason either again refused or postponed till the following day. On this day the little patient died. At the autopsy was found, besides a pleural cavity full of pus, a large thrombus in the right iliac vein, evidently the cause of the œdema of the right leg. It became then also evident that the temporary localized œdemas observed during the illness had been due to similar temporary obstructions of the principal vein of the limb. This spontaneous coagulation of blood was due to absorption of the fibrine ferment from the mass of pus, and a consequent action upon the fibrine factors of the living blood, such as usually only occurs after death."

SUBACROMIAL DISLOCATION OF THE HUMERUS.

DR. THOMAS L. STEDMAN, of New York, sends us the following communication: "The case herewith presented appears to me to be worthy of record by reason of the rarity of posterior dislocations of the shoulder, and also on account of the age of the patient. Barbara ——, eighty-four years of age, an inmate of the Home for the Aged of the Little Sisters of the Poor, is of spare build, but in good general health. One morning, while dressing herself, sitting on the bed, she stooped over to pick up her shoe, and fell, striking, as she says, the right arm between the elbow and the shoulder. She experienced at once severe pain in the shoulder, and was unable to move the arm. I saw her about seven hours after the accident. Examination at that time revealed a round, hard projection, like a ball, posteriorly, on the dorsal aspect of the scapula, near its outer extremity. Motion was imparted to the swelling on rotation of the arm, but no crepitus

could be obtained. There was a marked depression below the extremity of the acromion process, and in front of the shoulder-joint, between the coracoid process and the shaft of the humerus, a wide interval was to be felt. The arm hung by the side with the elbow a little in front of the axillary line. It was possible to approximate the elbow to the side when the tips of the fingers were brought to the opposite shoulder. Dr. Joseph O'Dwyer saw the case with me, and kindly assisted in the reduction. The latter was easily effected by downward traction, counter-traction being made with a towel in the axilla. The arm was carried in a sling for a few days, and no further trouble was experienced beyond a slight soreness on attempts at extended movements."

THE LOCAL TREATMENT OF DIPHTHERIA.

Dr. J. Henry Fruitnight, of New York, sends us an interesting communication on this subject, which the crowded condition of our columns compels us to present in abstract. As the disease presents both local and constitutional symptoms, we ought, he argues, to treat it both locally and constitutionally. Many of the remedies employed exert a local effect as they pass over the parts while being swallowed, and, in order to increase this effect, he advises patients, who are able to do so, to retain the dose for a time in the buccal cavity. "In the recent discussion of this subject, no mention was made of one remedy, formerly used for its constitutional effect, but which I have employed for its local action. I refer to the hyposulphite of soda, the use of which was suggested to me by Dr. Brickelmaier, of this city, in an informal conversation some time ago. Since then I have treated eight cases of diphtheria with this remedy, giving hourly doses of ʒj. of a solution of the strength of ʒj. to ℥ij. of water. In two of these cases the pseudo-membranous deposit was very thick and tenacious. In all there was a gradual lessening and disappearance of the membrane from hour to hour. The patients retained the solution in the mouth several minutes before swallowing it. No other local remedies were employed, though the general condition of the patients received proper attention. In one case, which is now under treatment, the deposit is very great and extends downard to a considerable distance. In this case gentle local applications are made by means of a brush. I have not yet had an opportunity to use the remedy when the disease has invaded the larynx, but intend to employ it in the spray-atomizer in the first case of this kind which presents itself. I shall also use the same method when the patient is too young to hold the solution in the mouth before swallowing it. The hyposulphite of soda has also, very probably, a constitutional action, but it is to its use as a topical agent that I now specially wish to direct attention. I disclaim, however, the notion that it will cure in every case, for we all know that some cases will inevitably succumb to the disease despite any and all forms of treatment. As to the manner of making local applications, the gentler and more intelligently the local applications are made the more favorable are the results likely to be; therefore the spray-atomizer is to be preferred in all cases of the buccal and laryngeal forms of the disease. A suitable syringe, carefully used, is to be recommended for the nares and posterior pharynx. As regards the various remedies recommended for use in the spray-atomizer, I have had a greater percentage of recoveries with trypsin than with anything else."

THE EXAGGERATED DANGERS OF COCAINE.

Dr. J. R. Rankin, of Muncy, Pa., writes that he has never seen any alarming effects follow the use of cocaine in his practice, although he has employed it quite extensively. In every case, however, he first assured himself, by careful examination, that there was no heart-disease present, and if there was, he withheld the drug. He first used the remedy in asthma, in August, 1885, inserting from five to ten drops of a ten-per cent. solution into the nostrils, the dose varying according to the severity of the asthmatic paroxysms. The patient was completely relieved by the daily use of the remedy, and suffered from no unpleasant symptoms of any kind. He has had a like experience with another case of a similar nature. These patients used, on an average, from three to four grains daily. He has also employed cocaine, in the form of spray, in laryngitis and catarrhal fever, with most satisfactory results. In a case of gastritis, occurring repeatedly in the same individual, this remedy has been employed with benefit, in doses ranging from one to six grains. The symptoms following the exhibition of these large doses were, reduction of the pulse from 92 to 68, of the respiration from 22 to 15, slight difficulty in speaking, cooling of the skin, copious perspiration, and mental exhilaration. When a dose of six grains was given there was slight confusion of ideas for a few minutes. Dr. Rankin adds that he has used cocaine subcutaneously in a few cases, but likewise without the production of any symptoms of an alarming nature. He does not think that we should be deterred from using so valuable a remedy because it is poisonous in large doses, or because some have acquired the cocaine habit. Such arguments would apply with equal force against the use of opium, belladonna, and a number of most valuable remedial agents.

Progress of Medical Science.

Tuberculosis of the Peritoneum cured by Laparotomy.—Dr. Poten has published the following remarks on this subject: In a recent work on tuberculosis of the female genital organs, Hegar reports several cases of diffuse tuberculosis of the peritoneum which were cured by surgical interference, or, at least, brought to a standstill. Hegar himself has performed laparotomy on two cases of this kind with the best success. Spencer Wells, Neimann, Koenig, and others also have opened the abdomen in tubercular peritonitis, and after removing the transudation have seen cures in such cases. This fact, says Hegar, has been confirmed by too many reliable authorities to be denied; and he adds that cases of such a nature have often been regarded as mistakes in diagnosis, and it was thought that they were a disease *sui generis*, a granular, non-tubercular inflammation of this serous membrane. At the present time, however, the tubercular nature of these cases is hardly doubted. It is, with our present views on tuberculosis and its virus, indeed rather singular that by simply opening the abdomen and removing the ascitic fluid, a peritoneal tuberculosis can be cured, and doubts as to whether the disease in these cases is a genuine tuberculosis or simply a granular inflammation of some other nature, are not unreasonable as long as the tubercular nature of this affection has not been proven with absolute certainty, which can be done by the microscope, and especially by the presence or absence of Koch's bacilli. The reported cases, so far, do not show that these proofs have been brought. On the contrary, judging from Hegar's words, cited above, we would think that in making the diagnosis of this disease the principal reliance was placed on the macroscopical appearance of the peritoneum, which, in this instance, however, would hardly admit of any other explanation. Koenig mentions some cases of tuberculosis of the peritoneum, treated with carbolic acid and iodoform, which the microscope proved to be of a tubercular nature, but even in these no reference was made to the bacilli. The following case, operated on by Dr. Hartwig, is one in which the diagnosis of tuberculosis of the peritoneum has been made with absolute certainty, and is, therefore, of considerable interest: Mrs. R——, twenty-

nine years of age, multipara, last birth one year and seven months ago, was received into hospital December 10, 1885. She had always been healthy, but had swelling of lower extremities while nursing the child. After weaning it, and with the return of her menses, this swelling disappeared, but since May her abdomen commenced to enlarge. Her condition when admitted to the hospital was as follows: She is pale and emaciated; abdomen distended, especially in umbilical region and below, but not tender on pressure. Distinct fluctuation, percussion dull from two inches above umbilicus to symphysis pubis, the same on each side, which change of position does not affect. Prolapse of anterior vaginal wall; uterus mobile and not connected with any abdominal tumor. Ovaries cannot be felt. Thoracic organs normal; temperature—evening, 100.6°; morning, 98.8°. It being impossible to make a positive diagnosis, exploratory laparotomy was resorted to on December 12th. After the thickened peritoneum was incised, a clear, yellowish fluid spirted out through the opening. Slight compression of the abdominal walls was made, and almost a bucketful of ascitic fluid removed. The whole parietal peritoneum was covered with little nodules of a reddish-gray color; intestines, uterus, and ovaries, which were of normal size, were also the seat of these nodules. After all the fluid had been sponged out, and a piece of the peritoneum removed from the edges of the incision, the abdominal wound was closed with silk sutures. Patient made a good recovery, but had slight elevations of evening temperature; dressing and sutures were removed December 23d; the wound was healed by first intention, the abdomen sunken in, and she was free from pain. She left hospital on December 24th. The excised fragment of peritoneum was much thickened, and had lost its normal glossy appearance. Its surface showed numerous miliary and somewhat larger prominences, which in no place were ulcerated. Under the microscope the tubercles had a variety of forms, from the simple granulation nodule to the well-developed giant-cell tubercle with caseated centre; bacilli were found in small numbers almost exclusively within the giant-cells. Mrs. K—— came to the hospital again last summer, on account of a small abscess which had formed in the cicatrix and which healed rapidly. A very short time ago, almost a year after the operation, Dr. Poten saw her again; she had the appearance of a perfectly healthy woman; she had gained in flesh, and was so well that she could do all her housework without the least difficulty. There is no sign of any fluid in the abdominal cavity. Her abdomen, with the exception of a small ventral hernia, has a perfectly normal appearance, and is not tender on pressure. The lungs are entirely normal; she has no cough. Appetite and bowels normal. This case proves clearly that a genuine tuberculosis of the peritoneum has, to say the least, been cured temporarily by a laparotomy. Whether this cure will be permanent, the future will show. This result is so much more remarkable as no application of any disinfecting agent to the diseased peritoneum was made.—*The Pittsburg Medical Review.*

Virchow's Views on Myxœdema.—At a recent meeting of the Medical Society of Berlin, Virchow introduced the subject of myxœdema. He said (*The Lancet*) that although the London Clinical Society had collected details of one hundred and ten cases, and many had been published in France, there were records in Germany of but two or three cases, and these of quite recent date. In his visit to London last October he enjoyed opportunities, especially at St. Thomas' Hospital and the Brown Institution, of becoming familiar with the disease; and his address was largely taken up with the interesting subject of its pathology, as investigated by Professor Horsley. He had been convinced from inspection of Professor Horsley's preparations of the truth of his statement that lymphoid tissue occurs in the thyroid body; but, although accepting the fact that the blood in the thyroid veins is seven per cent. richer in leucocytes than that in the corresponding arteries, he hinted that this difference may be explained by the slower current in the veins, and did not consider the lymphoid tissue to be adequate to entitle the organ to be considered of hæmopoietic nature. As to the nature of a myxœdema, he pointed out that adipose tissue, when atrophying, undergoes mucoid change—a reversion to the fœtal state; but that myxœdema is not a mere atrophic change. On the other hand, it is the outcome of an active process of cell-growth in the cutaneous and subcutaneous connective tissue, with increased bulk, while the superficial layers of the cutis are not involved. It resembles an inflammatory rather than an active process, and he was reminded of the similarity to the condition of phlegmasia alba dolens, or pachydermia. The experimental and chemical researches of Horsley and Haliburton, which prove that extirpation of the thyroid is followed by an increase of mucin in the blood, tissues, and secretions—a condition of "myxœmia"—form a distinct advance in the knowedge of the subject; but Professor Virchow expressed himself with caution upon the theory of the function of the thyroid propounded by Horsley upon these results. Nor does the histology of myxœdema bear out the notion of its being mainly a condition due to retention of mucin; on the contrary, it points to an active irritative process. Professor Virchow next passed to consider the relations between myxœdema and cretinism, and again cited Professor Horsley's experiments on monkeys, which in a few weeks after thyroidectomy passed through a series of stages—neurotic, mucinoid, and atrophic—to death; and where, after exclusion of any nerve lesion, the phenomena were attributed to perverted nutritional changes. He called to mind the ill effects, noted long ago, of the too rapid wasting of the thyroid under treatment of goitre, by iodine—effects attributed by some to iodism, but considered by Virchow himself (*Geschwülste*, i., 114) to be due to the "goitrous cachexia." He discussed the association between goitre and cretinism, and between so-called "congenital rickets" and cretinism, with especial reference to myxœdema, adducing some interesting facts, such as that of two infants, subjects of "congenital rickets:" one presented the characters of myxœdema, and had an abnormally large thyroid; the other was small and atrophied, having no myxœdematous characters, but having extreme atrophy of the thyroid, such as described by Ord in myxœdema. He also referred to Küster's observation upon "cachexia strumipriva," and glanced at the subject of exophthalmic goitre, more by way of contrast than as illustrating any relationship between Graves' disease and myxœdema; and he concluded by admitting that although the part played by the thyroid body in myxœdema was not yet proved, it was a subject worthy of careful study. Professor Ewald, who spoke on the conclusion of Professor Virchow's paper, preferred "cachexia pachydermica" to the term "myxœdema," and suggested that in Horsley's experiments the increase of mucus in the salivary secretion was attributable to injury to the sympathetic during the operation of extirpation of the thyroid. He mentioned that recently Schiff and Herzen had observed spasmodic affections suggestive of cortical irritation to follow extirpation of the thyroid, while Albertoni and Tizzoni had noticed a great diminution in the blood-capacity for oyxgen; and he considered that such varied results proved how far we are from a knowledge of the functions of the thyroid. Drs. Wolff and Bergmann also spoke, their remarks being mainly directed to the effect of partial thyroidectomy in producing atrophy of the remainder of the body—a result which does not obtain in experiments on the healthy organ.

A Case of Obstinate Vomiting of Pregnancy, cured by feeding through the œsophageal sound, is reported by Dr. Brunniche.

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THE TREATMENT OF FIBROID TUMORS OF THE UTERUS BY POWERFUL ELECTRICAL CURRENTS.

WE have already given some notice of the method of treating uterine tumors and other diseases by very strong electrical currents, a method especially identified with Dr. Apostoli, of Paris. In a recent issue of the *Journal of the American Medical Association* Dr. Franklin H. Martin describes the technique in detail, and adds his indorsement of the method. His article limits itself to the consideration of fibroid tumors, hemorrhagic and non-hemorrhagic.

These tumors are treated by currents of electricity from a gravity or Daniell-cell battery, of which about one hundred and fifteen are needed. Other cells, like the zinc-carbon, can be also substituted. The strength of the current used is from a minimum of fifty to a maximum of one thousand milliampères, even the minimum being a stronger current than is ever employed in therapeutics. The effects produced are by the electrolytic or decomposing action, and, to a less extent, by the cataphonic action, of the current.

The two poles have a decidedly different effect. The positive or acid pole has a caustic and styptic power, very useful in hemorrhagic fibroids; but it is a power not obtained except in currents stronger than fifty milliampères. The negative pole has the effect of liquefying instead of hardening and coagulating the tissues.

The electrodes used are simple enough. That for internal use is made of platinum insulated nearly to its tip. The external electrode used by Apostoli is a mass of moist potter's clay moulded upon the abdomen. This is connected with the battery by a plate of soft metal and a conducting-cord. Dr. Martin uses, in place of the clay, a concave disk of soft metal, loosely stretched over the concavity of which is an animal membrane. The space between the membrane and the metal is filled with a warm solution of sodium chloride.

In hemorrhagic fibroids the positive pole is introduced into the uterus, the large electrode placed over the abdomen, and the current is slowly turned on. At first not more than fifty milliampères should be used for about five minutes. Subsequently the strength is increased and the duration lengthened to ten or twelve minutes. The operation has to be repeated several times. By it the hemorrhage is diminished and the tumor lessened in size. In most tumors in which the uterine canal cannot be reached a sharp-pointed electrode of platinum and iridium is introduced directly into the neoplasm via the cervical canal and connected with the negative pole. A current of one hundred and fifty milliampères may here be used.

In a third class of cases the tumor is punctured through the vaginal or abdominal wall. Here an anæsthetic and thorough antiseptic precautions are necessary. In these cases the needle, when introduced by the vagina, is insulated to within one inch of its point, connected with the negative pole, and a current of strength of five hundred to one thousand ampères is used.

The conclusions reached by Dr. Martin are as follows:

1. A means of generating a continuous current of electricity which can be increased from ten to one thousand milliampères in strength is necessary in order to obtain all the benefits of this treatment.

2. Hemorrhages from hemorrhagic fibroid tumors can be cured by the local coagulating effect of the positive pole applied inter-uterine.

3. The inter-uterine electrode, when positive, should be of unattackable metal, conforming as nearly as possible to the size and shape of the uterine canal, and having the vaginal portion insulated.

4. When the cervical canal cannot be entered a negative galvano-puncture should be made into the presenting part of the obstructing mass of the tumor and an artificial canal, which is to take the place of the impenetrable uterine canal in all subsequent treatments, be formed.

5. The intra-uterine electrode should in all cases be negative, unless there is hemorrhage or excessive leucorrhœa, when the positive pole is always required. The same patient may, however, present successive symptoms demanding the use of each pole.

6. The strength of the current should be the strongest possible consistent with the desired therapeutic effect and the endurance of the patient.

7. Cases of intolerance of high doses arrange themselves under the three following heads: 1, Hysteria; 2, enteritis; 3, acute nephritis, perimetritis or parametritis, the most tolerant being the deep uterine and profusely hemorrhagic.

8. The duration of the operation should be from eight to ten minutes, according to the toleration of the patient.

9. The number of operations is necessarily dependent upon and influenced by the result to be accomplished. A severe hemorrhage can be checked in from four to five séances, while a general reduction of the tumor necessitates many operations, varied, of course, according to size and location. In many cases simply a restoration to health and a relief from the prominent and annoying symptons must be accepted as a substitute for an actual cure.

10. The time of commencing the treatment matters but little if the tumor is not rapidly growing and no excessive hemorrhage is present. The operation should be inter-menstrual, if possible, but if hemorrhage is continuous operate during the flow. The séances should occur two or three times a week if compatible with the endurance of the patient, and should be as regular as possible.

11. Extra-uterine puncture should be regarded only as a last resort, but every means of reaching the tumor

through the uterus being impracticable, seek, if possible, to make the operation extra-peritoneal; should this in turn prove equally unadvisable, use as a final alternative the abdominal puncture.

12. Strictest cleanliness and thorough antiseptic precautions are absolutely demanded in operations connected with this treatment.

A MEDICAL HOAX.

A CURIOUS instance of the way in which news sometimes gains in its progress around the world was shown recently in connection with Bergeon's method of treating phthisis. A cable despatch from Philadelphia was printed in the Italian daily press to the effect that a physician of that city had discovered a new and infallible cure for consumption. The wonderful discovery was much discussed in the papers, and many interviews were had by enterprising reporters with prominent medical men on the subject, and all awaited with feverish anxiety the receipt of fuller details by mail. Numerous letters and cablegrams were sent to the Philadelphia physician (we quote *La Riforma Medica*), asking him to send a detailed account of his method, and some sufferers even invited him to come to Italy to relieve them of their ills.

None of the American daily papers of the date of the cablegram contained any notice of the wonderful discovery, and the matter remained a mystery until the receipt of the Philadelphia medical journals. It was then learned that some experiments with Bergeon's method had been made in the hospitals there. One of the assistants at these experiments bore the name of the alleged discoverer of the cure for phthisis, and in some way or other the cable reporter had given to him the honor of originating the method. Many of the poor victims of phthisis have been cruelly disappointed, but a few Italian journals had a sensation, and the cable companies sent some extra despatches.

HEMORRHAGE AND ANTISEPSIS.

ONE of the first rules of antiseptic surgery has always been to carefully arrest all bleeding from the tissues before putting on the final dressing. Of course, the arrest of hemorrhage from large vessels is a matter of necessity, but, if the views recently enunciated by Schede and others are correct, it would seem that a mistake has been made in spending so much time in efforts to repress all oozing from the tissues. It is now claimed that the presence of a clot in the wound, so far from being an accident to be guarded against as retarding the healing of the wound, is actually of benefit and rather favors union. Schede says that the great power of organization of the blood-clot should be utilized, and that the blood should be allowed to enter the wound, thereby filling all its crevices and sinuosities with a plastic material which will be of the greatest utility in promoting union, and will do away with the necessity of compression and drainage.

These views would appear to be based on sound reasoning, for the blood in closed wounds, such as fractures and after tenotomies, is known to be partly absorbed and in part to become organized; and, if perfect antisepsis is maintained, the clot which is formed from effused blood in open wounds should behave in precisely the same way. Of course, the most perfect antisepsis must be obtained, otherwise the blood will be a source of additional danger. But the most perfect antisepsis must be maintained in any case if success in the operation is desired.

A case illustrative of this innocuity of the effused blood is related by Dr. G. Turazza in the *Gazzetta degli Ospitali* of April 13, 1887. A man received a stab wound in the back extending about five inches through the muscles parallel to the thoracic wall. The hemorrhage was very profuse, but it was impossible to find the bleeding vessels. The wound was washed out repeatedly with a four per cent. carbolic acid solution, and then, without any pains being taken to arrest the hemorrhage, the edges were approximated by sutures and an antiseptic dressing was applied. The following morning the dressings were found saturated with blood and were changed. On the fourth day the sutures were removed, and on the eighth day there was a firm cicatrix, the wound having closed by first intention.

Some of the advantages of this method are that much time is saved, since no delay is occasioned by waiting for the oozing to be arrested, and, in most cases, the necessity of drainage-tubes is done away with. At the last French Surgical Congress this question of drainage was thoroughly discussed, and most of the speakers agreed that, when antisepsis was perfect, it was better to leave out the drainage-tubes, and ignore the presence of effused blood. When, however, the operator was not sure that perfect antisepsis could be maintained, they were all of the opinion that drainage should be provided for, since the presence of decomposing blood would, of course, render the condition of affairs only so much the worse.

A PSEUDO-MEDICAL CHARITY.

AGAINST the protests of the profession, the Presbyterian Hospital has put up a dispensary building for out-patients in the midst of one of the wealthiest sections of the city. Such a building in such a place is utterly uncalled for.

TEMPERANCE IN KANSAS.

AN esteemed correspondent, living in Neosho County, Kansas, takes exception to some remarks of THE MEDICAL RECORD, under date of February 12th, concerning the practical working of the prohibition law in that State. He says that the statements of the Osage City *Free Press*, from which we quoted, contained some truth and a great deal of error. The practical results of the old law were not what its advocates had hoped they would be. For this reason there was a tacit agreement among the Prohibitionists to take no notice of any but the most flagrant violation of the law until the Legislature met, when it was expected that a better one would be passed. The new law is now in force, and it would be very difficult, he says, for one to obtain liquor from the druggists for any purpose whatever.

Concerning the practical results of the present law, our correspondent writes: "I can point out a dozen men who formerly spent all their earnings for liquor, while their wives and children went barefoot and hungry.

Now their wives are well dressed, their children are properly clad and in school. Merchants, grocers, doctors, and all say that collections are better than formerly. But, above all, the boys, the future hope of the country, are not exposed to the temptations they formerly were. Please pause and think of it for one moment, and of all it means to fathers, mothers, sisters, wives, and children in the future.

"I could go on indefinitely, and tell you how the law prohibits, and how it has driven out of the State the saloon-keepers, the gamblers, and all that class of men. But it is entirely unnecessary. The whole thing narrows itself down to the question, Does prohibition tend to elevate or depress mankind? If the former, then it is right, and should have the support of all the foremost men of our nation, as well as of all others."

We are glad to learn that good has resulted from the enforcement of this law in some part of the State, for information which we have received from other places is by no means of the same tenor. A medical gentleman, living in one of the larger cities of Kansas, has kindly favored us with a report of his observations of the workings of the law in the cities. "Before the new law was passed," he writes, "each drug-store was practically a liquor-establishment. In most cases the liquor sold was drank off the premises, but in very many instances it was consumed on the spot behind some screen. There is none of that now. But here, as in many other towns in Kansas, whiskey is being sold openly at some saloons behind the bar. The authorities are moving, however, and will probably suppress the sales and rigidly enforce the law as they have done in Leavenworth. The result will be, that men will use liquor all the more freely in their own homes.

"In my opinion the law is, and will prove to be, a curse to Kansas. The law is not reformatory, but prohibitory; and the more rigidly it is enforced, the more determined will men be to obtain their liquor and to have it on hand in their own homes. The action of the law is, in my opinion, more degrading to the morals, and leads to more craft and subterfuge and weakening of a man's sense of honor than would free liquor even. There is certainly no appreciable lessening in drunkenness so far, and no apparent gain in prosperity. This law is, furthermore, only the entering wedge for the passage of Sunday laws of such stringency as to recall the old blue laws of Connecticut. After a time the inevitable reaction will come, and the devil will have greater riot than ever."

The correspondent whom we have just quoted is, by principle and practice, a temperance man in the proper acceptation of the term, and, in common with most medical men, is an earnest advocate of any lawful measures which will have the effect of diminishing intemperance; but, like many other enemies of intemperance, he denies the efficacy of prohibitory laws in the attainment of this object.

We have given prominence to this subject—which, however, we do not think is by any means without the province of a medical journal to discuss—because the first correspondent was "pained that THE MEDICAL RECORD should give an opinion without hearing both sides of the question." The only opinion given was that prohibition does not prohibit. THE MEDICAL RECORD has no quarrel with the Porhibitionists; on the contrary, it wishes that their efforts could ever be crowned with success, but it believes in the exercise of temperance in all things, even in the endeavors made to repress intemperance.

News of the Week.

MAINE MEDICAL ASSOCIATION.—The thirty-fifth annual meeting will be held in the Common Council Chamber, City Building, Portland, Me., Tuesday, Wednesday, and Thursday, June, 14, 15, and 16, 1887.

THEATRE-PARTY AND SUPPER TO AMERICAN LARYNGOLOGICAL CONGRESS.—Dr. George M. Lefferts gave a theatre-party and a supper at Delmonico's, on Thursday evening, May 29th, to the American Laryngological Congress. The party occupied private boxes at the Casino, and after the performance repaired to Delmonico's. The affair was a most enjoyable one throughout. The toasts of the evening were responded to in turn by Drs. A. Jacobi, George F. Shrady, D. Bryson Delavan, of New York, and Dr. S. W. Langmaid, of Boston.

GANT'S SURGERY.—By a typographical error in the review of Gant's Surgery, in the THE MEDICAL RECORD of April 16th, the name was spelled "Galt."

THE OHIO STATE MEDICAL SOCIETY holds its forty-second annual meeting at Toledo, O., on June 15, 16, and 17, 1887.

DEATH OF PROFESSOR VULPIAN.—Another distinguished French physician is gone in the person of Professor Edmond Vulpian, who died on May 18th, in the sixty first year of his age. Professor Vulpian's name was made familiar to the medical world by his contributions to nervous diseases and to the physiology of the nervous system.

DR. THOMAS F. ROCHESTER, of Buffalo, N. Y., Professor of Medicine in the University of Buffalo, died on May 24th. Dr. Rochester was well known throughout this State, and was at one time president of the State Society.

THE IOWA STATE MEDICAL SOCIETY held its annual meeting at Sioux City on May 18, 1887.

A NEW MEDICAL COLLEGE is to be started in Iowa. Its president, according to the Iowa *State Medical Reporter*, is also president of the Iowa Medical Liberty League, an organization whose purpose is to resist the medical laws.

THREE CASES OF SMALL-POX were discovered in different parts of the city on Tuesday.

THE WOMAN'S MEDICAL COLLEGE OF THE NEW YORK INFIRMARY held its Annual Commencement on May 31st. Degrees were conferred upon a class of seven. Rev. Henry J. Van Dyke delivered the address.

ICHTHYOL has proved a disappointing and untrustworthy remedy in the experience of Dr. George T. Jackson, who has used it in twenty-two cases of skin disease.

CHOLERA IN CUBA.—Six cases of cholera have been reported as occurring near Havana.

The Massachusetts Medical Society holds its one hundred and sixth annual meeting at Boston on June 7th and 8th.

Should Physicians Furnish their own Medicines?—We continue to receive numbers of letters from physicians, all having the same tenor—viz., that it would be better for both physician and patient if less work were thrown on the druggist. Dr. Daniel D. B. Beaver, of Reading, Pa., in particular, sends us an able and logical argument in this line. There can be no doubt that the sentiment of the profession decidedly favors the view that physicians should furnish their patients with medicines to a greater extent than is now the case. However, this can be overdone; the doctor cannot be a good doctor and a first-class druggist. The country practitioner and the homœopath already furnish their medicines, and the practice is not a novel one.

Take "The Medical Record."—"We sadly want a medical journal which is innocent of sycophantic obsequiousness, one which is fearless and true, and animated by love for the profession, and not for the filthy lucre which it brings."—*Hospital Gazette.*

Organization of the Medical Department of the House of Refuge.—The Board of Managers of this institution have appointed a staff of consulting physicians, consisting of Dr. Stephen Smith, President; Drs. A. A. Davis, John H. Ripley, and J. B. White; and Dr. George A. Spalding, Secretary. This medical board will soon hold an examination of candidates for the position of resident physician. The latter is to receive a salary, to reside in the institution, and to hold his position at the pleasure of the board.

A Case of Gaseous Gangrene affecting the subcutaneous cellular tissue was reported recently by Dr. H. C. Dalton, before the St. Louis Medical Society. A similar case was observed in Bellevue Hospital in April, 1878, and reported by Dr. E. G. Janeway, to the Obstetrical Society, if we remember correctly. The case occurred in a woman who had aborted at three and a half months.

Ante-mortem Earth Treatment.—A distinguished Philadelphia Surgeon advocates the systematic use of earth as a topical application to wounds. This is a very old treatment, but heretofore surgeons have waited until after the patient was dead before making topical application of earth.

Christian Science.—We are in receipt of a copy of a vigorous and logical sermon preached by the Rev. Dr. David J. Burrell, of Dubuque, Ia., in which the *rationale* and the absurdities of "Christian science" are very clearly unfolded.

The Michigan State Medical Society held its annual meeting at Lansing, Mich., May 12th and 13th. About two hundred members were present. A large number of papers were read in the different sections. The following are the officers elected: Theo. A. McGraw, M.D., Detroit, President; C. V. Tyler, M.D., Bay City, 1st Vice-President; W. J. Herdman, M.D., Ann Arbor, 2d Vice-President; G. L. Rose, M.D., Decatur, 3d Vice-President; F. J. Grone, M.D., Big Rapids, 4th Vice-President; George Duffield, M.D., Detroit, Secretary; H. B. Hemenway, M.D., Kalamazoo, Treasurer.

Training-school for Male Nurses.—It is stated that Mr. D. O. Mills has given $80,000 for a building to be erected on the grounds of Bellevue Hospital to be used mainly as a training-school for male nurses. The Wood Museum will occupy the top story. The building will be erected in the rear of the college.

Hospital Scandal in Vienna.—At a recent sitting of the Reichsrath, Herr Pernerstorfer called attention to the management of the Vienna Allgemeines Krakenhaus. The charges which were made were that the food is unwholesome and scanty. At times the patients are kept for days without any food at all. In the whole establishment there is only one bath, and the nurses, of whom 219 are women and 17 men, extort money from the wretched patients and ill-treat those who cannot pay.

Richardson's Syrup of Superphosphate of Iron and Oxygen is made by the following formula: ℞. Syr. superphosphate of iron, sol. hydrogen peroxide (ten per cent.); pure glycerin, āā ℥ j. M. Sig.: ʒ j. to ʒ ij. t.i.d. in ℥ iij. of water.

The Apostoli Treatment of Fibroids by strong galvanic currents seems to be growing in favor, and American gynecologists will do well to pay attention to this matter. Mr. William W. Webb, on the advice of Sir Spencer Wells, went to Paris and studied the matter for several months, being under Apostoli's directions. He now writes to the *British Medical Journal:* "The upshot of all this is that I am perfectly satisfied much good has been done; many women have been gradually, and without suffering, set up in health, who would, under ordinary circumstances, have been condemned to the risks of some cutting operation. The evidence that, by the treatment of Dr. Apostoli, all the symptoms caused by these tumors can be relieved; that the tumors can be reduced in size; that patients can be made to regain their usual health, powers, and enjoyment of life, is so clear, indisputable, and convincing, that in spite of all doubt, prejudice, and insinuation, it must be accepted. Or, since it stands on no better foundation, we may make up our minds to renounce the greater part of gynecological science, reject the testimony of our senses, nullify ourselves in the fool's paradise of fatuous incredulity, and adopt the negation of a creed in the words of the old saying, 'All medical facts are lies.' Seeing what I have seen, and knowing what I know of the galvano-caustic treatment of uterine fibroids and hypertrophies, I should deem myself wanting in philosophic self-denial and Christian charity if, finding myself face to face with a woman suffering from such disease, I were to menace her with an operation of excision, either of her tumor or appendages. There is an alternative to propose, which is not, like myomotomy, capped with a chance of two to one against success (latest table compiled in Paris, 1886), and which is not mutilating or sterilizing like oöphorectomy. Even if the tumor be not eradicated, a woman enduring symptoms calling for operative interference would think herself happy, after a little patience and no more pain than is the accompaniment of her disease, to find that she had changed for the same condition of ease and freedom she might have with a pregnancy of a few months."

Reports of Societies.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN SURGERY.

Stated Meeting, April 11, 1887.

A. Jacobi, M.D., Chairman, *pro tem.*

Dr. Daniel Lewis presented an old woman from whom he had

REMOVED A BREAST UNDER COCAINE,

given according to Dr. Corning's method (see p. 634).

Dr. Lewis also reported a case of

PAGET'S DISEASE OF THE NIPPLE,

and exhibited the specimen. Cases of the disease now known in surgical literature as "Paget's disease" were sufficiently infrequent to render their description interesting and instructive.

The following history was from the records of the New York Skin and Cancer Hospital, the patient having applied for treatment, March 1, 1887. She was forty-five years of age, married, and the mother of several children (which she nursed), and had never suffered from any of the diseases of the nipple or breast incident to lactation. Thirteen months ago, without any apparent cause, the right nipple became the seat of a dry eczema, the surface and the areola becoming red and roughened, finely granular, and attended with a tingling, itching, and burning sensation. In a few weeks the nipple had become considerably larger than the other, and all these symptoms had continued with increasing severity. Darting pains radiated from the nipple toward the axilla, and a few weeks before admission enlargement of the axillary glands was first discovered. On admission the entire nipple and areola were found indurated and tender—the infiltration extending downward and outward to the diseased lymphatics, but the mammary gland in other portions was apparently free from disease. The nipple was elevated an inch above the surface of the breast, and about one and a half inch in diameter at its base.

THERE WAS NO FAMILY HISTORY OF CANCER, AND THE PATIENT'S GENERAL CONDITION WAS GOOD.

The ordinary treatment for eczema had been employed without benefit. Here, then, were presented all the features described by Paget in vol. x., p. 87, of "St. Bartholomew's Hospital Reports" as belonging to the cases in which the eruption was a *dry* one, but several of his were moist, some discharging even copiously, the fluid being clear, yellowish, and viscid. Mr. Paget's cases were fifteen in number, and their ages ranged from forty to sixty years.

Mr. H. T. Butlin made a careful microscopical study of some of them, in which he found the ducts widely dilated and frequently filled with masses of squamous epithelium, while the connective tissue was infiltrated with small cells. A later examination revealed cell-nests in the thickened portions of the nipple and areola, and much greater enlargement of the acini and ducts, the contents of which had made their way into the surrounding tissues. In this stage

THE DISEASE HAD BECOME TRUE CARCINOMA.

Mr. Thin has pronounced these cases epithelioma of the lacteal ducts, but S. W. Gross and many others hold the view of Mr. Paget, that the disease is primarily a simple eczema of the nipple, and from the long-continued irritation produces cancer, just as ichthyosis of the tongue has been shown to produce epithelioma of that organ.

Mr. George Lawson reported a case of long-standing eczema of the nipple to the London Clinical Society (*Lancet*, June 4, 1881), in which he removed the breast, throughout which the microscope revealed cancer-elements. He advocated the excision of the breast in any case where an eczema of the nipple resists all treatment.

Instances of cure of this disease have been reported by Gross and Bush, which simply prove its benign nature in the beginning of its history, or, as Hutchinson terms it, in the "pre-cancerous stage" of a form of carcinoma whose malignancy in the later stages is too evident to be mistaken by anybody.

Removal of the entire breast and axillary glands (whether diseased or not) was advised in Dr. Lewis' case, and at the present writing the patient was well.

Dr. C. A. Powers then read a paper (see p. 623)

ON MENINGEAL HEMORRHAGE—ITS TREATMENT BY TREPHINING AND COUNTER-OPENING FOR DRAINAGE.

Dr. Robert T. Morris saw no reason why, in cases of meningeal hemorrhage and also in some cases of apoplexy, an operation should not be performed for the purpose of controlling the hemorrhage and removing the clots.

He believed that catgut was the only means of drainage that should be used, as there was no necessity for its removal, and thereby disturbance of the brain was avoided.

As to whether or not the dura mater should be closed was a difficult question to decide, for if the wound be left open there was danger of hernia cerebri, and if closed there was danger of pressure from pent-up serum and detritus. He then mentioned the importance of antiseptic precautions under such circumstances.

Dr. Frank Ferguson, on invitation, spoke, and said he had seen many post-mortem cases in which he could have wished for surgical interference. He thought that perhaps sufficient stress had not been laid on the fact that hemorrhage outside of the dura makes up only a small percentage of the cases of meningeal hemorrhage. In the vast majority of cases, with fracture of the skull, the hemorrhage is in the pia mater or upon its very surface, and does not seem to be at all connected with the dura mater. Besides, it is difficult to locate the source of the hemorrhage.

Nevertheless, cases of extra-dural hemorrhage occurred, with the blood between the dura mater and the bone, and caused the death of the patients, not by laceration or destruction of brain-substance, but by pressure upon the brain.

Dr. Ferguson suggested

AUSCULTATORY PERCUSSION AS A MEANS FOR DIAGNOSTICATING FRACTURE OF THE SKULL AND LOCATING THE CLOT.

He had been able to locate a clot 3 in. by 1 in. by this means, and if relief could be afforded in such cases by surgery it would be a very great advance. He saw no good reason why these patients should not be operated upon; for the vast majority of them die under present management.

With regard to the frequency of middle meningeal hemorrhage, he believed that hemorrhage occurred more frequently at the base or in the middle fossa.

There was one point which might affect an operative procedure, and that was difficulty in removing the clot. He had found it very difficult at times to remove it at post-mortem, and certainly the difficulty would be increased when compelled to work through a small opening in the skull. He thought that there would not be any special danger on account of the continuation of the hemorrhage, because the vessel would almost certainly be plugged by a clot.

Dr. Amidon mentioned the fact that

DR. DETMOLD, NEARLY FORTY YEARS AGO,

opened an abscess contained in one of the lateral cerebral ventricles, and saved the life of the patient for several days, and that operation was done without anæsthesia and before the days of cerebral localization. The

greatest need in reference to cerebral surgery was more accuracy in cerebral localization. The basal symptoms, especially in extra-dural hemorrhage, were very embarrassing; but their existence did not necessarily constitute a contraindication to operative measures. He especially commended the counter-opening and through drainage.

Dr. Jacobi said, concerning Dr. Detmold's operation, that after the case was published it was referred to in the first volume of Virchow's "Archives" as "just such a swindling affair as we should expect from America," and in the same volume could be found Detmold's letter in reply. He would recall Schneider's last case, in which part of the brain was removed, and also a portion of the dura.

Dr. M. Josiah Roberts remarked that surgical trephining was not confined to modern times; but there was evidence that it was a prehistoric operation.

Dr. Powers said, regarding drainage, that he had used catgut extensively in soft parts other than the brain, and that in many cases it had so swollen as to occlude the opening rather than drain the cavity. He felt sure that in the cranial cavity, where the question of life or death of the patient was so imminent, the surgeon could not afford to run any risk, such as must be taken in the use of catgut for drainage. In the cranium, if the discharge be obstructed, such changes will take place as favor the rapid development of meningeal inflammation, which is much more formidable than inflammation occurring elsewhere. He should also be unwilling to use horsehair, although he regarded it as far preferable to catgut.

Dr. Robert F. Weir, Chairman.

Dr. Robert T. Morris then read a paper on

THE REASONS FOR TAIT'S SUCCESS IN AVOIDING SEPTIC ACCIDENTS.

The central point in the paper was in the statements that the same number of microbes, when introduced into the knee-joint, would produce disastrous inflammation, but when introduced into the peritoneal cavity might not produce unpleasant consequences because of the extensive absorbing surface and the ability of the emunctories to carry them away.

If decided cleanliness, therefore, be observed, the risk of introducing microbes into the peritoneal cavity was small, and the giving, as Mr. Tait does, a cathartic on the fourth or fifth day acts like an antiseptic and carries the septic material out of the system through the emunctories whither it has found its way. In other words, by the bowels was removed the septic infection which, if allowed to remain, would develop into serious, if not fatal, septicæmia.

Dr. Polk regarded the main drift of the paper as very interesting, especially to those who had practised the method with such results as to lead them to commend it highly.

But there was another point which to him had been equally interesting. Take the case of a woman who began to show signs of septicæmia, and she was purged, but the purgation was not sufficient to arrest the disease and the patient died. The autopsy revealed a focus of infection in one of the tubes. If the woman had had

PROPER DRAINAGE IN ADDITION TO PURGATION,

it was possible that she might have been saved. He would say that purgation was not to be substituted for drainage at all. It was to be employed in the milder cases of septic infection, whether drainage was effected or not; but it was not to come in competition with drainage.

The plan of treatment by purgation was an old one, and the results obtained in the old times were not satisfactory. It proved to be a failure, as was shown by the success which attended the plan of treatment laid down by Dr. Alonzo Clark. But now, when the abdominal cavity was opened and washed out, we had the ideal treatment of peritonitis.

Mr. Tait does not permit his patients to have opium, even though they have considerable pain, and Dr. Polk thought it was a very good point. But where there was peritonitis, he had not been able to rid himself of the opinion that opium was an excellent remedy; indeed, better than any other remedy at our disposal.

Dr. Wylie said that the subject was one in which he had been very much interested. So far as he knew, Mr. Tait was the first to revive the idea. But Dr. Wylie had been studying and practising from a somewhat different stand-point than had Mr. Tait. Mr. Tait had succeeded because he had used purgatives early. Dr. Wylie was satisfied that if they were given early the success would be very great; whereas, if delayed, they would do no good. His own view was that the symptoms present at the time when the purgatives were administered, such as eructations, nausea, etc., were due to *obstruction of the bowels*, and that relief followed because of the removal of the obstruction rather than because septic germs were carried off. He believed that Dr. Morris was wrong in assuming that

SEPTIC GERMS ENTER THE PERITONEAL CAVITY,

because Mr. Tait operates so rapidly and through so small an opening, which was filled by his fingers, that literally nothing got into the cavity. He also thought that Mr. Tait's success had increased since he used the drainage-tube, the object of the tube being really to keep the peritoneal cavity empty and thus promote the glazing over of the bleeding-points on the peritoneal surface, which would not take place if there was serum there. Besides, the drainage-tube was so serviceable for detecting hemorrhage.

Dr. Mundé said it seemed to him that the reason of Mr. Tait's success lay in the rapidity with which he operated, the extreme cleanliness which he observed, and opening the cavity with a small opening just sufficient to admit two fingers. Under such dexterous operating he was unable to see how any germs could get into the peritoneal cavity. Perhaps his success in other fields was not so much greater than that of others; but in his own operation he had surpassed by far all others, and Dr. Mundé could not help believing that Mr. Tait was so successful chiefly because he did so little injury in the peritoneal cavity.

He regarded purgatives as very good, given at the proper time, but he did not believe that they could be called an antiseptic measure. He did not believe that

GERMS ARE CARRIED OFF IN THIS MANNER.

He always felt, when he had put in a drainage-tube, that he had added another element of danger, although in proper cases it was a necessary and inevitable evil, and in cases of doubt he would introduce a drainage-tube.

Dr. Weir thought that the real question was to explain the success of Mr. Tait in *preventing the extension of septic infection*. He also, in common with others, believed that dexterity had much to do with the success of Mr. Tait; but, at the same time, it must not be overlooked that he was cleanly to the last degree, that he was practising what later observations had shown to be very good *antiseptic* treatment, and that he himself guards his sponges very closely. But when Dr. Weir saw him pour, from a pitcher, water into the abdominal cavity, he was unable to explain how germs were excluded. But it was doubtless true that not every germ that entered a wound created a disturbance; that

AN APPRECIABLE QUANTITY OF GERMS IS REQUIRED TO PRODUCE SUPPURATIVE ACTION.

These facts enabled him to get at something of the reasons of Mr. Tait's success. Another point was that he was not only dexterous in operating, but he was also wonderfully expert in meeting emergencies.

Dr. Wylie said that, looking at the question from his own stand-point, he thought that Mr. Tait and Mr. Bantock used antiseptics almost as completely as either he or anyone present did. Above all, Mr. Tait succeeded because he had a large brain. But with that he took the greatest pains not only to keep his house clean, but the body and bed-linen of his nurses and patients clean, and his beds could be said to be almost literally a Lister dressing. There was asepsis, if not antisepsis, and practically they both "got there just the same."

Dr. Biggs thought that Dr. Morris was wrong in his premises in the assumption that Mr. Tait has to deal with septic infection under the circumstances mentioned. He believed that all workers in bacteriology appreciated the fact that in the atmosphere of most rooms there were germs, but that they were of little danger, and that even in hospitals there was but little danger of germs entering the operation-wound when proper precautions were exercised. Watson Cheyne had shown that certainly the production of disease was in direct proportion to the number of germs introduced. But the absorbing power of the peritoneum was so great, and the surface was so large, that the number of germs that affected it was comparatively small. And the number of germs introduced by pouring in water, even though it be not sterilized, was very inconsiderable indeed. Boiling rendered water perfectly aseptic, and if continued long enough would kill all the spores. A comparatively large quantity of germs was required to produce even such a disease as erysipelas. As regards

THE ACTION OF PURGATIVES AS ANTISEPTICS,

it seemed to him questionable whether purgation would carry off germs.

Dr. J. E. Weeks expressed the belief that Mr. Tait's methods were essentially antiseptic. In water the number of germs was very slight, and, according to his observations, a large number of micro-organisms were required to begin the suppurative process. He believed that but very little of the good effect produced by purgatives could be ascribed to their power to carry off germs.

Dr. Morris, in closing the discussion, said several had remarked that purgatives could not carry off germs, and that they simply acted upon the emunctories. That was the point which he wished to make, namely, that bacteria were eliminated by the emunctories, and that these were stimulated by purgatives.

True it was that a certain number of bacteria were required to produce suppuration, etc., and the peritoneum could effectually rid itself of a large number, but that they were of importance could be made apparent by the fact that the same number when put into the knee-joint would probably kill the patient or necessitate amputation.

The Section then adjourned.

Digitaline in France and in Germany.—Physically and chemically (1) all the French crystallized digitalines are nearly identical; (2) Homolle and Quévenne's digitaline and the Codex amorphous digitaline are very nearly identical with the German *digitoxine;* (3) German digitalines are quite different from the French. Toxically (1) the crystallized digitalines—either Nativelle's, Homolle and Quévenne's, or Duquesnel's—are substantially alike, from two to three centigrammes being sufficient to kill a dog weighing twelve to fifteen kilogrammes; (2) the amorphous French digitalines—Codex chloroformic, Homolle and Quévenne's, etc.—have very sensibly the same toxic power; (3) the product sold in Germany under the name of digitoxine, and considered there the most active principle in digitalis, possesses about the same toxicity as crystallized digitalines. Two things at least seem clear from M. Lafon's investigations, namely, that German digitoxine and French digitaline are substantially identical, and that German digitaline is a product quite different from either.—*Therapeutic Gazette.*

AMERICAN SURGICAL ASSOCIATION.

Annual Meeting, held in Washington, D. C., May 11, 12, 13, *and* 14, 1887.

(Concluded from page 620.)

Friday, May 13th—Third Day—Morning Session.

OFFICERS FOR ENSUING YEAR.

President—Dr. D. Hayes Agnew, of Philadelphia.

Vice-Presidents—Dr. N. Senn, of Milwaukee; and Dr. F. S. Dennis, of New York.

Secretary—Dr. Jacob R. Weist, of Richmond, Ind.

Treasurer—Dr. Phineas S. Conner, of Cincinnati, O.

Recorder—Dr. J. Ewing Mears, of Philadelphia, Pa.

Council—Drs. J. S. Billings, L. McLane Tiffany, Moses Gunn, and R. A. Kinloch.

Chairman of Committee of Arrangements—Dr. John S. Billings, of Washington.

The following were elected to membership: Drs. Charles B. Porter and Morris H. Richardson, of Boston, Mass.; and Dr. William M. Masten, of Mobile, Ala.

The next meeting was to be held at the call of the President.

Dr. L. McLane Tiffany, of Baltimore, read a paper on

SURGICAL DISEASES OF THE WHITE AND COLORED RACES COMPARED.

The paper was based on the record of 4,930 cases, studied during a period of thirty-four months in a general hospital. The percentages of the affections were given in detail. The paper was simply intended as a preliminary communication, and, as a result of a study of the figures obtained, the following suggestions were made:

1. Surgical affections follow different courses in the white and colored races, under identical hygienic surroundings.

2. Surgical injuries and operations are better borne by negroes than by whites.

3. Surgical diseases involving the lymphatic system, especially tubercular, are more fatal and more rapidly fatal in negroes than whites.

4. Congenital deformities are rarer in negroes than in whites.

5. The surgical differences observed in whites and negroes are due to racial peculiarities.

DISCUSSION.

Dr. W. T. Briggs, of Nashville, Tenn., considered negroes very prone to suppuration. Negroes bear operations better than whites, but they do not get well so rapidly. While malformations are less frequent, still they do occur. The rarity of hydrocele in the hospital records may be explained by the fact that negroes do not usually seek advice until the tumor has become so large as to give rise to much inconvenience. Fibroids and fibrocystoma are very common in the negro. Ovarian tumor is rare, although he had seen one case in which the tumor weighed one hundred pounds.

Dr. D. W. Yandell, of Louisville, Ky., agreed with Dr. Briggs in his remarks. He had seen many cases of keloid in the negro, but had not seen a case in the white subject. He had seen but two cases of hydrocele in the negro, and never saw hare-lip in the negro. He had seen but two ovarian tumors in the negro. Epilepsy is exceedingly rare in the negro. I never saw a case of internal hemorrhoids in the negro. Tetanus is exceedingly common, especially in the black race. Stricture of the urethra is exceedingly common among negroes.

Dr. R. A. Kinloch, of Charleston, S. C., thought that in considering this subject a mistake was made in classing all negroes together. He thought that in the pure negro suppuration is less likely to occur than in the white race. As a rule, the pure negro is not strumous. Mulattoes are, as a rule, strumous. The pure negro bears operation well and recovers promptly.

Dr. B. A. Watson, of Jersey City, N. J., read a paper entitled

AN EXPERIMENTAL STUDY OF THE EFFECTS OF PUNCTURE OF THE HEART IN CASES OF CHLOROFORM NARCOSIS.

The investigation of this subject was suggested to him by the following occurrence: On February 20, 1887, he had killed with chloroform a dog. The abdominal and thoracic cavities were opened about four minutes after the heart had ceased to beat. The assistant seized the heart with his thumb and forefinger, and the pulsations at once began, the contractions became full and regular, and continued three minutes. They were again stimulated by a second touch, action continuing two minutes. They were started a third time and continued to beat one-half minute. This observation suggested the possibility of arousing the heart into action even after entire cessation of its movements, by the introduction of a needle into the organ.

The results of sixty experiments on dogs were given in detail. The experiment consisted briefly in producing death by chloroform inhalation, and then within from one to three or four minutes an aspirating needle was introduced into the heart through the chest-wall, the attempt being to reach the right ventricle. In the first fifty cases the chloroform was administered rapidly, and air was excluded as far as was possible. In the last ten the chloroform was administered slowly and with a large proportion of air. The first forty animals had already suffered some severe traumatic injury, while the last twenty were perfectly healthy animals. The punctures made in these sixty experiments were as follows: Right ventricle, 38; left ventricle, 6; right auricle, 6; superior vena cava, 3; inferior vena cava, 2; apex of the heart, 2; and not stated, 1. The resuscitations were as follows: After puncture of the right ventricle, 9; right auricle 1. The first forty experiments gave only four recoveries, while the last twenty gave six. In only one of the sixty cases did the heart fail to respond to puncture, and in this instance the use of the needle was postponed for four minutes after the cessation of the heart's action, and one minute after breathing had stopped.

In chloroform narcosis the heart is found in diastole, and the veins in the lungs are greatly distended with blood. It may therefore, theoretically, be assumed that blood may be advantageously drawn from the right side of the heart. The author was assured that this procedure was practical and advantageous.

The only deaths during these experiments which could be attributed directly to the puncture were those in which the needle penetrated the vena cava. In these cases there was profuse hemorrhage into the thoracic cavity. Punctures made into the auricle are sometimes followed by a flow of blood into the pericardium. Punctures into the ventricle are not attended with any hemorrhage from the interior of the organ, but there may be a few drops of blood from a wounded cardiac vein.

The following conclusions were reached:

First, puncture of the heart, especially of the right ventricle, stimulates muscular contractions, and may be advantageously applied in the treatment of chloroform narcosis.

Secondly, the best results are obtained when abstraction of blood from the cavity of the ventricle is combined with the stimulating effects produced by the entrance of the aspirator-needle.

Thirdly, the puncture of the right ventricle is a safer and more efficient operative procedure than the puncture of the left ventricle.

DISCUSSION.

Dr. N. Dandridge, of Cincinnati, said that we should be careful how we apply the deductions from these experiments to the human being. The conditions under which the experiments were made were different from those under which accidents usually occur in human beings. In the latter case the accident usually occurs after only a small quantity has been taken, and often early in its administration. In the experiments reported puncture was resorted to within one or two minutes after the cessation of the heart's action. In the accidents with chloroform it is not uncommon to have recovery after apparent cessation of the heart's action for a comparatively longer period. A large number of experiments are required to test the relative value of this procedure as compared with artificial respiration, the use of nitrite of amyl, and particularly with the subcutaneous injection of atropia. This latter can always be done quickly, and has a stimulating effect upon the cardiac and respiratory centres.

Dr. L. McLane Tiffany, of Baltimore, remarked that there are two points in which these experiments are open to criticism. It is well known that on dogs chloroform acts in a very uncertain manner. It is not safe to make deductions from the dog to the human being under these circumstances. In the second place, it is not well to make experiments in the laboratory and then advise others to try them on the human subject. The experimenter should test the experiments on the human subject before he recommends the procedure to others.

Dr. R. A. Kinloch, of Charleston, reported a case of chloroform narcosis in which heart-puncture was tried, but without the slightest benefit.

Dr. T. J. Dunott, of Harrisburg, described a case in which the heart was twice punctured with an aspirator-needle and blood drawn from the cavity of the heart. It was a case of dilatation of the heart, with general dropsy, etc. The operation was performed by a homœopathic practitioner under the idea that he was dealing with a case of dropsy of the pericardium. A large quantity of blood was removed, and for a time there was improvement. The symptoms again returned and the operation was repeated, with a fatal result.

Dr. B. A. Watson, of Jersey City, said, with reference to the action of chloroform on the dog, he was well aware of the uncertainty of its action; but this is all against the dog. Where he had attempted to continue the anæsthetic action of chloroform on dogs for two hours, he lost one-half of the animals.

The committee to which was referred the suggestions contained in the President's address reported that in view of the satisfactory manner in which the work of the present meeting had been prepared, it saw no reason for a change, and did not recommend the appointment of a business committee. It recommended the adoption of the second suggestion with reference to the length of the papers. With reference to the abrogation of Article 9 of the Constitution, the committee was in accord with the President, but as this article had been introduced at the express desire of the first President of the Association, it was recommended that it be allowed to remain. The committee recommended the adoption of the suggestion that applications for membership lie over for one year.

Adjourned.

AFTERNOON SESSION.

Dr. T. J. Dunott, of Harrisburg, read a paper on

HYPERTROPHY OF THE TONGUE, OTHERWISE KNOWN AS LINGUA VITULI, LINGUA PROPENDULÆ, AND MACROGLOSSA.

This affection of the tongue, although rare, is mentioned by nearly all surgeons of large experience. The case described by the speaker was that of a girl, twelve years of age, admitted to the Harrisburg Hospital, January 6, 1886. The tongue protruded from the mouth a distance of three and five-eighths inches. The lips were greatly distended and the angles of the mouth not far removed from the external opening of the auditory canal.

The greatest width of the tongue was four and three-quarters inches, and the greatest circumference nine and three-quarters inches. The prolapse of the tongue was only of two months' duration, and had begun without apparent cause. The measurements taken one week after admission showed a decided increase in the size of the tongue. The tongue was removed, February 19th. After providing against hemorrhage the organ was removed with scalpel and scissors, the section being so made as to secure a conical stump. All the dense fibro-mass was taken away, the weight of the removed portion being over ten ounces. By January 31st the stump was entirely healed. There was no difficulty in keeping the mouth closed. When heard from, March 23d, she could eat and drink without difficulty and was gaining flesh rapidly. The paper was concluded with an account of the various operations which had been practised for the removal of the tongue.

Dr. L. McLane Tiffany, of Baltimore, reported the case of a negro girl, five years of age, who had suffered with hypertrophy of the tongue dating from birth. The tongue was removed with the Paquelin cautery. Within a week the patient was eating meat, and left the hospital ten days after operation. At this time there was a healthy, granulating surface.

Dr. J. Ford Thompson, of Washington, presented the history of

TWO CASES OF VAGINAL HYSTERECTOMY.

Case I.—Mrs. A. E——, forty-five years of age, white, was seen in April, 1885, suffering with malignant disease of the uterus. There was great destruction of the cervix, the ulceration extending above the internal os. On consultation it was decided to avoid hysterectomy if possible, but to limit the operation to amputation of the cervix, with scraping, etc. During the operation the peritoneal cavity was opened. It was then decided to extirpate the uterus. The womb was separated from the bladder in front. A ligature was then placed around each broad ligament and tied. The uterus was then split in two. Each half was then brought down, the broad ligaments tied above the temporary ligatures, and the uterus removed. After thorough cleansing the vagina was lightly packed with iodoform gauze. At the end of the operation the patient was very weak, and notwithstanding all efforts died in the course of twenty-four hours.

Case II.—Mrs. H——, white, fifty-five years of age, came under observation, with cancer of the cervix, in January, 1887. The posterior lip of the cervix was almost entirely destroyed and the disease had encroached upon the posterior cul-de-sac. The cervical canal was involved at least as high as the internal os. The operation was performed, February 28, 1887, antiseptic precautions being adopted throughout. The dissection was begun at the posterior part and carried around the cervix. A silk ligature was passed with a long, curved needle through the lateral vaginal vault of either side and tied. The enclosed portion was then cut from the uterus. These ligatures presumably enclosed the uterine arteries and the lower part of the broad ligament. The uterus was then separated from the bladder in front and a loop of silk was attached to the peritoneum. The posterior cul-de-sac was treated in the same way. The uterus was then tilted through the opening, and the broad ligaments transfixed and tied. There was no loss of blood. The peritoneal flaps were then brought together with two catgut sutures, and a drainage-tube introduced into each angle of the wound. The vagina was packed with iodoform gauze. The patient recovered without any unpleasant symptoms.

Reference was then made to the history of the operation and the various methods of performing it were described.

DISCUSSION.

Dr. T. R. Varrick, of Jersey City, said that it is a question to be yet determined whether such operations as this are likely to mitigate suffering or prolong life beyond the average duration of the disease if left to take its course without interference. Any operation or method of treatment whose record does not show a prolongation of life beyond the utmost limit of the duration of the disease if left to itself is useless and should be avoided.

Dr. T. F. Prewitt thoroughly agreed with the author that extirpation of the uterus is a justifiable operation, and was almost prepared to go further and say that on the earliest appearance of epithelioma of the cervix the whole organ should be extirpated. He believed that ultimately this will be the course adopted.

Dr. E. H. Gregory, of St. Louis, said that he should no more think of removing the entire uterus for epithelioma of the cervix than he should think of removing the whole lip for limited epithelioma of that part. He thought that the surgery of the lips and the surgery of the jaws is applicable to the uterus.

Dr. T. G. Richardson, of New Orleans, presented the history of a case of

ANEURISM OF THE LEFT SUBCLAVIAN ARTERY FOR THE CURE OF WHICH THREE METHODS OF TREATMENT WERE EMPLOYED—DEATH.

The patient, a healthy, muscular Irish laborer, came under observation, October 19, 1885. Aneurism of the left subclavian artery was diagnosed. The patient had suffered with syphilis and constitutional measures were first tried. Iodide of potassium in fifteen or twenty-grain doses was given three times a day. At the end of a week, no perceptible effect being observed, it was discontinued. Direct pressure was next tried; an elastic band with a compress over the vessel was secured to a belt around the waist. This was continued a month, and although it slightly retarded the growth of the swelling it had had no decided result. The third method, the introduction of surgical pins, was next resorted to. Nineteen of these, measuring an inch and a half in length, were passed through the anterior wall of the tumor at different places. The aneurism was still growing rapidly, and all the pins that could be reached were withdrawn. Some of them had disappeared on account of the swelling which had taken place. An attempt was then made to ligate the axillary artery, but in spite of the utmost care the lower portion of the aneurism was ruptured in the progress of the operation. The wound was at once packed with lint dipped in Monsel's solution. The hemorrhage having been stopped, half a drachm of a five per cent. solution of perchloride of iron was injected into the centre of the tumor. At the end of twenty-four hours, no coagulation having taken place, a second injection of twice the strength was employed. The next morning there was an exhausting hemorrhage, ending fatally in a few hours.

Dr. T. G. Richardson, of New Orleans, related a case of

FEMORAL ANEURISM CURED BY ELEVATION AND FLEXION OF THE LIMB.

The patient, an Italian, aged fifty-five, was admitted to the hospital, December 11, 1886, with a large aneurism of the femoral artery, four inches below the femoral arch. While the case was being studied the limb was flexed at a right angle at the hip and knee and suspended on a Smith's anterior splint. The next day the pulsation was greatly reduced and the patient was quite comfortable. The treatment was continued, and at the end of the third day the tumor was solid. The limb was kept in this position for ten days or two weeks. The patient was discharged cured one week later. The speaker called attention to the fact that there was no direct pressure upon the tumor and that the result was due entirely to flexion and suspension of the limb.

Dr. David Prince, of Jacksonville, Ill., read a paper entitled

WOUNDS—THEIR ASEPTIC AND ANTISEPTIC TREATMENT.

After referring in general terms to the methods in use for the prevention of contamination of wounds, the speaker described an operating-room which he had devised, the object of which was to prevent the entrance of infecting principles. All the air entering this room is filtered through successive layers of cotton. The air is heated by means of gas-burners, and to prevent drying of the wound steam is permitted to enter with the air.

Dr. James McCann, of Pittsburg, read a paper on

SPLENOTOMY.

The paper was the description of a case in which removal of the spleen had been practised, with recovery of the patient.

A paper entitled, "The Study of the Methods of Operation practised and of the Results obtained in the Treatment of Cleft of the Hard and Soft Palates, illustrated by the Record of Fifty Cases," by Dr. J. Ewing Mears, of Philadelphia, was read by title.

A vote of thanks was then extended to the Surgeon-General for the use of the room, to the Cosmos Club for courtesies extended, and to the officers of the Association for the efficient manner in which the proceedings had been conducted.

The Association then adjourned, to meet at the call of the President.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Ninth Annual Congress, held in New York, May 26, 27, and 28, 1887.

Thursday, May 26th—First Day—Morning Session.

The Association met in the Hall of the Academy of Medicine, and was called to order at ten o'clock by the President, Dr. E. Fletcher Ingals, of Chicago.

The roll was called by the Secretary, Dr. D. Bryson Delavan, of New York.

Dr. Ethelbert Carroll Morgan, of Washington, first Vice-President, and Dr. John Nolan Mackenzie, of Baltimore, second Vice-President, were present and occupied seats upon the platform.

MEMBERS IN ATTENDANCE THE FIRST DAY:

Drs. M. J. Asch, of New York; S. H. Chapman, of New Haven; J. Solis Cohen, of Philadelphia; T. A. De Blois, of Boston; D. B. Delavan, of New York; F. Donaldson, Jr., of Baltimore; W. C. Glasgow, of St. Louis; J. H. Hartman, of Baltimore; F. H. Hooper, of Boston; E. F. Ingals, of Chicago; F. L. Ives, of Chicago; W. C. Jarvis, of New York; C. H. Knight, of New York; F. I. Knight, of Boston; S. W. Langmaid, of Boston; G. M. Lefferts, of New York; R. P. Lincoln, of New York; A. W. MacCoy, of Philadelphia; J. N. Mackenzie, of Baltimore; E. C. Morgan, of Washington; C. C. Rice, of New York; B. Robinson, of New York; J. O. Roe, of Rochester, N. Y.; C. E. Sajous, of Philadelphia; C. Seiler, of Philadelphia; B. F. Westbrook, of Brooklyn; E. Holden, of Newark, N. J.; U. G. Hitchcock, of New York; T. R. French, of Brooklyn; and W. F. Duncan, of New York.

The President then delivered the

ANNUAL ADDRESS,

in which he invited the profession of this city to attend the meeting of the Association, returned his thanks for the honor conferred upon him in electing him as the presiding officer, and then referred to the sources of congratulation for the Association. There had been no estrangement from the general profession, and the fraternal feeling had grown stronger and stronger. One source of special congratulation was the good judgment, the zeal, and the untiring energy of the Secretary in his general work, and in his special arrangements for the present meeting.

Dr. Ingals was favorably impressed with the completed arrangements for holding triennial meetings in Washington, as a part of the Congress of American Physicians and Surgeons, and believed that the meetings would be most satisfactory and useful. He then discussed the question of increasing the limitation of membership, the time and place of holding the annual meetings, and the manner of publishing their transactions, believing that the present plan was as satisfactory as could be adopted. He then closed his address with the reading of a paper on

INTUBATION OF THE LARYNX,

in which he referred to the history of the operation, the varieties of instruments that had been used, and then gave the histories of a few illustrative cases, in which was made apparent the rules for *after-treatment* if the best results would be obtained:

First, prohibit all fluids, except by enemata; *second*, give some preparation of mercury in comparatively large and frequent doses; and *third*, in case of the development of bronchitis or pneumonia, give respiratory and cardiac stimulants.

Dr. Ingals then gave a summary of 514 cases which he had collected. Of these there were 134 recoveries; and of these patients many were under three years of age, of which many recovered. Of 52 cases treated by Waxham, of Chicago, in which the patients were under three years of age, twenty-five per cent. recovered, which is a remarkably good showing.

A general conclusion from this *résumé* was that most of those who recovered after intubation must have perished but for the new method, and he felt confident that the percentage of recoveries would be much greater when more care was exercised with reference specially to after-treatment.

According to Dr. Ingals' experience, the O'Dwyer gag was too small, and he had employed Goodwillie's gag, with the additional precaution of wearing a broad steel band around the finger. The operator should be prepared to perform tracheotomy if membrane is pushed before the tube, and also if intubation fails to afford relief.

Intubation can be quickly and easily performed, the parents consenting; no tedious after-treatment is required, and the results, so far, are as good as those of tracheotomy in all ages, and better than from tracheotomy in children under three years of age. A special compliment was paid to Dr. O'Dwyer for his untiring perseverance in his work, and to Dr. Waxham, of Chicago.

Dr. Charles E. Sajous, of Philadelphia, then read a paper entitled

A NEW METHOD OF INTUBATION OF THE LARYNX,

in which he described and demonstrated instruments that he had used on the cadaver, designed to overcome the following objections to intubation: (1) Obstruction of the tube by fragments of membrane; (2) crowding down of loose membrane; (3) passage of food through the tube into the trachea; (4) momentary arrest of respiration; (5) liability to cough the tube out; and (6) slipping of the tube into the trachea.

The advantages claimed for his instruments were that they gave almost the same breathing space as does the normal larynx; that by their comparative shortness they reduced greatly the danger of crowding down the membrane; that the light weight and the shape of the head-piece avoids interference with deglutition, and that the valves enable the patient to breathe freely; that it cannot be coughed out; and that it is almost impossible to force it into the trachea.

The papers were discussed by Dr. Hooper, of Boston, who gave the record of ten cases of intubation in the Boston City Hospital, with two recoveries. In all the cases the relief from the dyspnœa was immediate.

The tubes were coughed up and swallowed in three cases. There was no trouble in feeding the patients, and no difficulty in extracting the tube. In all kinds of cases there had been twenty-eight per cent. of recoveries from tracheotomy in the same hospital.

Dr. Delavan, of New York, spoke of the advantage of feeding by means of a small stomach-tube, and thought that by it the difficulty of feeding after intubation might be largely overcome.

Dr. Asch, of New York, thought that the liability of the false membrane to be crowded down was difficult to be relieved, even by tracheotomy, and that the difficulty of removing the tubes by the general practitioner was worthy of special consideration.

The discussion was continued by Dr. Woodbridge, of Brooklyn; and by Dr. J. Solis-Cohen, of Philadelphia, who regarded it as important to have the patient watched after intubation, and that the difficulty of giving the patients fluids should never be lost sight of. As to the new instruments exhibited by Dr. Sajous, while he did not wish to discourage any effort in the way of improvement, he had seen so many appliances which could be easily used upon the dead body, but which were perfectly impracticable upon the living subject, that he had rather withhold any opinion concerning them until he had found that the device had been used successfully in actual practice.

The discussion was continued by Dr. Chapman, of New Haven, and was closed by the authors of the papers.

Dr. J. Solis-Cohen, of Philadelphia, then described

A MODIFIED LARYNGECTOMY,

by which the entire respiratory portion of the larynx could be removed, and the greater portion of the thyroid cartilages left undisturbed to perform their function as shields. It was applicable to unilateral as well as to the bilateral procedure, and in devising the operation he had been greatly assisted by Dr. Martin, of Philadelphia. The advantages claimed for it were: (1) Rapidity with which it could be performed with comparative safety to the patient; (2) small size of the wound; (3) preservation of the attachment of the thyroid and hyoid ligaments and the several muscles; (4) retention of the functional structures for deglutition; and (5) leaving a firm, natural support for the adjustment of artificial substitutes for the larynx.

NEW INSTRUMENTS.

Dr. DeBlois, of Boston, exhibited a bag with a compartment containing a tank and compression-gauge.

Dr. Morgan, of Washington, D. C., exhibited a universal powder-blower, and also a modification of his uvula hæmostatic clamp.

Dr. Allen, of New York, by invitation, exhibited a laryngeal snare that worked on the lever principle.

The President then appointed the following

COMMITTEES:

Committee on Nomination.—Drs. B. Robinson, of New York; W. C. Glasgow, of St. Louis; and S. H. Chapman, of New Haven.

Auditing Committee.—Drs. Morris J. Asch, of New York; B. F. Westbrook, of Brooklyn; and J. O. Roe, of Rochester.

The Association then adjourned to meet at 3 P.M.

Dr. R. P. Lincoln, of New York, gave the Association an elegant luncheon.

AFTERNOON SESSION.

The Association was called to order by the President, and

Dr. John N. Mackenzie, of Baltimore, read a paper entitled

THE PATHOLOGICAL NASAL REFLEX,

in which he gave a concise and interesting review of the history of the subject as far back as to Galen. Centuries ago cases were reported in which the symptoms, alleged causes, and treatment were very similar to many that have been reported in modern times.

Dr. John O. Roe, of Rochester, then read a paper on

HAY FEVER,

in which he gave an analysis of his cases, together with the results of treatment. His conclusions sustained, substantially, the views which he expressed in 1883, after Dr. Daly had made known that the disease was due in many cases to abnormal conditions existing within the nasal cavities. He has treated forty-two cases, and from the results obtained in their treatment he concludes that the nasal passages must be restored to their natural condition by removal of redundant tissue and destruction of sensitive areas. The indiscriminate use of the galvanocautery was condemned, although it was of great value when properly used, and perhaps chromic acid was the best for destroying the sensitive areas. His conclusions were:

First.—That all cases of hay fever have their initial lesion in a diseased condition of the nasal fossa.

Second.—That disease of these tissues is reflected to other tissues.

Third.—That sensitive areas of the nose are not confined to any particular locality.

Fourth.—That the direction in which the irritation is reflected is always in the line of least resistance, in one direction at one time and in another at other times.

Fifth.—That disease of the nose may produce disease in other parts of the respiratory tract, which may become an independent source of irritation.

Sixth.—That hay fever is due to the effect of local irritation brought in contact with the sensitive regions of the air-passages.

Seventh.—That the disease is not, *per se*, a neurotic disease, nor is a neurotic condition necessary to render patients sufficiently sensitive to local irritation of the air-passages, and it is not necessarily associated with the nervous development.

Eighth.—That the neurotic condition is often developed as the result of the local irritation.

Ninth.—That by careful and judicious treatment of the disease of the nasal tissues and that of other portions of the respiratory passages below and secondarily affected, and by combining with such treatment the systemic medication that may be necessary to remove the general derangement, we need not fail to cure hay fever.

Dr. Sajous, of Philadelphia, believed that superficial organic alteration is of only temporary benefit.

Dr. Mackenzie, of Baltimore, regards the disease as a neurosis, and has had better results when treating it on that basis than when treating it by local means. When he resorts to operative interference he adopts the stellate incision of the tissue in preference to its destruction or removal.

The discussion was continued by Drs. Knight, of Boston; Glasgow, of St. Louis; Holden, of Newark; MacCoy, of Philadelphia; Hooper, of Boston; and Solis-Cohen, of Philadelphia, who said that he was glad to see that the pendulum was again veering toward the right, as it would seem from the tenor of the discussion. He believed that the more the affection was regarded as constitutional, and the less it was regarded as local, the nearer we should get to the truth.

Dr. Glasgow had cured cases by making applications to the larynx alone, and he believed that the mucous membrane of the entire respiratory tract should enter into consideration in the study of this subject.

The discussion was closed by Dr. Roe, who said that Dr. Mackenzie was too sweeping in his statement that all reflected nasal disorders are hay fever, and the same was true of asthma as referred to by Dr. Glasgow. He had been unable to find any evidence that the disease is a neurosis, although a neurotic subject may be more sus-

ceptible to the local irritation which may cause hay fever.

Dr. D. Bryson Delavan, of New York, read a paper on

THE TREATMENT OF ATROPHIC RHINITIS BY APPLICATIONS OF THE GALVANIC CURRENT.

The object of the paper was to bespeak for Dr. Shurly's method, presented to the Association at a previous meeting, a more extensive trial than it has heretofore received. The method consists in applying the positive pole of the constant-current battery to the nape of the neck, and the negative pole directly to the nasal mucous membrane. The chief objection is the time required to carry out the treatment. The electrode which Dr. Delavan employs is of the simplest kind, consisting merely of a piece of copper wire bent to suit the passage and properly protected.

Dr. De Blois, of Boston, had adopted the method with good results in some cases.

The discussion was continued, and turned upon the value of Gottstein's plug, and the weight of opinion was about evenly divided, perhaps with the balance against using any plugs whatever in the nostrils.

Dr. S. H. Chapman, of New Haven, read a paper on

MYALGIA OF THE PHARYNX AND LARYNX.

The laryngeal is less frequent than pharyngeal. It is a muscular and not a sensory affection, and the patients do not show any evidence of disturbance of the general condition. Local treatment has been of no service.

Dr. Frederick I. Knight, of Boston, then opened a discussion on the

SENSORY AFFECTIONS OF THE THROAT.

His experience had been chiefly with hyperæsthesia and paræsthesia. It is important to consider the general condition of the patient in treating these conditions.

Dr. Mackenzie, of Baltimore, insisted on constitutional treatment.

Dr. Jarvis, of New York, spoke of psychical and constitutional causes behind the local affections.

Dr. Sajous, of Philadelphia, had relieved one patient only by local treatment.

Dr. Glasgow, of St. Louis, had seen the cases associated with diatheses, and also inflamed follicles.

The Association then adjourned to meet at 11 A.M. on Friday.

(To be continued.)

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 22 to May 28, 1887.

Hubbard, V. B., Major and Surgeon. Granted leave of absence for one month, to take effect on or about June 1, 1887. S. O. 119, A. G. O., May 24, 1887.

Elbrey, F. W., Captain and Assistant Surgeon. Found incapacitated for active service by an Army Retiring Board; sick leave still further extended until further orders, on account of disability. S. O. 116, A. G. O., May 20, 1887.

Burton, H. G., Captain and Assistant Surgeon. Granted two months' leave of absence on surgeon's certificate of disability. S. O. 107, Division of the Atlantic, May 25, 1887.

Official List of Changes in the Medical Corps of the United States Navy for the week ending May 28, 1887.

Deane, C. W., Passed Assistant Surgeon. Detached from the Dale and ordered to Hospital, Mare Island.

Harvey, H. P., Surgeon. Orders to Iroquois revoked and wait orders.

Dickson, S. H., Passed Assistant Surgeon. Detached from Navy Yard, Washington, D. C., and ordered to the Dale.

Waggener, J. R., Surgeon. Detached from the Iroquois and wait orders.

White, S. Stuart, Assistant Surgeon. Ordered to Receiving Ship St. Louis, Navy Yard, League Island.

Field, Dr. James G., of Gordonsville, Va., commissioned Assistant Surgeon in the Navy, May 23, 1887.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending May 28, 1887:

	Cases.	Deaths.
Typhus fever	1	0
Typhoid fever	11	3
Scarlet fever	72	13
Cerebro-spinal meningitis	6	6
Measles	58	6
Diphtheria	116	48
Small-pox	16	4
Yellow fever	0	0

Prognosis in Heart Disease.—Nature's remedy for valvular insufficiency is hypertrophy. We all remember the case of the late Dr. Edgar, of St. Louis, where extensive valvular lesion had been compensated by enormous hypertrophy, and an active life sustained from childhood, when the conditions were first known, to old age. I have the record of a little boy who, suffering from an open foramen ovale, is stronger now in his tenth year than he has been in any previous year.—*Weekly Medical Review.*

Whooping-cough in a Cat.—Mr. O. Bowen, of Liverpool, writes to the *British Medical Journal*: "For the past few weeks I have had under my care a little boy suffering from a more than usually severe attack of whooping-cough, and his mother informs me that for quite a fortnight their cat has had five or six distinct fits of coughing daily, similar in every respect to the boy's, which end after the expectoration of frothy mucus. The cat between the attacks is tolerably bright and active, though not so lively as she formerly was, and has considerably fallen away in condition."

The Causes of Salpingitis.—Dr. Saenger classifies the various forms of inflammation of the Fallopian tubes as follows: I. Forms of salpingitis produced by known specific microbes: (1) Salpingitis gonorrhœica; (2) salpingitis tuberculosa; (3) salpingitis actinomycotica. II. Forms of salpingitis due to specific microbes, identical with those producing traumatic infection: (4) Salpingitis septica. III. Forms of salpingitis produced by specific, but as yet unknown, microbes: (5) Salpingitis syphilitica. Mr. Tait described five causes for salpingitis: (1) Simple catarrh; (2) exanthemata during puberty; (3) gonorrhœal infection; (4) post-puerperal pelvic inflammation; (5) arrested development of the uterus.

Abdominal Wounds.—M. Pozzi communicated to the Chirurgical Society of Paris, at their meeting on December 15th, a case of wounds to the abdominal wall produced by revolver bullets. The patient when seen was vomiting, and passing blood in the urine. Laparotomy was performed; the jejunum and bladder were found to be wounded. The wounded parts were stitched, twenty-nine sutures in all being inserted. The operation lasted two hours and a quarter. The patient died sixty hours after the accident, and fifty-two hours after the operation. —*Medical Press.*

The Medical Record

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Original Articles.

BOXING THE EARS.

BY SAMUEL SEXTON, M.D.,

NEW YORK.

NEARLY all blows upon the side of the head may injure the ear, and thus range themselves under this category. The custom of ear-boxing is of long standing; thus, according to ancient writers, the classical boxer regarded the ear as the most vulnerable part for the infliction of a blow with the deadly cestus. But, later on, early Christianity aimed a blow against this pagan custom, and with unflinching fortitude the non-combatant, when smitten upon one cheek, meekly presented the other to the still persistent advocate of corporal punishment. And it is due to this kindly example that custom no longer sanctions the practice, though the principle upon which it was founded may have been almost forgotten.

But a great amount of heedless and brutal punishment is still inflicted in this way, not only by pugilists and contestants generally, but also by teachers, parents, and others who find that a punch about the ears is generally a painful and most effectual means of chastisement.

Though corporal punishment, in general, is less in vogue than formerly, the writer has found 51 cases among his records, embracing almost every variety both as regards causation and results, where the ear has been injured by blows of the open hand or fist. Viewed from a clinical standpoint, it was found that 31 of these were males, and 20 were females; of the males, 13 were boxed upon the right ear, 13 upon the left, and 3 of them upon both ears. One was kicked by a companion upon the left ear while bathing, and the right ear of 1 was injured by having the head violently squeezed between the hands of another person. Of the females, 14 were struck upon the left ear, and 6 upon the right. Five of the women were assaulted by pugilistic spouses, which may account for the disproportionate injury to the left ear, since this side is most obnoxious to a right-handed blow.

Though evasive and incorrect answers were often given, inquiries elicited the fact, that of the entire number 8 were boxed in play, 4 by rigorous pedagogues, 2 by parental disciplinarians (the number of these, of course, was actually much greater), and 1, a fervent lover, received a chilling, backhanded slap upon the ear from his indignant sweetheart, effectually cooling his ardor as well as upsetting his equilibrium. The facts in this last case, like many others, only came out long after a misleading statement had been first made.

Several cases occurred among pugilists, the left ear being usually struck in cross-counter. Others were due to assaults, brawls, and contests generally.

The writer, in reflecting on this subject, has been puzzled not a little at the comparatively small number of persons coming to our public clinics with aural trouble produced in the manner under consideration. But when it is considered that but few have any idea of the meaning of the disagreeable symptoms caused by concussion of the ear and its consequences, one need no longer wonder that the injured organ receives no attention. Indeed, it can be readily understood that persons rude and thoughtless enough to box the ears of children will neglect them afterward. Thus but six children came expressly for treatment for recent ear-boxing, though a large number coming for other affections of the ear could recall having had it slapped or pulled previously, and having had subsequently severe pain, distressing noises, and vertigo—symptoms enough, truly, to subdue unruly children, or even a prize-fighter, for that matter.

One cannot lay too much stress on the social aspect of this subject, since the medical adviser may be entirely misled in respect to the causation. Deafness itself is not usually a noticeable feature in children, especially so long as one ear is fairly useful; nor is the yet more distressing symptom of autophonia in its various forms. It is only when pain is unendurable, a discharge offensive to others, or instruction difficult, that the conscience-stricken or reticent parent acknowledges the facts on which a correct diagnosis may be made. A striking case in point occurs to the writer. It was that of a youth, eighteen years of age, who was brought to the New York Eye and Ear Infirmary by his mother, on account of an acute purulent inflammation of the middle-ear with suspicious symptoms of intercranial trouble. He gave the history of a running from the affected (right) ear ever since it had been boxed when he was six years of age. The present exacerbation was due to the rapid growth and consequent pressure of a large polypus. He was advised to have the tumor removed and place himself under treatment, but being very nervous and timid, he lacked courage to consent to the operation. Getting temporarily better, he failed to return.

About a year after this, much more serious vertigo, with other brain symptoms, occurred suddenly, and after a brief illness he died in great agony. The autopsy revealed caries of the petrous bone and pachymeningitis. The father of the boy communicated the final result to me, and with much feeling stated that it was he himself who had struck the blow upon the ear which had thus finally resulted in the son's death. Another case was that of a young man, aged twenty-two, whose father had given him a blow upon the left ear six years previously. Severe inflammation of the middle-ear followed, lasting for two years, during which time the air whistled through a perforation in the drumhead whenever he blew his nose. When seen, the drumhead was found thickened, irregular, and otherwise changed almost beyond recognition. Hearing was very much impaired, and for this relief was sought. In yet another instance of this kind the patient, a young man aged twenty, was slapped upon the left ear by his father. There was immediate pain and deafness, followed in a few hours by a watery discharge, which afterward was tinged with blood. When seen at the Infirmary, two days after the boxing, a perforation in the lower segment of the drumhead was giving vent to a free discharge, and the middle-ear inflammation was complicated with a periostitis externa, the mastoid cortex being swollen, red, and tender to the touch. Autophonia, noises in the head, and pain occurred at the beginning, and were very distressing for a long time, recovery not taking place for three months.

The grave consequences of pounding the ear were well shown in a case of a woman, addicted to drink, aged thirty-eight, who was struck violently by a man upon the right ear in an altercation. The immediate result was severe dizziness, and she had to hold on to a stair-railing to keep from falling. Vertiginous symptoms became more severe, and the pain and autophonia with this alarmed her very much. She was taken to a dispensary, where an energetic attendant, feeling that something must

be done, vigorously inflated the ear by Politzer's method, causing extreme pain in the ear, and afterward introduced some irritant medicament on cotton wool with instructions to keep it in the ear. After this the pain became more severe and she came to the Eye and Ear Infirmary, where the drumhead was examined. This was found to be ruptured. An enormous quantity of serous fluid was escaping from the ear, which was believed to consist largely of the water of the labyrinth, thus indicating that the round window had also been ruptured by the blow. She had now become extremely nervous and experienced insane hallucinations, as was confirmed by Dr. Meredith Clymer, who saw the case. She was admitted to the wards of the Infirmary, and purulent inflammation of the middle-ear soon set in. The cerebral symptoms—pain, vertigo, hallucinations, etc.—became more grave. They seemed due in part to the concussion of the blow; Dr. Clymer thought almost exclusively; but on reviewing the case I am convinced that there was also transmission of a septic irritant through the cerebro-spinal fluid into the cranial cavity, inducing leptomeningitis. The patient left the Infirmary, where her presence proved a great inconvenience to others, before she was well, and when last heard from, a month after the injury, had not recovered.

One not uncommon result of a blow or fall on the ear, might as well be mentioned here. A ceruminal plug is sometimes impacted with considerable force against the drumhead in this manner. The contusion causes pain; if the plug lies long in contact with the drumhead inflammation may ensue.

Rupture of the drumhead occurs not so much in consequence of the *force* with which blows are delivered upon the side of the head as from the violence of aërial compression in the external auditory canal. Blows thus causing sudden concussion may come from above or below the ear, or from the front or rear. Occasionally they fall perpendicularly to the external auditory meatus. In the majority of instances, however, compression takes place through the rapid collapse of the outstanding cartilaginous framework down upon the orifice of the canal. Where the canal is large, condensation is much more effective than where it is very narrow. Pugilists and contestants experience repeated ruptures of the drumhead, and examination of the parts will often show very marked deformities. In two cases observed, the patients exhibited rupture of the drumhead in either ear from blows simultaneously inflicted.

Traumatic injury of the mastoid is said to sometimes rupture the drumhead, but in cases of this kind seen by the writer, while having mastoid contusions, they were, on careful inspection, found to also exhibit evidence of blows upon the auricle at the same time. A very gentle slap, it must be remembered, may, under favorable circumstances, rupture the drumhead, especially in elderly people, in whom it is more friable. Obscure head symptoms, which are often experienced after falls or blows upon the side of the head, so slight that injury of the hearing organ has not been suspected, should therefore suggest an examination of this organ. Boxing the ear, moreover, is known to strain or contuse the drumhead without actual rupture.

Symptoms.—Violent concussion of the drum of the ear gives rise to more or less disturbance of its tension. Numbness about the ear and certain acoustic phenomena, as autophonia and tinnitus, are experienced. The patient at first is usually also confused or stunned. The degree of consequent vertiginous phenomena corresponds to the concussive force and the damage done, but of the fifty-one cases herein cited, only one was actually felled by the blow, and none were made unconscious.

Nervous shock or cerebral concussion is not so great as would be expected when it is considered with what force the indriven drumhead acts upon the ossicles. The stapes, however, owing to the peculiar construction of the transmitting mechanism, cannot be driven with undue force into the oval window in which its base is fixed, though the concussive force from without entirely destroys the drumhead. In extremely violent concussions, however, the drumhead does not always offer sufficient resistance to the force of impact to protect the round window from rupture; its excursions under such conditions may at least give rise to labyrinthine concussion. Such cases are, however, extremely rare as a result of a blow of the hand or fist. Ordinarily the disturbance of equilibrium is slight and of brief duration. Occasionally it lasts for days or weeks, and more or less dizziness may be experienced for an indefinite period.

Pain is usually an immediate symptom, though not invariably so; it may commence only as reactive inflammation comes on, that is so say, in a few hours, or as a result of meddlesome treatment. In intensity it varies from slight discomfort to great suffering. Its duration depends on the extent of contusion, subsequent inflammation, and the nervous temperament of the patient.

Deafness in cases of slight injury may be scarcely perceptible. It is rarely very great at the beginning, and, other symptoms causing more distress, it is liable to be overlooked. It is, for the most part, due to consecutive inflammation of the drum, and therefore need not be considered here. A mere slit in the membrana vibrans scarcely impedes its oscillations in a perceptible degree; nor does contusion of the membrana flaccida. Slight inflammation of the mucous lining of the drum, however, causes greater or less deafness.

Various phenomena, both objective and subjective, attend trauma of the drum of the ear. The sudden and violent tension of the transmitting mechanism gives rise to a sound like the twang of a musical chord, or the sound of a vibrating bell or tuning-fork. Rupture of the drumhead announces itself to the patient with an explosive sound like the rupture of a small bladder or the discharge of a gun. Sometimes the ringing and explosive sounds are both of them heard. Subjective noises supervene, common to middle-ear affections.

Autophonia is a very constant symptom. The resonance of the drum, upon which it partly depends, varies with the degree of swelling and the amount of fluid present. When the ear-drum or other localities in the head reached by the air-passages thus becomes resonant to the voice or other sounds the confusion, and even alarm, of some patients is very great. Patients have come to the writer with the statement that their heads were hollow, and felt empty when tapped with the finger.

Numbness.—The sensitive nerves of the temporal region are often found in a hyperæsthetic state, the parts giving rise to "tingling" sensations when touched.

The progress of these cases, of course, varies. In the 51 cases under discussion it was as follows: 7 were unattended with any discharge throughout; 6 had a serous discharge only, and in none of the above were any inflammatory symptoms observed. In 6 cases there was decided inflammation of the drum and swelling of the drumhead, but no discharge. In 25 cases suppurative inflammation of the drum occurred with greater or less severity. In 6 cases the particulars in this regard were not noted.

Perforation whistle may afford the only intimation of rupture of the drumhead, where a slight blow upon the ear has been given. The escape of air on inflation of the drum, however, is not always of a whistling character, since the quality of the sound depends on the size and shape of the vent in the drumhead and the patulency of the Eustachian tube. Any considerable inflammation of the drum, whereby its lining membrane becomes thickened, thus diminishing its cavity and obstructing the air from the Eustachian tube, or an accumulation of secretions, would affect the character of this sound. The difficult escape of air, or its passage along with fluids, gives rise to peculiar noises, very different from the whistling to be heard several yards away when the drum cavity is dry and the opening happens to be of the proper size.

Appearances.—The drumhead is at first congested, the injection being deepest in the membrana flaccida, and usually extending down along the malleus handle where the network composing the malleus plexus of vessels becomes prominent. But this clears up again in a few hours, unless inflammation ensues, and slight vascularity only remains in the edges of any wounds produced by the injury.

Multiple ruptures occur, but generally they are single and situated in the lower segment—most frequently in the posterior portion of this. They vary in size and shape; often they are triangular, a flap being left attached at one of the sides of the defect. Some are straight, some semilunar or variously curved.

The *course* varies. Large and irregular rents are not always attended by displacement, but when the edges do not approximate any loose flap generally sloughs away and leaves an irregular perforation. The edges of perforations, though irregular at first, afterward become more and more smooth as suppuration continues, and the opening may remain permanently. Where there is displacement only, or where the parts are not kept at rest, healing is delayed; but in the more favorable cases it takes place rapidly by primary union. Meddlesome treatment, of course, protracts the case, and if middle-ear inflammation occurs from this or other cause, affairs become complicated. In the greater number of instances spontaneous and complete union may be expected. Suppuration protracts these cases very much, the reproductive process being slow, and opacities, comprising areas of cicatricial tissue of various sizes, remain. If a large area of the drumhead has been lost a manometric cicatrix often develops itself.

The *prognosis* is favorable in most instances; even where there has been suppuration, the drumhead finally heals. The hearing-power is nearly always restored where a mere rupture occurs. Where there has been suppuration of the drum or other complications, hearing will be more or less impaired. Some of the writer's cases were cured in a few days without remaining injury, while others did not recover for as many months. Several protracted cases were seen where, from neglect or maltreatment, the ear had been discharging for a period of ten years or more. In one case this condition had existed for thirty-seven years. In these protracted cases a great loss of hearing-power existed.

The *diagnosis* is not difficult if the ear is examined early enough, or before inflammation has set in. It is well to bear in mind that the slight traction made upon the cartilage of the external ear, necessary on introducing the speculum, may produce congestion of the drumhead, which is thus made more tense. This congestion is indistinguishable from that caused by boxing or pulling the organ. A perfectly normal drumhead may thus be made to appear to have been injured.

Blood or serum, sometimes both, not infrequently trickle from the ear immediately after the drumhead is ruptured, and when the parts are examined soon afterward, traces of this may be seen. Later on inspissated clots only are usually visible. Sometimes they are limited to the line of fissure and aid in retaining its edges in contact. Where the contusion has been great an area of membrane assumes the appearance of a blood-clot, and may slough or remain while reproduction goes on underneath. In some cases the drumhead swells rapidly, all traces of blood-stained fissures and other landmarks being obliterated. In other cases healing is so rapid that nearly all traces disappear in a few days, so that even an expert can discover them with difficulty. When injuries are not seen until swelling has masked the outlines, they will often be found quite distinguishable again after its subsidence.

Ruptures from boxing occur for the most part in the membrana vibrans, while contusions and lacerations from pulling the auricle occur in the membrana flaccida. If not observed for ten days or a fortnight after the injury the slit-like or ragged-edged wound usually assumes a regular ovoidal shape in cases where suppuration takes place.

A differential diagnosis becomes more difficult when inflammation of the drum, from causes other than traumatic, exists before the injury, or arises subsequently.

The escape of air on inflation of the drum is an infallible sign of perforation of the drumhead; it may be detected with the diagnostic tube when the perforation whistle is not well marked.

I have never seen adhesion of the drumhead to the inner wall of the tympanum take place as the result of injury from boxing the ear, though this may occur as a consequence of severe inflammatory action.

Fracture of the malleus handle.—The appearance of the drumhead a few days after traumatic rupture is sometimes suggestive of such an injury, and the first examination is thus often deceptive. In a case of rupture bisecting the drumhead transversely, examined for the first time nine days after the injury, the malleus handle seemed to be fractured at about its middle; but as the swelling subsided it began to appear that no such injury existed.

In comparatively slight swelling the landmarks become indistinct, or even obliterated altogether; but as healing takes place these are again restored. My suspicions in respect to this injury were not in any instance verified.

Treatment.—It is a safe rule to abstain from doing anything. In most of the protracted cases I have seen, there was given a history of meddlesome treatment from the beginning. When intra-tympanal air renewal is active, as shown by oscillatory movements of the drumhead, the patient should be cautioned against inflating the drum voluntarily, but instructed to maintain rest. When its presence is borne, a quantity of boracic acid with calendula may be introduced by means of insufflation. This, when no discharge, or scarcely any, exists, quickly forms itself upon the membrane, preventing undue motion. The presence of inspissated sero-sanguinolent effusion upon the outer surface of the drumhead affords protection and should not be removed by syringing. In the more protracted cases where the powder is not borne, the instillation of succus calendulæ proves gently stimulating to the granulating edges of the wound, and, on drying, forms a thin, protecting film of calendulin over the wound. The most simple case may be aggravated by active management, such as inflation, syringing, the instillation of irritants, and the like. Inflammation of the middle-ear thus set up cannot, however, be considered in this connection.

The medico-legal aspect of boxing the ear.—Claudius, in pouring a "leperous distilment" (juice of hebenon) from a vial "into the porches of his brother's ear," with murderous intent, could not have done the harm that often follows a thoughtless box upon the ear. Thus it has been shown that the functions of this delicate organ may be greatly impaired by a comparatively slight assault.

Redress for assaults of this kind is sometimes sought in the courts of law. In two cases of recent date coming to the writer's knowledge, the plaintiff was successful in both instances. In one of them, Professor Hjalman Hjorth Boyesen, of Columbia College, was sued in the City Court for $5,000 damages.

The suit was brought by a boy through his father, Alfred E. J. Tovey, editor of the *Brewer's Journal*, his guardian *ad litem*, before Judge Hawes and a jury. It was stated that defendant struck the boy, who was then seven years of age, on the head. From the testimony, as reported in the *Times* newspaper of May 6, 1885, it would seem that the boy received a slap with the hand which did not knock him down. The father testified that his son was not deaf prior to the assault, and that he had since been under medical care. It was suggested by the defence, which contended that only a gentle slap had been given, that the trouble might have arisen from

colds, or from having bathed in the sea. A witness testified that the boy went into the water too often, and that he was slightly deaf before the assault.

The jury decided that the defendant must pay $400 damages.

In another case, Marwig *vs.* Davies, large damages were claimed; the case was settled by the defendant consenting to the entry of a judgment. Mr. Newcombe, the plaintiff's counsel in this case, states that the "defendant struck the child—he fell on a rock—producing temporary deafness. Our action was for the assault."

As medical jurists, we must bear in mind that the extent of aural injury, where the patient has been assaulted by a blow upon the side of the head, is not to be measured by the *force* of impact, but rather by the *nature* of the blow. Thus, in one instance the force of a violent assault may expend itself without injury of the hearing-organ, while in another a very slight tap upon the temporal region, by suddenly compressing the air in the external auditory canal, may contuse and rupture the drumhead. It has been said already that a simple rupture should be let alone, since in healthy persons it soon heals. It is the purulent inflammation that ensues in catarrhal subjects, or from mal-treatment, that causes most of the trouble in these cases. In persons with general catarrh of the upper air-tract, traumatic injuries of the ear seem disposed to suppurate. Head catarrh, coming on subsequently to trauma, like injudicious treatment, will generally protract these cases very much.

Where a traumatic wound of the drumhead has in this manner become chronic, so to speak, a diagnosis is difficult. Hence, in order to determine the exact degree of injury from traumatism, an expert examination must be made early. Thus, where an examination has been postponed, the rupture no longer presents a slit-like appearance, but has assumed a more or less ovoidal shape, and cannot now be distinguished from perforations due to chronic purulent inflammation from causes other than traumatic.

It appears to the writer that the assailant is not the only person to be held accountable for the results of injudicious treatment or neglect; for, although the legal rule, in New York at least, as to liability in actions for damages for injuries to the person arising from tortious acts seems to be, that although the original tort-feasor is ordinarily liable only for such consequences as naturally flow from his wrongful act or negligence, and not for those injuries due to an intervening and intelligent cause, still, if a plaintiff, suffering physical harm from the wrongful act or omission of the defendant, calls in good faith such medical attendance as it is reasonable to presume would be competent to effect his cure or restoration to health, and the physician or surgeon, so called, by erroneous treatment causes positive harm, the plaintiff shall nevertheless recover in the action. At the same time, a jury being the arbiter of the measure of damages, it may be less likely that a large verdict would be recovered against the original tort-feasor in many cases than against the physician, if the latter's malpractice could be established; and the plaintiff, having an action against the medical attendant, who is bound to exercise at least the skill and knowledge possessed by the average practitioner of his neighborhood, may often find him a more desirable defendant, especially if pecuniarily responsible, than the original wrong-doer, although the latter may be also responsible at law.

It is important to ascertain if there has been deafness or a discharge from the ear before or at the time of the alleged injury, and if so, whether any increase of the trouble was caused thereby. This is a point concerning which reliable evidence must, in many cases, be entirely wanting or difficult to obtain, since both may exist without the patient's knowledge. Nor is the testimony of others in this regard always competent, for both teachers and parents, where children are concerned, may have no suspicion of deafness where it actually exists, so long as one ear remains sound, or even fairly so. Where the ears have been pulled and boxed repeatedly, some impairment of the organ of hearing is nearly always found, and often very pronounced in degree. But where the injury has been but slight and confined to the drumhead, with rapid recovery, hearing is usually completely restored. In ascertaining the loss of hearing-power the voice is the best test, for the inability to converse is a greater detriment than not to be able to take cognizance of other sounds. Malingering may be resorted to by the complainant, but unless cleverly done is not liable to deceive the expert examiner. This, however, is a device seldom practised unless absolute deafness is claimed, a result seldom following boxing of the ears. Where great deafness is claimed to result from trauma, the drumhead should be carefully examined for evidence of resulting deformity, using if necessary a magnifying lens.

The question of permanent injury from shock is likely to come up in some cases. Everyone knows that falls and blows upon the head often give rise to vertiginous phenomena, but serious labyrinthine concussion as a complication of ear-boxing is comparatively rare, since the concussive force from blows with the hand or fist is broken by the drumhead, thus protecting the round window. Acute inflammation of the middle-ear consequent upon trauma, as from other causes, is very often attended with vertigo. In cases where purulent inflammation of the middle-ear has followed trauma, vertigo, autophonia, and various forms of tinnitus, as well as deafness, may remain permanently. It is well to remember that deafness from chronic catarrh of the middle-ear is much more likely to be found on the left side.

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A PLEA FOR EARLIER OPERATIONS IN PERITYPHLITIC ABSCESSES, WITH A CASE OF LAPAROTOMY FOR PERFORATION OF THE APPENDIX VERMIFORMIS.[1]

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A PHYSICIAN in full general practice soon becomes possessed with the clinical knowledge that the inflammations beginning in the right iliac fossa, which he has been taught to consider as perityphlitic, do not always run the same course. At times beginning with pain of great severity, symptoms of general peritonitis rapidly ensue, which, masking the iliac pain, quickly pass on to a fatal termination in from one to five or six days; or, in lieu of this latter, with almost equally marked constitutional disturbance, the general peritoneal tenderness, while considerable, remains overtopped by the original pain in the right side, and on its subsidence, as time passes, a tumefaction in the iliac fossa is revealed, which, with some recurrence of chills, progresses with fair rapidity toward the surface, and soon shows itself unmistakably as an abscess. However, instead of this form, he may be called to treat a case of fairly sharp pain, infrequent vomiting, and some intestinal distention, but no general abdominal pain nor parietal rigidity, and with easily and early recognized right-sided swelling, which, with the usual symptoms, after a number of days shows itself to be an abscess. Or, finally, he may encounter a patient suffering with pain of a variable character, not always to be distinguished from that of the immediately preceding type, and with this a sensitive swelling is quickly felt, with moderate temperature-elevation, which latter promptly subsides under the use of anodynes, and throughout the course of the trouble but little inflammatory peritoneal symptoms are to be appreciated, though obstructive signs may be present. In this latter case resolution is common.

[1] Read at a meeting of the Practitioners' Society, May 6, 1887.

The explanation of this variation of symptoms is not difficult; the researches of Treves[1] had shown us that the cæcum and its appendix are covered entirely by peritoneum, and that they both are also entirely intra-peritoneal viscera. This is contrary to the usual teaching—which is, that the posterior part of the caput coli is destitute of peritoneal covering, and is attached to the fascia covering the right iliacus muscle by areolar tissue.

Treves, from an examination of one hundred bodies, has found that in every instance the cæcum and appendix has been completely enveloped on all sides by peritoneum, and has been free in the abdominal cavity. Furthermore, there is no such thing as a meso-cæcum. The mesenteric attachment, which is not always met with in the appendix, is derived, evidently or primarily, from the terminal portion of the ileum. The point of the appendix, it is known to all, does not in every case hang down in the pelvis, and as it varies in length, it also varies in position, and can attach itself by slight inflammatory attacks to contiguous organs; but in eighteen per cent., as a normal procedure, it is glued posteriorly, more or less tightly, to the cæcum. These anatomical facts, with the pathological one stated by Fitz,[2] that only three cases of acute primary perforation of the cæcum have been found on record, which statement is confirmed in Matherstock's exhaustive article on perityphlitis, lead directly to the conclusion that the so-called perityphlitic abscesses are due, in the vast majority of instances, to inflammation[3] or perforation of the intra-peritoneal appendix vermiformis.[4] Now this latter, which is the more common lesion, can act in three ways: The opening may allow extravasation of fæces or gas, or of the more infectious products due to necrotic processes (Grawitz), into the peritoneal cavity, with the result of a fulminating peritonitis; or, what is the most common of all the conditions from the lesion in question, the adjacent intestines may become speedily adherent to each other and shut off the inflammatory focus from the rest of the peritoneal cavity, and in this way an intra-peritoneal abscess is formed; and, lastly, by virtue of old or recently formed adhesions of the appendix and cæcum (and this seems to be more common on the posterior surface of the latter) to the parietal peritoneum, the contents of the perforated appendix may enter the sub-peritoneal cellular tissue and there develop a swelling and abscess. These intra-peritoneal abscesses are spoken of by With,[5] who has written most ably on this subject as local appendicular peritonitis, and who met with 16 of this character in 35 personally observed cases. Sands,[6] however, says that he has operated for perityphlitis a great many times, but had never yet found a circumscribed abscess bounded simply by coils of adherent intestine. My own experience is in the reverse direction, for I have, out of six cases of perityphlitis seen in the past year, been able in four instance to recognize toward the median side of the abscess, after it had been opened, the irregular loops of small intestines, which thus proved the intra-peritoneal nature of the abscess. On this point, also, Fitz speaks in no uncertain manner, viz.: "The adherence of coils of intestine to each other and to the abdominal walls favors the accumulation of the exudation in a limited space, and thus the formation of the tumor."

[1] Treves, F.: Lectures on the Anatomy of the Intestinal Canal and Peritoneum in Man, Br. Med. Jour., March 1–21, 1885.

[2] Fitz: Perforating Inflammation of the Vermiform Appendix, Am. Jour. of the Med. Sciences, October, 1886.

[3] With, among others, regards the existence of a primary typhlitis as very doubtful—the group of symptoms attributed to this disease belonging to an intra-peritoneal abscess.

[4] Taft states that, in three hundred personal observations, every third person between the ages of twenty and seventy showed traces of inflammatory trouble, past or present, in the appendix, and that actual ulceration existed in five per cent. of all bodies examined by him. In Noyes' collection of 100 cases of perityphlitic abscess treated by operation (Trans. Med. Soc. R. I., December, 1882), I find, by analysis, that there were 40 cases in which concretions or foreign bodies were found, 14 cases where much air was met with, 45 where pus, more or less fetid, was evacuated, and 1 in which it is not noted. This proves very clearly the fact of perforation being very common.

[5] With, on Peritonitis Appendicularis. London Medical Record.

[6] Sands: Medical News, January 15, 1887.

These remarks of his, it must be recollected, are based upon the careful consideration of 257 cases of perforation of the appendix vermiformis. Again, he says that the more protracted the course of the disease the greater is the probability of the destruction of the peritoneum forming the wall of the abscess. With this perforation of the parietal peritoneum, he adds, purulent and fecal infiltration of the abdominal wall may occur. It is rare, he also further remarks, for the primary swelling to be paracæcal, although this variety occurs where the appendix lies behind the cæcum. This point of the location of the abscess will be of comparatively little importance to those who believe in the dogma, "Ubi pus ibi evacua"—"when pus is found, let it out"—but is of great moment when the advice is listened to of delaying an operation for the relief of a perityphlitic abscess until the twelfth to the eighteenth day,[1] as the risk thus incurred is by no means small. For out of 176 cases given by Fitz, thirty-four per cent., or 59, died during the first five days, and out of the 35 cases observed by With, 12 died in periods of from two to six days; and in children this mortality reaches to the high figure of seventy per cent., and forty-four per cent. die within the first three days, according to Matherstock.[2] Hence the need of early interference to avail anything in such cases.

There is another risk which comes from waiting, which I beg to refer to. It is the bursting of the abscess into the peritoneal cavity and the lighting up of a general, and usually fatal, peritonitis. This happened in one of my earliest cases. Ball, in his able thesis, out of 67 collected instances, found that this occurred eight times. A fit of laughter, in one of With's cases, produced a similar disastrous result. It often occurs on the fourth to the fourteenth day, without the tumor being detected, and took place in 6 of With's 12 fatal cases.

The principal objection that has been raised against the early operative interference, which is the natural deduction from the foregoing statements, is that an iliac incision, made to reach a deep abscess, might involve or open the peritoneum, which then might be contaminated by the evacuated pus; in other words, that the operation itself is unsafe, and, secondly, that, owing to the subsidence of a certain number of iliac swellings, resort to the knife might be unnecessary. As to the risks that may be brought about in operations for the relief of either sub- or intra-peritoneal abscesses, such are frequently and happily overcome by the gynecologists in the treatment of peritoneal abscesses of other causes; and in extirpation of the rectum, with the common opening of the peritoneal cavity, the influence of infectious fæces is easily guarded against. Moreover, it should be proved, which is, however, not done, that this supposed danger is greater than the actual ones already enumerated. Furthermore, as to the subsidence of perityphlitic tumors this is granted, and takes place, too, not infrequently where the abscess is undoubtedly present, as is shown in Ball's cases, where it occurred fifteen times by perforating into the cæcum—a result not always to be recognized by subsequent inspection of the fæces. This occurrence does not militate against an early opening of the abscess by the surgeon, but rather works in the opposite direction, as the perforation might occur in other more dangerous regions—*e.g.*, into the bladder, etc. Another explanation for the subsidence of cæcal swelling is afforded by the fact that such (the fourth condition alluded to in my opening remarks) conditions are often due to a cecitis of fecal or possibly infectious cause. They can usually be distinguished by their more gradual development and the prompt subsidence of the acuter symptoms under the use of anodynes. They are not always as readily made out as writers would lead one to suppose. So acute a surgeon as Dr. R. I. Hall,[3] of this city, was misled by a similar case, which was subsequently cleared up by a free

[1] Sands, quoted by Noyes: Trans. R. I. Med. Soc., 1882.

[2] Gerhardt: Handbuch der Kinderkrankheiten, Bd. iv., c. 912.

[3] Medical News, May 22, 1886, p. 582.

but late evacuation of the bowels. It may be here remarked that, in cases of perityphlitic trouble where a doubt exists, it is wiser to refrain from moving the bowels, as this might, in a perforative effusion, precipitate a general peritonitis. Kraussold[1] scouts at the idea of resorption of a perityphlitic abscess, and says that where it takes place, and not by internal rupture, no abscess has existed.

A final quotation on this part of my subject may be made from Pepper,[2] who states that "the unjustifiable delay permitted in many cases of typhlitis, while hoping day after day for the more definite detection of suppuration, is the direct cause of many avoidable deaths."

In consideration, therefore, of the foregoing data, it seems to me justifiable to urge the necessity of opening all inflammatory swellings of the right iliac region as early as possible. The detection of pus may be frequently aided by the use of a good-sized aspirator-needle, carried in several directions and into the lumbar region as well as deep into the iliac fossa. But recollect that even though the aspirator fails to show the presence of pus, it by no means proves that it is not there. If the tenderness is too great for satisfactory palpation, an anæsthetic should be administered and the iliac region carefully but gently examined; to this should be conjoined a rectal exploration. If a tumor be made out, in such circumstances, the use of an exploratory incision, running as if for ligature of the external iliac artery, or, as Burchard[3] suggests, one starting two inches in front of the longissimus dorsi muscle and running forward just above the iliac crest, can be resorted to until the swelling is reached, when either aspiration can again be used or the tumor can be directly incised. If any exploration of the cavity is employed, it should be very carefully conducted, to avoid breaking down protective adhesions. This exploratory incision in doubtful cases should be carried well back, so as to allow the post-cæcal region to be fully examined.

Fitz directs that such operative measures should be conducted as soon as the abscess becomes evident, and that this is usually on the third day after the appearance of the first characteristic symptom of the disease. Kraussold also advises the earliest possible incision, to prevent dangerous complications. By resorting to aspiration, Bull was able to detect and open a perityphlitic abscess on the second day after the first symptoms had developed. In concluding these reflections on the treatment of perforations of the appendix, with abscess-formation, one must not be misled by the statistics of operations successfully done at comparatively late periods of the disease, as, for instance, is given in the 100 cases of operations collected by Noyes, in which there were but fifteen deaths; but even here, in the 12 cases that were incised on the eighth day or earlier, the mortality was but eight and one-half per cent., while in the 88 other cases later operated on the death-rate rose to seventeen per cent. The figures already given have shown how great is the mortality without operation prior to the fifth day even, and it is in the hope that many lives now lost may be saved that the persistent presentation of the question of early surgical interference to the profession is made.

But much heavier responsibility comes upon the surgeon when his judgment is called upon in the cases where an acute general peritonitis is supposed to be progressing from a perforated appendix. In some instances, styled by Mikulicz the per-acute, the peritonitis may destroy life within forty-eight hours—generally it lasts from three to six days, and occasionally longer. It may begin frankly, with sudden and violent abdominal pains, felt early in the right iliac region, but soon masked by the general peritoneal tenderness (in this differing from the intra-peritoneal abscess, which commonly has the most intense pain in the affected iliac region). Nausea soon appears, with vomiting, first of bilious matter, which often becomes fecaloid and occasionlly stercoraceous, thus simulating an obstruction. There is high fever, going to 104° and over; the abdomen at first is hard and rigid, a point that Ebstein[1] lays stress on as indicative in such conditions of a general perforative peritonitis; it subsequently becomes tympanitic. The liver-dulness[2] is but little changed, unless tympanites has set in. There may be painful micturition, or even complete retention. The pulse ranges from 90 to 140 and becomes, though not always early, rapid and small. Constipation is usually present, with the other usual signs of intense peritonitis. Percussion reveals no dulness, and under anæsthesia no tumor can be felt about the cæcum. Late in the progress of the disease flatness or percussion in the flanks will occasionally mark the presence of peritonitic fluid. All these symptoms may likewise develop themselves in the course of a mildly progressing or less severely acute local iliac peritonitis. In the one to be immediately reported, the exacerbation of pain showed itself at the end of the second day. Rarely do such symptoms satisfactorily ameliorate. With had 14 of these cases, of which 2 recovered. Pepper, out of 12 cases, had 6 of this kind, of which all died. Matherstock reports in this connection that in children, in whom this general peritonitis is more common, forty-four per cent. of the cases of perityphlitis die within three days; while Whittaker[3] gives the mortality in adults at the lower figure of thirty per cent.

It is quite natural, therefore, that surgery should be called on for help in such a grave disease as this, in which nearly all authorities speak in the most discouraging terms. It is only lately, however, that an endeavor has been made to reverse the death-record in this lesion. It is true that gynecologists, commencing with Keith[4] in 1865, and embracing the noted names of Wells, Schröder, Tait, and others, have repeatedly performed, with success, laparotomy with fully developed general peritonitis. Tait even has expressed himself axiomatically that the presence of peritonitis, together with some other condition which by itself would involve abdominal section, is the most potent of all reasons for the immediate performance of abdominal section;[5] and in another journal he dogmatically remarks further, in connection with obscure abdominal diseases, and this is quoted with approbation by Albert, of Vienna, that when the doctor is in doubt and the patient in danger, make an exploratory incision and deal with what you find as best you can.[6] Led by the experience that produced such logical conclusions, surgeons have essayed, in the infectious peritonitis produced by perforations of the intestines, to resort to laparotomy, with, so far, much inferior success to that attained by their gynecological brethren. Up to the present time this operation has been performed for perforation of the intestine, not traumatic, fifteen times, in nine of which the perforation took place in the appendix. These latter are epitomized as follows:

Case I.[7]—Mikulicz, 1883; male, aged forty-nine. Laparotomy on fifth day, for general peritonitis, from supposed intestinal obstruction. Perforation not recognized at operation. Death on fifth day. Perforation of appendix found at autopsy.

Case II.[8]—Chaput, 1883; male. Laparotomy, tenth day, for supposed obstruction. General suppurative peritonitis; drainage. Death shortly after termination of operation. Perforation of appendix found at autopsy, which had not been recognized at operation.

[1] Kraussold: Ueber die Krankheiten das processus Vermiformis, Sam. klin. Vorträge, No. 191.
[2] Pepper: Trans. Med. Soc. Penn., 1883.
[3] On Operative Interference in Acute Perforative Typhlitis, N. Y. Med. Jour., January, 1881.

[1] Ebstein zur Lehre von der Perforations peritonitis, Zeitschr. f. klin. Med., 1885, p. 209.
[2] The escape of gas is generally so slight in these perforations that but seldom will the area of liver-dulness be affected, and Epstein has shown that the symptoms cannot be relied on when the bowels are distended with flatus. Janeway has also noted this.
[3] Whittaker: Pepper's System of Medicine, vol. ii.
[4] Smith, Thomas: On some Points in the Surgical Treatment of Intra-peritoneal Injuries, St. Bartholomew Hospital Reports, 1873.
[5] Tait: Ed. Med. Journal, May, 1886.
[6] Tait: Br. Med Journal, No. 1155, 1883.
[7] Ueber Laparatomie bei Magen und Darmperforation, Samm. klin. Vorträge, No. 262, 1885.
[8] Progrès Médicale, 1883, p. 103.

Case III.[1]—Krönlein, 1884; male, aged seventeen. Laparotomy, second day, with all usual signs of peritonitis present. Temperature not high, nor was there much tympanites present. Appendix found perforated, and removed for first time in history of surgery. Patient died on the second day after the operation, after a temporary amelioration of symptoms.

Case IV.[1]—Krönlein, 1885; male, aged seventeen. Laparotomy, eighth day. Early symptoms pointed to right iliac disease. Stercoraceous vomiting and great tympanites came on, and induced operation. The perforation was not found. Belly cleansed and closed without drainage. The patient recovered.

Case V.[2]—Polaillon, 1884; male, aged nineteen. Laparotomy, seventh day, for supposed obstruction of the bowels, with fully developed peritonitis. Perforation not found, as the source of obstruction was not recognized. A loop of intestine was sewed in abdominal wound and an artificial sinus there made. Death occurred ten hours later—only at the autopsy was the perforation of the appendix recognized.

Case VI.[3]—Poncet, 1885; male, adult. Laparotomy, fourth day, without anæsthesia, with general peritonitis and fecal vomiting. Perforation not found. Only an ulceration of the mesentery recognized, probably secondary. Drainage. Died same day. At autopsy appendix found gangrenous, but not perforated, but containing several fecal concretions in it.

Case VII.[4]—Regnier, 1886; male, aged sixteen. Symptoms of intestinal obstruction, with stercoraceous vomiting. Laparotomy, fifth day. Suppurative peritonitis found. Died seven hours after operation. Perforation of cæcum only recognized at the autopsy.

Case VIII.[5]—H——, 1886; male, aged eleven. Fifth day, laparotomy over most tender spot in right iliac fossa. Healthy intestine exposed; by poking with fingers an abscess containing two ounces was opened, and drained. The patient recovered.

Case IX.[6]—R. I. Hall, 1886; male, aged seventeen. Laparotomy, fourth day. Present, acute peritonitis, with a right inguinal hernia. The diagnosis of strangulated hernia was made, the sac was opened, and gave exit to fetid pus. At top of sac cæcum was recognized and a perforated tubercular appendix vermiformis, which was tied off and removed. The wound was enlarged upward three inches and the cavity of the peritoneum opened large enough to admit the hand, by which a number of purulent deposits of pus were broken up and emptied, but no washing out resorted to. Large drainage-tube and vent of iodoform-gauze used. Patient recovered.

Case X.[7]—Bryant; male, aged forty-nine. Laparotomy, end of second day. General peritonitis, with referred epigastric pain. Operation discovered the appendix perforated in three places. Peritoneal toilette and washing with $\frac{1}{10000}$ sol. bichloride. Death twelve hours later.

To these cases, collected in a rather hasty search through medical journals, can be added two cases of my own in which similar operations were done and with, in each instance, a fatal result. One of these cases has already been reported in *The Medical News* for January 15, 1887; in this instance laparotomy was resorted to on the fifth day of the disease, and on the same day that he entered the hospital. An aspirator-needle drew pus from right iliac fossa and an incision was there first made, though no dulness existed, in the hope that a circumscribed collection of matter might be encountered. It proving to be a general suppurative peritonitis, a median laparotomy was done and a perforation of the appendix recognized very easily. This was sewed, after a previous ligature, to its base, and the belly washed out and drained. Death occurred suddenly six hours after the operation, after temporary improvement under stimulants and tincture of strophanthus, and on the autopsy a ruptured aortic valve was found.

My second case was as follows: A hearty young man, nineteen years of age, who had had twice within the past two years colicky pains and some prolonged tenderness in the right iliac fossa, was seized, Monday evening, April 18, 1887, with pain in the same region sufficient to cause him to bend over in walking. This pain during the night increased, and the next day extended more over the whole belly. He had that day an enema administered, without effect. The next day, in the afternoon, a chill came on, with aggravation of symptoms. Pulse ran up to 130 and temperature to 104°, and the tenderness of the abdomen, which had heretofore been greater in the right side, was felt more to the left of the median line. Vomiting occurred only once this day. He was seen by a surgeon in consultation with his regular medical attendant, and a number of leeches were ordered to be applied to the right iliac region, and opium and antipyrine to be administered. I was called to see the patient, April 21st, on the fourth day. His pulse then was 136 and of good, strong character; no vomiting, no anxiety or pinching of the face. He had, however, a tense, hard abdomen, with but little tympanites, no diminution in the liver-dulness, and decidedly marked pain, without any change in percussion-note, to the left side of the median line. No irritability of the bladder. There was only a moderate amount of pain in the right iliac fossa, where, moreover, no flatness in sound could be elicited or tumor detected. Believing that I had to deal with a perforated appendix, with a possibly forming intra-peritoneal abscess, I prepared a laparotomy, after a more satisfactory examination under an anæsthetic, and he was sent, therefore, to the New York Hospital. Two hours later he was there etherized, which allowed, by relaxing the taut abdominal wall, a freer palpation. No tumor could be made out, and a further effort to discover pus was made by thrusting in a fair-sized aspirator-needle in three different directions in the iliac fossa. Nothing resulted from this, and on consultation with my colleagues, Drs. Markoe and Peabody, it was judged that the absence of vomiting and of the characteristic symptoms in the face and pulse warranted a delay of twenty-four hours, in the hope that we had to deal with a localizing inflammation. I felt myself justified in agreeing with them, though the events to be narrated showed the danger of so acting; for during the night bilious eructations and vomiting came on with increasing frequency, and turned rapidly to a fecaloid fluid, though destitute of stercoraceous odor. Tympanites also developed, with augmented rapidity of the pulse and with a peritonitic face, but with a lessened temperature to 102°.

When seen by me at noon the next day, it was evident that laparotomy afforded him the only hope, and that but a slight one, of relief. The patient's relatives were acquainted with its risks and its faint hopes, and they requestedits performance. This preliminary action delayed the operation till 3 P.M., when pulse was 132, temperature 99½°, and symptoms as before narrated.

An incision, at first three inches long, was made into the peritoneal cavity, and subsequently enlarged after an abscess had been detected at the brim of the pelvis, which broke under the finger's touch and allowed the escape of five or six ounces of fetid yellow pus to run over the already inflamed intestine in the pelvic cavity and adjacent parts. After the incision had been enlarged the pelvic cavity was rapidly washed out with quite hot water, and as quickly dried with sponges. The intestines were then pulled aside from the iliac fossa and the appendix exposed. To do this several feet of tympanitic small intestine had to be withdrawn from the peritoneal cavity and were kept under warm, wet towels. The appendix stood up like a child's erect penis, and was seen *in situ* to

[1] Arch. f. klin. Chirurg., Bd. 33, s. 507; Ueber die Operativen Behandlung der Aorten diffusen jauche-einjagen Peritonitis.
[2] L'Union Médicale, 1884, p. 4..
[3] Truc: Traitement Chirurgicale de la Péritonite, 1886, p. 57.
[4] Truc: op. cit., p. 55.
[5] Boston Med. and Surg. Jour., April 29, 1886.
[6] N. Y. Med. Jour., June 12, 1886.
[7] Gaillard's Med. Jour., February, 1887.

be perforated in two places. It was seized with a clamp forceps and a silk ligature carried above the forceps close to the cæcum, and after this the appendix was cut off. In the smaller and higher perforation was a mass the size and shape of a grape-seed, but which, after examination, proved to be, as is usual, a fecal concretion. The other opening was lower down and was the size of a large pea. The abscess ran from the pelvic brim across the top of the bladder, and between it and the rectum, and so near to the iliac vessels that its detection by an aspirator-needle would have endangered them. A glass drainage-tube was carried to the depths of the pelvis and another of rubber was placed in contact with the stump of the appendix, which also had been dusted with iodoform before the abdominal wound was closed. The drainage-tubes emerged from the lower angle of the wound. It had been intended to make an opening in the anterior spine for the rubber tube, but it was found to be unnecessary. The peritonitis was more marked in the inferior segment of the peritoneal cavity. The effect of the hot-water douching was unfavorable rather than otherwise. They were used not only for unantiseptic cleansing purposes (having been cooled by time from a boiling point), but also for their stimulating action, as has been claimed for such by Dr. Wylie and others. They were noticed to be associated each time with a marked deterioration of the pulse. It may have been that the heat was too great, as at first it was sufficient to be decidedly uncomfortable to my hands and those of my assistant colleague, Dr. Bull. The patient was much shocked by the operation and died four hours thereafter, with a temperature running up to 105° before death. The autopsy revealed nothing of additional moment.

In summing up these cases, it will be seen that of the twelve only three recovered, but Homan's case should be excluded from the list, as it properly belongs to the class previously commented upon where a tumor existed. It, however. bears strongly on the point of the comparatively slight risk that exists of infecting the general peritoneum in opening such abscesses by lateral laparotomy. Hall's case also, while brilliant in its results and in its treatment, might be relegated to a different class, as it had, as an incentive to the operation and as a guide, a distended hernial sac. A peculiarity of special interest is seen in the frequency with which stercoraceous vomiting occurs in these severe perityphlitic cases. It was first alluded to by Krönlein, and I have been struck by it in my investigations in other cases which were not operated on. It was met with, also, in the case of our lamented friend, Dr. Griswold, in whom, by autopsy, there was observed a perforated appendix, and in whom the symptoms were generally obscure. It is supposed to be due, in some instances, to the pressure exerted by the abscess on the terminal or fixed portion of the ileum. This feature is also mentioned by Duplay as one of the rare symptoms of a general peritonitis. Whether anything of a pathognomonic value should be attached to it in connection with a right iliac pain cannot yet be said, but in every laparotomy resorted to for obstruction the region of the appendix should be investigated. I had hoped, in reviewing the histories of abdominal section for perforations, encountered elsewhere, of the intestines—seven in number, with three recoveries[1]—that I might be able to show that the improved mortality in such cases was due to the promptness with which the belly was opened after the appearance of the first symptoms. This was only seventy-two hours in Mikulicz's celebrated case, but in Schroeder's equally successful case this point is not mentioned. Israel's case was somewhat like Hall's, but no perforation was recognized, and is considered by Mikulicz as a doubtful case. One cannot but help feeling, however, that this is an important factor in the treatment of similar rapidly progressing cases. The exhaustion of the system from such an acute infectious process as a septic peritonitis must be extremely great, and to add to this the shock of an extensive operation places the chances of recovery at great odds. Whether this can be offset by increased acuteness in diagnosis or improvement in surgical manipulations remains to be seen.

Concerning the recognition of a general perforative peritonitis, it must be admitted that many difficulties yet surround this point, but it must also be kept in mind that a serious inflammation from such causes often proceed, and rapidly, too, without many of the ordinary symptoms of peritonitis. Pain is often wanting; the same may be said of the vomiting, etc. The main purport of these remarks is to direct attention to the need of more boldness on the part of the surgeon.

Personally, with the light of experience, I should hope to make hereafter earlier resort to explorative incisions in conducting the treatment of an obscure peritonitis or of an obstruction, and would lean with more weight than some of our older surgeons and physicians do, upon what appears to them the somewhat extravagant advice of the so-called abdominal surgeons or "belly-rippers." For it appears that those most clamorous for early abdominal section are the ones who have done it most frequently, and those who protest are the ones who resort to it least; and, further, one prominent laparotomist does not, from his gathering experience, contradict the teaching of a rival laparotomist, but continually confirms it. I go over this line of thought to relieve myself from the charge of rash judgment in advocating an operation of risk in cases (1) where it is possible that delay might permit a less serious one to be performed, as in the cases of early tumor, with signs of peritonitis; and (2) where the conditions seem to be hopeless of recovery, as in those of rapidly progressing general peritonitis. Passing this by, let us ask if perhaps a variation in the surgical procedures may not be of service? In order to avoid the deterioration that comes from anæsthesia, not only in the weak state of the patient, but also with a much uplifted diaphragm, I propose hereafter either that the anæsthesia should be done away with or limited as much as possible, or cocaine substituted for it. When a general anæsthetic is given, a previous injection of atropia, one-sixtieth, with morphine can be given with advantage in this and other respects. If after the small lateral or the median laparotomy incision is made a localized peritoneal abscess is reached by the finger, as in my last case, I am inclined in my next trial, as the peritonitis often becomes less intense the farther one goes from perforation, to content myself with placing a drainage-tube in the pus-cavity and trust to the less violent methods rather than to the surgically correct procedures of washing out and sponging the peritoneal cavity, or, as Krönlein did, of wiping carefully off all the patches of lymph from the intestinal loops, etc. That it is not necessary to close up the opening in the appendix, or to remove it, is fully proved by the numerous cases of recovery where perityphlitic abscesses have discharged for some time fecal matter, and also by the preponderance of spontaneous closure observed in the larger openings found in gangrenous hernias.

Should reasons exist for more thorough work than this, and the patient's strength permit, not only might the appendix be properly tied off, but the recently made suggestion of Albert[1] may be employed. It is, as the ordinary drainage-tube can only act generally but a very short time, in consequence of the agglutination of the intestines, that a number of such tubes should be carried by small puncture through the abdominal walls into different places among the intestines. A second opening, when a median cut has been made directly over the cæcal region, certainly affords more direct drainage, as my first case exemplified.

[1] Mikulicz (recovery), Schroeder (recovery), Oberdt, Krönlein, Lucke, Godlee, and Israel (recovery).

[1] Wien. Med. Ztg., No. 10, 1887.

In recapitulation, I venture to propose:

1. That the generality of perityphlitic abscesses are due to inflammation or perforation of the appendix vermiformis.

2. That the mortality in such lesions is greatest prior to the third day.

3. That as soon as it can be recognized, pus should be evacuated extra-peritoneally, if possible, or by a lateral laparotomy, and the cavity drained.

4. That if aspiration fails to detect pus where a tumor exists, it is wiser to make an early extra-peritoneal exploratory incision.

5. That where general peritonitis is progressing, with any history of a right iliac pain, a limited lateral (preferable) or a median laparotomy should be made, to explore the region of the appendix within forty-eight hours from the inception of the disease.

6. That if pus is thus recognized, it should be evacuated and a drainage-tube inserted without toilet of the peritoneum.

Progress of Medical Science.

An Intermittent Form of Meningitis.—Dr. Henoch has described a moderate form of simple, non-tubercular meningitis, characterized by a protracted course and by alternations of exacerbation and improvement. The onset is sudden, the fever being more or less intense, with frontal headache, sometimes vomiting, and always marked rigidity of the muscles at the back of the neck, which may sometimes affect the muscles of one or other side. The fever abates, and improvement occurs after one and a half to two weeks, to be followed by a renewed exacerbation, after an interval varying from twenty-four hours to several days, without any apparent cause. These variations may be repeated frequently in the course of the next few weeks, cure resulting in from seven to ten weeks. Cases in which the remissions are not marked usually end fatally, especially when they occur during the first year of life. Treatment appears to have little or no effect on the disease, and its etiology is frequently obscure, although sometimes it seems to depend on some infectious cause. Flexion of the knee-joint, with the thigh at right angles to the trunk, as described by König, is not always present.—*The British Medical Journal.*

Phagocytes.—The suggestive doctrine that cells and bacteria are opposed to one another in a struggle for existence within the body, based upon the remarkable property possessed by leucocytes of devouring foreign material in contact with them, and employed to explain the phenomena of inflammation, the formation of giant-cells and of specific neoplasms, as well as to account for immunity after inoculation, has been criticised on the one hand and stanchly supported on the other. Professor Metschnikoff—whose researches upon the behavior of the cells of Daphnia to the spore disease that attacks this entomostracous organism formed the basis of this doctrine—returns to the subject in an article upon the "strife between cells and the cocci of erysipelas." He declares that Fehleisen's observations upon the minute anatomy of cutaneous erysipelas harmonize with the theory of phagocytes (*The Lancet*). The spreading margin of an erysipelatous patch can be differentiated into three zones: a peripheral, in which the lymphatic spaces are filled with the streptococcus in a state of active growth; a middle, exhibiting inflammatory reaction in abundance of leucocytes between the masses of cocci; and an internal, in which cocci are conspicuous by their absence. Metschnikoff examined several cases: some fatal; others, which recovered, with the view of testing the truth of his surmise that recovery from erysipelas is due to the destruction of the microbe by the phagocyte. In the one case of fatal gangrenous erysipelas he found a few disintegrating leucocytes and an abundance of cocci; in the other, where recovery took place, leucocytes were seen filled with cocci or their débris; and transitional states could be traced between these extremes in specimens derived from other cases. The inference he gathers is that in the fatal cases the streptococci gain the mastery from defective inflammatory reaction. Besides the small free leucocyte, he assigns similar properties to larger cells derived from the fixed connective-tissue elements in the subcutaneous tissue. The former he terms *microphagi*, the latter *macrophagi*, and he notes an important difference in the function of these two elements. In the subcutaneous tissue in erysipelas he finds macrophagi which do not consume the micrococci. That office is confined to the microphagi, whereas it appears to be the duty of the larger elements to consume the débris of the dead and dying leucocytes. The macrophagi therefore perform the useful function of clearing the battle-field of the slain leucocytes; and they therefore increase in size and number in proportion as the strife between the microphagi and streptococci diminishes. It reads almost like a romance, this account of the mimic warfare carried on to the death between the invading microbe and the defending leucocyte; and yet the phenomena of local infection, inflammatory reaction, resolution and absorption of the inflammatory products can all be expressed in the terms of streptococcus, microphage, and macrophage. Other factors, it is admitted, may be at work—such as pyrexia—but Professor Metschnikoff holds to the foregoing as a most probable explanation of the local phenomena. In asserting this, he has had to meet the arguments adduced by Baumgarten and others, especially with reference to the fact that in many infective diseases bacteria are found within leucocytes without any variation from the fatality exhibited, and also the fact that experimental injections into the blood of bacteria do not lead to the consumption of the latter by phagocytes. However, he meets these and other objections, and declares that Cohnheim's dictum, "no inflammation without blood-vessels," must be changed into "no inflammation without phagocytes." The doctrine is attractive, and is deserving of further study; but it cannot be said to be established, or as yet far removed from the stage of probability.

An Enormous Calculus.—Dr. Colson, of Aden, reports the following case in *The Lancet*: A Bedouin Arab who had come eight days' journey to Hodeedah, and thence by sea to Aden, presented himself at the Civil Hospital for treatment for calculus of the bladder. On February 1st, when on the operating-table, the stone was carefully examined with the sound and per rectum. Having come to the conclusion that the stone was a very large one, he determined on the supra-pubic operation. The bladder was injected with twenty ounces of warm water, which raised it well above the pubes. An incision about three inches in length was made vertically above the pubes, and the parts carefully dissected down until the veins above the bladder were exposed. While separating these with a director, it passed through into the bladder, which appeared soft and friable. The finger was immediately introduced through the opening, and an enormous stone was found to occupy the cavity of the organ. To extract this the original incision had to be much enlarged, and with great difficulty the stone was removed. This was found to weigh nine and a half ounces avoirdupois, and measured seven and a half inches in its horizontal and eight and a half inches in its vertical circumference. A large catheter was fastened in the bladder per urethram, and the wound in the skin closed and dressed antiseptically. The man recovered well from the immediate effects of the operation, and was doing well also in the evening. But he died suddenly on the following morning.

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CRIME AND MONOMANIACAL INFATUATION.

THE Connecticut Legislature has recently enacted a law for the prolonged confinement of incorrigible criminals, *i.e.*, persons who have been sentenced three times for a period of not less than two years. The law provides that at the expiration of the third sentence the criminal shall be detained in prison for twenty-five years. This is a wise law, and fully in accordance with the modern teachings of alienists and penologists.

In an article in the *Journal of Nervous and Mental Diseases* for May, 1887, Dr. William Duffield Robinson gives an interesting account of this "crime-class," to which the law just referred to applies. He states that the major part of State-prison offences are the acts of men born to crime. These people very seldom reform. They have as little control over their inclinations to violate law, as has the confirmed inebriate over his desire to drink. They are not intemperate, as a class, but are given to venery. Their intelligence varies greatly, but as a rule they possess great cunning and adroitness, though ignorant and illiterate. With this class crime, says Dr. Robinson, is unquestionably "a monomaniacal infatuation."

These congenital criminals often show physical imperfections of various kinds. The shape of the cranium and the arrangement of the convolutions are, according to some, very characteristic. Twenty per cent. at the age of forty years have had syphilis; ten per cent. develop insanity some time before their death, as against 0.2 per cent. among the whole population. There is a startling proportion of tubercular disease in their families. Epilepsy and other nervous diseases are also very common. About six per cent. of the convict population shows a strong inherited tendency to insanity; over seventeen per cent. shows family histories of crime, and where two or more families are convicts, they will show a *penchant* for a peculiar class of crimes.

Among 3,500 convicts received into the Eastern State Penitentiary of Pennsylvania, in the past five years, 245 were insane, 40 had insanity developed during confinement, while 20 were guilty of simulating insanity.

There are thus facts enough to convince any intelligent person that we do have a crime-class, that its members are born with impulses to commit crime, which impulses are as uncontrollable as those of the epileptic or the insane. We do not forget that many persons, apparently congenital criminals, are really criminal through education and association. It remains to be shown that the children of the crime-class, if put under perfectly good surroundings, would not develop into useful citizens. Making all due allowances, however, there does exist a crime-class not entirely responsible; and the best way to deal with it is to isolate and stamp it out, as the Connecticut Legislature proposes to do.

MEDICAL SLANG.

THE microscopist in this city who speaks of his slides as "toboggans" is only following a very prevalent custom among many of our younger medical men, of using slang phrases in place of the dignified terminology of pure science. This practice of substituting highly idiomatic Saxon or time-saving abbreviations for the pure phraseology of the text-book, has reached such extent that it needs a passing notice.

Illustrations of it are plentiful. Thus, one finds that sufferers from the most terrible of specific disorders are lightly referred to as having "syph," and that pregnant monosyllable is also applied to the whole science of syphilography. Students in pathology find that they are taking a course in the "bug-class" of the distinguished bacteriologist who is only a "bug-man." By the same rules of condensation eminent specialists in laryngology, ophthalmology, dermatology, etc., are only "throat-" or "nose-men," "eye-men," and "skin-men." Gynecologists devote themselves to a specialty which, in the iconoclastic vernacular of to-day is referred to as "woman's."

It would be somewhat horrifying for the laity to learn of all the various apparently unsympathetic synonyms applied in hospitals to the sad *exitus lethalis* of the patients. To the poet and the preacher the "spirit takes its flight," but to the *interne* the patient has simply "pegged out," and the question is not as to the destination of his soul, but the disposition of his body.

It would be indelicate to say what term is applied to the classes in that most useful branch of knowledge, urinary analysis, and it would be ungracious to quote the pure Saxon by which the enthusiasts in laparotomy are designated.

Medical slang is a thing which is inevitable, and its use is not altogether to be deprecated. There is a deal of virility and meaning in many slang expressions; and we only need express the desire that these be neither excessively multiplied nor indelicately used.

DRUGGED BEER.

THERE is a growing belief among sanitarians that salicylic acid is being used more and more extensively in the preservation of canned foods, milk, wine, beer, and other articles. To such an extent was this done in Paris that the French government has already twice taken action upon the matter. Dr. E. H. Bartley, Chemist to the Brooklyn Health Department, has recently called attention to this matter. He states that in 1885 the chief adulterations which he found in beer were yeast and bicarbonate of soda. Lately he has examined several different kinds of bottled beer sold in Brooklyn, the list including some of the Western beers. He has found salicylic acid in

them. The amount of this acid required to preserve beer is about twelve to fifteen grains per gallon. Salicylic acid, if taken continuously, tends to injure digestion and irritate the kidneys.

THE HEART-BEAT AND THE RESPIRATORY CHANGES.

It is an established fact in physics that if a liquid containing a gas be placed in a vacuum only a small part of the gas escapes, unless the liquid be subjected to a blow just before the exhaustion process is commenced. Professor Von Fleische, of Vienna, has applied this fact in a study of the relation between the heart-beat and the respiratory changes in the lungs. He thinks that the blood, in the pulmonary arteries containing the carbonic-acid gas in solution, is jarred by the motion of the heart, and in this way assistance is given in setting free the CO_2. It is quite true, as Von Fleische claims, that the physics of the process by which this gas passes from the blood-serum to the air in the alveoli has been obscure, because there is little difference between the pressure in these spaces and in the blood. Von Fleische's theory affords a plausible explanation. If it is true, then cyanosis from weak heart is due, in a measure at least, to the feeble impact of the heart-muscle, and externally applied blows ought to relieve dyspnœa. The facts of comparative anatomy are claimed in support of the view just described.

THE TREATMENT OF TUBERCULOSIS OF THE LARYNX.

In the treatment of tuberculous ulcerations of the larynx Dr. A. Rosenberg, of Berlin, applies a five to twenty per cent. oily solution of menthol to the affected parts. The solution is sprayed into the larynx, at first once or twice daily, then less often. The effect is said to be "extraordinarily favorable." Menthol, in proportion of 1 to 33,000, inhibits life in anthrax bacilli, and presumably in tubercle bacilli. It is on the ground of its anæsthetic and antiseptic properties that the agent is used.

Dr. V. Brunn, of Lippspringe, has been using twenty to forty per cent. solutions of lactic acid in laryngeal tuberculosis, according to the recommendations of H. Krause. He has obtained excellent results with this, and speaks of it as "a true panacea." But in some very sensitive patients the application is too irritating, and provokes great pain, coughing, and feelings of suffocation. Dr. Brunn therefore tried a twenty per cent. oily solution of menthol, according to the method of Rosenberg. He confirms the views of that observer as to the utility of the applications. He now employs the lactic acid in persons of strong build and lymphatic temperament, the menthol in those of a weak and irritable constitution.

Lactic acid and menthol seem likely to play the leading part which iodoform took in laryngeal tuberculosis some years ago.

HOSPITAL AT DAMASCUS.—Dr. Macinnon, of the Scottish Medical Mission, has recently opened a hospital for poor patients at Damascus. The fanaticism of the Mohammedan population has forced the government to close it, and Sir W. White is now making representations to the Porte to grant the hospital its protection.

News of the Week.

THE ILLNESS OF PROFESSOR BILLROTH.—A recent despatch from Vienna says: "All classes of the Vienna population are deeply moved by the dangerous illness of Dr. Billroth, a surgeon of world-wide reputation Hundreds of students and others stand before his house to hear the latest news. Dr. Billroth is suffering from fatty degeneration of the heart, together with inflammation of the lungs.

THE SOCIETY PAPERS OF LONDON announce that "Dr Harrison, of America," is lecturing successfully "to men only" at Prince's Hall, London. Dr. Harrison is spoken of as "highly intelligent and racy"—to men only, we presume.

A DOCTOR'S KINDNESS TO THE CLERGY.—A clergyman writes to *The Lancet* that the late Dr. Wilson Fox was in the habit of placing his beautiful house at Rydal at the disposal of the Bishop of Bedford for the use of the invalided East End clergy and their families during the summer months. The liberality, kindness, and delicacy with which this was done will be understood by all who knew him.

THE WEST VIRGINIA STATE MEDICAL SOCIETY will hold its twentieth annual session at White Sulphur Springs, W. Va., July 13, 14, and 15, 1887. The Secretary is J. L. Fullerton, M.D., of Charleston, W. Va.

THE DEATH OF DR. CARL FRIEDLÄNDER, of Berlin, is announced. He was well known for his contributions to pathological anatomy, and was editor of the *Fortschritte der Medicin*.

A SCHOOL OF PHARMACY is to be opened in connection with Cornell University during the coming fall. Women and men are to be admitted.

THE CAUSE OF GROUSE-DISEASE.—M. Pasteur is to make an investigation into the cause of grouse-disease.

SPECIALISM IN EXCELSIS.—*The Lancet* grows facetious in the following manner. Under the title of "Specialism in Excelsis" it says: "We have received a programme of the first annual meeting of the 'Association of Genito-urinary Surgeons,' which is being held this week at the Laurel House, Lakewood, N. J. The establishment of this association has been attended with so much success, and commends itself so thoroughly to the more enlightened members of the profession, that many similar ones are shortly to be inaugurated. Among those more immediately to be promoted are associations of 'Umbilicologists,' of 'Rhinologists,' of 'Tenotomists,' of 'Depilatory Surgeons,' and of 'Skin-grafters.' The only reason we can perceive why this list should not be indefinitely extended is that surgery, as an art, would, by such differentiation, speedily be resolved into its constituent elements, and its professors broken up into repellant groups of solemn deliberators on the utility and beauty of the segregation of parts."

FOR THE ARREST OF CANCER.—Dr. Peter Hood (*The Lancet*) recommends a three months' course of carbonate of lime for the arrest of cancerous growths. Dr. Hood first called attention to this twenty years ago. Further experience leads him to recommend the plan again.

Reports of Societies.

American Medical Association.

THIRTY-EIGHTH ANNUAL MEETING.

Held in Chicago, Ill., June 7, 8, 9, *and* 10, 1887.

[By Telegraph to The Medical Record.]

TUESDAY, JUNE 7TH—FIRST DAY.

The Association met in Central Music Hall, and was called to order at eleven o'clock by the Chairman of the Committee of Arrangements, CHARLES GILMAN SMITH, of Chicago. Prayer was offered by REV. S. J. MCPHERSON, D.D., and the address of welcome was made by Mayor JOHN A. ROCHE.

The ex-Presidents were invited to take seats upon the platform, and N. S. Davis, of Chicago; T. G. Richardson, of New Orleans; J. M. Toner, of Washington, and William Brodie, of Detroit, responded to the invitation.

DR. P. H. MILLARD, of Stillwater, Minn., First Vice-President, being in the Chair,

DR. SMITH then introduced the President, DR. E. H. GREGORY, of St. Louis, who delivered the

ANNUAL ADDRESS,

in which he congratulated the Association on the auspicious opening of its annual meeting, and expressed his high appreciation of the honor bestowed upon him by elevating him to the presidency. He then said that force and matter make up the universe; that force implies antagonism; that antagonism perpetuates motion; that a living cell is the embodiment of nature; that cell-antagonism is life, and that a model organism in equilibrium is health. The comprehensive title of his paper was "Cell-Antagonism," which forms the foundation of symptomatology and pathology, and, conjoined with the cell-changes constituting the basis of pathological anatomy, presses at once the universe of life, disease being but one of the multitudinous phases of life.

Cell-antagonism constitutes the essential of pathology. Inflammation, the keystone of medical science, is only to be explained on the theory of cell-antagonism—a struggle between irritant bodies and white blood-cells. Cells live on themselves, by themselves, and for the whole body. The giant-cells are formed by the uniting of the budding processes from the amœboid mass of protoplasm. These giant masses of protoplasm appear in lupus and tubercle, and in their substance the bacillus is found. With the observations before us concerning cell-antagonism inflammation presents a new aspect. He then outlined the view that there is a struggle between encocytes and bacteria, and that when the microbes prevail suppuration takes place. From this could be seen the close relation between Pasteur's work of preventive inoculation and Lister's equally important work in devising methods by which the microbes can be rendered harmless. Some time was devoted to the consideration of the question, whether or not a cell can enter upon a life of independence, and from this he passed to Cohnheim's theory of the etiology of tumors, namely, persistence of germinal rudiments. Emancipation of cells seems to be almost out of the question.

The President then referred in fitting words to the death of W. O. Baldwin, ex-President of the Association. The address closed with a reference to the coming International Medical Congress, the success of which is assured. He urged the Association to welcome all to the great gathering.

The address was referred to the Committee on Publication, and a vote of thanks given to the President.

DR. A. NELSON BELL, of New York, offered under the head of "Reports of Special Committees" the

REPORT OF THE COMMITTEE ON IMMIGRATION,

which by accident failed to reach the Association last year. The report was read and the committee presented the following resolution, which was adopted:

Resolved, That the Secretary of the Association be and is hereby directed to transmit copies of this report to the Secretary of the Treasury of the United States, and to both the Senate and House Committees on Commerce, and urge upon them such action, through Congress or otherwise, that will secure better protection of the lives and health of immigrants coming to the United States, and against the reception of dependent persons.

DR. D. J. ROBERTS, of Tennessee, introduced a wordy preamble and a set of resolutions condemning an editorial on the American Medical Association that appeared in the Chicago *Times*. He regarded the Times as sadly out of joint, and wished to deny that

CHICAGO IS UNFAVORABLE FOR HARMONIOUS MEDICAL ACTION,

and protested against the statement that the orthodox medical men of this region are beyond doubt the most bigoted and intolerant in the nation.

DR. DUDLEY S. REYNOLDS, of New York, moved the adoption of the resolutions.

DR. EUGENE GRISCOM, of North Carolina, moved that they be laid upon the table, which was carried by 133 ayes and 89 nays.

On motion by DR. WILLIAM BRODIE, of Detroit, the amendment to the by-laws providing for a section in dermatology and venereal diseases was taken from the table.

On motion by DR. G. H. ROHE, of Baltimore, the amendment was amended so as to read dermatology and syphilography and then adopted.

DR. J. MCF. GASTON, of Atlanta, Chairman of the Committee to Memorialize Congress with reference to

INOCULATION FOR YELLOW FEVER,

presented the report, which was referred to the Section on State Medicine.

At the meeting of the

ASSOCIATION OF AMERICAN MEDICAL EDITORS

William Porter, of St. Louis, was elected president; Thomas J. McIlvaine, of Peoria, vice-president, and W. C. Wile, of Philadelphia, secretary and treasurer.

The Entertainment Committee made generous arrangements for demonstrating the hospitality of the city.

WEDNESDAY, JUNE 8TH—SECOND DAY.

The Association was called to order by the President, and prayer was offered by REV. MR. GUNSAULUS, of Plymouth Church.

DR. J. M. TONER, of Washington, Chairman of the Board of Trustees for the

PUBLICATION OF THE JOURNAL OF THE ASSOCIATION,

read the annual report, which included the report of the editor, N. S. DAVIS, of Chicago, who has consented to remain the managing editor of the *Journal* for another year. The report stated that the general success of the *Journal* had been more gratifying during the year than could have been expected. The report of the editor showed that there had been a net increase of subscribers of 104 during the year; that the total editorial expense, including society reports, correspondence, etc., had been $2,758.95; that the total expense of publishing the *Journal* had been $15,920.96; that the total cash value of the property on hand is $1,058.56. The net increase on the subscription list included new names that had been added, balanced by those which had been dropped for non-payment of dues. The editor recommended more permanent arrangements affecting publication and printing than now exist.

The report was accepted and adopted.

DR. ROBERTS, of Tennessee, asked permission to withdraw his resolutions, which were tabled yesterday, because the Chicago *Times* had made satisfactory acknow

ledgment regarding its unwarranted reflection on the regular medical profession of this city and portion of the country. His request was granted.

Dr. N. S. Davis, of Chicago, chairman of the

SPECIAL COMMITTEE ON CHANGES IN THE PLAN OF ORGANIZATION AND BY-LAWS OF THE ASSOCIATION,

made an elaborate report, in which were reviewed the geographical and medical extent of our country; the plan of organization and operation of the British Medical Association; the present relation which exists between the American Medical Association and the State and county medical societies and the national and local organizations. The Committee reached the conclusion, after a most careful study of the development of medical organizations at home and abroad, that it could not recommend any radical changes in the existing plan of organization of this Association.

There were, however, certain defects in the present plan and its by-laws that could be remedied with advantage, and the Committee recommended that the method of admission to membership by application be so amended as to include such members of State, county, and district medical societies entitled to representation in this body as shall make application in writing to the treasurer, and accompany said application with a certificate of good standing signed by the president and secretary of the society of which they are members, together with the amount of the fee for membership, five dollars. Such members shall have their names entered upon the roll and be entitled to all the privileges of permanent members, and shall retain their membership on the same terms as though they had obtained permanent membership by serving as delegates. In the fifth section of the constitution, the Committee recommended that paragraphs one and three be stricken out, and that in place of the first paragraph there be substituted the following important provision: The general committee on council shall be composed of two members from State and Territorial medical societies represented by delegates to this Association, and from the medical departments of the Army, Navy, and Marine Hospital Service. They shall be chosen by the members registering and present at the annual meeting, these organizations acting separately. There were further provisions making the term of office two years. This general committee shall meet on the day preceding that fixed for the meeting of the Association, and as often during that week as may be necessary; and for the purpose of nominating on the third day of each annual meeting all the officers, none of whom shall be members of their own body—he judicial council, the board of trustees for the *Journal*, etc., and all for election by the Association. This committee shall also recommend a place and time for the annual meeting, consider and report on all subjects which may be referred to it by the Association, and particularly all propositions introduced which involve appropriations of money. These recommendations, the chairman said, simply put in due form and proper place the regulations that had actually been in operation for the past four years under resolutions adopted at the annual meetings in 1882 and 1883.

As to the by-laws, the Committee recommended that they be so amended that the chairmen of sections shall be required to prepare addresses on the recent advancements in their departments, to be read before the sections on the first day of the annual meetings; such addresses not to occupy more than forty minutes in their delivery. This method is now practised in the British Medical Association. An additional by-law was recommended providing that three members of the profession shall be elected by the Association to deliver addresses in the general sessions of the Association at the next ensuing annual meeting, and that each address shall not occupy more than one hour in its delivery.

All these changes recommended had for their object the better adjustment and more practical development of the systematic general organization of the medical profession in our country, and these principles of equality and just representation in direct accord with the habits of our people and the methods of our institutions.

The report did not give rise to discussion other than that relating to the question whether or not the proposed amendments could be adopted at this meeting, or must lie over for one year.

Dr. A. N. Bell, of New York, moved that it was the sense of the Association that these proposed amendments hap been practically considered according to the requirements of the constitution for one year.

Carried—ayes, 272; nays, 232.

Motions, counter-motions, amendments, previous questions, and points of order were offered in profusion, but the President decided that the report of the committee had been accepted and adopted, and that this adapted the proposed amendments to the constitution and by-laws.

The Secretary, W. B. Atkinson, of Philadelphia, announced the Committee on Nominations: Alabama, W. C. Cross; Arkansas, D. C. Ewing; California, J. W. Robertson; Colorado, P. Brumund; Connecticut, W. H. Whittimore; Dakota, E. M. Dow; District of Columbia, J. M. Toner; Florida, M. B. Phillips; Georgia, A. G. Whitehead; Illinois, E. P. Cooke; Indiana, T. B. Harvie; Iowa, W. W. Watson; Kansas, W. L. Schen; Kentucky, Dudley S. Reynolds; Louisiana, T. G. Richardson; Maine, D. E. Marston; Maryland, T. B. Evans; Massachusetts, E.W. Cushing; Michigan, William Brodie; Minnesota, J. A. McGaughey; Mississippi, T. R. Trotter; Missouri, J. M. Allen; Nebraska, W. M. Knapp; North Carolina, Eugene Griscom; New Hampshire, J. W. Parsons; New Jersey, Lott Southard; New Mexico, Russell Bailey; New York, Darwin Colvin; Ohio, X. C. Scott; Pennsylvania, E. A. Wood; Rhode Island, W. J. Burge; South Carolina, T. Legare; Tennessee, J. B. Murfrie; Texas, R. W. Park; Vermont, S. H. Griswold; Virginia, L. M. Nash; Wisconsin, J. K. Bartlett; United States Navy, D. Bloodgood; United States Marine Hospital Service, Charles B. Goldsborough.

The following resolution, sent by the American Pharmaceutical Association, was read and adopted:

Resolved, That this association solicits the aid and cooperation of the American Medical Association in promoting the prescribing of official medicines only, or such preparations as have published formulas, in preference to others.

THE ADDRESS OF THE CHAIRMAN OF THE SECTION IN THE PRACTICE OF MEDICINE

was delivered by Dr. John S. Lynch, of Baltimore. The chairman first directed attention to the use of antipyrin, which he had found to be uniformly useful in all febrile diseases. After a brief reference to digitalin, he took up the subject of pulmonary phthisis, and Koch's theory of its dependence upon a bacillus. If contagious or infectious, it differs from all other diseases belonging to this class. While he denied that the bacillus is the sole or frequent cause of this disease, it may have some pathological influence in the development of conditions that favor the development of phthisis, especially caseous degeneration. The danger from bad hygienic surroundings he regarded as greater than that from direct contagion. As to treatment, he could report nothing in favor of Bergeon's method of rectal injections of sulphuretted hydrogen-gas. He believed there was nothing in this treatment except money for the sharks and charlatans, and that antiseptic treatment must remain impossible. Any germicide which can destroy the microbes must kill the patient. The address had one merit, namely, that of brevity.

There was no address in Surgery.

The Association then adjourned to meet on Thursday at 10 A.M.

THURSDAY, JUNE 9TH—THIRD DAY.

The Association was called to order by THE PRESIDENT, and prayer was offered by REV. JOHN A. BARROWS, D.D.

A telegram from the Ontario Medical Association, sending congratulations, was received, and was responded to by sending sympathy and good-fellowship from the American Medical Association.

DR. BRODIE, of Detroit, Chairman of the Committee on

NOMINATIONS,

made the following report:

President—A. Y. P. Garnet, of Washington.

First Vice-President—Duncan Eve, Nashville, Tenn.

Second Vice-President—Darwin Calvin, Clyde, N. Y.

Third Vice-President—Charles J. O. Hagan, North Carolina.

Fourth Vice-President—A. Stedman, Colorado.

Librarian—C. H. A. Kleinschmidt, Washington.

Treasurer—R. J. Dunglison, Philadelphia.

Permanent Secretary—W. B. Atkinson, Philadelphia.

Assistant Secretary—Joseph Ransohoff, Cincinnati.

Trustees of the Journal—Leartus Connor, Detroit; E. O. Shakespeare, Philadelphia; W. T. Briggs, Tennessee.

Judicial Council—J. H. Murphy, St. Paul; J. M. Toner, Washington; J. K. Bartlett, Milwaukee; A. B. Sloane, Missouri; X. C. Scott, Cleveland; A. W. McLuer, Iowa; D. W. Stormont, Kansas; J. H. Hibberd, Indiana.

Committee on Necrology—J. M. Toner, Chairman.

Committee on State Medicine—R. G. Jennings, Little Rock, Chairman.

THE NEXT ANNUAL MEETING

is to be held at Cincinnati on the second Tuesday in May, 1888. Chairman of Committee of Arrangements, Dr. W. W. Dawson, of Cincinnati, with power to fill the Committee by appointment.

OFFICERS ELECTED BY THE SECTIONS.

Surgery—Donald McLean, Ann Arbor, Chairman; B. A. Watson, Jersey City, N. J., Secretary.

Medicine—A. B. Palmer, Ann Arbor, Chairman; N. S Davis, Jr., Chicago, Secretary.

State Medicine—H. B. Baker, Lansing, Mich., Chairman; S. T. Armstrong, Tennessee, Secretary.

Children—F. E. Waxham, Chicago, Chairman; W. B. Lawrence, Batesville, Ark., Secretary.

Dental and Oral Surgery—J. Tafft, Cincinnati, Chairman; E. S. Talbot, Chicago, Secretary.

Ophthalmology and Otology—F. E. Hotz, Chicago, Chairman; H. H. Jackson, Philadelphia, Secretary.

Dermatology and Syphilography—L. Duncan Bulkley, New York, Chairman; T. Fayette Dunlap, Secretary.

Medical Jurisprudence—E. M. Reid, Baltimore, Chairman; Dr. Belt, Boston, Secretary.

A question arising concerning the

AMENDMENTS TO THE CONSTITUTION AND BY-LAWS

acted upon yesterday, DR. ROBERTS, of Tennessee, moved that further action in accordance with them be postponed until next year; which was amended by DR. N. S. DAVIS, of Chicago, that the proposed amendments to the constitution be not adopted, but lie upon the table subject to ratification in proper order at the opening of the next annual meeting, and then unanimously adopted.

DR. G. H. ROHE, of Baltimore, in the absence of Dr. A. L. Gihon, Chairman, read the report of the

COMMITTEE ON A MONUMENT TO BENJAMIN RUSH,

which showed that $389 had been received. In connection with the report was read a letter from Mr. Hack Tuke, of England, wishing the project success. The report was referred to an Auditing Committee, consisting of Eugene Grissom, of North Carolina; A. Garcelon, Maine, and A. B. Palmer, Ann Arbor, which subsequently reported that the accounts had been found to be correct.

DR. JOHN MORRIS, of Baltimore, in the absence of Dr. J. M. Keller, of Hot Springs, Ark., read the report of the

SPECIAL COMMITTEE ON CREMATION,

which closed with the following resolution:

Resolved, That it is the judgment of this Association that burial of persons dying of zymotic diseases should be placed by law under the control of health authorities.

On motion by Dr. Morris the report was referred to the Section on State Medicine.

DR. J. MCF. GASTON, of Atlanta, Ga., introduced the following resolution, which was opposed by Dr. G. H. Rohe, of Baltimore, but was adopted:

Resolved, That it is the sense of this Association that it is desirable that two other members of the medical profession be associated with the Committee on Inoculation of Yellow Fever already appointed, and that a committee of three be appointed to communicate this action to President Cleveland.

DR. F. M. JOHNSON, of Kansas City, Mo., delivered the

ADDRESS OF THE CHAIRMAN OF THE SECTION ON OBSTETRICS AND DISEASES OF WOMEN AND CHILDREN.

The past year has given but few remarkable discoveries in either obstetrics or gynecology. Reference was then made to tubal diseases, and the ease and lack of danger with which the operation can be performed, diagnosis being made certain. The practice of leaving a portion of an ovary is of questionable propriety. Electricity has become well established as a therapeutical agent in gynecology. Reference was also made to cocaine as a local anæsthetic, to the use of nitrate of silver for early discovered lacerations of the cervix, and also to Alexander's operation, which he believed would not stand the test of time. In obstetrics, modified Cæsarean section was probably destined to succeed the use of forceps or version in certain cases.

Extended allusion was made to A. F. A. King's paper on the renal troubles and eclampsia of pregnancy and labor, and from this the Chairman passed to the use of ergot and the management of the placenta. A diversity of opinion exists as to the utility of uterine and vaginal injections during the puerperal period, but the application of antiseptic principles in obstetrics was no longer a question, for the decided reduction of mortality in hospitals was an unanswerable argument in their favor. Better success would be secured in the general use of antiseptics if a broader view of the subject were taken, and more attention paid to the principles of treatment, with less adherence to doctors' methods of carrying it out than has heretofore obtained.

THE ADDRESS OF THE CHAIRMAN OF THE SECTION ON STATE MEDICINE

was given by DR. G. H. ROHE, of Baltimore.

The record for State medicine during the past year is a creditable one. As to cholera, the danger of invasion of this country is at present greater than at any time within the past three years. Reference was then made to yellow fever inoculation, the method now being subjected to an official investigation, authorized by the Government. Diligent search has been made for the specific organism supposed to be the infective agent in vaccine virus, but without definite success. The results obtained are not entirely negative, however, and one may cherish the hope that a solution of this problem will soon be reached. The relation of a peculiar disease in cows to scarlet fever, and the discovery of a specific microbe in the blood in the latter disease, have attracted much attention.

The restriction of scarlet fever will doubtless be more thoroughly effected so soon as physicians are convinced of its bacterial nature and clearly comprehend its mode of transmission. Measures for the restriction of pulmonary tuberculosis were adverted to. Tuberculous patients should not be treated in the same hospital wards with non-tuberculous individuals, and prompt disinfection of the sputa and other discharges should be practised, in order to diminish opportunities for infection. General sanitary measures should, however, not be neglected in the warfare upon the bacillus. There is danger that a too exclusive attention to the microbian factors of disease will narrow our views of epidemiology and preventive medicine.

It seems to be established that the micro-organism discovered in the intestinal lesions and discharges in typhoid fever is the cause of this disease. The fact that this microbe may preserve its vitality for a considerable time in water and ice has been shown by Bolton, Wolff-Hügel, Prudden, and others. This, together with the well-known history of outbreaks of this disease, undoubtedly depending upon pollution of drinking-water, should make prompt measures of disinfection imperative in every case. The physician fails in his duty who neglects measures for the thorough destruction of the typhoid infection existing in the intestinal discharges. The importance of disinfection of bedding, clothing, and other personal and household articles in contagious diseases, demands that health authorities should have under their control establishments where disinfection can be carried out on a large scale and at public expense. Quarantine—a word which for more than five centuries has been synonymous with barbarism—is becoming, under methods, a safeguard to the public against infection, and an advantage instead of obstruction to commerce.

Cremation of garbage seems to be the best method yet devised for the inoffensive destruction or final disposal of solid city wastes. The irrigation system of sewage disposal has steadily won favor.

Professor Vaughan's discovery of a very poisonous ptomaine in cheese, ice-cream, and milk undergoing certain chemical changes, has been confirmed by a number of investigators in various parts of the country. Analyses of food and drugs, made during the year in Massachusetts and New York, show the wide extent to which adulteration is practised, and how the people are defrauded. Authority and means should be given to the health authorities to protect the public from these frauds, many of which are a source of danger to life and health.

Statistics collected by the speaker show that five-sixths of the inhabitants of cities in this country have no facilities for bathing, except such as are afforded by a pail and sponge, or an easily accessible river, lake, or other body of water. The establishment of public baths is urgently recommended, both as a sanitary as well as moral measure. Public baths should be open the year round, and not alone during the summer.

A number of instances are grouped together showing how the enforcement of appropriate sanitary measures has saved life. In Michigan the saving of life from one disease (scarlet fever) has amounted, during the last eleven years, to 3,718, or three hundred and thirty-nine per year. In 1886 appropriate sanitary measures saved the lives of 298 persons who would have died of diphtheria if such measures had not been enforced. In England and Wales the average annual saving of life due to sanitary measures has amounted, in the five years ending 1885, to 62,000. While all advances in sanitary administration have doubtless contributed to produce these good results, the main influence is to be attributed to three factors. These are: Compulsory notification of infectious disease, prompt and effective isolation of the sick and infected, and thorough disinfection of all infected articles and sources of infection. These must be the watchwords of the practical sanitarian of the future.

Dr. G. S. Knox, of Chicago, presented the

ADDRESS OF THE CHAIRMAN OF THE SECTION ON DISEASES OF CHILDREN.

The address was read in abstract, and had for its subject diatheses in diseases of children. The speaker brought out concisely the relation existing between diseases in children and the tubercular, syphilitic, and rheumatic diatheses.

The treasurer's report showed a balance in the treasury of $1,403.77.

The librarian's report was read, and placed on file.

THE COMMITTEE ON FINANCE OF THE INTERNATIONAL MEDICAL CONGRESS

asked for an appropriation of money. After stirring speeches, in which were set forth the pressing and urgent financial needs of the Congress, one thousand dollars were appropriated, and it was earnestly hoped that every member of the Association would make immediate and liberal contributions, besides the amount required for membership.

Dr. N. S. Davis, of Chicago, offered the following resolutions, which were made the special order for Friday at the conclusion of the address:

First, That regular graduates of dental and oral schools and colleges which required of their students a standard of preliminary or general education to the term of professional study be recognized as members of the regular profession of medicine and eligible to membership in this Association on the same conditions and subject to the same regulations as other members.

Second, That the Committee of Arrangements are hereafter directed, at each annual meeting of this Association, to so arrange the programme regarding entertainments and receptions that the evening of the third day be reserved for the regular annual dinner, under such regulations that the members may dine with or without wine, according to choice, and pay only for what they elect to have furnished, and that that be the entire cost of the dinner, leaving no part to be paid either by the local profession or the treasurer of the Association.

Dr. Burge, of Brooklyn, introduced resolutions, which were adopted, and which directed the Committee of Arrangements hereafter to adopt some efficient means for preventing conversation and noise in the hall while the general sessions of the Association are had.

The Association then adjourned, to meet on Friday at 10 A.M.

Friday, June 10th—Fourth Day.

The Association was called to order by The President, and prayer was offered by the Rev. W. H. Vibbert, D.D.

The address of the Chairman of the Section on Dental and Oral Surgery was delivered by Dr. J. S. Marshall, of Chicago.

Dr. J. M. Quimby, of Jersey City, N. J., read the

ADDRESS OF THE CHAIRMAN OF THE SECTION ON MEDICAL JURISPRUDENCE.

He first gave an outline of the history of medical jurisprudence from the early periods of Hebrew, Greek, and Roman antiquity. The only medical laws of which we have any distinct account during the Dark Ages were for the prevention of infectious diseases at Venice, A.D. 1127. But special quarantine regulations, scarcely worthy of the prefix medical, were not established until more than two centuries later. The cloud began to lift, in the early part of the sixteenth century, under the reign of Charles the Fifth. The Criminal Code of the German Empire, enacted in 1532, contains the first appreciation of rational medicine in union with law. This justly celebrated code requires that physicians shall be called by the courts in all cases where death has been the result of violent means, whether accidental or criminal. The office of

coroner is as ancient as A.D. 905, and originated among the Saxons. The functions of the coroner in England and France were then described, and it was seen that more weight appeared to have been attached to the importance of medical testimony in coroners' cases in France two centuries ago than now obtains in the United States.

Medical jurisprudence was first taught in the medical schools in Germany in the latter part of the eighteenth century. But the first professorships were created in France in 1792, and in 1803 the University of Edinburgh followed the example. No similar chair was established in England, however, until sixteen years after. It was taught in a course of lectures in Columbia College, New York, by James S. Stringham, professor of chemistry, in 1817, who was succeeded by John W. Francis.

The preservation of fœtal and infantile life was then considered, and he suggested that a special committee be appointed by the Association to report at the next annual meeting upon the criminality of fœticide and such measures as may be commended for legislative action for its prevention and punishment. Attention was directed to the duties exercised commonly by coroners and the means of improving medical police in regard to immigration, with special reference to the detection and prohibition of chronic invalids and insane persons.

The address closed with a special reference to the medical jurisprudence of drunkenness.

Dr. J. M. Toner, of Washington, presented the

REPORT OF THE COMMITTEE ON NEUROLOGY.

Dr. N. S. Davis, of Chicago, reported from the Standing Committee on Meteorological Conditions and their relations to the prevalence of disease; also concerning the collective investigation of disease in co-operation with the committee of the British Medical Association.

The customary

RESOLUTIONS OF THANKS

to all who had contributed to the success and pleasure of the meeting, to the citizens and the profession of Chicago, to the railroads which had given reduced rates, to the Chairman of the Transportation Committee, and to Assistant Secretary Listo H. Montgomery, of Chicago, to the various committees and their chairmen, and to the President, were adopted.

A telegram from Dr. Garnett was received, acknowledging the high honor conferred upon him in electing him President.

The Association then adjourned.

THE ASSOCIATION OF AMERICAN PHYSICIANS.

Second Annual Meeting, held at Washington, D. C., June 2 and 3, 1887.

THURSDAY, JUNE 2D—FIRST DAY—MORNING SESSION.

The meeting was called to order at ten o'clock by the President, Dr. S. Weir Mitchell, of Philadelphia, who delivered a brief address. He reported the death of three members—Dr. Thomas F. Rochester, of Buffalo; Dr. Thomas A. McBride, of New York; and Dr. E. D. Hudson, Jr., of New York.

After the transaction of routine business, the first paper, entitled

CIRRHOSIS OF THE LIVER IN CHILDREN,

was read by Dr. R. Palmer Howard, of Montreal.

He reported two cases in which cirrhosis of the liver was present in children, brother and sister. He exhibited sections of the organ.

DISCUSSION.

Dr. William W. Welch: I recall a case of cirrhosis in a child twelve years of age. He came from the coast of Africa, and suffered with malaria. Both the liver and spleen were deeply pigmented. The clinical features of the case could not be obtained. Most of the cases of cirrhosis of malarial origin have been reported from the coast of Africa. Very little has been brought forward in this country with regard to the malarial origin of cirrhosis.

Dr. F. Forsheimer, of Cincinnati: I have seen two cases that may possibly be called cirrhosis. One was that of a child of eight years. At the post-mortem the characteristic hob-nail liver was found. In this case I considered the cirrhosis due to syphilis. The second case is now under observation in the Children's Hospital of Cincinnati, the patient being in the last stage of cirrhosis. In this case there is a history of syphilis, and the child has hereditary syphilis of the nervous system. To my mind it is clear that syphilis is the most common cause of cirrhosis of the liver in children.

Dr. William Pepper, of Philadelphia: I have the complete records of a case in which cirrhosis of the liver followed measles in a child eight years of age. There was no syphilitic history. During the attack of measles there were symptoms of hepatic disorder, as shown by occasional attacks of catarrhal jaundice. Subsequently the symptoms of developing cirrhosis made their appearance, and death in a comatose condition finally occurred. The whole duration of the case could not have been less than a year. At the autopsy a typical hob-nail liver was found. The liver had been much enlarged, but it had gradually contracted so that at the time of death it was of about the normal size.

OBSTRUCTIVE SAFETY-VALVE ACTION IN THE HEART, AND DIRECT FUNCTIONAL MURMURS,

was the title of a paper by Dr. John Guiteras, of Charleston. In a previous paper, on malignant endocarditis, the author had dwelt upon the significance of mitral direct presystolic murmurs, which were proved by the autopsy to be unconnected with any lesion of the mitral orifice. The lesions were those of intense aortic regurgitation. He had attributed the murmurs to the recoil of the blood upon the mitral leaflets, holding them tense against the stream of blood coming from the auricle. In the opinion of the late Dr. Flint, direct functional mitral murmurs were limited to a small number of cases of aortic regurgitation, but the author thought that functional mitral murmurs were not so rare. Obstructive functional murmurs are common in aortic regurgitation.

Pulmonary systolic murmurs are more frequent than any other form of cardiac murmurs. In examining one hundred consecutive cases, he had found in sixty-two systolic pulmonary-artery murmurs. In these the murmurs were present during tranquil breathing, or during respiration in such a way as to produce changes in the pulmonary circulation. If account is taken of the bruits heard in this region, the proportion becomes greater. Systolic pulmonary murmurs can be developed in the majority of healthy individuals, if we exclude those with thick chest-walls and those who are not intelligent enough to modify their breathing as directed. The author held that such a murmur was a dynamic obstructive valvular murmur, and is produced by the effect of changes of blood-pressure upon the semilunar valves. A certain degree of pressure in the artery must tend to prevent the opening of the valve. This causes a slanting position of the valve, and a narrowing of the orifice, with the production of a sonorous whirl. The fact that such murmurs are not more frequently developed at the aortic orifice is due to the greater power of the ventricle and the wider distribution of the systemic circulation. There are, however, cases in which increased arterial tension is expressed, not only by accentuation of the aortic second-

sound, but by an aortic systolic murmur. Pulmonary-artery murmurs, as heard in ordinary breathing, are confined to the expiratory act, and are loudest at the beginning of the act. The murmur is sometimes only heard with the first beat that occurs with expiration. In order to further develop this murmur, it is only necessary to arrest respiration. It is better to stop breathing during expiration, especially at the end of normal expiration. A full expiration makes the murmur louder. The speaker asked, Are we not justified in assuming that there is a safety-valve action in this attitude of the pulmonary valve, which, together with the leakage at the tricuspid orifice, tends to prevent engorgement of the lungs by retardation of the flow of blood in the systemic veins, so that, continued for a time, it does no harm? On reference to the murmurs of anæmia, the author thought that they were due to some disturbance of the valvular apparatus. In this condition there is a marked reduction in the quantity of blood. The valves require a certain amount of expansion of the vessels in order to allow them to apply themselves to the walls. Venous hums and basic murmurs he thought to be of valvular origin.

Dr. A. L. Loomis, of New York: Many different explanations of murmur within the heart-cavities have been given. We should recognize that they are due to many different causes.

The obstructive mitral murmurs referred to are, I think, of frequent occurrence in connection with aortic disease where there is dilatation and feebleness of heart-power, but on autopsy I have always found such changes in the mitral valves as seemed to me to account satisfactorily for the murmur heard.

I have heard the murmurs readily produced during respiration, but where these murmurs have been persistent I have always found conditions of anæmia and failure of the right heart. It seems to me that the explanation is either hæmic or failure of heart-power. I think that we shall, as we study the cases more, find that they are due, not so much to change in the valvular orifices, as to changes in the heart-cavity and in the heart-walls. Murmurs have come to be of very little pathological significance to me, unless there are other changes associated with them. The worst cases of heart disease that I have met with have had the simplest and least distinct heart-murmurs.

Dr. E. T. Bruen, of Philadelphia: In a case of anæmia which I have recently studied, the blood-corpuscles were reduced from the normal to 1,800,000, with a great reduction in the hæmoglobin. There was also great relaxation of the vascular system; so much so that, as the arm hung out of bed, there was a venous pulse at the back of the wrist. This was attributed by Dr. Osler and myself to relaxation of the capillary vessels to such an extent as to permit the systolic impulse of the left ventricle to force the blood through the capillaries into the veins. There was no venous pulse in the neck. In this case there were murmurs at each of the valves of the heart. As the anæmia improved and the crasis of the blood was restored the venous pulse disappeared and the murmurs gradually lessened, and the man has now no murmur whatever.

Dr. F. C. Shattuck, of Boston: A murmur, by itself, is next to nothing; there must be something besides the murmur to make it of much importance. The author has stated that in anæmia there is a reduction in the quantity of the blood. I would ask, Is not the reduction more in the quality—a corpuscular reduction, and a reduction in the capacity of the corpuscles for carrying hæmoglobin?

Dr. Samuel C. Chew, of Baltimore: With reference to the diagnosis between aortic regurgitant and mitral direct murmurs, I think that the diagnosis can usually be made by attention to the following points: An aortic diastolic murmur, although it may be intense at the apex, becomes manifestly louder as we reach the right side of the sternum, in the second intercostal space. It will then occupy the whole diastole. If the murmur is mitral in origin, it generally will be presystolic, and will be also heard in the scapular region. The aortic murmur is not apt to be heard in the latter situation.

Dr. Beverley Robinson, of New York: I have occasionally found in acute strain of the heart, not necessarily brought about by great muscular exertion, murmurs which unquestionably had nothing to do with organic changes in the heart, and cannot be explained as due to any special modification in the blood. The murmurs seemed to be due to more or less acute dilatation or obstruction of the mitral orifice.

Dr. Israel T. Dana, of Portland: I have had under my observation two sisters, one forty years of age and the other thirty-three. The mother died of organic heart disease. Both of these sisters have had a mitral regurgitant murmur. In the older sister the murmur, after remaining for five or six years, disappeared. It remained absent for one or two years and then returned, and has continued for the past two or three years. In the second case the murmur, after having been present for five or six years, disappeared, and has since remained absent.

A paper by Dr. Hosmer A. Johnson, of Chicago, on

PNEUMATIC DIFFERENTIATION,

was read by the Secretary, in the absence of the author.

The last paper of the morning session was entitled

METHODS OF LITERARY RESEARCH,

by Dr. John S. Billings, U.S.A. The author referred to the best way of using libraries, with especial reference to medical literary work. He also spoke of the great importance of carefully prepared catalogues of books.

Adjourned.

Afternoon Session.

Dr. H. C. Wood, of Philadelphia, read a paper entitled

THE ANTIPYRETIC TREATMENT OF FEVER.

The author had prepared certain propositions, which he read, and then gave what he thought to be the proof of their correctness. The first proposition was: "Fever is a disturbance of calorification in which, through the influence of the nervous system, heat-dissipation and heat-production are both affected. If there be a fever which is produced by the direct action of a poison independently of the nervous system, we have at present no proof of its existence." If an animal's temperature rise, there must be a certain number of heat-units used in producing that rise. If the temperature fall, there must be a corresponding lessened production of heat. In his experiments the agent used to produce the fever has been the pyrogenic principle found in ordinary commercial pepsin. After the substance has been introduced the animal is put into a calorimeter. The animals used in the experiments have been dogs. In the normal animal, heat-production and heat-dissipation are correlated functions. When the poison is injected it is found that heat-dissipation increases at the time that heat-production is diminishing, so that the fall of temperature was in part the result of heat-dissipation and in part the result of diminished heat-production. It is impossible that there should be this wide disturbance of these two functions simultaneously unless the poison which produces the fever acted upon some one central organ, and that must be the nervous system.

Second, "Heat-production is regulated by a nervous apparatus, our knowledge of which is still imperfect." There is certainly an inhibitory centre which depresses or controls the production of heat. It probably does this by acting upon the trophic cells of the gray matter of the spinal cord. It is possible, also, that there is a

centre which, when excited, increases tissue-change, but its existence has not yet been proved.

Third, "Heat-dissipation is regulated through the vaso-motor system, so that vaso-motor paralysis is followed by an enormous loss of animal heat, and, under unfavorable circumstances, by death from cold." If section of the cord is made in such a way as to get vaso-motor paralysis without destruction of the respiratory centres, the heat-dissipation rises enormously. If the animal is kept in a temperature of 50° or 60°, it dies in a few hours of progressive loss of heat. If kept in a warm chamber it lives for days. The cause of the rapid heat-dissipation is the opening of the blood-vessels of the surface of the body.

When these remarks are applied to a study of antipyretics, it is seen that drugs may lower bodily temperature in health or in fever by increasing heat-dissipation. In this way act all agencies which cause vaso-motor paralysis. Antipyretics acting in this way may be called false antipyretics. Then it is conceivable that there may be drugs which act on heat-production through the inhibitory nerve-apparatus, of which mention has been made. Such drugs may for convenience be called true antipyretics. Aconite, veratrum viride, and drugs of that class belong to the false antipyretics. Whether or not there are any true antipyretics has, until recently, been a question which we have been unable to answer. With regard to antipyrin, certain experiments made in the University of Pennsylvania seem to give some positive results. Care must be exercised in these experiments not to confound a normal defervescence with the action of the drug administered. In the dog the use of antipyrin diminishes both heat-production and heat-dissipation, the former being diminished more than the latter. It is probable that heat-production is primarily affected. The question arises whether this result is due to an effect on the circulation. He had found that antipyrin had no effect upon the circulation. The blood-pressure was uninfluenced by its administration. He therefore concluded that the action of antipyrin upon the bodily heat was entirely independent of any action upon the circulation, and the probabilities are, of course, that it acts through the nervous system. Beyond this our present knowledge does not extend.

THE TREATMENT OF TYPHOID FEVER BY ANTIPYRIN AND THALLIN

was the title of a paper by Dr. Francis Minot, of Boston

The following conclusions were reached: 1. Both antipyrin and thallin have a remarkable power of reducing the temperature in typhoid fever. 2. In no case was the use of these refrigerants apparently followed by any unfavorable effect upon the course of the disease. 3. The general condition of the patient was more comfortable after taking antipyrin and thallin, which were often followed by sleep. 4. The refrigerant medication by antipyrin and thallin appears to have no specific or decided effect upon the course or issue of typhoid fever. It often contributes much to the patient's comfort; perhaps indirectly promotes his safety. 5. The effect of antipyrin and thallin in promptly lowering the temperature shows that the danger in typhoid fever does not consist in high temperature alone, and that the latter is rather an index of the violence of the abnormal condition which we call fever, though perhaps adding somewhat to the danger. 6. By the internal use of antipyrin and thallin all the effects which are claimed for the treatment of typhoid fever by the cold bath are readily obtained without the trouble and inconvenience of the latter method, and without exposing the patient to the dangers of exhaustion and shock consequent on the fatigue of removal from bed. 7. These remedies may be given without danger to the youngest patients in suitable doses, and, indeed, their beneficial effects are more decided and the unfavorable consequences are less observable than with adults.

Dr. I. E. Atkinson, of Baltimore: As regards the relative merits of thallin, antipyrin, and antifebrin, I think that the tendency to chilling after the use of thallin is decidedly greater than after the use of antipyrin, while the latter is more apt to produce nausea and vomiting. I am disposed to disagree with the statement that the use of these drugs can take the place of the external application of cold water. It has recently been reported that one observer abroad has treated two hundred cases in private practice by the use of baths with a mortality of nothing; in army hospitals he has had a mortality of five per cent., and in ordinary hospital practice a mortality of less than eight per cent. Although with antipyretics we can reduce the temperature at pleasure, yet the duration of the case is not lessened, and in some cases it has been thought to have been prolonged.

Dr. George L. Peabody, of New York: I have found that certain cases which do not bear the cold bath will bear the use of antipyretic drugs, while, on the other hand, the bath may be used in a certain number of cases in which antipyretics cannot be applied. From clinical experience I have been convinced that the cold bath accomplishes more than the simple reduction of temperature. Its soothing effect upon the nervous system is greater than that accomplished by the reduction of temperature by antipyretic drugs. I believe that in many instances the course of the disease is favorably modified by the use of the cold bath. Another important matter is, that since the introduction of these methods of antipyresis the number of relapses seem to be greater and more fatal. I understood Dr. Wood to say that antipyrin acted solely by diminishing heat-production, and that it did not increase heat-dissipation. I must differ from him on that point. It seems to me that the increase of heat-radiation from the surface is very great, not only where it produces sweating, but also where it does not.

Dr. W. W. Welch, of Baltimore: There is comparatively little evidence that the grave symptoms of fever are referable to the elevation of temperature. There is no doubt that temperatures of 110° to 113° produce serious symptoms, but whether or not ordinary temperatures of 105° to 107° exert any serious action on the body, is a question which is certainly unsettled. It has been shown that rabbits can be kept in a box, with a continuous rectal temperature of 107°, for at least two weeks, provided the precaution is taken to keep the box well ventilated and the animals supplied with moist food. Patients may have a perfectly clear brain and no grave symptoms with a temperature of 106° or 107°. On the other hand, there are severe and fatal cases of typhoid fever in which the temperature has never registered a great height. While in most cases there is a certain proportion between the height of the temperature and the severity of the disease, yet there are certain cases where this proportion does not exist.

Dr. William Pepper, of Philadelphia: I have been disposed to think that antipyrin and antifebrin were superior to thallin. I have not seen any of the dangerous symptoms which have been mentioned by some writers. The action of these drugs seems to be purely through the nervous system. I have seen no effect upon the circulation, upon the respiration, or upon the secretions, save that of the skin. Some of my observations have been of interest with reference to the relative value of the external use of cold water and the internal use of antipyretics. In the sudden acute pneumonias of children, with a temperature of 106° or 107°, with initial convulsions, where the prompt and repeated use of cold baths has been without gratifying results, full doses of either of these antipyretics have produced a remarkably successful effect. In a recent case, in a child with double croupous pneumonia, involving two-thirds of the left lung and one-third of the right lung, with a temperature in the rectum of 107°, and with repeated convulsions, cold baths failed to relieve the symptoms, although repeated at intervals of three hours. Antipyrin in repeated

doses controlled the pyrexia at the beginning and on several occasions during the course of the disease, and after a severe struggle the child recovered. As to the ability of these agents to replace cold baths under all circumstances, the evidence is not adequate. In the sudden hyperpyrexia occurring in the course of rheumatism, I am not prepared to accept the view that these drugs are capable of replacing the cold bath. In these cases we have direct evidence that the high temperature is the cause of the symptoms—at least of the severe nervous symptoms.

Dr. George B. Shattuck, of Boston: It seems to me that antifebrin offers all the advantages of antipyrin, without its disadvantages. It has none of the disadvantages which belong to thallin. Three or four grains of antifebrin accomplishes the same results as are produced by a larger dose of the other drugs. The disagreeable symptoms which some writers have referred to as following antipyrin are probably due to the fact that they follow the original recommendation, and give two grammes of the drug. The same benefit can often be obtained from one gramme and often from seven grains. With reference to the point suggested by Dr. Welch, I would say that, whether pyrexia is or is not a dangerous feature of the disease, we find, clinically, that where a patient has high fever, is irritable, impatient, and uncomfortable, the administration of one of these antipyretics or the external use of cold water produces a tranquil and refreshing sleep, and the patient awakes in a condition much better to continue the struggle with the disease.

Dr. J. C. Wilson, of Philadelphia: A recent observation which I have made is interesting as bearing on the question of heat-dissipation. I have lately been treating a case of typhoid fever in which from time to time antifebrin in five-grain doses was given. These were repeated whenever the temperature reached 104°. This caused copious sweating, with the usual reduction of temperature, amounting to three and one-half or four degrees. On the last occasion one ninety-sixth of a grain of sulphate of atropia was given with the antifebrin. No sweating occurred, and the temperature was reduced one and one-half degrees.

Dr. James T. Whittaker, of Cincinnati: I would differ from the gentlemen who seem to accept the view that fever is a neurosis. We have, I think, no proof that the nerve-centres are distinctly irritated, and we have no proof that the agents which reduce fever act directly on the nervous centres. Is it not more probable that the antipyretic action is really an antimicrotic action? We have some observations which go to show that the disease is caused by bacteria, or, if not directly by bacteria, by some of their products—the ptomaines. Would it not be more rational to study the habits of these bacteria and address ourselves rather to the removal of the cause than to the counteracting of the effects?

Dr. H. M. Lyman, of Chicago: I am disposed to regard their great value as proceeding not so much from their power to reduce temperature as from their general effect, especially upon the nervous system. I regard them as valuable adjuvants in the treatment of disease, largely from their hypnotic and tranquillizing effect upon the nervous system, to which allusion has already been made. I have observed that in many instances where, in abrupt febrile affections, relief has not been secured from antifebrin and antipyrin this failure is frequently due to the presence of the condition we call rheumatic, and there salicylic acid gives the relief that we fail to get with the antipyretics.

Dr. John Guiteras, of Charleston: I have had some experience with these drugs in the treatment of the continued fevers of warm climates, but here the results have been rather negative, and have shown the advantage of stopping their use after they have been continued for a certain length of time. I have been called in consultation where the drug had been continued for ten or fifteen days, each time that it was given producing a certain reduction of the temperature, but having no permanent benefit, and the patients have begun to improve as soon as the drug was stopped. The effect of cold-water baths in these continued fevers of the South has seemed to me to be more beneficial. If continued for two or three days they often favorably modify the course of the disease.

Dr. George L. Peabody, of New York: There is no question in my mind that a considerable proportion of cases of typhoid fever can be aborted by antiseptic treatment of the intestinal ulcers with naphthalin or resorcin. For the past two years I have treated all cases coming under observation during the first ten days of the disease with a calomel purge (ten gra.) followed by naphthalin in such doses that at least seventy or eighty grains are taken during the twenty-four hours. Under this treatment I have without doubt succeeded in aborting many cases in which the symptoms were quite pronounced. I have not succeeded in cases coming under observation at the end of the second week.

Dr. H. C. Wood, of Philadelphia: In regard to the dissipation of heat by sweating, I would state that in the dog, on which the experiments were made, there are but few sweat-glands. Sweating in man does undoubtedly cause a dissipation of heat.

Dr. James Tyson, of Philadelphia: In a recent case of rheumatism the temperature suddenly went up to 105°, with alarming brain-symptoms. Antifebrin, in five-grain doses, failed to produce any effect. The patient was then put into a cold bath, and the temperature of the water gradually reduced to 72°. The discomfort experienced by the patient then prompted his removal from the bath. The thermometer in the rectum showed a reduction of only one-half of a degree, but within the course of half an hour the temperature fell three degrees. I scarcely think that this was a natural defervescence, but must attribute it to the effect of the bath. The fall in temperature was followed by a disappearance of all the symptoms, and the recovery of the patient.

Dr. R. Palmer Howard, of Montreal: I want to emphasize the fact that internal antipyretics and the cold bath are not equivalents—they are substitutes—and important auxiliaries to the physician. These measures relieve special symptoms, but whether or not they shorten the duration of the disease is a question not yet settled. Another important point is with reference to relapse in typhoid fever. This is a subject which requires investigation. I think that every relapse, so called, is due to the absorption of fresh poison. It is really a fresh attack. It is really an initial attack. It runs a severe course, and often proves fatal.

Dr. Henry Hun, of Albany, reported in detail the histories of twenty-nine

CASES OF SEWER-GAS POISONING

coming under his observation, in which various diseases appeared to have been due to the inhalation of sewer-gas. He thought it probable that the following diseases may result from sewer-gas poisoning: Vomiting and purging, separately or combined; general debility, fever, sore-throat of a diphtheritic type, neuralgia, and perhaps, also, myelitis of the anterior horns. These conditions are frequently combined. Fever is frequently associated with the other symptoms. There is one group of symptoms which is almost always present—that is, loss of appetite, extreme prostration, and pain in the head. When this occurs as a chronic condition we are justified in suspecting that the patient is suffering from sewer-gas poisoning.

Dr. Israel T. Dana, of Portland, Me., reported the following

CASE OF ANEURISM ON THE ABDOMINAL AORTA.

A. H——, a man aged thirty, of previous robust health, was found, August 6, 1886, emaciated, feeble, anæmic,

dyspeptic, and with very frequent, unsteady, and irregular pulse. The most prominent symptom was a constant sensation of throbbing and pulsation centring in the epigastrium. Exacerbations occurred on slight exertion or excitement.

In August, 1884, he fell ten feet, striking on small of back. Gradual failure of strength and endurance appeared. He would get tired soon, and more easily out of breath. There was gradual deterioration of health until, in latter part of June, 1886, he was utterly incapacitated from all labor. Exploration of abdomen anteriorly revealed existence of a small squabby incapsuled tumor just above the level of the umbilicus. Single impulse related to cardiac systole; no back-stroke; distinct blowing sound. On examination posteriorly there was found a distinct independent centre of motion and sound. The sound was double, sharper and more intense than that heard in præcordial region, and possessed a well-marked "booming" quality. Between this centre of sound and the lower left interscapular region, where the normal heart-sounds could be faintly heard, there intervened an area of silence.

The diagnosis was small traumatic aneurism of abdominal aorta, just after its passage through diaphragm; also some inflammation of aortic coats higher up.

The treatment consisted of (1) absolute rest in bed for two months; (2) restricted diet of bread, meat, milk, and cocoa, with amount limited; (3) iodide of potassium, twenty grains four times a day.

Immediate improvement ensued within first week, and continued gain in power, till by the middle of November he could walk and ride about carefully.

On May 9, 1887, he began light work at the paper-mills again.

He had regained the twenty-five pounds of lost weight, ate well, slept well, and had but little palpitation, though excitement, physical or emotional, readily induced slight return of some of the old sensations.

Physical examination at this date revealed anteriorly the existence of the aneurismal mass, perhaps a little diminished in size, while the blowing sound was scarcely audible. The impulse and expansion were markedly reduced. On examination posteriorly the independent centre of pulsation and double sound was found, but both motion and sound were greatly reduced in amount and the booming quality was gone.

It was concluded that a practical cure had taken place, the sac having become largely filled up with concentric layers of fibrin, and that reduction of the existing inflammation of aortic coats higher up had been effected.

The chances of final complete recovery were not considered encouraging. The circumstances of the patient were not favorable to such rest and tranquillity of mind as might be desirable, and even with all external conditions at the best, there would yet be too many dangerous liabilities remaining, such as embolism, pyæmia, atheromatous degeneration, etc. The quick improvement under treatment was noticeable. The patient himself attached great value to the iodide of potassium, which he still takes, feeling so much better while taking it that he is unwilling to leave it off.

Evening Session.

A discussion on

HEMORRHAGIC INFARCTION

was opened by Dr. W. W. Welch, of Baltimore, referee.

The author presented as the result of his studies the following conclusions: 1. The blood which produces hemorrhagic infarctions comes chiefly, if not exclusively, from the collateral vessels. 2. Hemorrhagic infarctions in the intestine cannot take place merely from a reflux of blood from the veins. 3. The blood-pressure is very low in the region where hemorrhagic infarction occurs, in consequence of occlusion of the main artery. 4. A certain degree of force of the collateral circulation is required to produce a hemorrhagic infarction. 5. No positive proof exists that a change in the vascular walls is essential to the production of a hemorrhagic infarction. 6. The hemorrhage occurs by diapedesis. 7. Where hemorrhagic infarction has taken place, the large and small veins are widely dilated with blood and the arteries contain a smaller quantity of blood than normal; there is stasis in many of the veins and capillaries.

Dr. William Osler, of Philadelphia, the conferee, referred to the clinical aspects of the subject, and reported the following case: J. M——, aged twenty, admitted to the Philadelphia Hospital on October 10, 1886. He had never had syphilis, and was a healthy-looking man. He presented a clear history of typhoid fever, with a sickness of six weeks two years previously. His present illness began with diarrhœa one week before admission. For two days he had attacks of bleeding at the nose. There was a temperature of 102°, with pain in the abdomen. There was no cardiac murmur, and examination of the lungs gave negative results. The splenic dulness was increased. By October 15th the temperature had reached 103°. There was almost constant delirium. There was some diarrhœa. Coldness of the feet appeared, and continued to increase in degree and extended up the leg. The legs became livid, and no pulsation could be detected in the femoral and popliteal vessels. The patient died on the 17th. It was supposed that there was thrombosis of the iliac veins, with gangrene of the legs, which is one of the rare sequences of typhoid fever. At the autopsy it was found that the lower portion of the abdominal aorta, and also the two iliac arteries, were plugged with thrombi. There was general peritonitis; the right kidney presented a red-brown infarction. There were no ulcerations in the bowels, no endocarditis. The lungs were normal. There was an infarction in the spleen. During life the blood was examined for microbes, but none were found. After death microbes were found in the spleen.

Hemorrhagic infarctions of the liver, under ordinary circumstances, are impossible. A. B——, a hard drinker, was admitted to the hospital on September 27th. His illness began in the previous June, with vomiting and swelling of the abdomen. The dropsy steadily increased. He died two days after admission. At the autopsy a large amount of fluid was found in the peritoneal cavity. There was nothing special found in the heart or lungs. The liver was remarkably cirrhotic. Through the right half of the right lobe there were scattered numerous reddish-brown areas. The walls of the portal vein were thickened, and a large brown thrombus occupied the upper portion of its trunk. The branches passing to the right lobe were filled with clots. The hepatic artery and vein were normal. In this case the hemorrhagic infarctions were in all probability due to the cirrhosis of the liver, which had caused more or less obstruction of the branches of the hepatic artery. The only other case of infarction of the liver which the speaker had been able to find was one reported by Recklinghausen.

In the intestine hemorrhagic infarctions are met with in two forms, one involving the mucosa, the other affecting the entire gut. The former not infrequently ends in ulcerative necrosis. The latter form of hemorrhagic infarction is not common in man. In the horse it is frequently seen resulting from thrombi formed from verminous aneurisms of the mesenteric and its branches. This is a common cause of the severe and fatal colic so frequently seen in these animals. In conclusion, the speaker referred to the fact that in the lung it was not uncommon to have a vessel blocked without the production of an infarction. An occasional cause of thrombotic infarction is local disease of the pulmonary artery. It sometimes results from the endarteritis induced by beginning tubercular processes.

Adjourned.

(To be continued.)

THE PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, May 6, 1887.

GEORGE F. SHRADY, M.D., PRESIDENT, IN THE CHAIR.

DR. CLEMENT CLEVELAND exhibited a

SELF-RETAINING SPECULUM,

and demonstrated its use upon a patient. It consisted of two blades like that of the ordinary Sims speculum, each having a flange, and connected by a bar one inch and a half long. The space made by this connecting-bar was sufficient to include the tissues between the posterior wall of the vagina and the integument between the nates. To be used with the speculum was a belt which went around the body, and from it a strap passed through a slot at the end of the blade, back under a bar soldered to the connecting-bar, and then it returned upon itself and was hooked, so as to produce the required degree of tension to hold the instrument in position without the aid of an assistant.

DR. SAMUEL SEXTON then read a paper [see p. 649] entitled

BOXING THE EAR.

DR. JAMES B. HUNTER then reported cases in which he had used

AVELOZ IN THE TREATMENT OF CANCER.

The milk of aveloz, a specimen of which was shown, is the product of a plant growing in Brazil, one of the euphorbiaceæ, many varieties of which are well known for their irritant and acrid juices. He had not been able, from any botanical works at his disposal, to ascertain exactly the position of the plant furnishing the juice known as the milk of aveloz, but it appeared to be closely allied to the *Hura crepitans*, the milk of which is described by the older botanists as possessing extraordinary properties as an irritant. Boussingault made an examination of some of the juice, and was attacked, he says, with a severe form of erysipelas. The courier who brought the juice, as well as the inhabitants of the house in which he spent the night on his way, were also attacked with severe inflammation of the skin. Another species of the same family growing in Brazil is the *Hippomane mancinella*, or manchineel tree, about which there are fabulous accounts, as that it is fatal to life to sleep beneath its shade. It is true, however, that a drop of the juice of that tree applied to the skin will quickly raise a blister full of serum. It is not surprising, therefore, that the milk of one of the euphorbia family should be possessed of very active properties.

Several years ago a small quantity of the milk of aveloz was sent from Brazil to the authorities at Washington, and distributed for trial. Then for a time none could be obtained. Later it was to be purchased of a gentleman in this city, John T. Kirby, 16 Beaver Street. The depôt for its sale is in Pernambuco, the juice being collected chiefly in the province of that name. The preparation is said to be patented by the Government of Brazil, and its use is endorsed by the Central Board of Health of Rio de Janeiro.

IT HAS A LOCAL REPUTATION FOR THE CURE OF ULCERS OF ALL KINDS,

especially syphilitic ulcers, and for the cure or relief of cancer. It is claimed by Numa Pompilio, who signs himself Surgeon-Dentist, and who seems to act as agent for Gitirana Costa, who prepares the drug, that it is used extensively in the Pedro II. Hospital in Rio, and with excellent results.

Two preparations are furnished, one of which is recommended for open ulcers, and the other for cases of cancer in its early stages. The principal or only appreciable difference appears to be in the degree of inspissation.

The method of using the drug advised is, that the affected surface be thoroughly cleaned with a carbolic lotion, and dried. The juice is then applied freely with a soft brush, retained in place by lint or cotton, and covered with light rubber or gutta-percha tissue. The purpose of the application is to produce the effect of a caustic. Special care is necessary to prevent contact with sound tissues, as it is extremely irritating. The application is repeated every three or six days, according to the condition. His own experience had been confined to cases of epithelioma of the cervix. He first alluded briefly to the experience of others. Its application to disease of the breast is said to be very painful. There is not usually much pain in its use on the cervix uteri.

Dr. Velloso, in the *British Medical Journal*, January 6, 1887, claimed to have cured several cases of epithelioma of the face and lips, in which site the drug was said to cause severe pain.

Dr. W. H. Bolling, of Louisville, who received some of the first specimens of the remedy sent to Washington, reported marked improvement in several cases of epithelioma of the face; and one case of probable or apparent cure. It was used in Dr. Bolling's cases as an escharotic, for the destruction of diseased tissue.

Dr. Janvrin, of this city, had used the drug in many cases with marked benefit.

During the past three years Dr. Hunter had applied the milk of aveloz in many cases of

EPITHELIOMA OF THE CERVIX,

and though its effect had often been negative, in a certain number it had produced results that he had not obtained by any other means. In cases of spongy, easily disintegrated cervices, it had left a better surface than nitric or chromic acids, or than the actual cautery. It had also seemed to him that the recurrence was delayed longer than after the ordinary caustics. He had confined its use to cases where the knife was not applicable, or where operation was not allowed. In some cases he had been surprised at the comparatively healthy condition of the surface remaining after the eschar came away, and surprised also at the long interval that elapsed before there was fresh breaking down.

One of the effects of a free application of the juice to a diseased surface is to promote a copious serous discharge, thus depleting the congested vessels. In some cases a marked difference has been effected in the character of the discharge, which has become and remained for a long time almost inoffensive.

The following cases were selected as illustrative of the treatment and exemplifying its results, of which all that could be said was, that they were in some respects better, as to the arrest of the disease, and as to the comfort of the patients during its progress, than those afforded by many of the usual methods. As far as he could judge at present, he should not use the aveloz with any expectation of effecting a cure; but it seems probable that it may do more than some other remedies toward arresting the progress of the disease, and perhaps prolonging the period during which surgical treatment may be employed with some hope or promise of success.

He had not lost sight of the fact that some cases of cancer of the uterus undergo changes in their progress that might erroneously be attributed to the remedies used; but after making due allowance for that source of error, there still remains something to be said in favor of the drug in question.

CASE I.—Mrs. A——, aged thirty-nine, mother of four children, had been in good health until one year before seen, when there was a profuse watery discharge, very offensive, with occasional hemorrhages. The aveloz was applied at first every third day, and later once a week. There was marked improvement for seven months; the disease seemed almost to stand still.

THE APPLICATIONS WERE FOLLOWED BY SOME PAIN,

but the discharge very much diminished, and became less offensive. The patient died about one year after she was first seen.

CASE II.—Mrs. B——, aged forty-one, mother of two children, had amputation of the cervix, with recurrence six months later. There was a profuse offensive discharge, and the surface bled on the slightest touch. The aveloz was used so freely as to destroy the tissue deeply. The result was such as to rouse a suspicion as to an error in diagnosis. The improvement was of nearly a year's duration. In this case nitric and chromic acids had been used without benefit.

CASE III.—Mrs. C——, aged fifty, mother of four children. The use of aveloz seemed to arrest the breaking down of the cervical tissue. For eighteen months there was no material change. Then there was a sudden redevelopment. No opportunity was afforded of a further trial of the drug. The long period of freedom from all the urgent symptoms was a remarkable feature in the case.

CASE IV.—Mrs. D——, aged fifty-five, had, when first seen, been suffering from hemorrhages, and a very offensive discharge, for about six months. After using the aveloz there was less hemorrhage, but the offensive discharge continued. There was a change in the appearance of the diseased portion of the cervix, and it could be touched without bleeding as at first. The use of the aveloz was suspended several times, and each time there was an aggravation of the symptoms, and after its use the diseased surface could be examined more thoroughly without breaking down. In this case the patient had suffered the constitutional effects of the disease before coming under treatment, and little was to be expected from any local application.

CASE V.—Mrs. E——, aged fifty, mother of three children, had enjoyed exceptionally good health until one year before the time when first seen, October, 1886. She had been told she had a cancer, and was prepared for the worst. After three applications of the aveloz a slough came away, and for the past six months there has been no apparent change in the condition. The surface remains unbroken, and there is no evidence of extension in any direction. Repeated applications have been made, but the first apparently did the most good, as there has been no discharge and no hemorrhage since they were made. The case is still, and will be watched with interest.

The class of cases in which this drug seems at least worthy of a trial are those where the skin or mucous surface is broken—that is, in the early stage of ulceration, and before there are any constitutional symptoms.

DR. ROBERT F. WEIR then read a paper [see p. 652] on

PERFORATION OF THE APPENDIX VERMIFORMIS, WITH A PLEA FOR EARLY RESORT TO SURGICAL INTERFERENCE.

DR. W. T. BULL thought that the Society was under obligation to Dr. Weir for bringing this most important subject before it. So far as the performance of laparotomy for this variety of perforation was concerned, he thought that the record, at the present time, was not very satisfactory, but at the same time it was encouraging. He noticed that Dr. Weir had thrown Homan's case out, and it was very proper that he should have done so, because it seemed evident that the abscess could have been opened without involving the peritoneal cavity at all. Even though one did not feel certain of his diagnosis, he believed that a limited exploration could be practised with very much less danger than what is ordinarily called a complete laparotomy. Given a doubtful case, one might, even without an anæsthetic other than cocaine, make a small incision which would permit the introduction of one or two fingers, and by the exploration that could be done through such an opening he thought that, on the average subject, not too fat, a correct diagnosis could be made, or at least it could be determined whether or not the disease was connected with parts in the right iliac fossa. Such an operation could be resorted to very much earlier than an ordinary complete laparotomy.

So far as the general management of the case was concerned, Dr. Bull thought that thorough washing out of the abdominal cavity was very desirable, but at the same time he confessed that he felt somewhat skeptical with regard to the reports of laparotomists who claim to cure general purulent peritonitis by any kind of irrigation. He doubted whether general purulent peritonitis had ever been cured by that method. He was unable to see how anyone could

WASH OUT THE ABDOMINAL CAVITY

and remove all the purulent and other inflammatory products. He could not help believing that the reported cases of cure had been cases of localized peritonitis. Such cases can be cured by irrigation, perhaps. He believed that surgeons were fast coming up to the point where they would have a much better chance for reversing the mortality record in these cases, providing that physicians watch with the greatest amount of care the development of the symptoms. He would like to ask Dr. Weir if he was thoroughly satisfied that he would not have been likely to have cured his patient by such an exploration for perityphlitic abscess.

DR. WEIR said that he should probably have struck the abscess, and probably would have given the patient a better chance than was afforded by his operation.

DR. A. H. SMITH asked, why advocate laparotomy in the median line? Why not make the incision in the region of the cæcum?

DR. WEIR replied that there was no difference in the risk, probably, between the two regions, but the chances were that in some cases the incision in the median line would prove to be the one through which the pus could be reached.

DR. SMITH referred to a case in which stercoraceous vomiting was present to a very marked degree, yet there was no intestinal obstruction. The case was one of probable ingestion of corrosive sublimate. The odor of the vomited matter was distinctly fecal and not gangrenous.

DR. A. A. SMITH asked Dr. Weir what he meant by the expression "very early?"

DR. WEIR replied that he could not fix the time absolutely, but that certainly the

EXPLORATORY INCISION SHOULD BE MADE BEFORE THE END OF FORTY-EIGHT HOURS.

DR. SMITH said: Suppose there is no localized peritonitis, will the exploratory incision do harm?

DR. WEIR answered that the exploratory incision was comparatively harmless when inflammation was not present. He was unable to say how much, if any, would be added to the danger by the operation.

DR. SMITH asked if there were not many cases in which recovery took place without an operation. He did not wish to be regarded as unduly critical, but was merely desirous to obtain information which would enable him to do the best for the patient when brought face to face with a serious case, and particularly as to when abdominal section should be advised. He was of the opinion that

IT SHOULD BE DONE VERY EARLY,

and he wished to ascertain particularly how much the gravity of the case would be increased by an operation within the first forty-eight hours.

DR. WEIR said that cases did occur in which recovery took place without any operation. As to the danger added by an early exploratory incision, he could only refer to cases in which it had been performed without any ill effects; for example, Billroth had opened the abdomen in twenty-seven cases, and all the patients recovered.

DR. SMITH: And if there is no inflammation the operation is less harmful?

Dr. Weir: It is a comparatively safe procedure. Whether it adds to the inflammation already in progress he was unable to say.

Dr. A. H. Smith referred to the case of a woman under observation, who had, at about the middle of Poupart's ligament, a tender spot with some pain on moving, and some sense of resistance on palpation. There was no rise of temperature, and no great amount of suffering, and yet there was a slight swelling and resistance there which were not present upon the opposite side. Was the indication present for an operation?

Dr. Weir said it must be remembered that perityphlitis in females was exceptional; it was the rule that it occurred in males. And there were so many other causes of inflammatory troubles in that locality in females that he thought such a case could be watched safely. It was

THE SEVERE CASE PROGRESSING

with marked symptoms which he had under consideration, and when it was ascertained that pus was present it should be let out.

The Society then went into executive session.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Ninth Annual Congress, held in New York, May 26, 27, and 28, 1887.

(Concluded from page 648.)

Friday, May 27th—Second Day—Morning Session.

The Association was called to order by the President.

The first paper was an elaborate one, read by Dr. Frank Donaldson, Jr., of Baltimore, entitled,

FURTHER RESEARCHES UPON THE FUNCTION OF THE RECURRENT LARYNGEAL NERVE,

in which he reviewed warmly a paper read before the Association by Dr. F. H. Hooper, of Boston, at a former meeting, and then reported the results of a series of experiments performed in the biological laboratory of the Johns Hopkins University to prove that Dr. Hooper's criticisms upon his paper were not well founded.

Dr. Franklin H. Hooper, of Boston, then read a valuable paper on

THE ANATOMY AND PHYSIOLOGY OF THE RECURRENT LARYNGEAL NERVE,

in which was detailed a series of experiments performed in the physiological laboratory of the Harvard Medical School.

These papers were discussed by Drs. J. H. Hartman and J. N. Mackenzie, of Baltimore; F. I. Knight and S. W. Langmaid, of Boston; B. F. Westbrook, of Brooklyn, on invitation by M. A. Starr, of New York, and by the writers.

Afternoon Session.

The first paper was read by Dr. W. C. Glasgow, of St. Louis, on certain

MEASURES FOR THE RELIEF OF CONGESTIVE HEADACHES.

The variety of headaches considered in the paper was that from over-distention of the blood-vessels; the so-called brow or catarrhal headache occurring frequently at the menstrual period and called uterine headache, etc. The cavernous bodies are in a state of tension, and the measure for the relief of the pain which he had practised with most satisfactory results during the last four years was local abstraction of blood, by pricking these bodies with a lance-headed probe. The quantity of blood drawn rarely exceeded one ounce, and in some cases a single drachm gave the desired relief. The bleeding might be repeated.

Dr. J. N. Mackenzie, of Baltimore, had had a similar experience, and was pleased to hear that his view concerning the congested condition of the cavernous bodies during menstruation had been noticed by Dr. Glasgow.

Dr. C. C. Rice, of New York, said his experience had differed from Dr. Glasgow's; that he had regarded the cause as hypertrophic changes producing pressure; and that his treatment had been mainly by the use of the galvano-cautery, and he had not found it necessary to draw blood.

Dr. H. Allen, of Philadelphia, regarded these cases as owing to pressure effect due chiefly to deflected septum.

Dr. Sajous, of Philadelphia, while he thought that Dr. Allen's theory would explain a number of cases, believed that headaches originating in the nasal cavity were due to hyperæsthesia of the mucous membrane.

Dr. Bosworth, of New York, questioned very seriously that the point of contact of the mucous membrane in the nasal cavity was a pathological condition.

As to what the special morbid lesion was that produced headache, he thought we were yet very far from knowing exactly.

The discussion was continued by Dr. Allen and by Dr. Glasgow, who said that it was *congestion*, not hypertrophy nor hyperæsthesia, that constituted the basis of his paper, and that the condition of the cavernous bodies was evidence of the congestion above. He spoke only of the condition dependent upon those elastic sanguineous swellings which yielded to gentle pressure with a probe.

LEUCOPLAKIA BUCCALIS,

by Dr. Glasgow, of St. Louis, was read by title.

THE TREATMENT OF LARYNGITIS IN PROFESSIONALS WHO ARE UNABLE TO REST.

Dr. Solis-Cohen, of Philadelphia, opened the discussion on this subject, and said that he had been unable to treat laryngitis better in professionals than in other people. For the relief of acute hoarseness, he had used a brisk emetic, allowing the patient to rest until the performance begins, in the meantime not using the voice, but sucking pieces of ice, and applying cold compresses to the neck.

In cases of chronic laryngitis, he uses weak solution of zinc, gr. ii. to the ℥i., as a spray. In the intervals of the play it was well to allow the person to inhale the compound tincture of benzoin. Other remedies which could be used with benefit are turpentine, terebene, eucalyptol, etc., as inhalations. He was not aware of any special method adapted to this class of cases.

Dr. De Blois, of Boston, had found that these patients did not recover without rest. If able to spare twelve hours, very excellent results would follow the use of nitrate of silver, and disastrous results followed the use of cocaine.

Dr. Beverley Robinson, of New York, believed, so far as acute cases were concerned, that there were milder, and equally efficient, measures than emetics. He uses internally triturate tablets of chloride of ammonium repeated every fifteen or twenty minutes, with local applications of carbolized spray, modified Dobell's solution, two, three, or four times a day.

As to the chronic forms, he had used locally the tincture of iron with glycerine, and had not seen any special benefit from the use of internal remedies. The use of the faradic current twice a day had also been serviceable.

Dr. Bosworth, of New York, did not believe that there was any such thing as laryngitis; the seat of the disease was in the nasal passages. Eliminate the cold in the head with cocaine, and thin the membrane down with chromic acid, and the disease of the larynx would take care of itself. He had not seen any reaction follow the use of cocaine, and he had used it by adding twelve

grains to sufficient zero (fluid) cosmoline to dissolve it, and use as a spray with a hand-atomizer every hour or two hours, and at the same time inhale it by the mouth.

Dr. Robinson said that what Dr. Bosworth had stated concerning cocaine was incorrect, and also that laryngitis does occur independent of nasal troubles.

Dr. Sajous, of Philadelphia, said that, certainly and most emphatically, the action of cocaine in the larynx was pernicious. He has found that sprays in these cases were rather irritating, and contents himself with the internal use of one grain of quinine with one-fourth of a grain of nux vomica, repeated, perhaps, every two hours. The faradic current also was beneficial. Coca wine also was advantageous.

Dr. Glasgow, of St. Louis, had cured laryngitis without touching the nose. In acute cases, those in which the person *must* perform, he makes an application to the *larynx* of carbolized iodine, which relieves the congestion and gives power to the vocal cords.

Dr. Rice, of New York, thought well of the use of cocaine and cosmoline, but believed that it was the cosmoline which did the work. He had had better results with vaseline than he had had with astringents.

Dr. Asch, of New York, had found muriate of ammonia to be one of the most useful of internal remedies. He thought it could be best employed in solution with compound licorice mixture. This, with soothing inhalations and the use of ordinary remedies, barring emetics, will quickly afford relief.

In the chronic cases it is almost impossible to effect a cure, and local remedies must be used. Astringents had served him best, and his favorite was the perchloride of iron, thirty to sixty grains to the ounce of water, and applied with the brush. In most opera singers there was some hepatic disturbance which needed attention.

Dr. Hooper, of Boston, spoke of a class of cases in which the voice was altered simply from over-exertion, and in which electricity externally, and the internal use of aromatic spirits of ammonia, thirty or forty drops in a tumbler of water, gave excellent results.

Dr. Mackenzie, of Baltimore, cautioned against the injudicious use of cocaine in disease of the nose and throat. He never used it just before the person was to go upon the stage. In the larynx its effect was something terrible, second only to hanging.

Dr. Westerbrook, of Brooklyn, spoke of derangements of the digestive apparatus which predisposed to the troublesome conditions under consideration, and favored the use of an emetic, or calomel and jalap, to be followed by the mineral acids in small doses frequently repeated. He did not favor the use of cocaine.

Dr. Langmaid, of Boston, thought it should be easy for anyone to cure this class of patients, with so many remedies recommended as very excellent; but as for himself he had not found them easy to cure.

Dr. C. C. Rice, of New York, then read a paper on

GLANDULAR AND CONNECTIVE-TISSUE HYPERTROPHIES OF THE LATERAL WALLS OF THE PHARYNX,

in which he directed attention especially to the different pathological conditions.

Dr. Charles H. Knight, of New York, read a paper entitled

THE GALVANO-CAUTERY IN THE TREATMENT OF HYPERTROPHIED TONSILS.

He had punctured the tonsils in two or three places at each sitting, and with five or six séances had had very satisfactory results. It was especially applicable to the cases in which a hemorrhagic diathesis was present.

The paper was discussed by Drs. Sajous, of Philadelphia; French, of Brooklyn; MacCoy, of Philadelphia; B. Robinson, of New York; Ingals, of Chicago; Rice, of New York; Allen, of Philadelphia; Delavan, of New York; J. Solis-Cohen, of Philadelphia; and Asch, of New York. The discussion was largely on the occurrence of hemorrhage in tonsillitis, and it followed the usual course, namely, some fearing its occurrence, others regarding its occurrence as rare; some looking upon the operation as an exceedingly simple one. and others as one of a great deal of importance. About the same difference of opinion was expressed concerning the utility of the galvano-cautery.

Dr. Beverley Robinson, of New York, gave a

NOTE ON A FREQUENT CAUSE OF NASAL HEMORRHAGE.

Ulcerations in atrophic rhinitis, according to his experience, were one of the most frequent causes of nasal hemorrhage. He directed attention to the fact that he had been unable to detach the crusts from these ulcers either by douches or sprays so well as by the use of ointments, which in the course of two or three days enabled him to blow them out. The best ointment for that purpose was the ammoniated mercurial of the Pharmacopœia, made up with vaseline, one-half the full strength. After plugging the nostrils, especially in children, he has found flexible probes most useful. He had never found anything which arrested the hemorrhage so well as sheet sponge. He had used it by cutting it into long strips and pushing it into the nose until the bleeding stops.

The communication was discussed by Dr. Sajous, of Philadelphia.

Saturday, May 28th—Third Day—Morning Session.

The Association was called to order by the President, and Dr. S. W. Langmaid, of Boston, read an exceedingly valuable paper on

CONSTITUTIONAL CAUSES OF THROAT AFFECTIONS.

However important and interesting the morbid changes in the upper air-passages may be locally, the important lesson should be learned that they have underlying constitutional causes which must be removed in order to effect a cure. Syphilis, alcoholism, rheumatism, and gout, etc., were ever at work, and their influence must be combated. Local treatment was in the nature of repair, while constitutional and hygienic treatment must be in the direction of the renewal of normal processes.

Dr. Glasgow, of St. Louis, regarded the paper as one of the most timely which had been presented to the Association. He regarded the statement made by Dr. Daly, of Pittsburg, that the laryngeal physician should become a laryngeal surgeon, as one tending to do much harm, and it had done much to retard progress in this department of medicine.

Dr. J. Solis-Cohen, of Philadelphia, seconded the commendations of Dr. Glasgow, and said that if he could have his way, the Committee on Publication would be instructed *to print it in capitals.*

Dr. Asch and Dr. Delavan, of New York, added their hearty and forcible commendations of Dr. Langmaid's paper.

PAPERS READ BY TITLE.

"Affections of the Crico-arytenoid Articulation," by George W. Major, M.D., of Montreal;

"Cancer of the Larynx," by Hosmer A. Johnson, M.D., of Chicago; and

"A Case of Recurring Laryngitis Hemorrhagica," by C. E. Bean, M.D., of St. Paul.

Dr. Morris J. Asch, of New York, then read a paper in which he reported a case of

STENOSIS OF THE LARYNX

treated by divulsion and systematic dilatation. The opening of the larynx was diminished to one-third its normal size. The dilatation was accomplished by Schroeder's hard-rubber tubes. It was a case of hypertrophic laryngitis below the vocal cords, and the relief afforded by treatment had been permanent. He preferred this to any other method in this class of cases.

Dr. Cohen, of Philadelphia, had not had the courage to attempt to dilate without preliminary tracheotomy. He believed that it was better to perform tracheotomy first, and then pursue the most active measures possible for the relief of the stenosis.

Dr. Knight, of Boston, said that Schroeder's method had been very slowly popularized in this country. He regarded it as a sub-glottic laryngitis of some kind, as had been expressed by Mackenzie, of London, and would discard the name *corditis*, etc.

Dr. Morgan, of Washington, related a case in which he used dilators without permanent benefit, and in which he kept the disease in abeyance by constitutional measures and local applications. He recommended from time to time tracheotomy, to be followed by dilatation, but the patient declined, and finally died suddenly of laryngeal spasm.

Dr. Delavan, of New York, believed that the method of treatment by dilatation would receive important modifications by O'Dwyer's method of intubation.

Dr. Asch spoke of some theoretical objections to O'Dwyer's method for the treatment of these cases. He agreed with Dr. Knight that the term *corditis*, etc., should be abandoned. He regarded it as one of the advantages of this method that tracheotomy was avoided.

Dr. D. Bryson Delavan, of New York, then read an elaborate paper on

THE ETIOLOGY OF DEFLECTIONS OF THE NASAL SEPTUM,

in which he had gathered the scattered views on the causes, which were generally admitted to be obscure. After discussing the predisposing causes, as race and diathesis, he spoke of the exciting causes under the headings, traumatism, local malnutrition, and occlusion of the respiratory passages of the nose.

Dr. Morgan, of Washington, had been able to trace his cases to traumatism almost invariably, when the history had been carefully studied. He had seen but few cases in the African, but whether or not this was real exemption he was unable to say.

Dr. Donaldson, of Baltimore, was also of the opinion that perhaps it was less frequent in the African than among the whites.

Dr. Solis-Cohen, of Philadelphia, had noticed that high-arched palate and deflected septum go together in a majority of cases, perhaps; but he had also seen many cases in which there was deflected septum without high-arched palate, and also high-arched palate without deflected septum. A great many children under *seven* years of age have deflected septum. He thought that the question of traumatism was a difficult one to settle. So also it was difficult to get at the exact influence of racial peculiarities. Over and over, he had seen marked deflection of the septum *without* difficulty of breathing.

Dr. Sajous, of Philadelphia, thought that traumatism as a cause could not be clearly defined.

Dr. Mackenzie, of Baltimore, had not seen a case of deflected septum in the African that required an operation. He regarded *traumatism* as the most prolific cause. He also had been surprised at the brilliant results said to attend some operations.

Dr. De Blois, of Boston, said that he had observed the nose of several pugilists and had been surprised to find that the septum was in the correct line, while the nose in general had been flattened and bruised with great severity and repeatedly. He thought that these cases could with propriety be regarded as traumatic.

Dr. Roe, of Rochester, spoke of several peculiar varieties of deflected septum, and particularly objected to the use of the punch in the treatment.

Dr. Ingals, of Chicago, had seen deflected septum in children two years of age, and he had also come to the conclusion that, unless the nasal bones were fractured or cartilages dislocated, deflection of the septum was not likely to follow traumatism.

The discussion was closed by Dr. Delavan.

Dr. Langmaid, of Boston, related the case and presented

A PIN THAT WAS REMOVED FROM THE LARYNX,

where it had been for two years. It was sticking through the ventricular band and pointing backward.

Dr. Knight, of Boston, had seen the case, and spoke of its peculiar interest.

Dr. Solis-Cohen, of Philadelphia, mentioned what he had noticed for some time in ordinary examinations, and that was what appeared to be

A MUSCLE EXTENDING FROM THE OPENING OF THE EUSTACHIAN TUBE

across upon each side.

Dr. Rufus P. Lincoln, of New York, read the report of a case of

RECURRENT NASO-PHARYNGEAL TUMOR,

which he had cured by electrolysis. He used a single needle, and made sixteen applications in from four to six days. The growth had not shown any tendency to return.

The paper was discussed by Drs. Delavan, of New York; Langmaid, of Boston; Glasgow, of St. Louis; Solis-Cohen, of Philadelphia; and Hooper, of Boston, who spoke in commendation of this procedure in preference to the more formidable surgical operation, in cases diagnosticated early.

Dr. W. C. Jarvis, of New York, read a paper in which he reported

TWO CASES OF CONGENITAL OCCLUSION OF THE ANTERIOR NARES.

This is a rare condition. He had been unable to find a case recorded in medical literature, and the two reported were the only cases which he had met with in several thousand patients examined at his clinics. They were treated by means of his nasal drills and electromotor. In one case the obstruction was fibrous, and in the other osseous, and the results of treatment were very satisfactory.

Afternoon Session.

Dr. Alexander W. MacCoy, of Philadelphia, gave an abstract of his paper on

A COMPARATIVE STUDY OF SOME OF THE METHODS OF TREATMENT BEST ADAPTED TO THE RELIEF OF OCCLUSION OF THE POSTERIOR NARES

due to hypertrophy of soft parts, and not bony occlusion of the posterior nares, which he had never seen. He referred to different methods, and the difficulties which had been offered in way of reaching the posterior nares, and lack of precision in making applications. Since the advent of cocaine these difficulties, to a certain extent, had been overcome, but the effect produced by the drug rendered comparatively useless certain instruments which heretofore had been used satisfactorily; for instance, Jarvis' snare, the use of which he had ceased, except for the removal of nasal polypi, etc. From the fact that cocaine caused such retraction of the tissues, he had not been able to make use of the needle recommended by Jarvis; but, at the same time, the drug had brought into greater use the galvano-cautery and chromic acid.

The chief point in the paper was to present the superior advantage offered by a concealed flexible instrument for applying fused chromic acid. He preferred this to all other methods for removing these posterior hypertrophies.

Dr. Jarvis, of New York, regarded his transfixion needle as one of the most serviceable instruments he used for the removal of hypertrophied nasal tissue. He never used cocaine as a preliminary step, but first included the hypertrophy within the loop, drew the wire home, and

then applied the cocaine. He regarded chromic acid as dangerous and likely to be followed by unpleasant results. He never thinks of attempting to remove a hypertrophy by means of the galvano-cautery.

Dr. Rice, of New York, said that it was often difficult to remove these hypertrophies. He had given up the use of the transfixion needles. There were cases in which it was difficult to apply the loop posteriorly. He had never met with the disadvantages in the use of chromic acid spoken of by Dr. Jarvis.

Dr. Donaldson, of Baltimore, favored the use of chromic acid, as did his father, who had used it without bad results for many years. As to the needles, technical skill was required for their use, and in one case he had profuse hemorrhage following their use.

Dr. Delavan, of New York, had used chromic acid, discarded it, used it again, and had again discarded it. As for hemorrhage, he had not seen a case where it could not be controlled readily, and he believed that, practically, there was no danger from it.

Dr. Jarvis said that an attempt to remove a posterior hypertrophy, while a deflected septum existed, was very poor surgery. First remove the deflected septum, and the hypertrophy will disappear of itself. He regarded it as trifling with the patient's nostrils to use chromic acid when the hypertrophied tissue can be removed so easily with the transfixion needles.

The discussion was closed by Dr. MacCoy, who said that he had never been able to reach the posterior face of the middle turbinated bone before his little instrument was invented. A single application of chromic acid was, as a rule, all that was required. In comparison with it, he regarded the use of the needle as a very difficult operation. He never uses chromic acid without immediately antagonizing it.

Dr. Jarvis remarked that the fault was not in the needle but in the operator, who failed to make the few simple manipulations necessary to its successful use.

The paper by Dr. J. W. Robertson, of Detroit, on

PLASTER-OF-PARIS DRESSING FOR FRACTURE OF THE NOSE,

was read by title.

Dr. De Blois, of Boston, exhibited a plaster-of-Paris splint which he had used with good result in one case of fractured nose.

Dr. Jarvis explained his external splint, which he uses after operating on the cartilages and bones in certain cases of deflected septum, and thought it might answer a good purpose in cases of fracture.

Dr. Roe, of Rochester, exhibited a nasal saw which was operated by means of an electro-motor.

The Association then went into executive session.

A Dakota Doctor.—The Board of Health of Dakota publishes the results of an examination of an applicant for a license to practise medicine. He had been practising medicine for years in a populous district of South Dakota. Here are some questions and answers: Question. What medical journal do you take, doctor? Answer. Well, they have all run out. Q. Don't you intend to take any of them again? A. Well, I can get along without them. Q. What books have you in your library? A. "Gunn's Family Physician and Common Sense Home Doctor." Q. What is an element, doctor? A. Oh! anything. Q. Is that bed an element? A. Yes. Q. Name the three great cavities of the body. A. The head, the belly, and the diaphragm. Q. Mention the contents of the cranium. A. The brain and three skins. Q. Name contents of abdominal cavity. A. Kidneys and the prostate gland. Q. Does the prostate gland ever become enlarged? A. Yes. Q. Have you treated any cases of enlarged prostate? A. Lots of them. Q. With what success? A. Tip-top! Never lost a case. Q. Did you ever treat any female for enlarged prostate? A. Oh, yes; numbers of them.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, May 23, 1887.

Laurence Johnson, M.D., President, in the Chair.

Dr. Ralph L. Parsons read a paper, entitled

THE CLASSIFICATION OF MENTAL DISEASES; WITH THE SUGGESTION OF A COMPREHENSIVE METHOD DESIGNED TO HARMONIZE WITH AND HARMONIZE OTHER METHODS.

After reviewing the bases of the classifications which have been published by different writers, Dr. Parsons offered what he called a method, based upon symptomatology and etiology, for which he claimed the following advantages:

First.—It was a method so elastic and comprehensive that in it any variety of insanity which could be differentiated might be included, and all varieties and subvarieties could be reduced to a few fundamental conditions.

Second.—It includes all other systems in vogue.

Third.—It includes as many of the related facts as possible.

Fourth.—It has arranged, in tabular form, every variety of insanity, for comparison and for statistical purposes.

The four great divisions made were oligomania (monomania or paranoia), mania, melancholia, and dementia.

Dr. C. L. Dana spoke of the great difficulty that had been experienced in making a satisfactory classification of insanity, and he thought that the profession was indebted to Dr. Parsons for his endeavor to harmonize different views. Practically, he had adopted the classification of Skae, enlarged by Clouston, and modified by Kellogg; a system based partly upon etiology and partly upon symptoms. He regarded Dr. Parsons' classification as practically the same thing, and he was pleased to see that the author of the paper had independently brought forward the classification which was the most practical for working purposes, and had ingeniously combined other classifications in a more practical manner than he had yet seen. Dr. Dana, however, was very loath to leave out of any classification the degenerative types. As to the term "oligomania," he had already expressed a doubt as to the propriety of introducing a new term, although the term itself might not be specially objectionable.

Dr. Leszynsky spoke of the convenience of Dr. Parsons' method for practical purposes, arranged, as it was, for ready comparisons, and assignment of cases to the class in which they belonged.

Dr. Parsons remarked that, however good Skae's system might be, it was so imperfect that it was practically useless, and that Clouston did not follow it. If it were possible to apply the system, he would be ready to regard it as the best. All that he had attempted in his method was to so combine the different classifications as to make them as useful as might be.

THE DEATH OF DR. E. D. HUDSON, AND THE COMMITTEE ON ETHICS.

The President announced the death of Dr. E. Darwin Hudson. By his death a vacancy was created in the Committee on Ethics, of which he was the Chairman. The President appointed Dr. Alexander S. Hunter to fill the vacancy as *Chairman*, and Dr. C. E. Billington to fill the vacancy created in the Committee.

The Society then adjourned, to meet on the fourth Monday in September.

Sugar from Fat.—Seegen has recently shown experimentally that the liver can make sugar out of fat, and that, as a nutritive, fat is twice as valuable as sugar.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

LUNACY LAW—CONGENITAL DISLOCATION OF THE HIP—A CLAMP FOR THE LINGUAL ARTERY—SURGERY AND RENAL SARCOMA—MALARIA AND POLITICS—DEATH OF DR. ALFRED MEADOWS.

LONDON, April 23, 1887.

Two recent occurrences have once more drawn attention to the unpleasant state of our present lunacy law. One of these is the bankruptcy of a medical man, bearing a well-known name, who had been involved in a long course of litigation in connection with the case of the now notorious Mrs. Weldon. No *mala fides* was alleged against him, but for signing (in conjunction with another medical man) a certificate whereby the lady in question was removed to an asylum and detained for a short time when not really insane, a jury mulcted him in a thousand pounds damages and costs. The *finale* to this is his appearance in a bankruptcy court, owing to his inability to pay the amount for which he has become liable. A somewhat similar case occurred very recently at the West End, but here the doctor was more fortunate in the matter of law. On regaining her liberty the patient prosecuted her doctor, but was non-suited, and judgment entered in favor of the doctor with costs. It was clearly established that, whatever might be the mental state of the patient at the time of the trial, she was, when incarcerated, plainly insane. Although nominally successful, the doctor, however, made a heavy pecuniary loss, for the patient, on losing the action, professed herself a pauper, and declared her inability to pay the costs. Such cases as these are enough to make doctors refuse to certify insane patients at any price. It is hoped that provision may be shortly made to remove by legislation such anomalies as the above. Several lunacy bills have been drafted within the last few years. That brought forward now seems to have some chance of being piloted successfully through the various dangers that beset it and of becoming law.

The last meeting of the Pathological Society was devoted almost entirely to the subject of congenital dislocation of the hip. Several specimens were shown, and their clinical histories narrated. At the Medical Society Mr. Lockwood read a paper on "A Method of Restraining Hemorrhage during Operations on the Tongue." Forceps were exhibited which he had devised with a view of compressing the lingual artery. One blade passed by the side of the tongue into the pharynx. The other was fitted to the outside of the lower jaw and met the other blade near the greater cornu of the hyoid bone, the artery being thus gripped between them. Dr. Money read a paper on the "Possibility of Surgically Treating Renal Sarcoma Occurring in Infancy." He thought there might be a chance for surgical treatment if the tumor were detected when very small. This could rarely be done, and in every one of the four cases he had observed the first clinical sign was enlargement of the abdomen. The prospect of being able to apply surgical treatment with advantage was, therefore, not very hopeful.

In Mr. North's lecture on "Malarial Fever," delivered at the London Institution on Monday last, he dwelt at some length on the relations of malaria to climate. It was pointed out that politics, as well as physical geography, had had something to do with the production of the present condition of the Roman Campagna. We had historical evidence that many localities now so malarious as to be uninhabitable were formerly highly esteemed by the Romans as health resorts. The invasions of the Goths depopulated these places and led to the development of malaria in districts where it had formerly been kept under control by human toil in cultivating the district. Mr. North referred to the recklessness displayed of late years in the cutting down of timber in the elevated districts as contributing toward the development of malaria in the lowlands. The removal of trees caused mountain streams to become uncontrollable, and thus led to the conversion of large areas of the lowlands into bog and swamp.

One by one the best known names in medical London are disappearing by death, and another generation is springing up to supply their place. The latest loss by death among men of note is that of Dr. Alfred Meadows, Obstetric Physician in St. Mary's Hospital, who died almost suddenly a few days since. He was well known as an obstetrician, and held numerous appointments. He was educated at King's College, and was for a short time Assistant Obstetric Physician to King's College Hospital, a position he subsequently relinquished to join the staff of St. Mary's Hospital. It is, of course, quite exceptional for a physician or surgeon who has become connected with one medical school to leave it for another. Now and then this occurs. One living obstetrician (Dr. Robert Barnes) has been connected successively with three out of the eleven medical schools in London, viz.: The London, St. Thomas', and St. George's Hospitals. Dr. Meadows was lately President of the British Gynecological Society, and the author of several works of repute, including a useful "Manual of Midwifery," which reached a fifth edition. At the time of his death he was in the enjoyment of a large and lucrative practice.

OUR PARIS LETTER.

(From our Special Correspondent.)

MORPHINOMANIA.

PARIS, April 22, 1887.

DR. OSCAR JENNINGS, one of the English practitioners of Paris, has had peculiar opportunities for studying the comparatively new disease termed morphinomania, and he has committed his observations to paper, which he communicated through Professor Ball to the Paris Academy of Medicine at one of its recent meetings. The paper was premised by the following remarks: "Among the numerous phenomena which result from the introduction of morphine into the economy by hypodermatic injections, there is one which has not been noticed by authors on the subject, and that is the state of the pulse, which offers at the same time a means of diagnosis, an indication relative to the treatment, and a rational explanation of some of the effects produced by this poison." The pulse, studied in the subjects of this disease by the aid of the sphygmograph, presents three different phenomena. During the state of "satisfaction," when the subject is still under the influence of a recent injection, the pulse is sensibly normal, but with a slight increase of tension at the end of the systole. When, on the contrary, the subject is in a state characterized by an irresistible desire to return to his habitual stimulant, the sphygmographic tracing of the pulse presents a "plateau" most characteristic—the portion of the curve which corresponds to the systolic impulsion is absolutely truncated. When the patient has been deprived of morphia for several days a febrile condition is produced, the body temperature rising to as much as 101° F., when the amplitude of the systole reappears. The "plateau" above referred to is an index of the feebleness of the cardiac impulsion, and this state of the circulation explains the feeling of faintness which so profoundly troubles the minds of the patients, and it is in these conditions that the *want* of the habitual stimulant is aroused which essentially constitutes the malady. In patients who conceal their vice, the presence of this "plateau" in a sphygmographic tracing constitutes an infallible element of diagnosis. It is known that morphinomaniacs, deprived of their habitual stimulant, return to their normal condition after a struggle more or less difficult and more or less pro-

longed. The problem to resolve consists therefore in suppressing the habitual stimulant and replacing it, at the moment when the want is felt, by a drug capable of arousing the activity of the circulation, and of restoring to the tissues the aliments indispensable to them. Various drugs have been vaunted as substitutes for morphia: Alcohol, coffee, paraldehyde, cocaine, apomorphine, chloral, vaniline, pilocarpine. But the greater part of these drugs have been found not only insufficient, but hurtful. They produce troubles peculiar to them and which often add to the inconveniences of morphia, without in any measure attenuating them. The authors thought that cardiac tonics were clearly indicated. With this view they had recourse to the sulphate of sparteine administered hypodermatically, which they did at the moment where the feebleness of the heart was indicated by the plateau of the sphygmographic tracing as well as by the inmost sensations of the patient. An injection of from two to four centigrammes was employed at this moment, which may be repeated if necessary, and in a few minutes the pulse was observed to be raised and the feeling of depression to disappear. The authors sum up the treatment of morphinomania as follows: 1. The patient should be removed from his own home and placed under the strict supervision of a physician. 2. The use of morphia should be more or less completely suppressed. 3. The action of the heart should be raised at the moment of depression, by an injection of sparteine, to which may be added, if necessary, an injection of morphia. Nitro-glycerine has also been administered in the form of a few drops placed on the tongue. Its effects are analogous to those of sparteine, but are much more rapid and much more ephemeral. The authors have obtained in a few weeks the best results from the above treatment, and if the patient is not completely cured, he or she is at least relieved of the imperious desire to return to his or her former habits.

I have spoken of the authors in the plural number, as the above paper was written conjointly by Drs. Ball and Jennings. Dr. Jennings, however, has developed the subject and published it in the form of a pamphlet, in which he gives some cases in detail, and makes some interesting observations on the pathology and treatment of this most intractable malady. In the treatment I find that the author extols valerian and soda, though he does not explain their mode of action in morphinomania. Dr. Jennings dwells upon the absolute necessity of the morphinomaniac being separated from his intimate relations and friends, and that he should be placed under the care of strangers, who would be in a better position to carry out the injunctions of the medical attendant; but the almost *sine qua non* for the cure is, according to the author, the *will* of the patient—that is to say, his determination to get well—without which all the efforts on his part and on that of the physician would prove of little or no avail.

At the instigation of Dr. Roussel, of Geneva, who extols the use of eucalyptol hypodermatically in the treatment of pulmonary phthisis as an effectual means of reaching the bacilli in the lungs, Professor Ball tried the remedy in his hospital, with the following results: Of 21 patients who were submitted to this treatment, 6 died, 10 were improved and left the hospital, and 5 were still under treatment on the date of the communication made by him to the Academy of Medicine. Dr. Ball remarks that one of the latter patients, whose sputa had been charged with tubercular bacilli, presented none on that day. The mode of operation adopted by Dr. Roussel consists in injecting hypodermatically one gramme of a solution composed of eucalyptol dissolved in two volumes of olive-oil, which is performed in the thickness of the skin by the side of the mouth. But Dr. Dujardin-Beaumetz, who experimented with this mode of treatment, declared at a subsequent meeting of the Academy that the results dotained by him differed from those announced by Dr. Ball. He had never observed the disappearance of the bacilli. It is true that eucalyptol diminishes the expectoration, but then the patients suffer from great oppression. Moreover, the exhalation of this substance from the lungs disgusts the patient and takes away his appetite. In fine, this treatment presents more inconveniences than advantages.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 29 to June 4, 1887.

FRYER, B. E., Major and Surgeon. Granted two months leave on account of sickness, permission to apply for an extension. S. O. 28, Division of the Pacific, May 28, 1887.

BROWN, PAUL R., Captain and Assistant Surgeon. Granted leave of absence for four months. S. O. 126, A. G. O., June 2, 1887.

PERLEY, H. O., Captain and Assistant Surgeon. Relieved from duty at Fort Maginnis, M. T., and ordered for temporary duty at Fort Snelling, Minn. S. O. 49, Department of Dakota, May 23, 1887.

WOOD, LEONARD, First Lieutenant and Assistant Surgeon. Ordered for temporary duty at Fort Huachuca, A. T. Relieved from duty at Headquarters, Department of Arizona. S. O. 126, A. G. O., June 2, 1887.

SUTER, WILLIAM N., First Lieutenant and Assistant Surgeon (recently appointed). Ordered for temporary duty at Washington Barracks, D. C. S. O. 122, A. G. O., May 27, 1887.

Official List of Changes in the Medical Corps of the United States Navy for the week ending June 4, 1887.

BRANSFORD, JOHN F., Surgeon. Ordered to the Smithsonian Institution at Washington, D. C.

TRYON, J. RUFUS, Surgeon. Detached from the U. S. S. Quinnebaug and ordered home.

SIEGFRIED, CHARLES A., Surgeon. Ordered to the U. S. S. Quinnebaug.

MARTIN, WILLIAM, Assistant Surgeon. Detached from the U. S. S. Pinta and ordered home.

FITTS, HENRY B., Passed Assistant Surgeon. Detached from the Receiving Ship Vermont and ordered to the U. S. S. Pinta.

FIELD, JAMES G., Assistant Surgeon. Ordered to the Receiving Ship Vermont.

Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending June 4, 1887:

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	7	3
Scarlet fever	64	12
Cerebro-spinal meningitis	4	4
Measles	59	4
Diphtheria	115	50
Small-pox	10	4
Yellow fever	0	0

URETHRO-VESICAL VAGINAL FISTULA.—M. Pozzi, in the Surgical Society of Paris, narrated a case of successful operation for urethral vesical vaginal fistula in a patient who had been unsuccessfully operated on eleven times in the preceding eleven years. He ascribes his success to the use of the American urethral forcing method.—*Medical Press.*

The Medical Record

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Original Articles.

INTUBATION.[1]

By FRANCIS HUBER, M.D.,

CLINICAL ASSISTANT OF DISEASES OF CHILDREN AT THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.

In the treatment of laryngeal stenoses depending upon the presence of pseudo-membrane (the symptoms being sufficiently well marked to warrant operative interference), the laryngeal brush, sponge, probang, and forceps; catheterization of larynx, tubage, intubation, and tracheotomy have been employed to relieve the urgent dyspnœa. The brush, probang, and forceps are but temporary expedients intended to remove loose membrane, and afford relief for the time being. Catheterization, tubage, and intubation, while facilitating the expectoration of membrane, are resorted to primarily for the purpose of relieving the dyspnœa, the immediate source of danger in the severer forms of pseudo-membranous or diphtheritic laryngitis. Tracheotomy, it is true, relieves the dyspnœa, but, for reasons apparent later on, I would advise the operation in those instances only in which intubation fails. In view of the results reported thus far such cases, I venture to predict, will be exceptional.

The brush, probang, and forceps are not often used at present. Catheterization is an infrequent procedure, and has not served its purpose as well as was anticipated. Tubage, injudiciously advocated by Bouchut and condemned by Trousseau, soon fell into disuse. In a number of text-books it is referred to in a contemptuous way and dismissed in a few words.

To quote from Pepper's "System of Medicine" (vol. iii., page 107): "Tubage was rendered ridiculous at once by the assertion of Bouchut (1858), that children suffering from croup, who were supplied by the laryngeal tube, were not only relieved at once, but expressed their gratitude in audible oratory. Still there are some cases of more recent date in which tubage is reported to have been attended with success. It is not very probable, however, that a larynx which admits of no air, because of its being clogged with firm pseudo-membrane, should be willing to admit and endure the presence of a tube." Such was the almost universal teaching up to within a short time. Physiology, theory, and practice were against the new method. To-day, however, the author of the quotation referred to above, whose name is familiar over the two continents, a strong advocate of tracheotomy, and who has performed more tracheotomies than any six American surgeons, and with the average success, proclaims himself a convert to intubation, and teaches its advantages in his clinical lectures. Recently, before the State Medical Society, he has publicly discarded the opinion expressed above, and states that a large number of children have been relieved immediately, not only temporarily, but permanently, by intubation.

Unphysiological, ridiculous, improbable, impracticable, and dangerous as the procedure may appear to those not practically familiar with the measure, hundreds of cases in the practice of various independent observers have demonstrated the practicability, utility, and advantages of intubation as originated and practised by Dr. Joseph O'Dwyer, of New York. The dyspnœa is as effectually removed in intubation as after a tracheotomy, and though the children may not thank you, the ability to speak is maintained, and the little one can express his or her wants in "audible oratory." The marked and almost instantaneous change in the appearance and condition, the quiet sleep and quiet respiration, the absence of any external wound, shock, and other evidences of an operation more or less prolonged and difficult, impress one more forcibly than thanks. The whisper of a patient with an O'Dwyer tube in his larynx, rescued, in an incredibly short time from impending suffocation, by intubation, is more agreeable to the parents and physician than the loud tracheal breathing of a child wearing a tracheotomy tube, unable to express its wants or sensations by the least sound. I have frequently seen little patients, upon whom a tracheotomy had been performed, not able to make their attendants understand their wants, become restless, excited, and miserable, until, perhaps after the lapse of a few moments, after considerable guessing, first showing one article, then another, asking question after question of the speechless little sufferers and watching the face for an answer—finally, more by chance than otherwise, quiet down at last, when they had made themselves understood by a nod or motion, as the desired object was brought or want was gratified.

That the larynx will tolerate a tube has been demonstrated repeatedly and beyond question. The sensitive organ which rebels when a crumb of bread or a few drops of water go the "wrong way" in swallowing tolerates the tube, not for a few seconds or minutes, but for days and even weeks. The intubation-tube does not act the part of a foreign body, the presence of which excites and irritates the laryngeal orifice; the passage, so to speak, has been forced, and the tube rests within the box of the larynx and trachea and is covered by the epiglottis—rests there quietly, without exciting any reflex action or spasm. We are aware of its presence objectively by the unobstructed respiration and the full, explosive, metallic, characteristic cough induced by swallowing liquids.

Bichat reports that Dessanet, in 1801, accidentally demonstrated the fact that the larynx and trachea would tolerate a tube. This knowledge he put to good use, and, in a case of œdema of the glottis, he allowed a catheter to remain for one and a half day, the patient recovering. In 1854 Horace Green announced that he could swab out the trachea and pass a flexible tube into either bronchus, and thus inject strong solutions of nitrate of silver into tuberculous cavities. Trousseau, in his article on the "Treatment of Diphtheria and Croup," discusses catheterism of the larynx, states that Dieffenbach had practised it in 1839, speaks disparagingly of Green's method, and lauds the plan proposed by Loiseau. The latter "arms the first two phalanges of the index-finger with a bent metallic finger-stall, which leaves free the last joint and the distal phalanx. The finger thus protected is carried down into the throat as deep as possible, and with the extremity of the finger the epiglottis is raised. This being accomplished, nothing is easier than to introduce an instrument into the larynx."

In a case of œdema of the glottis Hack employed one of Schroetter's bougies. The tube was removed and the patient sent to the hospital. On the way, being attacked with severe dyspnœa, the man introduced the tube into his own larynx.

[1] Read before the New York Academy of Medicine, June 2, 1887.

McEwen (*British Medical Journal*, July 24, 31, 1880) has shown that a catheter or tube, introduced through the mouth, may be employed as a substitute for tracheotomy or laryngotomy in case of disease or operation. Monti, of Vienna, has for years made use of hard-rubber tubes, introducing them into the larynx and allowing them to remain *in situ* twenty-four hours or more. One end protrudes from the mouth; they are resorted to as temporary expedients, made use of only until tracheotomy can be performed.

Stockton, of Chicago (*Jour. Am. Med. Assoc.*, May 2, 1885), employed silver tubes of various shapes, with and without flanges, but soon discontinued his experiments. Weinlechner, Monti (referred to above), and Schroetter have employed catheters to provide an artificial aperture in croup. Recently, catheterization of the trachea and bronchi has been revived by Reichert and others, and various applications made directly to the sub-laryngeal air-passages, the parts being anæsthetized by cocaine.

Dr. Landgraf (assistant at Professor Gerhardt's clinic) catheterized the left bronchus (man, aged fifty-two years) several times weekly, cocaine being applied to the trachea and larynx, and succeeded in passing an obstruction eleven inches down, caused by the presence of an aortic aneurism. The relief to the dyspnœa and distressing cough was enormous. To enter the domain of laryngeal surgery proper, and quote instances which exemplify the tolerance of the larynx to instrumental interference would lead me too far.

In September, 1858, Bouchut read a paper before the Academy of Medicine (Paris), entitled "A new Method of Treatment of Croup by Tubage of the Larynx." His conclusions were, briefly:

1. Tubage is easily accomplished by means of a cannula fastened upon the inferior vocal cords, without interfering with the functions of the epiglottis.
2. The tolerance of the cannula by the larynx.
3. The possibility of relieving the dyspnœa of croup and other laryngeal affections without tracheotomy.
4. The facility with which the membrane is expelled through the tube.
5. The advantages of tubage to the country practitioner far from assistance, etc.

Trousseau, as chairman of the commission appointed to investigate the subject, reported as follows:

Tubage of the larynx in certain cases of acute laryngitis can, by retarding asphyxia, prove of curative value.

In certain chronic diseases of the larynx it will allow one to delay tracheotomy, and sometimes relieve and cure the patient.

In the treatment of croup it delays asphyxia and allows a more easy introduction of air and agents capable of modifying the diphtheritic inflammation.

It can only very rarely supplant tracheotomy, which is the principal means of opposing croup when medical measures fail.

Ridiculed and condemned as unphysiological and impracticable by Trousseau, it fell into disuse and was soon forgotten.

Without any prior knowledge of what had been done, Dr. Joseph O'Dwyer, after a great many experiments, rediscovered intubation, and has since completely vindicated the position taken by Bouchut. The instruments devised and perfected by O'Dwyer are in no respects like those employed by the French physician. The tubes of Bouchut were hollow cylinders, narrower at one end and less than an inch long; they rested upon the vocal cords and did not reach into the trachea. A thread was left attached and was brought out at the angle of the mouth, to facilitate removal and prevent them being swallowed.

The instruments of O'Dwyer have passed through successive stages of evolution, and are too well known to require any extended description.

The number on the scale (Fig. 3) indicates the years for which the corresponding tubes are suitable. For instance: The smallest tube, when applied to the scale, will reach to the first line, marked 1, and is intended to be used up to the age of twelve or fifteen months; the size marked 2 is suitable for the next year; 3 and 4 for these years, and so on. When the proper tube is selected for the case to be operated on, a fine thread is passed through the small hole near its anterior angle, and left long enough to hang out of the mouth; its object being to remove the tube, should it be found to have passed into the œsophagus instead of the larynx.

The obturator is then screwed tightly to the introductor, to prevent the possibility of its rotating while being inserted and passing into the tube; the groove in the upper extremity of the obturator being made to correspond to the small hole in the tube intended for the string.

Fig. 4.

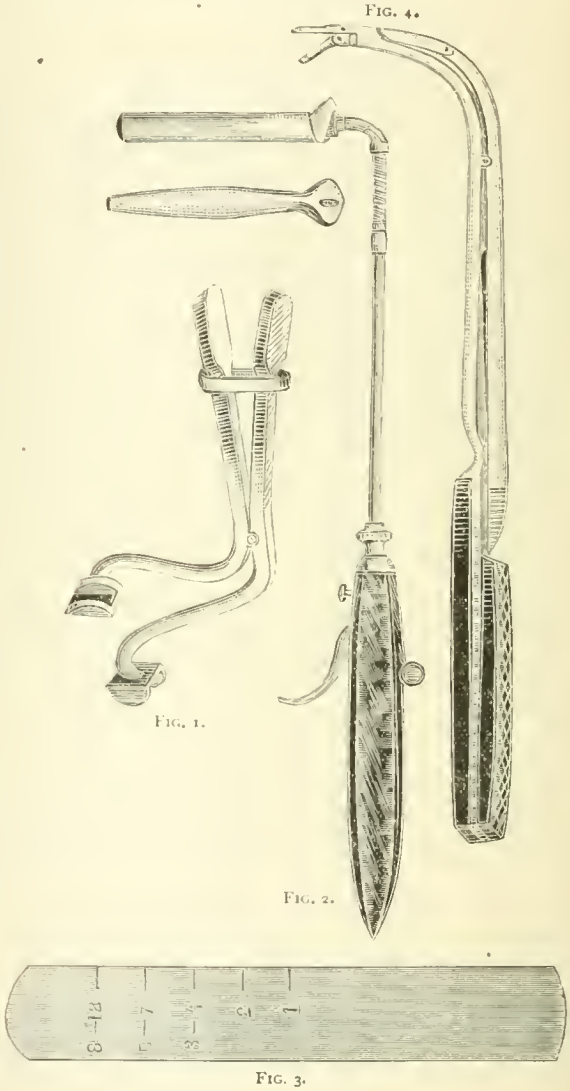

Fig. 1.

Fig. 2.

Fig. 3.

The following is the method of introducing the tube, which is done without the use of an anæsthetic: The child is held upright in the arms of a nurse, and the gag (Fig. 1) inserted in the left angle of the mouth, well back between the teeth, and opened widely; an assistant holds the head, thrown somewhat backward, while the operator inserts the index-finger of the left hand, to elevate the epiglottis and direct the tube into the larynx.

The handle of the introductor (Fig. 2) is held close to the patient's chest in the beginning of the operation, and rapidly elevated as the cannula approaches the glottis. The tube is then pushed downward, without using much force. It is then detached. The joint in the shank of the obturator is for the purpose of facilitating this part of the operation. As soon as the obturator is removed, and it is ascertained that the tube is in the larynx, the

thread is withdrawn, but at the same time the finger is kept in contact with the tube, to prevent its being also withdrawn.

It is important that the attempt at introduction be made quickly, as respiration is practically suspended from the time that the finger enters the larynx until the obturator is removed. It is, therefore, under the circumstances, much safer to make several abortive attempts than one prolonged effort, even if successful.

For the purpose of removal, the patient is held in a similar position, except that the head is not inclined backward, or very slighly so, and the extractor is passed into the tube, guided by the index-finger of the left hand, which also fixes the epiglottis, and is brought in contact with the head of the cannula. Firm pressure with the thumb is then made on the lever above the handle, while the tube is being withdrawn. If secondary dyspnœa supervenes at any time the tube should be removed and a larger one substituted. If the case progresses favorably, the tube should be removed on or about the fifth day.

To avoid accidents, it is very essential to have some preliminary practice on the cadaver, particularly in extracting, which is the more difficult operation, owing to the aperture of the tube being so much smaller than that of the larynx.

In very young children particularly, extraction is facilitated by pushing the larynx upward and backward with the thumb of the left hand externally, the index-finger being in contact with the head of the tube. In the absence of a cadaver, it has been suggested to practise intubation upon dogs anæsthetized.[1]

In introducing or extracting, the instruments should be worked in the median line, the operator facing the patient squarely.

Waxham advises that in introducing or extracting, the point of the instrument should be placed under the finger, not over or alongside.

Dr. Cheatham, of Louisville, suggests that inversion of patient, or inversion with sharp blow on the back or irritating the soft palate or pharynx, may be tried in in order to remove the tube. We recognize that the tube has been successfully introduced: 1, By the occurrence of a paroxysm of coughing; 2, by the relief of the dyspnœa. The cough is full, explosive, characteristic, and accompanied by the expectoration of large quantities of mucus and shreds of membrane.

Intubation has passed the experimental stage. It has been performed hundreds of times by O'Dwyer, Dillon, Brown, and Waxham.

Northrup and Denhard have also done it in quite a large number of cases. The procedure is extensively employed in New York, Chicago, and Philadelphia, and though not as yet an established method, it has a good record and a great future.

The above list does not represent all the cases of croup treated, but only those in which operative interference was indicated. In my own practice I have not found it necessary to resort to intubation in a larger proportion than one out of three or four cases of laryngeal stenosis treated from the onset. I will say, and would emphasize the assertion, that intubation should not be resorted to until the stenosis assumes a dangerous character and the case, if seen sufficiently early, has not been benefited by proper medicinal means. I am well aware of the truth of the statement made by Thomas: "There is nothing easier than the rejection of the testimony of others and the discrediting of the deductions which we ourselves have not drawn" ("Diseases of Women," p. 458). The instances of recovery which I report above were cases which, in the opinion of the various gentlemen present at the time, would have terminated fatally if the obstruction to respiration had not been removed. The cases were similar in severity to those in which, up to a year ago, I advocated, and would have performed, tracheotomy.

Before entering upon a consideration of the accidents, mishaps, and objections to the process, I shall devote a few words to the diagnosis of croup and the indications for operative interference. When called to a case, assure yourself that the dyspnœa is of laryngeal origin. Examine the neck and chest carefully. Inattention to this point has occasioned some grave errors. In one case the removal of a mass of poultices and bandages from the neck revealed a large abscess in front of the larynx, incision of which, with the insertion of a drainage-tube, caused the disappearance of the laryngeal symptoms. In a second case a child, sixteen months old, with hoarseness and difficulty of breathing, was referred to me with the diagnosis of croup. A careful examination of the chest revealed a large empyema. Several cases are known to me in which retro-pharyngeal abscesses have been mistaken for croup.

The diagnostic symptoms of membranous obstruction are croupy cough, aphonia, croupy inspiration and expiration, with progressive, unremitting dyspnœa, marked supra-sternal and epigastric retraction, and continued restlessness. Auscultating the chest posteriorly, we find the normal vesicular murmur feeble or absent. Finally, cyanosis occurs, with feeble and irregular pulse. The temperature, unless there be septic absorption from diphtheritic deposits in the nose or pharynx, or some inflammatory complication in the chest, will not exceed 100° or 101°. "One of the pathognomonic symptoms of diphtheritic laryngitis, 'membranous croup,' is the relative absence of fever." "Catarrhal laryngitis, pseudo-croup, is a feverish disease. A sudden attack of 'croup,' with high temperature, provided there is no pharyngeal or other diphtheria present, yields a good prognosis; without much fever a very doubtful one." "In œdema of the ary-epiglottic folds and post-attachments of the vocal cords, with or without membranous deposits elsewhere, we have the symptoms of true croup with its dangers. Inspiration is impeded, owing to the partial paralysis of the vocal cords; expiration, however, is free, and the voice is more or less intact. Diagnosis may be made by palpation. Aphonia, with difficulty of breathing in both inspiration and expiration, points positively to membranous occlusion" (Jacobi).

True croup, as it progresses, presents a picture "the likes of which the most hardened man, the most experienced medical attendant, prays never to behold again." To relieve the sufferings and struggle of the little patient for air intubation has been proposed. And now, *when* shall we resort to operative interference? As soon as the supra-sternal and epigastric retraction is marked, when there is great and continued restlessness owing to the progressive severe dyspnœa, and the normal vesicular murmur is feeble or absent at the posterior inferior portion of the lung, we ought to intubate. Cyanosis, with a feeble and irregular pulse, pulmonary complications, or septic manifestations, ought not to deter one from intubating, even in instances apparently hopeless. It is well, however, to give a hypodermic of brandy, caffein, etc., before operating in these desperate cases.

My own cases up to the present, numbering 47, are presented in a tabulated form for convenience and ready reference.

Accidents, Mishaps, and Objections. — *Gag.*— O'Dwyer's gag may be displaced by struggles of child. Denhard's modification of above, not liable to this accident, should be employed. If heart's action weak or general condition poor, separation of jaws by gag may cause alarming symptoms of asphyxia due to falling back of tongue. In this condition give hypodermic of brandy, or caffein, or other cardiac stimulant before inserting gag—pull tongue forward.

Thread ought to be eighteen to twenty inches long, and if not removed at once, looped over the ear to pre-

[1] The finger ought to be educated and digital examinations made of epiglottes and adjoining parts in children suffering from throat-disorders.

vent its being swallowed. In a case reported by Dr. Hance, traction upon the string by the muscles of deglutition caused the tube to be pulled into the œsophagus and swallowed. In one of Dr. Agan's cases, the thread being swallowed, a bent probe was used to fish it up. In Dr. Schottky's case, the thread being too short, the tube, having slipped into the œsophagus, entered the stomach and was passed per anum two days later. (A second tube, after considerable difficulty, owing to the swollen condition of the parts, being placed in the larynx, child recovered.) Tipton (THE MEDICAL RECORD, May 28, 1887) reports that in wiping away some saliva the silken cord was caught, tube dragged out of larynx and swallowed, before the cord could be grasped. A second tube now introduced. First tube passed per rectum ten days later.

Tube.—(*a*) May enter the œsophagus, recognized by breathing not being improved and cough still croupy.

(*b*) Danger of delicate parts being lacerated; the rounded end of the obturator closes the lower portion of tube completely and prevents injury, unless force be employed.

(*c*) Membrane may be crowded down in front of tube. This is a possible and serious accident. When it occurs and the membrane is not expelled when the tube is removed, tracheotomy may be necessary. Dr. Ferguson reports a case in which he was compelled to perform tracheotomy (*N. Y. Med. Journal*, March 5, 1887). In other instances this resulted in death of patient.

Dr. Waxham has devised a trachea-forceps to remove the membrane through the mouth when this unfortunate accident has taken place. He reports a case in which the accident occurred and in which a cast of the trachea and main bronchi were removed by passing the long trachea-forceps through the mouth into the larynx and trachea, in a child seven years of age (*Medical News*, January 1, 1887). "The intubation-tube was now introduced; respiration so quiet as to be scarcely observed."

In an instance in which the accident occurred to me, I gave some pure brandy (hoping that some would enter trachea through tube and cause expulsion), thus inducing a severe paroxysm of coughing which expelled tube and a large piece of membrane. The tube was reintroduced; breathing unobstructed; child recovered. In Dr. Caillé's case removal of tube was followed by expulsion of membrane.

The lateral bulging weight of tube, together with the anatomical fit and length, tend to keep it from being coughed out.

1. *The tube may be coughed out* (*a*) by a severe paroxysm of coughing, (*b*) if too small, or (*c*) if a plug of mucus or membrane is below it. Not serious, as breathing is generally improved and dyspnœa will not return for several hours. This has been my experience. When dyspnœa returns tube can be reintroduced.

2. *May become occluded* by mucus or membrane. As the air is warm and moist and the inner surface of tube is smooth, mucus passes through tube readily. When tube becomes occluded with membrane the tube is coughed out in many instances. One case, however, is reported by Dr. Wheeler (*N. Y. Med. Journal*, February 26, 1887) in which plugging of tube caused death of child.[1]

3. Tube may *be coughed up and then swallowed.* Dr. Parkes refers to a case in a young lady, seventeen years of age, who passed tube per rectum twenty-four hours after intubation. In Dr. Montgomery's case it was feared that as a smaller tube than suited to age was inserted, the tube might have passed into trachea. A tracheotomy was done and child recovered. Intubation-tube passed per anum two days later (*Med. News*, March 5, 1887). It seems to me that the proper plan would have been to have inserted a second tube. Dr. S. Hemingway kindly gave me the details of a case in which, after a violent fit of coughing, hoarseness was again noticed (four days after tube had been inserted by Dr. O'Dwyer). A week later the tube was passed per rectum.

4. Tube may *descend into the trachea.* This accident has occurred several times. It must not be forgotten, however, that the tubes were of an earlier pattern (Waxham, Chicago *Medical Journal and Examiner*, November 25th; Eichberg, Cincinnati *Lancet and Clinic*).

The shape of the head, the resistant nature of the vocal cords, and length of tube prevent a repetition of the accident when the latest style of tubes are used.

Dr. Brothers, at my suggestion, has kindly made the following experiment in the dead-house: "The smallest-sized tube was introduced into the larynx of a child five years of age and an incision made in the trachea. Making traction below it was found that considerable force was required to pull the head of the tube below the vocal cords; it was impossible, however, to force it below the cricoid cartilage."

5. *Entrance of food into* bronchi and thus cause "schluck pneumonie." Discussed further on.

6. Cause ulcerations and possible hemorrhage. "The head or shoulder of tube does not rest upon the vocal cords, but just above them on the ventricular bands. There is not any ulceration of the cords, but slight ulceration may be produced by the head and lower end of the tube, when retained for a long time." This does no harm.

7. May give rise to difficulty in swallowing. Discussed further on.

8. Dr. Hance reports two cases in which there was sudden and complete cessation of respiration, due to excessive secretion of mucus and falling back of tongue, forcing epiglottis over the fenestra of the tube. Relief was afforded by depressing tongue and forcing it forward, in order to remove mucus from throat.

Accidents possible in extraction.—1. May be forced down into trachea. This occurred in Dr. Eichberg's case, the tube being of the old pattern, and necessitated tracheotomy for its removal. No danger of this accident with the latest style of tube.

2. Tube may be firmly fixed by swollen fold of mucous membrane of epiglottis or ary-epiglottic folds (œdematous); pushing it aside by finger made removal possible (Caillé). Similar condition found at autopsy in one of Dillon-Brown's cases (THE MEDICAL RECORD, April 10, 1886).

3. Possible aspiration of food into bronchi during vomiting while extraction is attempted. Occurred in one of my cases, the little patient having eaten a very hearty meal shortly before. Did no harm in this case. Would advise, however, that but little nourishment be allowed for several hours prior to extracting tube.

In extracting, try to sink the forceps deeply into the tube and thus secure a firm hold, otherwise they may slip as the handle of the extractor is carried downward. It is well, therefore, to keep the left index-finger in contact with the shoulder of the tube, so that its removal may be accomplished by the finger if the forceps slip after the tube has been raised out of the larynx (the child being inclined forward at same time).

Removal of tube.—1. The tube may be removed as early as the fourth, fifth, or sixth day; exceptionally it may be necessary to allow it to remain ten or eleven days. O'Dwyer's tube can be dispensed with much more readily and earlier than the tracheotomy-tube. This is due to the fact that more or less membrane is detached from the larynx when the tube is introduced.

2. The frequent forcible and explosive cough assists in dislodging and expelling mucus and shreds of membrane.

3. The presence of the tube must of necessity cause more or less disintegration of the false membrane with which it is in contact.

[1] The doctor states that "during the evening the child breathed noisily, as though there were a good deal of mucus in the tube, but apparently without any impediment to respiration. At 10 P.M. she had a severe fit of coughing, and, according to her mother's account, choked up and died in about two minutes."

The noisy breathing in the case is to me an indication to remove the tube temporarily. If this had been done the membrane no doubt would have followed removal of the tube, and the untoward result might have been avoided.

Table of Cases.

Case.	Age.	Diphtheritic patches on	Complications.	Degree of stenosis.	Tube removed.	Relief to dyspnœa.	Recovery.	Cause of death.	Operator.	Remarks.
1	1 year.	Tonsils and pharynx.	.....	Advanced.	....	Complete.	.....	Heart-failure 18 hours later.	Emergency call.	Tube coughed up; reintroduced.
2	2 years.	Fauces.	.....	"	.....	.....	.....	Sepsis 6 hours later.	Dr. Denhard assisting.	
3	2 yrs. 8 mos.	Nares and pharynx.	.....	"	7th day.	Complete.	Recovery.	.....	Drs. Neufield and Mauson.	
4	6 years.	Nares and tonsils.	Measles.	"	6th day.	"	"	. . ..	Dr. Neufield.	
5	3 yrs. 8 mos.	Nares and tonsils.	.....	"	.....	"	.....	3½ days later pneumonia and nephritis.	Dr. Denhard assisting.	Tonsils very large: intubation difficult in consequence.
6	3 years.	Tonsils and pharynx; membraneg ganrenous.	Measles.	"	.....	Partial.	.....	Uræmic convulsions 6 hours later.	Dr. Neufield.	
7	2 yrs. 2 mos.	Tonsils and pharynx.	. .....	"	6th day.	Complete.	Recovery.	.....	Dr. Neufield.	Child had eaten a hearty meal, and each attempt at removal of tube induced vomiting; fearing that food might enter larynx, I waited until stomach was empty and then removed tube without much trouble. Brandy and caffein injected.
8	3 years.	Nares and pharynx.	Old mitral endocarditis.	"	"	.....	".	.....	Drs. Neufield and Mauson.	Brandy and caffein were injected on account of weak and irregular pulse. As the patches had disappeared, tube removed on sixth day. Child comfortable. Two days later was called again (Dr. Denhard kindly seeing case with me), and found recurrence of stenosis; the ary-epiglottic folds felt swollen and rounder than normal. Again intubated, with immediate relief, and 3 days later tube removed, a pneumonia having developed in the meanwhile. Upon close questioning found that patient was allowed to sleep in a crib near the door, thus accounting for the laryngeal complication and the pneumonia. Two months later was presented at Dr. Jacobi's clinic.
9	2 yrs. 6 mos.	Tonsils and pharynx.	Measles.	"	5th day.	Complete.	.....	6 days afterward pulmonary œdema, secondary to Bright's disease.	Dr. Berlinger.	Comfortable until morning of fifth day, then rise of temperature, dulness at left apex, suppression of urine, and pulmonary œdema.
10	1 year.	Tonsils.	.....	"	Tube coughed up on 4th day.	"	Recovery.	.....	Dr. Horn assisting.	Case seen by Dr. Schlessinger, who confirmed diagnosis and regarded case as hopeless if operative measures were not resorted to.
11	2 yrs. 6 mos.	Nares and fauces.	.....	"	.....	Fair.	.....	4 hours later sepsis.	Dr. Schlessinger.	Child moribund when seen.
12	11 months.	Tonsils.	Measles two weeks before.	"	....	Complete.	Recovery.	.....	Dr. Denhard assisting.	
13	15 months.	Nares.	Measles and gastro-enteritis.	"	.....	"	.....	Exhaustion 12 hours later.	Dr. Wilson.	
14	18 months.	Nares and pharynx.	.....	"	.....	"	.....	Pneumonia 2½ days later.	Dr. V. Rottenburg.	
15	3 years.	No patches visible; membrane coughed up.	Measles a short time ago.	"	5th day.	"	Recovery.	.....	Dr. Lilienthal.	
16	4 years.	Tonsils and soft palate.	.....	"	"	"	"	.....	Dr. Brugman.	Tube coughed up; saw case 3 hours later with Dr. Denhard Symptoms of stenosis extreme. A larger tube (5–7 years) was then introduced and retained.
17	2 years.	Nares and pharynx.	.....	"	.....	"	.....	2½ days later pneumonia.	Emergency.	
18	3 years.	Nares and pharynx.	Hemiplegia.	"	.....	"	. ....	3 days later sepsis.	Dr. Naughton.	Child had had some brain trouble during the summer, resulting in left hemiplegia. General condition poor.
19	18 months.	Nares and pharynx.	.....	"	.....	"	.....	2 days later pneumonia.		
20	11 months.	Nares and pharynx.	.....	"	.....	"	.....	2 days later sepsis.		
21	2 yrs. 8 mos.	No patches visible; pieces of membrane coughed up later.	Measles one week ago; pneumonia present.	"	11th day.	"	Recovery.	.....	Dr. Denhard assisting.	Seen 3 days before intubated by Dr. Jacobi, and diagnosis of membranous laryngitis confirmed. Tube removed on sixth day, but necessary to reintroduce it 15 minutes later. Great difficulty in nourishing the patient; resorted to stomach-pump.
22	8 months.	Nares and pharynx.	Pneumonia.	"	.....	"	.....	18 hours later heart-failure.	Dr. V. Rottenburg.	
23	4 yrs. 6 mos.	Membrane coughed up.	Measles short time ago.	"	7th day.	"	Recovery.	.....	Dr. Denhard assisting.	This patient is a sister of Case 21.
24	2 yrs. 8 mos.	.....	Measles.	Marked.	Coughed out on 4th day.	"	.....	Died 36 hours after tube was coughed out; pneumonia.	Dr. Lyttle.	Dr. Lyttle writes that intubation was a success as far as the relief of the stenosis was concerned.
25	3 yrs. 6 mos.	Tonsils and pharynx.	.....	Advanced.	Coughed out on 6th day.	"	Recovery.	.....	Dr. Neufield.	Child not seen by Dr. Neufield until patient was nearly moribund. Injected brandy and caffein, and then intubated.
26	10½ months.	Tonsils, soft palate, and pharynx.	.....	"	4th day.	"	"	.....	Dr. Denhard assisting.	Pneumonia developed after 48 hours; temperature at highest, 105°; ran usual course, and patient recovered.
27	2 yrs. 10 mos.	Tonsils, pharynx, and soft palate.	.....	"	.....	"	.....	2 days later secondary croup.	Dr. Brothers assisting.	
28	3 years.	Membranes gangrenous.	Septic case.	"	.....	Partial.	.....	Sepsis.	Dr. J. Horn.	

TABLE OF CASES.—*Continued.*

Case.	Age.	Diphtheritic patches on	Complications.	Degree of stenosis.	Tube removed.	Relief to dyspnœa.	Recovery.	Cause of Death.	Operator.	Remarks.
29	4 yrs. 6 mos.	Tonsils and pharynx.	Pneumonia.	Advanced.	6th day.	Complete.	Recovery.	.....	Dr. F. Nordeman, Dr. Brothers assisting.	Prognosis extremely unfavorable in this case. Intubated, with a view to enthanasia.
30	2 years.	Membrane coughed up.	... .	"	.....	"	.....	. .....	Dr. J. Horn.	
31	11 months.	Membrane coughed up.	.	"	8th day.	"	Recovery.	. ...	Dr. Teschner.	An older child sick with laryngeal stenosis at same time, but symptoms were not sufficiently urgent to require intubation.
32	13 months.	Tonsils and palate.	Pneumonia.	"	.....	"	..	Exhaustion 2½ days after.	Dr. Neufield.	
33	9 months.	.....	Measles.	"	....	"	. ....	Exhaustion 6 hours after.	"	
34	2 yrs. 6 mos.	Nares.	Measles a week ago.	"	.... .	"	Recovery.	....	Dr. Brothers.	Tube removed on 5th day; 1 hour later Dr. Brothers reintubated because of recurrence of stenosis, using small tube; 36 hours later it was coughed up and not necessary to insert again.
35	7 years.	Tonsils and pharynx.	....	"	Coughed up after 64 hours.	"	"	... .	Dr. H. F. Nordeman.	Intubation easily accomplished. Shreds of membrane, etc., coughed up; still respiration is somewhat obstructed, and it was evident that membrane had been forced down. Tracheotomy not allowed, and no forceps accessible. Gave pure brandy (3j.), causing severe paroxysm of cough, with expulsion of tube and large piece of membrane. Intubated again; relief complete.
36	3 yrs. 6 mos.	Nares and pharynx.		"	... ..	"	. ..	Secondary croup 2 days later.	Dr. Neufield.	
37	18 months.	Membrane coughed up.	..	"	....	"	.....	Heart-failure 18 hours later.	Dr. Denhard assisting.	
38	18 months.	Nares and fauces.	.	"	Coughed up on 6th day.	"	.....	Convulsions 10 hours later.	Dr. D. Cook.	
39	9½ months.	No membrane visible: pieces coughed up.	....	"	Removed on 7th day.	"	Recovery.	....	Case of Dr. Neufield, Dr. Denhard present.	
40	2 yrs. 6 mos.	Tonsils.	. ..	"	. .. ..	"	"	.....	Drs. Bennett and Neufield.	
41	5 yrs. 6 mos.	Tonsils and pharynx.	..	"	.... ..	"	. ....	Died 6 days later.	Dr. Rottenburg.	
42	2 yrs. 9 mos.	Tonsils and nose.	..	"	7th day.	"	..	Died 2 days later of secondary croup.		
43	22 months.	Tonsils: membrane coughed up.	. .	"	6th day.	"	Recovery.	.....	Dr. Horn present.	
44	4 years.	Soft palate and tonsils.	. .	"	.....	"	"	.....	Dr. Horn present.	Referred to me for intubation by Dr. F. Nordeman.
45	3 years.	Tonsils and palate.	Pneumonia.	"	.....	"	.....	2 days later secondary croup and pneumonia.	Dr. Brothers present.	Referred to me by Dr. Lyttle.
46	11 months.	Membrane coughed up.	.. ..	"	. .....	"	.....	Pneumonia and secondary croup 2¾ days later.	Dr. H. G. Lyttle.	
47	4 yrs. 6 mos.	Pharynx, etc.	... . ..	"	.. ..	"	.....	Died 3 days later of secondary croup.		

RÉSUMÉ OF CASES.

Under three years of age.				Three years of age and over.			
Age.	No.	Recovery.	Death.	Age.	No.	Recovery.	Death.
8 months....	1	0	1	3 years	6	2	4
9 months....	1	0	1	3½ years ...	2	1	1
9½ months...	1	1	0	3⅔ years ..	1	0	1
10½ months..	1	1	0	4 years	3	2	1
11 months...	4	2	2	4½ years ...	3	2	1
1 year	2	1	1	5½ years .	1	0	1
13 months...	1	0	1	6 years ..	1	1	0
1¼ year	1	0	1	7 years . ..	1	1	0
1½ year	4	0	4				
2 years	5	2	3				
2½ years	4	2	2				
2⅔ years ...	4	2	2				
Total.....	29	11	18	Total.....	18	9	9

Twenty-nine were under three years of age, 11 recoveries; 18 were three years old or over, 9 recoveries. Other points of interest will be developed later on.

4. When an intubation-tube is in position reflex spasm can no longer take place—the diseased structures are kept apart and *at rest*.

I do not forget that after a tracheotomy the membrane below the opening, even though recent, is apt to be expelled as soon as the trachea is opened or the tube inserted; that upon the vocal cords and in the larynx—and *here* is the point—is not thrown off for from six to sixteen days or more in a patient upon whom tracheotomy has been done. Though the greater amount of air enters the lung through the tracheal cannula, some air passes through the larynx and alongside the tracheotomy-tube; the laryngeal structures are more or less active, and are not as quiet as when separated by the intubation-tube.

5. Granulations are of frequent occurrence after tracheotomy, and require to be removed before the cannula can be dispensed with. They do not form after intubation; if ulceration be produced, the ulcers are superficial and soon heal.

As long as the respiration is obstructed and expectoration free, there is no occasion for the removal of the tube until five or six days have elapsed. If, during this period, the breathing becomes noisy and does not become quiet after the subsidence of a paroxysm of cough purposely induced by the ingestion of lime-water, etc., or if it be suspected that membrane be loose, and there is danger of obstruction, the tube ought to be taken out, to permit removal of the obstacle, and then reintroduced, if necessary.

I do not favor its frequent removal, nor is it necessary for the purpose of allowing the patient to take nourishment. It is safer and easier to insert the stomach-tube, through the mouth or nares, and thus nourish the child. We must not forget the danger of crowding membrane down in the reintroduction of tube.

When diphtheritic patches are visible upon the tonsils,

pharynx, or in the nose, I generally wait until they disappear before the intubation-tube is permanently removed. No membranes being present in the fauces, it is well to remove the tube at the end of five or six days; if the dyspnœa return, the tube can be reintroduced at once or after the lapse of a few hours. The hoarseness and aphonia which persist when tube is removed yield to general treatment in from one to three weeks.

The prognosis in intubation (and this applies to tracheotomy as well) is better when the evidences of general infection are mild or wanting; when the operation is done in cases in which the symptoms of asphyxia predominate, and the local lesion—the membranous deposits in the larynx—constitute the main danger to the patient. It is unfortunately true that in many instances it is not always possible, amid an aggregate of symptoms, often very complex, to distinguish perfectly the symptoms due to the local trouble in the larynx and those due to the sepsis or other complication. In view of the simplicity of the procedure and the comparative ease and rapidity with which it can be done, I have often intubated (the stenosis being sufficiently well marked to warrant it) regardless of the tender age and no matter how hopeless the cases from septic or other complication, the object being to allow the child to breathe more easily and to render its condition more comfortable, to prevent asphyxia with its struggles and suffering.

No positive prognosis can be given until forty-eight hours at least have elapsed. Though the dyspnœa be relieved, the membrane may extend downward, pneumonia set in, cardiac failure occur, systemic infection take place, and paralysis, nephritis, or heart-clot render the prognosis bad. If no marked elevation of temperature occurs and the respirations do not become accelerated during the first two or three days, the case will probably pursue a favorable course. Exceptionally a nephritis or late pneumonia will cause a fatal termination after the fifth or sixth day.

Intubation relieves the stenosis and keeps the larynx patent, so that air can gain free access to the lungs. It is thus a symptomatic expedient, so to say, resorted to, not with a view to cure the disease itself, but rather to overcome the obstruction to respiration. This should not be forgotten. We still have to deal with a serious disease and must meet other indications as they arise. What medicines are to be given? Dr. Northrup answers, "Milk and whiskey." He further adds: "I have occasionally found my tubes well corroded when enthusiasts in bichloride treatment and advocates of iron have been hard to manage." At the risk of corroding my tubes and being included among the "enthusiasts," I would state that I continue the use of the "bichloride" throughout the disease.[1]

If there be extensive diphtheria of the fauces, iron and chlorate of potash are indicated. If the nares be involved, nasal injections are resorted to. If other symptoms arise, the appropriate remedies are prescribed. In cases of threatened heart-failure, hypodermics of brandy, ether, camphor, caffein, etc., may be employed. High temperature is treated by antipyretics either by mouth or suppositories.

By means of Spencer's steam atomizer, steam is kept up continuously. Alcoholic and other stimulants are not to be neglected.

Alimentation is of primary importance in this as in any other severe affection. Disgust for every article of diet is a very unfavorable symptom. As a rule the little patients will not take food well from parents or friends, and whenever possible it is advisable to insist upon the presence of a good nurse. Even then personal supervision should be exercised, and precise directions left; too much latitude should not be given, or much left to the discretion of the attendant not familiar with the requirements of the case. The proper preparation of the food ought to be looked into by the physician. I have frequently been told that it was impossible to administer anything to the child. Sitting down by the bedside and personally attending to the feeding, I have been able to make the child take a reasonable amount of nourishment, either by threats of punishment, insertion of gag, force, or bribery. Trousseau very truly says: "There are no rigid rules in respect to the choice of food. We are often obliged, in some individuals, to satisfy the strangest possible caprices of taste." Some five years ago I performed a tracheotomy in a case of whooping-cough complicated with membranous laryngitis. Cyanosis was so far advanced that the operation was practically done without an anæsthetic. The boy, of Russian-Polish parentage, absolutely refused milk, stimulants, and usual articles of diet. Any attempt to force him would provoke him to such an extent that he would tear his hair, toss about wildly, and have a severe paroxysm of cough, often bringing up considerable quantities of blood. I was finally compelled to allow him to have his own way and to permit him to select his own dietary, his favorite dish being a compound composed of dried pears, carrots, potatoes, and meat stewed together. Of this he would eat two or three heaping soup-platefuls daily. The boy recovered. I mention this case, which is exceptional, merely to show that rigid rules cannot always be carried out, and in rare instances a departure from well-established precepts may not be attended by any untoward consequences. If after repeated attempts to give proper food I fail, I do not hesitate to allow the little fellow full latitude as regards his diet, provided rectal feeding be not possible and a resort to the use of the stomach tube (through nose or mouth) be attended by marked prostration.

For several hours after the tube has been introduced nothing should be allowed but small pieces of ice dipped in brandy or wine. These will be readily taken and will not induce coughing to any extent. At the next visit (three to four hours later) the physician should make it a rule to endeavor to discover how much fluid can safely be allowed at a time. Solids and semi-solids will be swallowed without much difficulty. Fluids, however, provoke considerable coughing. We must remember that the epiglottis is only an accessory to the closure of the larynx, and that the other more important factor, the action of its constrictor muscles, is prevented by the presence of the cannula; it is therefore evident that the deglutition of fluids can never be perfect with any form of tube in the glottis. If the head of the tube be too large, or ride too high in the larynx, the difficulty is greater.

It is my practice to sit by the bedside and endeavor to discover the idiosyncrasy of the little patient as regards the ability to swallow fluids. I begin with a teaspoonful of brandy and milk; if this be swallowed well, the nourishment is continued in teaspoonful doses, or larger amounts if well tolerated. If much cough follow, the quantity is diminished; in some instances but ten to twenty drops can be taken, and are then to be given by means of a medicine-dropper. This frequently happens in very young children, in such under eighteen months. In the case of older children we may allow them to sit up and take their food slowly from a cup or spoon—in fact, permit them to feed themselves as much as possible.

Medicines may be administered in the same manner. It is far preferable to gauge the patient's ability to swallow than to allow him to take indefinite amounts, which are coughed up as soon as taken, and only tend to add to the discouragement and torment of the little one.

[1] The deductions of Thallon (New York Medical Journal, April 12 and 19, 1884) prove not only that the bichloride is a proper antifermentative, but also that the doses must be larger than usually recommended. Following the teachings of Jacobi (The Medical Record, May, 1884), I have kept these patients under the influence of mercury. From one-sixth to one-half and even a grain (according to the urgency of the symptoms and age of child) may be given in divided doses in twenty-four hours, and continued for a number of days without producing any untoward results. The medicine is continued even after intubation; and when the difficulty in swallowing is great, tablet triturates of bichloride, one-fortieth of a grain, are powdered and mixed with a small amount of sugar and placed dry upon the tongue, ice being given at the same time to facilitate solution and prevent the drug reaching the stomach in too concentrated form.

Solids and semi-solids are better taken than liquid when there is pain and difficulty in deglutition, as they do not provoke coughing to the same extent. Thick soups, farinaceous food with milk, chocolate, cream, soft-boiled or scrambled eggs, frozen or condensed milk undiluted, may be allowed. Ice-cream, water-ice, and jellies of various kinds, with or without wine or brandy, may be tried. To children a year or so of age I have given rice, barley, or oatmeal water, cooked thick and strained, with white of egg and milk, a little salt and sugar being added to make it more palatable.

Rectal nutrient injections I have used in one or two cases; in only one case was I compelled to use the stomach-tube (Davidson syringe and Jacque's catheter).

Dr. Caillé and others, in order to lessen the dangers of pneumonia or pulmonary complications from the possible entrance of food into the trachea, advise rectal alimentation or feeding by the stomach-tube (THE MEDICAL RECORD, March 19, 1887).

This, in my opinion, is going too far. If the hints thrown out above are followed, I do not think that feeding by mouth will add materially to the danger of pneumonia in this class of cases. Furthermore, we must remember that pneumonia complicating diphtheritic laryngitis is a rather frequent occurrence and is usually a broncho-pneumonia and results from rarefaction of the air in the respiratory passages during the period of impeded respiration, with consequent collapse of pulmonary tissue and dilatation of blood-vessels, and hence a disturbance of the circulation. . . . Lobular pneumonia will result from the aspiration of pieces of membrane into the smallest bronchi. . . . Second form of pneumonia is from the beginning of a fibrinous character (Jacobi). The danger exists, I admit, but is greatly exaggerated, and I have not been able to find the records of a single case in which, at the autopsy, the pulmonary inflammation was found to be due to the aspiration of particles of food into the bronchi after intubation.

In the first few cases Dr. Denhard, misinterpreting the directions, inserted the tubes so that the bevel of the flange looked upward and forward, and in these instances the curious fact was observed that the patients could swallow very well. A number of gentlemen in Chicago have had a similar experience, and the reversed position is preferred by many, among them Professor Hoadley. The latter maintains that the flange of the tube, as placed by him deeply in the vestibule of the larynx, in no wise interferes with the functions of the epiglottis or the ary-epiglottic fold. Its removal, however, is attended with considerable difficulty. In order to test this further Dr. Denhard has lately introduced the tube in the reversed position and the patient was able to swallow with facility and comfort.

In this connection it may be well to refer to Dr. Waxham's modification of O'Dwyer's tubes, devised to overcome the difficulty of nourishing the patient. They are made with smaller heads and are provided with a rubber collar with an artificial epiglottis attached. The collar projects sufficiently to prevent the tube slipping into the trachea, and being more elastic, fits more perfectly into the larynx than the large metalic heads. When the child swallows, the epiglottis presses the artificial epiglottis down, so as to completely cover the aperture of the tube. As deglutition ceases the larynx falls and the elasticity of the rubber throws the artificial epiglottis upward. Even with this addition the deglutition of liquids is not perfect; some enters the larynx.

The pertinent question has been asked, Does intubation leave the patient without any of the advantages offered by tracheotomy?

In my experience and that of others who have given the new plan a faithful trial, intubation secures to the patient every advantage afforded by incision of the trachea. The insertion of an O'Dwyer's tube relieves the stenosis as promptly, thoroughly, and efficiently as tracheotomy. Expectoration is more readily accomplished after intubation, for the ability to close the glottis is preserved, the cough consequently is explosive and full, and the mucus and shreds of membrane are readily brought up.

Furthermore, intubation will save many lives in cases in which tracheotomy would not be permitted; it will save many a patient from the need of tracheotomy; and "finally, it will save many that could not be saved by tracheotomy." The last applies particularly to children under three years of age. Fifty-two of Waxham's cases (up to December 14, 1886) were three years or under, a great many nursing infants, with 13 recoveries (twenty-five per cent.). Among the recoveries were 1 nine months old, others respectively, fourteen months, eighteen months, and twenty-two months of age (*Med. News*, January 1, 1887).

My own cases comprise 29 under three years of age with 11 recoveries, including one nine and one-half months old, one ten and one-half months, two eleven months, and one one year old.

I have endeavored, to the best of my ability, to bring before you a faithful view of the subject under consideration, to give the dark as well as the light sides, to present the advantages as well as the imperfections of the measure. The picture may be rose-colored, but my experience warrants the favorable and even enthusiastic view I have taken. I have seen child after child die of laryngeal obstruction in instances where tracheotomy was objected to, and of twelve cases in which I have operated, ten have died. I have furthermore assisted at the operation and more or less closely followed the after treatment of at least a score of cases in the practice of various friends. The results have not been brilliant or encouraging. It is thus evident that I do not reject the cutting operation upon theoretical grounds or insufficient experience. I appreciate the relief afforded by tracheotomy and have urged its performance in spite of discouraging results. Intubation affords relief as effectually and as thoroughly as tracheotomy. Moreover, it is a simpler and safer method. "The child is swathed, the gag is in, the tube is in, the thread is out, the gag is out, and the relieved and bewildered child is looking about, coughing, quite unable to comprehend the surroundings." Those who have witnessed the operation of intubation recognize the truth of the above and appreciate the benefits and advantages as well as the simplicity of the procedure. Many authorities, without any familiarity with the measure and without a proper study of the subject, condemn the plan and attempt to discredit the assertions of its advocates. The objections are theoretical.

Edmund Owens ("Year-Book of Treatment for 1886," page 164) concedes that he "neither has nor desires a practical acquaintance with it," and yet condemns the method. Michael, of Hamburg, says the method is as dangerous as it is impracticable. Thus far it has not met with much favor in England or on the continent.

In concluding, it is but just that we acknowledge the debt of gratitude we owe to our *confrère*, Dr. James O'Dwyer, considered by Jacobi the most deserving and most modest of all men. The patient, painstaking, and unostentatious manner in which he has conducted his experiments and investigations deserve due recognition at our hands. The perseverance, ingenuity, and originality shown in perfecting the method merit our admiration. The disinterestedness, candor, and modesty, so characteristic of the man, and which stamp his references to this invaluable addition to our resources in the treatment of croup, cannot be extolled too highly, and deserve more than mere praise or words of fulsome flattery. Finally, I heartily indorse the sentiment expressed by Dr. Ingals and join "in acknowledging the nobleness of the profession at large which tolerates no secret method, but generously donates to mankind every improvement in the healing art." Among the latest, but not the least, may be classed intubation, rightly considered as "one of the great advances in this age of medical discoveries."

FEEDING AFTER INTUBATION OF THE LARYNX.

With Exhibition of Tubes Modified to Overcome Difficulty in Feeding.

By JOSEPH O'DWYER, M.D.,

ATTENDING PHYSICIAN TO THE NEW YORK FOUNDLING ASYLUM.

From the very beginning of my experience with intubation I recognized the fact that the greatest objection to this operation, and the one most difficult to overcome, was that of feeding the child while the tube remained in the larynx. I therefore began very early to try various modifications in the size and shape of the heads of the tubes with a view to remedying this defect. I will show you a few of these modifications in the order in which they were made.

1. I first had the tube made with a very small shoulder, which rested on the vocal cords, while the lateral portions of the flange occupied the ventricles, thus permitting some action of the constrictors, such as occurs under normal conditions, to aid the epiglottis in protecting the larynx during the act of deglutition. The objection I found to these small-headed tubes was the tendency of the swollen tissues to close over the aperture above, and there was also the danger that the tube might be pushed through into the trachea during attempts at extraction.

2. My next modification consisted in gradually increasing the size of the head and giving the upper portion of the tube a backward curve in order to carry it away from the base of the epiglottis, at which point the straight one frequently produced ulceration.

3. The posterior portion of the tube was made longer than the anterior, or oblique from before backward and upward, in order to allow the epiglottis to come in contact with it sooner and with greater force when pressed down by the base of the tongue.

4. The next modification was to increase the size of the head so as to make it fill the cavity of the larynx and thus prevent the entrance of fluids around it, for cough will be excited by contact of a foreign body with any portion of the mucous membrane of the glottis. The heads of the tubes now made are much larger than is necessary, but as deglutition, if no better, is certainly no worse, I have not changed them for the reason that the large head renders the extraction less difficult.

5. The head of the tube was now made concave on its upper surface. This shape was suggested by taking a wax cast of the larynx and pressing the epiglottis over it while the wax was still soft. The impression made on the wax was similar in shape to that which you see in this tube. I have used this modification in a few cases, but without witnessing any apparent improvement in deglutition. Should it not prove otherwise objectionable on a more extended trial, this form of head may be an advantage, as it would render the removal of the tube, which is now the more difficult operation, much easier than its introduction, for the extraction, striking anywhere on the concave surface, would naturally and easily glide into the aperture.

6. In some cases a double backward curve has been given to the upper portion of the tube, the first curve being covered by the flange and the second being a little lower down. This has been used in several cases, but I have not seen any improvement in deglutition to result therefrom.

This shape is advantageous, however, in one respect. Autopsies were made in three cases in which these modified tubes were used, and not the least abrasion was found on the anterior wall of the trachea, at the point corresponding to the lower extremity of the tube, where more or less ulceration is not uncommonly produced by the tubes ordinarily used. This ulceration is sometimes quite marked in cases in which the vital powers have been much reduced by a previous attack of scarlet fever or measles or both, and is produced in the following manner: A tube in the larynx acts as a lever, with the posterior commissure as a fulcrum. During every act of deglutition the epiglottis presses the upper short arm of the lever backward and tilts the lower long arm forward against the wall of the trachea. First, the pseudo membrane disappears for about one fourth of an inch above and below the end of the tube. I have seen many cases in which this alone occurred, and others in which the lesion varied from simple loss of the epithelium to pretty extensive ulceration. Several years ago, when I was using short tubes, from one to one and one-half inch in length, and of larger calibre, I never found ulceration in the trachea, but this lesion was present in almost every case just below the vocal cords in the subglottic division ot the larynx.

I also show you one of Dr. Waxham's modified tubes with rubber epiglottis, which I have not yet tried.

With all these modifications, and others that I have not mentioned, I have found about the same difficulty in the swallowing of fluids, some of which, when compressed by the muscles of deglutition, will be forced under the epiglottis, no matter how accurately it covers the aperture of the tube.

There are still other modifications that I intend to try, and as other men are working in the same line, there is reason to hope that some device will yet be found to overcome this difficulty.

Solids and semi solids, when there is an appetite for such food, and when the patients can be induced to take it, are swallowed much better than fluids and do not enter the tube, as far as I am aware. Indeed, there is no reason why they should do so, for a bolus of food as it passes downward tends rather to press the epiglottis more firmly over the mouth of the tube than to raise it, as happens in the case of fluids. I make an exception to this statement in the case of malignant diphtheria of the larynx, a few cases of which I have operated upon, in which the epiglottis is converted into a mass of an almost globular shape by reason of the infiltration into its tissues, whereby its normal functions are completely abolished.

Some children swallow remarkably well after intubation, others very imperfectly, while a few refuse absolutely to swallow anything. This difference is to be explained partly by the condition of the epiglottis, whether very much swollen or not, and partly by the absence or presence of a desire for food. I have often known children to refuse milk or any other kind of nourishment, when they would drink water, beer, or anything that they liked, with very little difficulty. On several occasions I have removed the tube for the purpose of giving nourishment, but found that the patients could not be induced to take food any better than before. This occurs more frequently in cases of severe complicating nephritis which occasions nausea and a loathing of food.

There is sometimes an apparent improvement in swallowing after intubation, and more nourishment is taken than before the operation. This is due to the relief of the dyspnœa, which, before the insertion of the tube, was so urgent that the little sufferer could not afford the loss of the one or two respirations that would be necessitated by making a single act of deglutition. As a rule, the longer the tube remains in the larynx the better the patient learns how to swallow. I have observed this in adults as well as in children. One woman declared after intubation that she could not swallow anything in either solid or liquid form, and it was necessary to feed her by the stomach-tube. After the laryngeal tube had been retained for two or three weeks she took as much food as the stomach would tolerate and, in addition, large doses of iodide of potassium.

Exceptions to this rule are found in those cases in which, before intubation, nourishment was refused because of the painful condition of the pharynx, or because

of anorexia induced by nephritis, and in others in which a great deal of pain and irritation, caused by ulceration on the anterior wall of the trachea, previously alluded to, are present.

I always instruct children who are old enough to understand, to drink as rapidly as they can and then cough to expel any fluid that may have entered the tube, instead of coughing after each deglutition as they usually do. In quite a number of cases I have been obliged to supplement feeding by the mouth by rectal alimentation, with or without stimulants, as indicated. In only a few have I had to resort to the stomach-tube.

Intimately connected with the question of feeding after intubation is that of food-pneumonia, so much talked about of late. I will first refer briefly to the most important factors concerned in the causation of pneumonia as a complication of croup, and will then give some reasons for believing that food is not one of them. The several etiological factors may be grouped as follows:

1. The presence of secretion in the lower air-passages, in consequence of the frequent association of bronchial catarrh and croup.

2. The excessive amount of blood drawn to the lungs when there is sufficient obstruction in the larynx to prevent the free ingress of air required to fill the vacuum produced by the inspiratory expansion of the chest.

3. Atelectasis from the same cause or from plugging of some of the bronchi by pseudo-membrane.

4. The presence of a tube, whether it be in the larynx or in the trachea, not because it may admit a little of the milk or other fluids swallowed, but because it prevents closure of the glottis, and consequently prevents that compression of the air which is essential in order to give full expulsive power to the cough. The irritating secretions, therefore, instead of being promptly expectorated, accumulate, and are aspirated into the air-cells, where they sooner or later excite inflammatory changes.

When we consider the nature of these influences, some of which are constantly present in severe cases, it ought not to be surprising to find pneumonia, especially of the lobular form, a rather frequent complication of croup. And this is particularly so after operation, whether by tracheotomy or intubation.

As opposed to the food-pneumonia theory, I offer the following:

1. I do not believe, and there is no evidence, so far, to prove, that any of the fluid entering the tube ever reaches the bronchi, for it is promptly expelled by coughing.

2. Those cases in which the croupous process does not invade the bronchi, and in which there is little or no bronchial catarrh, no matter how imperfectly they swallow, rarely, if ever, develop pneumonia.

3. Intubation in chronic stenosis of the larynx, in the adult, is not followed by any inflammatory changes in the lungs. In one case of this kind I have already introduced a tube over fifty times, leaving it in the larynx on several occasions as long as a week at a time. This patient, owing partly to a deformity of the epiglottis, swallowed both solids and liquids very imperfectly, but never developed even the slightest amount of bronchitis. Another female patient, who had worn a tracheal cannula for over two years and who was in failing health and suffering from bronchitis at the time that she was intubated, rapidly improved after the tube was inserted into her larynx, and the external wound was closed. The bronchitis also disappeared within a reasonable time. This patient wore the tube in her larynx continuouslyfor over ten months, and enjoyed excellent health during the entire time.

There is no objection to the use of emetics, if indicated, after intubation, and there is no danger that the vomited matters will enter the tube, as no resistance is offered to their escape from the œsophagus, such as must be overcome when food or drink enters this canal from the pharynx

Finally, I wish to show you two hard-rubber tubes which are suitable for use in any form of acute stenosis of the larynx in the adult. The larger is intended for a large adult male, the smaller for a small-sized or young adult male, or for a female. Whether they will be any improvement on the metal tubes that I have been using remains to be settled by a more extended trial. I have used the smaller of these in two women, who had previously worn metal tubes of a much smaller calibre. One of the patients expressed a decided preference for the heavy tube, which, she said, sank deeper in the larynx and enabled her to swallow more easily than did the light-rubber tube. But although one weighed one ounce and three-quarters and the other only one hundred grains, she could not appreciate any difference in the weight as it was in position in the larynx. The other patient, while she could not swallow as well with it, was equally strong in her preference for the lighter tube, saying that it gave her less pain and irritation, and enabled her to expectorate more easily. These tubes are made by Tiemann & Co.

PATHOLOGICAL ANATOMY OF THE RESPIRATORY TRACT AFTER DEATH FROM LARYNGEAL DIPHTHERIA AND INTUBATION.[1]

By W. P. NORTHRUP, M.D.,

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In my paper read before this Academy in December last (see MEDICAL RECORD of December 11, 1886), entitled "Laryngeal Diphtheria, Intubation, and Pathological Anatomy," etc., I analyzed the cases found in the post-mortem records of the New York Foundling Asylum. There were at that time 87 cases recorded of death from laryngeal diphtheria.

Of these, 50 were males, 37 females. Average age was two years and seven months. Number of children dying under one year, 13; between one and two was 9; two and three, 10; three and four, 36; four and five, 11; five and six, 1; six and seven, 1; unknown, 6—total, 87 cases.

"The greatest mortality, as we see, was from three to four years of age, where we find 36 of the 87 cases. The next number falls abruptly to 13, representing those dying under one year."

In 56 the diphtheria began in the larynx. Of the 87 cases 22 followed measles, 8 followed scarlet fever. In 54 cases there was pneumonia, the diagnosis of which was made either from obvious signs of consolidation, or, where this was not well developed, from the microscopic findings. Not in all cases did there seem to be enough pneumonia to be the cause of death. In 29 cases there was estimated to be enough. In 27 cases bronchial diphtheria was the prominent lesion. I will here repeat that I do not rule out pneumonia, because lung inflates easily by artificial means and returns nearly to its normal color. I am not willing to admit that it is collapse, and not pneumonia, on that test. In cases of doubt the microscope has been used to determine the nature and extent of the lesion, and in the records referred to the diagnosis heading the history and post-mortem records has been made on the anatomical basis.

Since January 1, 1887, there have been added to these records 20 cases, making in all 107. These will be interesting and instructive, because they are all cases of laryngeal diphtheria occurring in a fatal epidemic of measles. Of the 20 cases all had measles and pneumonia; 8 had scarlet fever with measles; and 13 had, in addition, well-marked nephritis. These points are mentioned to show the severity of the epidemic, which in four months has added 20 cases to the former record.

I said in my paper that I had never found any ulcers of the trachea which were more than a rubbing away of

[1] Read before the New York Academy of Medicine, June 2, 1887.

the epithelium. I have this evening to show you the lesions of a severe epidemic, in which the patients have been overwhelmed with scarlet fever and measles and pneumonia and nephritis and diphtheria. On these glass slides are shown the ulcers in gross, from four tracheas, which ulcers, you will see, extend in depth to the rings of the trachea, laying them bare. The lower end of the tube, at each movement of swallowing, rubs against the anterior wall of the trachea. In this severely fatal epidemic we find what we did not in previous cases, viz., deep ulcers. Of the 20 cases 5 had tracheal ulcers deep enough to be of serious moment. I have never seen ulcers made by the head of the tube worthy of consideration. It amounts simply to necrosis of the epithelium, and will heal without contraction.

One of the first questions to be asked is whether or not milk, which occasions cough, passes into the finer bronchi and alveoli and causes pneumonia—foreign-body pneumonia, aspiration pneumonia, *schluck pneumonie*. I may answer, briefly, I have never found any evidence that it did find its way into the finer bronchi. I am familiar, too, with the article of Orth, of Göttingen, recently published, and I find nothing corresponding to his description.

I am endeavoring by experiment to determine how far the fluid passes downward into the air-passages. Fluid bathing simply the under surface of the epiglottis may cause violent cough. The experiments are in this line. By some means register the depth to which the fluid descends, either by harmless staining-fluids or by finely divided carbon suspended in milk. Thus far I have no results to publish.

This paper has but two points to add to that of December on this particular feature of the discussion.

First, after all that has been suggested on the subject, I find no evidence that milk, or food of any kind, has passed into the finer bronchi and alveoli of patients wearing the laryngeal tube.

Second, that in patients the subjects of previous exhausting disease the lower end of the tube may cause ulceration, even when worn the usual number of days. This ulceration may easily amount to a complication.

CONTRIBUTION TO THE DISCUSSION ON INTUBATION OF THE LARYNX.[1]

By A. CAILLÉ, M.D.,

NEW YORK.

I WISH to state at the onset that we cannot this evening speak a final word as to the actual merits of intubation.

It is true that a large number of cases are on record, but it is equally true that many of these cases are reported in a superficial manner, and therefore lose their value as statistical material.

I must confess that Dr. Huber and Dr. Brown have presented their cases in a manner calculated to inspire confidence in the conclusions which they formulated.

I believe, moreover, that it is a good plan for those who have had experience with both tracheotomy and intubation to come together occasionally and compare notes; and taking this view, I will briefly state my own experience.

I have done tracheotomy 21 times, with 5 recoveries. I have intubated 16 times, with 6 recoveries. Of the intubated cases 9 were cases of nasal or pharyngeal diphtheria and laryngeal stenosis, with 2 recoveries; 6 were cases of true membranous laryngitis, and no visible diphtheritic exudate on fauces, with 3 recoveries; 1 case was probably a severe simple inflammatory stenosis of five days' standing, which had not improved under ordinary treatment, with very urgent dyspnœa, 1 recovery.

Most of these cases were seen in consultation, and intubation was done rather late, and I am convinced that without active interference every one of these children, whose ages ranged from one to seven years, would have died of suffocation.

I believe that I would be able to report at least one more recovery if intubation had been done earlier in one case, for breathing had actually ceased and artificial respiration had to be practised.

My best results in intubation were obtained in cases of undoubted membranous laryngitis, in which diphtheria of fauces was not visible at the time of intubation.

Now this is quite the reverse of my experience with tracheotomy, for most of the children operated upon for true membranous laryngitis died from an extension of the membrane into the finer bronchi, and it made apparently no difference whether the trachea was incised above or below the thyroid gland. The cause of death in such patients as did not recover after intubation was, in the majority of cases, catarrhal pneumonia. In most of the fatal cases I gave some liquid nourishment, which may have provoked pulmonary inflammation through being aspirated. Of late, I have given only solids, chopped very fine and moistened, and small pieces of ice to quench thirst; since that time my results are much better.

One case deserves special attention. I intubated a child, one year old, with extreme stenosis but no visible diphtheria. I removed the tube every other day to feed the child, as it could not swallow, but I was obliged to reintroduce it. On the twelfth day I noticed pharyngeal and nasal diphtheria, and on the fourteenth day, the child died of exhaustion, with the tube *in situ* and the lungs free. If I were asked to express my personal opinion as to the value of intubation, I would say:

1. In *general practice* intubation is preferable to tracheotomy in urgent laryngeal stenosis of children in the majority of cases.

2. When pharyngeal or nasal diphtheria and laryngeal stenosis are present at the same time, intubation should be practised in preference to tracheotomy, when the surrounding circumstances are such as to preclude the possibility of proper and intelligent after-treatment.

3. Tracheotomy is preferable to intubation in such cases of larnygeal stenosis, with pharyngeal or nasal diphtheria, which appear from experience *hopeless*, without *sufficient stimulation and nourishment* and proper local treatment of naso-pharynx, *provided the operation and after-treatment can be conducted under the most favorable surroundings*.

4. These conclusions pertain to intubation with the present style of tube.

[1] Read before the New York Academy of Medicine, June 2, 1887.

COLDS TAKEN IN THE CARS.—In these days when travel by railroad is very common, a few words to the patients on the best means to prevent taking colds in the cars will be useful. For men, a light cap, one that will cover over the ears, so as to serve as a night cap, will be desirable. In cold weather a woollen cap is best. This cap should be put on as soon as the car is entered. A loose blouse should take the place of the coat usually worn. Slippers must not be worn. If there is a draught in the car, face it, do not let it strike the back. Have the bed made with its head toward the engine; the dust will then be driven to the foot, where it will do the least harm. But be sure to have a sufficient quantity of bedclothes to keep warm. A soft, loose-knit, woollen hood is the best head-wear for women; this should be worn at night also. It should be warmer in winter than in summer months. The corsets should be removed at night, and a loose woollen wrapper worn for a night-dress. The stocking supporters as well as every constricting band around the waist should be loosened. Every adult should take from five to ten grains of quinine on going to bed. It will be well to rub the hands, feet, face, and neck with a little vaseline at the same time.—*Journal of Reconstructives*

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THE TREATMENT OF WOUNDS OF THE INTESTINES.

ALTHOUGH American surgeons may have little to learn from abroad concerning the treatment of abdominal wounds involving the intestines, it may not be uninteresting to hear what others have to say concerning it, especially when they are surgeons of acknowledged authority.

At the annual conversazione of the London Medical Society, held on May 2d, Sir William MacCormac delivered the address, taking for his subject "Abdominal Section for the Treatment of Intraperitoneal Injury." Confining his attention almost entirely to wounds of the bowel, the speaker remarked that the diagnosis was of primary importance, as upon its speedy determination must depend the success of our treatment. If we wait till the diagnosis has been established by the occurrence of peritonitis, the services of the surgeon are no longer called for. To clear up the diagnosis he recommended that the wound should be thoroughly examined, precautions being taken to exclude septic influences. If probing fail to clearly establish the fact, or otherwise, of penetration, the wound should be enlarged and explored to its termination, either in the parietes or more deeply. Enterorrhaphy was at the present time admittedly the best treatment for all punctured and incised wounds attended by protrusion, unless the parts were so damaged that an artificial anus seemed preferable. In cases of stabs and gunshot wounds unattended by protrusion, the common practice, heretofore, had been to give opium and enjoin rest, in the hope that adhesions might form. In the vast majority of instances such hopes were illusory. Another practice commonly recommended was the formation of an artificial anus by attaching the margins of the wound in the gut to the skin, but where it was possible to avoid it this course was highly undesirable, and it was certainly unnecessary in those cases in which the injury did not extend more than half-way round the gut, or when it was on the convexity of the bowel.

"In cases of injury," remarked the speaker, "we but half accomplish our work if we do not at once attempt to restore the continuity of the intestine."

Three conditions were enumerated as being required to insure successful suture of the intestine, viz. (1), two sufficiently broad and wide surfaces of peritoneum must be brought into contact; (2) the mucous membrane must be excluded, for when the needle passed through the whole thickness of the gut peritonitis generally ensued from leakage taking place along the line of the thread; (3) rapidity of execution was of extreme importance, and that form of suture was the best which could be effectively employed in the shortest time. Sir William preferred Lembert's method of suture for all wounds of the bowel. Sufficient inversion could be easily accomplished without causing obstruction of the lumen of the tube. To cleanse the abdominal cavity from all blood and foreign matter, the best and gentlest method was, he thought, to employ irrigation with a three-per-cent. solution of boracic acid at a temperature of 100° F., made with water previously boiled. The external wound was to be closed, as after ovariotomy. If the operation were done shortly after the accident, drainage might be dispensed with, but if some time had elapsed, or peritoneal inflammation were present, it would be best to drain.

INSTINCT IN MEDICINE.

A RECENT French writer, M. Delaunay, has discoursed upon the instinct of animals with reference to the care which they take of themselves in emergencies arising from physical injuries. He adduces many interesting facts, some of which are familiar, while others are new and exceedingly novel. For instance, he notes that dogs suffering from gastro-enteric troubles, due to improper food, eat certain grasses which have a purgative effect, and thus rid themselves of the offending material. Still more striking is the habit among ants when any of their antennæ become broken off. The comrades of the injured animal gather about it, and from their own bodies secrete in some sort of way a soft, gelatinous material which they plaster upon the injured member, and under this protective dressing the missing part is redeveloped from the remaining stump.

M. Delaunay recites many interesting facts of this nature. Some of them are his own observations, others are those of Sir John Lubbock, the distinguished entomologist, and of other scientists. From this premise he branches out on to the topic as to how far natural instincts in man may be trusted to guide us in our therapeutic applications. He is inclined to think that they ought to be trusted much more than they are.

At the outset comes the pertinent fact that civilization, with its attendant prosperity, often perverts the natural instincts. Among the well-to-do classes luxurious habits are developed which affect the system contrary to the course of nature. We may grant that natural appetites are right to start with, but false views of physical life beget unnatural desires and cravings, to follow which is physical shipwreck. A person lives years in the country eating plain food and keeping good hours. He removes to the city, and shortly falls into the latter's pernicious habits of eating highly seasoned viands and turning night into day. The first milestone on this new road reads "dyspepsia." When the question of therapeutics comes up, the appetite, now perverted, though practically the instinct for the time being, is an unsafe guide; the patient's cravings for various articles of diet cannot be indulged.

Some authorities, however, give contrary advice. The late Austin Flint caused much comment at one time

when he read a paper on diet in dyspepsia where he virtually took the ground that the patient should be allowed to eat anything he wanted. Experience does not seem to stamp approval upon this recommendation.

True instinct with reference to physical actions is always in accordance with what is physiologically right. Whenever the system of a patient seems to have wandered from this path it is the province of rational therapeutics to return it thither. It does not do to tell a patient not to worry about his food, and to eat anything he likes. Such articles of diet must be recommended as will be acted upon by perverted secretions, and then gradually the organs of digestion can be brought up to their natural tone. Then proper juices will be elaborated, and a more liberal dietary can be entered upon.

THE AIR OF DWELLING-HOUSES.

English journals are wisely calling attention to an important paper recently published in the "Philosophical Transactions," by Professor Carnelly, Mr. Haldane, and Dr. Anderson, of Dundee. These gentlemen have analyzed the air of dwellings, and also the outside air, for carbonic-acid gas, organic matter, and micro-organisms. Statistics are given showing the comparative amount of these impurities in one-roomed houses and in houses with four rooms and upward. These figures indicate, also, as might be expected, an increase of disease in direct proportion to the crowding. The death-rate from phthisis, to be sure, is lower in those living in one- and two-roomed houses than in those living in three rooms, but this anomaly is explained when the early mortality of the former from other diseases is considered. Thus the death-rate per 10,000 from (1) diarrhœa, acute bronchitis, broncho-pneumonia, and meningitis is—for dwellers in four rooms and upward 19.6, for those in three rooms 27.6, for those in two rooms 39.7, and those in one room 59.8; from (2) phthisis the rates are respectively 13, 27.6, 24.4, and 14.6. The inquiry also showed the effect of impure air in promoting pulmonary disease; and as regards infectious disease the mortality from measles and whooping-cough seemed distinctly connected with the class of house, while, contrary to expectation, no such relation held for diphtheria.

THE DIAGNOSIS OF THE CROWN PRINCE'S MALADY.

Dr. Morell Mackenzie, of London, has sent a cablegram to The Medical Record in which it is stated that the tumor in the throat of the Crown Prince of Germany is of a dense warty character (Pachydermia Verrucosa).

A most important statement, based upon the authority of Professor Virchow, is that no morbid products are discoverable by the microscope in the submucous tissues. The prognosis, therefore, based upon this examination, is to be regarded as most favorable.

A growth presenting such characteristics possesses no elements of malignancy, and depending as it may upon various constitutional as well as local causes, is, as a rule, perfectly amenable to treatment.

This information thus received from most authentic sources would seem to set at rest the question of doubtful diagnosis and relieve the minds of the many interested in the nature of the Crown Prince's malady.

ILLEGITIMACY IN EUROPE.

Dr. H. Holland, of Westfield, Mass., has sent to us a sheet of medical statistics which has a somewhat depressingly numerical look, but which contains many facts of interest to the student of medical and social science.

In particular the statements made regarding the great and increasing number of illegitimate births in Europe are most striking and significant. To Americans, who have a high respect for the marriage relation, and who have been taught that in the stability of the family lies the strength of the nation, the fact that in Austria over one-half the births are illegitimate seems most astounding. In Vienna, according to L. A. Bertillon, among 1,000 births 509 are illegitimate: at Prague, 505. In Styria, Carinthia, and Olmutz the ratio is from 646 to 702 illegitimates out of 1,000 births! Austrian influence seems particularly inimical to legal paternity. This high rate of illegitimacy seems to prevail quite constantly throughout Germany, ranging from 1 illegitimate to 0 9 legitimates (Vienna, 1862), to 1 to 5.

The proportion of illegitimates is very high in Paris (1 to 3), but less in all France (1 to 12), and less in Great Britain (1 to 15), Spain (1 to 18.4), the Netherlands (1 to 23), Italy (1 to 27.8), and Greece (1 to 78.6). The low rates in some countries are due to the population being more largely rural. According to Bertillon, the great co-efficient of illegitimacy (in Austria) is Roman Catholicism. During ten years Austria had nearly a million of illegitimate births.

The point of medical interest lies in the fact that the illegitimates are almost always the greatest victims of disease. It is these that fill our asylums and hospitals. In every respect they constitute an inferior order of race. Conceived, often, during a debauch or in moments of intoxication, brought up in neglect, poverty, and misery, they furnish the largest part, proportionally, of the social burden which the healthy and strong have to bear.

According to Bouchut, the mortality among foundlings in Paris is fifty-five per cent. in the first year of life, and sixty-three per cent. in the second year of life. Such a rate is greater far than exists in many other cities, but it indicates, in general, the excessive amount of disease among this unfortunate class.

Dr. Holland finally quotes Legoyt as stating that the fact is established that the number of illegitimate births is increasing in Europe.

BRASS-WORKERS' DISEASE.

Very little attention has been paid in this country to a certain class of disorders observed among brass-workers. The best known class of symptoms is that constituting what is called "brass-workers' ague." After being exposed to the fumes of the molten metals, copper and zinc, the workman feels a sensation of discomfort and weakness, followed by muscular pains and then by a distinct chill, with headache, and often cough. After fifteen or twenty minutes a profuse perspiration breaks out; then in a few hours the improvement begins. The patient recovers in one or two days, but is liable to a relapse. Brass-founders' ague was first observed by Blaudet in 1845. It was described by Greenhow, of Birmingham,

in 1858, and again by Hirt. Brass is an alloy of copper and zinc, the latter being in the proportion of 28 to 32 per cent. In the process of making, the zinc deflagrates and fills the air with the powdered oxide. Dr. Greenhow believed, therefore, that brass-workers' ague was an acute poisoning with zinc. Hirt, however, thought it due to the mingled fumes of copper and zinc, because it is not observed among zinc-smelters. Recently Mr. Edgar Hogben (*Birmingham Medical Review*) reports a number of observations, and states his belief that brass-workers' disease is due to chronic or acute copper poisoning. Almost all patients who are copper- or brass-workers have a distinct green hue or band on the neck of the teeth between the crown and the gum. The edge of the gum is slightly blackened. The copious perspirations of brass-workers are often stained green, and white-haired workmen often have a greenish tinge to their locks.

These signs point to an absorption of copper by the workmen and favor the view that the "ague" is due, in large part at least, to this metal.

But these workmen also suffer from other symptoms of a chronic character, such as dyspepsia, metallic taste, colic, constipation and diarrhoea, nervousness, and pains of various kinds are felt. Deafness is not infrequent; cough and aphonia often occur. Paresis of the legs and symptoms like those of locomotor ataxia have been observed, and it seems probable that the copper can cause myelitis and neuritis, in the same way as does lead and other toxic agents.

News of the Week.

The Ohio State Medical Society met this week at Cincinnati.

Disabled Great Men.—The Emperor William is suffering from advanced senility, the Crown Prince from a laryngeal papilloma, and Bismarck from rheumatism; Mr. Gladstone has catarrhal troubles of his respiratory organs; Sir Michael Hicks-Beach has cataracts; Mr. Parnell has some unknown malady which makes him an invalid; Lord Randolph Churchill married an American lady and has the American disease, neurasthenia; Mr. Blaine is reported to be a *brightique;* Mr. Manning is hemiplegic; President Cleveland is rheumatic and lipomatosic; the Emperor of Russia is suffering from mental depression; Mr. Jacob Sharp is reported to be diabetic; while Father McGlynn and Mr. Editor O'Brien are not so well as they should be.

Suit against the New York Hospital.—A suit was recently brought against the New York Hospital by a patient who had been operated upon for cystitis by cystotomy. The damages claimed were $30,000, on account of impotence from injury of both ejaculatory ducts and wound of rectum. The left lateral incision was made. The plaintiff claimed that in consequence of the injury all his semen escaped into the bladder. It was shown by the testimony of Dr. W. T. Bull, the operator, and Drs. George F. Shrady and L. B. Bangs, that such an injury was impossible under the circumstances, and a verdict for the hospital was rendered accordingly.

A Proposed New Building for the Academy of Medicine.—Active measures are now being instituted toward the erection of a new building for the Academy of Medicine. There is certainly an urgent need for it. The present academy building is altogether too small. It is said that a site has already been selected in a desirable locality, between Sixth and Seventh Avenues, in Fifty-seventh Street. There are nearly enough funds to erect a suitable edifice, and members of the Academy and their friends are asked to contribute. The means toward the end should not longer be deferred. We should have a building worthy of the Academy. The Building Committee is commendably in earnest in the matter.

Practitioners' Society of New York.—Dr. George F. Shrady has been re-elected president of this Society for the ensuing year, and Dr. C. L. Dana, secretary.

The Country Practitioner's Advice to the City Physician.—Dr. E. P. Cook, of Mendota, at the last meeting of the Illinois State Medical Society, said with truth that the country practitioner could give the city physician good advice on many topics: First, not to allow the creation of any more medical colleges. Second, to limit the number of specialties. Third, not to make physicians out of persons in any way defective either as to morals, capacity, or preliminary education.

Appropriations for the Medical Congress.—The Illinois State Medical Society appropriated $750; the Nebraska Society, $50.

Medicine in Indiana.—At the last meeting of the State Medical Society, the President, Dr. G. W. H. Kemper, said that Indiana has now 1 physician to every 396 inhabitants—a ratio that is exceeded by only three States: Maryland, 1 to 329; Colorado, 1 to 341; and Oregon, 1 to 353. He suggested that unless Indiana is protected by some legal restrictions, she will eventually become a retreat for reckless and incompetent practitioners. One of the dangers the profession has to fear is the tendency to litigation by patients and friends for alleged malpractice in surgery.

The New Hampshire State Medical Society meets at Concord on June 21st.

The New Jersey State Medical Society meets at Beach Haven on June 21st.

Bellevue Hospital, New York.—Dr. George B. Fowler has been appointed Visiting Physician to Bellevue Hospital, vice Dr. E. Darwin Hudson, deceased.

Baltimore Academy of Medicine.—At the last meeting of the Baltimore Academy of Medicine the following officers were elected for 1887–1888: President, W. C. Van Bibber, M.D.; Vice-President, B. B. Browne, M.D.; Treasurer, G. Lane Taneyhill, M.D.; Secretary, C. C. Bombaugh, M.D.; Reporting Secretary, Wm. B. Canfield, M.D.; Executive Committee, T. A. Ashby, M.D., Robert T. Wilson, M.D., Hiram Woods, M.D.

Home for Incurables, Fordham, N. Y.—The Twenty-first Annual Meeting of the Society of the Home for Incurables was held at the institution on Saturday, June 11th, at 3 P.M. Several addresses were made to a large gathering of friends, who were gratified at the flourishing condition of the institution.

Colonial and International Congress on Inebriety will be held at Westminster Town Hall, London, S. W., Wednesday, July 6, 1887. A large attendance is expected.

German Hospital, New York.—Drs. A. Caillé and William Balser have been appointed visiting physicians to the German Hospital.

Dr. Charles E. Sajous, of Philadelphia, in correcting some remarks before the American Laryngological Congress, writes: "I am reported as saying that I 'believed that superficial organic alteration was of only temporary benefit.' Used singly this phrase implies one meaning, but coupled with the rest of my remarks the sense is entirely different. 'Aunt Elizabeth is growing' means one thing, but if you add 'old' it will mean another. The substance of what I said was that I now believed superficial organic alteration to be of only temporary benefit when the case was a complicated one; that is to say, when hypertrophies, osseous and cartilaginous growths, etc., were present. Coupled with thorough eradication of these complications, the treatment had been successful in every case treated by me last year, a number of them being partial failures of the preceding year, in which this all-important point had been overlooked."

The Illustrious Vienna Anatomist, Hyrtl, who has for some time been suffering from cataract, has had the right eye operated on by Professor Fuchs, apparently with great success. The left eye is also affected, and will shortly have to be operated on. Professor Hyrtl is seventy-five years of age.

The Berlin Medical Society at the Congress.—A press cablegram, dated Berlin, May 27th, states that a committee of the Berlin Medical Society has considered the suggestion made in certain American quarters that the Society be officially represented at the Medical Congress to be held at Washington. Professor Virchow states that the committee has decided against the suggestion.

New Views as to the Time to Give Cod-liver Oil and Bitters.—It has for years been taught that the best time to give cod-liver oil is from half an hour to an hour after meals. M. Sée, however, claims that it should be given at meals, just after taking soup. It may also be given at night. Bitters, he says, should be given just after meals at dessert—certainly not before meals.

The Position of the Modern Homœopath.—Our able and liberal contemporary, the New York *Medical Times*, makes some statements which are particularly interesting in view of the claims made recently by a Chicago daily paper that homœopathy was a growing force which the bigoted physicians of that great commercial centre would have to recognize. Says the New York *Medical Times*: "We do not believe there is a single member of the faculties of the so-called homœopathic colleges in New York and Philadelphia who do not almost daily administer remedies which in no sense can be called homœopathic. In name they are sectarian, fighting with all their force for a name which binds them to exclusive practice, and yet in the sick-room unsectarian, broad and liberal, bringing to their aid facts and suggestions culled from a large reading of the literature and experience of all schools. Dr. T. F. Allen, at one time one of the most enthusiastic apostles of so called high-dilution homœopathy, now admits that it is unreliable and delusive, and says that homœopathy should be taught in all medical schools, but it should constitute only a part of the course of study. We do not hold that homœopathy is the exclusive and only law of healing."

One of the Largest Medical Fees recorded is that of $40,000 recently paid to Dr. Anderson Critchett for visiting and treating an Indian prince.

Yellow Fever at Key West.—On June 13th there had been twenty-six cases in all at Key West, Fla. One or two new cases appear daily, but it does not seem likely that the epidemic will be an extensive one.

An Oliver Wendell Holmes Hospital is to be established at Hudson, Wis. In a letter accompanying a hymn to be sung at the dedication Dr. Holmes wrote: "I am deeply impressed with the value of a good hospital to a community. I have had the opportunity of knowing a good deal about one such institution, the Massachusetts General Hospital. I have served in this as a house pupil and a visiting physician. I have had friends of both sexes residing in its wards as patients, among them Mr. George Sumner, a brother of the distinguished Senator. I have often thought that I should be very glad, under certain circumstances, to enjoy the privileges of its restful quiet, its skilful physicians and surgeons, and its admirable nursing."

The Milwaukee Veterinarians.—The Milwaukee *Sentinel* says that there is not a horse doctor in that city who would change places with the average family physician. They make from $3,000 to $5,000 a year, or from $15 to $20 a day, and the anxiety they undergo is not half so great as that of the man who has human patients to attend to. They charge $2 a visit, though the ailment be nothing more serious than influenza.

Quite *à propos* is the following from the St. Louis *Republican*: Doctor's office, St. Louis. Enter a lady with a sick dog. "My dear Dr. ——, you must not be angry with me, but won't you please cut off this tumor on poor Fannie's flank?" "Well, madam, I would do anything to oblige you, but this is a little out of my line. Why don't you take the dog to a veterinary surgeon?" "But, doctor, those veterinaries are so expensive. I supposed you could do it just as well."

The Medical College of Ohio and the Cincinnati Hospital.—For a number of years, says the *Lancet and Clinic*, there has been an antagonism between the management of the Cincinnati Hospital and the Medical College of Ohio. The faculty of the latter school was almost unrepresented upon the hospital staff, and as a consequence the students attended only the clinical lectures at the Good Samaritan Hospital, where they heard their own teachers. Recently, however, the Board of Hospital Trustees has lately appointed six members of the faculty of the Ohio College to positions on the staff of the hospital.

The Appeal from the New York Eye and Ear Infirmary.—The appeal of the New York Eye and Ear Infirmary, for contributions to a building fund, is significant not only of the growth of the work of this well-known and long-established charity, but also of the development of that branch of medical science which it specifically represents. It is still true, as it ever will be, that the advancements of any science are the result of the highest talent enlisted in its behalf; but it is certainly less true than formerly that the full measure of success is a purely individual achievement. Science to day furnishes its students with an equipment of which even the best examplers of half a century ago had but dim visions, and chief among these is a knowledge of sanitary aids. Any institution not up to the best in this respect labors under serious disadvantages, and it is because the arrangements of the New York Eye and Ear Infirmary are irremediably defective that the necessity for a new building is so urgent. The older members of the profession need hardly be reminded that Drs. Edward Delafield and J. Kearney Rodgers, half a century ago, represented in their person, the science of Ophthalmology in this part of the world. And when the Infirmary was established by them, it is only truth to say that they were the infirmary, the accessories counting for little. However, what a generation ago was begun by two is now carried forward by half a hundred surgeons, and even so sanguine a man as Dr. Delafield could hardly have imagined such a development as a possibility; and it is due to the self-sacrificing efforts of the founders of the Infirmary that it be maintained at the standard of excellence for which their reputations in their own day and generation were a synonym. This desideratum, however, can now be achieved only by the aids of scientific construction and suggestive laboratory work, and in these respects the present building has to offer only glaring defects and deficiencies. More than fifty thousand patients (old and new) were treated in the various departments of the Infirmary the past year, and above a thousand surgical operations were performed, wherein failure through any fault or shortcoming would have resulted in total blindness. In many instances the skill of the surgeon may have accomplished all that was hoped for, and yet, unless the environment of the case after it leaves the surgeon's hands is such as to prosper his work, the most successful operations will be utterly nullified. Hence the importance that eye hospitals should be in the best sense handmaids to the surgeon's skill; and it is with the view of bringing about a proper and necessary co-operative environment that the appeal of the directors of the New York Eye and Ear Infirmary for a new building has gone out to the public.

The Journal of Hydrotherapeutics is the title of a new monthly journal published in London.

The Largest Dose of Quinine ever given, according to Dr. C. E. F. Knight, of Dublin, was administered by himself in 1883, and was 131.25 grains in twenty-four hours.

New York Post-Graduate Medical School and Hospital.—At the last meeting of the Board of Directors of the New York Post-Graduate Medical School and Hospital, held on May 31st, Dr. Charles Carroll Lee was elected Professor of Diseases of Women. Associate Professor J. R. Nilsen was also elected professor in the same department, to fill the vacancy caused by the resignation of Dr. A. J. C. Skene. Several new instructors were appointed, among them Dr. Joseph O'Dwyer, the inventor of intubation of the larynx. The last year's sessions of the School have been attended by more than two hundred matriculates. The Babies' Ward continues to be well supported by benevolent ladies. The summer session began on June 15th inst.

Professor Billroth, at last reports, was convalescent from his severe illness.

Dr. John Fulton, editor of the Canada *Lancet*, died on May 15th, at the age of fifty years.

Dr. Morell Mackenzie, who has been called in to attend the Crown Prince, is not only an accomplished laryngologist, but a gentleman distinguished for his agreeable social qualities. Dr. Mackenzie believes in specialists and specialism, and not long ago published an article in one of the reviews defending the work of the class which he well represents.

Training-schools for Male Nurses.—A correspondent asks for the address of a training-school for male nurses. There is no such institution in this city, though it is proposed to establish one soon, in connection with Bellevue Hospital. At present male nurses are not trained, but pick up their knowledge in hospitals and elsewhere.

A State Asylum for Insane Criminals is soon to be built in this State, as the last Legislature has appropriated $300,000 for the purpose. The Controller, the the State Commissioner on Lunacy, and Dr. Carlos F. McDonald, Superinteudent of the Auburn Insane Asylum, are commissioned to select the site for the new asylum.

The Rocky Mountains and a Free M.D.—The *Medical Press and Circular* gives publicity to the extraordinary statement that there is a scheme on foot to "whisk off" the intending visitors to the Congress at Washington on an enticing excursion to the Rocky Mountains and elsewhere. The promoters of this novel project are, of course, the same persons who have in other ways endeavored "to minimize the success of the Congress." We are at a loss to know where the *Press* got hold of such a silly fancy. Quite comparable with it is its hint that honorary medical degrees will probably be conferred on some of the visitors, and it adds that doubtless the prospect of acquiring an M.D. on easy terms would act as a substantial "draw."

Death of Professor Boussingault.—The death is announced from Paris of the eminent French chemist, M. Joseph-Dieudonné Boussingault. The deceased, who was born in 1802, occupied the chair of Agriculture in the Paris Conservatoire of Art and Industry. M. Boussingault was the author of a large number of papers on physics and chemistry, and of treatises on "Chemistry and Physiology in Agriculture." His name is familiar to all medical students through his feeding experiments, in which he deprived animals of salt.

Reports of Societies.

THE ASSOCIATION OF AMERICAN PHYSICIANS.

Second Annual Meeting, held at Washington, D. C., June 2 and 3, 1887.

(Continued from page 668.)

FRIDAY, JUNE 3D—SECOND DAY—MORNING SESSION.

DR. E. T. BRUEN, of Philadelphia, read a paper on

BERGEON'S METHOD OF TREATING PHTHISIS.

Since February last he had employed Bergeon's method of treatment in sixty-one cases. Forty-four of these cases had been benefited, but of these only three appeared to regain full health. Two of these were cases of incipient phthisis, with apparent consolidation of the apex of the right lung. In one of these cases the bacillus tuberculosis was not found, although five examinations were made. In the other case the bacillus was found. In these cases the apparent recovery had been associated with a decided increase in weight. He believed, however, that the disease was simply latent. The third case was one of broncho-pneumonia. In all the other cases the lesions were more or less advanced, with the presence of cavities and profuse expectoration. In the fifteen cases in which a negative result was obtained the treatment in some was followed by temporary benefit. The good results had consisted in lessening of the expectoration, diminution of the cough, lowering of the temperature, and suspending of the night-sweats. In most of the cases there was a diminution of from fifteen to twenty beats in the pulse, and a diminution of half a degree in the temperature, during the administration of the gas. Even in those cases which were benefited, and in which the temperature had been brought to normal, there would be during the progress of the treatment occasional outbreaks, with a return of the fever and the other symptoms. These, however, disappeared under a continuance of the injections. In order to determine the effect of the treatment on the bacilli, Dr. E. O. Shakespeare made a number of examinations during the progress of the cases. There had been no diminution in the number of the bacilli. It was, however, thought that in those cases where the treatment had been continued for some time the reaction of the bacilli to the staining fluid was less marked.

Two cases had died. In one of these an autopsy was made. This case had been under treatment for two months. The walls of the cavity were moderately smooth and firm, but there was no tendency to cicatrization. The results were of a decidedly negative character.

In most of the cases a solution made by the addition of five grains each of sodium sulphide and sodium chloride to a pint and a half of water was the solution employed. In some cases the strength of the solution had been gradually increased, but where no benefit had been obtained from the weak solution the stronger solution did not act with any better results.

In cases of diarrhœa his experience had been unfavorable, except where the gas was given in very small quantities. Chronic peritonitis was a contra-indication to the use of this plan of treatment. In about one case in every ten he had observed the reaction of sulphuretted hydrogen when a paper treated with acetate of lead had been applied to the mouth.

Bergeon's method is chiefly valuable in those cases attended with bronchial catarrh. He had had very little good effect in those cases where there was thickening of the lung without much catarrh. The speaker feared that the trouble and detail necessary to the successful application of this method and the limitations of its power would cause it to be set aside for other therapeutic measures.

DR. F. C. SHATTUCK, of Boston, presented some

CLINICAL NOTES ON BERGEON'S METHOD OF TREATING PHTHISIS.

The speaker had treated only seven cases by this method. They were in an advanced stage of the disease. He had seen such improvement follow careful dietetic and hygienic management that he had not much confidence in the results claimed for special methods of treatment in these cases. Any new method of treatment will often have an apparently beneficial effect through its influence on the mind even in those case which are incurable. Six of the cases treated suffered with phthisis, and five were in an advanced stage of the disease. One was a case of chronic bronchitis with asthma and emphysema. Four of the patients suffered with more or less pronounced collapse from the use of the injections. Nausea, vomiting, and diarrhœa occurred in several cases. In one case, although the patient was weak, no local or general ill-effect was observed. In another case the treatment was continued four weeks with no ill-effect. The only benefit obtained was a diminution of the expectoration. In the case of asthma and chronic bronchitis, thirty-four enemata were given. The improvement was no more rapid than on a previous occasion when the patient had been treated in the same general way with the exception of the gas. He presented the following conclusions:

1. Toxic symptoms may follow the injection of sulphuretted hydrogen gas; these are nausea, vomiting, general depression, collapse, and perhaps headache.

2. Strong artificial solutions of sulphuretted hydrogen gas with carbonic-acid gas are apt to cause abdominal discomfort. The risk of this is diminished by heating the solution of the former gas.

3. This is not by any means a specific. If useful at all it is only as an auxiliary to the more usual methods of treatment.

4. The only benefit which we have seen that could be fairly attributed to the enemata was a diminution in the amount of the expectoration.

In conclusion, the author stated that the impression which he had formed was that the good results which had unquestionably followed this method of treatment were attributable in large part to the stimulation induced by the employment of a novel method of treatment which makes the patient feel that something is being done for him.

DR. WILLIAM PEPPER, of Philadelphia: I have, with the assistance of Dr. J. Crozier Griffith, employed this method in 24 cases in which the treatment was continued, on an average, twenty-five days. Other treatment was frequently combined with the use of the injections. A daily temperature record was kept in 16 cases: In 4 there was more or less reduction; in 11 there was no appreciable effect; in 1 the temperature increased, but this was probably a coincidence. In no case was the temperature brought from a febrile to a continuously normal condition. The fall was not more than is seen in similar cases under other methods of treatment.

In 20 cases in which the weight was recorded there was in 8 more or less gain. Eight pounds in thirty-seven days was the greatest gain. In 6 cases the weight remained stationary, and in 6 it was diminished.

The improvement in cough was not marked. The expectoration was somewhat diminished in 4 out of 24 cases. Search was made for the bacilli in 30 cases and they were found in 27. In 11 cases the examination was repeated, and only in 4 was there any apparent decrease. Cases of night-sweats were not numerous. In 1 they were checked and in 7 improved. Physical examination showed no improvement in a single case. The enemata had a decided hypnotic influence in 3 cases. The only unpleasant symptom of any real moment was colic. This was complained of in 11 out of 24 cases. Three others suffered so much that

the treatment could not be repeated. The colic was not often controlled by giving smaller quantities of the gas, nor did it seem to be influenced by the slowness of the injection. This method of treatment is seldom of real benefit, although it is occasionally of benefit by relieving certain symptoms.

Dr. H. C. Wood, of Philadelphia: After studying the cases treated by this method I came to the conclusion that it was of a certain amount of benefit. I saw that the method of employing the gas presented many objections. The sulphuretted hydrogen should accomplish the same results when absorbed by the stomach as when taken up by the large intestine. I have, therefore, administered the sulphuretted hydrogen gas in carbonic-acid water. Water at the ordinary temperature takes up two or three times its volume of sulphuretted hydrogen. I think that this is a distinct addition to pulmonary therapeutics. I have tried it in certain cases with benefit.

Dr. Beverley Robinson, of New York: This method is a valuable adjunct to our methods of treatment. The pain which is experienced in many cases may be due to the fact that there are ulcerations in the intestine. These may be present without the existence of diarrhœa.

Dr. George L. Peabody, of New York: I have followed all the details of this method of treatment as given by Bergeon, and have used the water of Aubon, which he recommends. My results have not been materially better than those of the gentlemen who have preceded me.

Dr. F. Forsheimer, of Cincinnati: I have performed the following experiments: I have treated two or three patients in the way recommended for some time. Then I have substituted for the sulphur solution plain water and continued the injections for a time. I have also given the carbonic-acid gas by injection; and, lastly, I have for two weeks treated these cases with the injection of air, using the Bergeon apparatus. The patients in these experiments of course did not know that any change had been made in the gas employed. As far as I have been able to judge, the patients treated with air did about as well as those treated with sulphuretted hydrogen.

Dr. James T. Whittaker, of Cincinnati: I have used the sulphuretted hydrogen gas both by injection and also by inhalation. The effects under both methods of administration seem to be the same. It mitigates the cough, relieves the fever, and lessens the night-sweats. It, however, is not a specific.

Dr. F. P. Kinnicutt, of New York, read a paper on

ATROPHY OF THE GASTRIC TUBULES—ITS RELATION TO PERNICIOUS ANÆMIA.

The speaker gave the histories of two cases in which the typical symptoms of pernicious anæmia were well-marked. At the autopsy in each of these cases nothing special was found in any organ but the stomach. The inner surface of the organ was smooth. Microscopical examination was made of numerous sections removed from different parts of the stomach. Through a large extent no trace of gastric tubules was found; in some parts the more superficial portions of the tubules could be found, but the deeper portions could nowhere be made out. There was also seen a peculiar hyaline substance in the shape of tubes and of drops. Numerous irregular cells were seen near the surface of the mucosa. The author thought that in this lesion of the stomach was to be found the explanation of a certain number of cases of pernicious anæmia.

Dr. Francis Delafield, of New York: In a number of cases marked changes in the mucous membrane of the stomach have been found. The main question is whether the lesion of the stomach is to be looked upon as a cause or as the result of the pernicious anæmia. For myself, I look upon the lesion of the stomach as secondary and not primary.

Dr. F. P. Henry, of Philadelphia: The cases reported by the author, taken in connection with other cases which have been recorded, demonstrates that there is a form of anæmia associated with, and I think dependent upon, atrophy of the gastric tubules. That this condition is primary and not secondary is, I think, sufficiently attested by the fact that it is not found in any other condition. Such an extreme degree of atrophy has not been found in any other condition with which I am acquainted. In the case reported by Dr. Osler and myself there was complete absence of the peptic glands. It was impossible that any form of gastric digestion could be accomplished.

Dr. William Osler, of Philadelphia: There is unquestionably a group of cases of pernicious anæmia, in which there are serious lesions of the gastric mucous membrane, although these lesions are not always the same. I think that it is quite impossible to distinguish clinically the cases with gastric atrophy from the cases without these lesions.

Dr. E. C. Seguin, of New York, presented

A THIRD CONTRIBUTION TO THE STUDY OF LOCALIZED CEREBRAL LESIONS.

One case reported related to the location of the facial centre. The patient, a boy of seven years, was first seen in January, 1885. He had been complaining of numbness in the right hand. The right leg and arm were slightly paretic. There was no headache and no aphasia. Shortly after this clonic convulsive movements occurred in the right cheek and both eye-balls were turned to the right. This lasted for over two hours. At times the speech was thick. There was no history of serious injury, and there was no evidence of pulmonary, renal, or arterial disease. There was no cranial tenderness on pressure. The tongue, when protruded, deviated to the right. The diagnosis was meningeal adhesion over the precentral region. Iodide of potassium was given in gradually increasing doses until from sixty to seventy-five grains were taken. Early in April of the following year symptoms of tubercular meningitis developed and the child died after an illness of three weeks. At the autopsy the ordinary lesions of tubercular meningitis were found. In addition there was a patch of adhesion situated over the left precentral gyrus and the caudal part of the second frontal gyrus. This was one inch in diameter, and would indicate that in the human brain the facial centre is in the caudal end of the second frontal convolution. The second case related to the situation of the leg-centre. A patient, aged forty-nine, suffered with paresis of the right leg and clonic spasm of the right abdominal muscles. There were right hemi-epileptic attacks, the spasm beginning in the abdominal muscles and extending to the arm and leg. These attacks were repeated without loss of consciousness. Paralysis of the right leg and paresis of the right arm developed. There was no aphasia and no choked disk. Attacks of a syncopal character occurred, in one of which the patient died. At the autopsy a large sarcomatous tumor was found involving the cortex of the paracentral-region gyrus. Two small nodules were found in the white substance below the principal tumor. This would indicate that the nerve-centre for the leg was in the paracentral lobule.

Dr. James J. Putnam, of Boston: I would report a case recently under my care. A man of forty-five suffering with locomotor ataxia, probably of syphilitic origin, suddenly developed convulsions of the right arm and leg without loss of consciousness and without change in the voice. The symptoms relating to the arm entirely passed away, but the leg never recovered its normal condition. The patient died some time later and at the autopsy a small hemorrhage was found at the lower edge of the paracentral lobule.

Dr. F. T. Miles, of Baltimore: A patient suffering with Bright's disease suddenly became hemiplegic without the voice being affected. The arm and leg were

affected. He rapidly improved, but the leg remained weak. He complained a great deal of a dragging in the shoulder. At the autopsy the only lesion that could be found was a hemorrhage of the size of a bean in the para central lobule.

Dr. H. M. Lyman, of Chicago: Some months ago I saw a case in which there was a sudden convulsion without loss of consciousness, the left arm being principally affected. These convulsions were repeated. There was a paretic condition of the left arm, which in a few days extended so as to involve the corresponding leg. The convulsive movements of the upper extremity continued to recur. They did not involve the face. The patient died, and a sarcoma was found on the right side occupying the position of the centres for the arm and leg.

Dr. James J. Putnam read a paper on

THE FREQUENCY WITH WHICH LEAD IS FOUND IN THE URINE, AND ON THE SYMPTOMATOLOGY OF CHRONIC LEAD-POISONING,

which consisted in an analysis of eighty-six cases in which the urine had been examined for lead, although no unequivocal signs of lead-poisoning were present.

Of the 86 cases in which the urine was examined, lead was found in 48, and was absent in 38, and there is good reason for believing that the number of cases in which it was found in the urine does not fully represent the whole number in which it was present in the body. If from the 48 cases in which lead was found we subtract those where the patients were known to have been strongly exposed by their occupation or otherwise, we have left 32, to be contrasted with 38, as approximately representing the ordinary exposure of the community. Taking the evidence furnished by the cases themselves, and seeking to indorse it by testimony drawn from the literature of the subject, by the effects of treatment, we arrive at the following conclusions, which are, of course, to be regarded as provisional:

1. It is probable that lead may cause neurasthenic symptoms, which may exist for a long time without other signs of poisoning.

2. The same is true of fine muscular tumor, especially if associated with debility.

3. The most important conclusion is, lead seems to cause occasionally a greater or less degree of the symptoms classed as spastic paraphigia, instead of the usual type of paralysis with atrophy and loss of the deep reflexes.

4. Additional evidence is furnished of the importance of suspecting lead as a cause of vague cerebral symptoms, such as are often due to syphilis.

5. In one case of epilepsy in a person not predisposed and where the probable first attack occurred at the age of twenty-five, besides the discovery of lead in the urine, there was a slight weakness and impairment of electrical reaction of the long extensors of the fingers.

Two cases of ataxia, with extensive muscular atrophy and other signs of peripheral neuritis, were reported, probably due to lead. Cases were reported in which the poisoning had been produced by working in the manufacture of rubber.

Dr. I. E. Atkinson, of Baltimore, read a paper entitled

FORMS OF TYPHOID FEVER SIMULATING REMITTENT MALARIAL FEVER.

The object of the present paper was to describe forms of typhoid fever in which all the usually characteristic symptoms are absent except mild fever. These cases commonly occur during the late summer and early autumn. They begin with a chill or insidiously and assume a course of a mild remittent type, never passing into a typhoid condition, never developing the characteristic symptoms of typhoid, yet absolutely uninfluenced by antiperiodic treatment. They last three, four, or even five weeks, and almost always end in slow lysis and recovery. They resemble malarial conditions, except in the persistence of fever under strongly antimalarial treatment, and in the occasional concurrence of circumstances pointing to a typhoid origin. There is no hebetude, the patient sleeps well, the tongue is slightly coated, there is almost never epistaxis, constipation is commonly observed, there are no bloody stools, no tympanites, no iliac tenderness or gurgling, and rose-spots are usually absent. The patient is bright and cheerful. The more severe cases after beginning as remittents may gradually evolve typhoid symptoms. Three cases were reported showing the type of fever described occurring under conditions indicating their typhoid origin. While typhoid fever is one of the most characteristic of diseases, its special symptoms are very inconstant. There is not a sufficient realization of the mildness with which it often runs its course. Walking typhoid, although usually considered rare, is in reality frequent. Cases in which sudden accidents reveal their true nature are probably but a small portion of the whole number. Our views of typhoid fever have been largely modified. Low ranges of temperature are now often encountered. Straube and Fraentzel and others have reported severe forms of the disease with high mortality, although the temperature did not attain 102.2°. Normal and even subnormal temperatures are sometimes maintained throughout the attack. In mild cases a slight degree of fever-heat is not at all uncommon. Liebermeister and others report such cases. Loomis treats "mild typhoid" with walking cases, and states that the eruption appears early and is scanty and brief, and that a diarrhœa is present in most cases. This is true of many cases, but there is a large class in which constipation is the rule and rose-spots the exception—much larger than is generally admitted. Liebermeister and others describe interesting examples. Dr. W. W. Johnston has most accurately described similar cases occurring in Washington. Malaria often complicates typhoid fever, but it oftener happens that its presence is assumed unjustifiably. A mental bias in favor of malaria is often strongly pronounced in the face of the strongest contrary evidence. The diagnosis of these cases from remittent malarial fever often rests upon the crucial test of treatment. It is admitted that occasionally antiperiodic remedies fail to control the malarial paroxysm, especially in pernicious and adynamic forms. In milder forms the behavior under quinine practically solves the difficulty. Where the full administration of the antiperiodic remedy for a number of days fails to terminate the attack, the diagnosis of typhoid fever becomes justifiable, and the prognosis can be made with a high degree of confidence. Not often earlier than the second or later than the fourth week the fever will terminate almost constantly by lysis, rarely by crisis.

Dr. William H. Draper, of New York: I see many cases in New York which have been diagnosed as typho-malarial fever which I consider to be cases of typhoid fever. I think that the diagnosis of typhoid fever can be usually made in the course of the first week of the disease by attention to the characteristic course of the fever. The nervous symptoms of typhoid fever are of great importance in the diagnosis. In considering a disease like this we should study it in its totality and not in its elementary parts. Dr. Atkinson has spoken of the aid given by quinine in the diagnosis. My own experience confirms that of others with reference to the use of quinine as an antipyretic in typhoid fever. Unless used in such doses as to produce a certain degree of collapse it is useless; I believe that it does nothing more than to increase the discomfort of the patient. If in five or six days the use of quinine does not succeed in checking the fever we may conclude that we are dealing with a continued fever of the nature of typhoid.

Dr. John Guiteras, of Charleston: From my observation I have come to a conclusion different from that

expressed by the author. These cases present no symptom of typhoid fever with the exception of the continued fever. They are so numerous as we go farther south that I would class them as a separate disease. I have examined some of these cases of prolonged continued fever of southern countries post-mortem and have failed to find the lesions of typhoid fever. My view of this fever is that it belongs to the class of functional fevers. A simple continued fever may be set up by an excessive demand made upon any of the important functions of the body. I have thought that in warm climates where constant exertion was required on the part of the heat-centres to keep within limits the production of heat a paralytic condition of these centres might be induced, especially toward the close of a long and hot summer.

Dr. A. Jacobi, of New York: There is one aid in diagnosis which I have not heard alluded to, and that is the urine-test of Ehrlich. This has frequently been of much service to me. It is prepared as follows:

Solution No. 1: Sodium nitrite, 1 part; water, 200 parts.

Solution No. 2: Sulfanilin acid, 5 parts; concentrated muriatic acid, 50 parts; water, 1,000 parts.

Add one and one-fifth parts of the first solution to fifty parts of the second.

Equal parts of this mixture and the urine are to be mixed. Then add about sixty or seventy per cent. of aqua ammonia. In normal urine there will be only a slight discoloration, while in urine from typhoid fever it will be deep purple. This test is rarely applicable during the first two or three days. It generally can be applied up to the fifteenth or eighteenth day. It should also be stated that in cases of acute miliary tuberculosis the same reaction is obtained.

Dr. R. H. Fitz, of Boston: An epidemic of an anomalous form of fever recently occurred in Boston among a number of emigrants. The diagnosis lay between typhoid and typhus fever. It was concluded that they were cases of typhoid fever. One case ended fatally. The intestinal lesions were of the most trivial character. The enlargement of Peyer's patches was no greater than is seen in many cases of enteritis. The lesions were so superficial that it seemed quite probable that they would have disappeared if the case had lived a few days longer.

Dr. Israel T. Dana, of Portland: Some of the cases to which Dr. Fitz has referred found their way to Portland and one of them died there. The autopsy in this case showed well-defined but not complete lesions of typhoid fever. I believe that this is what will generally be found—that the atypical cases will present lesions as imperfectly developed as the symptoms.

Dr. W. J. Councilman, of Baltimore: I think that a simple examination of the blood will enable us to differentiate between the continued malarial fevers and typhoid fever. The organisms found in these cases of continued malarial fevers are very easy to recognize.

Dr. William Osler, of Philadelphia: I agree with the last speaker, that we have in the microscopical examination of the blood a positive means of diagnosis. I have no doubt that in these doubtful cases a careful examination of the blood will determine whether they are malarial or not, while a careful examination by culture methods will determine whether or not it is a case of typhoid fever.

EXECUTIVE SESSION.

The report of the Committee on the Congress of American Physicians and Surgeons was received and adopted, and Dr. William Pepper, of Philadelphia (with Dr. Reginald H. Fitz, of Boston, as alternate), was appointed as the representative of this Association.

OFFICERS FOR THE ENSUING YEAR.

President—Drs. William H. Draper, of New York.

Vice-Presidents—Drs. Francis Minot, of Boston, and J. Palmer Howard, of Montreal.

Recorder—Dr. William Osler, of Philadelphia.

Secretary—Dr. Henry Hun, of Albany.

Treasurer—Dr. W. W. Johnston, of Washington.

The following were elected to active membership: Drs. A. V. Meigs, Louis Starr, and J. H. Musser, of Philadelphia; Dr. James E. Reeves, of Wheeling, W. Va.; Dr. William H. Whitney, of Boston; Dr. James Stewart, of Montreal, and Dr. M. Allen Starr, of New York.

Dr. John S. Billings, of Washington, was elected to honorary membership.

Adjourned.

AMERICAN CLIMATOLOGICAL ASSOCIATION.

Fourth Annual Meeting, held in the Johns Hopkins University, Baltimore, Md., May 31 and June 1, 1887.

TUESDAY, MAY 31ST—FIRST DAY—AFTERNOON SESSION.

The Society was called to order by the President, Dr. Frank Donaldson, Sr., of Baltimore.

PRESIDENT'S ADDRESS—PROPHYLACTIC TREATMENT OF THOSE WHO INHERIT A PREDISPOSITION TO PHTHISIS.

He referred to the great mortality of phthisis, but certain statistics compiled in this country and abroad show a decrease in the annual mortality. In England there has been a gain in males of fourteen per cent., and in females of twenty-two per cent.; in Massachusetts there has been a gain of fifty-four lives per hundred thousand. Thirty per cent. of the cases have an inherited predisposition to the disease. The hereditary form, when developed, offers the least prospect of recovery. Reference was made to the pathology of the disease. Five years have elapsed since the contagion of tuberculosis was alleged to have been discovered, and nearly all observers have now confirmed the views of Koch. There is abundant evidence that human subjects readily yield to the bacillar poison when previously they have been in perfect health. The bacillus is always present in phthisis, and we must accept it as the full explanation of the manifestations of tuberculosis. The disease may be propagated by the inhalation of the dried bacillus from the expectoration of diseased persons by persons predisposed to tuberculosis. The various theories which had been advanced to explain heredity were discussed. The prophylactic treatment embraces two elements: (1) The improvement of the general health of the subject, and (2) the protection from contagion. The tuberculous mother should not nurse her child, but, if possible, it should be given to a healthy wet-nurse. The hygiene of the nursery should be looked after carefully. The room should be well ventilated, and kept at a comparatively low temperature. The subject should live much out of doors, especially between the ages of fifteen and twenty years. The beneficial influence of sunlight should be borne in mind. All causes of glandular irritation should be avoided. Scrofulous glands should be dispersed or removed. The physical form of the chest should be enlarged by gymnastic movements. If possible, life should be passed in high altitudes. Oleaginous fluids are useful if they can be digested. The milk and flesh of tuberculous animals must be avoided, for cooking rarely destroys the bacilli of beef. If the prophylactic treatment is thoroughly carried out, the hereditary proclivity may remain latent, and the individual never contract the disease.

Dr. James R. Leaming, of New York, read a paper entitled

THE PHILOSOPHY OF CLIMATIC TREATMENT OF DISEASES OF THE CHEST.

It is observed that the greatest improvement takes place during the first three weeks of the patient's stay at a new place. The suggestion was made that a line of resorts be established along the Atlantic sea-coast. The

patient could begin in the summer at the most northern and gradually pass southward, making a stay of a few weeks at each place. Having completed the series, the patient may return, taking the stopping-places in a reverse order. This same plan might be applied to the Pacific coast and to the mountains. The speaker also suggested the propriety of state and municipal authorities furnishing sanatoriums for the benefit of those unable to avail themselves of the advantages of existing institutions.

Dr. R. G. Curtin, of Philadelphia, read a paper on

THE INFLUENCE OF SEA-AIR ON SYPHILITIC PHTHISIS.

The speaker gave in detail the histories of five cases of what appeared to be syphilitic phthisis in which improvement followed prolonged sea-voyages, and in each case the symptoms returned when the patient again took up his residence on land. He was led to consider the cases observed as cases of syphilitic phthisis, for the reasons that there were no symptoms of chronic pneumonia preceding the attack, that the lung-trouble followed syphilitic infection with constitutional symptoms, that the disease was influenced to some extent by constitutional treatment, and that there was no tendency to tuberculosis in these cases. He referred to the observations of Dr. William Porter, who relies upon the following points in reaching a diagnosis of syphilitic phthisis: 1, Abundant expectoration without signs of softening; 2, a debilitated condition, without marked emaciation, and a rational history of phthisis; 3, pronounced dyspnœa, without evidence of cardiac or pulmonic obstruction to the circulation; 4, pain along the sternum and the tibial crests; and, 5, the satisfactory response to treatment. Dr. Porter had examined the sputa in one hundred cases without finding the bacillus. The speaker was not prepared to say why it was that the sea-air proved beneficial in these cases, while in most of the ordinary cases of phthisis residence on the sea-coast was not desirable.

A paper on "Diseased Conditions for which Sea-air is of Doubtful Benefit," by Dr. Boardman Read, of Atlantic City, was read by title.

DISCUSSION.

Dr. E. T. Bruen, of Philadelphia: It is probable that in syphilitic phthisis the benefit of the sea-air is due to its influence on the catarrhal processes. In catarrhal affections of the mucous membranes in general, it has seemed to me that residence at the sea-shore was useful. On the other hand, in tubercular phthisis it has seemed to me that the influence of sea-air was disastrous. I have found that those cases benefited by prolonged sea-voyages are those in which there is no inherited tendency to tuberculosis.

Dr. V. Y. Bowditch, of Boston: I should make a great distinction in speaking of the sea-coast air and the pure sea-air. Cases which could not stand the harsh, cold, and changeable air of the sea-coast may be benefited by a sea-voyage or residence on an island some distance from the shore where the conditions are similar to those which are obtained in a sea-voyage.

Dr. F. I. Knight, of Boston: While I am sure that the general feeling is that the coast climate is not suitable for cases of phthisis, yet in several instances I have known patients to improve and gain in weight during a stay at some of the coldest resorts on the New England coast.

Dr. James C. Wilson, of Philadelphia: With reference to residence at the sea-coast in the treatment of phthisis, I would say that, in my experience, there are three classes of patients with consumption who cannot go to our exposed Atlantic sea-coast without risk. These are, first, those in whom there is active febrile disturbance; secondly, those of a highly excitable and nervous organization; and, thirdly, those who suffer from repeated attacks of spitting of blood. Such patients cannot safely reside for any length of time on the Atlantic sea-coast.

Dr. Frederick C. Shattuck, of Boston: The author has referred to syphilitic phthisis; that is to say, a destructive process in the lung, not due to tubercle, but to the syphilitic virus. It seems to me to be a difficult matter to determine whether or not there is such an affection. Tubercular phthisis varies so much in its symptoms that the points mentioned, I think, cannot be relied on. It seems to me that the criterion would be the presence or absence of the tubercle-bacillus. The fact that the bacillus is not found is no proof that it is not present. The German Committee on the Collective Investigation of Disease studied this matter last year, and came to the conclusion that so-called syphilitic phthisis had no real existence. Both syphilis and tuberculosis are common diseases, and the one offers no immunity from the other, so that we should expect to frequently find them combined in the same individual.

Dr. J. H. Musser, of Philadelphia: In my experience in the post-mortem room I have come across only one case in which the lesions bore any resemblance to what we should expect to find in syphilitic phthisis. This was the case of a young man with syphilis, and cirrhosis of the liver due to syphilitic interstitial hepatitis. There were also syphilitic gummata in the brain, and the patient died of syphilitic meningitis. There were scattered through both lungs innumerable miliary granules, not at all resembling miliary tubercles. These were solid bodies made up of a yellow core which was moderately firm and surrounded by a ring which made up at least one-half of the nodule. The microscopical examination showed these bodies to consist of a ring of firm fibrous connective tissue, in the centre of which there were degenerating cells. We were unable to find the bacillus of phthisis, but, as has already been stated, the failure to find it is no proof of its absence. I should not call this a case of syphilitic phthisis, but rather a case of syphilis of the lungs.

Dr. E. Fletcher Ingalls, of Chicago: I apprehend that most of us have seen cases in which the syphilitic nature of the disease admitted of no question. Even if the bacilli are found, it would be no proof that the case had not originated as a syphilitic trouble and that it had subsequently become tubercular. I recall one case in which the syphilitic manifestations were very prominent. There was consolidation of the lung, particularly of the middle portion of one lung. There was a history of syphilis, and distinct cutaneous lesion. The patient had been in Colorado and returned much worse. On his return to a lower altitude he was put on the use of iodide of potassium, and ultimately apparently recovered.

The papers were also discussed by Drs. Ford, of Utica, and Frank Donaldson, Jr., of Baltimore.

Dr. J. H. Musser, of Philadelphia, read a paper entitled

THE TREATMENT OF THE FINAL STAGE OF PHTHISIS.

The paper consisted of a detailed account of the symptoms met with in the last stages of phthisis, and referred to the various measures which he had found useful in these cases. To relieve the high temperature, he had resorted to antifebrin with advantage. Quinine was found to act unsatisfactorily.

The President announced as the Nominating Committee, Drs. F. C. Shattuck, E. T. Bruen, Willis E. Ford, B. F. Westbrook, and W. H. Geddings.

Adjourned.

Evening Session.

Dr. Frank Donaldson, of Baltimore, read a paper entitled

CAUSES OF CARDIAC FAILURE IN HIGH ALTITUDES.

The important fact that there is often great dyspnœa and sudden cardiac failure on going to high altitudes has not been sufficiently emphasized. Many patients are sent, for general or special reasons, to high altitudes, and are thereby done great injury, especially if they suffer

from any form of functional or organic heart disease. From some experiments with the pneumatic cabinet, the author had come to the conclusion that this treatment should not be employed in cases in which there is any valvular disease of the heart or fatty degeneration of its walls. Before being subjected to treatment in the cabinet, an examination of the heart should always be made. It has been asserted that the cause of the cardiac failure in ascending to high altitudes is want of oxygen. The speaker had performed certain experiments with reference to this point. At altitudes within ten thousand feet there is sufficient oxygen to supply the hæmoglobin. In ascending to high altitudes the pressure of the air within and without the lungs is the same, but on the heart the action is different. The pressure is removed from the outer surface of the heart, while the internal blood-pressure remains the same. There consequently must be dilatation of the heart-walls. This, in the author's opinion, was the cause of the heart-failure under these circumstances.

DISCUSSION.

Dr. B. F. Westbrook, of Brooklyn: I have no doubt that the explanation of the author with reference to the effect of high altitudes on the heart is correct, but in the pneumatic cabinet the conditions are different. As a matter of practical experience, I have found that patients with mitral stenosis, or mitral regurgitation with pulmoary congestion, can be put into the cabinet with safety. I should hesitate very much before putting a patient with aortic regurgitation into the pneumatic cabinet. In mitral disease, however, the tendency is to assist rather than exhaust the diseased heart.

Dr. H. F. Williams, of Brooklyn: Certain New York observers have claimed that in weak heart, particularly the tobacco heart, they have obtained with the pneumatic cabinet an effect similar to that of digitalis, due probably to a stimulation of the circulation through the coronary arteries.

Dr. S. S. Cohen, of Philadelphia: The inhalation of compressed air in cases of dilated heart has been recommended by Waldenburg and others. I have recently employed this measure with beneficial results in alleviating the dyspnœa and defective circulation due to a dilated heart.

Dr. James T. Whittaker, of Cincinnati: The condition met with in a rarefied atmosphere cannot be compared with that met with in the pneumatic cabinet. It does not seem possible to exert any mechanical pressure upon the heart in the cabinet. This is one of the most efficacious means of treating irregular heart. I have used the cabinet for two years and have seen no ill effects from its use, although I should not subject a patient with advanced cardiac disease to this plan of treatment.

SOME HOSPITAL CASES OF PHTHISIS; MARKED IMPROVEMENT UNDER GENERAL TREATMENT, WITH SPECIAL REFERENCE TO ALIMENTATION,

was the title of a paper by Dr. F. C. Shattuck, of Boston.

The cases reported had been treated in the Good Samaritan Hospital of Boston, which is devoted to the care of chronic disease. Many of the patients had been exposed to unfavorable hygienic surroundings. The treatment employed was devoted largely to improvement of the general condition. Search had been made for a specific treatment. If the disease is of a parasitic nature it is natural to suppose that such a treatment would be of avail. At present no such method of treatment is known. There are few individuals to whose lungs at one time or another the bacillus does not gain access. The fact that certain individuals are affected while others escape forces us to believe that there is a predisposition to the disease. The treatment employed by the author had consisted in relieving symptoms, improving the digestion, and the administration of as much food as the patient could take in the natural way. Artificial feeding had not been resorted to, but the patient was fed six or seven times a day. From two to ten raw eggs, with milk, were given daily to each patient. Alcoholic stimulants were not administered to these patients as a routine treatment, but were used only temporarily for special purposes. He had for several years been systematically cutting down the quantity of alcohol used in chronic cases, and had seen no reason to regret it. His experience had been that alcohol was not used with sufficient discrimination in chronic cases of disease. Beef, milk, eggs, and other nourishing articles are more expensive than alcohol, but if they can be consumed in sufficient quantity they are more useful. In 1883 the amount expended per patient for alcoholic liquors had been $2.70, while in 1886 it had been only thirty-four cents. The patients received no injury, even if they were not benefited by this reduction. Eight cases of well-marked phthisis were reported in which a decided gain in weight and general improvement resulted from the employment of the plan of treatment above described. About sixty cases had been under treatment.

Dr. E. T. Bruen, of Philadelphia, read a paper on

GASEOUS ENEMATA.

Of the therapeutic measures under the control of the profession, diet, climate, and suitable hygiene are of principal importance. It is possible by climatic and dietetic treatment to so change the nature of the tissues that they shall not be suitable culture-media for the growth of the bacillus of tuberculosis. I wish, however, to refer more particularly to the use of the Bergeon method by the injection of sulphuretted hydrogen. To antagonize the specific cause of the disease this method has been a failure so far as my experience goes. Since February last I have had under treatment sixty-one cases by this method. Systematic examinations of the sputa have been made by Dr. E. O. Shakespeare. There has been no apparent reduction in the number, or change in the character, of the bacillus. This method should be classed among the methods at our disposal for the treatment of this disease. The good effects in my hands have been reduction of temperature, reduction of expectoration, very often a complete suppression of bronchial catarrh, and relief of cough. This leads to improved digestion, and enables the dietetic treatment to be carried out with great thoroughness. Forty-four of these cases showed improvement to a certain extent, the average gain in flesh being about five pounds. In one-half of the cases the temperature has been brought to the normal, while in the remainder, although the temperature has not been brought to normal, it has been reduced two or three degrees. In fifteen cases the results have been negative, but in no case did any harm follow the use of this plan of treatment. The improvement has been most marked where there is considerable catarrhal element. Those cases in which there has been more or less thickening of the lung, with the general symptoms well marked, wasting, loss of flesh and weight, without much rise of temperature, I have found were not specially benefited by the injection of gas. I have had the opportunity of making a post-mortem in one case which had been subjected to this treatment. Although the cavities in the lungs were unusually clean, I did not observe any evidences of cicatrization. With reference to the strength of the solution, I have not found strong solutions at all satisfactory. The best results have been obtained from a solution of five grains of sulphide of sodium with five grains of chloride of sodium in one and a half pint of water. I have never found it desirable to administer more than a gallon and a half of gas at one time. I insisted that the injection be made slowly, and that one-half to three-quarters of an hour should be occupied. I have not derived as much satisfaction in the treatment of the various forms of phthisis to which I have referred from any method as I have from the injection of

sulphuretted hydrogen. I have always tested the breath for the presence of sulphuretted hydrogen. I have had negative results in at least eight out of every ten cases.

Dr. S. S. Cohen, of Philadelphia: Dr. J. Solis-Cohen and myself have obtained the most decided benefit from strongly impregnated waters. The best results were obtained in those cases in which the patient had a decided taste of sulphuretted hydrogen, which continued for two or three hours after injection. The best effect has been obtained in those cases in which suppuration is about beginning. In about fifty per cent. of the cases the condition has been greatly ameliorated. In another twenty-five per cent. there was slighter amelioration, while in the remaining twenty-five per cent. there was more or less benefit to certain symptoms. I have seen no case in which no results were obtained.

Dr. James T. Whittaker, of Cincinnati: I have for a month used sulphuretted hydrogen by inhalation, having previously employed it for a month by injection. It has produced no unpleasant results in any case. The effects obtained have been about the same as those resulting from injection. I have found records of only two in which fatal results followed. It has been asserted that the good effect is due to the carbonic acid, but I am entirely incredulous of the effect of this agent.

Dr. Roland G. Curtin, of Philadelphia: It has been recommended by Dr. H. C. Wood that the sulphuretted hydrogen be taken by the stomach, using a saturated solution through which carbonic acid has been passed. I have tried this in four or five cases, and have had the same effects as from injection.

Dr. J. H. Musser, of Philadelphia: I have used the gaseous injections to a certain extent; but my results have not been as marked as some which have been reported. My best results have been in two cases. One was a case of incipient phthisis, in which the patient gained thirteen and one-half pounds in four weeks. The second case has gained eight pounds in four weeks, and has much improved in general condition.

Dr. F. C. Shattuck, of Boston: I have used the sulphuretted hydrogen gas, and in several patients it produced collapse in varying degrees, with weak pulse, nausea, vomiting, and headache. In several other cases, although the treatment was well tolerated, it produced no good effect.

Dr. B. F. Westbrook, of Brooklyn, read a paper entitled

THE LOCAL TREATMENT OF DISEASES OF THE RESPIRATORY ORGANS.

In the treatment of phthisis the best results are obtained in the early stages of the disease, or where the disease, although further advanced, is limited to a small portion of the lung. The use of sprays is beneficial only in so far as we desire to treat the coexistent bronchitis, or cavities connected with bronchi of the second or third order. In incipient phthisis, with very little bronchial catarrh, local treatment is probably of little service. These cases are best treated with compressed air. In a large proportion of the cases we may hope to render the disease latent. The expansion of the lung favors the expectoration of the contents of the smaller tubes, and modifies the intra-thoracic circulation. The sittings should be frequent, every day or every second day. Ten minutes is usually sufficiently long for the patient to remain in the cabinet. The pressure should gradually be increased up to one-half or three-fourths of an inch. If used cautiously, this is the best method for the local treatment of incipient phthisis. With the Evans inhaler his results had also been satisfactory.

In the treatment of advanced cases of phthisis, the first effort must be to cure or diminish the bronchitis. The pneumatic treatment then comes into play. This gives better expansion, improves the circulation, and alters the action of the trophic nerves. In all cases internal medication has been combined with the local treatment. The more acute the disease, the higher the fever, and the more sudden the onset, the less can we expect to accomplish by treatment. In no case diagnosed as acute phthisis did treatment have the slightest effect.

The Association then adjourned.

THE CONNECTICUT STATE MEDICAL SOCIETY.

Ninety-sixth Annual Meeting, held in Hartford, May 25 and 26, 1887.

(Special Report for The Medical Record.)

Wednesday, May 25th—First Day—Morning Session.

The meeting was called to order in the County Court Room by The President, who then delivered the

ANNUAL ADDRESS.

The speaker reviewed briefly the work of the past year, and stated what was to come before the Society for action. He said there was no unfinished business to be brought up. A request had been sent to him and to the Secretary from the Fairfield County Medical Society, for a large representation from each county to the meeting of the fellows, but he thought that as the forty-nine incorporators were six years in formulating and procuring the charter, and as the snbject had been agitated many years ago, at which time the presidents of the county societies were made fellows *ex officio*, the State Society had a sufficiently large representation from each county.

A request had been received by the President and Secretary to have the Society contribute toward defraying the expenses of the Ninth International Medical Congress. He advised the members to contribute and endeavor to obtain a large membership.

The Wisconsin Medical Society had sent resolutions protesting against the immigration of the lame, halt, and blind paupers of other countries, and he suggested that a committee be appointed to take such action as was proper and report on these resolutions.

This suggestion was immediately followed, and it was voted to appoint such a committee.

The announcement of the various committees was then made.

The report of the Committee on

A LAW TO REGULATE THE PRACTICE OF MEDICINE

was then read. This committee had been appointed to consult with committees from the homœopathics and eclectics in regard to the enactment of a law prohibiting all from practising medicine and surgery except those who have diplomas from a recognized medical college and have had those diplomas registered with the clerk of the Superior Court. The committee reported that the bill had been introduced so late that it was crowded out by other business, and that the Judiciary Committee of the Legislature thought more time should be given to those who might object to such a law.

THE REPORT OF THE TREASURER

was then submitted. He reported a balance in the treasury of $759.12.

It was voted that all in arrears for two years be dropped from the roll of membership by the clerks of the several county societies.

A committee was appointed to solicit funds for the Ninth International Congress.

The Committee on Honorary Members presented the name of Dr. John C. Dalton, which, in accordance with the by-laws, was laid over for action at the next meeting. It was voted that a committee of two from each county

be elected by the county societies to revise the charter, and act, if advisable.

THE ELECTION OF OFFICERS

for the ensuing year was then held, with the following result:

President—Dr. Francis Bacon, of New Haven.

Vice-President—Dr. George L. Porter, of Bridgeport.

Treasurer—Dr. E. P. Swasey, of New Britain.

Secretary—Dr. S. B. St. John, of Hartford.

Committee on Matters of Professional Interest—Drs. F. E. Beckwith, of New Haven, and James Olmstead, of Middletown.

Dissertator—Dr. William H. Carmalt, of New Haven.

Delegates to American Medical Association—Drs. Lewis Barnes, Alfred North, W. L. Barber, C. J. Fox, T. M. Hills, A. L. Nelson, J. M. Kenniston, William Deming, M. C. O'Connor, and P. H. Ingalls.

Delegates were also appointed to attend the meetings of the State Societies of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, New York, and New Jersey.

EVENING SESSION.

DR. W. E. CUSHING, of Boston, read a paper on

ULCERATION OF THE OS UTERI.

This was illustrated by micro-photographs shown by the stereopticon. The difference between simple ulceration and cancerous disease was very beautifully shown. The author spoke briefly on the treatment, giving a *résumé* of the most approved treatment, and also his own ideas in regard to astringents and the proper time to operate. He particularly emphasized the suggestion that in cancerous disease operation should be undertaken early.

Later in the evening the Society was tendered a reception by Dr. W. G. Russell at his residence on Farmington Avenue.

THURSDAY, MAY 26TH—SECOND DAY.

In the absence of both the President and Vice-President, the chair was occupied by Dr. R. L. Strickland. The Secretary reported that twenty-seven new members had been gained during the year. There had been eight deaths and seven removals. There was now a total membership of five hundred and eight.

Dr. T. M. Hills, of Willimantic, being detained at home by sickness, was unable to read his paper on

THE TOWN: ITS POOR AND THE PHYSICIAN'S LEGAL AND HUMANE RELATION TO THEM.

The paper was accordingly read by title.

Dr. W. H. Taylor, a delegate from the New Jersey Medical Society, was introduced, and this was followed by a report of the delegates of the State Society to other societies.

DR. A. E. ABRAMS then read a paper on

TREATMENT OF DISEASES OF THE EAR BY THE GENERAL PRACTITIONER.

He said that most general practitioners were unwilling or unable to treat diseases of the ear, and suggested that it was the duty of all to know how to treat these cases, as well as it was for them to understand the manner of handling pneumonia or dysentery. Difficult cases are sent to the specialist, and mild cases neglected. Thousands of cases of catarrhal deafness are allowed to go on without attention. Colds and throat-troubles leave the ear diseased, and we should always examine the ear before dismissing the patient.

DR. ST. JOHN said that while physicians thought little of ear-troubles and discharges, life insurance companies are particularly careful in such risks, and in some cases refuse to insure.

DR. A. W. NELSON reported that the Committee on County Resolves was in favor of a

REDUCTION IN THE SCALE OF CHARGES,

so that physicians might compete with unqualified practitioners and midwives, and by that means drive them from business, or else that schools should be established where at least the first principles of obstetrics could be taught. This, he thought, was a duty which the profession owed to the poor.

DR. GEORGE R. SHEPHERD reported several original cases of

CLIMACTERIC GLYCOSURIA.

He said that obstinate pruritus vulvæ was an unfailing symptom, and in all cases in which it occurred at about this period the urine should be examined. He called those cases climacteric where sugar appeared about the time of the change of life, and disappeared later without any special treatment. In his cases severe injuries caused no serious complications, as is usual in diabetes.

DR. J. B. KENT then read a paper on the

RELATION BETWEEN SCROFULA AND TUBERCLE.

His definition of scrofula was that it was a tubercle-forming process, and tubercle was only a more advanced stage of the same disease.

DR. T. H. RUSSELL read a paper on the

NEW REMEDIES — ANTIPYRINE, ANTIFEBRINE, PARALDEHYDE, AND COCAINE.

This paper was simply a *résumé* from the medical journals. Several papers were read by title. The meeting then adjourned at 2 P.M.

The annual banquet was held at the United States Hotel.

MASSACHUSETTS MEDICAL SOCIETY.

One Hundred and Sixth Annual Meeting, held in Boston, June 7 and 8, 1887.

TUESDAY, JUNE SEVENTH—FIRST DAY.

ON the morning of the first day the fellows visited the Massachusetts General, the City, and the Children's Hospitals, where they witnessed a number of interesting operations.

The first session was held in Huntington Hall, at 2 o'clock P.M.

DR. HERBERT L. BURRELL, of Boston, read a paper on

THE IMMEDIATE TREATMENT OF FRACTURE OF THE SPINE,

by rectification of the deformity and fixation by plaster of Paris. He showed two cases successfully treated by this method, and maintained that the measure was a rational one which should be employed in many cases. He insisted upon the immediate correction of the deformity, since softening of the cord from pressure may occur within forty-eight hours.

DR. STEPHEN W. DRIVER, of Cambridge, read a paper entitled

OBSERVATIONS ON THE PUERPERAL PELVIC LIGAMENTS.

The author had been able to detect flexion of the innominate bones upon the sacro-iliac joint, when the thigh was flexed on the tested side, in about seventy per cent. of some three hundred cases. The examination was made by placing the finger on the subpubic arch during flexion of the thigh, when the patient was walking or lying down.

DR. M. H. RICHARDSON, of Boston, presented a paper on

THE SURGICAL TREATMENT OF CHRONIC EMPYEMA,

which was read by title.

The following papers were also read: "Tumors of the Bladder," by Dr. G. W. Davis, of Holyoke; "Cases of

Burns, with Special Reference to Complications, Sequelæ, and Treatment," by Dr. J. E. Cleaves, of Medford; "The Relations of Tea Drinking to Disorders of the Nervous System," by Dr. W. N. Bullard, of Boston; "Pulmonary Tuberculosis as a Sequel to Ordinary Pleurisy with Effusion," by Dr. H. F. Vickery, of Boston; "Laparotomy for Pus in the Abdominal Cavity and for Peritonitis."

WEDNESDAY, JUNE 8TH—SECOND DAY.

DR. F. N. GOSS, Secretary, stated that 95 new members had been received since the last annual meeting, and 26 had died. There were now 1,661 names on the roll of membership.

DR. F. W. DRAPER, Treasurer, reported a balance of $2,315.21 in the treasury.

THE ELECTION OF OFFICERS

was then held, with the following result:

President—Dr. T. H. Gage, of Worcester.
Vice-President—Dr. W. G. Breck, of Springfield.
Corresponding Secretary—Dr. C. W. Swan, of Boston.
Recording Secretary—Dr. F. W. Goss, of Roxbury.
Treasurer—Dr. F. W. Draper, of Boston.
Librarian—Dr. E. W. Brigham, of Boston.
Orator—Dr. B. J. Jeffries, of Boston.
Annual Chairman—Dr. C. B. Porter, of Boston.

The following interesting papers were then read: "A Contribution to the Study of the Etiology of Summer Diarrhœa of Infants," by Dr. H. C. Haven, of Boston; "Sepsis and Antisepsis in Summer Diarrhœa," by Dr. S. A. Potter, of Roxbury; "Training Nurses," by Dr. A. Worcester, of Waltham; "The Value of Public Health Measures to the State," by Dr. S. W. Abbott, of Wakefield.

DR. GEORGE TOWNSEND, of Natick, then delivered

THE ANNUAL ORATION,

entitled "The Massachusetts Medical Society; its Relation to Medical Progress and to the Community in which we practise."

THE ANNUAL DINNER

was served in the Clarendon Street Rink, and was attended by upward of nine hundred of the fellows. Speeches were made by Dr. Gage, Governor Ames, Mr. G. M. Stearns, Rev. Brooke Herford, Col. Higginson, Dr. J. P. Reynolds, Mr. H. M. Shepard, and Mr. R. Wolcott.

WHITE BREAD *vs.* BROWN BREAD.—In a paper published in the *Quarterly Bulletin* of the New York Post-Graduate School, Dr. Geo. D. Hays says: "We have long been accustomed to hear that many of the evils of modern life owe their origin to our choice of *white* flour. That this is not so an examination of the wheat-berry will show. This has five coats—an epi-, meso-, and endocarp, an episperm, and a tegmen. The three outer ones have no value whatever as nutriment. Within the episperm is a layer of gluten-cells, chiefly albuminoids, and, finally, in the endosperm, which constitutes the bulk of the grain, we find starch mingled with albuminoid cells. In the old process of milling, the perisperm (the part within the episperm) was, on account of its close attachment to the inner husk, largely carried away, leaving the bolted flour the poorer for its loss. Hence the vegetarian, Sylvester Graham, whose name is applied to bread made from unbolted flour, was correct in his time in saying such bread contained the most nutriment. The present 'gradual reduction' process saves this portion of the wheat. The bran itself is composed of woody fibre, and contains absolutely no nutriment. It may have a mechanical value in those of a constipated tendency, but this is all. The wheat loaf and the white flour contain a much larger percentage of phosphates and gluten than the Graham loaf or unbolted flour."

Correspondence.

OUR BERLIN LETTER.

LEIPSIC AS A MEDICAL CENTRE—MEETING OF THE ANATOMICAL SOCIETY—PROFESSOR OLSHAUSEN—SCHROEDER'S MEDICAL WORK—THE SOCIETY OF GERMAN NATURALISTS AND PHYSICIANS—THE GERMAN PUBLIC HEALTH ASSOCIATION—DR. LIEBERKUHN—THE GERMAN SURGICAL CONGRESS.

May 1, 1887.

LEIPSIC is a medical centre of considerable interest. It may be rather more so to your correspondent than to your readers, for under the tuition of Cohnheim and Crede he spent a most pleasant and profitable semester here years ago. A visit here was in many respects pleasant, in others sad. Cohnheim has long since died. Weigert has removed to Frankfort, and Huber was absent from the city. Crede has laid down the reins to younger and stronger hands, being now seventy years of age and in poor health. He has been succeeded by Professor Zweifel, of Erlangen. Birch Hirschfeld is filling the place of the lamented Cohnheim to the satisfaction and edification of all. The University of Leipsic, medical department, had during the winter semester, 1887, 781 students.

The Anatomical Society, founded in Berlin in September last, held its session in the anatomical institute of the University of Leipsic recently. The meeting was, for so young a society, quite well attended, and interesting. The following papers among others were read: "The Asymmetry of the Face," by Dr. C. Hasse, of Breslau; "Observations on the Brain of Man," by Dr. M. v. Lenhosek, of Pesth; "The Mechanism of the Wrist-joint," by Professor Braune, of Leipsic; "The Development of the Pigment of the Skin, and the Nourishment of the Epidermis," by Dr. Karg, of Leipsic; "The Traces of Parietal Eyes in Man," by Professor Bardeleben, of Jena; "New Methods in the Field of Experimental Embryology," by Dr. Gerlach, of Erlangen. Interesting demonstrations in great numbers were made by different members. Professor A. v. Koelliker, of Wurtzburg, was president of the Society. The membership was 190, of which 78 were foreigners.

The most interesting part of the meeting, it can readily be conceived, was the social part. The evening before the first day a reception was given at the Russischer Hof. On the evening of the last day the members returned again to the same place for their banquet. Dr. Koelliker toasted Emperor Wilhelm and the Saxon royal family, also the rector magnificentissimus of the Leipsic University. Dr. His, of Leipsic, gave an account of the life and development of the new society *ab ovo*, and was followed by a number of other speakers who kept the guests roaring with laughter.

Professor Olshausen, of Halle, has been called to the chair in the Berlin University made vacant by the death of Schroeder. He made his first appearance before the students on the morning of May 5th. He made a very feeling address, speaking of his predecessor in the most tender terms. The first literary work of Schroeder showed unusual ability. It was a little brochure on "Hæmatoma Retrouterina." Schroeder was the first in Germany and the world to use prevention of infection in ovariotomy. Marion Sims thought we should treat the infection, Schroeder thought we should prevent it. These two had long discussions on this point. The speaker then dwelt at length on Schroeder's influence in the field of abdominal surgery. Especially was Schroeder most useful in the field of operations. He has to a great extent perfected that most dangerous of gynecological operations, myotomy. High amputation of the cervix, washing out of the carcinomatous cervix, and separation of the cervix from the body, is the work of Schroeder; also the wedge-shaped excision of the cervix in benign degeneration.

In total extirpation of the uterus he labored fruitfully. He thought that the cervix in pregnancy remained intact, and that the ring of contraction was not the internal os. He taught us much on the mode of action of expulsion in labor. Professor Olshausen spoke next of Schroeder's text-books, "Gynecology" and "Obstetrics." He complimented their accuracy and brevity. He spoke positively when he discussed a subject, and did not confuse the learner by theories and opinions. He spoke of him as a teacher, man, and physician. He loved his scholars, who filled his amphitheatre to the last place. Quiet consideration, quick conclusion, and firm treatment were Schroeder's. He treated fewer cases palliatively, but sought by means of operations to effect a radical cure.

Schroeder's memory was honored recently by a meeting in the University at the call of the Berlin Obstetrical and Gynecological Society. A large number of distinguished persons, medical and non-medical, were present. Among others were the widow and the nine children of the lamented gynecologist.

Professor Kaltenbach, of Giessen, succeeds Professor Olshausen as Professor of Obstetrics at Halle.

The sixtieth session of German Naturalists and Physicians will be held at Wiesbaden, September 18th to 24th next.

The German Association of Public Health will convene in Vienna, September 26th to October 28th, to meet with the International Hygienic and Demographic Congress. The latter will meet in the University building. All governments are requested to send delegates.

Dr. Nathaniel Lieberkuhn, Professor of Anatomy at the University of Marburg, and son of the discoverer of Lieberkuhn's glands, died recently at the age of sixty-five.

The sixteenth session of the German Congress of Physicians was held in Berlin in April. Professor Volkmann, of Halle, was president, and Dr. Guilt, of Berlin, was secretary. Professor v. Bergmann, of Berlin, was elected president for next year. The session was of great interest, but a full report is impossible here. The following are a few selections from the mass of matter presented:

Dr. Sonneberg, of Berlin, read on the subject of Arthropathia Tabidorum. From an anatomical standpoint, he urged the fact that in all cases of disease of the joints existing with tabes there is present, in a greater or less degree, arthritis deformans. It is distinguished from the usual arthritis deformans only through a more rapid course and increase of action. Otherwise the characteristic symptoms of tabes are present. A much more extensive exudation into the joint is found, and while the dislocation in arthritis deformans is progressive in character, the arthropathia tabidorum is oftener retrogressive. Luxations occur just as often from retrocapsular osteophytes projecting from the periosteum. In reference to the casual connection of the affections of the joints with the tabes, the author thought the theory recently promulgated by Charcot, that the fractures and disease of the joints were to be referred to purulent collection, was the true one. This opinion has recently received anatomical support. Recent investigators, as Oppenheim and others, have found a degeneration of peripheral nerves. Through this the connection between disease of the joints and tabes is brought a little closer and answered in a positive manner. Therapeutically, expectant treatment is mostly to be followed.

Professor Volkmann, of Halle, raised the question whether single collections, which have been frequently observed recently in those suffering from tabes, are not preceded by syphilis; for surely syphilis predisposes the origin of tabes.

Dr. Rotter, of Berlin, demonstrated a number of preparations from patients which had suffered from neuropathic joint affections and the most varied forms of tabes, and spoke briefly concerning them.

Dr Kroenig, of Berlin, has observed three cases of tabes in which the spinal column was peculiarly deformed and showed spondylisthesis. Therapeutically, the use of corsets made of whalebone after Beely's plan were of much benefit.

Dr. Koegel, of Halle, had observed seven cases of tabes. In only two of these did deformity of the bone occur to any degree. This, however, disappeared under the proper treatment. He spoke of the influence of traumatism in the causation. The local cause of joint affections spoken of by Virchow is often found present. A traumatic influence acts on the part, and, on account of the spinal cord being diseased, infects the substance. Not only rupture of the bones but also of the capsule can occur. The infrequent occurrence of rupture of the tendons is proved by the trophic disturbance of the fibrous places.

For the origin of fractures of the joints we infer the presence of an unusual fragility of the bones; however, this is not necessarily always present. In the cases of fracture of the joints which he had treated, the contrary was the case, the bones being quite hard. Perhaps the bulging in of the masses of connective tissue is the primary cause of the fracture.

Professor Volkmann said there were two kinds of bone-fragility. One is found in thinned bones, the other in quite strong bones. In the latter, healing follows promptly. The only explanation of a failure to unite is the disturbance of organic bone-substance.

"The Operative Treatment of Urethral and Vesical Fistula" was the subject of a paper by Professor Woelfler, of Gratz, who said that in the removal of the defects of the urethra and bladder we have made decided advances. We however have reached a limit. Our inability to obtain success is often caused by the fact that the defects are too large to permit of the borders being brought together. This is true in the case of the bladder as well as of the urethra. Another reason of difficulty in attaining our aim is the fact that not enough mucous membrane is present to suffice. The author wished therefore to present a plan of operating which would answer in case of necessity in place of the typical operation. He divided the fistulæ into cicatricial and purulent. When we find defects of the urethra present, we suppose that the canal is permeable. In one case of Woelfler's, however, there was a cicatricial traumatic urethral fistula which presented the exact condition of a rectal fistula. There was a dilatation of the part leading to the fistula, and the part leading from it was obliterated. It was found necessary to make a section of the constricted part, which was done, and fifteen peri-urethral sutures were passed, besides numerous small sutures of the mucous membrane. The result was entirely satisfactory and no stricture occurred in consequence. This kind of an operation is the type for the kind of cases first named. The second group consists of those fistulæ which are present from phlegmonous processes and infiltration of the urine. In these cases the borders should be cut loose and peri-urethral sutures should be then applied.

Dr. Woelfler also reported his experience in the effect of ligature of the thyroid artery in goitre. We must think first of the anatomical connection of artery when we wish to induce shrinkage of a goitre by the ligature of the arteries which lead to the thyroid gland. Ligature of the superior thyroid in dogs does not cause advancing gangrene, but necrotic processes form and complete destruction of the tissue without that of the capsule. Woelfler's first ligature of this artery in man was in the case of a woman aged forty-five, in whom it was done in consequence of an error of diagnosis. The patient came to the clinic with a high grade of dyspnœa, and said that the goitre which was present had been of the same size for years. The reporter thought he had to deal with a benign condition, which, however, later proved to be carcinoma. The ligation was smoothly done, the recovery was without a bad symptom, and the patient left the institution in four weeks. The dyspnœa was gone and the circumference of the neck was less. In four weeks, however, the difficult breathing returned and the patient

came again to the hospital, where a little later she died. On post-mortem examination the author found that the right half of the thyroid gland was notably diminished in size in consequence of a necrobiotic process. He was convinced that the arteries at the place of ligature were obliterated and that peripherally they were callous. This condition of necrobiosis proved that the difficult breathing, in consequence of collapsed goitre, disappeared immediately, but on the other hand the dwindling of the goitre went on very slowly. The manner in which the necrosis completed itself was shown by the reporter, upon a patient in whom he had ligated only the right superior and inferior thyroid arteries. The difficult breathing disappeared immediately. The circumference of the neck lessened only gradually, but was reduced from 44 to 38 centimetres. The reporter feared that a compensatory hypertrophy of the left side would take place. The opposite however occurred. Not only the isthmus, but also the left half of the thyroid gland, shrunk. In malignant goitre one should not undertake to ligate, because the compensatory circulation is not sufficient. In struma, however, total extirpation by the ligature of the superior and inferior thyroid artery can be compensated.

"The Action of Iodoform" was the subject of an article by Dr. De Ruyter, of Berlin.

Dr. v. Tischendorf, of Leipsic, reported a case of enterostomy for congenital atresia of the ileum. He presented the specimen, which had been brought to him on the sixth day of life for treatment. The doctor thought he had a case of atresia of the colon to treat, as this is sometimes congenital. Laparotomy showed an atresia of the ileum, 25 ctm. above the cæcum. The child lived only fourteen days after the operation. It did not vomit any more, but died from general weakness.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE MEDICAL COUNCIL AND THE SOCIETY OF APOTHECARIES—SIR WILLIAM GULL ON THE VALUE OF DRUGS—INTESTINAL SURGERY—THE FREQUENCY OF TUBAL DISEASE.

LONDON, May 13, 1887.

THE Medical Council met again on Tuesday last, for the third time within twice as many months. Although some other business has to be disposed of, the chief subject for consideration, and that for which the Council has really been summoned now, is the question of the Society of Apothecaries. Are they to be snuffed out, or is the Council to accord them recognition and erect them into an independent examining body by appointing surgical examiners, as the Society now asks them to do? Such examiners already exist, but they have not been appointed by the Council under the new act, and are not, therefore, officially recognized. There can be little doubt that the Council will comply with the request made to them. Such, at any rate, is the natural conclusion to be drawn from the defeat yesterday of Dr. Struthers' amendment by nineteen to nine votes. The discussion had lasted three days. It was dry enough in conscience, and was rendered still more so by the amount of legal matter some of the speakers thought fit to interpolate. A few incidents relieved the dry monotony of the proceedings. Dr. Struthers denounced the Apothecaries' Society as a mere trading corporation, and excited some risibility in his audience by describing a visit he had lately paid to the retail department. He proceeded to exhibit a bottle of tincture, some pills, and a bottle of eau-de-cologne which he had purchased. Sir Walter Foster (with an obvious desire to pose to advantage before his constituents) said that he was glad that Dr. Struthers had introduced something in the shape of bottles that recalled to their minds the humbler branches of the profession, which were doing good and useful work in the community. Sir William Gull returned to the trade question at a later stage of the debate, and took the opportunity to decry the treatment of disease by drugs. When the Prince of Wales was ill of typhoid fever, how many doses of drugs, he asked, did the prince take? Of course, any other patient would have done as an illustration, but Sir William Gull would thereby have missed his opportunity of reminding his auditory that *he* was the physician in charge of the Prince of Wales on that occasion. He concluded his speech by remarking that, whatever might be said of general practitioners (and he had evidently nothing good to say of them), there was one universal practitioner better than all of them when you were sick, viz., a warm bed (with, of course, Sir William Gull sitting at the bedside to see to the gruel and beef-tea, and to prevent any low-bred general practitioner from doing such an improper thing as give a dose of medicine).

The last meeting of the Medical and Chirurgical Society was devoted to intestinal surgery. Mr. Barker opened the ball by narrating a case on which he had operated with success, in University College Hospital. A married woman, aged twenty-eight, came under treatment for chronic bowel trouble. For sixteen months before admission she had passed blood with the motions, and during the latter half of this time had been conscious of the presence of a foreign body in her rectum. On making an examination, an intussusception of the rectum of about three inches in length was found, and surrounding the apex of the intussuscepted portion a mass of new-growth. The latter infiltrated the coats of the intestine, and was judged to be malignant. The intussusception could not be reduced, and Mr. Barker therefore determined to remove it along with the new-growth. The intussusception having been drawn down, the left index-finger was passed well into the intussusception, and the two layers of bowel, whose peritoneal coats were opposed, were pinched together beyond the growth between the finger and thumb. They were then stitched together by interrupted sutures. When the entire circumference of the bowel had thus been encircled with a row of stitches above the growth, a second row was similarly introduced about half an inch higher up. The whole mass was then cut away between the two rows of stitches. Only one small vessel bled, and was tied. The growth was found to be a mass of adenoid epithelioma with a margin of healthy tissue above it. The patient's recovery was rapid and uninterrupted, and she remained well a year after the operation. Mr. Barker referred to the rarity of intussusception of the lower bowel, produced by malignant growths, and said he had only been able to collect eleven cases. Six of these were either purely rectal or in the sigmoid flexure. Of this number, four were operated on; but two of these (cases of Professor Verneuil) died. Of the remaining two, one was operated on by Kulenkampoff, with an ultimately good result, though a loop of small intestine was opened in performing the operation, and a provisional colotomy had to be done. The fourth case was his own, and made the second successful one on record.

A paper by Mr. Stanmore Bishop was then read, in which were detailed the results of some experiments which he had performed on animals for the purpose of determining the best form of suture to unite the divided ends of the bowel after excision of small portions of the small intestine. He preferred one which he had himself devised. As in Lembert's suture, the serous surfaces of the intestinal wall were inverted and kept in contact by the sutures, but the latter were continuous and were passed from the inside. The knots, also, were so arranged that they fell into the lumen of the bowel instead of into the abdominal cavity. Mr. Croft defended Lembert's method, and remarked that, as thousands of sutures had fallen into the abdominal cavity without any bad result, he did not think it very important to prevent it. Mr. Treves remarked that he had himself experimented on the intestines of dogs by many methods, and had finally fallen

back on Lembert's as the best. He protested against drawing conclusions from experiments made on dogs. A clumsy stitch of any kind would succeed in uniting a dog's intestine. Mr. Knowsley Thornton objected to Mr. Stanmore Bishop's method; that the passing the sutures from the inside of the bowel to the outside might allow septic matter to pass into the peritoneum. The continuity of the suture, also, might lead to sloughing. Sir Spencer Wells commended Mr. Stanmore Bishop's plan, but it was quite clear that in the opinion of the majority of the speakers Lembert's suture still deserved to hold the first place.

Diseases of the Fallopian tubes have hitherto been considered rather infrequent, and many have not been slow to hint at exaggeration on the part of observers who profess to encounter them with tolerable frequency. Mr. Lawson Tait, in particular, has been for years about as much abused as it is possible for a man to be. Clinical observations are naturally open to fallacies, but those made on the dead body are incontrovertible. The matter has recently been tested in this manner by Dr. Lewers, Assistant Obstetric Physician to the London Hospital, and he has found evidence of tubal disease (restricting the expression to hydrosalpinx, pyosalpinx, and hæmatosalpinx) in seventeen cases out of one hundred bodies of women dying in the London Hospital from various diseases. The cases were not selected, but consecutive, and no one of these seventeen cases came from the obstetric wards, though some of the one hundred cases examined did. This is a sufficiently startling conclusion, and points to a much greater frequency of these diseases than either clinical or pathological observers have hitherto supposed.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from June 5 to June 11, 1887.

FRYER, B. E., Major and Surgeon. Granted sick leave for one month. S. O. 28, current series, Division of the Pacific, amended by S. O. 29, Division of the Pacific, June 2, 1887.

TREMAINE, W. S., Major and Surgeon. Sick leave still further extended two months on account of sickness. S. O. 129, A. G. O., June 6, 1887.

APPEL, A. H., Captain and Assistant Surgeon. Granted six months' leave of absence on surgeon's certificate of disability. S. O. 127, A. G. O., June 3, 1887.

Official List of Changes in the Medical Corps of the United States Navy for the week ending June 11, 1887.

VAN REYPEN, W. K., Surgeon. Ordered, June 8th, for examination preliminary to promotion as Medical Inspector.

ROBINSON, SOMERSET, Medical Inspector. Ordered, June 20th, before a Retiring Board, convened at Mare Island, Cal.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending June 11, 1887:

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	8	1
Scarlet fever	50	8
Cerebro-spinal meningitis	10	9
Measles	39	5
Diphtheria	104	45
Small-pox	8	2
Yellow fever	0	0

Society Items.

AMERICAN MEDICAL ASSOCIATION.

THE following are added to our telegraphic report last week:

The *Medical Standard* (Chicago) and the *Chicago Medical Journal and Examiner* published very acceptable daily editions during the meeting of the American Medical Association. The former was under the lively reportorial and editorial management of Dr. J. R. Gray, and the latter had the highly commendable feature of being published without the aid of advertisements.

Dr. Ely Van de Warker, of Syracuse, N. Y., was elected Chairman of the Section on Obstetrics and Diseases of Women, and Dr. E. W. Cushing, of Boston, Secretary.

The following eminent gentlemen were elected on the last day of the Convention, in conformity with the new by-law, to deliver addresses in the general sessions of the next annual meeting:

Address on General Medicine, Beverly Cole, M.D., of San Francisco.

Address on Surgery, E. M. Moore, M.D., of Rochester, N. Y.

Address on State Medicine, Jas. L. Cabell, M.D., of Virginia.

Drs. J. M. Toner, of Washington; E. Grissom, of Raleigh, N. C.; and D. Colvin, of Clyde, N. Y., were appointed a committee to inform these gentlemen of their election, and to fill vacancies in case of either death or declination.

On resolution offered by Dr. J. B. Hamilton, Surgeon-General Marine Hospital Service, and supported by Dr. G. H. Rohe, of Baltimore, the resolution introduced by Dr. J. McF. Gaston, of Atlanta, providing for a committee to ask President Cleveland to appoint two additional members on the committee sent out by the Government to investigate the subject of yellow-fever inoculation, was rescinded.

Committee on the Criminality of Fœticide: Drs. I. N. Quimby, of Jersey City; W. B. Atkinson, of Philadelphia, and W. H. Byford, of Chicago.

Committee on Coroners: Dr. H. O. Marcy, of Boston; J. H. Burge, of Brooklyn, and W. W. Dawson, of Cincinnati.

Committee on Immigration Sanitation: Drs. A. N. Bell, of New York; H. A. Johnson, of Illinois, and J. H. Kellogg, of Michigan.

The address on Surgery, by Dr. Mudd, of St. Louis, who was unavoidably absent on account of sickness in his family, was referred to the Committee on Publication. Dr. Scott, of Cleveland, was prevented from preparing the address on Ophthalmology and Otology on account of the death of his wife.

Dr. N. S. Davis' resolution on graduates of dental and oral schools or colleges being recognized as members of the regular profession of medicine, and also his resolution concerning the annual dinner of the Association, were adopted.

Committee on Dietetics: Drs. A. E. Wood and Frank Woodbury, of Pennsylvania, and Frank H. Whittemore, of Connecticut.

Committee on Uniformity of Medical Legislation: Drs. P. H. Millard, of Minnesota; H. A. Johnson, of Illinois; R. H. Plummer, of California; C. B. Belt, of Massachusetts; and C. W. Dulles, of Pennsylvania.

The member of the Judicial Council is Benjamin McCluer, instead of A. W. McCluer, of Iowa.

The Secretary of the Section on Ophthalmology is Dr. Edward Jackson, of Philadelphia.

The register contained nearly twelve hundred and fifty names.

The Medical Record

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Original Articles.

DANGERS AND ACCIDENTS OF INTUBATION.

BY DILLON BROWN, M.D.,
NEW YORK.

THE accidents of intubation of the larynx are many, but the *unavoidable* accidents are few, and, with the exception of pushing down pseudo-membrane before the tube —which is a rare complication—they are not important. I shall discuss, *first*, those accidents which can be and should be avoided, due to lack of skill, carelessness, or imperfect instruments, and *second*, the unavoidable accidents, and *last*, some of the dangers of intubation, theoretical and practical.

Avoidable accidents.—1. Asphyxia from prolonged attempts at introduction.

2. False passages made in attempts at introduction.

3. Asphyxia from slow accumulation of secretions in the tube.

4. Slipping of tube into the trachea.

5. Asphyxia from swelling over the head of the tube.

6. Passing the tube into the œsophagus.

7. Injuries to the larynx in attempts at removal.

8. Miscellaneous.

Unavoidable accidents.—9. Pushing down pseudo-membrane before the tube.

10. Fatal obstruction from fragments of membrane in or below the tube.

11. Coughing out of the tube.

Dangers, theoretical and practical.—12. Shock of the operation.

13. Inspired air being septic and causing pneumonia.

14. Food and liquids entering the bronchi.

15. Ulcerations due to the pressure of the tube.

16. Œdema, from various causes.

17. Dangers from applications by means of the tube.

Asphyxia from prolonged attempts at introduction.—The tube, in most cases, should be inserted into the larynx quickly, and on the first trial. Every additional attempt and every prolonged one is harmful; but there is less injury done by several short trials at introduction than by a single prolonged one, even if successful.

False passages made in attempts at introduction.—In cases of acute stenosis the tube slips easily into the larynx, and it requires no more force to push it well into position than it does to pass a sound through the healthy urethra. In the two cases which have come under my notice of false passages made in attempts at introduction, an unjustifiable amount of force was used to push the tube in place. In both of these, its insertion caused a complete cessation of respiration, which was supposed to be due to the pushing down before it of membrane. The autopsies, however, showed that in the first case the tube had entered one of the ventricles of the larynx, and was forced down through the surrounding tissues along the outside of the trachea. In the second case there was a rupture through the wall which separates the œsophagus and the trachea, and respiration was prevented by the pressure of the tube against this yielding membranous division.

Asphyxia from the slow accumulation of secretions in the tube.—In a certain proportion of cases, especially in those in which the patient is weak and coughs but seldom, and in which the amount of secretion is small, the tube gradually becomes lined, sufficiently to cause obstruction, with a mixture of what seems to be mucus and pus. Although this is not a common complication, and can be prevented to a great extent by the faithful use of the steam atomizer, it is well to be on our guard against it, and in all cases of secondary dyspnœa to remove the tube, and make sure that it contains no obstruction.

Slipping of the tube into the trachea.—This is an accident which, I believe, has never happened, and which, I believe, never can happen when a proper-sized tube is used, except as a result of injuries to the larynx made in attempts at removal. If the extractor is passed into the larynx, but outside of the tube, and is forcibly withdrawn with its blades widely open, great damage will be done to the larynx. It is possible in this manner to split open the cricoid cartilage, and so enlarge the opening of the glottis as to allow the head of a tube to slip through the larynx into the trachea. This is an accident which can always be avoided.

The occurrence of this accident has been reported three times, but it seems to me that a careful analysis of these reports will show that such has not been the case. It should be remembered that the head of the tube, even if pushed below both the ventricular bands and the true cords, will still remain in the larynx, being held by its narrow, sub-glottic division. Again, as the head of the tube is smaller than the calibre of the trachea, it would fall by its own weight until its lower end was arrested at the bifurcation or became lodged in a bronchus. Therefore, if this accident should happen, the tube could not be felt by the finger, and neither could it be grasped and removed by the extractor in the usual manner. In Dr. Waxham's case, after anæsthetizing the child, the tube was grasped by the extractor and removed without force in the usual way. He bases his diagnosis on the presence of a croupy cough and the ability to swallow easily. These symptoms would also appear if the head were retained in the sub-glottic division of the larynx. In Dr. Eichberg's first case an old-fashioned, small-headed tube was used, and it was pushed down in attempts at removal. Although the case is not reported minutely enough to state positively whether the head was in the sub-glottic division of the larynx or in the trachea, it seems to me that the evidence would indicate the former place rather than the latter as its position. The diagnosis of its position was apparently based upon the fact that it had been pushed below the true cords, the retaining power of the sub-glottic portion of the larynx being ignored. After this an unsuccessful attempt was made to remove it, from which I inferred that it could be felt by the extractor. Again, the child's breathing was perfectly easy, and upon opening the trachea the head of the tube was found above this opening. In Dr. Eichberg's second case the tube, also one of the early ones, slipped through the chink of the glottis, and was therefore supposed to be in the trachea. Of the three cases reported, in one of them the head of the tube was not in the trachea; and in the other two, an old-fashioned, small-headed tube was used, and its position in the trachea was not demonstrated. When there is much swelling over the head of the tube, it may be erroneously supposed to have slipped below the cords.

Asphyxia from swelling over the head of the tube.—This is a complication easily overcome by inserting a tube

with a larger head. It has occurred in two of my cases, and in the first one I did not recognize the cause of the secondary dyspnœa until the autopsy, after the child had died from asphyxia. It is a good plan, before removing the tube in cases of secondary dyspnœa, to exclude this accident, as its cause, by a digital examination of the larynx.

Passing the tube into the œsophagus.—There should be no difficulty in determining whether the tube is in the larynx or in the œsophagus, although this mistake has been made in two cases which have come under my notice; and in both of them the child died from asphyxia. After coughing up the tube, it has been swallowed several times, and in attempts at introduction it has been lost in the stomach a number of times. In all these cases its presence caused no trouble, and if the patient recovered, it was passed per rectum without difficulty. In one case, where it was thought to have been swallowed, it was unexpectedly expelled from the larynx several days later, and in another case it was found in the pocket of one of the other children.

Injuries to the larynx in attempts at removal.—In removing the tube no force is required; and in cases in which the extractor comes away with difficulty, it is because it is caught in the tissues of the larynx, and much injury will be done if it is forcibly removed with the blades widely open. Not only will you lacerate the larynx, but may even split open the cricoid cartilage, and so enlarge the chink of the glottis that on the next attempt to remove it you will push it into the trachea. This accident has happened in practice on the cadaver.

Miscellaneous.—At times, after the removal of the tube, there occurs a spasm of the glottis from the irritation of the inspired air upon the larynx, which has been protected so long. This can be avoided to a great degree by giving an opiate just before its removal, but it is always advisable, before removing the tube, to have everything prepared for its immediate reinsertion, if necessary. This rapid return of the dyspnœa may also be due to a diphtheritic paralysis of the abductors or to an œdema of the glottis. The string should be of strong braided silk, not only to prevent its breaking, but to prevent the more serious complication of its untwisting and catching in the eye of the tube, so that it cannot be withdrawn without removing the tube. The string should be cut as short as possible and withdrawn slowly to prevent its cutting the surrounding tissues. The lacerations made by the gag, and by the finger in locating the larynx, are unimportant.

Pushing down pseudo-membrane before the tube.—This is the gravest accident which the operator can encounter, but fortunately it is an extremely rare one. On the first introduction of the tube, sufficient membrane has been pushed down to cause asphyxia in only one of Dr. O'Dwyer's cases, and in two of my own. In each case, after withdrawing the tube, the obstruction was expelled and the dyspnœa relieved. Later, when the membrane has become more or less detached and broken down, upon the reintroduction of the tube, the liability to this accident is increased. In connection with this danger, one point regarding the introduction of the tube must be closely observed. The tube should be pushed well down in position, and held down by the finger while the obturator is being removed. Otherwise, when it is pushed into position after the removal of the obturator, the lower end is unprotected, and can easily strip off enough membrane to cause obstruction at that point. Upon the reintroduction of the tube I have pushed down sufficient membrane to cause obstruction in four cases, but in only one of these was it a fatal obstruction. This occurred eighteen days after the first intubation, and shows how long the membrane will sometimes persist.

Other accidents, and those avoidable ones, may be mistaken for this—*e.g.*, apnœa from prolonged attempts at introduction, pushing the tube through a ventricle of the larynx, and other false passages, etc.

Fatal obstruction from fragments of membrane in or below the tube.—This is also a rare accident, and it has not occurred in any of my cases. If the tube becomes obstructed, it will usually be expelled, and it is on this account that it is advisable to have it retained in the larynx as loosely as possible. Certainly, the number of deaths from clogging of the tube after intubation, as shown in the reported cases, compares in a remarkably favorable manner with the number of deaths from the same cause after tracheotomy.

Coughing out of the tube.—This is undoubtedly a source of danger, but it can be entirely obviated by making the retaining swell of the tube sufficiently large. It is intended by Dr. O'Dwyer that the tubes be held loosely in the larynx, so that when they are no longer needed, or become obstructed, they will be expelled. After being coughed out, if the dyspnœa does return, it is usually several hours before it becomes extreme, and there is time to reach the patient and reinsert the tube. In my own practice I have had one death from laryngeal obstruction after coughing out of the tube. It was a boy fourteen months old. I removed the tube on the fifth day, but was compelled to reinsert it the next day. From this time the tube was frequently expelled, being retained from five to sixteen hours. I had a special tube made with a very large retaining swell, but it was apparently expelled as easily as the others. There was paralysis of the pharyngeal muscles, and of the external rectus of the eye, and it seems to me that the cause of the frequent expulsion was a paralysis of the muscles of the larynx. There was usually time to reach the child and reinsert the tube; but on the twenty-eighth day it was some time after the expulsion of the tube before I was sent for, and when I reached the patient two and one-half hours after it was coughed out, he was dead. I obtained the larynx, and there were no macroscopical appearances to account for the return of the obstruction.

Shock of the operation.—This is very slight when the operation is done quickly and skilfully. In a certain number of cases of laryngeal diphtheria, soon after intubation, the temperature begins to rise, and the condition of the patient rapidly grows worse. However, this occurs just as frequently after tracheotomy, and it does not occur after intubation of the larynx for stenosis due to other causes—*e.g.*, syphilitic stenosis or catarrhal croup. Therefore, it seems to me that this change is not due to the operation itself, but is the result of relieving the laryngeal obstruction, this acting in some manner as an antipyretic. We know that nitrogen acts as an antipyretic, and may not its action be due to its cutting off the supply of oxygen rather than to any effect of its own?

Inspired air being septic and causing pneumonia, and *food and liquids entering the bronchi.*—My experience has been that the cause of death, when due to pulmonary complications, is, in the vast majority of cases, not pneumonia, but an extension of the disease to the bronchi—a diphtheritic bronchitis. Again, pneumonia is not a common complication of diphtheria when the larynx is not involved, although the same condition exists—the inspired air is septic. If the extension of the disease could be caused by this contaminated air, we would expect laryngeal or bronchial diphtheria to occur oftener, for in not one case of diphtheria out of ten is the larynx or the bronchi involved.

In no autopsy at the New York Foundling Asylum has food ever been found in the bronchi, and I believe that this is a theoretical danger rather than a real one.

Ulcerations due to the pressure of the tube.—That ulceration may originate in this way is without question, but this will be fully discussed in the paper on the pathology of the larynx after intubation. In none of the cases reported has the presence of the tube caused any harm. Certainly the tracheotomy tube does do injury, and it is not very rare to see cases of retained tracheal tubes due to granulations, incurvation of the wound, etc.,

and occasionally also death from hemorrhage following ulceration through a blood-vessel.

Œdema of the larynx; local applications.—In cases of laryngeal diphtheria the stenosis is due not so much to the pseudo-membrane as to the swelling of the tissues beneath it. The pressure of the tube diminishes this swelling in a marked degree, besides hastening the disappearance of the membrane, if not even preventing its formation. This can be demonstrated at nearly every autopsy on cases dying after intubation. In making local applications by coating the tube with strong astringents, it is possible to cause an œdema of the glottis, which takes a long time to disappear. I lost one case from this cause, due to the too enthusiastic application of an ointment of nitrate of silver—3 ij. to ℥ j.—just after reviewing the works of Dr. Horace Green. An application made in this manner is not one of short duration, but extends over several hours, or even days. Lacerations made in attempts at insertion or removal may set up an œdema.

102 East Fifty-seventh Street.

TRACHEOTOMY FOLLOWING INTUBATION OF THE LARYNX.[1]

By IRWIN H. HANCE, M.D.,

Resident Physician Nursery and Child's Hospital, New York.

My object in writing this paper is to report in detail a case where tracheotomy was performed after the tube had failed to give relief in a child suffering from membranous croup and scarlatina.

The following is a history of the case: Alfred J——, aged twenty months. Father English; mother Irish. Admitted to the hospital October 16, 1886. Nursed for eighteen months. Has had measles. Is well nourished, but pale. No glandular enlargement.

October 22d.—Appeared sick during day. Throat red. Slight elevation of temperature.

October 23d.—Well-marked diphtheritic patches on the tonsils.

October 24th.—In the morning was a little croupy; continued with croupy cough during the day, and was vomited three times, the symptoms thus being relieved. Child has developed a well-marked scarlatinous eruption.

October 25th.—At 10.30 A.M. child was much worse, there being well-marked dyspnœa, with recession of chest-walls, cyanosis, and other signs of laryngeal stenosis. At 10.45 a tube was introduced (No. 2), and almost immediately coughed out, along with much thick mucus; operation was again repeated with a like result. When the tube was introduced for the third time it became obstructed, and caused a serious embarrassment of breathing. It was removed at once, and there was almost complete cessation of respiration, but artificial respiration revived the child in a few minutes.

Dr. Wheelock, the attending physician, then advised that laryngotomy should be performed if the next introduction of the tube failed to give relief. At 11.30 A.M tube was reintroduced. At the end of ten minutes it was removed, and was found to be plugged with such thick mucus that almost a cast of the tube was formed. Cleansed and once more inserted; this time the respirations improved for a short time.

At 12.10 P.M. respirations worse, tube coughed up. Rapid incision was made through the crico-thyroid membrane and the cricoid cartilage, affording the child immediate relief. Wound was held open by retractors and the trachea thoroughly cleansed from mucus. Small hard rubber tracheal tube introduced. From this time on there was not the least return of any dyspnœa.

At 7 P.M. child was quietly sleeping, breathing without any apparent effort. No cyanosis existed, and the scarlatinous eruption had entirely returned. Was able to take liquid food. Temperature during the night reached 106⅘° F. Failed slowly and died at 8 A.M., October 26th, from the systemic poisoning of the two diseases.

Necropsy was held twenty-six hours after death by the pathologist, Dr. N. H. Henry. Rigor mortis absent. Marked post-mortem ecchymosis. An incision passes through crico-thyroid membrane and cricoid cartilage; edges of wound are in a fair condition. Trachea shows an abundant fibrinous exudation, which is easily lifted from the surface. Lungs: Slight hypostatic congestion. Pericardium: Increase in the amount of pericardial fluid. Heart: Valves normal; muscular tissue pale. Liver and spleen congested. Kidneys somewhat enlarged. Increased amount of cortical substance. Medullary portion very pale. Capsules easily separated. Brain not examined.

In reviewing the history of this case I may emphasize the statement that the tubes were given a thorough trial and proved utterly useless. Now, what was the cause of this failure on the part of the tube to relieve the child's symptoms? It seems to me that two things conjoined to bring about this result, viz., an excess of thick, tenacious mucus in the trachea and a partial dislodgement of the false membrane by the introduction of the tube. The former was present to a marked degree, and we may safely assert that some membrane was dislodged, because on one occasion after the withdrawal of the tube, artificial respiration was required to restore the child's function of breathing. Was the operation of tracheotomy deferred longer than was necessary? At present, in view of my experience with this case, I think that on another like occasion I should resort to tracheotomy earlier, because many attempts at the introduction of a tube unquestionably cause a more or less decided depression of the child. The selection of the crico-thyroid membrane as the best place to incise the trachea was decided upon because of the ease and rapidity with which the operation could then be performed, one rapid incision being all that was required.

Would the child's chances of recovery have been better if tracheotomy had been performed at first without using the tubes?

This is an extremely difficult question to answer; I can only say that tracheotomy in children under two years of age terminates fatally in a very large percentage of cases, and that intubation gives a fair showing. From my own experience I feel that intubation in such young children gives equally as good results as tracheotomy.

Thus far I have considered only my own case; I ask your attention now to a few other cases which have been reported in the medical papers.

Dr. Ferguson,[1] of Troy, reports a case similar to mine, in which the tube detached a piece of membrane. Tracheotomy was performed; the result was a complete relief to the dyspnœa, although the child died in thirty hours.

Dr. Montgomery,[2] of Philadelphia, did tracheotomy because he was unable to reach the tube with the retractor. He thought that the tube, which, he states, was of small size for the child, had been forced below the vocal cords; it, however, had been coughed up and swallowed, being passed per rectum two days later. This child recovered. Dr. J. Eichberg, of Cincinnati, reports[3] two cases where he had to tracheotomize the child in order to recover the tube:

Case 1, aged seven. After the tube had been in the larynx for six days, he found that it had fallen "by its own weight" down so far as to require tracheotomy in order to remove it; the wound was made through the cricoid cartilage, and he tried to get primary union, but failed, but was obliged afterward to introduce a tracheal tube. Result, recovery.

Case 2, aged three. Five days after its introduction

[1] Read before the New York Academy of Medicine, June 2, 1887.

[1] New York Medical Journal, March 5, 1887, vol. 45, No. 10, p. 273.
[2] The Medical News, March 5, 1887, vol. 50, No. 10.
[3] Lancet-Clinic of Cincinnati, vol. 18, Nos. 4 and 11, pages 97 and 321.

he sought to remove the tube, but failed, because the instrument, which was an old extractor, slipped, and, in his attempts at removal, he forced the tube into the trachea. By operating he recovered the tube, and the child made a good recovery. Here again he tried to get primary union, but failed, having to resort later to the use of the tracheal tube.

Dr. H. H. Mudel, of St. Louis, seems to have been very unfortunate in his experience of the use of intubation. He reports[1] six cases, in three of which he was obliged to resort to tracheotomy. His notes are scanty, and are as follows:

Case 1, seven years of age. Came near suffocating from loose membrane. Tracheotomy. No result noted.

Case 2, four years of age. Had had intubation tube in for four days. Tracheotomy because there was an excess of secretion, and child was unable to swallow. Result: three weeks have elapsed since the operation, and he thinks child will recover.

Case 3, three to four years of age. Tracheotomy because tube could not be retained. Result: recovery.

Dr. Dillon Brown, of New York, reports one case: Child between one and two years of age. Tube failed to give relief. Cause was supposed to be due to loose membrane. Tracheotomy tube was introduced, but this failed to relieve the child's symptoms, death occurring on the table. Autopsy revealed the probable cause of failure, as the membrane extended down to the third and fourth division of the bronchi.

Thus, of 9 reported cases of tracheotomy following intubation, there were 3 deaths, 5 recoveries, and in one the result was not noted; so we have a very good showing, as to the results of this secondary operation. Further, we must not forget that the operation was performed in one-third of the cases after the tube had been worn from four days up, and consequently to them is due some credit for having tided the child over the most critical period of the disease.

That accidents will occur these cases prove, but accidents of just as serious a nature occur during the performance of tracheotomy; in both, however, they are the exception and not the rule.

The above-described accidents suggest to my mind the following queries:

1. What causes will necessitate the performance of tracheotomy after intubation?

2. Can we avoid any of these causes or accidents?

3. Can we tell beforehand whether intubation is going to fail?

The causes which have called for in the past and may in the future call for operative interference are as follows:

(*a*) An intolerance on the part of the larynx to retain the tube.

(*b*) Inability to administer a proper amount of nourishment to the child.

(*c*) A plugging up of the tube with false membrane and mucus, or a dislodgement of pieces of membrane during the process of introduction.

(*d*) A return of the dyspnœa with an absence of the tube from the trachea, as in Dr. Montgomery's case.

(*e*) A wedging of the tube in the larynx, so that it cannot be removed through the mouth.

(*f*) A forcing of the tube, during its introduction, through the floor of the ventricle in place of passing it into the larynx.

Fortunately we can do something to avert the most of these accidents. Spasm of the larynx, as indicated by a short spasmodic cough, along with a frequent ejection of the tube, can be relieved by cracked ice by the mouth and counter-irritation to the neck. In the way of medication, I have found that full doses of belladonna and nitre, with a small dose of chloral, afford speedy relief to laryngeal spasm.

[1] Weekly Medical Review of St. Louis, vol. 15, No. 3, January 15, 1887.

Inability on the part of the child to swallow will, I trust, soon be overcome by some modification of the present tube. As it is now, we can make use of rectal alimentation and skin inunctions, and when necessary we can feed through a rubber catheter.

When we are certain that the tube has been swallowed, tracheotomy could be postponed if we had another tube of the right size at hand. Wedging of the tube into the larynx, or passing it forcibly through the neighboring tissues will only occur where great violence is used by the operator and can be easily averted.

The only truly serious accident which has thus far been met with in the history of intubation is a dislodgement of pieces of membrane during introduction. In any individual case we cannot say whether such an accident will occur, yet it is gratifying to know that it does not happen as often as one would naturally suppose. When one is unfortunate enough to have such a case, after the withdrawal of the tube, the child may relieve itself by coughing, or we may aid it by producing emesis, or by extracting the membrane with a pair of long tracheal forceps, as done once by Waxham, of Chicago, or as a *dernier ressort* we must perform tracheotomy.

In avoiding this accident strict attention to the details of the position of the child and of the management of the introducing instrument, along with great care and gentleness on the part of the operator, will be of some assistance.

Let us hope that the future will reveal to some one of us an improvement whereby this unfavorable accident may be overcome.

Finally, can we tell beforehand whether intubation is going to fail?

I think not, and since it has been clearly shown that intubation is able to accomplish the same result as tracheotomy, in the light of my own experience, and of the expressed opinions of many others, I am inclined to resort to tracheotomy only after I have proved that intubation has failed.

ECZEMA RUBRUM OF INFANCY.

By GEORGE T. WELCH, M.D.,

KEYPORT, N. J.

I HAVE under my care at present a middle-aged lady, weighing three hundred and twenty-five pounds, who is suffering with an aggravated type of eczema rubrum, beginning in the right hand, with all the violent frenzy of erysipelas, and rioting onward over, comparatively speaking, as ample a field as Gengis Khan ever came crowding discursively upon from over the Ural. The heat, swelling, and pain of the skin, together with the rapid march of the disease, combined to obscure the diagnosis for a short time. On the fourth day the inflammation began in the left hand, and ultimately the arms, shoulders, neck, and cheeks were involved, the skin being hot, red and shining, tumefied, blebs forming; there was headache, fever, anxious expression of the countenance, with a temperature of 104°. A dermatologist who pronounced the disease, at the first blush, erysipelas, even in the light of subsequent events, would have been treated leniently in any medical court in the world. For at length the skin excoriated, a true catarrh of the surface began, crusts formed, were exfoliated, drying followed, and light irruptions within the devastated district, followed by pityriasis, is the rule at present.

This disease, with the characteristics I have detailed, occurring in an infant about the genitalia would, in all likelihood, have been diagnosed as erysipelas, and treated, or maltreated, accordingly.

It is, in fact, no easy matter to diagnose between erysipelas and eczema rubrum, occurring in the tender, plastic tissues of infancy. Disease, like a potter, moulds and burns them into strange types, puzzling to the Adam who stands forth to name them.

I have notes of eleven cases of eczema rubrum occurring in infants, beginning at the genitals or at the margin of the arms, and with slow, sturdy invasion, accompanied with heat, pain, tumefaction, marasmus, and diarrhœa, proceeding to spread upward and downward until, in some cases, two-thirds of the surface was involved. As illustrations, I shall briefly sketch some of these cases.

E. S——, female, aged seven months, when seen, June 24, 1882, had a diseased surface, hard, shining, inflamed, radiating from the vulva, three inches in diameter. The child was fretful, feverish, without appetite, and had indigestion. By July 1st the inflammation had reached a diameter of twelve inches, the skin being puffy about the margins of invasion, while at the centre it was hard. This hardness, due undoubtedly to cellulitis, spread outwardly, accompanying the progress of the acuter symptom. By July 12th the inflammation had spread to the knees and upward to the umbilicus and to the margin of the shoulder-blades. In the meanwhile minute vesicles, closely crowded upon each other, especially about the origin of the disease, threw out a delicate, serous fluid, highly corrosive in character, under the influence of which the epidermis became denuded, and the moist, shining cutis, like an extensive scald, received the discharges from the urinary and alimentary canals, adding further torture to the deplorably failing infant. About one-eighth of the surface became thus exposed, and, complicated with other exhausting symptoms, the child died in about six weeks from the date on which I first saw it.

In September of the same year I was called to see B. E——, male, aged two years, in the last stages of this disease. His previous history was somewhat similar to the previous case, as nearly as I could learn it. In place, however, of a moist, denuded surface about the genitalia and buttocks, the cutis was red and dry, covered with yellowish lamellæ; the penis was covered with dried crusts, under which the disease had continued to eat until the organ was distorted and urination was painful. In spite of his terrible ordeal the little fellow was alert in mind, and complained of but little suffering. His death occurred on the third day afterward.

May 27, 1884, H. D——, male, aged six months; when seen was excoriated about the arms, the skin puffy, red, painful, and the inflammation rapidly progressing. During the next six days it had spread upward and downward as far as the middle of the thighs, half way to the umbilicus, and to the dorsal region of the spine. It did not stop here, but more slowly advanced, cellulitis occurring, with stripping of the epidermis from a large space. Diarrhœa began, and the patient slowly sunk; but under the influence of treatment and better hygienic surroundings recovered in about four weeks.

October 16, 1884, G. T——, aged thirteen months, presented the characteristic symptoms at my first visit. The disease was very obstinate and spread over a large portion of the abdomen, the back, and down the thighs, cellulitis occurred to a limited extent, and there was loss of the epidermis over nearly the whole of the posterior portion of the diseased surface. The base of the penis and of the scrotum was thus denuded. Diarrhœa occurred, and aphthous sore-mouth, but the child finally recovered, being declared convalescent November 27th.

In 1886 I saw two cases of this disease in female infants; in neither of them, however, was it so aggravated as in those previously detailed, though in one there was a circumscribed cellulitis about the vulva and anus, with denudation of the epidermis, the inflammation extending to the waist.

In some of the cases I have observed, the temperature in the axilla reached 104°; in all of them there was fever, diarrhœa, a red, shining, inflamed surface raised above the surrounding healthy skin, with excoriations, often extensive, at the origin of the disease. To diagnose this disease from erysipelas is not always easy; in fact, there seems sometimes to be a compound of the two diseases, or they become convertible. The symptoms of either in an adult are likely to be sufficiently defined; but in infancy all is exaggerated, an erythema shades insensibly into an erysipelas, and that subsides as imperceptibly into eczema rubrum. The tender surface seems less a skin than an ethereal mirror, in which the emotions of flesh and blood and nerves picture themselves confusedly. But it may be said that erysipelas spreads more quickly, the swelling is greater, and its subsidence follows usually in from three to five days; in favorable cases some desquamation may occur, but in a majority of cases there is none. Eczema rubrum, though violent in character, with raised and shining cuticle, fever, pricking pain, and cellular hardness, is slower in development, and in about the time that erysipelas would begin to disappear, or prove fatal, it takes on the better-known characteristics of ordinary eczema—the eruption occurs, pustules form, the epidermis is lost about the seat of invasion, while the erythema continues to spread.

Because of the severe constitutional features accompanying this form of eczema in infants—the marasmus and diarrhœa—I look upon it, if much surface is involved, as being of a grave character, and if extensive denudation has occurred, involving the genitals, it may prove fatal.

As to treatment, the cases I have seen have occurred in the underfed and neglected infants of poor and sordid families, and a radical change must be made in the hygienic surroundings. Sour and filthy clothing must be removed, diapers must not be pinned about the child, but the discharges must be received upon napkins laid under the patient, which must be at once changed, and the parts must be gently bathed and dried afterward. Infants with this disease protest vigorously against the contact of water, and it does prove an irritant. Bran-infusion, or water to which glycerine and extract of witch-hazel have been added, or oatmeal-water, is best for bathing purposes, and, after drying, a powder of starch and oxide of zinc may be dusted over the surface. To the denuded part an ointment of glycerole of boracic acid is peculiarly grateful and healing. Spread upon prepared lint and laid over the part is the best way of employing it. Elsewhere lotions containing calamine and oxide of zinc in rose-water or lime-water prove most serviceable. Later on, ointments of oxide of zinc, and finally of mercurial preparations, are more useful.

Internally, emulsions of cod-liver oil, if they do not impair the already weak digestion, are called for, but especially mixtures containing pepsin, dilute hydrochloric acid, and bismuth, with a small amount of opium in some form, suspended in syrup and water, to check the indigestion and diarrhœa. This must be speedily controlled or all is lost. If the mother's milk is unfit for nourishment, condensed milk, with lime-water, barley-water, and a few drops of whiskey, must be substituted. Mellin's food, or Horlick's, or Carnrick's soluble food, or some other approved preparation, will find its place. Beef-peptonoids or Murdoch's liquid food will be called for. The practitioner will be puzzled time and again, but a level head and an extended knowledge of the therapeutics of intestinal indigestion and of eczema will bear him out.

It is no part of my plan to sketch an extended treatment of the disease; rather, I have sought to call a stricter attention to a rare form of eczema in infants, and warn against confounding it with erysipelas, as I have known it to be done, and the consequent mischief resulting from misapplied drugs.

Ovariotomy.—M. Terrillon communicated to the Surgical Society a *résumé* of 35 ovariotomies completed in 1884. Of these 20 were difficult cases; 29 unilocular cysts, 4 parovarian cysts, 1 dermoid cyst, and 1 ovarian sarcoma. Of the 35 patients 6 died. The operations were conducted antiseptically.—*Medical Press.*

Clinical Department.

BERGEON'S TREATMENT FOR PHTHISIS.

Dr. J. R. Brandt, of Chicago, writes: "I have been using the 'Bergeon treatment' for diseases of the respiratory tract since December last, in private practice, also to some extent in Cook County Hospital. I do not feel inclined to make a full report of my cases as yet, but there are several interesting points that have been developed which I think should be made known without further delay: 1. In cases of phthisis caused by inhalation of vegetable or mineral irritants, *i.e.*, workers in wood or stone, the treatment has only given a short relief, and the patients relapsed. 2. In cases of amyloid kidney there was more sudden relapse than in the first cases. 3. In cases where large cavities existed there was no improvement from the beginning. 4. In cases complicated with paraplegia, the treatment was actually injurious, causing violent cephalalgia. 5. In cases of tuberculosis, complicated with tubercular meningitis, treatment has proved a failure. 6. In asthma there was no improvement after the fourth or fifth day.

As to the nationalities of those who showed the most immediate relief, the Norwegians came first, Swedes, Danes, and Germans in the order named, English and Americans of any other descent except Irish, came next. The Irish and their immediate descent came next to last, and last and least helped were the mulatto, and half-breed Indian. Caution: All persons should be carefully examined in order to exclude the cases as above mentioned, as well as those who may have aneurismal varix. In generating the carbon dioxide care should be taken to exclude persons from the room who are subject to asthmatic attacks, as I have seen a violent seizure provoked in a person who was subject to very slight attacks by unfortunately inhaling some of the gas while it was being generated. The following queries have also been suggested to me: 1. Can any, and, if so, what forms of bacteria be cultivated in sulphurous waters, either before or after passing carbon dioxide through them? 2. If the numerous cases reported by Professor Bergeon gave entire satisfaction to the Medical Faculty of Paris, why should M. Cornil institute a series of experiments on dogs, when it had been successful in the highest type of animal life? 3. What is it that really helps the patient? When we reflect that the waters used by Professor Bergeon contain only 0.16 of a cubic inch of H_2S. to the pint, and the waters used by others contain from one to four cubic inches to the pint, and yet all claim wonderful results, may it not be that some of the salts held in solution do much toward the relief? In England, between the years of 1830–32, Professor Lata and Dr. Stevens injected into the veins of cholera patients solutions of the muriate and carbonate of sodium from thirty-one to forty pounds within twenty-four hours, with the most interesting results (see Pereira's 'Materia Medica,' p. 313)—restoration of pulse and of consciousness, and feeling of well being, etc.; yet they all died just the same, and of cholera."

TWO CASES OF FRACTURE OF THE SKULL—RECOVERY.

Dr. Thomas H. Manley, attending surgeon to the Harlem Hospital, reports the following cases: "John S——, nineteen years of age, suffering from the results of a kick by a horse, was brought to the Harlem Hospital on March 29th. Examination showed a large chasm on the left lateral aspect of the skull. The smashed bone was crowded down into the brain substance, and some of the fissures of the shattered bone were filled with hair, and others with fragments of the dura mater and cortical substance of the brain. There was not much hemorrhage. As nearly as could be defined, the fracture extended through the parietal bone posterior to the coronal suture, involving the anterior junction of the temporal with the parietal, just above the temporal ridge. The wound was about two and a half inches in length by one and a half in width. When the patient was received he was unconscious and suffering from evidences of concussion. The pulse was slow and hard, the body was covered with a cold, clammy perspiration, and the pupils were widely dilated. The smaller fragments of bone were first lifted out, and then the larger pieces raised up by the bone elevator. The protruding brain substance that could not be replaced was removed by the scissors. The edges of the dura mater were then carefully approximated and secured by catgut sutures after the wound had been thoroughly washed with antiseptic solutions. A horse-hair drain was inserted beneath the scalp, and the scalp itself was closed with strong catgut sutures. The following day the patient was found to be very childish, crying on the slightest provocation, and was also aphasic. He was able to articulate clearly, but could not speak connectedly, using the wrong words constantly. He recognized his father, and seemed to take an interest in what was going on around him. There was considerable discharge in the dressing, but no pus. Temperature normal, pulse about 90. Paralysis of the right arm supervened, but gradually disappeared along with the aphasia. The wound healed readily without complications, and the patient made a good recovery. There was a slight degree of hernia cerebri, which gradually receded.

"The second case was that of a man, twenty-eight years of age, who had received a fracture of the cranium from a blow with a bar of iron. It was a depressed fracture situated just over the temporal ridge, three and one-fourth inches in length and three-fourths of an inch in width, commencing on the frontal bone and extending to the parietal. On admission the man was unconscious, breathing stertorously, the face was of a deep-red color, the eyelids were drooping, and there was a divergent squint. An attempt was made to raise the bone without trephining, but was unsuccessful. Then the trephine was applied and a small button of bone was removed. The teeth of the instrument pierced the cortical substance of the brain, lacerated the dura mater, and caused some hemorrhage. It was now found that the fracture, though extensive on the surface, involved the external table only of the skull, and no break in the inner table could be discovered. The line of incision was closed with continuous catgut suture, provision being made for free drainage. On coming from under the influence of the anæsthetic, the patient was found to be conscious. He vomited some dark blood-clots during the night, and was unable to retain anything on his stomach all the next day. He was rational and slept the greater part of the time. On the third day the man had three convulsions of an epileptic character; he was aphasic and had some squinting. The convulsions recurred again on the following day, but not after that. The wound healed readily, the temperature rising only once above 100°.

"Both these cases were brought into the hospital at about the same time, and both, though sustaining wounds of an altogether different character, were affected similarly as regarded the loss of speech. The first man, although much the more seriously injured, did not lose consciousness until after he had been brought to the hospital. At about the fifth day in each case there was a noticeable improvement in the power of language. The temporary paralysis in the first case was of short duration, and was confined to the upper extremity. The second patient had all the symptoms of a serious lesion, although no such lesion was present. The presumption was that there was bone pressing into the brain substance, and probably hemorrhage, but the sequel proved that there was neither. In this case it was impossible to

say whether the cerebral symptoms observed were due to the injury or to the operation. The writer states that he is inclined to the opinion that they were due rather to the latter."

TWO ADDITIONAL CASES OF SPONTANEOUS DELIVERY IN PLACENTA PRÆVIA.

Dr. Alfred Hinde, of Chicago, Ill., writes: "After reading the interesting reports of cases of placenta prævia in recent issues of The Medical Record, I venture to forward you the notes of a case which occurred recently in my own practice, and which terminated spontaneously. On April 19th last I was called to see Mrs. F. H——, forty-two years of age, a robust Englishwoman, in her eleventh gestation, and then in the eighth month of the same, and was told that 'the waters had broke' forty-eight hours before, and that a slight sanious tinge was now present in the continuous leakage. I made a digital examination and found the characteristic multiparous cervix, but the internal os was not perceptibly open. The fœtal heart-sounds were very distinctly heard above and to the left of the umbilicus. The condition of the patient was good, and there was no uterine pain present. I suspected placenta prævia and elicited the information that in a former pregnancy she had flowed for about a week previous to labor. On April 21st, two days later, a distinct hemorrhage commenced, and this continued in slight but variable amount until the noon of the 24th, when it became suddenly severe and intermittently continued for six hours. I saw the patient at this time, and she complained of faintness, with slight thirst, and was sighing and retching frequently; pulse 98. The bed was saturated with blood; the vagina was filled with clots, and the os uteri was about the size of a silver dollar—soft, cool, moist, and dilatable, and with the boggy placenta presenting. Fearing the recurrence of severe hemorrhages, and having witnessed death from such cause in a similar case, where the post-mortem plainly revealed that, had a timely termination of the gestation been pursued, a most probable favorable result to the mother would have been attained, I thought seriously of at once dilating the os, separating in part or *in toto* the placenta, and withdrawing the same if advisable, and, lastly, turning and delivering the viable child—using ergot to excite and maintain uterine contractions. Counsel stated that my proposed course of procedure, though possibly the correct one, and probably offering the best chance for the mother and viable child, yet was unorthodox; and seeing that uterine action was slight, the hemorrhage at this time of small amount, a waiting course was advised. I deferred to this opinion, and, after the administration of an opiate and counselling quiet, left the case. About thirty hours later I was hurriedly summoned by the husband, who told me that severe pains had commenced, and that the flow, though continuous since my last visit, had only been slight in amount. On reaching the bedside I found the child born and the uterus well contracted, and, consequently, no hemorrhage other than normal was present. The nurse said the child had been born about fifteen minutes; that severe pains had started in about an hour previous to the birth, and that with the third pain the child was born. I waited a quarter of an hour, and then readily expressed and delivered the placenta, and thus completed the labor. The placenta on careful examination was found to be entire and healthy, and showed one-half its bulk to be ecchymosed, shrunken, and the uterine surface of this half was covered with blood-clots. Thus, to the very gradual dilatation of the os uteri, together with the slow separation of the cervical placenta and the thorough plugging of the venous sinuses, together with a precipitate labor, we may attribute the happy termination of this case. The further progress of the case was strictly normal. Here we have the notes of two placentæ prævіæ occurring in the same individual, and both terminating favorably to the mother without professional interference."

Dr. B. P. Reese, of Staunton, Va., reports a second case of this nature, which occurred in his practice at about the time that the account of the first case appeared in these columns. The patient, thirty-four years of age, had been married four years, and had had one miscarriage. She had had frequent slight hemorrhages for some time. The vagina was very long, and it was nearly impossible to reach the os uteri with the examining finger, but a diagnosis of placenta prævia was made from the obstinate bleeding. Dr. Patterson saw the case in consultation and confirmed the diagnosis. Tampons wet with Monsell's solution were introduced daily. About a week after the case was first seen slight pains began and the hemorrhage increased. Sometimes a severe pain would force out the tampon, and the bleeding would then increase. After the os was dilated to the size of a half-dollar, the placenta could be plainly felt covering about one-half the opening. The placenta came away without trouble after the birth of the child. During the three weeks following, the patient did very well; but one evening at the end of this time, after she had been sitting up in bed until she was tired, her husband took her in his arms and put her in a chair. She at once fainted, and it was long before she was restored to consciousness. She seemed never to rally wholly, but died the following day.

THE TREATMENT OF INTERNAL HÆMORRHOIDS BY INJECTION.

Dr. Q. A. Shuford, of Tyler, Tex., sends the following communication: "In the treatment of internal hæmorrhoids by submucous injection, it is necessary, in the first place, to have an instrument that can be introduced with the least amount of pain, and so constructed as to expose as much of the mucous membrane as possible. When a tumor is discovered, the speculum should be manipulated so as to bring the centre of the tumor into plain view, and the needle should puncture the pile at this spot, as it is here less sensitive than elsewhere. This requires a long needle, which should have a guard near the point, so as to prevent it from entering too deeply. For small tumors I inject from three to five drops, and for larger ones from five to eight drops of the following mixture: Rub well together one drachm of salicylic acid and one and one-half drachm of glycerine, and add two drachms of carbolic acid; then rub together one drachm of borax and one and one-half drachm of glycerine, and mix the two thoroughly, allowing the mixture to stand until clear. The chemical changes and *modus operandi* of this combination I do not know; but I do know that internal hæmorrhoids treated in this way become atrophied, shrink up, and peel off without pain, inflammation, or suppuration. I have never had any trouble nor heard any complaints from patients so treated. The two essential points in the treatment of internal hæmorrhoids are: first, an instrument that will bring the parts to be treated into view, and that without pain; and, second, a remedy that will completely destroy the pile, while leaving the mucous membrane in a healthy condition. An interval of from eight to ten days should be allowed to elapse between the injections, so as to give the mucous membrane time to become toughened. The injections cause almost no pain, and do not prevent the patient from pursuing his ordinary avocations." Dr. Shuford reports several cases treated after this method, and adds that he has treated nearly one hundred, of varying degrees of severity, and in none has he seen any inflammation or suppuration following the injections.

To Preserve Bichloride Solutions from precipitation, add seven and a half grains citric acid to each quart of the solution.

Progress of Medical Science.

Hydrastis Canadensis in Uterine Hemorrhage.—Hydrastis Canadensis, or Golden Seal, has been long used in this country as a pure bitter in atonic dyspepsia. The root of hydrastis contains berberin and hydrastin, both of which are believed to have a vaso-constrictive action on relaxed mucous membranes, thus ameliorating congestive states (*Boston Medical and Surgical Journal*). Professor Schatz, of Rostock, Germany, was the first to bring hydrastis prominently before the medical public as a uterine tonic. He contrasts it with ergot, which it resembles in its action, but he finds it efficient in cases of uterine hemorrage where ergot is powerless. In menor rhagia from whatever cause, in hemorrhages due to metritis and endometritis, to myoma, to incomplete involution of the puerperal uterus, he has found hydrastis invaluable. Professor Schatz's mode of administration is to give the fluid extract in twenty-drop doses four times a day, and not only when the hemorrhage continues, but also from one to two weeks prior to the time that the menstrual period sets in, especially in the congestive form. Since the publication of the paper of Professor Schatz, Professor Slaviansky, of St. Petersburg, has made some interesting experiments with hydrastin, from which he has found that this alkaloid has an ecbolic effect on pregnant animals (bitches and rabbits), and when given to parturient women it expedites labor. He puts the maximum dose of hydrastin at one-half grain. The latest contribution to the subject of the uses of hydrastis in uterine hemorrhage is by Dr. R. W. Wilcox, in the New York *Medical Journal*. His conclusions are based on the observation of the effects of this in fifty cases. In three of uterine fibro-myomata, in which he gave hydrastis for metrorrhagia, the flow was speedily checked. Persistent use of hydrastis (for months) was followed by considerable reduction in the depth of the uterine cavity and in the volume of the uterus. Wilcox concludes that hydrastis arrests the bleeding from fibromyomata by the production of anæmia of the uterine tissues, and he refers to the physiological experiments of Mays, which showed "that hydrastin in small doses increased blood-pressure, while causing vaso-motor contraction, cardiac inhibition, and anæmia of the alimentary mucous membrane. Mays observed also uterine contraction, even of the body and horns of the uterus." Fellner, moreover, in some experiments made in 1885 with fluid extract of hydrastis, noticed uterine contractions and anæmia of that organ. In seven cases of hemorrhagic endometritis, five being cases of endometritis fungosa, marked benefit was noted under the use of hydrastis. Dr. Wilcox remarks that "in endometritis fungosa, we have in hydrastis a sovereign remedy, even when curetting has failed to arrest the bleeding." Sixteen cases of subinvolution of the uterus were treated satisfactorily with hydrastis. Five cases of climacteric hemorrhage were also benefited by the same drug, and the same is said of nine cases of pelvic inflammation and three of congenital anteflexion. He gives the fluid extract of hydrastis in twenty-drop doses three or four times daily in a wineglassful of water.

Phosphatic Diabetes.—At a recent meeting of the Medical Society of London, Dr. Ralfe read a paper on this subject. He arranged his cases in groups according to the classification of Professor Teissier, who first gave a systematic account of the affection. Group 1. Excessive elimination of phosphoric acid associated with nervous derangements; three cases. Group 2. Excessive elimination of phosphoric acid associated with phthisis; three cases. Group 3. Excessive elimination of phosphoric acid alternating with saccharine diabetes; three cases. Group 4. Excessive elimination of phosphoric acid running a distinct course, like saccharine diabetes, only without the sugar; five cases. All the cases, with the exception of two, were young adult males. The symptoms common to all were great emaciation, aching rheumatic pains in loins and pelvic regions, dry, harsh skin, with tendency to boils, and ravenous appetite; in some cases cataract develops. In the majority there was polyuria; in others the urine was normal in quantity, with a high specific gravity. The urea was increased in some cases slightly, in others to a greater extent; but the great feature of all the cases was the very considerable and constant elimination of phosphoric acid, with or without increase of the other constituents of the urine—a feature which distinguishes it from insipid diabetes on the one hand, and azoturia on the other, with both of which it has been improperly confounded. The pathology, Dr. Ralfe thinks, depends not so much on increased metabolism of nervous matter as on defective nutrition, so that the tissues are not able to utilize the phosphorus brought to them, and consequently a greater amount passes through the system daily. In those cases in which an excessive excretion of phosphoric acid replaces saccharine diabetes, it is probable that acids like oxy-butyric-glycollic, etc., formed by imperfect oxidation of the sugar, dissolve out the earthy phosphates from the tissues, which appear in excess in the urine. As regards the prognosis in these cases, it is most unfavorable in the first two groups; country air, massage, cod-liver oil, may for a time do good, but the patients rapidly fall back, and either are carried off by some acute attack proving fatal in their exhausted condition, or drift on to phthisis, or into diabetes mellitus. The prognosis of the last two groups is much more favorable.—*The Lancet.*

Comparative Virulence of Tuberculosis and Scrofula.—At a recent meeting of the Académie des Sciences, M. Arloing made some remarks on the virulence of tuberculosis and scrofula. He had already shown that pulmonary tuberculosis infected guinea-pigs and rabbits, while true glandular scrofula had no effect on the latter animal. M. Arloing now inquired whether the virulence of scrofula might not be increased to such a degree as to permit the infection of both these animals. Experiment proved that the passage of scrofula through two generations of guinea-pigs did not increase its virulence in respect to the rabbit, and did not perceptibly modify its action upon the guinea-pig itself. The organism of the guinea-pig, on the other hand, augmented the virulence of the weakened tuberculous virus. This fact shows that there is a decided difference in the two diseases, although it has not yet been proved that they are caused by two distinct kinds of virus.—*British Medical Journal.*

Orchitis in a New-born Child.—Dr. Reid writes as follows in the *Australasian Medical Gazette*: "The child was brought to me on November 20, 1886. The mother said it always had a cold (snuffles), and that the woman in attendance at the birth noticed the left scrotum large, but said it was nothing. There were ulceration at the navel, slight bronchitis and thrush, with snuffles to a small extent. The scrotum on the affected side was congested at parts, boggy in feel, and very slightly, if at all, tender, as if containing fluid, opaque, and the testicle was enlarged uniformly to about once and a half the natural size. Under mercurial inunction testicle and scrotum reached their natural size on the 25th. On the 26th, change of weather metamorphosed the bronchitis, which they refused to have treated, into broncho-pneumonia (catarrhal pneumonia), and the child, at the age of fifty-five days, died at midnight from exhaustion. There was no autopsy. The parents have been healthy, and the brothers and sisters, although pasty in appearance, have never exhibited signs of syphilis. The teeth are slightly notched in some of the children. A brother survived a severe attack of typhoid complicated with pneumonia, but uninfluenced by mercurials. Mother's brother (uncle) was treated for over a year for psoriasis of the leg, which

yielded to anti-syphilitic treatment with chrysophanic acid locally applied. He denied ever having had connection, and his age is twenty-three. Thus, if the disease is syphilitic, which I believe it to be, from the uniformly enlarged, hard testicle and the presence of snuffles, it must be the product of latent syphilis, just as that of its uncle was. From the life of the uncle, J. A. F——, I have reason to believe his statement, and also his assertion when he said he never suffered since childhood. There was no known cause of injury; the labor was natural."

Urinary Infiltration.—Dr. Picard states that the prognosis of any given case of urinary infiltration is to be based upon the quantity and quality of the infiltrated urine, the extent of the infiltration, and the general condition of the patient (*St. Louis Medical and Surgical Journal*, April, 1887). The larger the amount of urine, the worse the condition; the more dense it is, the greater will be the irritation it causes; although less than if ammoniacal, as it will then prove septic. If the involvement be rapid, it shows that the urine came in a forcible stream, and this implies a laceration of tissues. The treatment of urinary infiltration consists of evacuating the urine and re-establishing the normal canal. To accomplish the first purpose, the writer recommends an incision in the median line of the perineum, encroaching somewhat upon the scrotum and continued up to within a half inch of the anus. The tissues to be incised are: the integument, the subcutaneous connective tissue, and the superficial fascia. Secondary incisions are also to be made, not deeper than the cellular tissue. Portions of necrosed tissue will accompany the escape of the fetid urine, mixed with sanious pus. Antiseptic dressings are to be applied. In about two weeks or a month the question of re-establishing the normal canal may be considered. Efforts should not be made before this, because the disturbances caused by the urine have not disappeared, and any attempts on the urethra might be attended by a chill, fever, and even septicæmia or purulent infection. As to the method of restoring the urethra to its normal calibre, the surgeon must decide for himself. Progressive dilatation or internal urethrotomy will give good results, if used firmly and judiciously. Cases that appeared to be hopeless at first will become entirely well if the urinary infiltration is properly managed before any surgical interference is brought to bear on the urethra.

The Nature of Coma.—Dr. Mercier has recently published an interesting paper on this much-discussed topic. *The Lancet* of March 5, 1887, comments as follows upon it: "Dr. Mercier accepts, with one slight modification, Mr. Savory's definition of coma, as a 'state of insensibility from which the patient cannot be completely aroused, together with a tendency to death, chiefly by asphyxia,' the modification being the substitution of the phrase 'evidence of defect of consciousness' for the term 'insensibility,' as being more correctly descriptive of a state in which it is impossible to determine whether or not consciousness is absolutely lost. He points out that the failure of respiratory power is due to the same condition of powerlessness and loss of muscular tone that pervade the whole organism in the comatose state. The skin is relaxed and flaccid, the pulse is full and soft, the bladder contracts sluggishly, the pupils may have lost all power of contraction, and all the limbs are paralyzed, the muscles being quite flaccid. The comatose patient is not inert because he is unconscious, but because he is actually paralyzed. The cardiac muscle alone does not share in this universal paresis. From this condition of complete coma to that pre-comatose period marked by the slightest mental confusion and bodily weakness there are all gradations, as may be seen, for example, in alcoholic poisoning. The phenomena of drunkenness in all its stages exhibit an unbroken chain of gradually deepening lesion of the higher cerebral functions, which enable us to trace the relations of the condition we call coma to the slight perturbations and deviations from the normal condition that mark the earliest changes due to the action of the poison on the brain. As Dr. Hughlings Jackson has pointed out, the paralysis is first that of a loss of movements rather than of motion; the more elaborate actions go before the coarser; the breathing fails before the heart, and the accessory parts of the breathing apparatus fail before the fundamental. It consists in 'a long process of degradation, the last point of attack being the heart, and the penultimate the breathing.' Incidentally Dr. Mercier indicates a pathognomonic sign of true coma, which depends on this loss of muscular control, and that is the movement of the eyes independently of one another. As with the bodily so with the mental functions. The progress of coma is marked in the one as in the other by a gradually increasing enfeeblement. At first there is difficulty in performing delicate mental operations, and then inability for any coherent thought, and, lastly, evidence of loss of consciousness; no response to impressions from without, no evidence of response to impressions from within. And this coincides with the relaxation of muscular tone, the ataxia passing into paralysis; so that the power to execute voluntary movement fails *pari passu* with the failing intelligence, and suggests overwhelmingly the inference that both mental and bodily defect are due to the same lesion. And, it is pointed out, the whole organism is affected—evidence, again, that in the highest centres of the brain we have to do not with any specialized and circumscribed areas of 'localization,' but with a region where the various parts of the body are all represented in some degree, the region of consciousness and of the organism as a whole. Dr. Mercier implies that in the modern doctrine of 'nerve-centres' we run a risk of losing sight of this fact or principle, that the whole organism is represented, and therefore to a certain extent controlled and knit together through the highest nerve-centres—a principle which is so clearly manifested in the phenomena of coma, and just as clearly in the phenomena of insanity. For insanity is linked with defects in the nutrition of the body; it runs its course, both as regards mental faculties and bodily functions, in the same direction and with the same pathological sequence as does coma, in which it often finally terminates. But if coma be a form of insanity it is a 'fulminant' form; and if insanity be expressed in the terms of coma it would be that it is coma long drawn out. The underlying principle in Dr. Mercier's argument is that the higher brain centres, where consciousness is aroused by impressions from within and without, and where the will is born of intelligence, and action expresses the response of the conscious will to the environment—that there, where all the bodily functions must be represented, is the seat of the lesion that suddenly or gradually breaks the chain between the individual organism and its surroundings, and may profoundly affect those functions which, under the control of the nervous system, are essential to the life of the organism. Possibly this region is conterminous only with the whole of the cerebral cortex; but this does not detract from the suggestiveness or truth of the proposition that 'whether in origin, or in cause, or in termination, coma and insanity are pathologically and symptomatically identical, and the only important difference between them is the difference in duration.' They each illustrate the law of dissolution."

Dying at the Ebb of the Tide.—The *Medical Press* says that a physician living on the seaboard thus writes to a paper: "Within the last five years, in a district embracing sixty square miles or so by the sea, I have noted the hour and the minute of no less than ninety-three demises in my own immediate practice, and every soul of them has all gone out with the tide, save four who died suddenly by fatal accident."

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THE NAVAL MEDICAL SERVICE.

FROM time to time attention has been drawn in some of the medical journals to the undesirableness of the naval medical service as a career for physicians.

Although many of the articles upon this subject have been somewhat highly colored, it is only too true that the compensation offered by the Government is disproportionate to the requirements of the service, which are so great (and necessarily so, if the medical officers of the navy are to be more than mere place-holders) that it has been impossible for some years to supply the natural waste of the corps from the material presenting itself for examination.

It cannot be surprising that young men of good attainments, who have shown themselves to be worthy members of a serious profession, should object to entering a service in which their merits receive such scant recognition. The "relative rank" given them is the lowest possible, and they are forced to live in a "steerage," the discomforts and complete unfitness of which, for a man intrusted with important duties, are difficult, for one who has not had the experience, to realize.

The steerage stage is over in three years, and then, if they successfully pass their examinations for promotion, comes a period of weary waiting for dead men's shoes before the grade of surgeon is reached; at the present rate of promotion this finds the "passed assistant" about forty years old, having lived during this time on the small pay allowed that grade, practically less than that of an acting volunteer assistant surgeon in the army. It can hardly be supposed that Congress intended that this should be, since promotion was very much more rapid when the present pay-table was made than it is now.

The position of the younger medical officers waiting for their promotion is not made more pleasant by the contrast between themselves and their army *confrères* who have a satisfactory status in the service, and receive a compensation that naval surgeons would be glad to exchange for their own.

The army medical officers have undoubtedly managed things better than their brothers afloat, but the latter can hardly be accused of apathy or lack of effort to improve their condition.

The obstacles that naval surgeons have had to contend with and against which their struggles have so far been futile, are, in the first place, the smallness of the corps, which at the present writing contains only one hundred and seventy-three members, and their enforced isolation from the mass of the profession, with whom, from the nature of their duties, they can rarely come into intimate contact. Consequently their colleagues on shore almost lose sight of them, and allow them to work out their own salvation.

Another reason why they have fared so much worse than those of the army, is that the traditions of the navy —which was originally modelled upon the English navy system, when the aristocratic idea that it was beneath the dignity of gentlemen to engage in the practice of medicine prevailed—are all strongly inimical to staff officers, and have prevented them from obtaining substantive rank. This means much more than the mere satisfaction of the desire for sounding military titles, as anyone at all familiar with the working of a military organization will readily understand. In this respect our navy has fallen behind, not only our own army, but even its original model, the English navy, in which the position and pay of medical officers are relatively much better than in our own.

The terms "combatant" and "non-combatant" officers, which are persistently employed by the line, with the view of making a sharp distinction between themselves and the staff, and thus preventing the acquisition of substantive rank by medical officers, are illogical and misleading ones. Either every man who performs services essential to the efficiency of a fighting organization, and exposes his life in action, is a combatant in the broad sense of the word; or, if the term is to be limited to those who actually do the killing, the men who pull the triggers and lock-strings are the only combatants. Indeed, the fighting strength of a force is often estimated by the number of "muskets" in line ot battle, none of the officers being reckoned at all.

The records of the war show that the loss of life in action was proportionately much greater in the medical corps of the navy than in the line or any other staff corps.

Surgeons in the navy are subjected to exactly the same regulations and discipline as those that govern the line, rule their departments by military law and methods, incur the same perils in war, greater ones in peace, and are yet deprived of many privileges and subject to many galling distinctions because they do not have the substantive rank that army surgeons enjoy.

The medical officer who is killed in battle in the discharge of his duty is docked of part of the military funeral honors that are paid to his comrade of the line, and this childish and ungenerous distinction is kept up for no better reason apparently than that it wounds, or is supposed to wound, the *amour propre* of the staff.

If Congress would grant to naval medical officers that which they have already given to those of the army, such distinctions, many of them more substantial and harassing than the one above mentioned, would fall to the ground, and the struggle between the factions would cease, as the experience of the army has shown.

To those who read the bitter complaints of the English army medical officers, which are now appearing in their medical journals, *à propos* of the recent abolition of even their shadowy "relative rank," it should be ap-

parent that actual rank is almost a necessity of military life, and that all officers who are of a military organization without it feel constantly and keenly the need of the well-defined status that only such rank can give.

The surgeons who go into action with the first line of infantry, or gallop with their regiments wherever they go, if serving with cavalry, as their instructions require them to do, know that they should have this rank, or else, if they are "civilians," as some of the line contend, not be compelled to put their lives in jeopardy, or be subject to military law and discipline.

It is more than probable that the English army medical staff will finally gain its point, for behind it is the active interest of the medical profession and their most influential societies and journals, which must in the end, make itself felt in Parliament. With anything like such support from the profession at large in this country, the rightful claims of the medical officers of the navy could hardly fail to be granted, and these claims are simply that they shall be placed on the same footing and receive the same compensation as those of the army.

That members in good standing of a liberal profession should be in a position so unsatisfactory, in one of the principal services of the Government, is a reflection upon that profession that should, if the facts are ever generally known, excite interest enough in its members at large to induce them to use their great influence with Congress to improve this condition. Meanwhile naval surgeons must possess their souls in patience, for without the aid of their professional *confrères* outside of the service, their struggle upward must be a hard, and, for a long time, almost a hopeless one.

OUR NATIONAL HOLIDAY: A TIMELY SUGGESTION.

As that day approaches on which the irrepressible American small boy gives free vent to his enthusiasm, while at the same time his toy-pistol lodges sundry foreign bodies in various parts of the anatomy of self and friends, a word on the appropriate treatment of those small, but by no means unimportant, injuries which attend the Fourth of July may not be out of place.

The frequency of these injuries is within the knowledge of every practitioner in city or country—so, also, the fact that in a certain proportion of cases septic processes—cellulitis, septicæmia, pyæmia, or tetanus—complicate the wound.

The first is by no means rare, while the mortalities presented by the daily press during the month of July headed, "The Deadly Toy-pistol," show that the latter are far too common.

These wounds are small, but their treatment is a matter of importance, and should be carried out as follows:

As soon as possible after the receipt of the injury the parts about the wound should be thoroughly cleansed with an antiseptic solution of sufficient strength, preferably the bichloride of mercury, one part in one thousand. A free incision should then be made at the site of the wound to its bottom, all foreign bodies removed if possible, the bottom and sides of the wound thoroughly *scrubbed* out with the bichloride solution and loosely packed with gauze wrung out in the same. The dressing should be changed often, say, twice a day at first, and the wound will quickly close. The injection of a few drops of the four per cent. solution of cocaine will allay pain and permit thorough procedure.

Under the "expectant" plan of treatment cellulitis will generally reward expectation; if the antiseptic measures described above be sufficiently radical it cannot develop, but, as in all antiseptic surgery, success depends on the degree of thoroughness with which the details are carried out.

News of the Week.

NINTH INTERNATIONAL MEDICAL CONGRESS.—The Executive Committee of the Ninth International Medical Congress held a full and harmonious meeting in the Palmer House, Chicago, on the 6th and 7th inst. Full reports were made by sub-committees and the chief officers of the Sections, which showed a most satisfactory degree of progress in all the necessary arrangements for a large and successful Congress. The several Sections are well organized, and for the most part with arrangements for an abundance of scientific and practical work of importance, furnished in fair proportion by parties of reputation in other countries. The local arrangements at Washington are also rapidly maturing, and include not only the best possible accommodations for the regular work, but a series of appropriate entertainments and probably an excursion for the foreign guests to Niagara Falls and return to New York, after the close of the Congress. An outline of the whole programme will soon be given to the public.—*Jour. of Am. Med. Assn.*

DR. SENECA D. POWELL has been elected Professor of Clinical Surgery in the New York Post-graduate Medical School and Hospital.

THE RETREAT FOR THE INSANE at Hartford, Conn., in publishing its annual report classifies its patients according to the etiology of the disease. Such a method gives a much better idea of the kind of cases than the older symptomological classification commonly used.

BRAIN TUMOR AND ALCOHOLIC COMA.—Three young internes of the Newark City Hospital have received a very severe lesson. A patient was brought to the hospital comatose. He was thought to be suffering from alcoholism, and he was treated accordingly, being given a douche and strong cutaneous irritation. The patient died, and on autopsy there was found a tumor of the brain. A coroner's jury investigated the case, and the internes were thereupon arrested for manslaughter.

THE VIRGINIA STATE MEDICAL SOCIETY is to meet at Richmond on October 19, 1887.

HARVARD MEDICAL COLLEGE.—Dr. C. B. Porter has been appointed Professor of Clinical Surgery, and Dr. J. C. Warren, Associate Professor.

THE USE OF OPIUM IN COUNTRY TOWNS.—Dr. Henry Boynton, of Woodstock, Vt., in a recent address on alcohol and opium, said that the use of opium was increasing in that locality. The four druggists report sales of opium in a year sufficient to make one hundred gallons of laudanum. This is the equivalent of one hundred and sixty-seven ounces of morphine. Of this whole amount only *five per cent.* is sold to physicians.

Jubilees and Medical Journals.—The *Hospital Gazette and Students' Journal* is, we believe, the only successful students' medical journal in existence. The June 4th issue comes to us with a jubilee supplement.

Do not Speak Lightly of a Physician.—A suit was recently tried in Brooklyn, which shows that it is not always safe to speak lightly of a physician. Dr. W. J. Cruikshank recovered a $1,600 verdict, in his suit for $50,000 damages, against William Gordon, the trial of which was brought in the Supreme Court. The doctor asserted that Mr. Gordon went to the mother of a child he was attending, and urged her to secure another physician without delay, as, in his opinion, Dr. Cruikshank had not the skill necessary to attend a sick dog.

Professor Billroth's Recovery from an alarming illness has been the subject of wide congratulation. "Billroth's popularity," says the *British Medical Journal*, "is due, of course, in the first place, to the combination of exquisite operative skill with scientific culture of the best and widest kind, which makes him almost a unique figure in contemporary surgery. His professional gifts and acquirements are, however, largely aided by social graces of a sort not usually associated, in this country at any rate, with eminent surgeons. Billroth is a piano-player of repute, and is, or perhaps we should say has been, almost as agile a performer with his feet in the ball-room as he is with his hands in the operating-theatre. He is, in fact, quite one of the social stars of the imperial city, a position which he owes quite as much to the charm of his manners as to his celebrity. His purse is always open to private as well as public charity. The enthusiastic devotion of his pupils is founded not altogether on his success as a teacher, but also on many acts of individual kindness, all the more appreciated that they are known only to the recipients."

The Abuse of Medical Charity.—We are requested by the Executive Committee of the German Dispensary to publish the following: "June 9th we sent to the office of the Charity Organization Society the name of a patient, for investigation, who had presented herself and child at the skin department for gratuitous treatment, stating that she was unable to pay a doctor. Two days later we received the following report: 'Man very indignant at wife for taking child to dispensary. Told visitor it was done in his absence; has a large business and is abundantly able to pay.'"

Druggists, Dentists, and Doctors.—Massachusetts compels the registration of pharmacists, and recently the legislature passed a law providing for the registration of dentists, but the doctors are left alone.

Malaria and Tobacco.—A Western medical writer has discovered a new and dangerous source of malaria to be the cigar made of tobacco grown in malarial regions. He thinks the recent invasion of the New England States by malaria due to the increased use of Southern-grown tobacco and Southern-packed cigars.—*American Practitioner.*

The Latest Results of Yellow Fever Inoculations communicated by MM. D. Freire, Paul Gibier, and Ribourgeon to the Académie des Sciences, show that among 6,554 persons inoculated the mortality from yellow fever is 1 per 1,000; among those not inoculated, 1 per 100.

Medical Men and the Press.—A recent decision in the French courts shows that in France, at any rate, a somewhat stricter check is placed on journalistic indiscretions when medical men, or their practice, is impugned than obtains here. The *Echo de l'Est*, having announced that a certain person had succumbed to the effects of an operation performed by Dr. Bernard, of Thiaucourt, this gentleman brought an action for libel. The Court of First Instance called upon the writer of the incriminated paragraph to furnish proofs in support of his allegation, but, on appeal, this decision was reversed and the journal was ordered to pay £400 damages, on the ground that the subject matter "was based on a fact of an essentially private nature, altogether outside public discussion, and not amenable to journalistic criticism." The proprietors of the journal will doubtless show a little more caution in future in receiving and publishing items of news reflecting on the reputation of medical men.—*Medical Press.*

Jersey City Hospital.—Six physicians on the visiting staff of the Jersey City Hospital have handed in their resignation to the Police Board of Jersey City, the cause of this action being the interference of the latter Board in increasing the staff by the appointment of eight additional physicians and surgeons. This leaves only two members of the old Medical Board, Dr. Reeve and T. R. Varick.

Appointment of Hospital Physicians in Chicago.—The Board of County Commissioners has recently removed the appointment of the attending staff of the hospital from the domain of politics. It has voted the present staff shall remain during good behavior, and that any vacancies in its membership shall be elected by an Advisory Board of five medical men, whom it has appointed. In case of a vacancy, the staff is to nominate three persons, from whom the Advisory Board is to elect one. The Advisory Board, as at present constituted, has a representative from each of three regular medical colleges.—*Medical News.*

The Prince of Wales and the Typhoid Fever.—Sir William Gull spoke recently of his disbelief in drugs, and referring to the share which he bore of the responsibility of conducting the treatment of the Prince of Wales' attack of typhoid fever, stated that during the whole illness his Royal Highness did not take four doses of medicine. To which a country practitioner replies, in *The Lancet*, "But what if the Prince's illness had been rheumatic fever or malarial fever caught in India (supposing his Indian tour to have taken place), would Sir William still have withheld all treatment by drugs—salicylates in the one case, quinine in the other? I will do him the justice to say I do not believe he would. But is it a fact that the treatment of the Prince consisted entirely in guarding him from interference with the powers of nature, and in keeping him in a warm bed? Was not alcohol freely administered? I do not know; but this I do know, that Sir William regards a full dose of alcohol, two ounces or even four ounces of brandy if necessary, at bed-time, as the best sedative for the nocturnal restlessness accompanied by delirium which oc-

curs in typhoid; and I would ask what is alcohol administered in this way but a drug?"

Increased Mortality in New York.—During the three months ending March 31, 1887, there were 35 deaths from small-pox, 572 deaths from measles, against an average of 219 deaths during the same period in the previous five years. Of diphtheria there were 559 deaths, against an average of 379 in the same period; of croup 313 deaths, the former average being 232; 141 deaths from scarlatina, against 134 in the same period last year; 62 cases of typhoid, against an average of 52 cases for the previous five years, and 592 of bronchitis, against an average of 520. All these point to an increasing proportion of mortality from the most destructive ailments. The deaths of children under one year and those between one and five years are as follows:

	1887.	Average for five years.
Deaths under one year.....	2,088	1,904
Deaths between one and five years ..	4,098	3,611

Increase in deaths under five years nearly ten per cent. —C. F. Wingate, in *Morning Journal.*

A New Sword-Handle.—Professor Braune, of Leipzig, after a thorough investigation of the mechanism of the hand, has constructed a new sword-handle on anatomical principles which exactly fits the hand, and can be held with absolute security. It is expected that this improved sword-handle will be found very useful, especially by cavalry.

The Doctor's Income.—Continuing the discussion upon this subject Dr. Paget Thurston says that the trouble is not in want of patients, but in the low rates of fees. We can quite believe this, for Dr. Thurston says that in England ten per cent. of patients pay 5 shillings ($1.25), ten per cent. pay 60 cents to $1.25, while eighty per cent. pay such fees as no doctor or educated gentleman can possibly live on, the average for union, club, and dispensary patients being 10 to 15 cents.

Exhibition of Surgical Apparatus.—The Surgical Section of the International Congress of Science and Industry, which is to be held in Brussels next year, has given notice that instruments and apparatus of the following descriptions will be specially acceptable: (1) Apparatus for the treatment of spinal curvature; (2) materials for dressings; (3) gynecological instruments; (4) instruments for diseases of the urinary tract; (5) instruments for the treatment of glandular enlargements in the pharynx; (6) laryngological apparatus; (7) apparatus and dressings for antiseptic operations on the eye; (8) apparatus for the measurement of the acuteness of hearing.

Bacteriological Laboratories in Siberia and Russia.—The Medical Society of Irkutsk, the capital of Eastern Siberia, will soon have a bacteriological station in this city of forty thousand inhabitants. The Kharkov Medical Society has received from the Kürsk Government Assembly 1,500 roubles to establish a bacteriological laboratory in Kharkov, and will receive 700 roubles yearly to support the establishment.

A Mental Healing Convention was held in Boston recently, when the claims and purposes of "Christian Science" were set forth. The chief orator of the occasion was the Rev. Cyrus A. Bartol, who, according to report, spoke with beautiful and well-chosen vagueness of the general progression from the grosser to the finer, from allopathy through homœopathy to the mind cure, concluding with the old fatalistic doctrine that a man could not die until his object in life was accomplished.

English and German Throat-Doctors.—German laryngologists will be pleased to read the following from the London correspondent of the New York *Times*, who says: "I met Dr. Morell Mackenzie, who is the medical hero of the hour, shortly after his return from Berlin with his blushing honors thick upon him. There is a touch of the college professor about him and a gleam of geniality not unlike that of Oliver Wendell Holmes. The impression he made in Berlin by his cool and sensible view of the real ailment of the Crown Prince's throat, and the radical error that he pointed out in the German opinion of the case, that the disease was not a cancer, have been received here almost as a national compliment to English medical skill."

Women as Dentists.—In the Pennsylvania Dental College there are nine women enrolled this term as students. In the Philadelphia Dental College twenty-six have been graduated in the past, and in the present class there are seven enrolled and two or three others attending occasionally. The Baltimore College graduated three women and then refused further admission, nor will they to-day admit women as students.

Chicago has no Ambulances, according to the *Chicago Mail*, and recently a gentleman, taken suddenly ill, was taken home in an undertaker's coach, that being the best substitute for an ambulance at hand.

An Easy Method of Preventing Sea-sickness.—Professor William James writes to the *Boston Medical and Surgical Journal*, suggesting that by counter-irritation over the mastoid processes, sea-sickness may be prevented. He was led to this idea by his experiments with deaf-mutes, whom he found to be singularly exempt from sea-sickness. In his own case, Professor James thinks that he prevented an attack by simply using friction over the mastoid processes.

Obituary.

WOOLSEY JOHNSON, M.D.,

NEW YORK.

Health Commissioner Woolsey Johnson, M.D., died of Bright's disease at the New York Hospital, on June 21st, after a protracted illness. Since the death of his wife, two years ago, Dr. Johnson became much prostrated in health, but until within a few months manfully attended to his duties as Health Commissioner. For many years he had been attending physician to the New York Hospital. He was also a surgeon of the Eye and Ear Infirmary, and was a member of the County Medical Society, the Academy of Medicine, the Laryngological Society, and the Physicians' Aid Association. He was graduated at the College of Physicians and Surgeons in 1863. He was also a graduate of Princeton College. His age was forty-five. He became Health Commissioner in 1881, and was holding over until the appointment of his successor.

Reports of Societies.

AMERICAN ORTHOPEDIC ASSOCIATION.

First Annual Meeting, held in New York, June 15 and 16, 1887.

Wednesday, June 15th—First Day.

The Association met at the New York Academy of Medicine, and Dr. V. P. Gibney, of New York, was elected President, *pro tem.*, and Dr. Lewis Hall Sayre, of New York, Secretary, *pro tem.*

The constitution and by-laws are so framed that permanent officers are elected on the last day of each annual meeting.

The Secretary acknowledged the receipt of responses from several gentlemen concerning becoming members of the Association, and one resignation, that of Dr. Lewis A. Sayre, of New York, who believed that the Association should be a part of the Section on Surgery of the American Medical Association.

members in attendance.

Drs. Thomas G. Morton, of Philadelphia; Newton M. Shaffer, John F. Ridlon, Charles F. Stillman, of New York; A. Sydney Roberts, of Philadelphia; George B. Packard, of Hartford, Conn.; Dillon Brown and H. Ling Taylor, of New York; John C. Schapps, of Brooklyn; Henry Hodgen, of St. Louis; A. B. Judson, Samuel Ketch, C. W. Stimson, Henry W. Berg, George S. Knickerbocker, and V. P. Gibney, of New York; E. H. Bradford, of Boston; Lewis Hall Sayre, W. B. DeGarmo, and E. Develin, of New York.

congenital occlusion and dilatation of lymph-channels.

Dr. George B. Packard, of Hartford, Conn., reported a case of the above affection occurring in a child, five years of age, and involving the right lower extremity. There was no evidence of a syphilitic history. The mother was the subject of phthisis, and although the father was healthy, there was phthisis in his family. Whooping-cough was the only disease the child had had. It could walk well at the age of three years. But the difference in size between the two limbs was very apparent, and the diseased one was three-fourths of an inch the longer. The hypertrophy involved all the tissues of the limb, and partially the same side of the body. The joints and skin were apparently normal. There was some enlargement of the inguinal glands. One month ago the affected limb was three inches longer than the other, and there had been a corresponding development in size. There had never been any inflammatory condition of the skin. Dr. Gibney, of New York, saw the case in consultation; corroborated the diagnosis of congenital occlusion with dilatation of lymph-channels, and advised amputation, which was done three weeks ago, and fourteen inches removed. On examination the blood-vessels were found to be normal, the lymph-vessels enlarged, and three or four times the natural size; also the bones, the muscles, and the cellular tissue hypertrophied.

The points of interest were: (1) The increased length of the bones, and (2) the comparatively healthy condition of the skin.

Dr. H. Ling Taylor, of New York, referred to a case which he thought might possibly belong to this class. The patient was a Swedish girl, twenty years of age, whom he saw first about two years ago. The enlargement of the limb was chiefly between the ankle and knee, and the skin did not seem to be involved. The thigh and the side of the body were somewhat larger than they should be.

Dr. T. G. Morton, of Philadelphia, had seen one case in which there was marked increase in the size of the limb, and he

stretched the sciatic nerve thoroughly,

just as it emerges from the pelvis, with the result of so affecting nutrition as to diminish the size very much. He thought that this procedure might be adopted before re sorting to amputation. The first cases in which he operated in this manner were two of *elephantiasis*, several years ago. In one case he removed an inch of the sciatic nerve, and the limb diminished in size one-half, and the skin became perfectly soft. The patient died of phthisis. In the second case he divided the nerve, but would not do it in other cases, but would stretch it by preference.

Dr. N. M. Shaffer, of New York, had seen unilateral difference in the growth of bones, especially with regard to the tibia and radius, and he had often wondered as to which was the normal side. He would suggest the possibility of central origin.

Dr. Henry W. Berg, of New York, said that enlargement of the lymphatic glands in the abdomen might give rise to closure of the lymphatic ducts and thus produce

hypertrophy of the right leg.

But any interference higher up would probably give rise to hypertrophy on both sides. He believed it to be fair to presume that an adenitis could close the ducts sufficiently to produce a condition analogous to that described by Dr. Packard.

Dr. T. G. Morton, of Philadelphia, exhibited

an instrument for treatment of club-foot

in cases which do not yield to manipulation, adjustment of light apparatus, and, further on, the division of tendons and fasciæ. After the division of tendons and fasciæ the question of correcting the deformity was often a very difficult one to meet, and his apparatus was designed to give assistance. It consisted of a block of wood upon which were arranged pads, bars, and screws, by means of which the tarsus could be forced into position while the patient was under the influence of ether.

He never uses it, however, where

excision of the cuboid

can be practised. He believes that excision of the cuboid gives, in these old cases of rigid tarsus, better results than can be obtained by any other method of treatment.

Dr. J. F. Ridlon, of New York, asked if Dr. Morton had found the smaller of his instruments, for instance, sufficiently powerful to overcome the resistance offered by the internal lateral ligament, when it is shorter and stronger than normal, as it is frequently, without division of the bands.

Dr. Morton said that he used the apparatus whenever he was unable to rectify the deformity by manipulation, as, for example, some of the worst cases were those in which proper manipulation had not been practised after an operation. He would divide everything in such cases that offered resistance, then place the foot in the apparatus and force it into position, and do the whole at one operation. The dressing consisted of a tin splint, carefully padded, in which the foot was allowed to remain undisturbed, and he had not seen any untoward symptoms attend the method of treatment.

Dr. Shaffer, of New York, said that some years ago he felt very much as Dr. Morton had expressed himself concerning the inveterate character of a certain number of cases of club-foot, where the foot is tender and the tissues sensitive, etc. In the majority of these cases, however, where most surgeons would operate at once, he had been able to effect complete

cure by means of traction.

Not that every case could be cured by traction, but that many which have been condemned to osteotomy or tarsot-

omy, he had seen yield to it. What he would claim for traction is that the loss of time in treatment is compensated for by the *symmetrical feet* obtained as the result. He was ready to perform tenotomy or osteotomy when antero-posterior and lateral traction failed.

Dr. Morton would not use his forcing instruments in children under six or seven years of age. He referred more especially to the use of the instrument in young subjects, as an aid to the hand. In the adult subject, with a dense, unyielding foot, he had regarded it as absolutely impossible to give any benefit without the use of force, and by means of his large apparatus he had been able to materially shorten the duration of treatment.

Dr. Lewis Hall Sayre, of New York, exhibited a patient on whom he had divided the tendo-Achillis and the plantar fascia in

A CASE WHICH HAD RESISTED MECHANICAL TREATMENT.

The case was one of talipes following infantile paralysis, and the operation was performed two weeks ago. The dressings were removed, and the foot was found in excellent position.

Dr. Ketch, of New York, while he recognized the good result obtained by operative treatment, entered his protest against the case being reported as one in which mechanical treatment had failed; for, one year ago he applied Shaffer's extension and traction shoe, with tenotomy reserved as a further measure if necessary; saw the patient twice only, and had not seen him since. Practically he had found that treatment by traction could not be trusted to parents, and he thought it unfair to bring the case forward as one illustrating the inefficiency of mechanical treatment. He was quite confident that the heel could have been brought down without tenotomy.

Dr. Ridlon asked Dr. Sayre if he was satisfied with the result of bringing the flexion to a right angle.

Dr. Savre said he was satisfied with the result thus far obtained, but that treatment must be continued to carry flexion as far beyond a right angle as might be, and then watch the case to see that the deformity does not return.

Dr. H. Ling Taylor suggested the appointment of a committee to investigate and report on the subject of "point pressure" and division of contractured tissues.

Dr. A. Sydney Roberts, of Philadelphia, thought that more permanent results could be obtained by extension and traction than by division of tendons and fasciæ. He cited a case in which positive relapse occurred after an apparent cure by operative procedure.

Dr. C. F. Stillman, of New York, believed it to be important in almost every case to put the patient through a course of

PREPARATORY TREATMENT,

consisting of rest in bed, perhaps, for some weeks, with the application of thick poultices, which would greatly increase the pliability of the tissues and facilitate operative measures and after-treatment. He regarded *after-treatment* as the most important of all, for upon its thorough application depended the completeness of the cure. To accomplish the last satisfactorily, some kind of mechanical appliance was almost always necessary.

The discussion was continued by Drs. Morton, of Philadelphia, and Stillman, Shaffer, and Berg, of New York.

Dr. V. P. Gibney, of New York, presented two patients illustrating

OSTITIS OF THE SHOULDER,

attended by false anchylosis. In the first case the arm in 1881 was one inch smaller than the well limb, and in 1884 one inch and a half. There still remains some atrophy, but during the past year the arm had increased in size and was quite useful.

In the second case there was marked atrophic changes, but improvement had taken place after *brisement forcé*, which also had been practised more than once in the first case.

Dr. Ridlon, of New York, cited a case which led him to the belief that recovery may take place in some of these cases under the thorough use of mercury.

Dr. H. Ling Taylor, of New York, reported a case of

POTT'S DISEASE, WITH AN UNUSUAL DEFORMITY,

mainly lateral, from the beginning, with two knuckles in the spine, one at the eleventh dorsal, and the other at the third or fourth lumbar vertebræ. The points of interest in the case were the extreme lateral distortion, with angular curvature at two points, and the prompt rectification by means of the antero-posterior splint.

Dr. Ridlon, of New York, had had a similar case, which he treated successfully by means of the antero-posterior support combined with the plaster of Paris.

Dr. Ketch, of New York, thought that lateral deviation was not uncommon, and in the early stages of the disease he thought that it might be expected almost always, especially when the lower part of the spine was affected.

Dr. Shaffer, of New York, had regarded extreme lateral deviation as one of the best guides in diagnosis of Pott's disease low down.

Dr. Stillman, of New York, mentioned a case that confirmed Dr. Shaffer's statement.

Dr. Henry Hodgen, of St. Louis, referred to a case which illustrated the principle in Dr. Taylor's case, and it was the only one which he had seen where there was any recession of the deformity.

Dr. A. B. Judson, of New York, exhibited an

ISCHIATIC CRUTCH,

the description and illustration of which appears in full in The Medical Record, page 721.

Dr. T. G. Morton, of Philadelphia, then made some remarks with reference to

ANCHYLOSIS OF THE KNEE,

whether osseous or where there was a slight amount of motion. The point in treatment to which he directed special attention was *suturing the femur and the tibia* with the largest catgut, after removing the wedge-shaped portion of bone corresponding to the angle of the deformity. In three cases he had secured immediate union of the soft parts and of the bones without separation or suppuration. The suturing obviates the use of any lateral support. The safest dressing is a plaster-of-Paris posterior splint, fairly moulded to the limb, and a retentive bandage.

The communication was discussed by Drs. Shaffer, Ketch, and Stillman, of New York.

The Association was entertained at the Casino in the evening.

Thursday, June 16th—Second Day.

The first order of business was the discussion on Dr. Judson's *ischiatic crutch*, which was participated in by Drs. Gibney and Stillman, of New York, and Dr. Roberts, of Philadelphia, all speaking in commendation of the instrument.

Dr. A. Sydney Roberts, of Philadelphia, exhibited

A PLANTAR SPRING FOR FLAT FOOT.

It was a modification of the old Knight spring, the modification consisting in slitting the edges of the inner curve. The spring is designed to counteract the inward rotation of the inner arch of the foot in walking. The condition to be overcome in these cases is the breaking down of the inner arch of the foot with rotation.

Dr. Ketch, of New York, spoke of the advantages of the modified spring presented by Dr. Roberts, as he had used it in a number of cases.

Dr. Shaffer, of New York, spoke of *shortening of the gastrocnemius muscle* as an etiological factor in flat foot.

Dr. L. H. Sayre, of New York, thought that shortening of the gastrocnemius might be an important factor.

Dr. Ketch was unable to understand how such shortening could beget flat foot.

The discussion was continued by Drs. A. B. Judson, of New York, Roberts, of Philadelphia, Shaffer, Stillman, and Gibney, of New York.

Dr. Bradford, of Boston, in behalf of Dr. Lovett, of Boston, presented a specimen, with its history, from

A CASE OF HIP DISEASE, IN WHICH IT WAS SUPPOSED THAT A VERY GOOD RECOVERY HAD TAKEN PLACE.

The patient died of tetanus. There were found caries of the acetabulum, with a sequestrum pointing inward. The head of the femur was solidified, and enabled the boy to walk with a stiff joint. On the top of the femur was a small loose sequestrum.

Dr. Lewis Hall Sayre, of New York, presented a somewhat similar specimen removed by excision. These specimens gave rise to a protracted discussion on the question of excision of the hip.

The President, in behalf of Dr. Ap Morgan Vance, of Louisville, Ky., presented what looked very much like the

"CONNECTING LINK."

It was a tail-like body removed from the side of the coccyx of a mulatto girl three years old. The mother was an octoroon seventeen years of age, and the father three-fourths white and eighteen years old. There was no power of movement in this caudal appendage fully four inches long, nor bone nor muscle.

Dr. John F. Ridlon, of New York, gave the notes of two cases of

POTT'S DISEASE THAT ILLUSTRATED THE DIFFICULTY OF DIAGNOSIS IN CHILDREN.

In very young children, caries of the vertebræ up to the third or fourth dorsal may give rise to symptoms referable only to the neck.

The communication was discussed by Dr. Ketch, of New York.

Dr. Henry Hodgen, of St. Louis, then opened the discussion on

THE TREATMENT OF PSOAS ABSCESS FROM CARIES OF THE SPINE.

The treatment which he, in conjunction with Dr. Mudd, of St. Louis, had adopted in five cases with good results was early and repeated aspiration. He did not claim that it was an absolute cure for all cases, but that they might be arrested after from two to five aspirations. He would not repeat aspiration more than six or seven times, but would use the needle as soon as he could diagnosticate the presence of pus.

Dr. Shaffer, of New York, had been unable to empty these abscesses with the aspirator. He would prefer, could he direct, to have them all open into the rectum. He had known several to open into the bladder with good result.

Dr. Ridlon, of New York, had seen several abscesses connected with caries of the lumbar vertebræ disappear spontaneously.

Dr. Ketch, of New York, spoke of the advantages of the non-interference plan of management.

Dr. Hodgen disbelieved entirely in the expectant method of treatment.

Dr. H. Ling Taylor, of New York, exhibited the

ANTERO-POSTERIOR SPINAL SUPPORT,

and pointed out the modifications which it had received somewhat recently.

He also exhibited an

ABDUCTION CRUTCH

designed to overcome adduction, either in hip disease or in old cases of dislocation.

Dr. Ketch, of New York, exhibited

A DEVICE FOR OVERCOMING INTERMITTENT TRACTION IN HIP-JOINT APPARATUS

due to bagging of the straps in the old hip-splint.

Dr. Charles F. Stillman, of New York, exhibited an apparatus for the treatment of

ROUND SHOULDERS

in which was illustrated the action of the new V-lever principle.

Dr. Dillon Brown, of New York, presented a little patient upon whose tibia he had performed

OSTEOCLASIS.

It was one of fifteen cases in which he had operated successfully, with return of the deformity in only one case.

Dr. Bradford, of Boston, reported five cases in which he had performed

KOENIG'S OPERATION OF LUMBAR AND ILIAC INCISION FOR ILIAC ABSCESS

with good results. One was a case of double iliac abscess.

Dr. Shaffer, of New York, had seen iliac abscess become incapsulated in many cases and then give rise to no inconvenience whatever.

Dr. Bradford thought that the inability to say whether or no the abscess contained sequestræ rendered the expectant plan of treatment especially dangerous.

Dr. Bradford also reported a case of

TORTICOLLIS FROM DEFECTIVE ATTACHMENT OF THE MUSCLES OF THE EYE.

In order to get binocular vision it was necessary for the boy to put his head in the position of torticollis.

Dr. S. Knickerbocker, of New York, described an apparatus which he had devised for preventing

ADDUCTION IN HIP DISEASE

while the case was under treatment.

The Society then went into executive session. The following officers were elected for the ensuing year :

President—Newton M. Shaffer, of New York.

Vice Presidents—E. H. Bradford, of Boston, and A. Sydney Roberts, of Philadelphia.

Secretary and Treasurer—Lewis Hall Sayre, of New York.

Corresponding Secretary—S. Ketch, of New York.

The Committee on Organization, Drs. Shaffer, Gibney, and Sayre, entertained the Association and guests with a banquet at the St. Nicholas Club in the evening.

Perforation of the Bladder.—Drs. Benham and Greig Smith record in the *Glasgow Medical Journal* the case of an imbecile who pushed the whalebone of an umbrella up his urethra and into his bladder. Two years afterward, during an autopsy, the man having died of Bright's disease, the whalebone was found to have perforated the bladder and passed into the peritoneal cavity, one end still, however, remaining in the bladder, and on this extremity a phosphatic calculus. During life the patient never complained of any vesical or abdominal trouble.—*Medical Press.*

Warm Ether as an Anæsthetic.—Dr. M. W. Hobbes advocates, in the Cincinnati *Lancet-Clinic*, the advantage of warming ether previous to its administration in the production of anæsthesia. He and Dr. Taylor have tried the method in upward of thirty cases, and he writes that the patients not only came under the influence of the drug more readily, but they also recovered more rapidly and pleasantly from the anæsthesia than patients generally do who have been brought under its influence in the ordinary way of administering ether cold.

New Instruments.

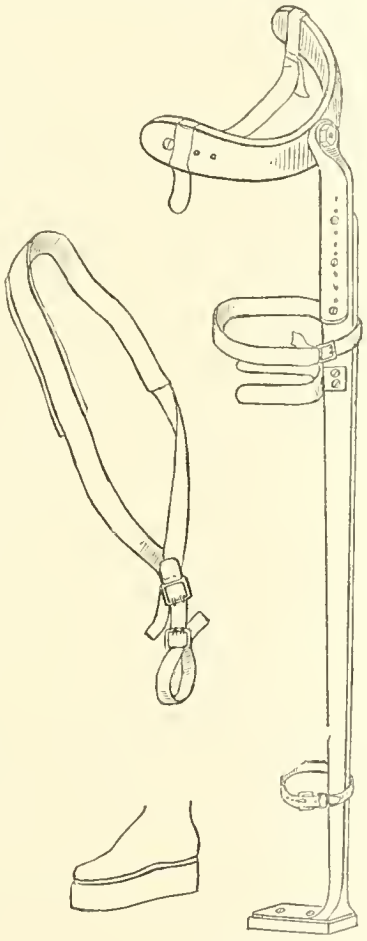
THE ISCHIATIC CRUTCH.

By A. B. JUDSON, M.D.,

NEW YORK.

This apparatus is for use in the treatment of deformities and diseases of the joints of the lower extremities. By converting the affected limb into a pendent member it removes from it the weight of the body in standing and walking. This is not a new idea in surgery,[1] but the importance of the subject leads me to describe in detail an instrument which an experience of two years has shown to be easily adjusted, conveniently worn, and, with the aid of a high sole on the well foot, entirely competent to keep the weight of the body from falling on the affected limb when the patient is up and active.

The frequent occurrence of hip disease and white swelling of the knee, and the rarity of a similar condition in the shoulder and elbow, would support the theory of the traumatic etiology of joint-diseases, if it were not for the fact that the primary lesion in articular osteitis is a central focus which could hardly be produced by traumatism. It is not improbable, therefore, that the comparative exemption of the upper extremity from destructive joint-disease is to be explained by the supposition that a focus in the cancellous tissue may undergo spontaneous resolution when exempt from disturbance in a pendent member, and may be expected to become progressive when exposed to the violence which habitually assaults the bony tissue of the lower extremity.



In the orthopædic institutions of this city, as shown in their annual reports, cases of disease of the larger joints were treated in 1885 in the following numbers: Hip, 564; knee, 258; shoulder, 9; elbow, 10. It may be said that cases involving the shoulder and elbow are more likely to seek relief in general rather than in orthopædic charities. Notwithstanding this, and perhaps other reasons, for discrediting the apparent force of these figures, it is believed that they represent a fact of practical importance, from which the inference is fairly drawn that in certain cases of osteitis of the hip and knee the persistent use of the ischiatic crutch, from the early incipiency of the disease, would lead to recovery before the appearance of the severer symptoms. Indeed, in those cases of incipient hip disease which recover with unimpaired symmetry and function under treatment by the hip-splint, it is impossible to say whether the good result is due to the use of the splint as an apparatus for applying traction or to its use as a crutch, for the hip-splint, with its rack and pinion and adhesive plaster, is as truly an ischiatic crutch as the simpler apparatus here described, provided its upright and pelvic bands are sufficiently inflexible to keep the weight of the patient from bringing his heel to the ground.

The ischiatic crutch is represented in the figure, which requires but a few words of description. The perineal strap, which is a bit of Allien's webbing covered with blanketing and canton flannel, has a loop at each end, which passes over the screw by which it is kept in place. By loosening the nut the pelvic band, which has the outline of a semi-circular arch on low piers, may be adjusted at the desired angle with the upright, where it should be fixed by tightening the nut. The head of the screw-bolt is counter-sunk, and the screw-holes, of which there are three at each end of the band for the proper adjustment of the perineal strap, are "upset" by a few blows with a riveting hammer on the inner surface of the steel band before it is covered with hard rubber. The **U**-shaped steel-piece and the webbing retentive strap find their proper place a short distance above the knee, while the leather strap is loosely buckled above the ankle. The patient's head and the arm of the affected side pass through the large loop of the shoulder-strap, while the upright passes through the small loop which comes up on the inner side of the pelvic band. This part of the apparatus is to be so adjusted that when the splint is raised in walking its weight is felt on the opposite shoulder. The upright is shod with sole-leather. Its length is readily altered, and the perineal strap should be of such a length as to make the pelvic band fall on a level midway between the anterior iliac spine and the great trochanter.

In a case presented before the Surgical Section of the New York Academy of Medicine on May 9, 1887, the patient was a boy, ten years of age, in whom the left knee had been the seat of chronic osteitis for a year and a half. Since the application of the crutch in December, 1886, the disease has been quiescent, and probably progressing toward recovery. The boy is 4 feet 2 inches in height, and weighs 51 pounds without the splint. The apparatus complete weighs $2\frac{3}{4}$ pounds. The pelvic band is 6 inches in diameter, and is made of a steel bar $\frac{3}{16} \times \frac{14}{16} \times 12$ inches, covered with hard rubber. The perineal strap is 9 inches long. The bars composing the upright are $1 \times \frac{3}{16}$ inch. The upright as worn is $28\frac{1}{2}$ inches in length, and the distance from the pelvic band to the knee-piece is 9 inches. The high sole is $2\frac{1}{2}$ inches thick. The cost of the steel, finished with great care and electro-plated, and the hard-rubber work was $14.25. This expense could be materially reduced at the sacrifice of elegance, without impairing the efficiency of the apparatus, and, with less nicety in construction and at the sacrifice of some convenience on the part of both the surgeon and the patient, the cost could be reduced to but little more than a nominal sum. The boy has attended school without interruption since its application, and from the first has walked, without a complaint and with evident convenience, from his home to the out-patient department of the hospital, a distance of one and three-fourths of a mile. He removes the crutch at night.

I first used this form of apparatus in convalescing cases of hip disease, when traction and fixation were no longer required. In the treatment of white swelling of the knee it has conveniently taken the place of Thomas' splint, and is to be worn only when the patient is out of bed, fixation of the joint being maintained by an independent splint which is constantly worn. In both of these classes of cases the results have been entirely satisfactory. The ischiatic crutch would doubtless be useful in the treatment of disease of the ankle-joint and ununited fracture of the shaft of the femur and, probably, in fracture of the femoral neck, as well as in cases of osteitis of the lower extremities not directly associated with a joint. In cases of resistant club-foot the removal of

[1] See a paper on The Question of Axillary or Ischiatic Support in the Treatment of Joint-diseases of the Lower Extremity, MEDICAL RECORD, pp. 1–3, July 2, 1882.

the weight of the body from the affected foot by the use of this apparatus, during certain stages of the treatment, would obviously facilitate reduction.

42 East Twenty-first Street.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from June 12 to June 18, 1887.

Baxter, J. H., Colonel and Chief Medical Purveyor. To proceed to New York City for the purpose of inspecting the medical purveying depot at that place. S. O. 133, A. G. O., June 10. 1887.

Alden, Charles H., Major and Surgeon. Par. 15, S. O. 52, A. G. O., March 5, 1887, is so amended by Par. 9, S. O. 133, A. G. O., June 10. 1887, as to direct that he be relieved from duty in Department of Dakota about June 20, 1887, and he is granted leave of absence from the date when so relieved to include August 27, 1887.

Fryer, B. E., Major and Surgeon. Found incapacitated for active service by an Army Retiring Board, and granted leave of absence until further orders on account of disability. S. O. 133, A. G. O., June 10, 1887.

Hall, John D., Captain and Assistant Surgeon. Leave of absence extended one month. S. O. 136, A. G. O., June 14, 1887.

Borden, W. C., First Lieutenant and Assistant Surgeon. Granted leave of absence for one month. S. O. 138, A. G. O., June 16, 1887.

Official List of Changes in the Medical Corps of the United States Navy for the week ending June 18, 1887.

Walton, Thomas C., Surgeon. Ordered, June 15th, for examination preliminary to promotion as Medical Inspector.

Price, A. F., Surgeon. Detached from special duty at Annapolis, Md., to proceed home and await orders.

Flint, James M., Surgeon. Detached from the Albatross, and ordered to the Smithsonian Institution.

Willson, W. G. G., Passed Assistant Surgeon. Ordered to the Receiving-ship Independence, Mare Island, Cal.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending June 18, 1887:

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	5	5
Scarlet fever	60	15
Cerebro-spinal meningitis	7	8
Measles	39	4
Diphtheria	116	35
Small-pox	4	2
Yellow fever	0	0

Treatment of Œdema of Lungs.—Nothnagel, in a clinic published in the *Wiener Med. Zeitung*, advises as follows: First, to stimulate the heart. If the patient be conscious and can swallow he gives the stimulants which act most quickly, viz., the champagne wines. Champagne is the most rapid and the surest in its excitant action of all the wines. Quincke years ago showed that alcohol is more quickly absorbed when it is introduced into the stomach along with carbonic acid. Or he gives strong black coffee with, as a rule, some brandy, rum, or arrack; or else a few drops of sulphuric ether. If the patient cannot swallow he resorts to hypodermic injection, preferring camphor to sulphuric ether. In giving large doses of ether you are apt to lose its primary exciting action in its stupefying effect; in proof of this he gives the result of three hundred and sixty-six injections of ether in rabbits, which as completely narcotized them as if the ether had been inspired. He injects one centigramme of camphor dissolved in oil (one in ten) and repeats this two, four, or five times in quick succession. Second, to limit the transudations of fluid from the vessels into the lung tissue and bronchi. For this purpose, Nothnagel only knows of one treatment, the one originated by Traube. This consists in administering five centigrammes of acetate of lead as a powder every quarter or half hour for four or five doses. As the symptoms abate it should be given every one or two hours. The next best thing is a large blister reaching from one nipple to the other, and from the manubrium to the ziphoid cartilage, the irritation of the skin thus produced probably causing contraction of the lung-vessels.

Case of Poisoning by Artemidis Nephrosis.—Dr. William J. Wonder, of Little Muddy, Dak. Ter., reports the following case of supposed poisoning by *artemidis:* The query might be raised if the child were not simply suffering from eclampsia, the result of gastric irritation. J. R——, seven years of age, on October 17, 1886, was seen by his mother to be eating some green leaves, which afterward proved to belong to the above-mentioned plant. Three hours afterward I was sent for and found him in convulsions and perfectly unconscious. From the history of the case I thought at once that it was one of vegetable poisoning, and proceeded to administer an enema of castor-oil and an emetic of *human urine*, no other emetic being available in this out-of-the-way place. Both acted in about twenty minutes, and the floor was green with the double evacuations. The child soon regained consciousness, and, although weak, recovered in about three hours under the administration of the following remedy, which I can recommend under similar circumstances:

℞. Aq. menth. pip.,
Syr. simp .....āā f ℥ ss.
Spts. vini. gallici ..... f ℥ ij.
Sig.—Tablespoonful every hour.

I think the prompt use of an emetic, although one so repugnant to the feelings, was really the cause of the child's recovery. If there are any other recorded cases of poisoning by this plant I would be glad to hear of them through the columns of your valued paper.

The Treatment of Compound Fractures by Professor Max Schede, of Hamburg, presents some novel features, according to a correspondent of the *Cincinnati Lancet and Clinic*. The wound or wounds are laid freely open, irrigated thoroughly with corros. sublimat. sol., 1–1,000, all loose splinters of bone removed, fracture reduced, and fixation of the fragments secured by means of a little device of Dr. Hansmann, the first assistant surgeon. It consists of a little metal plate about half an inch wide and as long as is necessary, perforated with holes at short distances. It is laid upon the periosteum, and a screw inserted through one of the holes into the bone on each side of the point of fracture. Two of these little splints are usually employed in a fracture of a large bone, after which the immobility of the limb is secured in the usual way by splints; the wound being left open and treated antiseptically. The metal plate has the advantage over bone sutures in being much more easy and simple in its application as well as removal, and it secures and maintains the approximation and fixation of the fragments just as firmly.

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Original Articles.

PROGRESSIVE SPASTIC ATAXIA (COMBINED FASCICULAR SCLEROSIS) AND THE COMBINED SCLEROSES OF THE SPINAL CORD.[1]

BY C. L. DANA, M.D.,

PROFESSOR OF NERVOUS AND MENTAL DISEASES, NEW YORK POST-GRADUATE MEDICAL SCHOOL; VISITING PHYSICIAN TO BELLEVUE HOSPITAL, NEW YORK.

THE object of my paper is to show that there is a class of cases, not very rare, in which the symptoms coincide in a measure with those of locomotor ataxia, but in equal or greater measure with those of another disease, viz., spastic paraplegia; that the pathological anatomy and clinical course of this disease is a tolerably distinct one, and is to be differentiated from other forms of chronic spinal disease; and that, both for prognosis and treatment, it is important to recognize the somewhat special character of the affection.

It has not infrequently been observed that cases, giving a general history of locomotor ataxia of a milder type, present also symptoms of exaggerated muscular irritability and motor weakness; symptoms which, it is admitted, do not belong to posterior sclerosis. No attempt to study these cases systematically and classify them from a clinical standpoint, however, has been made until quite recently.

The symptoms pointed to a combined lesion of the posterior and lateral columns, and in 1885 Dr. Ormerod collected 20 of such cases (*Brain*, April, 1885) and analyzed them. Last year Professor Grasset (*Archives de Neurologie*, 1886, Nos. 32, 33, 34) collected and analyzed 33 cases, in which autopsies had been made, and combined sclerosis of the posterior and lateral columns was found.

Dr. R. Massalongo also made a collection of cases in *Medicina Contemporanea*, October and November, 1886.

The clinical histories in these cases showed very great diversity of symptoms, and it was evident that the collections of cases did not furnish the basis for a single distinctive disorder.

Besides the cases collected by Grasset, I have been able to find accounts of eleven others, and also to present to-night two cases with autopsies not heretofore published. This makes a total of forty-five cases in all.

A study of these pathological findings, and a comparison of them with clinical symptoms, show at once that we cannot establish a new disease with this simple term, combined sclerosis or mixed system-myelitis as a basis.

An analysis of the reports made compels us to make such subdivisions as the following of the cases in which a sclerosis of the posterior and lateral columns of the cord is found.

CLASS I.—A combined sclerosis of the spinal cord may occur in general paresis and chronic mania. There have been reported by Westphal, Zacher, Sioli, and Damaschino, in all seven cases of this kind.

CLASS II.—Out of 101 cases collected by Vicioli, of hereditary ataxia or Friedreich's disease, autopsies have been made in 88 cases. These all (except one) showed combined sclerosis of a somewhat severe and peculiar type, and with evidences of imperfect development of the cord.

CLASS III.—Combined sclerosis has been noted in cases of evident progressive locomotor ataxia, in which flaccid or contractured paralysis had finally developed (paralytic tabes). Ten cases of this kind are recorded.

CLASS IV.—Cases of primary spastic paraplegia or pseudo paraplegia, with ataxia and sensory disturbances (progressive spastic ataxia). Ten cases.

CLASS V.—Cases having symptoms of spastic paraplegia and of locomotor ataxia about equally developed, forming also a type of progressive spastic ataxia. Six cases.

CLASS VI.—Miscellaneous cases presenting very irregular symptoms, and showing post-mortem dorsal myelitis, posterior sclerosis, with disseminated lateral sclerosis, etc. Four cases.

We have, therefore, combinations of posterior and lateral sclerosis:

I. In mania, seven cases.

II. Friedreich's disease, eight cases.

III. Paralytic tabes, ten cases.

IV. Progressive spastic ataxia (motor or spastic symptoms predominant), ten cases.

V. Progressive spastic ataxia (sensory or tabetic symptoms more prominent), six cases.

VI. Unclassified cases, four cases.

Now, for clinical study we cannot utilize very well the cases of combined sclerosis occurring in the insane (Class I.), although one of them, Sioli's, was of such typical character as to be important.

The combined sclerosis, in Friedreich's disease (Class II.), is only part of the lesion, and the disease itself produces no spastic, and only very late paralytic, symptoms.

Tabes dorsalis with flaccid paralysis (Class III.) is not very rare. Indeed, some motor weakness in this disease is very common. In these cases of paralytic tabes dorsalis with combined sclerosis, it is impossible always to say how the paralysis is caused. Such paralysis does not indicate any extensive involvement of the lateral columns, but rather a severe posterior sclerosis, a somewhat marginal antero-lateral sclerosis, or a diffuse extension of the lateral sclerosis in the dorsal region. Sometimes it is partly neuritic.

These cases do not belong to the type of *progressive spastic ataxia* under consideration, and will not be further discussed.

We have, therefore, left but two of those classes of cases (Classes IV. and V.), sixteen in all, showing combined sclerosis and agreeing with the clinical types under present discussion. These are the only cases in which the pathological findings have a direct bearing.[1]

I present here a summary of the history of the cases and of the pathological findings, coming under Class IV. and V. with illustrations showing the extent of the lesion at three levels—middle cervical, middle dorsal, and middle lumbar. The shadings indicate the sclerotic or degenerated parts, and have all been copied from the original illustrations, except in one case.

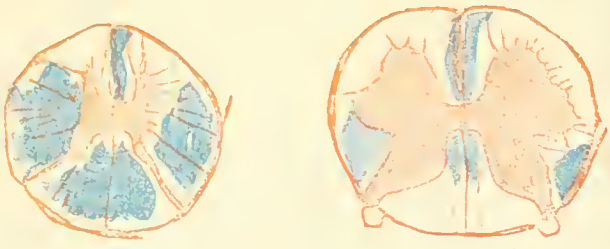
FIRST, cases in which symptoms of locomotor ataxia and spastic paraplegia were pretty equally combined, forming class (*a*) of progressive spastic ataxias.

CASE I.—Damaschino (*Gazette des Hôpitaux*, No. 1, 1883), in a clinical lecture, says he has made autopsies on three cases, and found combined sclerosis. The

[1] Read at a meeting of the New York Academy of Medicine, February 17, 1887.

[1] It is but right here to call attention to the somewhat uncritical way in which Professor Grasset, whose work is generally so admirable, has massed all cases of combined sclerosis together and endeavored to make one disease of them. He has in his tables cases of Friedreich's disease, chronic mania, dorsal myelitis, and amyotrophic lateral sclerosis, and endeavors to raise a clinical specire from the dry bones of this pathological miscellany.

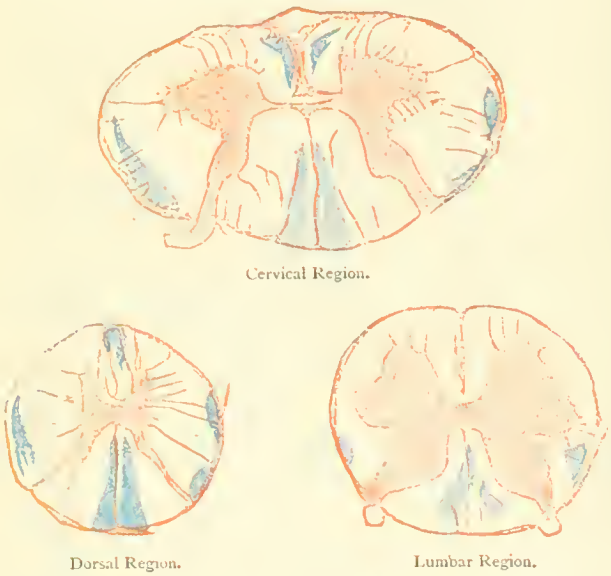
symptoms were first those of ataxia, then more or less weakness of lower limbs; then stiffness, trembling, cramps, loss of tendon reflex; no epileptoid trepidation.



Dorsal Region. Lumbar Region.

In *one case* the lateral columns were affected less in lower part; in cervical part, only the columns of Goll affected. The posterior sclerosis is marginal. *General course:* That of *tabes with paraplegia* and some spastic symptoms.

Case II.—Sioli (*Archiv f. Psych.*, vol. xi., 1881): Male, aged thirty-nine. Severe fall and spinal concussion. Progressive paraparesis, pains, hyperæsthesia, spastic symptoms at first; finally, loss of knee-jerk, atrophy of legs, chronic dementia.



Cervical Region.

Dorsal Region. Lumbar Region.

General course, of a chronic, painful, wasting paralysis, with at first spastic symptoms.

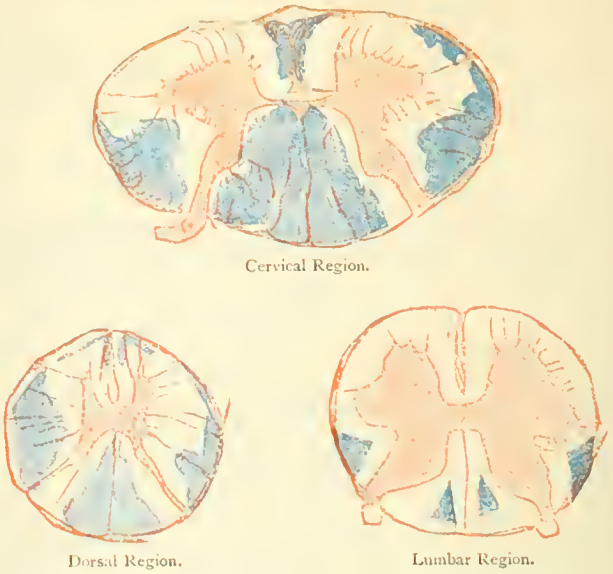
Autopsy: Intense degeneration of direct cerebellar tracts in whole course. Degeneration of direct and crossed pyramidal tracts from lumbar to lower sacral. Diffuse sclerosis to some degree in upper dorsal region, lateral columns. Degeneration of columns of Goll from nuclei to lower limit of cervical region; below this the degeneration extended over to the columns of Burdach, and was slight in intensity. Atrophy of cells of columns of Clark and of anterior cornual cells, especially in the dorsal region.

Case III.—Westphal (Case VII., *Arch. f. Psych.*, vol. xvii, Hft. 2): Male, fifty; heredity good, no syphilis. In 1882 began to have pains, paræsthesia, ataxia, giddy sensations; later, feebleness of limbs. Ataxic symptoms and paresis progressed; retention of knee-jerk, but no ankle clonus or paradoxical contraction; eye symptoms, muscle tension, progressive feebleness, finally loss of knee-jerk.

Duration, two years.

General course, of locomotor ataxia with paraparesis, muscular tension, and retention of knee-jerk till late.

Autopsy: No meningitis; considerable atrophy of posterior roots in lower half of cord, and of anterior roots in dorsal region. Degeneration of posterior columns most marked in upper dorsal region, and absent in lower lumbar region. Degeneration of motor tracts and cerebellar tracts most marked in upper cervical region; cells of Clark's columns atrophied.



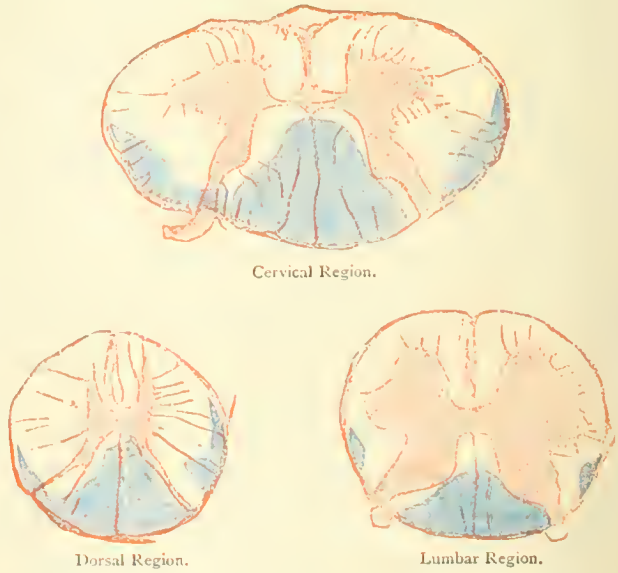
Cervical Region.

Dorsal Region. Lumbar Region.

Case IV.—Prevost (*Archives de Phys.*, p. 764, 1877): Male, aged fifty-one. No heredity. Exposure. Feebleness in lower limbs and right arm, and painful defecation. Within a year bed-ridden. No lightning pains; but paræsthesia; ataxia in upper and lower extremities; paraplegia, hyperæsthesia, but no anæsthesia except slight just before death. Great exaggeration of reflexes. Blindness, myosis. No muscular atrophy except of hands and arms.

Duration, ten years.

General course of tabes with spastic symptoms and ataxia, and paraplegia, without anæsthesia or pains.



Cervical Region.

Dorsal Region. Lumbar Region.

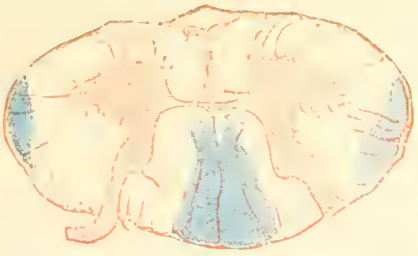
Autopsy: Atrophy of posterior roots in dorsal region. No meningitis. Sclerosis most marked in dorsal region.

Case V.—Dejerine (*Arch. de Phys.*, iv., 1884): Female, aged fifty-two. Fulgurating pains for years; paresis in legs for two years, with stiffness; anæsthesia in plaques; ataxia; no muscular atrophy; exaggerated reflexes; no bladder troubles; arms not affected. Death from pneumonia.

General course, that of *tabes with slight paresis and spastic symptoms* supervening.

Autopsy: Sclerosis of lateral pyramids in lumbar and lower dorsal regions. Sclerosis of postero-median

column, whole length of Burdach's column in lumbar region. Chronic leptomeningitis. Parenchymatous neuritis of posterior roots and cutaneous nerves. The posterior sclerosis was the older.



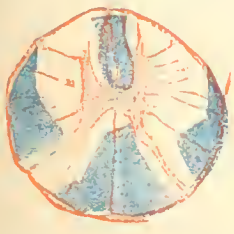
Cervical Region.

Dorsal Region.

Lumbar Region.

Case VI.—Babinski and Charrin (*Revue de Médecine*, November, 1886): Male, aged forty-three; no heredity, except phthisis; no syphilis, or alcoholism; began sixteen months before death; paresis of lower limbs; later fulgurating pains, gastric and rectal crises; marked ataxia; no anæsthesia, except that temperature sense is blunted; exaggerated reflexes; contractions; spinal trepidation; later, myosis; increase of spastic symptoms; anæsthesia increased; analgesia; complete paresis of bladder.

Cervical Region.



Dorsal Region.

Lumbar Region.

General course of ataxia and spastic paraplegia combined, the ataxia preceding.

Autopsy: Primary sclerosis of posterior columns, of lateral pyramids, cerebellar tracts, and columns of Türck; pia thickened posteriorly; posterior sclerosis the older.

Second, cases showing the symptoms of spastic paraplegia plus some sensory disorders, from the type (*b*) of progressive spastic ataxia.

Case I.—Mr. J. Hopkins, reported in *Brain*, October, 1883: Male, aged twenty-one, no syphilis, had fits when young; heredity good.

Symptoms of spastic paraplegia, with no sensory symptoms except tactile anæsthesia of soles of feet. Decubitus.

Duration, two years. Latterly some atrophy of legs.

General course, one of primary spastic paraplegia with some anæsthesia

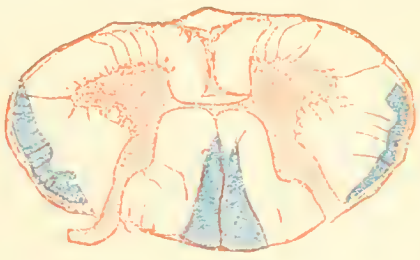
Cervical Region.

Dorsal Region.

Lumbar Region.

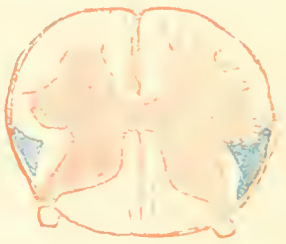
Autopsy: Showed lateral sclerosis of whole length of cord, beginning with lower cervical region; in dorsal region affecting large part of lateral columns, lower down affecting only pyramidal tracts. Posterior sclerosis in whole length of dorsal cord. Very slight in mid-lumbar cord, as shown.

Case II.—Westphal (*Archiv f. Psych.*, vol. viii., 4, p. 506, l. c., 1877, Case IV.): Male, aged forty-five, neuropathic personal history; chancre in 1851. In 1866, stiffness in gait. Paræsthesia in legs, 1867. No pains, giddy sensations, or eye symptoms. Gradual development of typical spastic paraplegia; exaggerated reflexes, trepidations, etc.; slight disturbances in sensation of lower extremities. No ataxia; no eye symptoms; slight bladder troubles; motor weakness. Death from phthisis.



Cervical Region.

Dorsal Region.



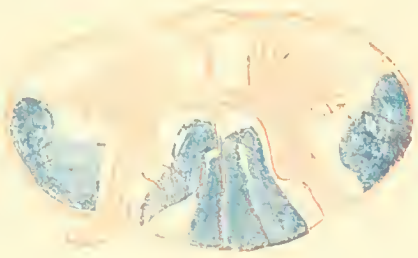
Lumbar Region.

Duration of course, eight years.

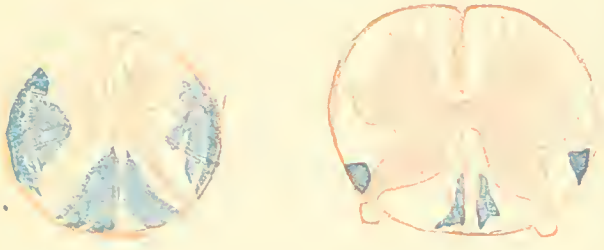
General course, one of chronic spastic paraplegia, with development later of slight sensory symptoms in lower limbs.

Autopsy: Meninges thickened; anterior and posterior roots normal; sclerosis of pyramidal and cerebellar tracts, whole extent; sclerosis of posterior columns above lower dorsal region, mainly of columns of Goll. Disease most marked in upper dorsal region.

Case III.—Strümpell (Case II., *Archiv f. Psych.*, xi., 1855): Female, aged sixty-two. Contractures; atrophy; paralysis; exaggerated reflexes; no pains; anæsthesia in lower extremities; bladder trouble. Death in six months, phthisis.



Cervical Region.

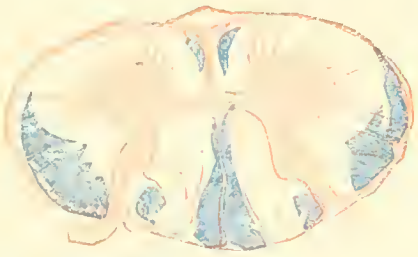


Dorsal Region. Lumbar Region.

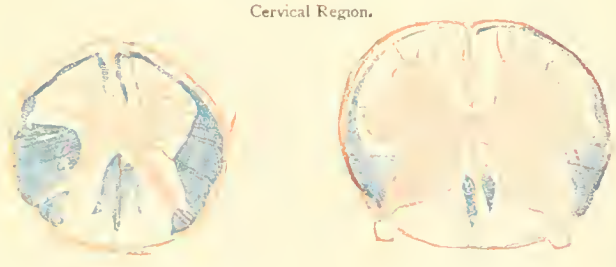
Symptoms of amyotrophic lateral sclerosis, with impaired sensibility. History very imperfect.

Autopsy: Lesions of columns of Goll in whole length and of the root-zones in upper part of cord; also of pyramidal tracts and direct cerebellar tracts, the latter being more marked. The three long fibre-systems were thus affected, the degeneration ascending in the pyramidal tracts, descending in the columns of Goll.

Case IV.—Strümpell (*Arch. f. Psych.*, vol. xvii., No. 1, Case III.): Male, aged fifty-six; neuropathic family. Patient was much exposed to wet; began to have stiffness in legs in 1856; symptoms of spastic pseudo-paraplegia continued thirty-three years; finally some paresis; no sensory, bladder, eye, or sexual troubles. Death from phthisis.



Cervical Region.



Dorsal Region. Lumbar Region.

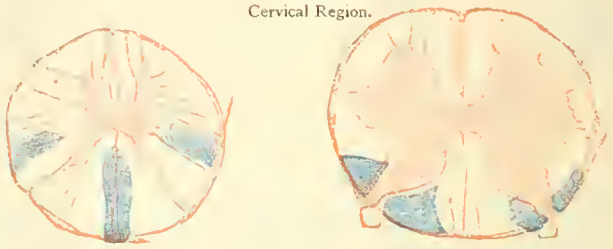
Duration, thirty-one years.

General course, of pure *primary spastic pseudo-paraparesis.*

Autopsy: No meningitis. Nerve roots normal. Degeneration of pyramidal tracts through whole cord; of cerebellar tracts and columns of Goll; columns most marked in upper part of cord. (Strümpell thinks this represents a special distinct type of combined sclerosis.) There was marginal sclerosis, but no meningitis.

Case V.—Raymond (*Archives de Physiologie*, 1882, 10, p. 456): Male; no heredity; no syphilis; aged seventy-eight. Pains in legs for thirty-eight years. In 1875, difficulty in walking; progressive and severer pains. In 1877 could only walk with crutches. Some pain, contractures, cramps. Spasmodic symptoms to less extent in upper extremity. Finally rigid paraplegia, exaggerated reflexes, some atrophy. *No anæsthesia* of any form, no bladder, or eye symptoms; some muscular atrophy; electrical reactions normal.

Cervical Region.



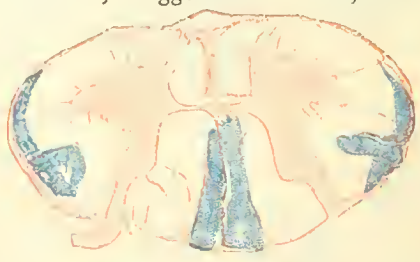
Dorsal Region. Lumbar Region.

Duration, seven years.

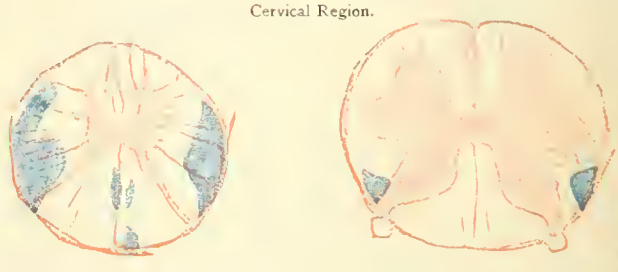
General course: Amyotrophic lateral sclerosis or *chronic spastic paralysis*, with long-continued, painful, and no other sensory symptoms.

Autopsy: Sclerosis of pyramidal tracts most marked in cervical cord; sclerosis of upper part of cerebellar tract; of Goll's columns in cervical and dorsal cord; of Burdach's columns in lower cord. Some atrophy of cells of anterior horns and of Clark's columns. No meningitis. Nerves normal.

Case VI.—Westphal (*Archiv f. Psych.*, Case VI., vol. xv.): Male, aged thirty-eight; no heredity. History of syphilis; development of spastic paraplegia; muscular tension; exaggerated reflexes; foot phenomenon later; partial loss of temperature and muscular sense; ataxia; bladder trouble; increased paresis; involvement of right arm; encephalitis.



Cervical Region.



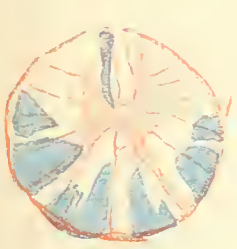
Dorsal Region. Lumbar Region.

General course, of spastic spinal paralysis with slight sensory, ataxic, and bladder symptoms. Five years' course.

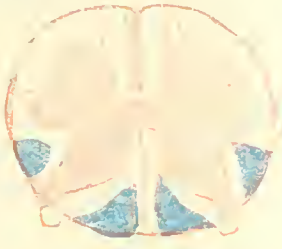
Autopsy: Sclerosis: (1) of lateral pyramids, beginning in middle cervical region, and most marked in dorsal region; (2) of cerebellar tracts, especially in upper part of cord; (3) of Goll's columns, in upper dorsal and lower cervical region, beginning to develop.

Case VII.—Strümpell (Case I., *Arch. f. Psych.*, xi., 32): Female, aged thirty-two. Family history good.

Cervical Region.



Dorsal Region.



Lumbar Region.

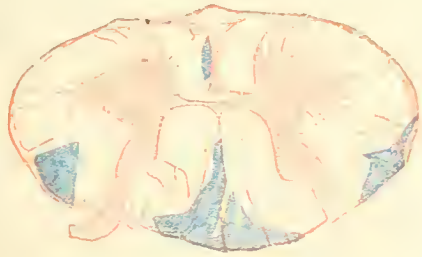
Symptoms. Confined at first and mainly to lower limbs; progressive paresis; atrophy; associated movements; contractures; exaggerated reflexes; paræsthesia; eye and bladder symptoms. No anæsthesia or ataxia.

Symptoms mainly of amyotrophic lateral sclerosis, with painful contractures.

Duration, three years.

Autopsy: Lesion of crossed and direct pyramidal tracts, of direct cerebellar tracts, and of columns of Goll, nearly whole length, and to a slighter extent of inner part of columns of Burdach, above the upper lumbar region; on lower lumbar region, posterior columns not affected; cells of anterior horn not atrophied. Clark's columns atrophied.

Case VIII.—Babesiu (*Virchow's Archiv*, 76, p. 76): Male, aged forty-four, no heredity or syphilis; symptoms began in 1874, no cause; feebleness and stiffness in legs; darting pains in legs and sexual organs; severe contractures; at first exaggerated reflexes; continued paraplegia; paralysis of bladder; total blindness; moderate degree of anæsthesia; no ataxia; bed-sore.



Cervical Region.

Dorsal Region

Lumbar Region.

Duration, three years.

General course, that of *spastic paraplegia with considerable sensory trouble*; also bladder and eye symptoms.

Autopsy: Pia thickened anteriorly and posteriorly. Cells in anterior horns and Clark's columns normal. Sclerosis of lateral columns most marked in dorsal region. Sclerosis of columns of Goll throughout their extent. Brain, normal. Sclerosis most intense in lateral columns, reaching in dorsal region to anterior roots or farther. Sclerosis most marked in lateral columns.

Cases IX. and X. will be referred to later in the reports of my own cases.

Now it will be found, in studying the lesions in these cases, that in most instances the columns of Goll, the lateral pyramidal tracts, and the direct cerebellar tracts, are most affected, often, but not always, throughout their whole course. This tri-fascicular lesion is most typically represented in Cases IV., VI., and VII. of Westphal, Raymond's case, Cases I., II., and III. of Strümpell, and in the cases of Sioli, Dejerine, Babinski and Charin, and Damaschino.

It will also be seen that in the cases primarily of a more spastic type, this purely tri-fascicular lesion is best illustrated. In the more mixed forms it appears that the sclerosis encroaches on the columns of Burdach in the lower part of the cord (Prevost's, Dejerine's, Babinski's, and Damaschino's cases).

When the lesion of the posterior columns encroaches on Burdach's columns in the more spastic cases, it does so in the upper levels of the cord, as in Strümpell's and Hopkins' cases.

The lesion of the lateral columns sometimes extends forward, involving the ascending lateral tract of Gowers, and inward, involving the lateral mixed column (see Westphal's case VII., and the cases of Hopkins and Babesiu). But in these instances the encroachment does not extend far longitudinally.

The columns of Türck are involved in half the cases, either on one or, oftener, on both sides.

The sclerosis in the columns of Goll is generally most marked in the upper dorsal and lower cervical parts of the cord. The same is true of the lateral sclerosis.

The long fibre-systems are always affected throughout nearly their whole length, and this is due to the fact that the sclerosis is *primary*. In primary fascicular sclerosis the degeneration is, or at least may be, in the opposite direction to the course of the impulse it carries, and hence, in the case of the columns of Goll and the direct cerebellar and antero-lateral ascending tracts, it would be downward, diminishing in extent in the lower part of the cord. In the direct and crossed pyramidal tracts the process goes upward, and should be less in the cervical region.

The anterior cornual cells are affected at some levels in cases of the more purely spastic type, or in those in which the dorsal lesion is extensive.

The posterior cornual cells and the cells of the columns of Clark are also affected in the severer sensory types. But as a rule the gray matter is not involved.

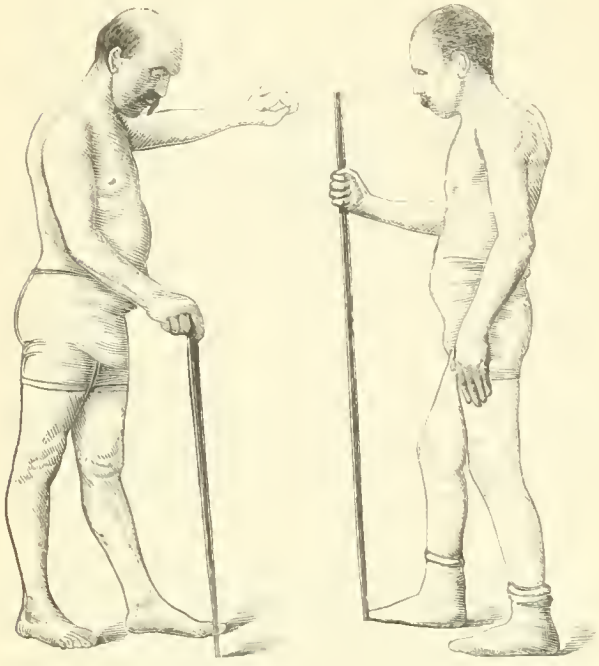
There is often thickening of the meninges, and rarely a chronic lepto-meningitis. Dejerine thinks that by means of the inflamed meninges the process is conveyed from one fibre-system to another, but this view is not shared by any others. Friedreich, who first held to such opinion as explaining the lesions in hereditary ataxia, subsequently abandoned it.

The typical tri-fascicular lesion is a superficial one, and does not involve so much the organic centres of the cord; hence it may spare life for a long time.

Some cases of progressive spastic ataxia are plainly due to peculiar systemic and diffuse lesions combined, not to the typical tri-fascicular sclerosis.

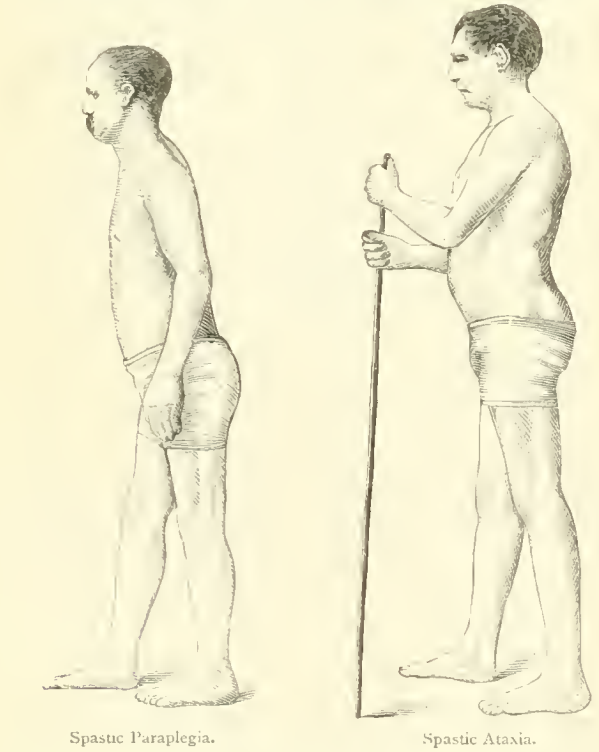
My own case was one starting, probably, as a chronic dorsal myelitis, involving the antero-lateral columns. From this there was descending degeneration, which in the lower part of the cord seemed gradually to extend

over and involve the postero-external column. Then the columns of Goll became affected above, as shown in the cuts. There was undoubtedly an acute process supervening shortly before death. In Dr. Hammond's case there was a lesion at the lower end of the col-



Typical Locomotor Ataxia. Transverse Myelitis.

umns of Goll with ascending degeneration of a peculiar type (vesicular degeneration of Leyden), occupying the whole length of the strand. The degeneration in the lateral and cerebellar columns was much less marked, and was apparently greater in the upper part. The patient's history was one of very marked spastic and ataxic



Spastic Paraplegia. Spastic Ataxia.

symptoms. He had phthisis, which prevented his living to the development of a tri-fascicular sclerosis in a typical manner.

It thus appears that we cannot yet speak with certainty of the lesion of progressive spastic ataxia, or ataxic hemiplegia; but it *seems probable that the typical classical lesion is one involving the three long fibre-systems, primary in character, and most marked in the dorsal portion of the cord.*

If this were the case the pathological name for the disease would be "combined fascicular sclerosis." Strümpell seems inclined to take this view.

Clinical History.—Turning to the clinical side of the matter we find that Gowers, during the past year, has described a type of disease which he calls ataxic paraplegia, and which is intended to cover the class of cases under discussion. "Ataxic paraplegia" is spastic paraplegia plus ataxia.

The term "ataxic paraplegia" is objectionable, in my opinion, because many cases lack until very late the paraplegic element, and even the ataxia may be absent also, as in Case I. of my own. The most constant and characteristic symptoms in my own cases, however, were the ataxic and the spasmodic. I, therefore, selected the term progressive spastic ataxia, admitting at the same time its imperfections.

Spastic Ataxia. Spastic Ataxia.

As to the general clinical features of these cases, I have found that the larger proportion present a background of tabes dorsalis in its milder, less painful form, plus spasmodic symptoms. In a smaller number of cases spasm and ataxia are altogether the dominant symptoms, and true tabes dorsalis is hardly suggested.

I shall not attempt to give any extended description of this disease, for it has been admirably done, from one point of view, already by Dr. Gowers. What I may say is based upon thirteen cases of my own and the sixteen cases with autopsies collected elsewhere.

Etiology.—In my own cases the proportion of females to males was as one to six. The age ranged from nineteen to fifty-two, several of the most typical cases beginning in persons between twenty and thirty. A neuropathic history was present in three cases, syphilis in two, hard physical work and exposure in three, various excesses—sexual, alcoholic, and physical—in one.

There was spinal myosis in two, but in only one was there optic atrophy or serious eye trouble.

In the males the sexual power was uniformly lost quite early; then some bladder trouble, slight in degree, followed.

Taking all the cases (twenty-seven) together, I find that syphilis was rare, not being present in more than

five per cent. It is, however, unquestionably sometimes a factor. Heredity is also an important factor. Spastic ataxia even shows a family type, as in the cases of Striimpell.

In cases occurring in early life, sexual and alcoholic excesses are noted, while if the disease comes on later it is due to hard physical strain and exposure. Two of my patients were stone masons.

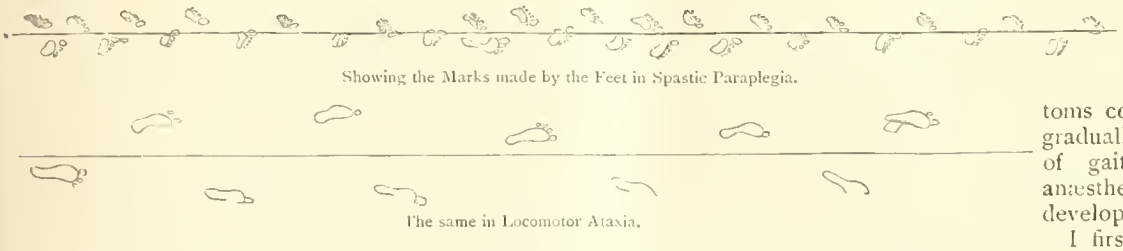
I think that hysteria may produce a functional disorder very like spastic ataxia, but recognizable by the mutability of symptoms, irregular course, and past history.

Onset and course.—Taking my own cases alone, I found that the *first symptoms* were stiffness in the legs, followed quickly by pains, in one case; ataxia in four cases; paresis and cramps in one; paræsthesia, pains, and ataxia in one. Only one suffered greatly from pain at any time.

The general type was mainly ataxia with spasm in four; a very equal distribution of tabetic and spasmodic symptoms in two other cases.

Considering all the cases together, the onset may be described as follows:

It begins usually with ataxia, then stiffness and trembling in the legs are noticed, sexual power early declines, then there is temporary bladder trouble, generally a retention or slowness in emptying the bladder. Feelings of numbness and heaviness are early observed; there are pains of a fulgurating character, but they do not last long; sacral and lumbar pains are frequent, as Gowers observes, and sometimes these are all the pains complained of. Girdle pains are absent, as a rule.



Showing the Marks made by the Feet in Spastic Paraplegia.

The same in Locomotor Ataxia.

As a rule the disease is a painless one. Patches of anæsthesia are noticed. These often go away under electrical or other treatment. There is rarely much tactile, pathic, or temperature anæsthesia, and muscle sense is often good. The eyes are rarely involved, and there are no gastric or enteric crises.

Marked motor weakness, noticed by Gowers, is not present, as a rule. It was absent in one-half of Westphal's cases, and in a larger proportion of mine.

Muscular tension, exaggeration of the deep reflexes, paradoxical contraction are present, and are striking features. The plantar reflex is often extremely lively.

The symptoms begin in, and are usually confined to, the lower extremities, but sometimes the arms are also involved.

The ataxy is almost always present, and is decided. It is shown in standing and walking, and in attempting to make co-ordinate movements. It is present even when the muscular sense, as tested by posturing the limbs and by weights, is shown to be good.

The gait is a combination of that in tabes and in spastic paraplegia. The heels are brought down first in some cases, in others the toe drags and is brought down first. In some cases the whole foot is planted down at once, and the shoes are worn almost evenly.

The attitude as shown by the accompanying photographs, when compared with that of typical tabes or typical spastic paraplegia, represents a union between the two.

Illustrations of the gait, as shown by the marks of the feet, are also given. These are taken from Gilles de la Tourette's "Clinical Studies of the Gait in Paralytics."

I present here a history of my own cases.

Case I. *Male, aged thirty; psychopathic family history; early venereal excesses; syphilis; anæsthesia and pains; rigidity of extremity; exaggerated reflexes; tremors; Argyll-Robertson pupil; vesical paresis; impotence; progressive increase of spastic symptoms; no atrophy or paralysis; duration, nine years.*—J. L. G——, male; aged thirty; single; United States.

Family history.—The parents were healthy. An aunt was insane, an uncle committed suicide, another was insane.

Personal history.—The patient was a healthy boy, but sexually precocious, and early began to commit sexual excesses. At the age of twenty he became engaged, and at this time suffered greatly from sexual emissions, and became somewhat hypochondriacal. He had two epileptoid attacks at about this time. In 1876 he contracted syphilis, and at about this time indulged excessively in sexual intercourse. He had a stricture develop as the result of an old gonorrhœa. In 1878 he first began to feel spinal symptoms. He states that he became intoxicated one evening, and next day his legs felt very stiff, so that he could hardly lift one over the other; but he had no pains. This stiffness passed away in about six weeks. He then felt some sharp, lightning-like pains at times in the legs. His sexual power rapidly declined, and finally erections became impossible, though desire still remained. He noticed that his right pupil was larger than the left. His bowels were constipated. These symptoms continued, and gradually a stiffness of gait and some anæsthesia of the legs developed.

I first saw him in the fall of 1884, eight years after his first symptoms had been noticed.

Examination.—His general appearance was that of a fairly nourished man, not anæmic. His gait was slightly spastic and jerky, not ataxic. His organs were healthy aside from the nervous system. The mind was clear and sleep good. There was no paralysis of any part. Dynamometer, right hand, 45; left, 40. The triceps-tendon and wrist-tendon reflexes were exaggerated, especially on the left side, but there was no ataxia of the arms. Occasionally he had a slight tremor in the left hand. No atrophy. The lower extremities were not paretic, but there was tension of the muscles; the plantar reflexes were greatly exaggerated, and a sudden blow on the spinous processes from the mid-dorsal region down produced contraction of the adductors of the thigh. Electrical sensibility and irritability normal. The patient could control his limbs well and had no ataxia, but had painful cramps and trepidation in them at times.

Sensory: The patient suffered from lightning-like pains in the legs and soles of the feet, and had subjective sensations of coldness in the feet. Temperature of left foot, inner side, 96.5° F., *i.e.*, normal. Tactile and pathic anæsthesia noted in slight degree in feet and legs. He had decidedly anæsthetic patches in different places. He had had hyperæsthetic spots also. Conduction of sensation not delayed. The temperature sense was affected. He had no ataxia, and could walk in the dark. The plantar reflexes are exaggerated, cremasteric reflex absent, other skin reflexes normal. He had vesical weakness and sexual impotence. The heart was irritable. The eyes showed mydriasis of right pupil, and loss of light reflex nearly complete in both pupils, also myopia. There was some difficulty in swallowing, owing to morsels of food catching in the laryngeal pouches.

During the next twelve months the patient's symptoms slightly improved. The anæsthesia of the feet and legs

and the darting pains were less. The painful cramps continued. He slept well when lying flat on the back.

Two years after the first examination he developed a rectal ulcer, which made it almost impossible to retain the fæces. This was relieved temporarily by applications of nitrate of silver and nitric acid. The patient's anæsthesia, which had partly disappeared, had returned, and the spastic symptoms slightly increased. There was a tremor and some atrophy in the left arm. He still has no ataxia, and can write well and walk in the dark.

As to treatment, under large doses of the iodides, and occasionally a course of mercury, his symptoms improved. Iodide of ammonium agreed with his stomach best. He took digitalis at times for the relief of his irritable heart.

It will be seen that we have here the eye, bladder, cardiac, pneumogastric, and sensory symptoms of locomotor ataxia, but predominating over these the symptoms of spastic spinal paralysis.

Case II. *Female, aged twenty six; neuropathic family; personal history good; symptoms began July*, 1885; *numbness and slight weakness of lower limbs; ataxia in all limbs without anæsthesia; spastic symptoms; exaggeration of reflexes; clonus; no atrophy; no paralysis; slight anæsthesia; vesical weakness; no eye symptoms.*—Jane D——, aged twenty-six; single; New York; seamstress.

Family history.—The patient's grandmother was epileptic. The father is of nervous temperament, and has nervous dyspepsia; he used to drink excessively, though not an inebriate; also used a great deal of tobacco. Three sisters died of convulsions when infants. Three sisters, still living, are very nervous.

Personal history.—The patient has been of a nervous, excitable disposition. When a child, used to have attacks of complete mental confusion, perhaps of an epileptoid character. Has worked at a sewing-machine a good deal. Menstruated at about fourteen, and has had no pains or trouble at this period, but her courses are scanty. She has lived a quiet, temperate life, and has shown no evidences of hysteria.

In the summer of 1885 she first began to notice her present symptoms. She caught cold at this time, and then noticed a numbness in the legs and a weakness and uncertainty in walking. There was numbness to a less extent in the arms. She had icy-cold sensations about the waist, some difficulty in passing urine, and constipation, but no pains anywhere. She had some dyspepsia, acid in character. These symptoms of numbness and weakness continued, to which were added stiffness of the legs and occasional cramps.

Examination.—She was seen by me in October, 1886, fifteen months after the symptoms first began. Her appearance is that of a well-nourished person, neither emaciated nor fat. Her gait is uncertain, stiff, and jerky; the feet come down strongly, the left toe barely leaving the ground, the heel striking the ground last; the body sways, and the line of movement is irregular. The gait is not typically spastic, but it is rather that of muscular stiffness and ataxia combined.

On examination I found no abnormalities of the skull, the mind was clear, not irritable, but somewhat depressed. Her sleep was good; she had no vertigo or headache, nor any hysterical crises; no disorders outside of the nervous sphere. Her urine contained a trace of albumen, was cloudy, yellow; specific gravity 1.020; no sugar; phosphates and urates normal or below the average.

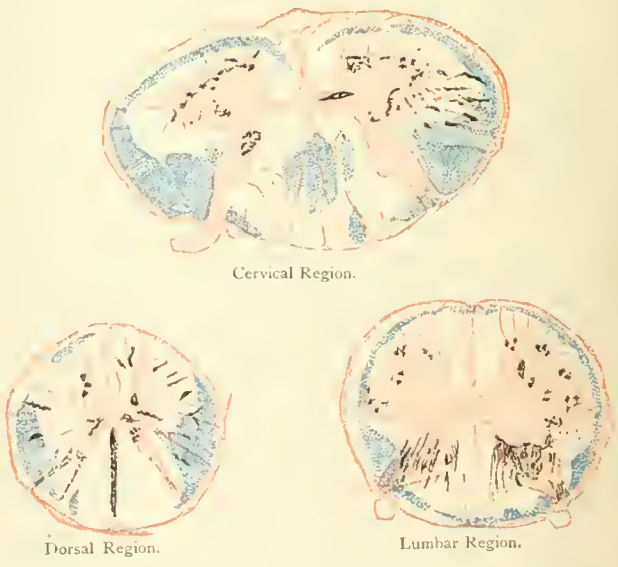
Her arms showed slight muscular weakness; dynamometer, right hand, 35; left, 29. Her lower limbs are perhaps a little weak, but the gross strength is still good, and she can walk a considerable distance. There was no atrophy or change in electrical reactions; there was no tremor, but the deep reflexes were exaggerated. There was ankle clonus; no paradoxical contraction; the plantar reflexes not much changed. She had contractions, trepidation, and cramps in the legs. She had both static and locomotor ataxia of moderate grade, due to impaired muscular sense. This ataxia affects the lower limbs mainly. She can sew, but sometimes drops her needle, because she can't feel it, and she is a little awkward with her hands. With closed eyes she shows a little uncertainty in touching the tip of her nose with her forefinger. There is a slight degree of tactile anæsthesia in the lower limbs. She has no neuralgic or lightning pains. At one time there was vesical weakness, but this has now disappeared. She suffers from constipation and dyspepsia, with acid eructations and boulimia. Her courses are regular, painless, scanty, and not accompanied with any exaggeration of symptoms. She has had no pains at any time. The pupillary reflexes are normal; there are no ocular paralyses. She has astigmatism and myopia. Fundus normal.

During the four months in which she was under observation her symptoms continued about the same.

Case III. *Female, aged nineteen; family history good; patient of nervous temperament; supposed hysterical attacks between ages of eight and ten; severe mental and emotional strain at sixteen; ataxia and anæsthesia, with spastic symptoms affecting different extremities for three years, but mainly lower limbs; temporary visual trouble; diplopia and vesical paresis; no neuralgic pains; when seen by writer at end of three years, spastic ataxia with cutaneous anæsthesia, mainly in left arm and right leg; some improvement with shifting of symptoms; mental depression; no hysterical crises.*—Patient referred to me by Dr. William O. Moore. K. P——, aged nineteen; single; United States.

This patient's history is much like that of Case II, being apparently a hysterical case. The details are therefore omitted.

Case IV. *Female, forty-two years of age; widow; negative family history; possibly syphilis; alcoholic and other excesses; in* 1883 *paraparesis; paræsthesia; slight pains; spastic symptoms; anæsthesia of lower limbs; bladder troubles; death*, 1886; *duration, three years; autopsy.*—This patient was brought to Bellevue Hospital in the service of Dr. E. Darwin Hudson, Jr., to whose kind-



Cervical Region. Dorsal Region. Lumbar Region.

ness I am indebted for the opportunity to examine the cord and use the notes. I am also under great obligations to Dr. John H. McGivern, of this city, for kindly supplying important details in the history.

Mary N——, forty-two years of age; widow; United States; housekeeper; admitted to Bellevue Hospital October 23, 1886. The family history is good, so far as nervous disorders are concerned. About ten years before admission patient led a fast life, indulging in alcohol. She showed some syphilitic symptoms, but never acknowledged having had that disease. About

three years before admission to the hospital she began to suffer from paralytic symptoms. These were confined always to the lower extremities. They began with numbness and tingling. She had stiffness of the joints and pains in the lower extremities and in the lumbar region. She suffered especially from spasmodic contractions, trepidation, and cramps in the limbs. The pains were worse in the last year or two. The symptoms gradually increased until she finally had to go about on crutches. The decided paraparesis began six weeks before admission.

There developed gradually a weakness and finally paresis of the bladder, so that on two occasions, about three months previous to death the urine had to be drawn by a catheter. The urine was then high colored and albuminous. From this date she had dribbling of urine. Anæsthesia of the lower limbs was noted by Dr. McGivern at this time. The legs and abdomen became œdematous at this time, and she suffered from headaches, vertigo, dimness of vision. The bowels were constipated.

On admission the patient showed no signs of emaciation. There was an eczematous condition of the chest and back. Heart and lungs were normal. Urine acid, 1.018; no sugar; trace of albumen; no casts. There is loss of power in the lower extremities, and patient can only walk with help. The legs are not atrophied. There is some anæsthesia and ataxia, as shown by inability to place the limbs at a given spot. The knee-jerk is diminished.

A week after admission the patient developed a sacral bed-sore. She began to pass her urine and fæces involuntarily, developed an adynamic condition, the bed-sore spreading, and she died on November 13th, three weeks after admission.

Autopsy, made the same day.—Heart, lungs, liver, and spleen normal or nearly so; kidneys are enlarged to about one-half; capsules thickened and somewhat adherent; cortex congested and slightly thickened; striæ invisible; pyramids congested; mucous membrane of pelvis congested. Brain: Pia mater congested and thickened over the convexity; no serum in ventricles. Spinal cord: Meninges much congested. On section of the cord a wedge-shaped tract of grayish color is found in the posterior part of the lateral columns. It is bilateral and is most marked in the cervical enlargement, but shows plainly throughout the dorsal region.

Microscopically: Sclerosis of *crossed pyramidal* tracts most marked in dorsal region. Sclerosis of *cerebellar* tracts to a moderate extent. Sclerosis in *columns of* Goll most marked in cervical region, less in dorsal. In the cervical region the sclerosis is diffused, affecting nearly the whole lateral column. There is very great increase in number of vessels in anterior cornua and lateral columns, and to a less extent in posterior and anterior columns, all being most marked in lower cervical and upper dorsal regions. Evidence of an acute process beginning in posterior horns at a low level of cervical cord. Cells of anterior horns affected in cervical and dorsal region at some levels—affections recent. Cells of columns of Clark atrophied at upper levels.

Anatomical Diagnosis: Chronic cervico-dorsal myelitis affecting lateral columns primarily; gray matter secondarily; secondary degenerations in lateral column; ascending and descending development of sclerosis in columns of Goll.

Case V. *Patrick C——. Family history negative; possible syphilis; hard drinking and heavy work; ataxic symptoms; impotence; some darting pains; no anæsthesia; spastic symptoms; temporary bladder trouble; vision slightly impaired; course seven years.*—Patrick C——, aged fifty-one; Ireland; laborer at stonework. Family history negative. Patient has been a heavy drinker; has worked very hard, doing heavy lifting, etc. Had a venereal sore twenty years ago. His health has been very good until the year 1880, when he noticed that in using the hammer and drill he often struck his hands. His gait was also uncertain; his sexual power declined. In 1881 he had some pains in the lumbar region, and darting pains in the knees and outer aspect of the legs. He noticed that when walking after dark, he would reel like a drunken man. In 1883 his eyesight became poor. His sexual power was abolished. He had trembling of the legs, painful contractions, and involuntary trepidation of the lower extremities, especially when in bed, so that the whole bed was shaken. Occasionally he had attacks of painful diarrhœa, and his bladder became weak, so that he could not readily pass his water.

Patient was admitted to the hospital in October, 1886.

Physical examination.—Patient is a large man and not emaciated. His gait is ataxic, but there is jerkiness and wide-spreading of the feet in addition. No troubles were noted outside the nervous system.

His mental condition is good, he has no vertigo, and he sleeps well except for the cramps and spinal trepidation. His muscles show no atrophy, nor is there any very noticeable loss of power in any of the extremities. Dynamometer, right hand, 50; left, 55. (The average pressure in my dynamometer is between 40 and 50 for men.) Electrical reactions normal.

The muscles show exaggerated response to mechanical irritants, *i.e.*, blows over the motor point or body of the muscle. Patient complains of some heaviness in the legs, but has no paræsthesia or pains, or sense of anything between the soles of the feet and the ground when he stands.

The special cutaneous senses are all normal; he even appreciates slight differences in weight and pressure. He shows, however, a very marked degree of ataxia in all the extremities, but especially in the lower, as tested by making him pose his limbs and touch certain parts of the body. He cannot stand or walk with the eyes closed.

There is very great exaggeration of all the deep and cutaneous reflexes. Paradoxical contraction is present, lasting about twenty seconds. The patient has a double patella reflex, the first being probably myotatic, the second a skin reflex. The pupils are small and very sluggish to light; accommodation reflex present. Fundus, normal.

The other special senses are normal. The bowels are constipated; the bladder is at present normal.

Under treatment, the patient improved greatly as to both sensory and motor symptoms.

Four months later he had no spinal trepidation, the plantar reflexes became almost normal, and the ataxic symptoms decreased.

Case VI. *Male, aged twenty-eight, single; good family history; personal history of vinous, venereal, tobacco, and saltatory excesses; syphilis doubtful; gradual onset during four years of ataxia, slight pains, and anæsthesia; severe spastic symptoms; exaggerated reflexes; spinal trepidation; vesical and sexual weakness; symptoms confined to lower extremities; eyes not affected.*—The patient was sent to me by my friend, Dr. De L. Carter.

C——, male, aged twenty-eight; single; United States, book-keeper. The parents were healthy; one brother has a spinal trouble (curvation?). The patient had always been strong and healthy. He has smoked and drank a great deal, and indulged in sexual excess. He has danced a great deal. He had gonorrhœa and a soft chancre, but gives no history of syphilis.

In 1881, five years before I saw him, he began to notice some weakness and uncertainty in his legs, but this did not interfere with his regular work, or his pleasures, until a year ago (1885), when his ataxia became too great to allow him to dance. He noticed that his legs were weak and stiff, and sometimes there was trepidation in the legs. His hands and arms were not affected at all. He had some sharp, twitching pains in the legs occasionally, but these were slight in amount. His legs felt heavy and numb. His sexual power for some

months had diminished greatly, and he had a slight degree of vesical weakness.

Examination (October, 1886).—The patient is a large man of muscular build and healthy appearance. His gait is heavy and a little uncertain; the feet come down heavily, the heels striking first. The muscles of the body look well developed. There were no changes discovered outside the nervous system. Urine, normal. The arms showed no signs of disturbance. Dynamometer, right hand, 40; left, 40. There was a slight degree of weakness in the legs, as tested by pushing against them. The electrical sensibility was lessened, the irritability increased. There were no qualitative electrical changes in muscle or nerve. The muscles of the lower extremities felt tense, and were over-irritable to mechanical as well as electrical stimuli. Blows upon them easily brought out welts of idiopathic contraction, and blows over the motor points caused lively contractions. The patella tendon reflexes were greatly exaggerated; there was ankle-clonus and paradoxical contraction. The triceps and wrist reflexes were very slightly exaggerated.

The patient stated that at night he suffered from trepidation of the legs, so that the whole bed shook. He also felt a stiffness in the legs, and suffered at times from crampy contractions in them. The plantar and cremasteric reflexes were exaggerated; the other skin reflexes normal. The lower limbs showed a considerable degree of tactile, pathic, and temperature anæsthesia, distributed in patches below the knees. There was no delayed conduction. Muscular anæsthesia was very well marked, as shown by posturing the limbs, moving to certain parts, and by his having both static and locomotor ataxia. There was great diminution of vaso-motor reflexes on scratching or pressing a dull point along the legs.

The patient has at times suffered from sudden severe startings of the whole body when about to go to sleep. He feels a sensation, beginning in the feet as a tickling, running up the body and ending in an explosive contraction of the muscles of the body. He has no eye-signs or symptoms whatever.

During the six months in which he has been under observation, there has been an improvement in the sensory symptoms; the motor symptoms improved for a time. Some atrophy has taken place in the legs.

Case VII. *Male, aged fifty; negative family history; no syphilis; alcoholic excesses; symptoms began eight years ago with pains; paræsthesia; ataxia; cramps and spinal trepidation; bladder trouble; no anæsthesia; ataxia and spastic symptoms marked.*—Christopher B——, aged fifty; male; Ireland; laborer.

In the details this case resembles Case V.

Case VIII.—Aged fifty-three. This patient was one of the best types of the disease, and a year ago was shown several times to my class as such. Unfortunately, his history has been lost, and the patient disappeared.

His symptoms were of long duration—over ten years. They were mostly confined to his legs. These were paretic, so that he could only walk with assistance, and then in a "scissors" fashion, on account of the spasm and adduction of the thighs. He suffered a good deal from pain in the back and legs. There was marked anæsthesia of lower extremities, ataxia, great exaggeration of reflexes, ankle clonus, spontaneous movements, some wasting, and loss of power. There was some ataxia in the arms. There was vesical weakness, sexual impotence, and spinal myosis, but vision was good. He had, in fine, spastic paraplegia plus ataxia, anæsthesia, pains, and slight disturbances of bladder.

Case IX.—Dr. Graeme M. Hammond's case. Male, aged forty-five; United States; married; pianomaker. Consumptive family history, chancre twenty-eight years ago; cough for two or three years; otherwise healthy until February, 1884; symptoms then began with sensation of coldness in toes, followed by burning pains, and then anæsthesia reaching to knees. He had to watch the ground when he walked, otherwise he would stagger and fall. In July, he noticed a weakness and uncertainty in the lower limbs, at the same time he began to suffer from painful contractions of the lower limbs. The motor and ataxic symptoms progressed until he had to use a crutch to help him in walking. Tight band feeling about the waist. He had burning, darting pains in legs. In September the arms became affected with cramps and darting pains. Loss of sexual power dates back two years. In September he began to lose control of vesical sphincter.

On examination in October, 1884, he was found to be emaciated, and signs of phthisis were present. There was paraparesis, though the patient could walk with help. Electrical reactions of muscles normal or slightly diminished. Superficial and deep reflexes greatly exaggerated, most in lower limbs. Ankle clonus. Tactile anæsthesia and analgesia in lower limbs below knees; upper limbs normal. Impotence; sphincters weak; eyes normal. No bladder troubles.

The symptoms gradually progressed, and he died of phthisis (syphilitic?) about a year after onset of the disease.

General course, of a subacute multiple neuritis, with ataxia, anæsthesia, and great motor irritability and weakness; or, in other words, *subacute locomotor ataxia and spastic paraplegia.*

Autopsy.—Lesions of syphilis in lungs, liver, etc. A peculiar vesicular degeneration of columns of Goll, very marked through whole length. Low grade of sclerosis of lateral columns and cerebellar tracts.

Prognosis of Progressive Spastic Ataxia.—The more superficial character of the lesions in spastic ataxia gives to it a more favorable prognosis than might be expected from its extent. In the present type we have only conducting paths involved, not centres, and hence the functions of life are less apt to be interfered with.

The lateral sclerosis, however, is liable in time to encroach on the mixed lateral column, and even the cornua; so also the posterior sclerosis may extend. Many cases have, therefore, run a course of but a few years. However, I think that, barring accidents in the prognosis, *quoad* life is better than in typical tabes. A patient of Strümpell's lived thirty years; one of mine has been doing professional work for ten years, and still is at it.

The Treatment of this trouble does not vary greatly from that of locomotor ataxia. I believe that in those cases in which excessive muscular work and exposure have been etiological factors, a very important thing is rest. Under this treatment I have seen remarkable amelioration in every symptom. The slight anæsthesia which exists can be made to disappear by the use of electricity. The trembling and trepidation of the limbs at night are often very annoying to the patient as well as being a disturbing element in the conjugal relations. Moderate doses of bromide relieve this.

I can strongly recommend the use of orthopædic appliances for giving support to the shaking knees and hips. Patients feel better and are even improved by the systematic, careful use of the faradic current, one of high tension, like Tiegel's battery or the static current being preferred. No class of patients, in my experience, have returned so persistently and faithfully for electrical treatment as those suffering with spastic ataxia, or spastic paralysis. A thorough course of anti-syphilitic treatment, using inunctions and occasional purges, should be tried if needed, and in later stages very large doses of the iodides are to be tried. In one case, undoubtedly syphilitic, this certainly did much good. The patient preferred iodide of ammonia.

Warm baths and cold douches are beneficial, but hot baths are dangerous. The stomach is a thing that must be attended to with great care. Rhubarb and soda is an excellent remedy for tabes.

Conclusions.—I. (*a*) There is a class of cases suffering from the milder symptoms of locomotor ataxia, such as ataxia, slight pains, paræsthesia, sexual and bladder

weakness, and also from symptoms of a spasmodic character, such as tremblings in the limbs, spontaneous movements, muscular stiffness, cramps, and some motor weakness. (*b*) There is also a class of cases in which the symptoms are primarily of a spasmodic character plus some paresis, ataxia, slight sensory troubles, and vesical weakness. In these two classes of cases the lower limbs are primarily and chiefly affected.

II. These cases form distinct clinical types which it is important to recognize both for prognosis and treatment.

III. The name given cannot yet be based on the pathological anatomy, since combined sclerosis is found in diseases running various courses. The nearest approach to accuracy would be to call it a "combined fascicular sclerosis," this representing the typical class. Clinically the disease may be known as progressive spastic ataxia or ataxic paraplegia.

IV. The typical anatomical changes consist of a degeneration of the thin, long fibre-systems of the cord, viz., the pyramidal tracts, the cerebellar tracts, the antero-lateral ascending tracts, and the columns of Goll. Being primary, this does not necessarily involve their whole length, and it is most marked in the dorsal region, where the mixed lateral columns often become involved. The disease is not always primary, but may originate from a dorsal myelitis or a syphilitic cord disease. It then runs a sharper course. The typical tri-fascicular lesion has in rare cases produced ataxia with a flaccid paralysis.

V. The disease has a long duration. It is less painful than true tabes, and it involves the eyes and the organic centres to less extent than does tabes dorsalis.

VI. It is diagnosticated by the presence of the spastic symptoms in conjunction with ataxia, by mild sensory disturbances, bladder and sexual weakness; by an absence of extensive involvement of organic centres until very late in its course. It has to be diagnosticated from pure tabes, primary spastic paraplegia, certain forms of chronic hydrocephalus, Friedreich's disease, chronic hydromyelus, and dorsal myelitis.

It is especially difficult and important to differentiate it from transverse myelitis, many cases of spastic ataxia having, I believe, been mistaken for that disease.

Acupuncture in Japan.—As practised by the Japanese acupuncturists, the operation consists in perforating the skin and underlying tissues to a depth, as a rule, not exceeding one-half to three-fourths of an inch, with fine needles of gold, silver, or steel. The form and construction of these needles vary, but, generally speaking, they are several inches long, and of an average diameter of one forty-eighth of an inch. Each needle is usually fastened into a handle, which is spirally grooved from end to end. To perform the operation, the handle of the needle is held lightly between the thumb and first finger of the left hand, the point resting upon the spot to be punctured. A slight blow is then given upon the head of the instrument with a small mallet held in the right hand; and the needle is gently twisted until its point has penetrated to the desired depth, where it is left for a few seconds and then slowly withdrawn, and the skin in the vicinity of the puncture rubbed for a few moments. The number of perforations range from one to twenty, and they are usually made in the skin of the abdomen, although other portions of the body are not infrequently punctured. The different locations to be punctured for various diseases are fixed by rules illustrated by diagrams, as in the *Jū-shi-kiyō*, a work now to be obtained at almost any of the second-hand book stalls. The diseases in which acupuncture is employed are very numerous and cover almost the whole range of medicine, but it is most successfully used in colic and other spasmodic disorders.—Dr. W. N. Whitney, in the *Sei-I-Kwai Medical Journal.*

RUBELLA (RÖTHELN: GERMAN MEASLES).

With a Report of One Hundred and Fifty Cases.[1]

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The recognition of rubella, although usually such an easy matter, is at times attended with difficulties so great that many physicians still refuse to believe in its independence. Even those who admit its existence give the most varied descriptions of its symptoms. Yet the earliest possible recognition of the disease in any case is often of the greatest importance to the well-being of the patient and of other individuals in the same house. The physician's error in diagnosis may be the means of spreading measles or scarlatina throughout a family or an institution.

I shall attempt, in considering the subject, to give, without much comment, the statements of many of the numerous writers whom I have consulted; and shall endeavor finally to draw from the literature, and from the cases reported here, some reliable conclusions concerning the description and diagnosis of the disease in question. Those who are interested in the matter will admit, I feel sure, that the confusion which exists is sufficient reason for another contribution on the disease.

The literature of rubella is already very extensive, and it has been impossible for me to make even an attempt at a complete bibliography. I shall append, however, a list of those writers (upward of 120 in number) whose publications I have been able to consult.

The cases upon which this paper is based number in all about 150. One-third of these occurred in my own practice, during the early months of 1886; the notes of 34 others, treated in the same year have been kindly furnished me by Dr. George E. Shoemaker; and Dr. J. H. Musser also has placed at my disposal those of nearly 70 cases observed by him in 1881, but never reported.

Name.—The disease has been variously named and misnamed in different languages. Among these titles we find rubeola, rubeola sine catarrho, r. notha, r. epidemica, r. morbillosa, r. scarlatinosa, rosania, roseola, roseola epidemica, rubella, rosalia, rosalia idiopathica, scarlatina morbillosa, scarlatina hybrida, morbilli scarlatinosi, rötheln, feuer masern, roséole, roséole idiopathique, rubéole, rougéole fausse, German measles, French measles, false measles, bastard measles, hybrid measles, bastard scarlatina, etc.

The term "rubeola" is largely applied to it in Germany and in France (rubéole); but as it is the name often used for measles in English-speaking countries, it is best to avoid it. There is no reason why we should adopt the German word "rötheln," which is usually mispronounced, and for whose proper pronunciation, indeed, we have no equivalent vowel-sound in English. "Roseola" is a generic word whose employment here only adds to the confusion. As it seems best, then, to use some other name, I shall employ the term "rubella," advocated by Veale in 1866, adopted by Squire, and used as the reference-word in Dunglison's "Medical Dictionary." This word, too, being a diminutive of rubeola, expresses at once the usually slight import of the disease, and its relationship to measles—akin to that existing between varicella and variola.

Historical Sketch.—How long rubella has been in existence is impossible to determine. Some writers are of the opinion that it was known to the Arabian physicians under the name of "Hhamikah," and by them considered a form of measles. Descriptions of a variety of this disease, which it is claimed was identical with rubella,

[1] I have made no reference anywhere to the valuable paper of Atkinson (American Journal of the Medical Sciences, January, 1887), because my own paper had been completed before his appeared.

were also given by Ingrassias, Ballonicus, and Sennertus in the seventeenth century. But up to the accounts published in Germany by De Bergen in 1752 and Orlow in 1758—unless we accept the publication of F. Hoffmann in 1740—there seems to have been no attempted recognition of a third distinct and specific eruptive fever different from both measles and scarlatina.

Germany.—Taking a hasty review of the history of the disease in Germany, we find a report by Selle, in 1780, of a very malignant epidemic. Ziegler in 1788, Formey and Fielitz in 1796, Sprengel, Stark, and others also maintained its specific nature and reported epidemics. It was generally considered a serious and often fatal malady. Formey stated that between the years 1784 and 1796 1,180 persons died of it in Berlin; while during the same interval there were but 203 deaths from scarlatina and 103 from measles. The descriptions given by these authors vary considerably. The writer last quoted reports the disease as beginning in the throat, where a white coating was often found. Vomiting and severe nervous symptoms—as coma and delirium—were not uncommon. Selle describes the eruption as consisting of miliary pustules. Others, again, write of a universally diffused, flaming-red rash, followed by a desquamation of large scales, and sometimes by dropsy. There were, however, many physicians who did not believe in its independent existence. Göden (1822) confounded it with scarlatina; Jahn (1835) denied its existence entirely; Hufeland, Frank, Reil, Heim, and others considered it a form of scarlatina, although Heim gave a description of the eruption much as we now find it in rubella. This opposing view gained the upper hand for a number of years. The fact nevertheless remained that there did exist an eruptive fever having a benign course and a characteristic eruption, and which could not be classified with either measles or scarlatina. To get rid of this stumbling-block, Hildenbrand, as early as 1825, and Schönlein, in 1832, had maintained that rubella was a hybrid of the other two fevers. This opinion, or the view of the disease as a transitional form, gradually supplanted other theories. It was shared by Geertsema (1821), Busche (1841), Paasch (1854), Gelmo (1858), and many others. Many interesting instances were reported, seeming to uphold it. It was claimed that the malady prevailed at the same time with both scarlatina and measles; or while an epidemic of the one was on the wane, and one of the other increasing in severity. Epidemics of rubella frequently occurred, too, in localities lying between two districts, in one of which measles was to be found, and in the other scarlatina. I have only space to quote from two of these publications. Paasch attended in families where typical measles first appeared; then cases characterized by very little fever, an eruption of small red spots, and slight sore throat; and, following these, others of an undoubtedly scarlatinal nature, accompanied by marked anginose symptoms. One of the most interesting accounts, purporting to show the influence of scarlatina and measles upon each other, and the non-existence of rubella as a specific disease, is that by Gelmo. He reports epidemics of the first two diseases, occurring at various times between the years 1848–53, inclusive, and describes cases illustrating a transitional form between them. In 1853, for example, the last patients of an almost exhausted epidemic of scarlatina showed an eruption which was but poorly developed, consisting of minute spots or of patches the size of the hand. The incoming epidemic of measles, which immediately followed, presented, besides the ordinary catarrhal symptoms, inflammation of the tonsils and a confluent redness of the whole cutaneous surface. The cases of measles, which were observed later, ran a normal course.

The general opinion among physicians in Germany continued to tend toward the entire rejection of rubella as a disease *sui generis*. This was the view of Canstatt, Hebra, Gintrac, and others. But, in spite of all opposition, there were still many believers in the specificity of the third exanthema. Among these were Behrend (1828), Wagner (1834), Meissner (1844), and as time went on others were added to them. After 1860 the independent existence of rubella was maintained in Germany by Mettenheimer, Thomas, Hennig, Thierfelder, Vogel, Wunderlich, Lindwurm, Arnold, Gerhardt, Steiner, Kuster, Roth, Emminghaus, and many others, with Nymann in Russia, and De Man in Holland. This view is now held almost without exception. Strümpel says that the existence of rubella can only be denied by those who have never seen it.

England.—In England the question received but little attention until later years. Tripe claims that Fothergill in 1754 described rubella in his essay on a certain kind of malignant sore throat. A perusal of this paper renders it more than probable, however, that it was a form of scarlatina. Willan in 1808, and Bateman in 1813, described a roseola, and also a rubeola sine catarrho, which did not protect from measles. But Maton in 1815 was the first to recognize rubella as an affection distinct from either measles, scarlatina, or roseola. Nevertheless, the view that it was only an anomalous form or a hybrid prevailed in England also until 1840, when Paterson maintained that it was a disease *sui generis*, and gave a description of it, though as he described it the affection was certainly more severe than it now is. Tripe agreed with this in 1852, and Balfour in 1857. Later there prevailed a difference of views. Copland in 1858 claimed that it was a hybrid, and this was the belief of Aitken. Reynolds' "System of Medicine" (second edition, 1870) contains no notice of it; Watson scarcely mentions it. On the other hand, it is firmly believed in by Veale (1866), Murchison (1870), Liveing (1874), Dunlop (1871), and others. Among the numerous reports of epidemics during the last decade may be mentioned those of Cheadle (30 cases), Shuttleworth, Douglass (50), Tonge-Smith (145), Wilson, Dukes (63), and others; and that of McLeod from Calcutta. The specific nature of the disease is now usually admitted by English writers.

France.—In France the disease received less attention than in Germany. Its existence as an independent affection was disputed in the early part of the nineteenth century. Rayer in 1826 confounded it with roseola, and denied its specific character. Alibert (1832) recognized in it a distinct disease; called it "roséole idiopathique," in contradistinction to symptomatic roseola; and described its symptoms nearly as we know them. Barthez and Rilliet, in their edition of 1853, classified it with roseola; later, in 1861, they appear to recognize its independent nature, and say that it bears the same relation to measles as varicella does to variola. From this time the majority of writers in France, as in Germany uphold the distinctiveness of rubella. Although it is denied by Thore, it is maintained by Danis, Trousseau, Roger, and Damaschino, Delastre, and others.

Italy.—My search after the history of rubella in Italy has been almost totally barren of success. In the "Diction ary of Medical Terms," by Longhi and Tirinanzi (1882), no mention is made of it as a distinct disease. That it is, nevertheless, recognized by some modern writers is proved by the paper of Cuomo in 1884; but with this exception I have found almost no reference to it.

America.—Homans, of Boston, was the first to recognize rubella in this country, having seen and described cases in 1843. Cotting read a paper on the disease in 1853, and published an account of a series of cases in 1871. Caleb Green, too, in the same year stated that he had witnessed an epidemic. In 1874, J. Lewis Smith brought the disease prominently before American physicians, and since that date a great number of communications have been published. Many epidemics of considerable size have been reported; among them those of Hatfield (110 cases), Park (over 100), Earle (120), Edwards (166), and Kingsley (21).

Rubella an Independent Disease.—We have seen, then, how rubella, at first looked upon with suspicion or utterly denied being, has at last won an established place for itself, although there are still some quite recent writers who are disposed to deny its separate existence. Henoch, for example, almost repudiates it; Fagge, in his "Practice of Medicine," recently issued, says that the only reason for the admission of rubella as a distinct disease is that "it explains the occasional supervention of what appears to be a second attack of measles in the same individual. But," he continues, "the importance of this argument may be easily overrated." Goodhart thinks it can be a hybrid as well as a distinct disease. Descroizilles does not recognize it at all. Two of those partaking in the discussion at the International Medical Congress in 1881 (Stewart and Oxley) did not believe in it, and I have met with several other dissentient views in the literature.

It would seem, then, not unnecessary to formulate some of the propositions upon which the theory of the independence of rubella rests:

1. It is an epidemic and contagious eruptive fever, and not a simple affection of the skin.
2. It prevails independently of the existence of measles or scarlatina.
3. Its incubation, invasion, eruption, and symptoms differ materially from those of either of the other two fevers.
4. It attacks indiscriminately and with equal severity both those who have had measles or scarlatina and those who have not; nor does it protect in any degree from either of these diseases.
5. It never produces anything but rubella in those exposed to its contagion.
6. It occurs but once in the same individual.

Some of these propositions will be admitted without dispute, and do not need proof; others will be discussed incidentally later in the paper. The admittance of the truth of the 4th is alone sufficient to establish the existence of rubella as a distinct disease, unless we admit that measles and scarlatina are very likely to occur a second time in the same person. But this is contrary to the universal experience and belief. Were it a hybrid of the two, or a variety of either disease, so modified that it could not protect *fully* from the typical disorder, we would with reason expect, on the one hand, that rubella would be more severe in those individuals who had never had measles or scarlatina; and, on the other hand, that the previous occurrence of rubella would greatly modify the virulence of the other affections. But it is, I think, almost uncontested that the three diseases have no protective power whatever upon each other.

Again, the disease often prevails at a time when both or one of the other two are not epidemic. This statement expresses the views of those who have studied rubella excepting the older writers, who certainly often confounded the three affections.

That rubella does frequently occur in those who have had measles and scarlatina is proved by the evidence of various writers, as seen in the following statement:

Of J. L. Smith's 48 cases, 19 had had measles; of De Man's 33 cases, 10 had had measles, 4 scarlatina; of Thierfelder's 45 cases, 22 had had measles, 5 scarlatina; of Hatfield's 110 cases, many had had measles and scarlatina; of Shuttleworth's 27 cases, 15 had had measles and scarlatina, and 5 had both diseases in later years; of Klaatsch's 22 cases (first epidemic), 11 had had measles; of Klaatsch's 40 cases (second epidemic), most had had measles; of Dukes' 88 cases, 61 had had measles; of Cheadle's 30 severe cases, 22 had had measles.

Quite a number of the cases to be reported in this article had previously had measles, or developed it afterward.

It has been strongly urged against the existence of this fever that physicians are not agreed as to its symptoms; and that the severe disease described by the earlier writers, and even by Copland, Aitken, and others, is quite different from the trivial affection as it is now usually seen. Of the rubella of the older writers, Thomas says: "It is probable that much that has been described under this name [rubeola] was nothing more than measles or scarlet fever." This remark applies with equal truth, I think, to some of the severe cases and epidemics more recently reported. It is also to be borne in mind that rubella, like other contagious diseases, may vary greatly at different times and places; and, further, that very anomalous cases may occur. Still another possibility exists, that, as Klaatsch and some others believe, the disease has become gradually modified, and much less severe, during the time which has elapsed since the first descriptions of it were published.

Etiology.—There is abundant proof that rubella is *contagious*, and this fact is now very generally admitted. It has been, however, doubted by many. Kassowitz, in his earlier writings, and Steiner deny it altogether; Slagle questions it; and De Man, Picot, Mettenheimer, Arnold, and Lindwurm only think it probable. Walch believes it may arise spontaneously, and says that epidemics of it appear in Malta as soon as the rainy season sets in. As to the *degree* of contagiousness, Thomas thought it somewhat less than that of measles; and Tonge-Smith, Liveing, Bourneville and Bricon, Hardaway, and others are of the same opinion. Squire, Chadbourne, and J. L. Smith say the disease is feebly contagious. Klaatsch thinks it is more so in some epidemics than in others; and Jacobi and Dukes consider it very contagious. My own experience leads me to believe that the contagious nature of rubella is very decided. Out of about 100 cases in a "Home" where I attended, 37 took the disease in spite of the most prompt and careful isolation. Out of approximately the same number in another institution, 26 were attacked. Thomas, Roth, Veale, and others think the disease is probably *infectious* also; Emminghaus believes that this is proved by cases reported by Balfour. Edwards states that the origin of many of his cases could be traced to infection from the bunks in ships.

Rubella occurs chiefly in *epidemics*, and most frequently in winter and spring. J. F. Meigs stated[1] that he considered it rather epidemic than contagious. This is, too, the opinion of Slagle. Liveing and Edwards deem it more prone to be so than are either measles or scarlatina; and Thomas emphasizes its epidemic nature. Whether it is a *cyclic* malady, as Thomas thinks probable, with a period of some years between its appearances in the community, can only be determined by further investigation.

Regarding the *stage* at which rubella is most easily communicated, there is little known, and opinions differ. Thierfelder believes it to be most contagious during the healing stage. Squire thinks it can be communicated before the rash appears, and for a month after this date. The spread of the disease throughout an institution, despite prompt isolation of the affected children—as in some of my own cases—proves that it is certainly contagious in the early stages. The nature of the *materies morbi* is unknown. The manner in which it is conveyed is probably by exhalations from the skin and from the breath, as in the case of measles. The discovery by Edwards and Formad of micrococci in the blood of some cases is interesting, but, I believe, has not yet been confirmed. There is no reason to believe that rubella ever imparts any disease but itself; and it is almost universally admitted that it occurs but once in the same individual. Trousseau, Picot, and Bourneville and Bricon are among the very few disposed to deny the latter statement; and Trousseau says, too, that an attack may be repeatedly induced by high temperature and by copious perspiration.

Sex appears to be without influence upon the occurrence of the disease.

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[1] Personal communication.

Rubella is an affection of *childhood*, occurring especially between the ages of five and fifteen years. I have seen it in children under two years of age and Scholl reports it in an infant a few days after birth, the mother having had it two months before. But early infancy is usually exempt. Adults are also attacked, though comparatively seldom.

Of 55 cases reported by Thomas (1868), 2 were adult; of 22 cases reported by Thomas (1872), 1 was adult; of 42 cases reported by Emminghaus, 2 were adult; of 19 cases reported by Roth, 1 was adult.

Although there were many adults connected with the institutions for children in which one hundred of the cases here reported occurred, yet but one of the number was attacked.

Seitz reports the disease in a woman seventy-three years of age.

Incubation.—The larger number of my own cases occurred in an epidemic in one of the "Homes" already referred to, and this circumstance offered excellent opportunities for the careful study of the disease. The first case was that of a child who, to my certain knowledge, had been very ill with measles two years previously. While temporarily absent she was taken ill with rubella, and was one of the children most severely attacked. The rash appeared on February 24, 1886, on which day she returned to the "home." On March 1st, *i.e.*, five days after the first exposure, 2 children exhibited the eruption; and on the 3d it appeared in 3 others. On the 4th, *i.e.*, eight days from exposure, 7 more children were affected; on the 5th, 2; on the 6th, 5; and on the 7th, eleven days from the first case, 7. From this time on fresh cases appeared almost daily, but it was impossible to determine from which patient the disease was contracted. Isolation was practised at once in every instance. Contagion from any other source outside was of the greatest improbability. In this series, then, the shortest period of incubation was five days, and 28 cases developed within eleven days. Most of the cases under the care of Dr. Musser occurred in a Home for boys. One of the inmates who was employed in the city during the day (he was the only one ever leaving the Home) contracted rubella there, and six days from the first appearance of the rash upon him the first of the other children was taken sick. Here the period of incubation was almost certainly six days. There remains, nevertheless, an element of doubt, since the disease may be contagious before the eruption appears.

The incubative period occupies a much longer time according to many writers, and I have indeed seen cases in other epidemics where this stage was undoubtedly much more prolonged. Glaister gives the duration of incubation at four to five days, or longer; Robinson, six to seven days; Pollock, six to sixteen days; Edwards, six to twenty-one days (average, ten days); J. L. Smith, seven to twenty-one days; Bourneville and Bricon, eight to ten days; Squire, eight to twenty-one days (usually fourteen days); Hatfield, in two cases, definitely, ten days; Steiner, ten to fourteen days; Cheadle, definitely, eleven to twelve days, in two cases; Dukes, twelve to twenty-two days (average, fifteen to sixteen days); Duckworth, in one case known to be sixteen days; Cuomo, never less than seventeen days; Cullingworth, Balfour, and Tonge-Smith, two weeks; Goodhart, Jacobi, Hardaway, Mettenheimer, and Thierfelder, two weeks or longer; Gerhardt, Kassowitz, Emminghaus, Picot, and Eichhorst, two to three weeks; Thomas, Earle, and Klaatsch, two and one-half to three weeks; Cotting, about three weeks.

The above list has been made thus extended in order to show the very varying duration of the period. This is, indeed, one of the diagnostic marks of the disease, in contradistinction to the fixed period of incubation of measles. The greater number of the writers quoted state it to be fourteen days or longer; but it may certainly last a very much shorter time.

There are no symptoms appearing regularly during the stage of incubation. Squire states that some complaint of the throat is occasionally made, and epistaxis and enlargement of the post-cervical glands may be noted.

Invasion.—Many of the cases reported here exhibited no prodromes at all. In a large number, however, slight symptoms were observable, not more than twelve hours before the rash made its appearance. There were malaise and generally decided drowsiness, and the eyes frequently became red and watery or had a heavy look. Sneezing was noticed, and there was often a slight cough. One case exhibited prodromal symptoms twenty-four hours, and another forty-eight hours, before the eruption appeared. The temperature during this stage was not recorded.

The testimony of the large majority of writers is, either that there are no prodromal symptoms whatever, or that they usually last but a few hours or a day and are of slight import. This is the opinion of Thomas, Klaatsch, Liveing, Hardaway, J. L. Smith, Brodie, Squire, Maton, Cotting, Bristowe, Day, and many others. Park, in over 100 cases, detected no symptoms during the invasion. Earle, in 120 cases, saw no prodromes in children, but frequently observed them in adults. Tonge-Smith, in 145 cases, found them absent or slight. The number and nature of the slight prodromal symptoms are variously described; but, from a comparison of very numerous published reports, it would seem that the symptoms which may be expected in a normal case are malaise, often slight cough, suffusion of the eyes, with perhaps some lachrymation, probably some coryza, sometimes pains in the limbs, drowsiness, at times hoarseness, sore throat often, enlargement of the glands at the back of the neck and behind the ears, possibly an elevation of temperature of 1° to 2° F., occasionally nausea, and some œdema of the face. But any or all of these may be wanting.

A number of writers differ from those mentioned in extending the usual duration of the stage of invasion. Many of these, however, admit that the prodromes may be absent or slight; while some of those already quoted concede the possibility of their lasting longer than twenty-four hours.

McLeod says that this stage lasts twenty-four to thirty-six hours; Murchison, that it may continue forty-eight hours or less; Binns puts it at two days; Mettenheimer, Henderson, Kingsley, Thierfelder, Emminghaus, Roth, one to three days; Copland, Cuomo, and Cheadle, two to three days; Cullingworth and Edwards, three days; Paterson and Aitken, three to four days; Lindwurm, four days; Hemming, a few hours to five days; Balfour, two to six days; and Claussen says that in some cases there is malaise for six to seven days.

The stage of invasion may be, then, without question prolonged, or its symptoms unusually severe; but, from the overbalancing mass of evidence upon the other side, I am inclined, with Hardaway, to adopt the view of Thomas—viz., that "a prodromal stage of more than, at most, half a day . . . constitutes an anomalous case."

Other prodromal symptoms are occasionally seen, but must be called unusual. Vomiting occurs rarely, according to J. L. Smith, Murchison, McLeod, and Emminghaus. Kingsley says it usually precedes the rash. Cuomo reports its presence in anomalous cases. I have seen it in but two instances. Convulsions are reported by J. L. Smith, Edwards, Lindwurm, Cuomo, and Alexander. Delirium, by Hardaway, Cuomo, and Edwards. Urticaria, by Cullingworth. Hemorrhages from the eyes and ears, by Prioleau. Epistaxis, by Edwards. Dizziness, by Squire. Fainting, by Mettenheimer. Croup-like attacks, by Balfour. Intense headache, by Cuomo. Nymann noticed rigors in 19 out of 119 cases. Emminghaus says they are found but seldom. This author and Thierfelder report the occurrence of a slight, cloudy redness immediately preceding the ap-

pearance of the rash; and Edwards reports erythema in 4 cases, and Cuomo in 7.

Eruption.—Following the slight prodromal symptoms, or without these, and in the midst of health, the eruption of rubella appears. Very often, as Thomas observes, the child is found covered with it after the night's sleep. There is some difference of opinion as to the part of the body which it attacks first, and the order in which it involves other parts. Most writers are agreed that, as a rule, it appears first on the face and spreads with great rapidity over the rest of the body (a few hours to a day), attacking the legs last. This is the opinion of Thomas, Emminghaus, Squire, Picot, Rilliet and Barthez, Mettenheimer, Klaatsch, Bourneville and Bricon, and many others. Liveing and Morris claim that its first appearance is on the back and chest; Day, Murchison, and Balfour, that it is to be first seen on the breast and arms; and Paterson and Copland, that it develops all over at once. Park says that the eruption is often to be seen on the roof of the mouth before visible on the skin, and then appears on the neck. In the few cases in which I have been able to detect any sequence in the appearance of the rash it was visible first upon the brow and over the body of the lower jaw, thence shading off upon the neck. Indeed, in some cases it could be found at no time elsewhere. It is possible, as Emminghaus claims, that such cases are explained by the unobserved existence of the rash for a few hours upon other parts of the body. Heim, however, was of the opinion that there could be a local eruption, and there is reason to believe that this may occur. Reed described a case in which the rash was visible only on the tonsils and palate. In one of the cases included here it could be seen only upon the face and neck, although the attending symptoms were quite severe. In another instance the rash could be found only during a few hours and upon the brow, in spite of most careful inspection of other parts of the body.

The entire cutaneous surface may be attacked. J. L. Smith and Emminghaus except the soles and palms; but Thomas, Roth, and others mention its occurrence there, and some of the cases in this report exhibited it in these situations. Tonge-Smith claims that the rash invades the oral circle, and that this distinguishes it from scarlatina. Pathologically the eruption of rubella is defined by Thomas to be a hyperæmia of the papillary body and upper layer of the corium. In a typical case, such as were found in numbers in the epidemics reported here, it consisted of small irregularly shaped spots of pin-head to split-pea size, of a peculiar pale rose-tint, more or less sharply defined, and somewhat elevated both to the touch and to the sight. The spots are not arranged in groups, as in measles, are widely distributed, and more or less closely placed. They are usually discrete and separated by larger or smaller areas of healthy skin, but show a tendency to become confluent on certain parts of the body, particularly on the face and those parts kept warm and under pressure, as are the nates and the flexor surfaces of the thighs in bed.

On the trunk, and especially on the back, the rash is usually paler or of a brownish-red color, fine, and very thick. On the wrists and ankles, and sometimes on the fingers and toes, the isolated papules are usually very evident. In this connection, to illustrate the influence of pressure, I may mention a case in which the eruption was particularly well developed in two circular bands, one around each leg, above the knee, where the garter had been worn. A similar band-like eruption upon the legs is mentioned by Klaatsch.

The above description is essentially that given by the majority of modern authors. But there is no doubt that the eruption is exceedingly variable—"multiform," as Duhring names it—and many of the descriptions vary accordingly. Not only does the rash differ in different epidemics, but in different cases in the same epidemic. Even in the same person two types of eruption may appear, as will be described later.

Heim says the rash resembles the appearance produced by dotting moist white paper with a quill pen dipped in red ink. This description is adopted by Paterson. But we can scarcely take into consideration the accounts of the rash given by the earlier writers, since it is very certain, as insisted upon by Thomas and Bourneville and Bricon, that the disease reported by them was very different from rubella as we know it.

In examining more particularly what has been said by modern writers upon the individual features of the rash, we find that Thomas describes its color as a pale rose-red, not so bright as the red of severe scarlatina, nor having the bluish-red tint of intense measles. Shuttleworth calls it a brownish-red. Aitken states that it is more elevated than in measles; Mettenheimer, that it is confluent upon the cheeks. The development of vesicles is extremely rare. I have found it noted by Curtman, Cuomo, Thomas, Hardaway, and Copland. Thomas, Gerhardt, and others say that the spots of rubella possess either smooth or indented edges, and are in the latter case often connected with each other by delicate processes. Emminghaus and Cuomo speak of a marbled appearance of the skin, and of small, delicate blood-vessels sometimes to be seen in the healthy portions. Petechiæ have been described by Dunlop and Cheadle, and a purpuric rash in one case by Glaister. Cheadle also says that the rash is darker, more purple, and more papular than in measles; but the epidemic which he reports was in many ways anomalous. Claussen noticed that upon pressing upon the papules there was a sensation as of small shot beneath the skin. In this connection I may report an analogous case. The eruption covering the child on the first day was composed principally of *annular spots*, from the size of a pea to that of a silver three-cent. piece, of a pale rose-red color, with a distinct yellowish tinge in the centre. In most of these macules a distinctly hard, small, shot-like body could be felt beneath the skin. The annular appearance was very marked. Being somewhat at a loss regarding the exact nature of the eruption, I asked Dr. Van Harlingen to see the case with me, which he did upon the following day. Within the twenty-four hours, however, the rash had altered its nature so completely that there could be no longer any doubt that the disease was rubella.

According to Rilliet and Barthez, the rash may disappear and again appear upon the same day or later. I have seen one instance in which it was invisible during one day and returned. This phenomenon is, of course, not to be called a "relapse" of the disease.

In another patient of Dr. Musser's the rash could at first only be kept upon the cutaneous surface by the repeated use of hot baths. The symptoms in this case were severe.

There is some difference of opinion concerning the degree of elevation of the eruption. Thomas, Emminghaus, Mettenheimer, Wunderlich, Roth, and others say that the spots are slightly elevated. Hardaway, Cuomo, Duhring, and others describe the rash as macular. The multiform nature of the eruption accounts for these differences.

From a study of the cases reported here, there seems to me to be two easily recognizable *types* of variation from the character of the eruption in a normal case:

1. An eruption in which the spots are for the most part nearly or fully the size of a split-pea, more or less grouped, and, in fact, having the greatest resemblance to measles.

2. A rash which is confluent in patches or universally, not elevated, and which produces a uniform redness, closely simulating that of scarlatina. Very careful examination will often reveal a few papules amid the general diffuse redness. These can be best seen between the brows and on the wrists or fingers.

Other cases exhibit all gradations from the normal type toward either of these extremes. The rule may perhaps be formulated, that the more macular the rash, the

greater the disposition to confluence ; and the more distinctly papular, the greater the tendency to form measle-like groupings.

The existence of a scarlatinal and of a rubeoloid form of eruption in rubella forced itself upon my attention before reading the reports of somewhat similar observations by a number of writers. Harrison has remarked this same condition of affairs. Klaatsch maintains that an erythematous blush may extend over the skin between the spots, so that at first sight the disease resembles scarlatina. Copland says the eruption is usually discrete ; but in some cases is more diffuse, and may then be readily mistaken for scarlatina. He claims, however, that this redness fades after two days, while the spots remain. I have never observed any fading of the general redness in my own cases. Goodhart describes the rash as sometimes resembling measles and sometimes scarlatina ; while Byers reports a case in which it was scarlatinal in some parts of the body and rubeoloid in others. Picot and Henderson make a similar observation in a greater number of cases ; and Ladell reports three such, two of which developed scarlatina about six months later, and the other measles. Kassowitz states that the spots are sometimes large, elevated, and confluent, as in measles. Dukes says the rash may be a diffuse, rosy redness, or may be in spots as in measles. Murchison and Liveing state that the rash is in spots, but that these may coalesce and closely resemble scarlatina. The same observation is made by Tonge-Smith, who describes the eruption, which is at first in spots, as becoming "blurred" on the second day, and as then indistinguishable from scarlatina. The change in appearance produced by this "blurring" he compares to the effect produced by rubbing with the dry hand a series of dots made upon a slate with an ordinary slate-pencil. Hatfield describes an epidemic in which many of the cases could not be distinguished from measles, while the eruption in other patients was almost exactly like that of scarlatina. Kingsley states that the rash is often confluent, as in the latter disease ; and D'Espine, that it is often impossible to distinguish rubella from measles. J. L. Smith, too, writes that, although the rash is usually more like measles, an erythema sometimes extends over the skin, producing an appearance like that of scarlatina. One case he would have considered to be mild scarlatina, had he decided only from the appearance of the rash. A very similar case occurred in my own practice. Although the eruption was at first macular on the face, yet on the second day it so closely resembled scarlatina that I was unable for several days to make a diagnosis. Not a single macule or papule could be found in the general scarlatinal blush which covered the whole body. The subsequent course of the disease proved that it could only have been rubella, and a short time afterward the brother of the patient was attacked. I have indeed repeatedly observed the change on the second day from the papular to a confluent, not elevated form, as described by Tonge-Smith.

Writers have been quoted here at perhaps too great a length ; because, in spite of the facts, we find some of our best modern text-books (as Thomas in Ziemssen's "Cyclopædia," Bristowe, and others) stating or implying that rubella has no similarity to, and can scarcely be mistaken for, scarlatina. Bourneville and Bricon say it is astonishing that they could ever be confounded. It is, of course, generally admitted that rubella has usually a much closer likeness to measles. Thomas, while denying that the disease has any likeness to scarlatina, hints at the possible existence of another exanthem bearing a resemblance to scarlatina. Filatow, of Moscow, has recently gone further than this, and makes two distinct species of rubella, which he calls *rubeola scarlatinosa* and *rubeola morbillosa*—the latter being the one which we usually see, the typical rubella. He claims that they are entirely distinct affections, but does not offer sufficiently convincing proof of this. The evidence already given here shows, I think, that they are produced by the same contagion, and are consequently the same disease.

Other classifications of the eruption are sometimes made. Thomas, for example, describes three forms, depending on the size of the spots ; Emminghaus speaks of a confluent and a discrete form ; Nymann and Klaatsch, of a punctate variety and of one with large spots.

Although, then, there is a definite normal type of eruption in rubella, the numerous variations from this teach us that we must keep in memory the words of Maton, in 1815, the first English writer to recognize the disease : "But, after all, the true distinctions of this disease are, in my opinion, to be founded on the more general and constitutional circumstances."

Concerning the time the eruption persists upon different regions of the body, Thomas writes that it happens with tolerable frequency that the maximum of the development of the eruption on different parts occurs at different times. The rash is often at its height upon the face, neck, and upper portion of the trunk before it has appeared on the extremities ; and when, after twelve to twenty-four hours, the acme is reached in the latter regions there remains often but little to be seen on the parts first affected. The duration of the most marked development of the eruption on any one locality is from a few hours to half a day. Hardaway goes further, and claims, with Emminghaus, Roth, and Mettenheimer, that this sequence of the maxima of the eruption upon different parts of the body is one of the safest diagnostic signs of rubella. The same feature has been noted by Squire and by Gerhardt. According to Emminghaus, this probably explains the difference in the views of writers concerning the seat of the first appearance of the eruption—*i.e.*, the rash may have already disappeared from the face when it is found apparently first upon the breast or elsewhere.

My own experience leads me to agree with Thomas, that this sequence of the maxima "happens with tolerable frequency." But I am not able to admit it as an important and safe diagnostic sign. I have nearly as often observed that the rash persisted with equal intensity on the face while it spread to the rest of the body, so that it could be said to reach its acme everywhere *upon the second day*. It then grew rapidly paler, either beginning on all parts at the same time or fading first from the face. Frequently it seemed to persist longest on those parts which had been the most affected, and was thus often visible on the face and nates after other regions were quite free of it. I have seen one instance, too, in which the order of the shifting maximum of Thomas was preserved, but was very much prolonged, the rash not reaching its acme upon the feet until the third day.

It is safe to infer that this absence of a universal maximum of the eruption has certainly not been confirmed by the greater number of writers, else some mention would probably be made of it, and we would not read that the "eruption reaches its height" on the *second day*, as stated by Picot, Copland, Kingsley, Bristowe, Shuttleworth, Tonge Smith, Bourneville and Bricon, and others ; or on the *third day*, as Cheadle claims. These differences of opinion only show the tendency of the disease to vary.

The total duration of the rash upon the body is variously stated. It is given at half a day to one day (seldom three), by Gerhardt ; one to two days, by Troussean ; two to three days, by Thomas, Alibert, Rilliet and Barthez, and Bourneville and Bricon ; two to fifteen days, by Edwards ; three days, by Claussen and J. L. Smith ; two to four days, by Kingsley and Emminghaus ; three to four days, by Maton and Picot ; four days, by Hatfield ; one to five days, by Klaatsch ; four to six days, by Balfour ; four to five days (in bad cases, six to ten), by Copland and Aitken ; five to seven days, by Liveing ; and in one case, fourteen days, by Alexander.

From a careful review of my cases, I find the rash

lasted usually only two or three days; less often, four or five days. In some cases it had disappeared entirely within the first twenty-four hours.

Combining this with what seems to be most trustworthy from the various published accounts, its average duration may be said to equal three to four days; although it very often lasts a much shorter time, and may continue even longer.

(To be continued.)

COCAINE AS AN AID TO DIAGNOSIS IN CASES OF NEURALGIA AND NEURITIS.

By M. ALLEN STARR, M.D., Ph.D.,

PROFESSOR OF NERVOUS DISEASES, NEW YORK POLYCLINIC.

In cases of neuralgia or of neuritis, and also in cases of reflex tic convulsif dependent upon irritation of a sensory nerve, it is always desirable to localize accurately the part of the nerve which is affected. This is not difficult in many cases where points of tenderness in the course of the nerve or along its trunk can be discovered. But in some cases the existence of tender points is not sufficient to determine the seat of the molecular or inflammatory change. Thus, in cases of sciatica it is often important to be able to ascertain whether the condition present is a neuralgia or neuritis of the peripheral portion of the nerve or of the central portion due to pressure within the pelvis. And in cases of trigeminal neuralgia affecting a single branch of the nerve, it is an advantage to establish the fact that there is no lesion in the bony canals through which the branches pass, and no disease in the Gasserian ganglion. And in cases of facial tic it is exceedingly important to ascertain from which branch of the trigeminal nerve the irritation proceeds which produces the reflex spasm.

In cases of these various kinds hypodermatic injections of twenty minims of a four per cent. solution of cocaine may be used with advantage as an aid to diagnosis. For it is a law of physiology that irritation at any part of a sensory nerve sufficient to produce pain will result in the pain being felt, not necessarily at the spot of irritation only, but also at the peripheral termination of the nerve. When the ulnar nerve is compressed at the elbow the tingling is felt in the fingers. But cocaine placed around a nerve interferes with the conduction of impulses from the parts lying on the distal side of the point affected by the cocaine.

Supposing now that the case under observation is one of sciatica due to a localized neuritis of unknown seat, if the inflammatory exudation compressing the nerve is along its course in the thigh or leg a deep injection of cocaine at the point of exit of the nerve from the sciatic notch by suspending all transmission of sensations from the affected part will stop the pain. If, however, the lesion is within the pelvis, the injection will have no effect, for the pain will continue to be felt in the thigh and leg even though these parts may be anæsthetic from the effect of the cocaine. The injection may, therefore, be of considerable service in locating the lesion. This is of some practical importance, for if a lesion is high up on a nerve counter-irritation applied along its peripheral distribution will have no effect; while if the lesion is peripheral such treatment is indicated.

In a case of facial tic affecting the entire right side of the face the same procedure has been of service, for it was impossible to ascertain the source of irritation in the trigeminal nerve by ordinary examination. Deep injections of cocaine at the point of exit of the infra-orbital branch of the nerve, however, arrested the spasm, and proved, first, that the spasm was reflex from a sensory irritation; and secondly, that that irritation was limited to this branch of the trigeminal nerve. Division of the nerve at this point was followed by recovery from the tic.

In local neuritis and in tic convulsif the procedure has been of service. Whether it will prove of equal use in neuralgiæ dependent probably on diffuse molecular changes rather than upon a local lesion, is questionable. But in the cases in which the question arises, whether the condition is one of neuritis or of neuralgia, and in which the usual differential diagnostic symptoms fail, the method may prove of service; for a cessation of pain when injections are used at a definite part of the nerve would indicate a local affection of the parts lying peripherally from the point of injection—that is, a neuritis, rather than a neuralgia, which is usually diffuse or due to central changes. Further trial is, however, necessary to establish any definite use in this connection. In the localization of lesions in neuritis it is a procedure which is of real service.

THE BREAKING OF A LITHOTRITE IN THE BLADDER—LITHOTOMY—HOW THE SHAFT OF A LITHOTRITE SHOULD BE CONSTRUCTED.

By JACOB FRANK, M.D.,

CHICAGO, ILL.

Mr. L. G——, by means of a Thompson searcher, was found to have a calculus in the bladder. He was seventy years of age, always lived plainly, had suffered about seven years with the different symptoms of calculi. There was abundance of albumin in his urine. Microscopical examination revealed oxalic-acid crystals, pus-corpuscles, but no casts.

November 26, 1885, Drs. Parkes and Brown assisting, the patient was etherized, and a sound, size 19, American scale, was introduced into the bladder. This was soon withdrawn, and a Bigelow lithotrite (blades, size 19; shaft, size 11, American scale for measuring sounds) found its way readily into the bladder. The urine had been retained three hours previous to the operation, and now oozed out alongside of the lithotrite. Following Sir Henry Thompson's advice, the bladder was left empty. Without great difficulty, and in less than ten minutes, the calculus was in the grasp of the lithotrite. A turn of the screw insured a firm hold. The scale on lithotrite showed a measurement of two inches. I now locked the instrument and applied gentle force to the screw. Just as I had determined that the calculus was too hard and too large for the lithotrite, a snap was felt and heard. A few more turns of the screw proved that the instrument had broken. It was then withdrawn, with the exception of that portion of it which had broken off sharply and remained in the bladder. The lithotrite had been previously tested on a piece of brick the size of an ordinary hickory-nut to see how much force it would bear. The breaking of the instrument rendered an operation by lithotrity impossible. It was too late to resort to lithotomy on that day.

The condition of the patient was not adversely affected by the operation. That night and the day following he remarked that he felt as well as before the operation. Pulse and temperature were normal, and pain during micturition slight.

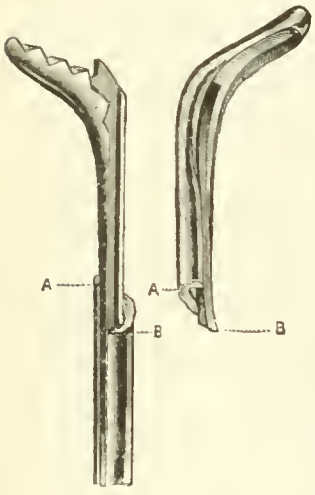
November 27th, twenty-four hours after the failure at lithotrity, the patient was again etherized and the lateral operation for lithotomy was performed; Drs. Miller, Parkes, Williams, and Brown assisted. During etherization the urine was unconsciously voided, and the bladder left empty. The calculus was first extracted in whole, and then the broken piece of lithotrite. The calculus is oxalate of lime and weighs two ounces.

After the bladder was emptied of its foreign bodies, the viscus was thoroughly washed with a two per cent. carbolic solution. As there was considerable venous oozing a shirted cannula was inserted and tamponed. This was removed in eigtheen hours, the bleeding having entirely ceased. The night following the operation the temperature rose to 101½° F., but before morning gradually fell to normal. It so remained until December 1st,

when the patient had a severe chill, his temperature rising to 102° F., and gradually subsiding during the day. It was normal the next morning and until December 16th, when patient again had a chill, and the temperature rose to 103° F. Next day pus appeared in the urine. January 22, 1886, there was great œdema of both feet. February 28th, three months after the second operation, the patient died with symptoms of uræmia. The autopsy showed pyelonephritis of the right kidney. The left one was almost twice its natural size, and filled with calculi. The bladder was empty, contracted, and the mucous membrane was thickened.

Now, I will not positively charge that the breaking of the lithotrite in any degree aggravated the condition of patient. Still, if many surgeons experienced a similar embarrassment with the instrument, lithotrity would soon become obsolete. Only an ordinary pressure was applied to the lithotrite, and the question naturally arises, Why did the instrument break?

As before stated, the instrument used was a Bigelow lithotrite—blades, size 19, and shaft, size 11, American scale for measuring sounds. Observe the great difference in the size of shaft and blades, a difference of eight sizes. There can be no adequate reason in favor of constructing the shaft so much smaller than the blades. But, on the other hand, had the size of the shaft more nearly approximated size of blades, the instrument would have been correspondingly stronger and safer.



Most lithotrites manufactured have the same fault as the one now under consideration. The following is a table of sizes of all lithotrites I have been able to measure:

Thompson's, manufactured by Tiemann & Co.: 1, Blades, 17—shaft, 10; 2, blades, 19—shaft, 13; 3, blades, 16—shaft, 12; 4, blades, 17—shaft, 13, American scale for measuring sounds.

Bigelow's, manufactured by Tieman & Co.: 5, Blades, 19—shaft, 10; 6, blades, 21—shaft, 14; 7, blades, 19—shaft, 11; 8, blades, 20—shaft, 13; 9, blades, 20—shaft, 15; 10, blades, 20—shaft, 16; 11, blades, 18—shaft, 11.

Bigelow's, manufactured by Codman & Shurtleff: 12, Blades, 18—shaft, 12; 13, blades, 21—shaft, 14.

Thompson's, manufactured by Shepard & Dudley: 14, Blades, 17—shaft, 10.

Manufactured by Marconi, of Vienna: 15, Blades, 17—shaft, 12.

From these tables it will be seen that lithotrites are not constructed according to an exact scale of sizes for the blades and shaft. But the latter are invariably much weaker, ranging from four to nine sizes smaller than the blades. Thompson's lithotrites appear to be a trifle better in this respect than Bigelow's.

My experience with the instrument as just related, together with an inspection of these tables, shows that the construction of lithotrites is not such as to give sufficient guarantee of security.

Now, why should not the size of shafts be made equal to that of blades, or, in case of the largest instruments, even two or three sizes smaller? If the blades pass through the urethra, the shaft will certainly follow with equal readiness. Thus constructed, lithotrites will best approximate absolute security in their use, and have at least the advantage of uniformity.

NOTE.—Dr. Charles T. Parkes, of Chicago, tells me that his lithotrite broke in the shaft while he was testing its strength on a piece of brick.

Clinical Department.

MICROSCOPIC EXAMINATION OF URINE.

ONE of our correspondents asks the following questions: 1. "Would it be practicable to have an article in THE MEDICAL RECORD upon the diagnosing of epithelia from the entire urinary tract?" Yes, it might be practicable, but at present we believe that it would be practically useless. Such an article might be "acceptable to the busy practitioner" who may not be an "expert microscopist," but the very fact that he is not an expert microscopist disqualifies him from appreciating such an article properly, even though the article could have a truthful basis, which we believe it would not have.

2. "What are the average sizes of the different casts?" Casts, so far as size is concerned, are of two varieties only, the large and the small, and this applies to all varieties. A small cast may be formed in a large tubule, the epithelia of which are intact. A large cast may be formed in a small tubule from which the epithelia have been removed.

The diameter of a tubule (not the normal lumen) varies in different portions. For example, the diameter of a loop-tubule is less than that of a convoluted one, or of a straight tubule in the cortical portion; while the diameter of a straight tube in the cortex is less than that of a tube in the pyramidal portion of the kidney.

By diameter is meant the *outside* measurement; for that of the *lumen*, when the epithelia are in position, varies so greatly that it cannot be estimated with a reasonable degree of accuracy.

The average diameter of the glomeruli is $\frac{1}{125}$ of an inch; of convoluted tubules, $\frac{1}{500}$ of an inch; of loop-tubules, $\frac{1}{1000}$ to $\frac{1}{2500}$ of an inch; of straight tubules in the cortex, $\frac{1}{625}$ of an inch; and then there is an increase in size until the papillary ducts are reached, the average size of which is about the same as that of the expanded portion at the other end. Other figures, doubtless, would be given by other writers.

In the midst of these possible sources of error, we should be inclined to doubt the accuracy of any observation which claimed to give the average diameter of casts.

3. "What does THE MEDICAL RECORD consider to be the average size of the epithelia from the convoluted tubules of the kidney, and to what extent do they vary in size?" Our correspondent goes on and says: "Should a person consult but one author the question is easily settled." In our opinion that is the way to settle it. For, as the correspondent continues, "Looking up authorities unfortunately only multiplies the difficulties."

Accuracy, in this instance, comes only from accepting the opinion of one observer, and then the average has considerable of the frailty of a single observation. The lack of uniformity in the "size" of the individual epithelial cells has made it necessary to make *outside* measurements for obtaining the diameters of the tubules in the normal kidney. For obvious reasons no average can be obtained of the size of the epithelial cells in morbid specimens.

Our correspondent suggests that the average red-blood corpuscle might be used as a standard of comparison for epithelia. We should question the utility of the proposed standard, for it would be, practically, guessing, after having seen the two objects.

4. "I would also ask, does THE MEDICAL RECORD consider it possible to *always* distinguish between the epithelia from the bladder and kidney?" The word "*always*" is very stringent. Taken literally, we should say that it is not always possible, etc. Taken with the latitude which one might be allowed after consulting "authorities," we are inclined to answer that such a consultation "unfortunately only multiplies the difficulties."

We are aware that some men claim to be able to differentiate all these cells, when seen in the urine under the microscope, with as much accuracy as when examined histologically in the tissues of the different parts of the genito-urinary tract. We incline to the opinion that the accuracy in one case is about the same as it is in the other, and that in neither instance can it be so done as to withstand the test of scientific criticism and completely satisfy the careful worker. Every practical microscopist knows that he encounters cells of doubtful origin in examining urine, and it is only the bigot who "*always*" knows whence they came. There are those who have claimed to be able to tell precisely from what portion of a uriniferous tubule a given cell came, but we doubt exceedingly if they have been able to convince their contemporaries that even all experts can acquire such extraordinary skill.

THE ANTISEPTIC TREATMENT OF CHRONIC LEG ULCERS.

Dr. George R. Fowler, of Brooklyn, sends the following communication: "I desire to call attention to a practical application of the antiseptic method in the treatment of intractable ulcers of the leg. I have employed it for some time past, to the exclusion of almost every other method, and can testify to the invariably rapid and extremely satisfactory results obtained. The method in question consists in first thoroughly disinfecting the leg, from the knee to the base of the toes, by means of a 1–4,000 solution of mercuric iodide, using the scrubbing-brush vigorously. The hard and elevated edge of the ulcer is now dissected away in such a manner as to leave a bevelled edge to the latter. If the base or bottom of the ulcer is occupied by a grayish, soft, and pultaceous, and but indifferently healthy, granulating material, it is best, in addition to the before-mentioned bevelling process, to curette by means of Volkmann's sharp spoon the whole of this away. A solution of the mercuric iodide is now to be again allowed to flow over the parts, in order to still further disinfect the same, after which a thick paste is made by mixing together oxide of zinc and hot water. The water is used hot only for the purpose of insuring that it is pure and untainted. This paste is to be spread, by means of a spatula, upon the ulcer and the surrounding parts. The surface of the ulcer is thoroughly covered with the paste, so that its cavity is entirely filled. A piece of oil-silk with a number of perforations in it for the purpose of facilitating drainage, is now placed over the site of the ulcer, and a cushion of paper-wool, or some other good absorbent material, is bandaged firmly over the parts by means of a gauze roller, and a starch or light plaster-of-Paris bandage applied over all. This dressing may be allowed to remain for a fortnight without being disturbed, providing no discharge makes its appearance in the meanwhile. Two or three such dressings are usually sufficient to cure the most obstinate ulcer.

"The antiseptic properties of oxide of zinc were first studied by Socin, of Basle, but very little attention seems to have been paid to the subject. I have had occasion to make use of the agent in many ways since it came to my notice, and can report, from a clinical standpoint at least, upon its antiseptic properties. It has served an excellent purpose in many ways other than the particular application to which attention is called in this brief note, particularly as a vaginal tampon, when incorporated in jute, after certain operations upon the uterus or cervix. Such tampons I have left *in situ* for more than fourteen days, at the end of which time they have been found to be as free from odor of decomposition as when introduced. The jute and oxide of zinc dressing makes a far more preferable dressing than the so-called "antiseptic marine lint," a preparation of jute and tar quite popular among gynecologists. This is far from constituting a reliable antiseptic dressing, and is open to the additional objection of being very dirty, speaking now in an æsthetic sense. The jute and zinc dressing is highly absorbent, and in fact is in every way a very desirable, cheap, and efficient dressing for the purposes mentioned in this note, as well as for many others which will suggest themselves to the mind of the practical surgeon. It sometimes happens that there is considerable flow of blood following the curetting operation, but there is no objection to this; in fact, according to Schede, of Hamburg, there is more rapid healing, providing a strict antisepsis is maintained, in the case of all wounds when a blood-clot is present under the dressing."

FRACTURE OF THE HARD PALATE IN A CHILD.

Dr. E. Harrison Griffin, of this city, reports the following interesting case: "Otto N——, male, aged two years and eight months, was referred to me by Dr. Holgate, on account of an injury to the throat. The history of the case is as follows: While playing with a piccolo, the child fell, and the sharp end being in his mouth, the instrument cut through the palate. The mother took him to a physician who recommended a gargle. This was used persistently for three days, but the child's throat did not improve. Whenever the patient attempted to eat or drink, some of the food found its way through the hole in the throat, and thence into the nose. I saw the case on the fourth day, and found upon examination that the lower portion of the hard palate was cut completely through, the injury extending downward and involving the soft palate. The injured portion of the hard palate, attached only by a slender piece of tissue to the soft palate, hung down, and rested upon the base of the tongue. The flap was congested and swollen. Upon a casual examination at the clinic, it seemed quite simple to pass a curved needle through the edges of the flap, and bring it into position; but when I saw the case at my office, I saw that the edge of the wound was so well up on the hard palate that an operation of this nature was impossible, unless holes were drilled through the fractured bone to accommodate the passage of the needle. If such an operation had been feasible, it would have been so in this case, as the child bore its suffering and allowed me to manipulate my instruments in its throat without any outburst of fear or terror. I had no occasion to use any anæsthetic. If the attempt had been made to drill or use much force in trying to sew the parts in position, the flap would have been torn from off its slender hold. On December 19th I sent the case to Dr. Perry, dentist, with instruction to make an obturator for the child's mouth, after the following manner: The plate was to be perforated for drainage, and one side was to go well down and against the soft palate, so that the flap could be held well into position. The plate was held in the mouth by cords attached to either molar tooth. On the following day the plate was in position and held the flap nicely in place. The child complained of a slight fever, possibly due to the wound being freshened; this was controlled with small doses of quinine and brandy. The patient was able to eat without any trouble. The case was seen every other day, and the throat was cleaned by spraying with Dobell's solution, without removing the plate. Two weeks after the plate was adjusted, I removed it and found the parts so completely healed that no mark of the injury could be seen. I think that this was the only rational way of treating this case. It could not have been brought in position by stitches, as the bony parts were involved, and violence would have torn off the flap. Had the gargle been persisted in, gangrene would have taken place and a permanent opening left through part of the hard and soft palate, and the voice would thus have been permanently impaired."

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DISCOVERY OF THE BACILLUS OF SCARLET FEVER.

DRS. W. ALLAN JAMIESON and M. Alexander Edington, of Edinburgh, announce, in the last *British Medical Journal*, the discovery of a specific bacillus of scarlet fever. The micro-organism has been isolated, cultivated, and put through its paces generally, coming out, apparently, with a specific character.

The discovery may upset somewhat the recent conclusions of Klein as to the origin of scarlet fever from cows. Dr. Edington says that "it is pretty well proved that this bacillus scarlatinæ is the specific cause of scarlet fever, and probably the other organisms found in the blood during and at a later period than the bacillus are merely concomitants and pass into the blood only after the vitality of the system and tissues has been lowered by the entrance into them of this specific organism. But if one injects or otherwise inoculates a perfectly healthy animal with the diplococcus scarlatinæ sanguinis, one finds that it is able to live for some little time in the blood without, in the case of animals, giving rise to any marked symptoms. This being so, then it is quite logical to suppose that if such be carried in infecting desquamation along with the bacillus, a double infection may ensue. Whether in such a condition the action of the bacillus is modified by it cannot yet be definitely stated; but if we are to rely on what has been observed during the course of this investigation, then it might be stated that, in those cases where one finds an extremely vivid and general rash, there is usually present from the first the bacillus and diplococcus. Unfortunately, much cannot be said of those extremely rapid and excessively malignant cases, because, owing to various reasons, I was unable, with the exception of one case, to get the blood investigated, and in it there was present, in addition to the bacillus, the ascobacillus mentioned and described. One thing which is very certain is that this bacillus scarlatinæ is able to form spores in the blood of a living animal, thus differing from the bacillus anthracis, which only does so on the near approach of death.

"The rapidity of the growth of this organism—which is such that, if one inoculate a flask of broth, the diameter of which is two and one-half inches, and it be incubated, the pellicle will develop and cover it entirely over in the course of four hours—suggests an explanation of the very short period of incubation in scarlet fever."

Dr. Edington, who carried out the bacteriological part of the work, has failed to show that pure inoculations of cultivated bacilli cause scarlatina in man; also, that the supposed specific bacillus is not found in other diseases.

DOSIMETRIC MEDICINE.

READERS of current medical literature occasionally meet with some reference to dosimetry, dosimetric medicine, and the method of Professor Ad. Burqgraeve, of Ghent. To very few do these names convey any very definite ideas; but it is likely that the American profession will soon be enlightened through the agency of *The Dosimetric Medical Review*, a monthly journal recently started, and which is devoted to the propagation of dosimetry and the advertisement of the granular medicaments upon which the science is based.

After a careful perusal of a large amount of literary and scientific rubbish in the pages of the first issue of the *Review*, we manage to sift out the fact that dosimetry is the giving of medicines in the form of alkaloids or active principles. These are minutely divided, and used in varying doses as needed. It appears to be a claim of dosimetric medicine that it can "jugulate" inflammatory fevers. We observe a large number of "granules" advertised as the dosimetric medicaments of Professor Burqgraeve. We note, also, an article on the "Physiological Action of Strychnine," by the inventive and dosimetric professor himself. If it is a specimen of his literary skill, or of his ordinary methods of ratiocination, we are compelled to take a gloomy view of the distinguished dosimetrician's intellectual lucidity.

Dosimetric medicine seems to be only the giving of drugs in concentrated form and in very minute subdivision. This principle is well enough, but we fail to see why the pillules, granules, globules, and tablets now in the market will not answer all the purposes of a full-fledged dosimetrist.

THE CITY DOCTOR'S SUMMER PRACTICE.

WE have received two very earnest protests against the suggestions expressed in our recent editorial upon the above subject. Both communications are quite long, and we shall try to do them justice by presenting the views of the writers here. Of course, the tenor of our correspondents' arguments is to show that city physicians have no right to go into the country and draw away patients from the local practitioners. One writer affirms that the city doctor ought to earn his living in the fall, winter, and spring months. He says:

"If a physician desire to spend the summer in the country—a most commendable desire—he should do so as any other citizen. Who would expect the 'grocer, the baker, the candlestick-maker,' who spend their summers out of town, to peddle their wares to the country folk? The local dealers are expected to do this, and so with the physician; he has a prerogative which he exercises at *home*, and this he should so exercise that during the fall, winter, and spring months he *should* earn a sufficiency to enable him to live in the country *without* professional work; and if he do not do this he should stay at home during the summer and work, because he certainly *can* find enough to do to support him well, unless

he be a very young practitioner. In other words, no doctor has a right (an unwritten law) to leave his city practice to take care of itself, and his winter patients to go where they may, and seek 'support' in some watering-place—a procedure, to my mind, which argues very 'small business for the parties who do it.'"

Our correspondent waxes somewhat indignant as he progresses, and says:

"If I understand your remarks correctly, you would advise the physician to play the quack, the travelling one—the sneak—to leave his city practice and steal from the country, for what? 'To make all the twelve months of the year contribute to his support.' Surely showing a most greedy spirit, particularly when that support can be had from a city summer practice."

He concludes with the following summary of his views:

"1. Physicians who can make enough money during the winter months (I include fall and spring) for their support during the summer, should by all means go and have a good time, by letting practice alone.

"2. Physicians who cannot make such money should stay at home during summer and attend to their own and their more fortunate neighbor's practice.

"3. Country doctors should be allowed to reap the benefit from city patients during the summer."

We have not left much space for our other correspondent, but his arguments are in the same line. He adds, also, some remarks upon the abuses occurring in the summer practice of city doctors.

We are quite willing to open our columns to both city and country practitioners upon this subject. It is one that has been much discussed, and with little apparent practical result. We quite agree that there have been instances of very selfish interference on the part of city physicians during their summer work, and we certainly cannot urge too strongly the importance of respecting the rights and feelings of the country practitioner. To expect, however, a discontinuance of the practice of some physicians in cities transferring their work in the summer to various watering-places and other resorts in the country is absurd. During the season, for example, there are perhaps one hundred thousand transient visitors along the New Jersey shore, many of them being in localities where no country practitioner could be easily reached. There is no reason why an extra supply of physicians should not be on hand to attend to these crowds.

THE HEALTH-OFFICER AND THE IMPORTATION OF RAGS.

We have been decidedly inclined to favor the policy which the Health Officer of this port has adopted of enforcing the disinfection of imported rags. The charges of a corrupt association with a disinfection company have at least not been proved, and, at any rate, are entirely apart from the purely sanitary question of rag-disinfection. It has been abundantly demonstrated that rags are a source of disease, and it is the policy of most governments to look after their disinfection. The reported reappearance of cholera in France brings the matter again into prominence.

The most serious argument at present against attempts to disinfect rags is that there is as yet no known method which will surely effect the object without injuring the rags. This is especially the case with woollen rags, or rags of mixed cotton and wool.

OUR MEDICAL SOCIETY WORK.

The work of local societies for this season is about finished, and there is, we fancy, a sigh of relief from many a hard-worked physician who has had to add to his daily toil the task of evening sedentation at various medical meetings. There is a feeling just now that society work has been a little overdone. If we mistake not, the traces of previous drain on their resources is shown at some of the state and national associations now holding their sessions. In this city the doctor has had the exhaust machinery of some thirty medical societies applied to him monthly ever since last autumn, and it would be a little surprising not to find him more or less "pumped" at the present time.

The great and multifarious activity of our societies leads, perhaps, to some immaturity of work, and to the giving forth of a good deal that is trite or trivial. Yet, on the whole, such activity is good, and we trust it will be continued. Society meetings bring men together, disseminate knowledge more quickly, unify opinions, and promote immensely the solidarity of the profession. Doctors do not disagree on consultations, as was formerly the case, and medical practice is constantly becoming more rational and uniform, very largely through the instrumentality of medical societies.

THE REASONS WHY.

A recent issue of the *Tribune* contained this paragraph: "The Medical Record doesn't appear to like the publication in non-medical papers of remarkable cases of surgery. Doubtless the public would be interested to know why The Record is opposed to such a publication."

The above inquiry seems to be a candid one, yet "doubtless the public" would fail to appreciate many reasons which appeal cogently to medical men. Any great achievement in a branch of science is bound sooner or later to come to light; none more so than those which lessen the suffering or prolong the life of mankind. This achievement may be a brilliant surgical operation, involving new methods of procedure, or introducing new principles which shall become precedents for future guidance. So far as these relate to mankind at large, the latter have a right to learn thereof. The demand for news on the part of the public will speedily bring the salient features of the new knowledge to everyone's notice. This is the legitimate channel through which such knowledge should flow. The scientific journals first state it in technical and accurate knowledge. The "Medical-Notes" editor can make such extracts for his own use as his judgment may dictate. In so far, however, as the question at issue is one of pure medical science, capable of being understood only by medical men, and of interest only to them, it is not of any concern to the public whatever. If anyone evinces a desire for technical knowledge, let him consult a scientific journal. The rendering into popular vernacular of

scientific knowledge can be done only by a scientist. The numerous ludicrous blunders in the daily papers show the folly of any other course.

But it is not so much circumstances as the above that we declaim against. The papers are filled from time to time with accounts of very commonplace operations which are neither novel nor especially interesting. Certainly they are not to physicians, and only those who delight in "sickening details" can peruse them with any pleasure. The name of the operator is often given in full. Technical terms are used with sufficient accuracy to show that the article has at least passed under the eye of a medical man. If it is that of the surgeon himself, he is guilty of a breach of ethics in permitting the article thus to go before the public. If it is done without his knowledge, a protest on his part would insure its non-repetition. We do not know that any such protests have ever been made by several whose names might be mentioned.

The less the public know about details of surgical operations the better. Only the first-year medical student revels in knife, saw, and blood. The surgery of the present day certainly needs no screen. It stands in the front rank of progress; but from the very nature of its province it should not be made a topic of every-day newspaper badinage. Its own inherent dignity demands something better.

The foregoing views are not new to the profession. They are, however, our answer to the *Tribune's* suggestion.

THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

The American Association for the Advancement of Science holds its thirty-sixth annual meeting in this city in August next. This is, we believe, the first time that this organization has ever met in New York City, and, as the great representative scientific body of our country, it deserves hearty support and welcome. It is unfortunate that so large a number of medical men will be away at this time, but we trust that all who can will aid the local committee or help, at least, to swell the audiences at the meetings. It would be most proper for all of our larger medical societies to take some active steps in co-operating with those who are to manage the affairs of this meeting. The County Medical Society has, we believe, done its share.

THE NEW BUILDING OF THE ACADEMY OF MEDICINE.

The New York Academy of Medicine is now the possessor of funds and property amounting to over one hundred and fifty thousand dollars, if we are correctly informed. With such a sum for a beginning its members ought no longer to tolerate the incompleteness of its present quarters. It is unfortunate that in a city of this size and wealth the medical profession should have for its headquarters a place so far below the present requirements. With money enough to start upon a new building there is no good reason for delay. With a site selected, the structure planned, and work begun, bequests and contributions will be sure to come. The givers of money like to know exactly where it is going, and to see some immediate tangible results from it. The Academy of Medicine cannot expect more money to be given them to be laid away at a low rate of interest until a "sufficient sum" is accumulated. The profession is anxious to have the new building begun, and it would be wise policy to accede to the wish.

News of the Week.

Nutritive Value of Mushrooms.—Dr. Stromer, of Vienna, concludes: 1. Mushrooms possess small nutritive value, their heavy charge of water reducing to very little their quantity of nutrient substances, and, above all, the albumen, which is difficult of digestion. 2. Dry mushrooms are not much better, because they absorb a great deal of water in cooking. 3. Mushrooms approximate in nutritive value to vegetables, particularly to cabbage, and, being cheap and easily procurable, deserve, *pro tanto*, the attention of the poor.—*Lancet.*

Tabular View of Zymotic Disease.—Dr. W. Squire has recently, as a result of mature experience and careful research, compiled a table relating to zymotic disease which is so excellent that we have thought fit to reproduce it:

Disease.	Period of incubation.	Interval of safety.	For rash or other sign.	Duration of infectiveness.
Small-pox ..	12 days	15 days	2–3 days	3–4 weeks.
Measles	8–12 "	18 "	3–4 "	3–4 "
Scarlet fever	2–5 "	8 "	2 "	6–8 "
Rubella	10–21 "	3 weeks	1–2 "	2 or 3 "
Chicken-pox	10–14 "	2½ "	1 "	2 "
Mumps	12–21 "	3 "	1–5 "	2 or 3 "
Whooping-cough	6–12 "	2 "	1–3 weeks	About 6 weeks.
Diphtheria ..	2–12 "	2 "	1–2 days,	6–8 weeks.
Enteric fever	5–20 "	4 "	10–12 "	4–8 "
Typhus fever	5–12 "	2 "	5 "	3 or 4 "
Cholera	2–5 "	1 "	Sudden	Uncertain.

We are glad to find him insisting upon a definite, fixed, and invariable incubation for small-pox; we should, however, prefer to say two to five days for the rash of measles to appear. He also seems to put the infective duration of diphtheria at too long a period; four to six weeks would be a more acurate one.—*Medical Press Circular.*

The New Method for the Treatment of Localized Tubercular Affections.—Considerable comment has been excited by the announcement of Dr. Kolischer, of Vienna, that he had discovered a new method for the treatment of localized tuberculosis. It has been suggested that it might be applied to the treatment of pulmonary disease. The correspondent of the *Medical Press* gives a full account of Kolischer's methods: The theory of his treatment is based on two principles, viz.: First, to supply the tubercular foci with a sufficient quantity of salts of lime, so as to effect recovery as in cases of calcification of tubercles in the lungs; secondly, to set up an acute irritation of the tubercular granulations, and thus produce a cicatricial shrinking of the nodules. In cases of tubercle which had not yet broken down, he availed himself of injection (into the parenchyma) of an acid solution of the biphosphate of lime, and when the growth was not undergoing a progressive caseous process, he obtained recovery in from four to eight weeks.

In cases of tubercular ulcerations and cold abscesses, he used gauze, which was saturated with the solution of lime prepared for this purpose, and he also obtained striking and rapid successful results. At the same time he stated that when the solution was not used with precaution, or when its constituents were not properly combined, the procedure under consideration might have bad consequences—such as had occurred in the beginning of his experiments. On this occasion he showed five patients who had been treated in this way with success, and among these, two cases of fungous granulations of the elbow-joint in children, with recovery, after a six weeks' course of treatment. In both cases the patients suffered from anchylosis, extensive swelling, with pain and fever. The joints were now quite normal after the treatment, and perfect mobility was obtained. The fever and the pain disappeared soon after the treatment was begun. He also showed a case of fungous granulation of the knee-joint with grave symptoms, such as anchylosis, lateral mobility, swelling, and pain, in a boy, aged four; recovery took place after five weeks. In a case of granulation of the tibio-tarsal joint, recovery also established after a short time. Professor Albert remarked concerning this communication that few facts had made such an impression upon him as the results of the experiments of Dr. Kolischer. He had at first sought to find out whether there was not some mistake in the results obtained; in the case of recovery of fungous granulation of the elbow-joint, he had thought that they might perhaps have had to deal with a peri-articular abscess with extra-capsular granulation, a process which he had occasionally observed; but the rapid recovery even in such a case would have been surprising. He said that this method of treatment was promising, and he emphatically recommended further researches by other surgeons. N Y Med. Record.

The Value of Subcutaneous Injections of Eucalyptol, in the treatment of phthisis, is now being discussed by the medical societies of Paris. The weight of evidence is that the treatment is not one of much value.

Madness in Royal Families.—King Otto, brother of the late King Ludwig, of Bavaria, has recently been pronounced insane. Princess Thyra, sister of the Princess of Wales, is confined in an asylum. One of the ladies of the royal house of Austria has recently become insane. *Per contra*, President Cleveland can stand a three weeks' course of black flies in the Adirondacks, and still preserve a condition of fine mental co-ordination.

Two New Medical Laws.—The bill to regulate the practice of medicine in Illinois has become a law, to go into effect on July 1, 1887. In its main features this new law resembles the old one, but the State Board of Health is given more definite powers. Itinerant venders of medicine are obliged to pay a license of $100 a month. This provision ought to be a powerful check on quacks. Governor Hill has signed the bill for regulating medical practice in New York. The law thus made is in effect a codification of previous statutes. It simplifies the law and makes its execution more feasible. It restricts the list of authorized practising physicians to those already regularly licensed and over twenty-one years of age. Hereafter those who shall be admitted to practice will be confined, first, to those who shall have been graduated from an incorporated medical school or college with the degree of Doctor of Medicine; second, to those who shall have received this degree from the Regents of the University of the State of New York; third, to graduates of incorporated medical institutions in other States and foreign countries which shall have been approved by the institutions in this State. The County Clerk of each county shall keep a registry book in which every physician must register according to a prescribed formula. No person convicted of committing a felony shall be allowed to practise. The penalty for violating the law is $50 fine for the first offence, and $100 fine or one hundred days imprisonment, or both, for each succeeding offence. The county medical societies are authorized to prosecute any offenders.

The Alumni Association Prize of the College of Physicians and Surgeons, New York City.—This prize of *five hundred dollars*, open for competition to the Alumni of the College, will be awarded to the best *medical essay* submitted to the Committee, upon any subject the writer may select. If no one of the essays be deemed sufficiently meritorious the prize is not awarded.

An essay, in order to be held worthy of the prize, must contain the results of original investigations or research made by the writer.

Competing essays must each be marked with a device or motto, and accompanied by a sealed envelope similarly marked, containing the name and address of the author.

Essays in competition for the prize to be awarded at Commencement, May, 1888, must be sent to a member of the Prize Committee, on or before April 1, 1888.

Andrew J. McCosh, M.D.,
William G. Thompson, M.D.,
M. Allen Starr, M.D.,
Committee.

Please mention The Medical Record.

New York Polyclinic.—Dr. J. W. Gleitzman has been appointed Professor of Laryngology and Rhinology, and Dr. O. D. Pomeroy Professor of Otology, in the New York Polyclinic.

Dr. N. Senn on Mr. Tait.—Dr. Senn writes to the *Journal of the American Medical Association:* "From what I gleaned from my observations in the practice of Mr. Tait, I have come to the following conclusions: 1. He is a skilful and dexterous operator. 2. He depends on a diagnosis by digital exploration in the majority of cases. 3. He removes the ovaries and tubes in cases for indications which few gynecologists would be willing to accept as justifiable for such a serious procedure. His wonderful success may be attributed to: 1, aseptic surgery; 2, small incisions; 3, no unnecessary exposure of peritoneal cavity; 4, perfect familiarity with pelvic and abdominal surgery as far as the mechanical performance of operations is concerned; 5, rapid operating; 6, careful personal supervision in the after-treatment. There can be no question that much of his success also depends on the fact that he performs his operations almost without assistance, and in this respect all laparotomists should

lose no time in imitating his example. With all his faults, Mr. Lawson Tait has done much toward the advancement of gynecology, and we may learn from him many a valuable lesson which will add to our success in practice." Dr. Senn seems to have been much disappointed because he could not get Mr. Tait to talk "shop" at his dinner-table.

Mr. Bryant's favorite antiseptic solution is a weak watery solution of iodine, which he prefers to any other antiseptic, and with which he has had most excellent results.

A Training-school for Male Nurses.—We stated recently, on the authority of the *Medical Register*, that there was no school for training male nurses as yet in working order in this city. We learn, however, from Superintendent Dr. James F. Ferguson that the Commissioners of Charities and Correction have recently organized the "Charity Hospital Training-school for Male Nurses." Applicants must be between the ages of twenty and thirty. The school is under the direction of a Board of Managers, of whom Dr. Ferguson is Chairman.

The Murder of a Physician.—Dr. Edward H. Duggan, of Brooklyn, was shot and killed by a man named Weidler, on June 24th. Dr. Duggan was a physician in large practice, and a graduate of Long Island College Hospital, in 1861. The motive for the murder is unknown.

Some of our Southern State Medical Societies have had to engage in the unpleasant task of defending assaults upon the character of its members. Dr. F. Daniel received a thorough exculpation at the hands of the Texas State Medical Society from charges made against him by one of the members. We observe that at the meeting of the Kentucky State Medical Society, Dr. Dudley S. Reynolds was the victim of certain aspersions, which the State Society "repelled" in formal resolution. Both Dr. Daniel and Dr. Reynolds are medical editors, which is *prima facie* evidence that they are good and able men. But the life of the medical editor is beset with snares. We congratulate our contemporaries on having escaped this time at least.

Investigating a Hospital.—Charges were recently made that there were a number of abuses in the conduct of Gouverneur Hospital of this city. More particularly one of the house physicians was charged with intoxication and making unseemly noises in his room. Investigation showed that while there had been, a good while ago, some irregularities among the employees, these had been corrected, and that the present charges were the work of discharged employees.

Billroth on Medical Progress in France.—Our esteemed French exchanges are much exercised over the recent statement by Billroth that Pasteur's anti-rabic inoculations were useless, and the supplementary remark, that in the past twenty years France had not only made little progress in medical and surgical science, but had hobbled painfully in the wake of the colossal advances of German and English science. The sting of this remark is in its truth. France is behind, is almost provincial in its relation with the state of science in other countries. It is due not to French dulness or idleness, but to its self-sufficiency, which has led its scientific men to grow up in the belief that there is little of importance outside of France. A change is taking place now, however.

Yellow Fever still exists at Key West, one or two new cases being reported daily.

The State Medical Society of West Virginia will hold its Twentieth Annual Meeting at Greenbrier, White Sulphur Springs, W. Va., July 13 to 15, 1887, inclusive.

Post-Graduate Medical School.—Dr. George B. Fowler has been elected by the Board of Directors Professor of Clinical Medicine and Medical Chemistry.

The Ohio State Medical Society.—Through an error last week, we stated that the Ohio State Medical Society met in Cincinnati. It should have been in Toledo. Hon. Samuel F. Forbes, late Mayor of that city, was elected President unanimously. Columbus was selected as the place, and the first Tuesday in June, 1888, as the time for holding the next annual meeting.

There is Something in the atmosphere of St. Louis which gently turns the thoughts of medical editors to puns. This *paranomasia endemica* was observable several years ago in the *Alienist and Neurologist*. It has deeply affected the *Weekly Medical Review*, and we observe evidences of a pun-wave in a recent issue of the *St. Louis Medical and Surgical Journal*, which has the following: "Buttermilk for Babies is the title of a paper by Dr. Ottersen in the *Massachusetts Medical Journal*. If the baby has the right kind of a mother, it will not want any but her milk."

The Action of Strophanthus Hispidus.—The therapeutical and physiological effects of strophanthus were brought before the notice of the K. K. Gesellschaft der Aerzte of Vienna, on April 29th, by Professor Drasche. He reports that in his hands, and in those of Professor Bamberger, it had fully satisfied the expectations raised regarding it, and that it was already finding its way among the private practitioners of the Austrian capital. He had not hitherto used the full dose recommended by Fraser, in fact only the half of it, but in future he would give the quantity prescribed by its introducer. The pulse-rate invariably fell after its administration—sometimes in a few minutes, sometimes in the course of half an hour—and continued slower for several hours. In a typhoid case, the pulse was kept at 52 for fully eight days. One patient complained of muscular weakness after a dose, so that she could scarcely sit up. In the case of a nervous patient, with a pulse of 140 to 150, ten minims three times a day reduced the rate to 20 beats. This action was still constant, and took place almost immediately. In a case of Basedow's (Graves') disease with tumultuous cardiac action, twenty drops of the tincture effected improvement, and the arythmia present was also somewhat improved. He had treated thirty cases of actual disease of the heart with the drug, and he must confess that he was quite contented with its action. Exaggerated cardiac action was reduced more quickly and surely than by either digitalis or adonis.—*Medical Press.*

Reports of Societies.

NEW JERSEY MEDICAL SOCIETY.

One Hundred and Twenty-first Annual Meeting, held at Beach Haven, N. J., June 14 and 15, 1887.

TUESDAY, JUNE 14TH—FIRST DAY—AFTERNOON SESSION.

THE PRESIDENT, DR. C. J. KIPP, called the meeting to order, immediately after which prayer was offered by RIGHT REV. BISHOP SCARBOROUGH.

After the roll-call the Committee of Arrangements stated that the members of the Society were indebted to the officials of the Pennsylvania Railroad Co. for their kindness in granting a special train from Jersey City to Beach Haven, and for the efficient manner in which they had it advertised; to the officers of the Tuckerton Railroad Co. for a similar consideration and favor. A complimentary banquet was tendered to the Society and its visitors by Charles T. Parry, Esq., of the Baldwin Locomotive Works, of Philadelphia, and served by Mr. Joseph Page, the proprietor of the hotel, at 10 P.M., June 14th.

The Beach Haven Yacht Club tendered the delegates and visitors a complimentary sail on the bay at nine o'clock Wednesday morning.

THE ADDRESS OF WELCOME

was given by DR. T. T. PRICE, Chairman of the Committee of Arrangements. After the reading of this paper, which was expressive of a hearty and generous welcome, DR. WILLIAM PIERSON, of Orange, N. J., read the minutes of the last annual meeting.

CORRESPONDING MEMBERS.

It was then moved by Dr. Price, that Drs. John B. Roberts, Frank Fisher, Carl Seiler, Samuel Ashhurst, Dr. Woods, Gabriel Grant, Professor Leidy, and Bishop Scarborough, be invited to sit with the Society as corresponding members. Carried.

TOPICS FOR DISCUSSION AT NEXT ANNUAL MEETING.

The Committee on Business, in their report, suggested that the topics for extemporaneous discussion at the next annual meeting shall be:

1. The relation of laundry and dish water to the spread of disease.
2. Local anæsthesia in minor surgery.
3. The treatment of phthisis by gaseous enemata.
4. What treatment will most effectually and promptly curtail the course of acute rheumatism.

It was determined by vote that the first, third, and fourth topics should at the next annual meeting be the subjects for discussion.

DR. JOSEPH W. STICKLER WINS THE FELLOWS' PRIZE.

The Committee on Fellows' Prize Essay then made their report, and recommended that the sum of $100 be given to Dr. Joseph W. Stickler, of Orange, N. J., for his essay, entitled "The Climatology and Diseases of Essex County, N. J." Carried.

DR. PRICE moved that the Society take up that portion of the business of the evening after the report of the Standing Committee. Carried.

TREASURER'S REPORT.

DR. W. W. L. PHILLIPS, of Trenton, Treasurer, then reported that the total receipts from the societies amounted to $951 50
Balance from last year 760 77

Total balance $1,712 27
Total disbursements 1,227 25

Balance on hand $485 02
Assets—U. S. bonds, four per cent 2,550 00
Newark Savings Bank 45 69

$2,595 69

THE CORRESPONDING SECRETARY'S REPORT

was read by DR. WILLIAM PIERSON, as Dr. William Elmer was unavoidably absent. The report showed that exchanges had been received from the following States: Maine, New Hampshire, Vermont, Massachusetts, Connecticut, New York, Pennsylvania, Maryland, West Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, Texas, Tennessee, Ohio, Illinois, Michigan, Wisconsin, Minnesota, Missouri, Colorado, and Oregon; also from the College of Physicians and Surgeons, Philadelphia. The Committee also received from the *Journal of the American Medical Association* a statement to the effect that they propose to publish in the *Journal* a register of the state and county medical societies of the United States, commencing January 1, 1887. "As it will entail considerable expense, we are compelled to make a nominal charge, namely: $6 per annum, where it makes a single line; $10 for two lines, and $12 for three lines, which will include a copy of the *Journal* sent free every week."

THE PRESIDENT reported the following

COMMITTEES.

On Honorary Membership: Drs. Baldwin, Pennington, and Oakley.

On Business: Drs. Baldwin, Joseph Osborne, T. R. Parrish, W. A. Elmer, Samuel Green.

On Treasurer's Report: Drs. Chambers, Bodine, and Treganowan.

DR. OAKLEY moved the preparation of an obituary of Dr. Ryerson. The committee appointed for this purpose by the President consisted of Drs. Hunt, Pennington, and Wickes.

The Committee on Honorary Membership reported that they had received, through Dr. Genet Taylor, the names of Dr. D. Hayes Agnew, and Dr. Joseph Leidy, of Philadelphia, as proper persons upon whom to confer this title. These gentlemen were unanimously elected to honorary membership.

EVENING SESSION.

The first order of business was the reading of the

ANNUAL ADDRESS,

by the President, DR. CHARLES J KIPP, of Newark, N. J. His subject was

THE TREATMENT OF PURULENT INFLAMMATION OF THE MIDDLE EAR AND ITS CONSEQUENCES.

He said that in the treatment of the acute form of this disease he had pursued essentially the same line of treatment, whether the disease occurred independently of, or in connection with, some general disease, such as the exanthemata and typhoid fever. Rest of body and mind is now held by all authors to be an essential part of the treatment, and Dr. Kipp thought rightly so. At the same time he had treated hundreds of cases of this disease in the out-door department of the hospital, and, as a rule, recovery had been as rapid and complete in these cases as in those which had been kept in bed while the disease was at its height. For the relief of the violent pain in the ear and the head the doctor had found that, so long as the purulent secretion remained pent up in the tympanic cavity, the most satisfactory treatment was a free incision of the membrana tympani. He had performed this little operation many hundred times, and, although it has now and then failed to relieve the pain at once, he had never had occasion to regret making it in such cases. The operation is, as a rule, not very painful.

Cocaine, so far as his experience is concerned, is of but little value as an anæsthetic of the drum-membrane. The incision had generally been made with a broad lance-shaped needle. In most cases he considered it advisable to assist in the removal of the secretion from the tympanic cavity by gently inflating the middle ear

through the Eustachian catheter, or by Politzer's method immediately after the paracentesis. The recurrence of the pain is sometimes due to the complete or partial closure of the perforation and the consequent reaccumulation of the exudation in the tympanic cavity. In such cases he either reopened or enlarged the original perforation, or if this was situated in the upper part of the drum-membrane, he made a new incision in the lower posterior quadrant in order to secure better drainage.

Occasionally he had found it necessary to repeat this operation several times in the course of a few weeks. In other cases the pain was found to be due to the formation of furuncles, or to a diffused inflammation of the walls of the canal, or to periostitis of the mastoid process. Dr. Kipp is positive in the belief that the free use of the knife in cases of diffused inflammation of the walls of the canal prevents any subsequent phlegmonous periostitis of the canal. Periostitis of the mastoid process, when it does not subside in a few days under leeches and ice, the doctor treats with the knife, making an incision through the soft parts down to the bone. The various astringents used by Dr. Kipp in the treatment of cases in which the otorrhœa does not speedily cease under simple syringing and inflation, although the opening in the drum-membrane is sufficiently large and favorably situated for thorough drainage, are the acetate of lead, the sulphate of zinc, and the acetate of aluminium.

With regard to the treatment of caries and necrosis of other parts of the temporal bone than the mastoid process, experience has led the doctor to do little besides thorough cleansing of the middle ear and the extraction of the sequestra after they have found their way into the external canal.

Dr. Parvin, of Philadelphia, and Dr. Weir, of New York, were invited to take seats on the platform.

Dr. Oakley moved that the prize essay be published. Carried.

All guests who had arrived since the afternoon session were invited to sit with the Society.

Dr. T. I. Smith, Chairman of the Standing Committee, submitted his report. It was received and referred to the Committee on Publication.

The subject for discussion—

WHAT IS THE PERSONAL EXPERIENCE IN THE USE OF ANTIPYRIN?

Does it permanently reduce the temperature of the body or modify the course of disease? was introduced by Dr. H. R. Baldwin, who said that ephemeral fever is reduced by ten-grain doses repeated two or three times; when given in this manner it produces diaphoresis, which sometimes is very free. In typhoid fever it does not permanently reduce the temperature, but does frequently weaken the action of the already exhausted heart. For this reason he was very careful in its use in cases of typhoid fever and pneumonia. Drs. Helfer and T. N. Quimby endorsed the views expressed by Dr. Baldwin.

THE REPORT OF THE COMMITTEE ON ETHICS.

The Committee on Ethics in their report offered the following resolutions, namely: 1. That in view of the non-concurrence of other State societies in the recommendation of this Society on the subject of preliminary education, it is not expedient that further action be taken by this Society in reference thereto. 2. In reference to the request that this Society advertise its officers in the register of the *American Medical Association Journal*, we deem it inexpedient at present. 3. In reference to a subscription by this Society toward defraying the expenses of the Ninth International Medical Congress, your committee recommend such subscription as worthy of favorable consideration, but leave the amount to be fixed by the Society.

Adopted.

After a short discussion upon the last recommendation, the Society adjourned at 10.05 P.M. to attend the complimentary banquet.

WEDNESDAY, JUNE 15TH—SECOND DAY—MORNING SESSION.

OFFICERS FOR THE ENSUING YEAR.

The Nominating Committee made the following report:

President—Dr. J. D. Ward.

First Vice-President—Dr. H. J. Taylor.

Second Vice-President—Dr. B. A. Watson.

Third Vice-President—Dr. J. S. Green.

Corresponding Secretary—Dr. Wm. Elmer.

Recording Secretary—Dr. Wm. Pierson.

Treasurer—Dr. W. W. L. Phillips.

Standing Committee—Drs. I. J. Smith, E. J. Marsh, and D. C. English.

Delegates to American Medical Association—Drs. Godfrey, Quimby, W. H. O. Taylor, Coleman Leaming, W. H. Elmer, D. M. Skinner, S. T. Stiger, W. S. Crevelling, J. T. Wrightson, Dr. Risk, J. H. Balleny, G. B. Probosco, T. T. Welch, J. Wolverton, W. B. Watson, and Dr. Price.

Delegates to State Societies—Connecticut: Drs. B. Craig, Buckingham, and S. H. Hunt. Massachusetts: Drs. Wm. S. Laylor, S. A. Harris, and G. B. Brumley. Pennsylvania: Drs. Ridge, Weeks, and Arrowsmith. Rhode Island: Drs. H. M. Weeks, G. W. Terry, and Alonzo Pettit. Delaware: Drs. J. T. Wrightson, Geo. T. Welch, and J. C. Herrick. New York: Drs. T. R. Varick, D. A. Currie, and J. D. Osborne. Kentucky: Drs. Pomyea, Turnure, and Treganowen.

Committee of Arrangements—Dr. J. S. Cook, Hackettstown; Dr. W. H. Risk, Summit; Dr. Miller, Boonton; Dr. F. Bookeley, Dr. B. A. Watson.

Place of Meeting in 1888—Lake Hopatcong, N. J.

Business Committee—Drs. H. R. Baldwin, T. R. Varick, J. D. Osborne, W. H. Elmer, and W. Selover.

MONEY FOR THE INTERNATIONAL CONGRESS.

The recommendation of the Committee on Ethics, that the New Jersey State Medical Society subscribe toward defraying the expenses of the Ninth International Medical Congress, was annulled after a very spirited discussion, and the following resolution (by Dr. D. C. English) adopted, namely: That this Society, doubting the propriety of voting the funds of the Society toward defraying the expenses of the Ninth International Congress, commends the appeal to the members of this Society, and hereby appoints Dr. B. A. Watson a committee to receive contributions and forward them to Dr. Dunglison, the treasurer of the Congress. Carried.

The Committee on the Treasurer's Accounts made their report through Dr. T. R. Chambers.

Dr. B. A. Watson, of Jersey City, read a very interesting paper on

RATIONAL MEDICINE VERSUS EMPIRICISM.

He said the proper consideration of our subject demands a careful investigation of the fundamental principles involved in the practice of each. Rational medicine takes cognizance of the nature of disease, including its etiology, semiology, pathology, etc., and likewise the physiological action of remedies, while we seek to counteract the morbid processes of the one by the influence of the other. Furthermore, it is equally important that the practitioner of rational medicine should thoroughly understand the physiological and chemical laws which pertain to the performance of the various functions of the several organs of living beings, in order that he may intelligently regulate the hygienic and sanitary conditions of his patients. In addition to all this, it is highly important that every disciple of the great Hippocrates should possess a *practical* knowledge of the sciences which are allied to those of medicine, that he may thus be strengthened and the better prepared for the performance of the high duties of his profession. The physician must possess that faculty which enables him to reason accurately—to draw his scientific conclusions with unerring cer-

tainty. He must be able to analyze every symptom of disease and every logical induction, giving to each its proper place in the mental picture that forms the basis on which stands every accurate diagnosis. It is thus apparent that the rational practice of medicine is based on scientific knowledge and scientific reasoning. What is empiricism as differentiated from rational medicine?

History informs us that a sect of physicians, formerly designated by the name of empirics, originated with Phillinus, a pupil of Herophilus, and with Serapion, the successor of Phillinus, and that they were the advocates of the sceptical philosophy of Pyrrho. These ancient empirics principally occupied themselves with the discovery of the medicinal properties of drugs, while they neglected almost entirely the study of anatomy, pathology, physiology, chemistry, and the other sciences allied to medicine. Modern empiricism is embodied in the theory and practice of Hahnemann's followers, and how senseless seems the twaddle of the founder of homœopathy when viewed by the light of modern science!

Dr. D. Benjamin, of Camden, was expected to read an essay on "The Present Position of Antiseptic Practice," but he was detained by sickness. His essay was referred to the Committee on Publication and will appear in the "Transactions" of the Society.

TO REGULATE THE PRACTICE OF DISSECTIONS THROUGHOUT THE STATE.

Dr. J. P. Davis presented the following preamble and resolution, namely:

Whereas, While the laws of the State of New Jersey do not directly prohibit dissections of the human body, they do, by various provisions regulating burials and the transportation of dead bodies into and through the State, practically prohibit such dissections; and whereas such anomaly of law tends to retard the progress of medical science within the State, if not to a disregard of existing laws; therefore,

Resolved, That a committee be appointed to secure such modification of the State laws as may be necessary to permit and regulate the practice of dissections within the State. Carried. A committee, consisting of Drs. Davis, B. A. Watson, and E. M. Hunt, were appointed to make all necessary regulation in the matter.

Dr. Edward J. Ill was appointed essayist for next year.

Adjourned.

Afternoon Office-hours for Physicians.—A correspondent writes: "May I make a suggestion, or rather ask your opinion, about the office-hours of physicians? It matters little, perhaps, whether bedridden patients receive calls from their physicians in the morning or in the afternoon. But it seems to me that most walking patients could call on their physicians more conveniently after than before the usual midday meal. Thus, the streets and retail stores are more thronged by women in the afternoon than in the morning. The inference is that the afternoon is the time when they can most conveniently be absent from home Now, women are food and drink to physicians. Again, the hour after luncheon, or an hour toward evening, is more likely to be a leisure time with a business man than any hour of the morning. And feeble invalids, of both sexes, who generally feel out-of-sorts in the morning, often tone up sufficiently to walk out in the afternoon. My proposition is, that any physician having a considerable office-practice might add to it, and please all his patients, by arranging his affairs in such a manner as to make his office-hours from 2 to 6 P.M. Another proposition is, that a physician, having announced certain office-hours, is under moral obligation to be in his office, ready for business, during the whole of those hours, whether anyone is waiting to see him or not; and that the fact of his having lost a night's rest does not relieve him from this obligation."

ONTARIO MEDICAL ASSOCIATION.

Seventh Annual Meeting, held in Toronto, June 8 and 9, 1887.

Wednesday, June 8th—First Day—Morning Session.

The Seventh Annual Meeting of the Ontario Medical Association was held in the auditorium of the Normal School Buildings, Toronto, and was presided over by Dr. J. H. Richardson, of Toronto, the President.

The number present on the first day was over two hundred, and included medical men from every part of the Province of Ontario.

Dr. Duncan submitted the report of the Committee of Arrangements, and explained what steps had been taken to receive visitors; also the order of business. The report was adopted.

On motion of Dr. Bruce Smith, of Seaforth, and seconded by Dr. Rosebrugh, of Hamilton, a telegram of congratulation was sent to the American Medical Association, then holding their Thirty-eighth Annual Meeting in Chicago.

CONGRATULATIONS TO THE QUEEN.

On motion of Dr. J. E. White, seconded by Dr. Thorburn, of Toronto, the following jubilee cablegram was sent to Her Majesty the Queen:

"The President and members of the Ontario Medical Association, representing the medical profession of Ontario, at their annual meeting, desire to express to Her Most Gracious Majesty, Queen Victoria, their sincere pleasure upon the completion of the fiftieth year of her reign, their steadfast loyalty to her throne and government, and their lively hopes that a beneficent Providence, which has directed and comforted her through her past, may grant health, comfort, and happiness for many long years to come."

A member: I move that the word "Canada" be inserted after "Ontario," so that the English officials may not think Ontario is a small village in the heart of Asia (laughter, and "agreed"). The motion was then carried by a standing vote, all present joining in singing the national anthem.

MEDICAL DEFENCE FUND.

The question of forming a medical defence fund came up from the minutes of last year's meeting, and Dr. Henderson, of Kingston, moved that the following committee be appointed to consider and bring the subject before the meeting next day: Drs. Harrison, of Selkirk; Thorburn, of Toronto; Moore, of Brockville; Taylor, of Goderich; and the mover.

In supporting the motion, Dr. Henderson said that there was no more crying need on the part of the medical profession than the taking of steps to protect themselves from unjust and unfair accusations. The case which called his attention specially to the subject was one which had occurred in Eastern Ontario, and in which a medical practitioner had been prosecuted three years after he had ceased to attend the patient, who had emerged from sickness—an attack of periostitis—with a fair recovery, in the opinion of eight medical men who had been afterward consulted. The judge before whom the case was tried charged strongly in favor of the defendant, but the jury failed to agree, and the case was liable to be opened at any time, while already $1,000 had been spent by the defendant, and his practice greatly injured. If the Association would form a department or a fund to defend in such cases, it would be a powerful means of good; this Association would attract even more members than at present, and it would be a means of greater usefulness in more closely uniting the members of the profession in the Province. The motion was heartily agreed to.

A PROVINCIAL MEDICAL LIBRARY.

It was moved by Dr. McPhedran, and seconded by Dr. N. A. Powell, that Drs. Mullin, of Hamilton; Ar-

nott, of London; and Henderson, of Kingston, be appointed a committee from this Association to act with a committee from the Toronto Medical Society in the formation of a Provincial Medical Library.

INTRODUCING VISITORS.

THE PRESIDENT introduced to the Association and welcomed to the platform the following visitors, who received a most cordial reception: Drs. Gerster, G. H. Fox, Porter, and Satterthwaite, of New York; Dr. J. H. Packard, of Philadelphia; Drs. Cronyn and Hubbell, of Buffalo, N. Y., the latter representing the New York State Medical Association; Drs. Manton and Duffield, of Detroit, the latter being a delegate from the State Medical Society of Michigan; and Drs. Stewart and Cameron, of Montreal.

DR. PACKARD (on being introduced) remarked that there were fierce but interesting discussions at the present time on the subject of reciprocity between Canada and the United States, and also on the fisheries question. In the fisheries question it seemed to him there was nothing in it but a cod, not worth eating, anyway (laughter). He was in favor of reciprocity—certainly as far as the medical profession was concerned; and he hoped the *entente cordiale* now existing in that respect between the two countries would never be broken (cheers).

DR. CRONYN remarked that his friend Dr. Packard omitted the very point that was required. He should have advised the medical gentlemen before him to go to the United States and take possession there, as he (the speaker) had done many years ago (cheers).

The other visitors each made a few pleasing remarks, expressing their pleasure at being present.

PRESIDENT'S ANNUAL ADDRESS.

The President, DR. J. H. RICHARDSON, of Toronto, then delivered his annual address. He said it was difficult for one in his position to choose a subject to discourse upon in the presence of such an audience as that before him. It was not desirable for one man to set himself up as an authority or to deal with any one topic. He therefore chose to make a brief reference to some of the improvements, during his experience of forty years, in the general methods of medical treatment. Had he chosen anatomy he might, he said, feel more at home in his subject; but it might not be out of place to take a retrospective view of general medical treatment. He had been a close observer of the nature of disease, and had watched the changes which had taken place in the views regarding the nature of disease, and consequently in the modes of treatment. Forty years ago inflammation was considered to be at the root of almost all diseases. The most incongruous diseases were ranked under the head of "inflammatory diseases." As a remedy, bleeding was practised very largely until 1853. In Toronto it was practised for scarlet fever until 1860, frequently with the most disastrous results. He would refer more especially to two diseases, in regard to the treatment of which great improvement had taken place within the last quarter of a century, viz., splenic fever and hydrophobia.

Dr. Budd, of Bristol, seemed to have had the high distinction of being the first British physician to foresee the importance of the agency of minute organisms in the propagation of disease. Dr. Budd seemed to have been led to this prevision by the fact of the invariable reproduction of every specific disease. Splenic fever was a terrible scourge in Europe, how malignant, might be gathered from one paragraph from Touissant: "The period of its incubation is very short. An ox which has been at work may return to its stall apparently healthy. He eats as usual; then he lies down on his side and breathes heavily, while the eyes are still clear. Suddenly his head droops; his body grows cold; at the end of an hour the eyes become glazed, the animal struggles to get up, and falls dead—the struggle only lasting for an hour and a half."

Davaine, as early as 1850, discovered the presence of minute rods in the blood of animals which died from splenic fever; but it was not till 1863, after Pasteur's researches into the part played by microbes in fermentation, that he suspected their real agency in the production of disease. Pasteur's experiments are well known; his last experiment was made at the invitation of the President of the Society of Agriculture, and was watched by Pasteur's colleagues, who feared he had been too rash. A flock of sheep was divided into two groups, being all vaccinated with attenuated virus, while those of the other group were left unvaccinated. A number of cows were also subjected to a precisely similar treatment. Fourteen days afterward all the sheep, vaccinated and unvaccinated, were inoculated with a very violent virus, and three days subsequently more than two hundred persons assembled to witness the result. Twenty-one of the twenty-five unvaccinated sheep were already dead, and the remaining four were dying. The twenty-five vaccinated sheep were in full health. A similar result occurred among the cattle. The breeders of cattle at once overwhelmed Pasteur with applications for vaccine, and by the end of 1883 nearly five hundred thousand had been protected. Pasteur's crowning triumph was achieved over that dread disease, hydrophobia, which had hitherto baffled medical skill. After repeated experiments he determined: "1. That the virus attained its most intense virulence in the marrows of the infected animals. 2. That the virus of a mad dog, inoculated by trephining under the *dura mater* of a rabbit, always communicated rabies to the animal after a period of incubation of about fifteen days. 3. That successive inoculations with virus so obtained show a marked tendency to a diminution of the period of incubation down to seven days, when the virus seems to have attained its greatest intensity. 4. That portions of these marrows exposed to dry, uncontaminated air gradually lose their virulence, until at last it dies out."

Vaccine virus was not an invariable protection against small-pox; nor was small-pox itself a protection against subsequent attacks, and more must not be demanded for vaccination against hydrophobia than from vaccination for small-pox. Instead of cavil and doubt, we ought to lay hold with gratitude and confidence on the grand fact which had been established conclusively by direct experiment; viz., that some of the most deadly diseases which affect human and brute creatures are the result of the introduction of micro-organisms into the animal system; that they have been isolated and reproduced, generation after generation, by the most guarded, precise, and definite methods of the laboratory, and that they can be so modified in their strength as to be safely introduced into healthy animals and so protect them from the deadly effects produced by the unmodified poison.

In view of the facts of the discoveries of recent years they might surely "thank God and take courage" for the future.

The difficulties before them were great. The life-history of each class of these minute beings was so different, and the conditions under which they must be investigated were difficult, but there was no royal road to knowledge, and perseverance and research were certainly necessary. Yet they were on the road, and it only needed courage, faith, and constant advance to open up newer, larger, and brighter vistas of truth (cheers).

PAPERS READ.

DR. FENWICK, of Kingston, read a paper on "Lacerations of the Cervix Uteri."

Several questions on points touched on in the paper were put by members, and answered by Dr. Fenwick.

A valuable paper was read by DR. GROVES, of Fergus, on "Prostatotomy," which was well received, and spoken to by several members.

DR. FERGUSON, of Toronto, followed with a paper on "Arsenical Neuritis," causing an interesting discussion,

in which Drs. Covernton, Thorburn, Stewart, Teskey, Sheard, and others took part.

A discussion on "Medicine," subject, "Phosphaturia," was opened by Dr. Arnott, of London, with a sententious and able paper. He was assisted in the exposition of his subject by Drs. Bruce Smith, of Seaforth; McDonell, of Orillia; and Thorburn, of Toronto. Drs. Brown, of Galt; Powell, of Ottawa; and Strange and Ferguson, of Toronto, took part in the discussion which followed, and the paper was considered of a valuable and suggestive character.

VARIOUS METHODS OF TREATING SKIN DISEASES.

The next paper was one by Dr. G. H. Fox, of New York, on the various methods of treating skin-diseases, with special reference to the use of chirurgical instruments. Dr. Fox produced photographs of diseases before treatment, and of the skin in its restored condition, and exhibited some of the instruments used for punctating and cutting. He also showed two patients he had operated on that day, and whose disfigured faces, he said, his method would by an earlier application have perfectly cured. Drs. Graham, Oldright, and Holmes took part in the discussion which followed.

A paper by Dr. Murray, of Thorndale, on a "Case of Laceration of the Femoral Artery," concluded the session.

All the papers drew largely on the writer's experience in his ordinary practice or actual experiment, and in the discussion difficulties in the way of operating or prescribing remedies were considered, resulting in a great deal of practical information being elicited which must be of benefit to the members.

All the authors of the papers read were thanked by the President on behalf of the Association.

Evening Session

EXTRA-UTERINE PREGNANCY.

The Association resumed in the evening at eight o'clock.

Dr. Taylor, of Goderich, read a paper giving the history of a case of extra-uterine pregnancy. The patient recovered.

Dr. James Ross gave the history of two similar cases, the only two which he had observed out of several thousand cases of pregnancy which had come under his notice. In the last case abdominal section had been performed on the patient in St. John's Hospital, Toronto, by his son, he and other surgeons assisting. The patient is recovering.

Dr. A. G. Gerster, of New York, was cordially received. He read a paper on the

ANTISEPTIC PRINCIPLE, AS APPLIED TO THE TREATMENT OF PRIMARY INDURATION, AND THE INITIAL SORE OF SYPHILIS.

The paper provoked a good deal of discussion, in which several members took part. The great importance of antiseptics in the treatment of all such cases was conceded.

Dr. Holmes, of Chatham, read a paper on "Puerperal Fever," the conclusion of which was that damp air will cause this complaint.

Dr. John H. Packard, of Philadelphia, read a highly instructive paper on

OUR VIEWS OF THE SURGEONS OF THE LAST CENTURY.

The writer dealt principally with Heyster, Pete, and Pott, and showed an intimate acquaintance with their writings, as well as the writings of the other leading surgeons of that time.

He pointed out the many resemblances between the books of that time and those of the present day.

The Association adjourned shortly after eleven o'clock.

THURSDAY, JUNE 9TH—SECOND DAY—MORNING SESSION.

The President, Dr. J. H. Richardson, took the chair at nine o'clock.

Before the programme for the session was taken up, the following question was put and discussed:

IS THE CONTINUED EMPLOYMENT OF LARGE DOSES OF FLUID EXTRACT OF ERGOT LIKELY TO BE INJURIOUS WHEN EMPLOYED IN CASES OF FIBROID TUMORS OF THE UTERUS WHEN OPERATION IS INADMISSIBLE?

The opinions expressed concurred that no injurious effects were produced.

Dr. Lett, of Guelph, was then called upon to read a paper on the question,

WHAT IS THE RELATION BETWEEN MENTAL DERANGEMENTS AND MASTURBATION?

Dr. Lett referred to the want of accurate data in determining the results of masturbation and its influence on the mental powers. He combated many of the popular ideas on the subject, and was of the opinion that in the greater number of cases of insanity attributed to this vice predisposing causes co-operated. A long discussion ensued, in which the positions laid down by Dr. Lett in his paper were generally sustained.

SURGICAL SECTION.

Dr. Strange, of Toronto, read a paper opening a discussion on surgery, and dealing specially with

POINTS IN THE MINOR SURGERY OF THE GENERAL PRACTITIONER.

The use of the knife in minor cases was strongly advocated, and emphasis was put on the application of crucial incision in cases of disease. The paper was concise, able, and of a highly practical character.

Dr. Murray, of Thorndale, asked whether it was customary to give chloroform in minor cases, and several members gave an account of their experience in the use of means to deaden or alleviate pain.

Dr. Powell, of Ottawa, took issue with Dr. Strange in the matter of free use of the knife, on the ground that hemorrhage frequently penetrated the healthy tissue behind the diseased structure on the latter being pierced, and thereby a disease was conducted deeper into the subject.

The President, Dr. J. H. Richardson, warmly complimented Dr. Strange on the ability displayed in his paper, and urged the importance of using the knife in cases of carbuncle and other tumors from blood-poisoning. He also stated his practice of making a copious use of alcoholic stimulants in such cases. He said a bottle or a bottle and a half of brandy per day, for an adult patient, and a bottle of port wine per day to a child were nothing extraordinary, and had been followed by the best results.

Dr. Gerster, of New York, said common-sense had a more important place in treatment than was sometimes accorded to it.

While he agreed with the spirit of the paper, he would not go so far as to state that in all cases caustics should give way to the knife. Circumstances must always determine the particular course to be adopted. One thing he wished particularly to refer to was the abuse of poulticing. It were better in many cases to dispense with the poultice after operation; but it was necessary that patients should be urged to a proper use of it when it was applied.

Dr. Graham, of Toronto, read a paper on a recent case of herpes zoster, including a report by Mr. McCallum, of the School of Practical Science, and the session adjourned for two hours.

AFTERNOON SESSION.

THANKS FROM THE QUEEN.

THE PRESIDENT took the chair at two o'clock. The following cablegram, addressed to Dr. White, Secretary, was read; "The Queen thanks the members of the Ontario Medical Association for their kind congratulations. —PONSONBY."

A telegram was also read from the American Medical Association, and conveying to them their sympathy and good-fellowship.

DR. GEIKIE presented, for the inspection of the members, a tape-worm having its head complete. The specimen was examined with interest, as the head of the tape-worm is not very often seen.

DR. W. H. PORTER, of New York, read a paper,

ON THE ETIOLOGY AND PATHOLOGY OF INCREASED BODILY HEAT IN RELATION TO DISEASE, AND THE USE OF ANTIPYRETICS.

He said that, physiologically speaking, animal heat was produced by the motor forces, or the kinetic energy being converted into heat, or by the universal molecular friction of the microscopic elements of the body. The larger amount of heat, however, was produced by the transformation of the chemical elements of the food, which had a large amount of potential energy which was given off in the form of heat. He referred to the various temperatures, and to some means of determining the causes from which changes of bodily temperature arose.

Drs. Temple, Turver, Cronyn, and Covernton spoke on the subject of the paper.

DR. SATTERTHWAITE, of New York, was then called upon to read his paper on the

SO-CALLED URIC-ACID DIATHESIS,

which was a long and able exposition of the subject, but was not followed by discussion.

Dr. Joseph Workman at this stage entered, and was welcomed by the President as the founder and originator of the Association.

A LARGE GROWTH.

DR. W. H. AIKINS brought in a patient with an unusually large growth on her face for the inspection of the members.

The woman was seventy-three years of age, and the growth, which began twenty-three years ago, weighs from four to five pounds. Dr. Aikins intimated that it was to be removed by operation this morning, when a number of members will attend.

A paper by Dr. Ryerson, of Toronto, on

OPHTHALMIC EPILEPSY,

was, on the motion of that gentleman, held as read, owing to want of time during that sitting.

A paper on

THE REMOVAL OF THE UTERINE APPENDAGES

was read by DR. ADAM WRIGHT. He gave examples of cases occurring in the General Hospital, Toronto, and discussed the application of the operation of removal to three varieties of conditions. In nervous diseases alone, he thought it unjustifiable, as a rule; in fibroid tumors, when hemorrhages endangered life, he approved of the operation. In diseases of the tubes and ovaries, including hydro-salpinx, pyo-salpinx, and hæmato-salpinx, the operation, he said, should be performed in certain cases. He reported several successful operations in illustration.

DR. TEMLPE remarked that the diagnosis was, as a rule, more difficult than Dr. Wright seemed to think. Tubes might be affected with disease without evident enlargement.

DR. R. W. POWELL, of Ottawa read a short paper on

PELVIC HÆMATOCELE,

being a description of a case occurring in his practice in Ottawa, in which pelvic hæmatocele was successfully removed without any operative procedures, through the efforts of nature. The case was of an unusual character, and an appreciative criticism of the paper followed.

DR. PALMER, of Toronto, explained the intubation of the larynx, and answered a large number of questions on his novel and apparently reasonable method.

REPORT ON ETHICS.

The report of the Committee on Ethics was read by DR. J. E. WHITE, the Secretary. The committee expressed the opinion that there are few, if any, members of the Association who do not possess the ethical knowledge, the sense of honor, propriety, and justice which should at all times govern the conduct of gentlemen, and especially members of the medical profession, in their conduct toward each other, toward their patients, and toward the public at large. The committee recommended that the President, Vice-Presidents, and Secretary of the Association be a standing committee to whom any alleged breach of ethics by a member might be referred. Recognizing the influence of local medical associations for promoting intellectual and scientific inquiry and for the securing of correct observance of medical ethics, the committee urged upon the members of the Ontario Association the wisdom of keeping alive and strengthening the various local associations, both with a view to their acting as feeders to the central society, and of being nuclei for the dissemination of medical ethics throughout the province. The adoption of the report was deferred till the evening session, and the sitting adjourned.

EVENING SESSION.

THE PRESIDENT took the chair shortly after eight o'clock.

PRIMARY TUBERCULOSIS.

DR. MCDONAGH, of Toronto, read an interesting paper on "Primary Tuberculosis of the Larynx." The paper expressed the belief that laryngeal tuberculosis, sometimes, at least, if not always, existed prior to pulmonary tuberculosis. He cited one case which had come under his own notice where the patient suffered from hoarseness. A careful physical examination of the lungs did not indicate that those organs were affected. A camel's-hair tube was passed over the larynx, and a microscopic examination of the mucus showed tubercular bacilli. He also had the opportunity of making a post-mortem examination of a subject at the hospital, wherein the lungs were free from tubercular disease, but, on the other hand, the larynx was affected with tuberculosis. The practical value of the establishment of this fact would be that it would be easier to get at the disease in the larynx than when it reaches the lungs.

Several questions were put to Dr. McDonagh as to his treatment of laryngeal tuberculosis, which he answered very fully.

INTUBATION *vs.* TRACHEOTOMY.

DR. PALMER opened the discussion of this question and exhibited the instruments for the performance of intubation. An animated discussion followed on the respective values of tracheotomy, intubation, and simple medication in the treatment of croup.

PUBLIC HEALTH.

DR. SHAW, of Hamilton, presented the report of the Committee on Public Health. The report favored the placarding of houses where infectious diseases existed, and the exclusion of children from school for at least twenty-eight days after infection from diphtheria, and forty-nine days after scarlet fever.

REPORT ON ETHICS.

DR. J. E. GRAHAM, of Toronto, presented the report of the Committee on Medical Ethics.

The committee recommended the adoption of the code of ethics of the American Medical Association, with the amendments which their special circumstances might demand. The most important of these he quoted as follows: "It is derogatory to the dignity of the profession to resort to public advertisements or private cards or handbills inviting the attention of individuals affected with particular diseases, publicly offering advice and medicine to the poor gratis, or promising radical cures, or to publish cases or operations in the daily prints, or suffer such publications to be made, to invite laymen to be present at operations, to boast of cures and remedies, to adduce certificates of skill and success, or to perform any other similar acts. These are the ordinary practices of empirics, and are highly objectionable in a regular physician."

Another clause ruled that no one can be considered as a regular practitioner or a fit associate in consultation whose practice is based on an exclusive dogma, to the rejection of the accumulated experience of the profession and of the aids actually furnished by anatomy, physiology, pathology, and organic chemistry, while, at the same time the good of the patient is involved, such a man, if recognized by the Medical Association, should not be fastidiously refused from fellowship or consultation. The report went on: "Another matter which comes under this head we would here mention—namely, the injustice of the present system of club practice. In this province benefit societies are increasing in number every year, and the fees given for medical attendance are, in most cases, quite inadequate. Your committee think it might be well for the Association to give their opinion on this subject."

On the motion for the adoption of this report, Dr. Ross condemned club doctoring as commonly carried on. The proper way for a physician to do in regard to such societies was to charge, in the regular way, a moderate fee for each patient attended.

Dr. Oldright pointed out that a specialist might be excused for advertising his specialty for the purpose of notifying the public that he did not wish for general practice.

Dr. Burnham argued that his experience showed that it was not even necessary for a specialist to advertise his specialty on the door-plate to escape demands for general practice. He had never done so; and even at first he was very seldom troubled with such calls, and later on not at all.

Dr. Burnham's remarks were evidently popular with the assembly as he was frequently applauded.

The report was adopted.

MEDICAL DEFENCE UNION.

Dr. Henderson introduced the report of the committee appointed to consider the question of a medical defence union, as follows: "The committee appointed to report on the motion of Dr. Henderson, regarding the formation of a medical defence union, beg to report that in their opinion it is desirable to appoint a committee whose duty it would be to consider appeals from members of this Association who may consider themselves persecuted by unfounded and malicious accusations. If requested, this committee will give professional advice to any member of this Association who may be defendant in a case of surgical malpractice, the Advisory Committee to consist of Dr. Moore, Brockville; Drs. Sullivan and Henderson, Kingston; Dr. Day, Trenton; Dr. Malloch, Hamilton; Drs. Thorburn, Richardson, and White, Toronto; Dr. Eccles, London; Dr. Harrison, Selkirk; Dr. Taylor, Goderich; Dr. Thorburn, chairman of the board."

The report was adopted.

OFFICERS ELECTED.

The Nominating Committee brought in the following nominations of officers for the following year:

President—Dr. J. W. Rosebrugh, Hamilton.
First Vice-President—Dr. H. M. McKay, Woodstock.
Second Vice-President—Dr. Moore, Brockville.
Third Vice-President—Dr. Adam Wright, Toronto.
Fourth Vice-President—Dr. Taylor, Goderich.
General Secretary—Dr. J. L. White, Toronto.
Treasurer—Dr. N. A. Powell, Toronto.
Corresponding Secretaries—Dr. Fenwick, Kingston; Dr. McPhatter, Guelph; Dr. R. W. Powell, Ottawa; Dr. Shaw, Hamilton.

It was decided to meet in Toronto next year.

Correspondence.

OUR PARIS LETTER.

(From our Special Correspondent.)

ANTIPYRINE IN RHEUMATISM—PATHOLOGY AND TREATMENT OF EPISTAXIS—STUDIES OF TUBERCULOUS AND TYPHOID BACILLUS.

Paris, June 5, 1887.

Professor Germain Sée, who, it will be remembered, so much extolled the efficacy of the salicylate of soda, and contributed so much toward generalizing the use of this remedy in the treatment of acute rheumatism and acute gout, as well as in other febrile affections, has found a good substitute for it in antipyrine, discovered about three years ago by Knorr, who then introduced it as an antithermic remedy. Professor Sée, however, has since discovered that, besides this hypothermic property, antipyrine is a powerful analgetic, and, in a communication recently made by him to the Academy of Sciences, he stated that, of fifteen patients affected with rheumatism without fever, and accompanied or not with hydrarthrosis, who had been unsuccessfully treated by the actual cautery, the salicylate of soda, the pain, with the articular engorgement, disappeared in a few days by the use of antipyrine, without any relapse. The same effects were observed in attacks of acute gout, whether these were grafted or not on the chronic form with lithic deposits. Antipyrine was administered in doses of from four to six grammes per day, but to insure the good effects of the remedy it must be continued in small doses for at least a week after the disappearance of the symptoms. But it is not only in these affections that Professor Sée found antipyrine useful, but it is invaluable in all cases, whatever be their nature, where pain is the predominant symptom. He finds antipyrine superior to antifebrine. It leads to the same results without producing any injurious effects on the heart and kidneys. He noticed, however, that when strong doses are administered, or when the medicine is continued for any time, an eruption resembling urticaria or scarlatina has been noticed, which, however, disappears on reducing the quantity of the drug, or discontinuing it. Antipyrine is eliminated unchanged by the urine. In bleaching the latter by charcoal, its presence may be detected by the aid of the perchloride of iron, which communicates a deep red color to the urine, and that during one or two days after the cessation of the medicine.

Professor Verneuil was evidently born a physician, but the fates have made him a surgeon, if one may judge from his tendencies toward medicine. This he has shown on many occasions, and at a recent meeting of the Academy of Medicine he expatiated on the pathology and treatment of epistaxis, the mechanism of which he connects with disease of the liver. He does not pretend to have been the discoverer of this fact, as he traces back the idea to Galen, who, he said, cured epistaxis by the application of dry cupping to the hepatic region. Following up this idea, M. Verneuil, in treating three cases that came under his observation, and after having failed with the usual remedies employed to arrest bleeding from the nose, applied a

large blister to the hypochondrium, which had the effect of immediately arresting the hemorrhage. M. Verneuil attributed the cure in these cases to the revulsive effect of the blister. But, remarked one of the members present, this happy result may be obtained by the application of a revulsive to any part at a distance from the seat of hemorrhage. Some of the members requested M. Verneuil to explain the *rationale* of the treatment he had employed in these cases. To this he rejoined that he could give no explanation, but that he was sure that the facts observed by him, which were clinical, were not simple coincidences, though he was not able to put any interpretation on them. What other members said did not throw much light on the subject, so I need not trouble your readers with their statements.

Among other proofs of Professor Verneuil's predilection for medicine I may here note that a kind of collective investigation of tubercle has been originated by him, under the title of "Œuvre de la Tuberculose," in which he is assisted by Drs. Bouchard, Brouardel, Charcot, Cornil, and others. The object of the work is to collect evidence of every kind bearing on the subject. The first instalment of the labors of these investigators has just appeared in a fasciculus of three hundred and fifty pages, under the title of "Études expérimentales et cliniques sur la Tuberculose." The work begins with a notice by Dr. Thaon, of Nice, on the subject of tuberculosis. Professor Cornil contributes an article on the phenomena of karyokinesis observed in tuberculosis, which, according to the author, is determined by irritation due to the penetration of Koch's bacillus into the cells. Dr. Gosselin, of Caen, has endeavored to discover a method of attenuating the virus of tuberculosis, while Drs. Raymond and Arthaud have tried to render animals refractory to the disease, but with what success the authors do not mention. Drs. Landouzy and Martin have treated of the hereditary side of the question, without, however, materially influencing the pros and cons of the case. The morbid and surgical pathology of tuberculosis have been studied by Drs. Reclus, Valude, and Verneuil. The different methods of treatment are also dealt with by various writers. On the whole, the work is worthy of perusal, though it cannot be said that the authors have greatly elucidated the pathology of tuberculosis; nor have the therapeutics of the disease been much advanced by their contributions.

In a paper communicated to the Academy of Medicine, the author, M. Gabriel Pouchet, gives the results of his researches on the conditions of the development and preservation of the typhoidic bacillus. His conclusions are almost in opposition to those entertained, till now, by other investigators, who considered that fecal matter was the most favorable vehicle of the contagium of typhoid fever. According to M. Pouchet, the proliferation of this curious bacillus is arrested in media rich in organic matter, whatever be its nature. It is preserved and developed much better in clean than in foul water. This fact would seem to be in contradiction to the conclusions arrived at by Dr. Brouardel, as expressed by him in his report to the Academy of Medicine on the recent epidemic of typhoid fever at Pierrefonds, when he attributed the cause to the infiltrations of organic matters into the water which served for drinking. So it was with the report of Drs. Cornil and Chantemesse, on certain epidemics of typhoid fever which lately occurred in the barracks of the firemen of Paris, who saw in the bad quality of the water used by these men the same relation of cause and effect. More recently, Dr. Thoinot, who had made laborious researches to discover the typhic bacillus in the foul waters of the Seine, found that the pure drinking-water of the Vanne, which supplies a considerable part of Paris, contains the bacilli in much larger numbers.

Dr. Bergeron has been almost unanimously elected to succeed the late Professor Béclard, as perpetual secretary to the Paris Academy of Medicine.

ACETONÆMIA—WHY?

To the Editor of The Medical Record.

Sir: An article in The Record of April 16th, entitled "Three Cases of Acetonæmia," ends as follows: "Though instances are recorded of recovery out of even coma itself, yet these are too rare to alleviate the extreme gravity of the outlook when once the urine turns red with ferric chloride." On page 255 of vol. ii. of the "Reference Handbook of the Medical Sciences," under the title of "Coma Dyspepticum," we read: "The urine had that fruity smell of the diabetic urine, and gave the same characteristic reaction with ferric chloride. . . . This condition lasts from two to three days, when the somnolency and also the fruity smell of the urine gradually disappear, recovery taking place in a few days." Here you find the same conditions of the urine as regards acetone in a simple dyspeptic coma and in a grave diabetic coma—in the one, recovery taking place in a few days; in the other, death occurring equally soon. We therefore conclude that the Burgundy-red color of the urine, with ferric chloride, does not necessarily present so grave an outlook as one might be led to believe from the conclusion of the article of April 16th.

A few words relative to acetone, and my experience with it. Some years ago acetone gained some little notoriety as a remedy in pulmonary affections, my attention being called to it some years since by an old physician who had long used it in cases of lung and bronchial affections. I have, at various times since, made use of it in such instances, deriving marked benefit from it in numerous cases, in the way of lessening the severity of night-sweats, quieting cough, and causing expectoration. I have given it in doses ranging from one-half to two drachms twice, thrice, or four times daily, and yet I have never seen coma occur, though in many cases I have administered it for months at a time. While a patient is taking it the urine, after standing a few hours, has a strong fruity odor, and the breathe very frequently has the characteristic odor.

In those cases which occur so frequently, among children and old and feeble people, of stomach derangement, and which are less severe conditions of the same disorders which produce "coma dyspepticum," the body, breath, and urine always have that same fruity odor; but these patients do not die comatose, nor do they present any particular nervous symptoms. I have tested the urine in many such cases, and found it to contain acetone, and to furnish the characteristic color with liquor ferri perchloridi.

Since reading the article of April 16th I obtained three fair-sized rabbits, and gave them acetone in large quantities, but was unable to produce coma or any nervous symptoms other than a little excitement when first administered. After continuing its use for ten days, in doses from one to six drachms, three times daily, the rabbits were in as good condition as when I began with them, except that they each suffered from a catarrh of the bowels, the usual "ball passages" being softer than normal and covered with mucus.

If acetone produces coma and death in diabetes, why will it not produce coma and death in stomach derangements of children and old people, or when administered by the mouth or hypodermically, and why will it not produce death in "dyspeptic coma?" In all of these conditions the system is supercharged with acetone, and the urine turns red with "ferric chloride."

With so little evidence on which to build the name "acetonæmia," and almost nothing to prove that "acetone" produces coma, is it not preferable to still cling to the old name, "diabetic coma," which, with uræmic

coma, fully explains the general conditions of the two great forms of coma, and which never need be confounded if the four cardinal differences be remembered, viz.:

Uræmic Coma.	*Diabetic Coma.*
Convulsions.	No convulsions.
Urine scanty.	Urine excessive.
Urea diminished.	Urea unchanged.
Albumin.	Sugar.

F. E. MAINE, M.D.

AUBURN, N. Y., May 17, 1887.

"THE DOCTOR'S SUMMER PRACTICE."

TO THE EDITOR OF THE MEDICAL RECORD.

AN editorial in a recent number of THE MEDICAL RECORD suggests an answer to the question in a former number of the same publication, "Do country doctors think?" Oh, yes; the younger members, especially, do an immense amount of thinking. Too often the days are not long enough for them to finish their thinking, and they are obliged to lie awake at night for that purpose—the burden of their thoughts being the all-important question, Where is the next barrel of flour coming from?

After years of hard work, having no thought of rest or recreation, having "borne the heat and burden of the day" and the cold and storm of the night, having gained a reputation and a name, and settled the flour question, we are confronted with a new horror.

The city practitioners are advised to swarm down upon us like the locusts of Egypt. The average rural mind has become imbued with the idea that any and every city physician is a monument of knowledge, and that what he does not know is not worth knowing; which, in the words of the immortal Lincoln, "reminds me of a little story."

It happened in old Twenty-third Street College, at Professor Willard Parker's clinic. Many of your readers will remember that Professor Parker took great pleasure in diagnosing his cases without any "fuss and feathers." The greatest interest of those days was to see Professor Parker diagnose without going near the patient, and Professor James R. Wood operate against time. Upon this occasion the patient was an old Irishwoman, and after the professor had walked around her two or three times, and made a few remarks upon general topics, he gave her a detailed description of all of her symptoms and the order in which they had appeared. Her reply, which brought down the house and made the roof rattle, was, "Oh, Dr. Parker, what you don't know isn't worth knowing."

And now we are informed that the city physician requires a change, and that he proposes to practise in the country during "the season." In all directions from New York are many pretty little villages, at sea-shore and on mountain, which are known as summer-resorts. They have a permanent population of from one thousand to five thousand. The physicians who practise in these villages count upon "the season" as their harvest-time.

Some years since your correspondent spent his vacation at a noted resort on the New Jersey shore. The first fact which attracted his attention was that nearly every house had a doctor's sign attached. In that instance they were mostly from the country, rural practitioners who wanted sea-air and took their shingles along. One day a little boy fell out of a boat. He was soon brought ashore, but before he got there there were six physicians waiting for him. One, more eager than the others, walked into the water, captured, and carried him off. Those left without a patient were compensated by the subsequent information that only his clothing was injured, and that he was the son of a poor washerwoman.

Now, to avoid any such scenes in the future, I would suggest that a fair exchange is no robbery, and that a change would be desirable for the village doctor. Let us exchange offices for the summer. We could attend to the head of the family and the workers who do not migrate, and also visit the hospitals and attend the polyclinics, and return to our homes in the fall fully as much benefited as the city physician. A. B. L.

BABYLON, N. Y.

PICRATE OF AMMONIA IN MALARIAL FEVERS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Your issue of May 7th contains an article by Dr. Martyn Clark, copied from the London *Lancet*, advocating the use of picrate of ammonia in all malarial diseases of an intermittent character. Having been for many years a sufferer from chronic malaria, and being at the time afflicted with an unusually severe attack, for which I had taken the usual remedies without receiving any benefit, I at once procured some of "Merck's" picrate of ammonia, and began its use in half-grain doses (made into a pill with extract of gentian) three times a day. In three days' time there was marked improvement in all my symptoms. Had no more chills, pain in head and back had left me, and I awoke in the morning without those terribly exhausted and irritable feelings which those who suffer from this disease so well know. This result encouraged me to make trial of the drug in several cases of similar trouble in which I had been using quinine, etc. I prescribed it for six adults, of both sexes, and kept watch of the effect. In all but one case the same marked improvement speedily resulted. I now began to notice a peculiar, deep-orange color in my urine, without any change in quantity, and a chemical analysis of it showed that except for the change in color it was normal. Upon inquiry I found that the urine of all the patients was of this same orange color. Having taken the medicine myself in doses as above mentioned for ten days, I decided to stop its use and watch for the disappearance of this color from the urine. To-day, May 24th, seven days since stopping the medicine, there is not the least improvement in the color of my urine, and the whites of my eyes, and the skin of my face generally, are the color of one mildly jaundiced. The same thing has occurred to all my patients who have taken the remedy for a week. One lady, to whom I gave the maximum dose, one and a half grain three times a day for eight days, is now deeply jaundiced, the color involving not only the whites of the eyes and the skin of her face, but also the skin of her neck and breast, from which, shading to a lighter color, it covers the rest of her body. In each case the tongue is clean, bowels not affected, and appetite good. I do not understand why the discoloration of the urine remains so long after stopping the medicine, or why it should cause discoloration of the skin at so late a day. Hoping that some of your readers may be able to inform me as to the length of time this picric-acid discoloration is likely to last,

I remain, truly yours,

S. E. FULLER, M.D.

77 HANSON PLACE, BROOKLYN.

DEATH FOLLOWING INTERNAL URETHROTOMY.—Internal urethrotomy is so seldom followed by untoward results that the case reported by M. Jobard to the Surgical Society of Paris at their meeting on February 23, 1887, is of much interest. M. Jobard performed internal urethrotomy for a traumatic stricture, and the case presented no unusual incident, except a rather free bleeding. The evening of the same day he was recalled to see his patient, who was dying, death resulting that night.—*Medical Press.*

New Instruments.

A FOLDING ALLIS ETHER-INHALER.

By GEORGE R. FOWLER, M.D.,
BROOKLYN, N. Y.

ALTHOUGH many surgeons still prefer the ordinary folded napkin or improvised cone method of administering ether, yet there can be no doubt as to the advantages to be derived from the use of a specially devised apparatus like the Allis inhaler. In it are combined simplicity of construction, ease of manipulation, rapidity of etherization, economy of ether and a free ingress of atmospheric air charged with ether and egress of expired air. It is open to the objection, though to a less extent than other instruments of its class, of being somewhat cumbersome when carried about, and of occupying, therefore, considerable space in the operating-satchel. My attention was forcibly directed to this point when devising an emergency operating-bag recently. I have therefore endeavored to overcome this objectionable feature by slightly altering the shape of the inhaler in such a manner as to allow of its being folded flatwise. The accompanying cuts will show how this is accomplished. Fig. 1 represents the

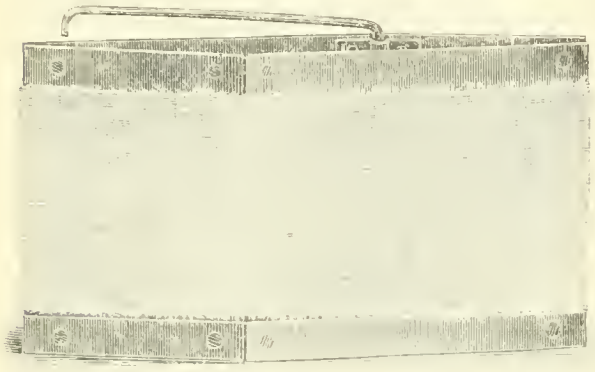

FIG. 1.

inhaler folded, ready for placing in the pocket or satchel, in which shape it occupies about as much room in the pocket or satchel as an ordinary visiting-list. By a very simple movement, provided for by bringing together the corners of the metal sides, the two long sides are made to separate from each other, until the shape shown by Fig. 2 is formed, in which position it is securely held by

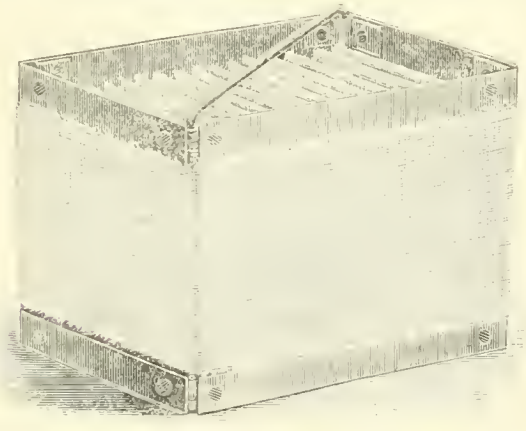

FIG. 2.

a little bar which swings over from one corner to the one diagonally opposite, and fastened, by its bent extremity, into a socket provided for the purpose.

The only covering needed for an Allis inhaler is a simple towel folded lengthwise, in which the instrument is inclosed just prior to its use. This can be procured at the patient's house, and, after the operation, unpinned and thrown aside.

A SELF-RETAINING SPECULUM.

By CLEMENT CLEVELAND, M.D.,
NEW YORK.

THIS instrument is designed as a so-called self-retaining speculum. It consists of two Sims blades, each with a flange and separated by an interval of one inch and three-fourths (Fig. 1). These, though in parallel planes, look-

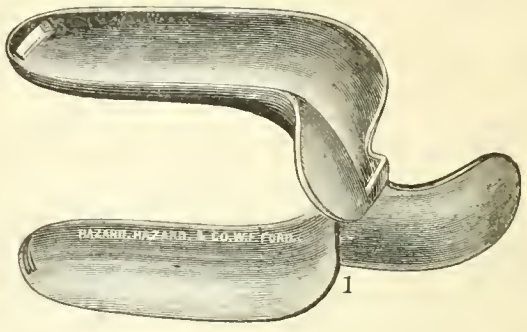

FIG. 1.

ing at them from the side, will be seen to be at a slight angle to each other when held with the concavity of either toward the observer, the nearer blade deflected to the right and the farther one to the left. The object of this will be explained further on.

At the point of each blade is a fenestra, and at the bend of the instrument, where the two blades come together, is a narrow metal band. To complete the instrument there is a belt of webbed material to be applied about the waist. On this is looped, to admit of its being moved readily to any position upon the belt, a piece of the same material. To this is attached a long leather strap, with oblong perforations placed at intervals of half an inch. At the point where this strap and the piece of belting are joined there is a hook, the purpose of which will appear later. (See Fig. 2.)

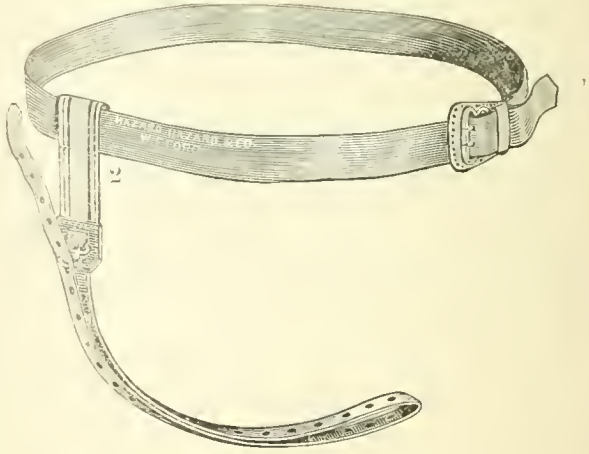

FIG. 2.

To apply the instrument, the belt is first buckled by the patient, not tightly, about her waist and outside of her clothing, with the attached strap behind and the hook turned outward. She is then placed in the Sims position. The operator selects the blade he thinks better suited to the case, and holding the instrument with the right hand, with the left he passes the leather strap through the fenestra at the point of the other blade and then under the metal band, leaving the strap quite loose between them. Then holding the speculum still with the right hand, with the index-finger extended along the concavity of the blade, it is introduced, care being taken to pass it back of the cervix. The instrument is then pushed firmly up against the perineum, the outer blade reaching a point just at the bend of the coccyx. I would say here, in parentheses, that I have tried

the instrument in over fifty women in my clinic at the Woman's Hospital, and find that the interval of one inch and three-fourths between the blades is enough, even in the stoutest women, to include all tissue between the posterior wall of the vagina and the integument between the nates. In very thin women it will even be found advisable to place a folded towel under the external blade. The next step is to draw the leather strap tight, first through the fenestra and then under the metal band. The perineum is then retracted to the required degree by drawing the strap backward and securing it to the hook provided for the purpose and above described. By now using the vaginal depressor the cervix is brought at once into view.

When the belt is applied outside the dress it may be necessary to pass the strap through the fenestra at the end of the blade. In many cases the clothing, pushed back from the buttocks, is bunched up so high that it is necessary to have the tension exerted from the two points. If the tension were from the metal band alone the speculum would be more likely to pull out. When the belt is applied merely over the night-dress, as in an operation, then it may be only necessary to pass the strap under the metal band, for then the tension is directly backward and the speculum cannot possibly pull out, as the strap presses firmly over the point of the blade. Still I should advise its always being passed

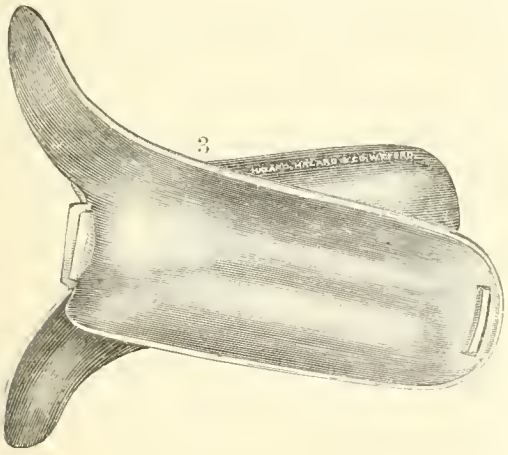

Fig. 3.

through the fenestra. This I will explain below. To remove the speculum, detach the leather strap from the hook. The oblong perforations enable the operator to pull the strap off with the greatest ease. Then the speculum is withdrawn from the vagina and off of the strap at the same time.

I should here explain why the blades are placed at an angle to each other, as above described. The chief fault to be found with all self-retaining specula is that, to see at all satisfactorily, one has to stoop; while with the Sims speculum, held by a nurse, we look directly down upon the cervix as we sit before the patient. This is because the nurse does not pull directly backward upon the perineum, but a little upward, thereby tilting the point of the blade a little downward. This is precisely what is accomplished by giving the aforesaid angle to the blades in this new speculum, the strap pulling the outer blade directly backward, thus tilting the other just enough downward. (See Fig. 3.) If the strap is not passed through the fenestra there is danger that the point of the blade under the strap may slip upward, and especially so in thin women, thus deranging the position of the blade in the vagina.

The instrument seems to possess several advantages which it may be well to mention. In the first place, it consists of two blades of different size. It is simple, having no mechanism about it to get out of order. It can be easily kept clean, being entirely of metal and in one piece. It does the work at least as well as, and is cheaper than, any speculum yet devised for the purpose, costing, probably, not more than $3, or $3.50.

It is not claimed that it can take the place of a well-trained nurse, but it certainly does better than an indifferent one. It has been used in several cervix operations at the Woman's Hospital, with entire satisfaction to the operator.

The instrument was made for me by Mr. W. F. Ford, of the Instrument Department of Hazard, Hazard & Co., of this city, and is in several sizes.

59 West Thirty-Eighth Street.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from June 19 to June 25, 1887.

Sutherland, Charles, Colonel and Surgeon. Granted one month's leave of absence, with permission to apply for an extension of one month. S. O. 126, Division of the Atlantic, June 23, 1887.

Smith, A. K., Lieutenant-Colonel and Surgeon. Will be relieved from duty at West Point, N. Y., on September 30, 1887, instead of on August 28, 1887. S. O. 144, A. G. O., June 23, 1887.

Alden, C. H., Major and Surgeon. Leave of absence extended to include September 29, 1887. S. O. 144, A. G. O., June 23, 1887.

Bartholf, J. H., Major and Surgeon. Granted leave of absence for two months, to take effect about July 5, 1887. S. O. 141, A. G. O., June 20, 1887.

Richard, Charles, Captain and Assistant Surgeon. Sick-leave extended two months on surgeon's certificate of disability. S. O. 139, A. G. O., June 17, 1887.

Cochran, John J., Captain and Assistant Surgeon. Granted leave of absence for one month. S. O. 143, A. G. O., June 22, 1887.

Sutro, William N., First Lieutenant and Assistant Surgeon. Designated as Medical Officer for the Rifle Camp at Creedmoor, N. Y., July 5, 1887. S. O. 124, Division of the Atlantic, June 21, 1887.

Official List of Changes in the Medical Corps of the United States Navy for the week ending June 25, 1887.

Cleborne, C. J., Inspector. Ordered for examination preliminary to promotion as Medical Director.

Lumsden, G. P., Passed Assistant Surgeon. Ordered to receiving-ship Franklin, Norfolk, Va.

Hornitz, P. J., Medical Director. Permission to leave the United States for six months.

Harris, H. N. T., Assistant Surgeon. Commissioned Assistant Surgeon in the Navy, June 13, 1887.

Spear, J. C., Medical Inspector. Detached from Naval Laboratory and granted three months' leave.

Bloodgood, Delavan, Medical Director. Detached from Naval Hospital, Norfolk, Va., and ordered to Naval Laboratory.

Bradley, Michael, Medical Inspector. Ordered to Naval Hospital, Norfolk, Va.

Beyer, H. G., Passed Assistant Surgeon. Remain on present duty until September 1, 1887.

Herndon, C. G., Passed Assistant Surgeon. Remain on present duty until June 17, 1888.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending June 18, 1887:

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	9	4
Scarlet fever	69	10
Cerebro-spinal meningitis	4	4
Measles	37	5
Diphtheria	127	56
Small-pox	2	1
Yellow fever	0	0

Is Iodoform Antiseptic?—The widespread employment of iodoform as an antiseptic dressing may receive a check should the conclusions arrived at by MM. Heyn and Rovsing, of Copenhagen, be confirmed. These observers have been making experiments with iodoform to test its value as an antiseptic, which they point out is so generally accepted that the surgeon does not hesitate to employ a non-sterilized spatula or to insufflate ordinary air with the powder procedures which he would shrink from employing were it not for the belief that the iodoform can destroy the germs adhering to the one or suspended in the other. Yet as iodoform is rarely used to the exclusion of other antiseptics (as carbolic acid or mercuric chloride), there is never much opportunity, clinically, of testing its germicidal properties. Mikulicz, in 1881, tested the action of iodoform upon putrefaction, with no definite result; and Rummo's experiments, in 1883, were complicated by his use of oil of turpentine as a solvent for the iodoform. Meyer found in one case of abscess that iodoform had no effect in reducing the virulence of the pus, and in another that it had a slight action. The results of the research pursued by MM. Heyn and Rovsing surprised themselves. Acting on the theory that it is through liberation of free iodine that iodoform enjoys its germicidal reputation, they prepared solutions of iodoform in olive-oil and in serum, and, having sterilized them, mixed them with culture media, and studied the effect of cultures of various bacterial organisms in these mixtures, as well as under iodoform powder alone. They also experimented on rabbits by mixing inoculation fluids with iodoform. The details of the experiments need not be reproduced here; suffice it to say that in no case did the presence of the substance interfere with the development of micro-organisms. So that they conclude that as an antiseptic its employment in surgery is valueless. But, more than this, its use is dangerous, for, as two of their experiments proved, iodoform itself may contain pathogenic micro-organisms; and even if all care be taken to purify it, yet it may become the medium of the conveyance of pathogenic germs introduced into it through the spray or spatula. We trust that these experiments, which have received such prominence, will be repeated, for, if confirmed, we can imagine that the use of iodoform (apart from any other antiseptic) would in certain circumstances be serious. It would be deplorable if in any such case the material upon which the surgeon relies to protect his patient from bacterial invasion should prove to be the means whereby such invasion occurred. The writers of the article themselves advise that before using iodoform (which is valuable as a dressing on other grounds than as an antiseptic only) it should be disinfected in sublimate solution.—*The Lancet*, February 12, 1887.

Oxalic Acid in Asthma.—Oxalic acid in-two-to five-grain doses has been much lauded by Dr. Poulet, of Planchet les Mines, in the treatment of essential asthma, as well as of emphysematous and bronchitic dyspnœa. He has been using it for five years past, and has never met with any untoward symptoms following its employment, while its effect in relieving the severest dyspnœa has invariably been prompt and certain. Oxalic acid has a strongly sedative action on the heart, and, in toxic doses, kills by producing cardiac paralysis. It is a powerful antipyretic, and also possesses marked emmenagogue properties. In fever larger doses are tolerated than in health, and it has no cumulative action. It should always be given in a very dilute solution, as, otherwise, local irritation of the stomach, etc., may result.

Salol in Sciatica.—Dr. v. Aschenbach, of Corfu, reports in the *Fortschritt der Med.* that, suffering from sciatica, for which all known remedies have been tried in vain, he at last resolved to try an unknown one—to himself, at least, unknown as a remedy for sciatica. In the evening he took a dose of half a gramme, and at midnight one gramme, of salol, after which he fell asleep, and remained perfectly free from his pains.

Cancer of the Stomach.—At a meeting of the Hospital Medical Society of Paris, M. Ferrol brought the case of a patient, aged fifty-six, suffering from cancer of the stomach, in whom the subclavicular glands were infiltrated. This is his fourth case in which he has noted the enlargement of the subclavicular glands in this disease. —*Medical Press.*

The Thermal Death-point of Pathogenic Organisms.—According to Sternberg the following table represents the thermal death-point of various microbes:

Organism.	Thermal Death-point. Deg. Fahr.
Typhoid-bacillus	132.8
Cholera-spirillum (comma-bacillus of Koch)	125.6
Cholera-spirillum of Finkler and Prior	125.6
Cholera-bacillus of Emmerich	143.6
Anthrax-bacillus (without spores, Chauveau)	129.2
Tubercle-bacillus in fresh sputum (Schill and Fischer	212
Bacillus of glanders (Löffler)	131
Bacillus of mouse septicæmia Bacillus of Rouget Bacillus of Schwein-Rothlauf (These three organisms appear to be identical. They are said to form spores.)	140
Brieger's bacillus (from fæces)	143.6
Bacillus of green pus	132.8
Friedlander's bacillus (so-called pneumococcus)	136.4
Bacillus of foul-brood	212
Staphylococcus pyogenes aureus	136.4
Staphylococcus pyogenes citreus	143.6
Staphylococcus pyogenes albus	143.6
Micrococcus of osteomyelitis (Probably identical with Staph. aureus)	136.4
Streptococcus of erysipelas	129.2
Micrococcus tetragenus	140
Micrococcus Pasteurii (Sternberg)	140

Blood-clot and Septic Injections.—Dr. C. E. Nelson, of this city, writes: "In The Medical Record of June 4th, out of many other things to interest, I will pick out merely the subject of the heading of this article. Dr. Wylie has found out that purgation is good in peritonitis, against locking up with morphia; this practice I have already successfully followed for many years without placing it in the journals. Dr. R. T. Morris also thinks that, as in Tait's hands, free purgation answers the purpose of antisepsis and drainage. In The Record's editorial, p. 638, is given the opinion of French surgeons that drainage may be dispensed with when perfect antisepsis is obtainable. Thus we are drifting back, insensibly, to old-time methods before Listerism was introduced. Schede, Morris, and others think that a blood-clot may be advantageously left, as it may organize, if treated antiseptically; another advantage, as also mentioned in the above-mentioned editorial, is that time is gained in not ligating vessels. Following the method of my father, R. Nelson, I have been in the habit of performing operations, tying hardly any arteries, allowing a little bloody serosity to flow, then wait a little, let the wound glaze over by contact with the air, then bring together the skin-flaps, if possible. This makes a *double* protection, the crevices are filled up, and the air excluded by suture, compress, and bandage; no antisepsis or drainage.

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RUBELLA (RÖTHELN: GERMAN MEASLES).

With a Report of One Hundred and Fifty Cases.

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(Continued from page 17.)

SYMPTOMS OF THE ERUPTIVE STAGE.—Either appearing with the eruption, or continuing from the stage of invasion when this was present, we find the symptoms of the disease. In the latter case they are simply the prodromes, often more or less intensified. Coming prominently into view is the combination of the catarrhal symptoms of measles with the angina of scarlatina, both, however, in a mild form. This has been noticed by many writers.

In the cases included in this article the most prominent of the *catarrhal symptoms* referable to the nose and eyes was a slight redness and suffusion of the latter. This was the most striking symptom in fully one-half the number of cases, and often even this was absent. In other instances there was sometimes sneezing and lachrymation; not often coryza, and rarely photophobia. A loose, bronchial cough was frequently present, and occasionally demanded treatment. The statements of authors regarding the intensity of the catarrhal symptoms correspond, for the most part, with the description I have given, although some are mutually conflicting and contradictory. Certain writers, as Trousseau and Reed, deny the presence of catarrh; others, as McLeod and Vogel, say there is usually none. According to Burnie, the absence of coryza and cough is a distinctive feature of the disease, but congestion of the conjunctiva is common. Brodie states that there is no sneezing; Douglas that coryza is present in about one-half of the cases, and is less apt to occur than are other catarrhal symptoms; Thomas, that conjunctivitis and sneezing are rarely absent, especially at the beginning of the attack; Kassowitz, that there is catarrh of the eyes and of the nose and sneezing, but cough occurs in very few cases; Wilson, that there is no bronchitis, and Cuomo, that it is usually present; Klaatsch, that there is never marked photophobia or lachrymation; Squire, that the eyes are diffused, and there is little or no coryza; Cheadle says that croup-like cough is common, and that in one case this was so incessant that he was obliged to administer chloroform. Without doubt the severity of the catarrhal symptoms depends somewhat upon the epidemic, yet in nearly all cases it is very slight as compared with measles.

Sore throat is almost universally admitted to be characteristic of rubella, yet it is nearly always much less marked than in scarlatina. In the cases reported here it was invariably present, although generally slight, and the patient made no complaint of it. Examination, however, usually revealed redness of the mucous membrane, particularly marked at the upper portion of the anterior pillars of the palate. Sometimes the inflammation was quite severe, the tonsils were much swollen, and deglutition was painful. The occasional marked swelling of the tonsils, with difficult or impossible deglutition, and with profuse secretion of mucus, has been mentioned by many writers. I know of no writer who has not found sore throat generally present, except Parke, who limits "mild tonsillitis or pharyngitis" to twenty per cent. of his cases. Particular stress is laid upon its almost constant occurrence by Murchison, Liveing, Edwards, Burnie, Hemming, Aitken, Copland, Paterson, McLeod, and very many others. It is, indeed, one of the many diagnostic symptoms of the disease. Thomas claims that, whereas in scarlatina only the posterior parts of the throat are attacked, in rubella the anterior are affected as well. In most of the cases included in this article the throat exhibited a diffuse, even redness, either limited in extent or wide-spread. In a few instances, however, an eruption of small, yellowish-red or brownish-red spots, of pin-head size, was visible over the soft palate and uvula and the inner surfaces of the cheeks. A similar appearance has been described by Emminghaus, Nymann, Gerhardt, Picot, Parke, Dunlop, Kassowitz, Cuomo, and others. Mettenheimer mentions only the evenly diffused redness; Thomas says he has never seen a true punctate eruption in the throat and oral cavity; and Klaatsch claims that it does not occur.

Hoarseness is sometimes present, according to various authors (Thomas, Emminghaus, Edwards, etc.). I can report its presence in some cases, and it has been described as often severe by Aitken, Cheadle, Paterson, and others.

The *duration* of the catarrhal and anginose symptoms already described is said by Thomas to be coequal with that of the eruption. They diminish in intensity as the latter fades. This rule seems to me usually to hold good, though in some instances I have observed entire cessation of the symptoms after twenty-four hours, while the rash had faded but slightly. Emminghaus thinks the symptoms diminish with the temperature rather than keep pace with the eruption.

Squire states that an increase of the catarrhal symptoms sometimes takes place as the eruption disappears. Liveing says the sore throat is apt to persist after the rash has faded. In one of the cases under the care of Dr. Shoemaker, and reported here, sore throat continued for eighteen days from the first appearance of the eruption. I have frequently noticed that the cough lasts after the patient seems in other respects well.

Fever is an important accompaniment of the eruptive stage, concerning which there is much contradictory evidence. As already stated, slight fever may attend the stage of invasion, and, according to Eustace Smith, this is not increased on the appearance of the rash; Roberts and others say it diminishes. Careful daily records were made in the eruptive stage in a large number of the cases reported here, and the results show that some elevation of temperature was almost always present. This was greatest usually upon the first, often on the second, day of the eruption, and subsided gradually with it. The fever ranged up to 103°+ F., although it rarely exceeded 101° or even reached this figure. In a considerable number of cases an elevation of temperature—99.5° to 100°—continued, even after the rash had entirely vanished. Possibly the persisting bronchitis was the cause of this in some instances. In very many cases the temperature fell abruptly to the normal on the second day, while the rash was still at its height or had faded but little. In a few instances in which there had been no fever a slight rise in temperature began when

the rash was nearly gone. No cause for this could be detected. It seems to be analogous to the late development of catarrhal symptoms described by Squire and already mentioned. This author says, too, that the temperature is easily disturbed in the week following the disappearance of the eruption.

Thomas describes the same varying temperature, stating that there may be no elevation at all, or that the curve may fall suddenly or slowly at any time in the disease. Hardaway says that the disturbance of the temperature, if present, is usually limited to the first few hours of the eruption, but that it may continue unabated until the end of the disease. Emminghaus writes that in many cases and epidemics the temperature is not above normal; and in those patients who exhibit fever we find either an initial temperature becoming normal before the disappearance of the eruption, or a continued elevation of temperature throughout its entire duration. Squire claims that the fever subsides with the rash on the third day. Reed says it is never over 101° F., and always falls on the second day; Alexander and Cuomo, that the prodromal fever diminishes when the eruption appears; Burnie, that it rarely exceeds 102°; Vogel, Wunderlich, Earle, and Picot, that there is usually no fever; and J. L. Smith, Barthez and Rilliet, Claussen, Parke, Bourneville, and Bricon, and Tonge-Smith, that it is slight if present. The writer last mentioned also states that it disappears before the rash fades. Cotting claims that the temperature is highest when the eruption first develops; Kassowitz, that it vanishes by the second or third day; Klaatsch, that it is slight, and lasts but one day.

Some writers, however, consider fever a much more prominent symptom. According to McLeod, it ranges from 100° to 105°; E. L. Fox says it is rather high for the first two days; Edwards reports it as often 103° to 104°; Paterson states that the temperature is high; and Cheadle reports an epidemic in which it reached 103° at the beginning of the eruption, and increased to 104° to 105° as this developed. These so numerous conflicting statements by different writers form but an additional proof of the variability of the temperature in rubella.

In the cases reported here the amount of catarrh and fever was usually found to be in direct proportion to the extent and intensity of the eruption. This rule seems to express the opinion of most writers. Yet the greatest elevation of temperature and the fullest development of the eruption, either generally or upon any one part of the body, were not necessarily attained at the same time. Emminghaus claims that they never come together; and Thomas, that they have no connection with each other, as is the case in measles. There were, too, a certain number of patients in which this rule did not hold good. In some of these there was considerable fever and but little rash; in others, a wide-spread eruption with complete apyrexia. The same exception was sometimes found in the relation between the catarrhal symptoms and the eruption. Reed, indeed, claims that the symptoms are not in proportion to the development of the rash.

The *pulse* and *respiration* in rubella are not often increased more than is in accord with the elevation of temperature. I have observed a pulse-rate of about 150 in two instances. Paterson and Cheadle speak of the pulse as rapid.

The condition of the *tongue* is a most important one for diagnostic purposes. I have never seen the "strawberry" or the "peeled" tongue in this disease. It was always either clean or covered with a thin, yellowish-white coating, through which the slightly enlarged papillæ near the tip sometimes projected.

This is the condition described by so great a majority of writers that discussion is almost precluded. It may safely be considered a characteristic of the disease. Yet it is but right to state that a different condition has sometimes been reported. Hemming agrees with Balfour and Tripe in describing the tongue as more or less dirty; then developing the "strawberry" appearance, and finally becoming smooth. Murchison says it may exactly resemble the tongue of scarlatina. Burnie makes the presence of the "strawberry" condition one of the diagnostic symptoms which distinguish rubella from measles. Alibert says the tongue is red and slimy. Tompkins reports a patient who had already had measles, developed rubella with a typical "strawberry" tongue, and later suffered from scarlatina. All such cases must be considered, at least, in the highest degree anomalous.

One of the most characteristic symptoms of rubella is the *enlargement of the lymphatic glands* behind the ear and back of the sterno-cleido-mastoid muscle. Maton in 1815 observed them, and remarked their importance. While describing the features which distinguish rubella from the roseola of Willan he says, "besides, tumors do not occur in roseola."

It is safe to say that this glandular enlargement is present in almost every case. Hardaway has not found it absent in a single instance. J. F. Meigs[1] looked upon the enlarged post-auricular gland as one of the most prominent diagnostic signs of rubella. Squire, Hardaway, and Thierfelder say it may often be detected before the rash becomes visible. The very constant occurrence of this symptom is further testified to by Gerhardt, Mettenheimer, Douglas, Earle, Emminghaus, Tonge-Smith, Edwards, Duhring, and many others.

Eustace Smith, however, only states that it is present in some epidemics; and Kassowitz discovered it in only one-third of his cases, but noticed that it was the last symptom to disappear. The presence of this glandular swelling, with its very early appearance and long continuance, has recently had even greater stress laid upon it by writers in the English journals. Glover, Jalland, and Strover report instances in which it even accompanied the stage of incubation; and Squire reiterates his former statement to this effect.

I have rarely failed to detect the enlargement of one or more glands. Though not perceptible on the first day in some cases, it became clearly so on the second. The tumefaction lasted a variable time, often continuing after the rash had quite disappeared.

I must state, however, that I have repeatedly detected a similar enlargement in measles, and believe it would be oftener found if oftener sought for.

The occasional occurrence of enlargement of the glands of other parts of the body is mentioned by Thomas, Klaatsch, Hardaway, Tonge-Smith, and Emminghaus. The latter writer even includes it among the prodromes. In the severer cases of those reported here, Dr. Musser frequently detected a tumefaction of the axillary and, especially, of the inguinal glands.

Œdema of the face accompanying the eruption is referred to by Douglas. It was present in a number of my cases.

An *odor* has been said by Heim to attend the eruption. He claims that it is the same as in scarlatina, while Squire writes that it often smells like measles. I have found no other reference to it.

Itching is sometimes an attendant on the rash. It is mentioned by the older writers, and by many of the more modern (Vogel, Thomas, Mettenheimer, Maton, Bourneville and Bricon, Hardaway, Edwards, Emminghaus, etc.). The general opinion is, that it is absent in the greater number of cases.

A peculiar *roughness of the skin*, giving a sensation to the hand much like that produced by *cutis anserina*, was noticed very frequently by Drs. Shoemaker and Musser and by myself. This not only accompanied the rash, but persisted, often, days after all redness had disappeared. I find very little attention called to this very common symptom, though Golson and a few others refer to it.

[1] Personal communication.

Nausea and vomiting are usually considered to be among the rarest of symptoms. Bourneville and Bricon have seen vomiting in but one case. Paterson and Aitken state that it sometimes occurs; Kingsley and Cheadle, that it is seen in severe cases. Parke and McLeod consider nausea and vomiting very rare; but J. L. Smith thinks them common. Edwards, too, mentions vomiting as frequent, and in five cases as almost uncontrollable. In a very few of the severest cases included in this report it was observed upon the first day of the eruption.

The *bowels* are regular or confined.

Desquamation.—As the red color of the eruption disappears, I have often seen spots of a faint brownish or yellowish color remaining, which in a short time vanished in their turn. This appearance has been observed by many writers. Cheadle, Thomas, and Edwards speak of a very delicate, fleeting yellow tinge. Kassowitz describes a marbling of the skin persisting for six to eight days after recovery. Rilliet and Barthez report delicate yellowish spots; Emminghaus, an indistinct cloudy pigmentation; and Stone, a staining of the face lasting two or three days.

There may or may not occur a slight branny desquamation, following almost immediately the disappearance of the eruption. It was present in a large number of the cases reported here. It has never been observed by Thomas, Steiner, Fleischmann, Brodie, McLeod, Wilson, Goodhart, Cuomo, or Bourneville and Bricon. Other writers whom I have consulted say, almost without exception, that it is slight, and always furfuraceous, but is often wanting. Aitken and Paterson state that the scales on the soles and palms are larger than elsewhere, but never so large as in scarlatina.

Desquamation is usually completed in from one to three days. Occasionally it lasts a longer time; and, according to Squire, may persist until the third week. Edwards has seen it continue twenty days. Scholl claims that he has seen it last until the fortieth or fiftieth day. Hemming, Paterson, Aitken, and Edwards describe it as beginning in the centre of a patch and extending toward the periphery. The latter also states that the buccal cavity takes part in the desquamation.

Complications and Sequelæ.—Those who (as Goodhart) have described the disease in its very lightest form state that there are none, and this is certainly true in the vast majority of cases. Other writers have reported very various morbid conditions attending or following rubella. The most common affections are those of the respiratory apparatus. Severe bronchitis and pneumonia are mentioned by Emminghaus, Cheadle, J. L. Smith, Earle, Parke, and Edwards. Ryle and Edwards each saw pleurisy once. Tonge-Smith describes a secondary sore throat, appearing on the third or fourth day, and accompanied by high fever and much swelling, but never by sloughing. Severe sore throat is also reported by Emminghaus among others. Eustace Smith makes the secondary throat affection a characteristic of rubella. A membranous deposit upon the tonsil is reported by Cheadle, and embarrassed and stridulous respiration by him and by Glaister. According to Parke and Slagle, croup was sometimes present, and the former says marked adenopathy in the cervical region and under the tongue occurred in a large number of cases. Diphtheria was observed by J. Lewis Smith. Mettenheimer reports nasopharyngeal catarrh, inflammation of the mucous membrane of the mouth, and permanent enlargement of the tonsils as sequelæ. The rare occurrence of albuminuria and the dropsy attending it is a disputed point. It is mentioned by Emminghaus; and Kingsley, Cheadle, Duckworth, and Reed each report 1 case. Hatfield found slight albuminuria in 2 cases; and Cuomo, in 3. Liveing says it is not infrequent; and Edwards, that it was present in thirty per cent. of his cases. Roberts claims that transient albuminuria is not uncommon, but that true renal disease is very rare.

On the other hand, Mettenheimer and Squire say it never occurs; Tonge-Smith has never seen it; and Hardaway writes, "it would be safe to say that such cases are entirely anomalous, if not, indeed, in some instances examples of mistaken diagnosis." With this statement the mass of observers will, I think, concur.

The occurrence of intestinal catarrh must be considered a most unusual complication. Vineyard says there is constipation, sometimes followed by severe diarrhœa; and McLeod, that diarrhœa is rare. Tompkins reports one case in which the bowels were loose; Balfour considers catarrh of the colon a common symptom. Gastro-intestinal irritation is mentioned by Emminghaus, and reported by Earle in 3 or 4 cases; but Edwards states it was present in forty per cent. of his. He also reports 10 cases of enteritis, and 2 of entero-colitis. In the description of an epidemic, almost as severe as that of Edwards, Cheadle considers the absence of intestinal catarrh characteristic of rubella, and as distinguishing it from measles. Cuomo found diarrhœa frequent in a series of cases which he himself calls in all respects very anomalous. The majority of writers make no mention of the state of the bowels, having evidently found nothing to note. Stomatitis is reported by Hatfield in 2 cases, and by Edwards in 4; aphthæ, by the latter and by Earle. Erysipelas was a sequel in several cases according to Alexander. One patient of J. L. Smith developed varicella. Hardaway has seen otorrhœa and ciliary blepharitis follow; and Cordell, typhoid fever, but hardly calls it a sequel. De Schweinitz has noted 2 cases of phlyctenular keratitis. Curtman saw abscesses form in different parts of the body; and Golson, in the submaxillary lymphatic glands. Rheumatism developed in a few of Earle's cases, in 2 of Edwards', and in 1 of Slagle's. Urticaria was observed by Slagle, Earle, and Cullingworth. Golson reports a feeling of numbness following desquamation, and claims that abolition of voluntary motion in the arms and legs sometimes occurs and lasts for several days. Slagle has observed a painful enlargement of the thyroid gland in 6 instances. Thierfelder describes an œdema of the face, and Emminghaus a similar condition of the legs as a sequel. Cheadle found earache often develop, as the rash subsided. Convulsions and delirium are reported by Aitken, Paterson, and others of the writers of that time.

Among the 150 cases reported here but few complications or sequelæ were seen. Pneumonia developed in 2 cases under my care—in the one upon the fourth day, and in the other on the seventh day, after the appearance of the rash. Urticaria complicated the disease in 1 case of Dr. Musser's, and icterus followed in another. In several cases which had very recently been vaccinated rubella seemed to run an unusually severe course. In 1 of the patients treated by Dr. Shoemaker diarrhœa occurred on the day before the rash developed, but ceased before the latter appeared.

None of the complications or sequelæ which have been described by writers are seen except with the greatest rarity.

Relapse.—Most writers do not mention the possibility of relapse, and I have found none dispute its rarity except Kingsley and Cuomo. The former says it occurs frequently, and the latter saw it in every one of the 90 anomalous cases which he reports. It was witnessed seven or eight days, on the average, after the beginning of the disease, and was ushered in by similar but less intensely severe prodromal symptoms. Emminghaus says relapse occurs but seldom, and takes place immediately after the disease is over, or after an interval of about two weeks. He saw it in 3 cases. Earle records it in 2 instances; Edwards, in an equal number—in one case on the fourth, in the other on the twentieth, day; Golson, in 1 case on the seventh day. Köstlin and Lindwurm have also reported cases. Three of the cases reported in this paper suffered relapse. These were

children under the care of Dr. Musser, and had all had rubella badly. In the first and second cases the rash reappeared, with a renewal of the catarrhal symptoms, three weeks after the onset of the disease, and in the third patient after an interval of eleven days.

Prognosis; Mortality; Treatment.—As a rule, rubella is a disease of no danger whatever. This is the opinion of by far the greater number of writers. Squire says, "Where a mortality is reported as high as three per cent. of those attacked, measles is present." Yet severe cases and epidemics do occur, and deaths, usually from the complications, do take place. A few of the purely uncomplicated cases reported here were sick for several weeks from the depressing effect of the disease itself. The older English writers, as Paterson, Copland, and Aitken, thought the prognosis must be guarded, and that death frequently occurred. Edwards reports seven deaths (4.25 per cent.), and Hatfield a mortality of nine per cent. I have also found fatal cases published by Alexander, Hemming, Slagle, Roberts, and Cuomo. In one case of Balfour's the child died of croup before the rash appeared. McLeod says the mortality is trifling. Several cases died in Toronto in an epidemic in 1882. Treatment, except hygienic, is rarely needed. A light diet should be given; confinement to bed enjoined for a few days, if there is fever, and to the house for a week or longer. All chilling of the body is to be avoided, and severe symptoms or complications treated as they develop.

Conclusions and Diagnosis.—The mystification which surrounds rubella, the confusion into which contradictory statements have plunged the subject, are, I think, explainable on the following grounds:

1. Rubella is liable to wide variation, and anomalous cases and epidemics occur, as in other specific febrile diseases.

2. As described by the older writers, it certainly differed greatly, if not totally, from the disease as it now exists.

3. There has been a disposition shown by many modern writers to describe their cases or epidemics as necessarily representing the typical form of the disease.

4. Errors in diagnosis are easily made, and descriptions of genuine cases are sometimes very faulty.

In order, then, to draw from the mass of published matter any conclusions, or to formulate any description of the disease which may be generally applicable, some accounts must be entirely ignored, and all reported cases carefully weighed and balanced. In considering, for example, the severe epidemic reported by Edwards, it must be remembered that an epidemic of measles was prevailing in the hospital at the same time. And it must be taken into consideration whether the opinion of Jacobi and of West may not perhaps be correct as expressed at the International Congress of 1881—viz., that rubella prevailing simultaneously with measles or scarlatina may be influenced by it, and may take on symptoms not belonging to itself. This is the view of Hatfield regarding the severest of his 110 cases. The cases reported by Cheadle were also very severe, and must be considered wholly anomalous; and Cuomo entertains this opinion of his own graver cases. On the other hand, Thomas, Squire, and some others describe rubella in its very mildest form, and it would be a mistake to suppose that it must always exhibit just such symptoms. The following condensed description of the disease is the result of an attempt to thus combine the careful study of the cases reported here with the analysis and comparison of the numerous published accounts consulted.

Rubella is an acute, specific, epidemic, and contagious febrile disorder, occurring but once in the same individual, and entirely independent of both measles and scarlatina. It is a disease of childhood, although adults and infants do not always escape. The incubation is of very variable length, lasting one to three weeks. Prodromes are usually absent or slight, continuing rarely more than twelve hours, and consist of malaise, drowsiness, slight catarrhal symptoms, slight sore throat, sometimes fever and enlargement of the glands, and occasionally nausea. The eruption is maculo-papular, pin-head to split-pea size, pale-rose, multiform, usually discrete, sometimes grouped as in measles, sometimes confluent as in scarlatina. It appears first on the face, and spreads rapidly to the body, persisting in all about three or four days. It either reaches its maximum successively on different parts, and fades from each rapidly, or it is at its height everywhere at once upon the second day. The symptoms of this stage are those of measles, but very much less severe, and perhaps entirely wanting, combined with more or less sore throat and enlargement of the glands at the back of the neck. The temperature is very variable—often not elevated, rarely exceeding 101°, often falling to normal on the second day, but frequently persisting a much longer time. Desquamation is absent, or slight and branny. Complications and sequelæ are rare. The prognosis is favorable, and treatment not often needed. Cases of a much graver type are sometimes seen, in which the symptoms are much exaggerated; and death may occur, usually from some complication.

Diagnosis.—The more important diagnostic points are the short duration and slight import of the prodromes, the absence or slight degree of the catarrhal symptoms, the slight degree of fever and its variability, the presence of more or less sore throat and of enlarged lymphatic glands at the back of the neck and behind the ears, and the occurrence of cases in epidemics. As already emphasized, it is frequently impossible to diagnose sporadic cases if at all abnormal. For convenience of reference, a table of well-recognized diagnostic symptoms distinguishing rubella from measles and from scarlatina is appended. This cannot be claimed to be complete, inflexible, or applicable to anomalous cases. In tabulating the symptoms of measles and scarlatina, the articles in Ziemssen's and Gerhardt's "Cyclopædias" and in Pepper's "System of Medicine" have been principally consulted.

Table for Differential Diagnosis.

Rubeola.	Rubella.	Scarlatina.
	Incubation.	
Fourteen days.	Very variable; one to three weeks.	One to seven days.
	Prodromal Symptoms.	
Usually last three days.	Absent, or seldom longer than twelve to twenty-four hours.	Last twenty-four hours or less.
Severe catarrhal symptoms of nose and eyes; considerable cough.	Catarrhal symptoms, if present, usually slight.	
Slight sore throat not uncommon.	Sore throat often attends.	Marked sore throat.
Vomiting occasionally.	Vomiting very rare.	Vomiting a frequent symptom.
Decided fever, with a characteristic temperature-curve.	Fever absent or slight.	High fever; rapid pulse; marked nervous symptoms.
	Eruption.	
First on the face.	First on the face.	First on the neck and chest.
Spreads gradually; maximum all over body by second or third day.	Spreads very rapidly; either fading from one part before in full bloom on another, or with universal maximum in twenty-four hours.	Spreads slowly; maximum reached by fourth day.
Lasts average of four days.	Lasts three to four days or less.	Usually lasts six to seven days or longer; sometimes much less.
Color deep red; often purplish.	Color usually pale rose-red.	Color intense red; dusky or livid in some cases.

Rubeola.	Rubella.	Scarlatina.
Papular; arranged in irregular or crescentic groupings.	More or less elevated; spots smaller than in measles; discrete or confluent; seldom arranged in groupings.	Minute red points; confluent in large patches or universally.
	Symptoms of Stage of Eruption.	
Severe catarrhal symptoms persist and increase; severe bronchitis common.	Slight catarrhal symptoms persist or may appear.	Coryza in bad cases.
Throat sometimes sore.	Slight sore throat nearly always present.	Sore throat a very marked and constant feature.
Glands sometimes enlarged as in rubella.	Glands behind ear and at back of neck almost always enlarged.	Glands below jaw often much enlarged.
Tongue coated; in bad cases dry and brown.	Tongue clean or with thin yellow coat; *never "strawberry" or "peeled."*	Tongue "strawberry," and later denuded.
Temperature 102–104°; ascends slowly; maximum with that of eruption.	Temperature variable; rarely over 101°; no constant connection of maxima of temperature and eruption; often normal by second day.	Temperature usually 104–105° from outset for three to four days.
	Pulse in proportion to fever.	Pulse very rapid.
Diarrhœa usual during eruption.	Almost never diarrhœa.	
Albuminuria not very common.	Albuminuria exceedingly rare.	Albuminuria a common occurrence.
	Desquamation.	
Branny.	Absent, or slight and branny.	In flakes or rolls.

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States in which a Medical Examination is Required before One can Get a License to Practise.—A correspondent asks: "If a person is a graduate of a regular medical college in good standing and holds a diploma from the same—say the University Medical College of the City of New York—and is now in practice in Connecticut, but wishes to remove to another State, in how many States of the Union, and which are they, in which he can practise by merely exhibiting his diploma?" Thirty-three States now have medical practice laws. Most of these simply require the exhibition of a diploma from a reputable college. We have not the means of telling all the States that require an examination in addition. We believe, however, that Virginia, North Carolina, Alabama, and California require an examination in addition.

CEREBRO-SPINAL FEVER.

By JAMES J. LEVICK, M.D.,

PHILADELPHIA, PA.

With much satisfaction I have read the very able paper of Dr. J. Lewis Smith, printed in the The Record, May 14th, p. 542, and the interesting discussion which followed its reading before the Northwestern Medical and Surgical Society.

It so happened, early in my medical life, that unusual opportunities for the study of cerebro-spinal fever were afforded by the prevalence of this disease, in its epidemic form, in the winter of 1862-63. In May, 1866, as chairman of the committee on "spotted fever, so-called," I prepared and read, at the meeting of the American Medical Association, a paper on this subject, in which the history of this disease from its appearance in Europe, A.D. 1505, to the epidemic in America of 1863 is given.

In it especial attention is called to the sudden outburst of spotted fever in New England in 1806, to the essays of Gallup, North, and Wilson, and to the remarkably full and interesting report of the committee of the Massachusetts Medical Society appointed to investigate the nature of this disease, March 27, 1810.

So accurate are the descriptions given by these writers, nearly a century ago, that but little which is really new has since been added. To those of the profession now interested in the subject, I may, perhaps, without vanity —rather for what I have collected than what I have myself written, direct their attention to my report, which may be found in the "Transactions of the American Medical Association," vol. xvii., page 311 *et seq.*

Without doubt, during the last six months there has been, over a wide-spread extent of country, an unusual prevalence of cerebro-spinal fever. It has been so, as appears from Dr. Smith's paper, in New York and in Jersey City, and it certainly has been so in Philadelphia. Here it has shown itself, not so much in the great number of the persons affected as in the great fatality of those attacked by it. Here, too, as in all previous visitations, it has thrown its livery over other prevailing diseases, disguising their ordinary symptoms and rendering obscure their diagnosis.

Especially has this been the case with typhoid fever, where intense pain in the head and nape of the neck, unusual muscular soreness and hyperæsthesia of the skin, have preceded and masked the true typhoid-fever symptoms, which later have shown themselves.

With this disease in a community, as with epidemic catarrhal fever (influenza), to which I have long believed cerebro-spinal fever is closely allied, differing rather in degree than in nature, there will always be found an unusual number of persons suffering from languor, malaise, debility, and mental depression. Such has been the case here during the months of April and May to an extent rarely known at this season of the year.

Twenty years ago, of course, there was no mention made of the micro-organism of cerebro-spinal fever. Dr. Smith calls attention to the fact that the micrococcus of pus from the cerebral meninges and that of pus in croupous pneumonia are identical. In this connection, it is at least an interesting coincidence that in every epidemic of cerebro-spinal fever there have been numerous cases in which the force of the disease has been spent on the lungs rather than on the brain. Such, it is now agreed, was the character of that terrible epidemic known as *pneumonia typhoides*, which devastated New England in the early part of this century.

Dr. J. C. Warren, in the epidemic of spotted fever in 1810, found purulent deposits in the pleura, lungs, and pericardium. Dr. Gallup, 1807, says: "In spotted fever it is difficult to fix on any one particular organ as its place of constant habitation. As the eruption upon the surface is sometimes universal, so the affection of all the internal membranes is sometimes discoverable. It might be called *the mocking fever*, as it assumes the mask of most others." And yet, that it is an independent, primary disease there can be no doubt. Dr. Smith, in his paper, and others, in the discussion which followed, say that in all the cases noticed by them the eruption was absent. Such was not the case in four instances coming under my notice recently, in all of which it was well marked. Two of these cases occurred in the practice of Dr. Eagleton, of this city, and were seen by me in consultation, and by his permission are reported. They occurred in an old frame-building, almost the only one left in this part of the city, the occupant of which carried on shoemaking in the front room, while his family inhabited the other part of the house. There were no water-pipes inside the building, but an ordinary privy converted into a water-closet was immediately adjoining the house.

The family consisted of father, mother, and five children. February 11th, Henry, aged ten, previously in good health, was at school in the morning, but in the afternoon complained of headache, and had nausea and vomiting. During the night there was fever, with delirium and intense pain, referred to the epigastrium. Next morning, though unable to leave his bed, he seemed much better, and entertained his little friends in his room during the afternoon. In the morning he was seen by a physician, who regarded the case as one of peritonitis. Toward evening he became more and more delirious, and died after an illness of thirty-six hours. After death numerous petechiæ were found in various parts of the body.

Vinnie, aged eighteen, sister of this boy, was as well as usual until Saturday, March 4th, having been at a wake until after midnight. Early in the morning she complained of chilliness, with severe pain in the forehead, with nausea and vomiting, and was extremely weak. Dr. Eagleton first saw her at 3 P.M., and found her vomiting a greenish matter, with pain both in the front and back of her head, her pulse very feeble, but with no delirium. At 6 P.M. she became unconscious, pupils widely dilated, conjunctivæ injected, head retracted, and arms and chest dotted with petechiæ. She died at 8 P.M., after an illness of twelve hours.

James, aged seven, another brother, previously in good health, was taken ill on the evening of May 19th, with sick stomach, vomiting, severe pain both frontal and occipital, delirium, fever, marked retraction of the head; chest and arms dotted with petechiæ. In this case, too, the pupils were widely dilated and the conjunctivæ greatly injected. He died at 9 P.M., May 21st, within forty-eight hours of the seizure.

These cases were identical in their mode of attack, symptoms, course, and fatal termination with those seen by me in the epidemic of cerebro-spinal fever of 1862–63.

April 14, 1887, I was called by Dr. F. B. Hazel to see with him a little girl, thirteen years old, who, though previously in good health, was seized while walking on the street with sudden loss of power in her lower extremities; so much so that she would have fallen had she not been supported. She was carried to her home, suffering from pain in her knees and in the muscles of the trunk.

This was rapidly followed by pain in the head, upper part of the spine, with rigidity of the muscles of the neck, retraction of head, loss of power of deglutition, rapid failure of heart-power, and death. In this case no petechiæ were discovered, nor was there any great change of temperature, and the mind remained bright and clear until death, which occurred three days after the seizure.

May 24th, with Dr. Hazel, I saw a child, fifteen months old, who had been delicate, but with no family history of tubercle. The child had been ill for three days, lay in a partial stupor, with ptosis of the left eyelid and complete paralysis of that side. There were the usual symptoms of acute meningitis, and but for the prevalence of cerebro-spinal fever, the case might readily have been

regarded as such. Shortly before the child died one or two livid extravasations were seen behind the ear, and after death numerous petechiæ showed themselves.

This case corroborated the statement of Dr. Smith (p. 543), that cases of cerebro-spinal fever may be reported as infantile paralysis, meningitis, and the like. Other errors of diagnosis might readily be made, not the least unlikely of which would be the mistaking of it for acute rheumatic fever.

The cases reported furnish but little information as to treatment. In two of them the heart-failure was so rapid that stimulants, both internally and externally, were at once imperatively demanded. In another case, at the very beginning, quinine was administered, and when the spots showed themselves hypodermic injections of ergot were given.

In two cases calomel was given freely in the early stage of the disease. To the little girl, with pain in the knees and muscles, opium, in moderate doses, was given, but in no instance were large doses of opium thought to be safe, so feeble was the spark of life, almost from the first.

Where there are extensive petechial eruptions medicines avail but little. Almost the only case of recovery from this condition I have ever known was that of a little girl, six years old, whom, I confess, I treated very empirically, with small and frequently repeated doses of calomel, and who was kept for three days enveloped in hot blankets within which were bags of hot salt, frequently renewed day and night, a mode of treatment suggested by that practised by the New England people, who were in the habit of surrounding spotted-fever patients with billets of wood which had been boiled in a decoction of the leaves and boughs of the hemlock. The child recovered perfectly, with none of the terrible sequelæ which are so common after this fever.

Asiatic cholera is a disease which, very properly, has claimed the closest attention of the profession. Commissions have been appointed, and men have been sent, as it were, to the ends of the earth, to study its cause, nature, and prevention. And yet, happily, so rare is its visitation, that a whole generation may pass by without witnessing it. Cerebro-spinal fever, on the other hand, if it have not already become so, bids fair soon to be endemic among us, while its frequent appearance as an epidemic may well strike terror in a community. As in the cases reported in this paper, it enters a family and desolates the home. It strikes down its victim on the public street, or tears from the mother's embrace her helpless child.

Surely a pestilence thus walking in darkness, and a destruction thus wasting at noonday, should have thrown on its path all the light that science can give and all the restraints that an intelligent profession can supply.

1,200 Arch Street, May 29, 1887.

Rapid Staining of the Tubercle-Bacillus.—Dr. Gabbett writes to *The Lancet*, strongly recommending the following slight modification of Neelsen's method of staining the tubercle-bacillus in cover-glass preparations. The stain is made by dissolving 1 part of magenta in 100 of five per cent. watery solution of carbolic acid, and adding 10 of absolute alcohol. Heat this fluid over a spirit-lamp till steam rises freely. Float the preparation (made in the usual way), cover, and leave for two minutes. Then immerse in a solution of methylene blue in twenty-five per cent. sulphuric acid (made of a dark-blue color) for one minute, keeping the watch-glass in motion. Finally, rinse the cover-glass in distilled water, dry, and mount in balsam. The whole process occupies about five or six minutes. The only novelty in this method is the combination of the decolorizing fluid and contrast stain, which are used separately in Neelsen's method. The results are far better than those obtained by any of the other rapid methods; and Neelsen's carbolic solution of magenta is distinctly preferable to any of the preparations made with aniline.

IMPLANTATION OF TEETH—YOUNGER'S METHOD.[1]

By F. ABBOTT, M.D.,
New York.

The operation to which I have the pleasure of calling your attention for a few moments this evening, aside from its mechanical features, is very little understood, even by those who have performed it the greatest number of times. That teeth which have been for a long time out of the mouth, and, as supposed, entirely devoid of life, are inserted into artificial sockets made in the maxillary bones in the mouths of human beings, and there remain, become firm, useful, and to all appearances as good and healthy as the adjoining teeth in the same mouth, there can be no doubt.

Operations in the same direction, such as the transplanting of teeth, *i.e.*, the removal of a badly decayed tooth, or root, and the placing of a sound one, previously taken from the mouth of another person, into the socket, and there held by ligatures for a time, until union of the periosteum upon the root with the tissues of the socket has taken place, have been done with more or less success, occasionally, for some two hundred and fifty years, possibly for thousands of years even. However, the first published statement in reference to it, that I am aware of, is to be found in the work of Ambroise Paré, published in 1634. He says: "I heard it reported by a credible person, that he saw a lady of the prime nobility, who, instead of a rotten tooth she drew, made a sound tooth, drawn from one of her waiting-maids at the same time, to be substituted and inserted; which tooth in process of time, as it were taking root, grew so firm as that she could chaw upon it as well as upon any of the rest. But as I formerly said, I have this but by hearsay."

I say the operation of transplanting has occasionally been done. It probably would have been performed—and would be at the present time—more frequently, but for the fear many people have of being inoculated with some dread disease, should they have a tooth taken from another person's jaw and inserted in their own. I judge, however, that a hundred years ago people were less fearful of such a catastrophe. Judging from the every-day manner in which the operation is spoken of, it would seem to have been very common. I find in a small book entitled "A Practical Essay on the Human Teeth," by Paul Eurialius Jullion, Surgeon Dentist, published in London in 1781, in a list of "his accustomed charges," the following:

	£	s.	d.
Transplanting a living tooth.....	5	5	0
Ditto a death tooth	2	2	0

In the "Natural History of the Human Teeth," by John Hunter, 1778, may be found a description of this operation, as well as that of replantation. It is from this work that the idea of "implantation" was first suggested to Dr. Younger. Hunter then recommended that a tooth be replanted when taken out through mistake, or knocked out accidentally, immediately, if practicable; if not, he would replace it even after it had been out of the mouth twenty-four hours, or "at any time before the socket began to fill up." To sustain his opinion that a tooth would become firmly fixed in its socket again, even after having been out of the mouth so long a time, he gives his own experience in replanting, and an experiment in implanting a freshly extracted tooth into a cock's comb as follows:

"I took a sound tooth from a person's head, then made a pretty deep wound with a lancet into the thick part of a cock's comb, and pressed the fang of the tooth into this wound, and fastened it with thread passed through other parts of the comb. The cock was killed some months after, and I injected the head with a very minute injection; the comb was then taken off and put into a weak acid, and the tooth being softened by this

[1] Read before the Section in Surgery, N. Y. Academy of Medicine, May 9, 1887.

means, I slit the comb and tooth into two halves, in the long direction of the tooth. I found the vessels of the tooth well injected, and also observed that the external surface of the tooth adhered everywhere to the comb by vessels similar to the union of a tooth with the gum and sockets."

The replantation of teeth, *i.e.*, the replanting of teeth removed through mistake or by accident, and the removal of teeth for the purpose of enabling the operator more directly to treat chronic alveolar abscess, or difficult cases of pyarrhea alveolaris, and replacing them, has been practised by many dentists for a great number of years. Hunter speaks of replanting teeth removed through mistake or accident, as though it was at that time, and had been, a common practice. While the removal of teeth for the purpose of getting at and treating disease is a more modern operation, and, as a rule, anything but satisfactory in its results.

It was while reading the experience, recommendation, and experiment above quoted of Hunter that the question suggested itself to Dr. Younger, that, if a tooth would grow fast again in its own socket after it had been out of it twenty-four hours or more, and that a freshly extracted tooth would grow fast in an entirely foreign tissue such as a cock's comb, why would it not grow fast in an artificial socket made in the maxillary bone of a human being? Certainly the soil ought to be better suited to it than a cock's comb. After considerable reflection upon the subject he concluded to try it. This he did, I believe, first some three or four years ago, since which time he has done the operation some forty or fifty times (perhaps more), and, I believe, in the majority of cases, with marked success.

The operation is performed in the following manner: A tooth for the place is first selected, the pulp-chamber opened, and the pulp from that and the canal as perfectly removed as practicable, and the canal and drill-hole are filled; it is then placed into an antiseptic solution (bichloride of mercury, 1 to 2,000). A cross is then cut through the gum to the bone, at the point where the socket is to be made to receive the tooth. The corners of the gum thus made are slightly dissected from the bone, and a trephine the size required is then inserted through the opening in the gum, and driven with the dental engine to within about a fourth of an inch of the depth desired; the remainder of the socket, owing to its tapering shape, is finished with different-sized and shaped burrs and reamers. When, in the judgment of the operator, the socket is about the size and depth to receive the tooth, he tries it in; if the tooth fits as desired the operation is proceeded with; if not, the tooth is removed and the socket enlarged in this manner, cutting and fitting until the tooth stands in the socket in a correct position. The tooth is then removed and again placed into the antiseptic. The socket is now washed out thoroughly with the antiseptic, and the tooth placed in position. In some cases it is necessary to ligate it to adjoining teeth for a time; in others it is held as firmly as required by the impinging walls of the new socket. The gum over the tooth is then painted with equal parts of the saturated tincture of aconite root and the tincture of iodine. The pain attending the operation is caused chiefly by cutting through and dissecting up the gum, and the trying in of the tooth. This may readily be controlled by the application of a small quantity of muriate of cocaine crystals to the parts for a few minutes, before the cutting is done.

I may add that different kinds of instruments are used by different persons for making the socket, such as drills, spear-shaped burrs, etc., but those described are the kind Dr. Younger uses and prefers to any others.

The question which more particularly interests us all, in connection with the operation of implantation of teeth, is, does a union of the tissues of the bone and the periosteum upon the root of the tooth take place? So far it has been impossible to satisfactorily settle this question, as no one who has undergone the operation has felt disposed, after the lapse of sufficient time for the union to have taken place (if such be the case) to have the tooth removed, even for scientific investigation. I have known of two, however, which have been taken out, one after three days and the other after five days from the time they were inserted, and it was thought in each case that a partial union had taken place.

From the fact that many of the apparently successful cases of Dr. Younger and others have been done with teeth which have been out of the mouth three, four, six and in one of Dr. Younger's thirteen months, it would seem that it cannot be that any growing together of these tissues really occurs, but rather that the tooth is mechanically held in its new socket. I will now ask you, gentlemen, to examine a case which I have here, and as far as possible satisfy yourselves upon this point. The case is in the mouth of a colored man, Calvin Brooks. He resides in this city, is a hard-working, industrious man, but takes not the best care of his teeth.

Some four and a half years since he had the right central incisor of the upper jaw extracted. After going without a tooth for some time he had a plate inserted with a tooth upon it (this, I believe, was renewed subsequently), which he wore, with more or less discomfort, until October 5, 1886, when, at a clinic, a patient was wanted for Dr. Younger to operate upon. This man was requested to submit to it, which he did, and the operation was done as before described.

No tooth suitable for the place being at hand, one was obtained from the Colton Dental Association. When presented for insertion it was dry; so much so, that the enamel was as white as chalk, and the periosteum upon the root was apparently as lifeless as a bit of parchment. As near as could be ascertained, it had been extracted some three or four months previously.

In examining the case it will be observed that the tooth is even more firmly fixed in its new socket than the adjoining teeth, that the gum upon the labial surface and between the teeth presents a normally healthy appearance, while upon the palatal surface, on account of the removal of the amount of bone necessary for the reception of so large a root, it has slightly receded. Its irritated appearance at that point is in a measure due to a slight deposit of tartar upon the neck of the tooth. It will also be observed that a thickening of the anterior plate of bone over the tooth has taken place, an apparent reformation of the alveolar process.

This tooth was not ligated to adjoining teeth, but was placed in position and allowed to take care of itself.

The instruments I have here are Younger's, with an improvement by Dr. W. W. Walker, of this city, who kindly loaned them to me to exhibit this evening. The improvement consists in a slight tapering of the trephine upon the outside. This prevents binding of the instrument while it is being driven into the bone. The burrs and reamers I have been unable to obtain. In summing up the subject, it would seem that there are but two serious objections which can be offered to this operation; viz., the pain attending it and the danger of inoculation. As I have before stated, the former may be controlled, and it is believed that all danger of the latter is effectually removed by the use of antiseptics. This as yet, however, is an open question.

Tests for the Purity of Cocaine: 1. When heated upon platinum it must disappear without residue. 2. Solutions of cocaine must be of neutral reaction. 3. Sulphuric acid, when added, should not discolor its solution. 4 When to a solution of cocaine, 1 to 200 or 1 to 500, one drop of a two per cent. solution of potass. permanganate is added, the liquid should become red but remain clear. If the permanganate is added in drops beyond this point, a red precipitate of cocaine will fall, which will become brown on heating, but will give no odor of bitter almond.

SEPSIS AND ANTISEPSIS IN SUMMER DIARRHŒA.[1]

By SILAS ALLEN POTTER, A.M., M.D.,

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WRITERS upon summer diarrhœa appear to be agreed that fermentation holds an intimate relation to the disease. Dr. H. C. Haven[2] says: "It will, I think, be universally admitted that, in its totality, summer diarrhœa of infants is a zymotic or fermentative disease." Maximilian Herz[3] states, in regard to cholera infantum: "It is pretty generally admitted that putrefaction of food, as Baginsky maintains, is an important cause of cholera infantum." J. Lewis Smith[4] writes, of infantile diarrhœa of summer: "Undoubtedly one of the most important causes is to be found in the very free exhalations arising from decomposing animal and vegetable matter during the heated term, and the disease is always most frequently met with in those localities where the accumulation of filth is the greatest."

It is the object of this paper to collect the more important facts about fermentation, and consider their relation to the disease in question.

The terms sepsis and antisepsis we wish to employ in a broad sense, to indicate, on the one hand, injurious effects resulting from micro-organisms; on the other, influences adverse to the life or activity of micro-organisms.

The alcoholic fermentation is produced chiefly by the yeast fungus, torula cerevisiæ; the lactic-acid fermentation, chiefly by the bacillus lactis; the butyric-acid fermentation, chiefly by the bacillus butyricus. Of these three processes it may be affirmed that the principal organism concerned in their production has been determined. This certainty has been reached by the isolation of the organism, the introduction of a pure cultivation into an appropriate sterilized medium, and the obtaining of the proper chemical decomposition.

Other fermentations, such as the acetic, ammoniacal, viscous, putrid, have not been studied with the accuracy which the later methods of research permit. Though due to bacterial action, it is impossible to designate a particular organism as their sole or chief cause. The micrococci found in putrefying material are yet undifferentiated, and the bacterium termo, believed by Cohn to be the essential cause of putrefaction, has already been proved to be a name covering more than a single variety of organism. It is not improbable that the same may be shown to be the case with the micrococcus ureæ, micrococcus aceti, and others.

However, it is not so much with the particular organism producing these various changes that we are now concerned, as with the grand fact that the cause of fermentation and putrefaction is vital. "Micro-organisms," writes Carl Fraenkel,[5] "are the producers of fermentation, and, what in the economy of nature is a still more important part to play, are the cause, and the only cause, of the putrefaction of organic substances."

When it was proved that it was the exclusion of bacteria from a wound that averted the traumatic infective diseases, a scientific basis was at once given to antiseptic surgery. If we believe that summer diarrhœa in a vast number of instances would not occur but for fermentation, then a recognition of the cause of fermentation is the initial step in our understanding of the disease.

It is not claimed that, in defining the chief morbid process, the ultimate cause of the disease has been demonstrated. It is well known that bacteria are constantly present in the digestive tract in health. It is even possible that they are useful there. Before reaching the ultimate cause, the question must still be answered, why these organisms, at one time subject to the control of the body, become at another productive of disease.

The action of fermentative organisms in causing diarrhœa is probably indirect, the more immediate agent being substances produced by the microbes through the decomposition of the fluids in and upon which they live.

According to Flügge,[1] the chief products of bacterial action are: Gases, as CO_2, H, CH_4, HS_2, NH_3; water; sulphur; volatile bodies, as trimethylamin, alcohol, formic acid, acetic acid, butyric acid; fixed acids, as lactic, malic, succinic, oxalic, tartaric; sulpho-acids, as taurin, amides of the fatty acids, especially leucin, alansin; bodies of the aromatic series, as tyrosin, phenol, cresol; reduction-products, as indol, hydroparacumaric acid; complex molecules, as carbohydrates, pepton, hydrolytic ferments; coloring matters, and poisonous alkaloids.

Of these substances two classes, some members of which at least are produced by the bacteria of fermentation, are interesting in the study of diarrhœa—the acids, and the poisonous alkaloids.

Acids can excite diarrhœa by immediate irritation of the mucous membrane of the bowel; the alkaloids indirectly, by a systemic effect. The simpler, less violent cases of diarrhœa can often be traced to the irritation of undigested food and the acid substances produced in its fermentation: the more sudden and violent cases seem often to call for the agency of a poison.

It was long ago noticed that serious illness oftentimes followed the eating of decomposing meat, fish, or cheese.

Kerner was the first to suspect that alkaloids were formed by the decomposition of albumen, and in 1820 called attention to the similarity between the poisoning by sausages and atropia.

Panum, in 1856, demonstrated that putrefying substances often contained poisons which, when injected into animals, caused death. That death was not due to the activity of bacteria in the body he showed by sterilizing the fluid before injection. He also proved that the inflammatory changes in the intestinal mucous membrane of animals poisoned with putrid material was not caused by the bacteria in the putrid fluid, but by chemical substances which retained their character even after boiling.

Selmi, of Bologna, gave to these alkaloids formed by the decomposition of proteids the name of ptomaines.

Necki, in 1876, first obtained ptomaines in a pure form and determined their chemical symbols.

Brieger, however, in 1885, produced the most important results which have been obtained in this branch of investigation. From putrefying meat Brieger isolated three alkaloids which he called neuridin ($C_5H_{14}N_2$), neurin ($C_5H_{13}NO$), and cholin ($C_5H_{15}NO_2$). From putrefying fish he obtained muscarin ($C_6H_{15}NO_3$), gadanin ($C_7H_{17}NO_2$), and a base allied to ethylin-diamin ($C_2H_4(NH_2)_2H_3O$). From decomposing gelatine he separated neuridin, muscarin, and dimethylamin. Of these, neuridin is most constantly present in commencing putrefaction. The existence of the others seemed to depend in some degree upon the kind of material undergoing decomposition. From putrefying human bodies Brieger obtained several substances of alkaloidal character—neurin, cholin, cadaverin ($C_5H_{16}N_2$), putrescin ($C_4H_{12}N_2$), saprin ($C_5H_{16}N_2$), trimethylamin ($(CH_3)_3N$), dimethylamin, triethylamin, mydelain, and a substance of undetermined composition.

The physiological action of these various compounds differs widely. Some, as neuridin, cadaverin, putrescin, and saprin, are either harmless or must be injected in very large dose to produce toxic symptoms; others are violent poisons. Of the latter, there are five which bear an important relation to the study of diarrhœa—neurin, muscarin, cholin, mydelain, and the substance whose composition was not determined. The action of the first three is essentially identical, the most important symp-

[1] Read at the Annual Meeting of the Massachusetts Medical Society, June 8, 1887.

[2] Medical Communications of the Massachusetts Medical Society. 1886.

[3] Wiener Klinik, 1882.

[4] THE MEDICAL RECORD, May 25, 1878.

[5] Grundriss der Bacterienkunde. Berlin, 1887.

[1] Die Micro-organismen. Leipzig, 1886. Also, W. Watson Cheyne, American Journal of the Medical Sciences, January, 1887.

toms produced by a fatal dose being salivation, vomiting and diarrhœa, dyspnœa, paralysis, and death. Mydelain, when injected into guinea-pigs, even in the very minute quantity of three-fortieths of a grain, causes profuse secretion from the eyes, nose, mouth, and intestine, dilated pupils, exophthalmos, an increase of temperature, paralysis, fibrillary twitching of muscles, dyspnœa, and death. In cats the symptoms did not essentially differ, diarrhœa being prominent as before. The substance of undetermined composition, when injected into rabbits and guinea-pigs, caused excessive peristalsis and exhausting diarrhœa. In general it may be said that most of the alkaloids which have been obtained by the decomposition of albumen have a tendency to produce diarrhœa.

It does not follow, because ptomaines capable of exciting diarrhœa are formed outside the living human body, that they are formed likewise within. There are, however, strong reasons for believing that such may be the case.

Substances capable of putrefaction exist in the digestive canal. Of such the most common in children is milk, but no article of food can be assumed to be absent in either adults or children. In many cases, besides food, there will be mucus, serous exudation from inflammatory surfaces, blood, pus, or sloughs.

The micro-organisms which accompany putrefaction, and are believed to be its cause, are present in the digestive tract. Johnston, in the examination of the vomitus of seventeen breast-fed infants affected with summer diarrhœa, found invariably micrococci and what is known as the bacterium termo. In diarrhœal fæces he discovered innumerable bacteria, especially of the varieties mentioned. Since bacteria exist in the digestive tract in health, it must be supposed that while digestion is being normally performed the conditions are unfavorable to the multiplication of organisms. Spallanzani found that when substances in which putrefaction had begun were introduced into the living stomach the process was checked. We may suppose that, in order to initiate fermentative changes, organisms enter the body in uncontrollable numbers, or that the digestive function is in whole or in part suspended.

The products of fermentation are found. With the sour vomitus and the acrid or foul stools of summer diarrhœa all are familiar. The search for alkaloids in diarrhœal excrement has probably not been made; but such have been found in healthy fæces, and that freshly voided fæces are poisonous has been proved by Bouchard. It is probable that the amount of poisonous alkaloids formed in disease is greater than in health, and also that their amount and the conditions under which they are produced render them less subject to the eliminative action of the body.

What is known of ptomaines throws light upon certain obscure conditions arising in summer diarrhœa. There are cases of cholera infantum in which violent symptoms are followed by a speedy death, and yet no appearances adequate to explain the result are revealed by the autopsy. There are also cases of diarrhœa, some acute, others subacute, which a few hours before death show, with the condition called hydrencephaloid, a rise of temperature. The nervous symptoms may be referred to exhaustion. It is difficult, however, to explain the increase of temperature by either exhaustion or a fresh inflammatory process begun in those last few hours of life. It seems more reasonable to believe that in both this case and the former a septicæmia has been induced by the products of putrefaction, either absorbed from the digestive canal or generated in the exhausted tissues of the body.

It is easily remarked that in no case of summer diarrhœa do the symptoms correspond completely with those following the administration of a given ptomaine to an animal. Of this an explanation is offered by the fact that it is impossible for a single ptomaine to exist alone in the digestive canal, since both the albuminoids and organisms present are various. Moreover, different ptomaines, though they may have similar, may possess antagonistic powers, so that the effect of any one may be modified or even neutralized. It is therefore impossible to predict with exactness, from experiments outside the human body, what the action of the alkaloids of putrefaction will be when formed within the human body.

Many of the expedients which have been found useful in the treatment of summer diarrhœa possess some element unfavorable to the growth of micro-organisms.

The removal of a child from the city to the country or sea-shore is, in high degree, an antiseptic measure. Investigation into the bacterial contents of the air and earth show that micro-organisms diminish in number as we rise from the surface of the earth, as we penetrate beneath it, and as we go out upon the sea. They are absent in the high Alps, absent or very scarce in the lower strata of the soil, and absent, so far as investigation has gone, in the sea air a thousand miles from land. In the Rue de Rivoli, on the contrary, in the centre of Paris, there are ten times as many microbes in the air as at the fortifications without the city, and at Montsouris Observatory the north winds blowing over Paris bring many more microbes than the south winds from the country. The most impure come from the hills of Villette and Belleville, populous quarters in which also are cemeteries and slaughter-houses. In other words, where there is decomposing organic material there are bacteria, and the greater the amount of the one the larger the number of the other. What is true of air is true in a higher degree of water. Condensed aqueous vapor has been found to contain nine hundred bacteria to the litre; sewer-water from Clichy, eighty millions. It is where human beings are crowded together in large numbers that the greatest consumption and excretion of organic matter takes place. It is here, therefore, that the widest necessity exists for those retrograde processes which it is the peculiar province of fermentative organisms to affect. We are justified, therefore, in looking upon filth and sewage as the grand culture-medium of fermentative organisms, the special soil in which flourishes the cause of summer diarrhœa. Removal from this contaminated environment would therefore be demanded by theory and is approved by practice. It is readily seen, however, that the advantage which the country naturally possesses over the city can be nullified for any particular place by unhygienic local conditions. The insufficient drainage of a country town, the cess-pool under the window of an isolated farm-house, create the same danger which is encountered in the midst of dense population. It is, in all cases, the proximity of decomposing organic material which is to be avoided, its absence which is to be desired.

The transferrence of a child from the bottle to the breast is an antiseptic measure. Milk as it comes from the breast is free from organisms, and human milk, even when allowed to stand exposed to the air, will, according to Baginsky, resist fermentation a number of hours longer than cow's milk.

The heating or boiling of milk is an antiseptic procedure. The ancients used to quench flints in milk to render it more serviceable in the treatment of diarrhœa. Household observation has taught that boiled milk keeps. The more exact studies of the laboratory have shown that an exposure to the temperature of boiling water for a few seconds in a moist medium will kill all bacteria, while a continuance of this temperature, under the same condition, for fifteen to thirty minutes will destroy their spores. A fermentescible fluid, thus sterilized, will remain unchanged until bacteria are once again admitted. To completely sterilize milk is hardly compatible with the conditions of a nursery. An approach to this can, however, be effected by boiling milk in the same bottle from which it is to be afterward nursed. The bottle should be stoppered with cotton before boiling, and the stopper removed only when the milk is required for use. Ex-

periment has shown that milk thus prepared will keep sweet in a warm room for twenty-four hours, while unboiled milk, standing in a pitcher by its side, will in that time have become sour and coagulated. To thus defer for a few hours the capability of milk to ferment may be all that is required in the treatment of some of the minor cases of vomiting and diarrhœa in infants.

All means for emptying the digestive tract, either by withholding food or by giving evacuants, have an antiseptic value. On the one hand, micro-organisms are deprived of the material necessary for their growth; on the other, both organisms and their products are swept away. Evacuants have from a remote period been held in favor in the treatment of diarrhœa. The Greek physicians used mild laxatives to remove the "peccant humors" from the system, and Piso, who introduced the use of ipecac for its emetic and cathartic effect in the fluxes, described it, in his extravagant language, as "a sacred anchor and most exquisite gift of nature."

Various drugs have been used to produce disinfection of the digestive tract. Of these, the most powerful is corrosive sublimate, and they range in strength from this down to borax or salicylate of sodium. To determine the comparative value of these in the treatment of summer diarrhœa does not at present seem possible. It would appear that the value of a particular drug does not depend upon the precise grade of its antiseptic power. A milder antiseptic may, all things considered, be more valuable than a stronger one. Nor does it seem probable that absolute antisepsis of the digestive tract is either possible or necessary. The fact that the processes of digestion in health are conducted in the presence of bacteria leads us to think that nature controls the micro-organisms. It is probable that she can do something for herself in most cases of disease. The part of medicine is so to modify unfavorable conditions as to restore to nature the control which she had previously lost.

The main positions advocated in this study of summer diarrhœa are:

1. That micro-organisms bear an important causal relation to a large proportion of cases of summer diarrhœa.

2. That antisepsis of the digestive tract is an essential element in the treatment of the disease.

3. That in antisepsis must be included not only the use of drugs, but also the establishment of all conditions known to be unfavorable to the life and activity of micro-organisms.

4. That in order to a more scientific use of antisepsis we require more adequate information as to what organisms are concerned in the production of fermentation, their life-history, and the conditions favorable and unfavorable to their growth.

Hospital Managers and Visiting Physicians.—Philadelphia has been recently disturbed by two hospital difficulties. The managers of the Homœopathic Hospital for Children found that the members of the medical staff were making use of mother tinctures, cathartics, alcoholic beverages, and other preparations which do not come under the homœopathic roof. Accordingly the managers notified the offenders that this must be stopped. The members of the staff denied the right of the managers to dictate to them. The managers retorted that the hospital was incorporated for the purpose of ascertaining the true value of homœopathy in the treatment of children's diseases, and that the physicians in charge must confine themselves to strictly homœopathic measures or resign. Whereupon the staff unanimously submitted their resignations, which were accepted. It is not stated whether their places were promptly filled by other physicians. But in the other instance, a highly esteemed surgeon was suddenly removed from the visiting staff, and his successor was promptly and easily found. The gentleman who succeeds, however, seems to have incurred the disapprobation of the profession of the city.

Clinical Department.

THE USE OF INDIGO AS AN EMMENAGOGUE.

Dr. S. T. Yount, of La Fayette, Ind., in a paper read before the Tippecanoe County Medical Society, recommends very highly the employment of indigo as an emmenagogue. He writes: "It is perfectly safe, thoroughly reliable, and painless in its action. It is insoluble in water or alcohol, but readily dissolves in strong sulphuric acid. This so changes its character that it is then readily soluble in water without changing its color.

"It is odorless and tasteless, and may be given in doses of ʒ j. to ʒ ss. The great difficulty is the nausea and vomiting which the crude drug produces when given in very large doses. There are three varieties of the crude drug: Bengal, Turkey, and Chinese.

"The Bengal is richest in coloring matter, containing about fifty per cent., and inasmuch as the virtue resides in the coloring matter, the best effects are obtained from this variety. As an emmenagogue it has been used in my practice about a year and a half. My attention was first directed to it on one occasion when I was called to remove a retained placenta in a case of abortion at the third month. Naturally inquiring what had been taken to produce the abortion, I was told that the lady had taken indigo in teaspoonful doses three times a day, that she had taken it several times, and always with a most satisfactory result to her.

"She informed me at the time that it always produced great nausea and watery discharges from the bowels. Acting on the suggestion offered by this case, I tried it in many and various cases. In one case, where a young lady, aged eighteen, had missed for thirteen months, the menses returned after taking the crude indigo for two weeks; but the disgust and nausea produced by the bulky powder rendered her unable to continue it longer, and she menstruated three more months; then they stopped again. After using the remedy for eight or nine months in this crude state, I set about to find some way of condensing it, or rendering it less bulky, for it is the bulk of the dose, not the remedy, that disturbs the stomach and disgusts the patient. About a month later Mr. O. G. Zerse, an apothecary of La Fayette, turned over to me a concentrated extract, as he called it, five grains of the extract equalling twenty-six grains of the crude drug. I have since then used it in forty-eight cases of amenorrhœa, of all kinds and causes, with but three failures, and a colleague has used it in six cases without any failure. To test its effect I have given the remedy in the amenorrhœa of phthisis, and have always had a definite result, namely, the appearance of the menses, the menses stopping again when the remedy was stopped. The effects with the crude drug and the concentrated preparation are identical, except that the nausea does not occur when the extract is used. The menses come on painlessly and very suddenly. There is no warning given. In thirty cases the effects occurred about two days after the last dose, the menses coming on without any warning, gushing out and running often to flow. The hemorrhage in none of the cases was dangerous or alarming. During the administration of the drug the os uteri becomes soft and patulous, admitting the end of index-finger. There is often a serous discharge from the vagina. The urine becomes of a brownish-green color and offensive odor. The stools are of a bluish color. The passages are watery and offensive.

"To summarize, indigo is an emmenagogue of decided value in any case. It should not be given to pregnant women. It should not be given where there is an irritable stomach. It should not be given in cases where there is a history of a previous pelvic inflammation. It should not be given in cases where there is marked cerebral anæmia. It may be given in doses of ʒ j. to ʒ ss., two or three times a day, of the crude drug, or in five-grain

doses of the concentrated extract. The powder of the crude should be given mixed with a little subnitrate of bismuth, and the patient should drink a little whiskey afterward. In cases where given continuously for a long period, give tr. gentian comp. after each dose. Give the concentrated extract in capsules mixed with extract of gentian and subnitrate of bismuth."

A NOVEL REMEDY FOR ASTHMA.

Dr. Samuel E. James, of Frankfort, Ky., reports the case of a man who had been a sufferer for years from paroxysms of asthma, and had tried various remedies with but little relief and no permanent good, and was in a condition to adopt anything that would promise a good result. One of his fellow-workmen told him that if he would take a few bird-shot every day for a while he would get relief from his trouble, and without further questioning he purchased one half-pint (about four pounds) of No. 8 bird-shot, and proceeded to take a teaspoonful three times a day. He continued to do this for three weeks before he found it necessary to send for a physician, though he had had colic almost every day since he began this novel treatment. Noticing the retracted condition of his abdomen and the offensive nature of his breath, Dr. James examined his gums, and discovered a well-marked blue line in both the upper and the lower jaw. Upon being asked if he had been where he could have contracted lead-poisoning, the patient confessed to having taken the shot. Constipation had existed almost from the time he began this treatment, though he had had an operation every two or three days. Careful examination showed that there was no peritonitis, and that the vermiform appendix had failed to imprison any of the shot. The first indication seemed to be to remove the cause of the trouble, and this was accomplished in part by the use of active purgatives supplemented by injections. The result of the first experiment was the removal of about one pound of the shot. The patient was then given iodide of potash and an anodyne, and allowed to rest a day or two, when the cathartics and injections were resumed and an additional pound of shot removed. The bowels were kept open, and the discharges examined carefully, but no more shot were passed, and the patient continued to improve under iodide of potash, and at the end of three weeks had entirely recovered from the lead-poisoning. Dr. James adds: "The case is of interest as showing to what great abuse the alimentary canal can be subjected and still suffer no permanent lesion. The vermiform appendix seemed to enjoy a particular immunity from danger. Iodide of potash was a prompt and efficient remedy in removing the lead from the system, as was proven by repeated examinations of the urine. The blue line was marked, as the patient was unaccustomed to the use of a tooth-brush or tooth-pick. The appetite was not materially interfered with, and, aside from the pain, the patient suffered very little damage. His breathing was free and easy, and no paroxysms of asthma occurred while the lead was being eliminated, though the disease asserted itself after he had recovered from the lead-poisoning. The relaxation of the system from pain and shock probably kept the asthma in abeyance."

The Cure for Doctors' Quarrels.—The *Detroit Lancet* says the most quarrelsome doctors have one common characteristic, as a rule, viz., lack of a generous, broad culture. A doctor having such a culture will regard his time and strength altogether too precious to waste in any personal controversy. For the cure of doctors' quarrels, a four years' literary and scientific study and a four years' medical college and hospital training is advised. Thus doctors would learn the manners of gentlemen and of professional gentlemen.

Progress of Medical Science.

Hæmospermatism.—Dr. Harrington reports the following cases in the *Boston Medical and Surgical Journal:* In January, 1885, a single man, aged twenty-five, a teacher, of good physique and of excellent habits, came for advice because of a slight enlargement of the epididymis of the right side. It caused slight pain after long standing or walking. The patient had never had gonorrhœa. The immediate cause of this epididymitis seemed to have been a long cold walk with insufficient clothing. Cold applications and a suspensory bandage soon brought relief to his trouble. It transpired, during the course of the questioning, that there occasionally occurred a nocturnal emission which was reddish in color, and that the red color was also sometimes seen after straining at stool, and on one occasion after a cold seabath. There was no complaint of a frequent occurrence of these stained discharges, but they had caused the patient some anxiety. About seven years ago the patient first noticed this discoloration of the semen. There occurred intervals during which there was no staining, and at no time were the losses frequent, occurring on the average once a month. Nothing about the patient or his condition suggested spermatorrhœa. After the meatus had been snipped, a No. 29 French sound was passed with ease into the bladder, and caused no pain. There was no sensitiveness in the region of the prostate. Rectal examination showed no enlargement or tenderness of the prostate nor of the seminal vesicles. There was no pain on passage of urine or of semen, nor did movements of the bowels cause any distress. The patient had been accustomed to horseback exercise, but it never caused him any distress. He was requested to bring any specimens which it was possible to save. During the course of several months the following specimens were obtained: Two pieces of cotton cloth stained a reddish-brown, cut from the night-clothes, and a few drops of the fluid which were passed while straining at stool. This fluid showed microscopically numerous spermatozoa; a few red blood-corpuscles; a few granular nuclei; granules. It certainly deserved the name of a bloody seminal fluid. The seminal fluid may be discolored in several ways. An admixture of pus changes its color from gray to white or cream color. An admixture of blood may change the color to a bright red, an orange, a light brown, a dark brown, or a dark red. A dark-blue color is occasionally seen, but its origin is not clearly understood. The origin of the blood is generally believed to be in the seminal vesicles. An admixture may take place with blood from an inflamed urethra, but such a case would not be one of true hæmospermatism. There are several causes for the appearance of the blood. Vibert says that slight capillary hemorrhages in the vesiculæ seminales are of frequent occurrence among the continent and among old men. The cause is here an over-distention and irritation of the vesicles. Many authors (Lallemand, Ricord, Velpeau, Fournier, Gosselin, etc.) speak of bloody seminal fluid occurring after gonorrhœa. An extension of the inflammation to the seminal vesicles is a rare occurrence. Such inflammation is usually unilateral, affecting but one of the vesicles. By the rectum a hard or fluctuating mass can be felt, having the location and the general contour of the vesicle, but larger in size. There is pain on pressure and a constant dull pain, which is increased by defecation, by micturition, by coitus, and emission. Some authors claim that the blood comes from the epididymis or from the testicle, but it seems to be proven that the seminal vesicles are the usual source. A third cause, generally recognized by all writers upon this subject, is excessive coitus or masturbation. That such excess should lead to congestion and irritation is not surprising. The character of the patient and his statements justify the belief

that the cause of the blood in this case is over-distention of the vesicles. It may be possible that the discharge occurring at times after straining at stool, due probably to distention of the vesicles and to weakness of the ejaculatory duct, may have resulted from horseback exercise.

The Effect of Retained Membranes on the Puerperal State.—Dr. Fischer, of Professor Slavianski's clinic, has published the result of a number of observations made for the purpose of testing the commonly received view that portions of membrane retained in the uterus after the expulsion of the placenta are liable to produce serious consequences—as hemorrhage, and especially the so-called auto-infection or septicæmia—and that, therefore, it is of the utmost importance that they should be removed by the hand or by intra-uterine injections. This view is supported by the authority of Winckel, Dohrn, Ahlfeld, and others; while Olshausen, Credé, Weiss, and Landau consider that there is little harm in the retention of even considerable portions of the chorion. Dr. Fischer's observations extended over 682 labors, in each of which he carefully examined the afterbirth. In 42 of these cases (*i.e.*, 6.2 per cent.) a portion of the chorion was retained. Credé's method of manipulating the fundus uteri gave the best results regarding the percentage of retention. In primiparæ retention was nearly twice as frequent as in multiparæ, the percentage being 9.1 and 4.9 respectively. Some effect appeared to be exerted by the time at which the rupture of the amnion took place, which, when either too early or too late, seemed to predispose to retention. Premature deliveries also were rather more frequently followed by retention than those at term. As a rule, the retained chorion came away in the course of from four to six days, generally in several small portions, sometimes, however, in fragments of considerable size, and in one case, where three-fourths of the chorion had been retained, it was passed entire on the fifth day without having caused either hemorrhage or sepsis. Among the 42 cases hemorrhage occurred only four times, and was always easily arrested either by hot irrigation or by ergot and manipulation of the uterus. When, however, we learn that out of the 42 cases manual extraction of the fœtus was required seven times, and that a considerable loss of blood occurred during the third stage eleven times, 4 cases of slight post-partum hemorrhage does not appear at all excessive. With regard to pyrexia, in 20 cases, or 47.6 per cent., there was none; in 12, or 28.6 per cent., the thermometer, which was always used thrice a day, once registered a rise above normal; and in 10, or 24.8 per cent., there was more or less pyrexia. In order to compare these with cases in general, Dr. Fischer gives the results of similar observations made on all the cases he has attended for the last two years. These show that there was no pyrexia in fifty-eight per cent., that the temperature was only once above normal in 17.6 per cent., and that there was pyrexia in 24.4 per cent.; so that the ratio of appreciable pyrexia was about the same in the cases in which retention occurred as in ordinary cases. A slight amount of endometritis occurred in 3 out of the 42 cases. Dr. Fischer concludes from his observations that there is no ground for supposing that retention of fragments of membrane gives rise to "auto-infection," and considers that the commonly received view is fraught with danger, inasmuch as it tempts the accoucheur, when sepsis occurs, to throw the blame, not on himself, as he ought to do, but on some fancied auto-infective process, and thus probably prevents his being as particular as he should be in employing antiseptic methods in the management of the labors he has to attend.—*The Lancet.*

Kéfir.—Professor Lépine, of the faculty of Lyons, speaks of the therapeutic value of this substance in different affections of the stomach, for which he had lately given it to quite a number of patients. He makes no pretensions of its being a medicament, but calls it an aliment, for, like the koumiss, it is only fermented milk. Kéfir has the advantage of being more agreeable in its taste than koumiss. For hundreds of years the Tartars who live in the Northern Caucasian mountains have prepared a drink, which they call kéfir, gypy, kapyr, etc., by adding to cow's milk a kind of mushroom that is found in those high regions near the snow-line. This *champignon* is found in the form of irregular, compact, elastic seeds, varying in size, whose surface is rough and wrinkled, something like the tops of cauliflower. In the dried state they are yellowish, break easily, and look a little like cartilage. They contain two bacilli, one of which is like the bayonet-shaped bacillus found in spontaneously fermented milk; the other one has a little spore at each of its ends, and has been called *Dispora Caucasica* by Kern, of Moscow. To prepare kéfir, the grains are first of all to be swollen up by putting them into warm water for five or six hours; then throw them into milk after carefully washing them, and this milk is to be renewed several times (two or three) a day. After a few days they will have become active and ready to use for making the kéfir drink, which is done as follows: Take a tablespoonful of the fermenting seeds to each pint of fresh milk, and keep the mixture at a temperature of 64.5–66.0° F., shaking it every hour. The next day the mixture will be found in a mass, when it should be filtered through muslin, to get rid of the grain and all the impurities that may be in it. It should then be bottled, and the bottles must not be filled quite full, as it will go on fermenting for some time in them; they should be well corked, and shaken from time to time. In twenty-four hours more it is ready for use, unless it is desired to have a kéfir richer in alcohol, when it should be left for two or three days longer. After four days the drink becomes too acid to use. Well prepared, it should be a thickish, cream-colored, frothy liquid. It is richer than koumiss in albumenoids, less alcoholic, and not so acid. As regards its use, the Russian doctors find its indication in all the anæmic states, where it is not a specific, but it is a good tonic aliment. In chronic anæmia a half-gramme of lactate of iron is added to each bottle. It has been found of great benefit in all the diseases of the digestive tube where there is atony. Dr. Lépine used it in ulcer of the stomach, and found his patients liked it better than milk, and that their gastric difficulties were relieved by it. Other patients, suffering with dilatation of the stomach and catarrh of the same organ, were improved. It was sometimes used alternately with good milk, when it was noticed that those who could not tolerate milk could use the kéfir with great advantage to them. It has been proposed lately to use some other ferment in place of the kéfir mushroom; but, so far as known, experiments have been without success. It may be asked, Why not be satisfied with pure milk? There are a number of answers to this which will occur to all who advise milk; then there is the motive that induced man to transform grape-juice into wine—in a word, to introduce art into the preparation of his aliments.—*Paris Cor. of Philadelphia Medical Times.*

The Futility of the Superheated Steam Process for Disinfecting Rags.—Dr. S. H. Durgin, Chairman of the Board of Health of Boston, Mass., reports, from his experience with this method, that the moist heat passing from the centre to the surface of a bale of rags encounters knots or bunches of rags varying in degrees of density and of resistance to the penetration of heat; that while the temperature of the principal part of the bale is raised to a degree far above what is required for disinfection, other parts of the bale are found to be wholly unaffected by the heat; that anthrax bacilli having been killed and metals melted at 240° F. within bales of rags subjected to this process, are facts not inconsistent with the experiences here given, and do not prove the disinfection of the whole bale.

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ALBUMINURIA IN HEALTHY PERSONS.

THE fact that albumen sometimes exists in the urine of healthy persons is well known, but it is generally believed, and in our opinion on good grounds, that such normal albuminuria is extremely rare, or produced only by peculiar dietetic conditions. Professor Grainger Stewart, however, now comes forward, and as the result of an analysis of the urine of four hundred and seven healthy persons, claims that one-third of all healthy people are albuminuric. One can hardly credit such a statement, although Professor Stewart's reputation as a careful observer makes his conclusions deserving of much attention. The tests used by him were cold nitric acid and picric acid. Of 205 soldiers, 77, *i.e.*, 37.56 per cent., had albumen. Of 74 civilians, 10.8 per cent. had albumen. Of 40 pauper children in one of the city poor-houses, 17.5 per cent. had albumen, and of 40 adult paupers of or about sixty years of age, 67.5 had albumen. Further investigations were instituted with a view to ascertaining the effect of diet. Thus it was found that, of soldiers, while 15.6 per cent. showed albumen before breakfast, the percentage was raised to 40.6 per cent. after breakfast. Of old men, 37.5 per cent. showed albumen before breakfast, while the percentage was raised to 67.5 after. Of children, 12.5 per cent. had albumen before breakfast, while the percentage was raised to 17.5 after.

Professor Stewart also (*Medical Press*) draws attention to the effect of exercise and exertion. Thus, of a party of soldiers before taking exercise, 29 per cent. had albuminuria, and on their returning from an eight miles' march the percentage was lowered to 19. Again, of a party of soldiers, 15.6 per cent. had albuminuria before breakfast, 40.6 per cent. after breakfast, and 28.1 per cent. after a march of eight miles. Professor Grainger Stewart thinks the following conclusions may be fairly drawn from his own and similar investigations: That there is no sufficient proof that albumen is normally discharged from the human kidneys. That albumen is much more common among presumably healthy people than was formerly supposed, tests having demonstrated its presence in nearly one-third of the population. That the frequency of albuminuria increases as life advances. That it is more common among those whose occupations involve arduous bodily exertion than among those who lead easy lives. That albumen frequently follows the taking of food, especially of breakfast, which more than any other meal increases the amount of albuminuria. That moderate muscular effort rather diminishes than increases albuminuria. That it is often induced by violent and prolonged exertion. That cold bathing produces or increases it in some individuals. That the existence of albuminuria is not of itself a sufficient cause for the rejection of a proposal for life insurance, a conclusion which is of vital importance to insurers, and to companies which have hitherto been in the habit of declining lives on this ground.

THE CONDITION OF THE CROWN PRINCE OF GERMANY —A CABLEGRAM FROM DR. MACKENZIE TO THE MEDICAL RECORD.

DR. MORELL MACKENZIE, of London, cables to THE MEDICAL RECORD the results of his third operation upon the throat of the Crown Prince of Germany. The entire growth has now been removed by the laryngeal forceps, and the parts beneath are in an apparently healthy condition. Dr. Mackenzie says: "Professor Virchow has examined the specimen and reports that its tissue showed nowhere any alveolar structure, or evidence of emigration of epithelial masses.

"The structure consisted of slender connective tissue, which contained only on its surface enlarged elements, partly undergoing proliferation, but the latter assumed nowhere the character of an independent focal formation."

So far, then, as the microscopical examination is concerned, the disease appears to be essentially of a non-malignant character.

The disposition toward limited cell-proliferation may be caused by active inflammatory processes in tissues peculiarly exposed to irritation, but from any other point of view the outlook is not as promising as it might be. Everything in the way of prognosis must now depend upon the fact whether or not there is to be any recurrence of the growth. If the latter obtains, with an increased disposition toward cell-multiplication, the chances for ultimate recovery will be on the wrong side. At present, however, we have reason to hope for the best, and shall await any future developments in the case with becoming interest.

THE TREATMENT OF OBESITY BY A REDUCED MILK-DIET.

VARIOUS are the methods which have been proposed for the relief of those suffering from an excessive deposit of fat in the tissues, and numerous are the cures which have been reported by the authors of these several methods, but yet fat people exist, and, indeed, judging merely from every-day observation, their numbers would seem to be increasing steadily. One reason why the treatment of the affection by any of the plans ordinarily adopted is so often ineffectual undoubtedly is because it is extremely difficult to induce patients to follow out conscientiously the regimen imposed upon them. It is such a trial to many people to deny themselves the pleasures of the table, and it is so easy to "treat resolution" occasionally, that the rules of diet laid down by the medical adviser are constantly being broken. But experience has shown that the more simple are the rules and the stricter, the more likely are they to be obeyed to the letter.

It is for this reason that a plan recently put in practice

by Dr. Le Menant des Chesnais (*Concours Médical*, May 14, 1887) appears to be worthy of notice. It is certainly simple enough, for it is nothing but starvation; and if the results obtained in two cases may be regarded as an index of what may be expected in others, the method might even prove serviceable in certain carefully selected cases.

The author's plan is to withdraw all food and drink absolutely, only milk in very small amount, to subdue the sensations of hunger and thirst, being allowed. Each time that the patient feels either hungry or thirsty he takes half a small coffee-cupful of milk. This is said to be sufficient to quiet the sensation for a time, and soon the patient becomes able to get along on less than a quart of milk in the twenty-four hours. The only disagreeable effect observed in the cases in which the author tried this plan was an obstinate constipation, which, however, was relieved by the administration of mild laxatives. In each case the treatment was continued for a period of five weeks, and in that time the first patient lost about twenty-two pounds, and the second sixteen.

Of course, great care would be necessary in the selection of cases suitable for such severe treatment as this, for it might readily be productive of serious injury. The treatment should be adopted while the troubles experienced are only functional, and before any organic lesions have arisen. The author suggests that the influence of small quantities of milk in obtunding the sensations of hunger and thirst may be due, in part at least, to the anæsthetic action of lactic acid, said by Germain Sée to be quite marked.

THE RELATION OF URIC-ACID EXCRETION TO HEADACHE.

Headache is a disorder to which physicians are perhaps even more prone than the majority of their patients, and one would suppose that they would be particularly interested in the subject. But it is not often that the matter receives very exhaustive treatment in medical writings, and we believe that the monograph of Dr. W. H. Day, published some years ago, is the latest which has appeared on the subject.

At a recent meeting of the Royal Medical and Chirurgical Society of London, Dr. Alexander Haig presented a paper on headache, which contained some interesting suggestions. Considering that headache has frequently some clinical relationship to gout, the author had examined the urine with a view of deciding the question. A headache was experimentally produced on himself by adopting a diet of meat and cheese. The urine excreted during the headache was kept separate from that excreted before and after. There appeared to be retention of uric acid before the headache, excessive excretion during the headache, and diminished excretion after the headache. Taking the three periods, however, and comparing the urines, there was no absolute excess of uric acid passed. The temporary excess during the headache was balanced by the diminution before and after. There was little change in the amount of urea passed during a headache, but the relation of the uric acid to the urea was greatly altered. When, after excessive exercise, there was a large excretion of urea and uric acid (though in their normal relation), headache was not far off; and if from any cause the uric-acid excretion fluctuated, headache would be present during its excess and absent during its diminution.

This fluctuation in the uric acid excreted did not affect the urea, and it was merely temporary and transient; it has also been proved that urates may accumulate while the kidneys are quite sound. Dr. Haig suggested that diminished alkalescence of the blood best explained all this. Gout, he thought, might consist in a diminished power of forming ammonia to neutralize acids, resulting in a permanent diminution of the alkalescence of the blood. A dose of acid, either from without or formed internally, might cause temporary retention of uric acid and so lead to headache.

Probably, however, as the author suggested, retention does not explain everything, as in his case the excess during the headache appeared to exceed the previous retention. There may be temporary excessive formation as well; hence the good effect of sodium salicylate, which lessens the formation of uric acid. The beneficial effects on this form of headache of a good meal, vegetarian diet, and alkalies were severally due to a temporary increase in the alkalescence of the blood.

THE DIAGNOSTIC VALUE OF EPISTAXIS.

Nosebleed occurs with greatest frequency in childhood, from the age of six or seven years up to puberty, and after that time becomes more rare. Boys seem to be affected more often than girls, a fact for which no satisfactory explanation has been offered, unless, perhaps, greater exposure to traumatism can be invoked. After puberty, however, the periodical loss of blood at the catamenia may secure a certain immunity in the case of women. Epistaxis occurring in childhood is more frequently idiopathic, while in adult life and old age it is usually symptomatic of some abnormal condition, leaving out of consideration traumatism, although even this is more efficient as a cause in childhood than it is in later life.

Since nosebleed is so often, in adults, only a symptom of some other condition, it not infrequently possesses considerable diagnostic and prognostic value, and we propose to consider, briefly, the phenomenon in its semeiological relation to various diseases, reserving for another occasion the discussion of its value in prognosis.

Obstinate and long-continued hemorrhage from the nose, coming on after a fall or a severe blow on the head, points, with considerable definiteness, to fracture of the base of the skull, involving the wall of the superior nasal fossæ. This diagnosis is rendered almost absolutely certain if the fluid escaping from the nostrils becomes watery and light-colored, from gradual admixture with cerebro-spinal fluid. The mistake must not be made, however, of jumping to a conclusion that a fracture exists, simply because epistaxis is present, for hemorrhage may be induced by the concussion, while the bones at the base of the skull remain intact. The bleeding in such a case is usually neither profuse nor of long duration.

Repeated attacks of nosebleed without apparent cause, especially if obstinate hemorrhages from other parts arise on slight provocation, would suggest the possibility of hæmatophilia, and should lead the physician to inquire

carefully into the family history of the patient, and more particularly into that of the male members of the family on the maternal side. Frequent hemorrhages may, however, be due to the presence of a small ulcer in the nasal mucous membrane, and the precaution of examining the nares in such cases should never be omitted.

The occurrence of epistaxis is often a sign of considerable diagnostic importance in typhoid fever. In measles, also, it is not uncommon at the beginning of the disease, while it occurs but seldom in scarlet fever and in rubella. It is common in anæmia and chlorosis, in malaria, and in various cachexiæ. Nosebleed may also point to disease of the vascular system. Abnormal thinness of the walls of the capillaries, atheroma, and the changes due to syphilis or alcoholism are the principal alterations observed.

At the meeting of the Academy of Medicine of Paris, held on April 26th, M. Verneuil read an interesting communication on the influence which certain diseases of the liver may have in the production of epistaxis, in which he claimed that nosebleed was often an indication of hepatic disorder, supporting his assertions by a recital of the curative effects of blisters applied to the right hypochondrium. This is not a new observation, for Galen speaks of the value of cupping over the hepatic region in arresting nosebleed, but it is a point that is not insisted upon as much as it perhaps deserves. Martineau, in his article on epistaxis, in Jaccoud's "Dictionnaire de Médecine," regards the occurrence of nosebleed as a symptom of great value in cases of doubtful hepatic disorder, and he agrees with Monneret that epistaxis always occurs at some period during the course of the disease of the liver, of whatever sort it may be. This is, perhaps, rather too sweeping an assertion; but, nevertheless, intercurrent attacks of hemorrhage from the nose are of remarkable frequency in diseases of the liver, and should be taken into account in the diagnosis of obscure cases. We may say, therefore, that, if ascites be present and its cause be not apparent, the supervention of attacks of nosebleed would lend very strong probability to the assumption that the serous effusion was due to obstructed portal circulation from liver disease. In cases of epistaxis occurring as a consequence of obstruction in visceral disease, the blood is not infrequently of a venous hue. This may also be of some service from a diagnostic point of view.

SHOULD DOCTORS DISPENSE MEDICINES?—THE DRUGGISTS' SIDE OF THE CASE.

We have received a letter from a correspondent who has been a druggist for fifteen years, but who is now, as he states, practising medicine. He thinks the views of our previous contributors plausible, but suggests that they forget that to be a druggist requires five years of hard labor and study.

"And what of it," he adds, "if the druggist does sometimes give something for diarrhœa or cramps? It is usually as good as what the doctor gives. I really think that the whole trouble lies in this — namely, the doctor looks upon the druggist as his slave, whom he can command at will, yet when he (the doctor) writes a prescription which no one can read, or is 'faulty,' he is all smiles and bows if his attention is called to the fact. I, for myself, think pharmacy and practice of medicine two distinctly different branches. It would be much better for the doctor to treat the druggist more humanely, and it will prove more to the interest of both parties."

Finally, our correspondent adds, truly, that this question has been up before, and he thinks that the pharmaceutical societies should have a word to say, and should perhaps try to enforce the law that compels persons who dispense medicines to have a license.

There is no danger that druggists will be driven out of the field by dispensary doctors. Middle-men must exist. The art of pharmacy is a necessary one. But everything may be abused, and it is very proper that certain lines of drugs, which the physician can easily use should be kept, prescribed, and dispensed from the office.

THE PRECEPTOR AND ILLITERATE STUDENTS.

Physicians who take into their offices illiterate students, and who help such persons into the medical profession, do a serious harm, and are responsible for much of the cry about overcrowding and a lowered tone of professional morals.

The Erie County Medical Society of this State has tried to prevent this practice of indiscriminately manufacturing medical students, by adopting a by-law compelling all members to take no students who have not passed a satisfactory examination before the Board of Censors. The by-law, however, has not been enforced, and recently the county society took action upon the matter and

"*Resolved*, That the Board of Censors is hereby directed to report at the next annual meeting, and at every subsequent regular meeting of the society, the name of any member, known to the censors, who shall, during the time, have admitted to his office as a student of medicine any applicant, without having received of him the necessary certificate of the Board of Censors, as provided for by Section 5, Article VI., of our By-laws."

ATHLETICS AND THE TYPICAL MAN.

Dr. D. A. Sargent makes a plea for a new gospel of athletics in *Scribner's Magazine* for July. Taking for his subject "The Physical Proportions of the Typical Man," the writer shows the evils of the present tendency to specialism in athletics, and advocates such a system of exercise as will be adapted to bring into development the weaker parts of one's anatomy. The object of athletics and of gymnastic exercise should be, he says, not extraordinary excellence in some particular line, nor the pleasure of battling and winning in athletic contests, but the bringing of the physical man into full and harmonious development. If an individual, though strong elsewhere, is weak in the back and thin in the legs, let his aim in athletics be to overcome this.

Dr. Sargent's idea is that of a Puritanism revived and applied to the body. Exercise is not for the gratification of contracting naturally strong arms in hurling the ball or wielding the bat; it is for the overcoming of defects. It is not for indulging the strong, but for strengthening the weak.

Dr. Sargent believes that he furnishes a solid founda-

tion for his gospel in the fact that he has by careful measurements of ten thousand persons established the normal proportions of the typical man. His article had been advertised in an almost quackish way, which led one to think the author would give to the world these proportions; but this he does not do, and therefore they cannot be criticised. It seems, however, that he has got them by averaging his series of ten thousand measurements. Such a method might be open to criticism, since the measurements do not apparently allow for race differences, and would be entirely different for ten thousand Englishmen, Frenchmen, Italians, and Americans.

We are left to infer that this "typical man" is the average of ten thousand young men in and about Boston. If he can show that his type represents the person in whom the muscles, the bones, and the viscera are arranged and disposed to the greatest possible advantage for accomplishing physical work and discharging their special functions, then only is his claim justified.

The gospel of physical harmony also needs this demonstration for its support, viz.: That the healthy, typically proportioned man lives longer, more fully, and more happily, than the healthy man with an extra-strong biceps, to whom cricket, and ball, and tennis are a perpetual joy.

We still incline to think that the cultivation of some enjoyable athletic specialty by which a man, though overdeveloping some part, yet keeps his system in excellent health, will be the stimulus for most athletic work.

Yet Dr. Sargent has done great service in furnishing a specific and worthy aim for those who have no inclination for a special exercise or sport. And his criticism of the abuses of modern athleticism deserves most serious consideration.

THE CITY LUNATIC ASYLUMS.

One may easily believe that there has been a great deal of elaborate lying in the testimony given regarding the management of the city lunatic asylums. No doubt this management is far enough from what it should be. But it is the easiest thing possible to find discharged patients and drunken ex-employés who will magnify accidents into routine customs and distort measures of necessary discipline into acts of tyranny and cruelty. Our city asylums are conducted as well as the average municipal institution. The serious defect, perhaps, in the present management is the iron-clad and almost penal discipline that is established. The close connection of the management with politics is another source of injury. Our city lunatic asylums are thereby cut off from the general current of medical work and thought. There could be no more important or easily accomplished measure of reform than the establishment, in connection with the asylum, of pathological laboratories, of visiting physicians and pathologists, with perfectly definite powers and duties.

RECENT CONTRIBUTIONS TO GASTRIC PATHOLOGY.

We have, on several occasions, called attention to the zeal with which French physicians have been pursuing the study of gastric disorders, and particularly of the stress they are laying upon dilatation of the stomach and toxic dyspepsia.

German observers have been following up the subject of abnormalities in the gastric secretion, more particularly that of the stomach acids. The *Berliner Medicinischer Wochenschrift*, the *British Medical Journal*, and the London *Medical Record* have furnished some interesting reviews and analyses of this German work. One of the points of great practical interest is that first made by Van der Welden, viz., that in cancer of the pylorus free hydrochloric acid is not secreted in the stomach. Several observers have given their support to this view. American physicians who have tried to put it to a test have, so far as we can learn, come to the conclusion that the methods of detecting HCl are too untrustworthy to make the method of value.

The presence of free acid in the stomach is ordinarily determined by adding to the suspected fluid a saturated alcoholic solution of tropæolin. This turns to a deep brownish-red with free acids, and to a light yellow with acid salts. To determine whether the free acid is lactic or hydrochloric, a weak solution of methyl-violet is used, which turns to an intense blue with free HCl. The presence of lactic acid is determined by adding a mixture of carbolic acid and ferric chloride, diluted with water to an amethyst-blue tint. This turns to a greenish yellow with lactic acid.

Cahn and Mering, in contending against the trustworthiness of these tests, says (*Deutsches Arch. für Klin. Med.*, xxxix., p. 233) that not only neutral chloride solutions, but magnesia-mixture, may produce a blue with this test; so may certain neutralized fluids from the stomach; also dissolved peptones, as before mentioned; amido-acids, and, in a less degree, mucin. They also state that lactic and fatty acids are not formed when a meat diet is given, but only free HCl (*Zeitschr. für Klin. Med.*, Bd. xii., H. 1, 2), whereas Ewald insists that lactates are formed as usual, while he agrees that the fatty acids are absent in such diet. The above authors also find that free HCl is not absent in cancer of the stomach.

Dr. P. Zeiwfl tries in another way to establish a method of assisting in the diagnosis of gastric cancer. This has already been described in these columns.

He ascertains the time of absorption of iodide of potassium (three grains), by testing either the saliva or urine. Its presence is usually to be shown within from eight and a half to seventeen minutes. A longer time than twenty minutes would accordingly indicate either cancer or simple dilatation of the stomach, and the latter diagnosis can be excluded by the sound or by gaseous distention.

Jaworski and Glusinsky have made some experiments, chiefly remarkable for the absurd conclusions to which they are led by them. They claim that the stomach is not a chemical, but only a mechanical digestive organ. Dr. Jaworski, and, more especially, Dr. Riegel (*Zeitsch. f. Klin. Med.*, 1886, xi., H. 1) have written elaborately upon the subject of "hypersecretio acida," and Riegel would apparently make the increased or diminished secretion of hydrochloric acid the centre of a large part of gastric pathology. He used Leube's method of examining the contents of the stomach a certain time after a meal; chemical tests were also instituted to determine the power and strength of pepsine, and the amount and kind of acidity. He reports four cases of typical "hyperse-

cretio acida," characterized by slow digestion, gaseous distention, pyrosis, and thirst.

Riegel distinguishes four groups of gastric disorders in which acidity is abnormal:

1. There is normal acidity (possibly, however, with severe derangement).

2. Free HCl and peptic power have quite disappeared.

3. Free HCl is present, but organic acids preponderate.

4. The peptic secretion is increased.

In cancer no free HCl was found, and no pepsine, but Riegel differs from Ewald in ascribing the absence of free HCl to its neutralization by the cancerous juices. Each author has observed a case of duodenal cancer also with loss of HCl.

Jaworski has just written again on the subject of hyperacidity (*München Klin. Wochenschr.*, Nos. 7, 8). This symptom, he insists, accompanies all disorders of the stomach, acute and chronic; but, if the condition persists long, the HCl becomes much lessened, and may entirely disappear. In other words, the "acid catarrh" may pass on to chronic "mucous catarrh," with entire derangement of function. This may occur from various causes, which are placed under two heads, namely, (*a*) spontaneous; (*b*) the use of alkaline drinks. Among the spontaneous causes of diminution, or even cessation, of HCl are the following: (1) Gastric ulcer with hemorrhage. The latter is preceded by great excess of HCl (and Riegel classes it under "hypersecretio acida"), which at last leads up to, and is temporarily relieved by, hemorrhage; but in some cases HCl ultimately ceases to be formed. (2) Dilatation. (3) The prolonged use of alcohol or other irritants (*Wien. Med. Wochenschr.*, No. 49, 1886). (4) Old age has a great predisposing influence (*ib.*, No. 50). The causes due to the persistent use of alkaline drinks embrace the prolonged use of Carlsbad and similar mineral waters, alkalies generally, and even borax.

Charcot on the Late Professor Vulpian.—"From the beginning of his career Vulpian divided his activity between the laboratory and the wards of the hospital. He was early led to understand that, without the assistance of experimentation, simple observation is often lacking in power; while, on the contrary, experimental data, at least so far as concerns human pathology, remains almost always without legitimate application when it is not constantly submitted to clinical control. The great characteristic of Vulpian's scientific life is this, that intimate union of the physician and the experimenter. Vulpian can be characterized by one word: he was the man of duty. Never was he seen to hesitate before a task which he had undertaken to perform. When he felt himself becoming feeble he resigned as physician to the Hôtel-Dieu, and gave up his private practice. Vulpian was a great and good heart, a family man ready to sacrifice all for his own, a master adored by his pupils, a firm and devoted friend."

There are now over seven hundred medical journals published in the different parts of the world, and the number is steadily increasing.

News of the Week.

The Death of the late Dr. Wilson Fox has rendered necessary the appointment of a successor to him in the Holme Professorship of Clinical Medicine at University College, and the appointment has just been filled by the election of Dr. Sydney Ringer, F.R.S., to the chair. At the same institution also, Mr. Victor Horsley has been appointed Professor of Pathology in place of Dr. Bastian, resigned.

Discussion over the Crown Prince's Case.—The *Medical Press* calls attention to the peculiar discussion which has been going on in the *British Medical Journal* over the Crown Prince's illness. The *Journal* led off with an article intimating that the laryngeal growth might though now benign, become malignant under the irritation inseparable from the use of the forceps. Mr. Butlin then contributes his views. "He is generous enough," says *The Press*, "to admit that Professor Virchow has had some experience of microscopical research—an admission for which Dr. Virchow will doubtless be duly grateful—but seems to think that the diagnosis of benignity was arrived at after too casual an examination, the fragment being, in Mr. Butlin's opinion, too small for proper observation. He concludes his perfidious letter by the recommendation to refrain from any expressions of triumph until we are in a position to know 'that Dr. Mackenzie has really well upheld the credit of English medicine abroad.' A more unkind, uncharitable, and unprofessional remark it would be difficult to imagine. The same journal contains a letter of an unconscionable length from Dr. Semon, who doubtless feels very slighted at not having been called upon to share the responsibility. After formally challenging the correctness of the idea that benign growths may develop into one of a malignant nature, he proceeds to admit that they may do so if a 'constitution tendency to malignant disease exists.' He goes even further, and admits that irritation may favor the morbid process. Another authority, Mr. Lennox Browne, has taken the trouble to show Dr. Semon that this opinion has all along been held by the most competent to judge, even if, from the nature of the question, it has not been mathematically demonstrated to be a fact."

The Late Dr. E. Darwin Hudson, Jr.—At a meeting of the Practitioners' Society of New York, held June 3, 1887, the following resolutions were authorized regarding the death of the late Dr. E. Darwin Hudson, Jr.:

Resolved, That in the death of Dr. Hudson the Practitioners' Society has lost a member who was endeared to all by his attractive personal qualities, and who added honor to the Society by his scientific work and his distinguished professional attainments.

Resolved, That the Practitioners' Society extend to the family of the deceased its earnest sympathy for them in their bereavement, and assure them that the members share in the deep sense of personal loss which Dr. Hudson's death has occasioned.

George F. Shrady.
V. G. Gibney.
C. L. Dana.

The Appointment of Dr. Joseph D. Bryant as Health Commissioner has caused general satisfaction. Dr. Bryant has had experience in sanitary administration, and he is a gentleman likely to show both wisdom and independence of action in his relations with the Board.

The Provident Dispensary Movement in England has at least not failed. There are now 88 such institutions with a membership of 293,720. Of these members 166,000 were treated on 700,000 occasions by 171 doctors who received an average of about 7½d. a visit.

Physicians Have the Right of Way.—The chief of police of Chicago has issued an order giving the vehicles of physicians precedence at bridges, along with the mail and patrol wagons, ambulances, and fire-apparatus.

The Report of the English Commission on M. Pasteur's Prophylactic will contain experimental and other evidence accumulated by the committee, strongly supporting both the theoretical views of M. Pasteur and their practical application. Mr. Victor Horsley, F.R.S., the secretary of the commission, has succeeded in rendering several dogs absolutely refractory to the virus of rabies in any form.

The National Medical Congress of Italy was held at Rome, beginning June 1st. Over three hundred physicians were present, and Signor Crispi, the Minister of the Interior, and other government officials attended the opening ceremonies. Signor Crispi gave an eloquent address on the work of the late Dr. Bertani, a man whose career should be familiar to all who love their profession. Dr. Bertani abandoned a brilliant academic and civic career to minister to the wounded soldiers of Garibaldi's army, and, after their common goal was won, devoted himself heart and soul to a department of medicine comparatively unfamiliar to him—public health—that he might render physically and morally sound and strong the national life he had helped to unify.

Dr. James E. Pilcher, U.S.A.—The degree of Ph.D. was conferred upon James E. Pilcher, U. S. Army, by the Illinois Wesleyan University at its last commencement.

Professor Erichsen, who is by marriage connected with the royal family of Germany, has recently been made a peer.

Small Medical Schools and Hospitals.—Mr. Hardy, in his prize essay on "The London Hospitals and the Jubilee," reproaches the smaller medical schools with being a source of expense quite out of proportion to their services, and he is evidently a partisan of the fusion of these smaller schools with their larger rivals. Such a course, it is clear, would be as advantageous to the cause of medical teaching as it would be, from a financial point of view, to the hospitals, and sooner or later the question will have to be seriously considered.

Homœopathic Troubles.—A Russian homœopathist recently delivered a public discourse on homœopathy before a mixed audience, and tendered the receipts, amounting to $200, to the Medical Students' Benevolent Fund. The committee declined the money, on the ground that it was the fruit of an ignorant and impudent attack on medical science. The Visiting Physicians to the London Infirmary for Consumption have all resigned, because the Governors have voted that homœopaths may be allowed on the staff.

Reviews and Notices of Books.

Short Contributions to Aural Surgery. By William B. Dalby. Pp. 78. London: J. & A. Churchill. 1887.

The Diseases of the Ear and their Treatment. By Arthur Hartmann. Translated from the third German edition by James Erskine. 42 illustrations. Pp. 283. New York: G. P. Putnam's Sons. 1887.

A Clinical Manual of the Diseases of the Ear. By Laurance Turnbull. Second revised edition. Numerous illustrations. Pp. 567. Philadelphia: J. B. Lippincott. 1887.

There has been great activity of late in the field of otological literature, including, of course, the entire upper air-tract. Among the numerous contributions are the three works under review. This may truly be regarded as the golden age of medical book-making; and though but little original matter of value can be found in the greater number, the time expended in running over them is not entirely misspent.

The little work of Sir William which heads our list comprises a series of eleven very cleverly written articles on "Accidents to the Ear," "Fatal Cases of Disease of the Middle Ear," "On the Loss of Hearing Power, without Perceptible Local Change," and the like. These have appeared in *The Lancet* during the past ten years. The spurs of Sir William were by no means won by his literary efforts, nor are these papers, indeed, offered as scientific essays. They serve the better purpose of adding to a reputation already obtained among the British gentry, and even with royalty itself, since its defective hearing organs have been inspected through the knightly aural speculum of our author.

The numerous works appearing of late on the ear and the adjacent region, the throat, may be taken as an indication of the interest felt in this department of medicine by the medical profession. The three works above mentioned are only a portion of what has been recently published.

The work of Dr. Hartmann is somewhat of an epitome of otological literature, especially of the modern German, with which he is familiar from a long experience in reviewing-work. The arrangement of matter is very neat and convenient, though the scope is not so broad as the title would indicate. But inasmuch as a number of recent treatises, written specially for students and practitioners, are now accessible to English readers, this is a matter of small consequence. It will, however, be read with interest by specialists.

Dr. Turnbull's second edition has increased in size by the natural process of accretion. It is doubtless not so easy to curtail the prosaical length of cases and therapeutical advice, or uninteresting citations from other writers, as to apply the pruning knife. In this work of nearly six hundred pages we find eight pages devoted to introductory generalities. There are twenty-one chapters, and an appendix of thirty-seven pages. The author has no faculty for the orderly arrangement of matter or of selecting what is valuable, and it is but faint praise to say that the present is some improvement on the first edition.

Opening the book at random, the reviewer was struck with the make-up of a table on page 56, which gives a classified list of six hundred cases treated by the author during three years, 1868–69–70. Thirteen deaths among six hundred cases is not perhaps a larger mortality than could be expected under the circumstances, but the causes of death must arrest the attention of all: Thus, 2 died of "otitis interna, pur. perf. (chronic);" 1 of "catarrh aur., media, acute perf.;" 4 of "otitis media, inflam. mastoid process;" 2 of "otitis media, chronic,

with caries;" 1 of "otitis media syphilitica;" and 3 of "periostitis, with abscess (cerebral)."

The neglect to observe the most ordinary care in the matter of nomenclature is truly remarkable, and a further inspection of the work leads one to believe that much carelessness of this kind exists throughout.

Turning to the appendix, we find it stated that the author has derived great advantage from the instillation of cocaine in operations on the ear; as in . . . "incisions, scraping, torsion, evulsion, écrasement, etc., in the tympanic cavity, when the drumhead is perforated, or in ulcers of the ear-canal and the auricle." We believe it has not been the general experience that cocaine deadens pain when applied to the diseased structures referred to, and we are sure otologists would feel greatly obliged to Dr. Turnbull for a more particular description of the methods by means of which these much-desired results were obtained. He seems also to have been particularly fortunate in curing persistent cases of chronic purulent inflammation of the middle ear by the use of a solution of peroxide of hydrogen introduced "by means of a spray." The author is to be commended for introducing in this connection a description of Sexton's operation of excision of the ossicles for the cure of these cases; though the difficulties to be surmounted in the performance of this operation, not to say danger when attempted by unskilful hands, have prevented him from adopting it himself. Yet, with characteristic justice, observed throughout, Dr. Turnbull manifests a spirit of fairness in bringing forward this as well as other advances in the field of otology.

The Surgeon's Pocket-book. An Essay on the best Treatment of the Wounded in War; especially adapted for the Public Medical Services. By Surgeon-Major J. H. Porter, late Ninety-seventh Regiment; late Assistant Professor of Military Surgery, Army Medical School, Netley. Third edition. Revised and Edited by Brigade-Surgeon C. H. Y. Godwin, Medical Staff; Assistant Professor of Military Surgery, Army Medical School, Netley; late Medical Officer of the Royal Arsenal, Woolwich. Philadelphia: P. Blakiston, Son & Co. 1887.

The first edition of this book was based upon an essay which the author wrote in competition for the prize, offered by the Empress of Germany, for the best essay on the "Practical Treatment of the Wounded in War," and to which a prize was awarded. The second edition contained numerous additions based upon the published experience of other army surgeons in different countries. The third edition, published since the death of the author, has been prepared and brought fully up to date by Mr. Godwin. The work is full of practical instructions for the guidance of the army surgeon in time of peace as well as of war, and contains also much that will be of great service to surgeons in civil life as well. It is issued in handy form, with a substantial cover, and is well adapted, as its name implies, for a handy reference-work to be carried in the pocket.

Diseases of the Joints. By Howard Marsh, F.R.C.S., Senior Assistant Surgeon to and Lecturer on Anatomy at St. Bartholomew's Hospital; Senior Surgeon to the Hospital for Sick Children and to the Alexandra Hospital for Hip Disease. With sixty-four illustrations and a colored plate. Philadelphia: Lea Brothers & Co. 1886.

This is one of the excellent "Clinical Manuals for Practitioners and Students of Medicine," several volumes of which we have already noticed in these columns. The book before us fully sustains the reputation of the series, if, indeed, it should not be regarded as one of the best that have thus far appeared. The little work is eminently practical, as such manuals should be, and, while the discussion of the pathological conditions found in the various joint-affections is carried to sufficient length, the greater part of the book is devoted to the subjects of diagnosis and treatment. The illustrations are good and the typographical execution is beyond criticism. The only fault we have to find with the book, and it is in our eyes a serious one, is that the author has little or nothing to say on the American method of treatment of chronic joint-diseases by means of traction, and what little he does say is in condemnation. Apart from this, Mr. Marsh's recommendations are sound, and his treatise deserves a place among the few standard works on diseases of the joints which are accessible to English readers.

Von Ziemssen's Handbook of General Therapeutics. Vol. V. New York: William Wood & Co. 1886.

The fifth volume of this important series is devoted to the consideration of orthopedics, including gymnastics and massage, and to hydrotherapeutics. The section on general orthopedics is from the pen of Professor Busch, of Berlin, and the translation has been prepared by Dr. Noble Smith. The latter, in a short preface, very aptly characterizes the work of Busch as "an elaborate essay rather than a systematic treatise upon orthopedics." It is none the less valuable, however, for this reason, and while the specialist may find it incomplete in some respects, the general reader will peruse its pages with profit, and cannot fail to find it a useful guide in the management of the various kinds of deformities likely to occur in his practice.

Massage as a Mode of Treatment. By William Murrell, M.D., F.R.C.P., Lecturer on Pharmacology and Therapeutics at the Westminster Hospital; Examiner in Materia Medica in the University of Edinburgh, and to the Royal College of Physicians of London. Second edition. Philadelphia: P. Blakiston, Son & Co. 1887.

This is the second edition of this instructive little brochure, which has been partly rewritten and enlarged, but is still of dimensions small enough to permit of its being read through in one evening. One can learn from it what massage is capable of accomplishing, although it goes but little into the details of the technique of this therapeutic measure.

The Medical Student's Essentials of Physics and Chemistry. By Condict W. Cutler, M.S., M.D., Physician to the New York Dispensary; Assistant Surgeon New York Hospital, Out-Door Department; late House-Physician Bellevue Hospital. New York: J. H. Vail & Co. 1887.

This is a very handy little work, which is well suited to the needs of the medical student, whose limited time will usually not allow him to study the more exhaustive treatises on these necessary, but too often neglected, subjects. The writer shows himself to be a master in the art of condensation, and the amount of useful knowledge stored up in these pages is more than is contained in many a more pretentious-looking volume.

Bau, Leben, und Pflege des Menschlichen Körpers. Für Schule und Haus. Von Dr. H. Dümling, Professor am Concordia-College zu Fort Wayne, Ind. St. Louis: Louis Lange Publishing Company. 1884.

This is a book treating in a popular way of the elements of physiology, anatomy, and the care of the body in health and disease. It contains much instruction suitable for the laity in matters of hygiene and the like, and also directions for their guidance in cases of emergency before the arrival of the doctor. It is a book that we would wish to see in the library of every German-American family, for were knowledge of the kind here given more wide-spread among the laity the labors of the physician would be immeasurably lightened.

Reports of Societies.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN SURGERY.

Stated Meeting, May 9, 1887.

ROBERT F. WEIR, M.D., CHAIRMAN.

DR. A. B. JUDSON presented a patient who was wearing

AN ISCHIATIC CRUTCH,

and gave a description of the instrument. (*Vide* THE MEDICAL RECORD, vol. xxxi., p. 721.)

DR. L. H. SAYRE exhibited an instrument made twenty years ago, on the same principle, for a case of luxation of the head of the femur into the thyroid foramen, of nine months' standing. After reduction was effected, a mechanical appliance was required to retain the head of the bone in its proper position; so an ischiatic crutch was made, and a ball-and-socket joint, etc., which answered very well while the patient was walking or standing, but which gave great trouble when sitting. He was therefore interested to know how Dr. Judson surmounted that difficulty, and it seemed evident that it had been accomplished.

DR. JUDSON said that the idea of an ischiatic crutch, of course, was not new, and it was only the special form of the instrument to which he wished to direct attention.

DR. HENRY GRISWOLD presented a specimen of

CYSTIC SARCOMA OF THE BREAST,

with the following history: The patient was thirty-eight years of age, who fifteen years ago had an abortion, which was followed by fever and a milk leg. At that time a small swelling was noticed near the nipple of the right breast, but it was not painful, nor did it increase in size very fast. But it remained, and seven years later, when she went to housekeeping, the nodule became painful and was constantly sore, due, as she thought, to working the elevator. About this time a second swelling appeared near the first. The breast then began to increase in size, and two years later—five years ago—she consulted Dr. Griswold, who found that the whole gland, apparently, was enlarged, with nipple uninvolved, freely movable, and not painful, and he suggested excision. Dr. Little was seen in consultation, who regarded it as chronic hypertrophy of the gland, and advised the local use of iodine ointment and the use of full doses of iodide of potassium.

Dr. Griswold saw the patient again in January last, when the breast was so much enlarged that it showed plainly through the clothing, in spite of her efforts to conceal it by dressing. He advised an early consultation with Dr. Weir, who recommended that it be removed, and the operation was performed on March 29th. The hemorrhage was slight and easily controlled.

THE AXILLA WAS OPENED AND EXPLORED,

but no enlarged glands were found. A drainage-tube was inserted, and the wound was united with catgut sutures. The patient was able to go to her meals on the eleventh day. Microscopic examination showed the tumor to be a cystic sarcoma.

DR. C. A. POWERS presented two patients illustrating the results of *conservative surgery* in severe injuries to large joints. The first, a man fifty years of age, was admitted to the Chambers Street Hospital in June, 1884, suffering from a

COMPOUND DISLOCATION OF THE RADIUS AND ULNA, COMPLICATED BY RUPTURE OF THE BRACHIAL ARTERY.

About half an hour before admission he had fallen fifteen feet into the hold of a canal-boat, the whole weight of the body being received upon the extended left palm.

The bones of the forearm were thrown backward, and the lower end of the humerus came through everything in front of it except the tendon of the biceps and the median nerve, which were pushed to the outer side. The bone protruded three inches through a large transverse wound at the front of the elbow, all its ligaments being ruptured except the posterior. Upon receipt of the injury there had been profuse arterial hemorrhage, which the patient himself checked by tying a handkerchief about the arm. Pulsation was lost in the radial and ulnar arteries, yet the hand remained fairly warm. Sensation was perfect at all points.

The most thorough antiseptic details were carried out, the ends of the brachial artery, as well as all other bleeding points, ligated, the dislocation reduced, forearm placed at a right angle, wound thoroughly drained, and a large antiseptic dressing of iodoformized gauze, peat, and borated cotton applied.

The hand remained warm, sensation good, and the dressing was not removed till the seventh day, when the wound was found to be aseptic and the condition of all the parts perfect.

The elbow was re-dressed at intervals of about a week, at each time being placed at an angle differing by about fifteen degrees from the preceding position. The wound slowly closed by granulation.

Moderate passive motion was begun on the twenty-ninth day, and on the fiftieth flexion and extension were all but perfect, pronation and supination being normal.

The patient now has a fair radial pulse, and

ALL MOVEMENTS ARE ABSOLUTELY NORMAL.

He uses the arm in his daily work, and knows no difference between it and its fellow.

Dr. Powers thought the following features made the case remarkable: First, the complete recovery of all joint-functions after such severe exposure of the joint-surfaces; second, the fact that the brachial was torn completely across, while the structures on either side of it—the bicipital tendon and the median nerve—escaped injury; and third, that the anastomotic circulation behind the condyles sufficed to supply the forearm and hand, the anastomoses in front of both the outer and inner condyles having been broken.

Dr. Powers' second case was one of

COMPOUND COMMINUTED FRACTURE OF THE TIBIA AND FIBULA, INVOLVING THE KNEE-JOINT.

The patient, a man forty-eight years of age, and of temperate habits, was admitted to the Chambers Street Hospital on November 20, 1886. A barrel of flour had fallen on his leg just previous to his admission. His knee-joint was greatly distended and markedly emphysematous; there was a wound of the soft parts, over the insertion of the sartorius, which would only admit the end of the finger, but through this the bone was felt to be badly comminuted.

The patient was etherized, a longitudinal incision some four inches in length was made at the site of the wound, and loose bone removed from the inner surface of the tibia over an area two by three inches, exposing the medullary canal to that extent. A longitudinal fracture through the head of the tibia entered the knee-joint. After the removal of bone so deep a cavity was left that it was found necessary to work back through the soft parts and make a posterior counter-opening for drainage. A large hæmatoma on the outer aspect of the leg was freely incised, the clot removed, and the cavity well drained.

Incisions were made into the knee-joint within, without, and above, the joint thoroughly irrigated with the bichloride solution (1 to 6,000), and rubber drainage-tubes inserted after Heuter's method.

The strictest antiseptic precautions were observed at all times, and a large dressing of iodoformized gauze, bichloride gauze, and borated cotton applied from the ankle

to the upper third of the thigh, with a plaster-of-Paris bandage over all.

NO ELEVATION OF TEMPERATURE OR OTHER UNTOWARD SYMPTOMS FOLLOWED.

Even the dressing was not disturbed until the twelfth day, when it was removed, and all wounds found to be absolutely aseptic. Silk was substituted for the rubber tubes in the knee-joint, and a dressing applied similar to the first. The dressing was again changed on the twenty-first day, at which time the silk was removed, as well as the rubber tubes which had hitherto drained the leg. Up to this time not one drop of pus had been formed.

Fenestra were now cut in the plaster splint, and the wounds of the leg dressed openly; they were closed by the sixtieth day, but there was delayed union, and it was not till three and a half months after the accident that union was firm.

At present there is flexion from full extension to an angle of one hundred and fifty degrees, and it is almost certain that the patient will regain complete use of the joint. Attention was called to the fact that the absence of any suppuration in this extensive injury proved that the antisepsis had been absolute.

THE CHAIRMAN remarked that one of the advantages of antiseptic surgery was that it was within the reach of all, and should therefore be practised by all. It also enables the youngest surgeon to get as good results as the oldest, and to the thoroughness with which antiseptic drainage was applied, in such cases as that reported by Dr. Powers, could be ascribed the success obtained. The method pursued was the best that could be adopted; that is, by an opening upon each side of the joint, and a third opening at the apex of the synovial sac. The same method is applicable to cases of exsection, and also where suppuration has already been established.

DR. J. A. ANDREWS then read a paper on

EXOSTOSES OF THE ORBIT AND THE NEIGHBORING CAVITIES.

He gave the following conclusion: In the osteomata which intrude into the orbit from the neighboring cavities, especially those of the frontal and ethmoidal sinuses, we have to deal with a disease which offers the best chances for successful removal when the operation is undertaken at an early period of its existence, before a diseased condition of the tissues (especially *suppuration*) surrounding the growth has set in, which must always constitute an element of great danger in connection with the operation.

There is another reason for operating just as soon as a diagnosis can be made, especially in the case of osteoma of the frontal sinuses—viz., no matter how small the orbital portion of the growth may be, an operation should be advised, because it is impossible, by the orbital portion alone, to judge of the real size and extent of an osteoma springing from the frontal sinuses; the orbital portion of the tumor may be the size of a pea, and yet the entire sinus be filled with the body of the growth.

In removing an osteoma from the neighboring cavities of the orbit, it is always better to break down the walls of the cavity through which it has made its passage into the orbit than to attempt to remove the growth from the cavity by attacking the body of the growth itself, since the latter is so hard (when ivory) that a chisel can be forced into it only by employing an unnecessary and harmful amount of violence.

He believed that even those osteoma of large dimensions which invade the cranial cavity may be successfully removed if we disregard the cosmetic effect of an operation and make a liberal exposure of the growth and remove it entirely, and always avoid allowing, as has been done, a portion of the growth to remain, merely because it intruded into the cranial cavity.

Search should always be made for polypi in the cavity occupied by the osteoma, and they should be completely removed.

The operation should always be performed under *strict antiseptic precautions*.

While it is true that the atmosphere has, as a rule, after such operations, free access to the cavity whence the tumor has been removed, and the dangers from atmospheric infection are not the greatest to be dreaded, nevertheless even this source can be excluded by appropriate dressings, and should not be neglected.

THE CHAIRMAN said that his interest in the paper had been great, because he had seen *five* cases, two occurring within the last two weeks. He had seen two cases in which the growths were removed; and in one, after chiselling away for a while, the forceps were applied and the growth twisted from its bed. He felt at the time that the procedure was rather severe, for it would not have been difficult to have invaded the cranial cavity by fracture. As it was, the orbital plate was broken.

So far as his personal experience went, it had occurred to him that there were two important surgical points to be borne in mind in the removal of these growths.

First, a large exposure should be made; and second, there was often associated with these formations in the upper part of the nasal cavities and frontal sinuses a certain quantity of decomposing mucus and pus, and a large opening was necessary to remove this material thoroughly.

DR. FRANK ABBOTT then read a paper (see page 43) on

IMPLANTATION OF THE TEETH.

DR. R. T. MORRIS asked if any difficulty had been encountered in the way of granulations crowding the implanted teeth out. He also suggested that it would be better to allow the pulp of a freshly extracted tooth to remain, to aid in the repair incident to giving the implanted tooth a firm position.

DR. ABBOTT thought it hardly possible that granulations would throw out the teeth; at least, nothing of that kind had yet occurred, so far as he knew.

So far as removal of the pulp was concerned, it was supposed many years ago that when a tooth was extracted and at once placed into a socket in another mouth the nerve and blood-vessels would unite. But it was soon learned that union did not occur; so it had been decided to remove the pulp and seal the cavity with some cement substance before the tooth is inserted.

DR. KINGSLEY said that Dr. Tonner was present, into whose jaw he had inserted two teeth that were removed from the jaws of other persons *eight years* before. (Dr. Tonner exhibited the teeth, which were firmly set, and which had given him no inconvenience.)

Dr. Kingsley continued, and said that his first case was that of an old maid who wished to have her irregular teeth put into shape, and this he did by removing two and making new sockets for them. The operation was performed last November, and the patient had worn them with great satisfaction and comfort ever since. He operated on Dr. Tonner last January, and in another case in December last, and with a good result, as seen in Dr. Tonner's case.

He stated that six months ago he regarded the operation as

THE RASHEST OF EMPIRICISM,

but to-day he did not know whether it was or not.

THE CHAIRMAN asked if the presence of the periosteum was necessary to success.

DR. KINGSLEY said that upon Dr. Tonner's teeth there were apparently little patches of dried periosteum. In his first case there was periosteum upon one root, but the other was entirely bare.

DR. BOGUE remarked that the operation did not originate with Younger, but with an American, in Paris, who observed that the teeth at the end of about two years dissolved. He thought that the question now was whether or no the teeth would be permanent. As to whether or

no actual circulation was established between the teeth and the surrounding parts, it had been demonstrated by means of the electric light that it had occurred.

Dr. Kingsley remarked that, even if the teeth did dissolve within two years, there were many persons who would prefer to have new ones set in preference to wearing a plate.

Dr. Tonner said he would undergo the operation every two years rather than wear a plate.

Dr. Kingsley said it might not be out of place to state that the teeth which Dr. Tonner wore were from the mouths of a son and a daughter of a wealthy man, and a Republican in politics. Whether

THESE ROOTS,

thus transplanted, would bring forth good fruit was something that had not yet been decided.

The Section then adjourned.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE RECENT APPOINTMENTS AT GUY'S HOSPITAL—CULTIVATION EXPERIMENTS WITH MALIGNANT GROWTHS—ABDOMINAL CYSTS—THE STUDY OF ALCOHOL—THE HOSPITAL SUNDAY FUND—THE PRINCE AND PRINCESS OF WALES AT THE LONDON HOSPITAL.

London, June 23, 1887.

Changes in the medical staff of Guy's Hospital have recently been very rapid. Four deaths in as many years have naturally caused great changes. Add to this that the staff has been enlarged, and it will be seen that promotion among the juniors has been correspondingly rapid. Three assistant physicians have just been elected at once. Two of these were to fill vacancies, and one to take the extra appointment recently created. Some dissatisfaction exists regarding the mode in which this last appointment has been filled. It was announced on this occasion that—contrary to precedent—candidates who were not Guy's men might apply. Several did so, and to their astonishment a gentleman was selected to fill the post who has only been qualified two years, and who has just emerged from the house-physiciancy at another hospital. It is true that he has claims to literary and social distinction, having been the captain of Eton School, and graduating at Cambridge, in 1880, as Senior Classic. But these are not medical distinctions, and several of those who have been passed over feel that, from a professional stand-point, their claims were greater and their experience certainly longer.

Messrs. Ballance & Shattock have been performing some cultivation experiments with new-growths. The results were exhibited at the last meeting of the Pathological Society. Pieces of carcinomata of the breast, removed by operation, had been transferred immediately to tubes of solidified serum, agar-agar, and Koch's beef peptone gelatine, and incubated at 100° F. for various periods—in one case for thirty-three days. In every instance the growths were sterile, and portions of testicle, submaxillary gland, kidney, and muscle remained equally so. Their results, therefore, corresponded with those of Mr. Watson Cheyne in 1879. Messrs. Ballance and Shattock concluded from their experiments that the parasite of cancer must differ in its life-history from those already known, in that it did not admit of cultivation in any of the ordinary media. They were led to these experiments with new-growths, as they were persuaded that their essential pathology must be similar to that of the specific diseases.

At the last meeting of the Clinical Society a paper of especial interest was one by Mr. Rickman Godlee, dealing with the history of three cases in which large abdominal cysts formed after injuries. One was a little girl of four, in whom the left ureter was ruptured. A large cystic tumor containing urine developed. The kidney was ultimately removed, and the child made a good recovery. The second case was that of a man of twenty-three, who was run over by a heavy wagon. The third was that of a boy, aged seven, who was knocked down by a van, but not run over. In each of the latter cases, on tapping, a turbid fluid containing urea was drawn off. Both cases recovered. Mr. Golding Bird remarked that urea was found in most of the tissues and fluids of the body, so its presence did not necessarily point to a renal origin of the cysts. Mr. Barker referred to two cases of his own in which urea was also found.

The study of the action of alcohol in health and disease is not one which is at all neglected by the present-day practitioner. Three years ago a society was formed having for its title "The Society for the Study and Cure of Inebriety." Membership is not restricted to total abstainers, as is the case with the older body known as "The British Medical Temperance Society." The latter has just completed its tenth year, though its members are not yet so numerous as to give one the idea that medical men are all hastening to become teetotallers. It is, nevertheless, a flourishing organization. The annual meeting took place last week. Among other papers was one by Dr. Walter Pearce, of St. Mary's Hospital, on a case of acute cardiac dilatation from alcoholism. At the last meeting of the Clinical Society, Dr. Robert Maguire brought forward several similar cases; while at the Medical and Chirurgical Society, Dr. David Finlay read a paper on three cases of multiple neuritis, due to alcohol and causing paralysis. Judging from recent work, alcohol does not seem destined to have its influence overlooked. In the discussion on Dr. Finlay's paper, Sir Dyce Duckworth remarked that it was not always easy to elicit a history of alcohol. Probably he does not go on the same tack as that adopted by a prominent member of the British Medical Temperance Association, who remarked to me, recently, "When a patient begins to tell me he doesn't drink, I always suspect him." There is no reason, though, why the proverb *Qui s'excuse s'accuse* should not be borne in mind in making a medical diagnosis, as in other matters.

Special efforts are to be made again this year on behalf of the Hospital Sunday Fund. Last year meetings were held in various parts of London, presided over by speakers of eminence, who undertook to plead the cause of the hospitals. The same course is to be adopted now. Among the speakers already announced are the Prime Minister, Lord Randolph Churchill, Cardinal Manning, Mr. Spurgeon, the Bishop of London, Sir Andrew Clark, Mr. Henry Irving, and the Lord Mayor.

On Saturday afternoon the Prince and Princess of Wales paid a visit to the London Hospital, for the purpose of opening the new buildings. These are of some extent and consequence, comprising a new nursing-home, a new library, and extensive additions to the college, including a residence for students. The college buildings were only erected in 1854, and the present is the third and most important enlargement which has taken place since that date. In their present form they are very extensive, and are admirably adapted for the purpose for which they are designed. A large audience was present, including most of the staff, and great enthusiasm was evoked in the neighborhood by the royal visit, most of the masts and banners which had been put up to welcome the Queen the week before being left standing for the occasion.

OUR VIENNA LETTER.

HEALTH OF BILLROTH—DITTEL'S TREATMENT OF STONE IN THE BLADDER—MULTIPLE VESICAL CALCULI.

Vienna, May 29, 1887.

Professor Billroth continues to improve in physical condition. During the past week he has been out of

bed each day, and is fast gaining strength. He will not, however, deliver any more lectures this semester.

In the treatment of vesical calculus Professor Dittel rather favors lithotripsy, when it is possible. In cases in which it is probable that a very hard stone, an encysted stone, a "pipe" stone, *i.e.*, one that sends prolongations from the bladder into the urethra or ureters, or a stone with a foreign body as a nucleus, is present, or a urethral stricture exists, he performs the operation of incision. In this particular he has shown a decided preference for the high, or suprapubic, operation. In any case where the patient is very old, or the stone is small, he invariably crushes.

In the high operations he incises in the linea alba just above the pubes. The bladder is distended with carbolized water, and a colpeurynter is introduced into the rectum and distended with water. This procedure throws the bladder up against the abdominal wall in front.

When the peritoneum is reached it is pushed upward without injury, and the bladder exposed and opened. He uses no sutures, but, introducing a drainage-tube, packs the wound with iodoform gauze and covers with the ordinary dressing. A catheter is also introduced through the urethra and allowed to remain there for the first day. In several cases which he has had of this kind very excellent progress is being made. No fever has arisen, and the drainage of the bladder is complete.

In a few cases, where neoplasm has been a complication, this incision has made the removal of these growths a very easy matter. In none of the operations was hemorrhage a consequence.

To-day an interesting case was met with in Dittel's clinic, in that twenty-four calculi were removed from one bladder. The smallest was the size of a hazel-nut, and the largest that of a horse-chestnut. The calculi were rather flattened, and of both phosphatic and uric acid composition. In this case the median incision was made.

INDISCRIMINATE URETHRA-CUTTING.

To the Editor of The Medical Record.

Sir: I wish to protest against the indiscriminate urethra-cutting so much now in vogue, especially by the younger men. A man has a stricture, no matter where its location or its character, and urethrotomy is suggested, not the last, but the first thing. They tell us a fatal termination is the exception, and it may happen from simple catheterization. True, but who will say that there is no additional danger from a urethrotomy or a divulsion. We have no right to assume any risks for our patient, not so much as we would be willing to take ourselves. The golden rule, "Do unto others," etc., should be heeded in this as in every relationship of life. I would lay it down as an axiom that a stricture should not be cut that is amenable to dilatation. In the enthusiasm of youth there is a fascination in the brilliant results often obtained from urethral surgery. To relieve a man, as if by magic, who has been a patient sufferer for years, is a "consummation devoutly to be wished," but not generally at risks about which he knows nothing. I have not taken the trouble to obtain the results of internal urethrotomy as furnished by our hospitals in this city. I hope some one will do so, and then, when all the facts are known, I think you will agree with me that most men would "rather suffer the ills they have than fly to others they wot not of." I am conscious of being wofully out of fashion in speaking thus, but I do so from a strict sense of duty. No one knows better than I that some strictures will not yield to dilatation, but I am speaking against the growing tendency to cut all strictures. As for divulsion, I will only say that, as performed with the typical instruments, it is an unprecise, unsurgical procedure. I have offered to sell my divulsors for old iron, but which I will rather keep as a memento of the times; but I have not used them for years, and do not expect to again.

Of the various forms of non-inflammatory and inflammatory thickening of the coats of the bladder from obstructed micturition, the capacity of the viscus is, as a rule, diminished in urethral obstruction, while generally the reverse obtains in prostatic obstruction. In a specimen I have before me of concentric hypertrophy of the prostate, there are the usual manifestations of hypertrophy and thickening of the coat of the bladder, and yet the capacity of the organ is materially increased. The history of the difficulty, as obtained from a study of the bladder, I take to be briefly as follows: A disease of advanced life, insidious in its progress and in natural sequence of events; hypertrophy of prostate; obstruction to urination; hypertrophy of muscular coat; high tension at some time of the vesical walls, accounting for the dilatation; bladder could not empty itself; residual urine; chronic inflammation, known as vesical catarrh; and, lastly, extension of that inflammation to the connective-tissue coat, in which *infiltration and organization* have taken place. The bladder is rendered inflexible and indurated, and the hypertrophied muscular coat unable to obliterate its cavity. One other point, and I have done. In speaking of hypertrophy of the muscular coat and sacculation of the bladder, Mr. Guthrie called attention to a peculiar sensation communicated to the hand by the catheter, as if a series of blows had been given the instrument with the expulsion of the last few drops of urine, which he called the "fluttering blows of the bladder." Mr. Guthrie thought that these were caused "by the descent of the pouches containing the urine, and by their being more or less solid substance, they fell against the instrument or were brought forcibly against it by the muscular efforts of the bladder in contracting on the evacuation of the last drops of urine from its cavity." But therein, I am sure, Mr. Guthrie was mistaken, for I have repeatedly called the attention of my internes to these "blows" in subjects in whom we had no reason to suspect anything like sacculation of the bladder. But I do not remember ever to have gotten them except catheterization was done when the patient was standing, never in the recumbent posture.

Alexander W. Stein, M.D.

New York.

SOLID TUMORS OF THE OVARY.

To the Editor of The Medical Record.

Sir: I find that in The Medical Record of April 9th Dr. Matthew Mann, of Buffalo, is reported as follows: "Mr. Tait had said that solid tumors of the ovaries did not occur at all, but that he was wrong, as a study of the literature of the subject would show." If Dr. Mann will turn to page 158 of my book on "Diseases of the Ovaries," published in 1883 by William Wood & Company, New York, he will find there a description of fibromatous tumors of the ovary, and a detailed account is given of the first case in which I operated, so far back as 1873; also of the post-mortem of a case which I made in 1869; and, altogether, the description of such cases occupies no less than eight pages of my book. It is, therefore, difficult to understand how Dr. Mann, supposing he has been correctly reported, has arrived at his conclusion.

I am, sir, yours, etc.,

Lawson Tait.

7. The Crescent, Birmingham, June 8, 1887.

TEST-TYPES FOR SCHOOLS.

To the Editor of The Medical Record.

Sir: Will you allow me, through your journal, to call attention to a card of test-type, recently published for, the use of schools and other educational institutions. Oculists and others interested in sanitary and prophylactic reform have long recognized the value, and, indeed, the necessity, of some measure by which the invasion

and increase of myopia and other diseases to which the student is liable may meet with early recognition and prompt treatment.

Periodical examinations of all the scholars in attendance on such institutions would, no doubt, more than repay the expense, the trouble, and the inconvenience of such examinations. But propositions to introduce such into the regular routine of school-life have been universally neglected by those who have authority in such matters. This is probably on account of the temporary inconvenience and disturbance of school-work which would attend such a useful innovation.

DR. DENNETT'S TEST TYPE
FOR THE USE OF SCHOOLS AND COLLEGES
DISTANCE 5 METRES OR 16 FT.
2 4 1 6 5 8 9 0 7 3
B S Q O Z P N H R K F C G
M W Y V T A I U E D J X L
E M Ǝ M E M Ǝ
MEYROWITZ BROS. OPTICIANS NEW YORK

It has been more than once proposed to have these examinations made by the teachers themselves; but the test-cards in general use among oculists are confusing to anyone not accustomed to them, and would not ordinarily be brought into requisition often enough to familiarize the mind of the occasional examiner with the significance of the results obtained. On the card referred to there is only one set of characters (letters and figures), each one of which can be distinguished by the normal eye at the distance of five metres or sixteen feet. Beneath is a statement of the distance at which they ought to be seen.

A card like this fastened to the wall of every class-room would prove of inestimable value to some, and of use to all. No one in every-day life has even an approximate idea of what the healthy eye ought to see, and the mere fact that a child grows up with such a standard as a familiar object before his mind is unquestionably a great advantage. But more than this is the advantage which each scholar will possess of being able at any time to examine his own eyes, and know surely whether they are as good as they ought to be or not. Of course a rough estimate of the amount and importance of any visual impairment can be made by noting the actual distance at which the letters can be clearly distinguished. But it was not thought best to designate any particular grade of deterioration that should excite alarm and induce the child to seek professional advice, but merely to place before the scholar the means of noting such failure. So many things would have to be considered in each individual case that no general rule could be made. But the fact that any well-marked impairment of sight has taken place should lead each particular scholar or his parents to consider the advisability of having the matter more thoroughly investigated.

Every physician who is in any way connected with the public schools, or interested in the management or patronage of other educational institutions, will see the advantage of placing such a card in every class-room, and of recommending it to the attention of every new scholar.

Hoping that your valuable journal will be glad to give publicity to this matter, I need only add that the cards are comparatively inexpensive and may be obtained at any time from the publishers, Messrs. Meyrowitz Brothers,

I remain, yours very respectfully,

WM. S. DENNETT, M.D.

31 WEST FORTY-SECOND STREET, April 15, 1887.

THE ALLEGED CASES OF BERIBERI IN NEW YORK.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In THE MEDICAL RECORD of February 19th I find an article entitled, "A Short Study of Beriberi," etc., by Dr. I. West Roosevelt.

Having been asked, on the eve of leaving for Japan, to assist in a discussion of the disease beriberi at a meeting of the Academy of Medicine, I was much interested in the reported appearance of this strange disease in the manner described in Dr. Roosevelt's paper, and in brief medical notes at the time in the various New York journals. The author's question at the close of his summary of the cases forming the basis of his paper, "Are they beriberi?" is not altogether a surprise to me. As the frankness with which he asks this question seems to invite an equally frank reply, I shall venture to answer it, in all due respect to the author, in the negative.

At least I would say that the cases embodied in the report did not appear to me to have been the beriberi which I had had the opportunity of observing and studying for eight years in a large hospital of which I had charge, in one of the centres of severe prevalance of the disease in the country.[1] The time being very considerable since Dr. Roosevelt's paper appeared, I fear interest in the subject has died out. I shall therefore but briefly give the reasons why I am disposed to think the cases reported as having occurred on the ship Henry S. Sanford were, as I have intimated, not beriberi.

1. Hong Kong, as far as I am aware, is *not* an infected port,[2] or a port where beriberi prevails, as stated by Dr. Roosevelt. Aside from the fact that I never heard that the disease prevailed in Hong Kong, is the one that, of the thousands of Chinese who yearly go from that place (Hong Kong) to San Francisco, few, if any, suffer from beriberi, either on the voyage or after their arrival in California.

2. I do not know of a single well-authenticated case of beriberi occurring in a European in this country, showing a peculiar want of susceptibility in them to the disease.

3. The disease is almost unknown except where the chief article of diet is rice, which does not seem to have been the case on the ship Sanford.

4. Bad or poor food and bad water are not, according to my observation, a predisposing cause to the disease, much less an exciting one, as it is the well-fed and well-to-do who, as a whole, are the greatest sufferers from beriberi in this country.

5. The symptoms of the cases and the post-mortem appearances were not, according to my mind, sufficiently well defined to justify a diagnosis of beriberi.

I have very often been greatly puzzled to make a diagnosis of the disease presenting similar histories and symptoms to the cases which occurred on the Sanford, even in a locality of known prevalence of the affection.

I am well aware, in view of the amount of expert evidence which was brought to bear on the cases under consideration in favor of a diagnosis of beriberi, that my reasons for an adverse opinion are wanting in that definiteness which will be likely to carry conviction to those who have committed themselves on the subject.

It is but a fair question for these persons to ask, If the cases were not beriberi, what were they? This I will not pretend to say. It is much easier to say, especially in medicine, as we all know, what a disease is not than what it is.

Still, in view of the comparatively large experience which I have had with beriberi, I do not feel that it is altogether presumption on my part to have given a frank

[1] See my paper (forty-eight pages), Beri-beri or Kakke in Japan, Chinese Customs Medical Report, 1879–80. Also a brief and, for want of space, a very unsatisfactory, article in Pepper's Practice of Medicine by American Authors.

[2] The term "infected port," as applied to Hong Kong in this connection, is not warranted, as it is by no means proven that beri-beri is an infectious disease.

expression of my opinion, whatever may be its value, in reply to the author's question, "Are they (the cases) beriberi?" D. B. SIMMONS.

TOKIO, JAPAN, April 24, 1887.

New Instruments.

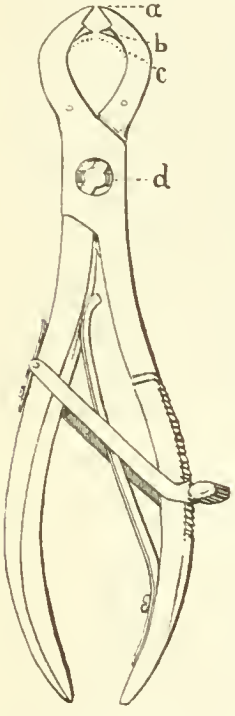
A NEW FORM OF BONE-HOLDING FORCEPS.

BY GEORGE ARTHUR, M.D.,

PASSED ASSISTANT SURGEON, U.S.N.

THE holding forceps at present in use are either so heavy and unwieldy as to seriously inconvenience the operator, particularly in exsections in which small bones are to be removed, *e.g.*, those of the carpus or tarsus, or are insecure and apt to slip from the bone.

The modified forceps (see figure, which represents half the actual size) are designed to obviate both these disadvantages.



The teeth at *a* are fixed as in the ordinary forms, and do not at any time change their position relatively to the rest of the instrument. Those at *b*, however, when the bone is grasped and strong pressure made, are forced away from the stationary teeth, *pari passu* with their entrance into the bone, by the included portion (of bone) acting as a wedge, into the position indicated by the dotted lines and lettered *c* in the cut.

The effect of this movement of the inner teeth, which is very slight, is to make both sets, which are sharp and serrated, push their way *under* the cortex of the bone, and, being held in that position by the catch on the handle, are locked into it, so that it is impossible for them to slip or loosen their hold, without breaking through the overlying bony substance.

When it is desired to release the instrument, the catch on the handle is pushed up, and pressure being thus removed, the movable teeth are restored to their original positions by strong pistol-springs, and the jaws can be separated.

The instrument, including the inner teeth and the springs that operate them, can be readily separated and taken apart for cleansing. It can be made, if desired, with a double pivot-hole in the female blade, so as to adapt it to larger bones, without increasing its size or weight; it was designed, however, particularly for wrist and ankle-joint exsections, for which purposes the grasp is sufficiently broad. F. Arnold & Son, of Baltimore, are the makers of the instrument.

A NEW NEEDLE-HOLDER.

BY G. W. SQUIRES, M.D.,

EAST AVON, N. Y.

THE following is a description of a needle-holder which will be found to be an excellent instrument for sewing up almost all kinds of wounds which can be united by sutures. I call it Squires' counter-pressure needle-holder. It is made on the principle of a pair of shears. It is six inches long from the end of the handle to the needle. The parts are fastened together near the handle by a screw. There is a spring-catch in the handle to hold the edges of the wound in place while the suture is being tied. A short needle is used, which is held in place by a cup-shaped socket, constricted in the middle by a spring, which admits the needle and thread. The opposite shaft has an oval disk with a hole in the centre for the needle to pass through. There is a slot in the side of the disk leading to the needle hole. The needle is threaded, placed in the receiving cup, the edges of the wound are approximated, and the handles are then closed, thrusting the needle through the edges of the wound, and protruding through the hole in the disk. It is then drawn through and the sutures are tied. The instrument is displaced by the thread slipping through the slot in the disk. By this instrument nice, neat sutures may be made, and the edges of the wound may be easily and closely approximated.

A GUARDED TENACULUM FOR FACILITATING THE REMOVAL OF POSTERIOR TURBINATED HYPERTROPHIES.

BY E. P. SWASEY, M.D.,

NEW BRITAIN, CONN.

THE difficulty of wiring posterior turbinated hypertrophies, and especially of retaining these growths within the wire-loop, has probably been experienced by others besides the writer. In the hands of those who are not experts in this department of surgery, the little instrument here illustrated, one-half its real dimensions, and

which is a modification of the "fixation needle" devised by Dr. William C. Jarvis, of New York, will be found to facilitate the removal of these growths. When employed the instrument is first closed and then introduced along the floor of the nares, with the convexity of the hook upward, until it has reached its destination. The needle is now withdrawn until its point is within the tube, the instrument turned flatwise, then pulled toward the operator, when the beats will be felt to engage the hypertrophied tissue. If necessary, the needle may be pushed forward in order to retain the instrument in position while an inspection is being made. If a sufficient amount of the growth is found to be engaged, the needle is pushed home and secured by the set-screw. The "Jarvis snare" can be now introduced, the wire-loop being passed around the handle of the tenaculum. In order to facilitate this procedure, the instruments should be held parallel to each other, the loop being in this manner urged beneath the tenaculum, until it reaches the hook, when it will be felt to spring over the end of the director. The practice of a posterior rhinoscopic examination will demonstrate the accuracy of the wire's adjustment. A slight motion in different directions may be required to urge the wire still farther toward the base of the growth. The hypertrophied turbinated tissue can be now slowly severed from its attachment.

THE MIXTURE OF CHLOROFORM AND ETHER AS AN ANÆSTHETIC.—Dr. Rose, of this city, criticizes the recommendation of Dr. Nilson to use a mixture of chloroform and ether in certain cases for the production of anæsthesia. He writes: "It is always a delight if we can prescribe a pure and simple article instead of a compound. But, as Nussbaum says, there are many who are not contented with a pure and simple prescription, they do not feel quite well in such case, they commence at once to mix, and finally they do not know themselves what they are dealing with. A mixture of ether and chloroform, according to Nussbaum, acts as ether if this drug, and as chloroform, if the latter is even in predominating quantity."

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from June 26 to July 2, 1887.

McKEE, J. C., Major and Surgeon. Granted three days' leave. S. O. 149, A. G. O., June 29, 1887.

BEALL, GEORGE T., Captain and Medical Storekeeper. Granted four months' leave of absence. S. O. 150, A. G. O., June 30, 1887.

CHERBONNIER, A. V., Captain and Medical Storekeeper. Directed to take charge of office, and perform duties of acting assistant medical purveyor in St. Louis, Mo., during absence on leave, of Captain George T. Beall, medical storekeeper, now performing those duties. S. O. 150, A. G. O., June 30, 1887.

Official List of Changes in the Medical Corps of the United States Navy for the week ending July 2, 1887.

DEANE, C. W., Passed Assistant Surgeon. Ordered to the Naval Rendezvous, San Francisco, Cal.

HARRIS, H. N. T., Assistant Surgeon. Ordered to the Naval Hospital, Mare Island, Cal.

GORGAS, A. C., Medical Director. Remain on present duty until December 31, 1887.

CLEBORNE, C. J., Medical Inspector. Remain on present duty until December 31, 1887.

MACKEY, BENJAMIN F., Surgeon. Remain on present duty until December 31, 1887.

BROWNE, J. MILLS, Medical Director. Will remain on present duty as member of Retiring Board until June 30, 1888.

DEAN, RICHARD C., Medical Director. Will remain on present duty as member of Retiring Board until June 30, 1888.

Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending July 2, 1887:

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	6	3
Scarlet fever	37	11
Cerebro-spinal meningitis	2	1
Measles	20	5
Diphtheria	132	58
Small-pox	3	0
Yellow fever	0	0

HOW CAN THE ACCOUCHEUR BEST GUARD THE PERINEUM WHILE THE FŒTAL HEAD IS PASSING?—Dr. Berry Hart considers this often-discussed question under three headings (*Edinburgh Medical Journal*, April, 1887). 1. *The relations of the uterus and its contents when the normally rotated fœtal head is beginning to distend the perineum.* At this period of the labor the lower uterine segment, cervical canal, and pelvic floor have been canalized by the retracting uterus elongating and pushing the fœtal contents downward. The whole fœtus is compressed and packed together, with the chin flexed on the sternum, and the occiput leading. The perineum or sacral segment is being driven back, its lower end elongated and thinned, and the vulvar cleft, chiefly in its lower part, *i.e.*, below the level of the vestibule, greatly distended. Uterine retraction sets up in the fœtus and retained liquor amnii a general-contents-pressure, which is distributed over that part of the skull periphery lying below the girdle of resistance. The diameters of the girdle of resistance will vary greatly, according to whether the occiput or sinciput dips. In the latter case the antero-posterior diameters will be increased, and the risk of tear augmented in like proportion. The demonstration of this belongs to elementary obstetrics. In taking (2) *the consideration of how the fœtal head should pass the perineum so as to have a minimum of tear*, I have first to point out that the term extension of the head, as the fourth consecutive movement of the labor mechanism, is a most misleading one. It implies what I have already denied—that the chin leaves the sternum while passing the perineum; and that during the anterior fixation of the occiput under the pubic arch, antero-posterior and increasing diameters of the fœtal head form the antero-posterior diameters of the girdle of resistance. I deny *in toto* that the chin leaves the sternum, and I hold that this fixation of the occiput and descent of the sinciput is not the best or normal mechanism. The best mechanism to avoid tear is for the occiput to lead, for the head to be driven on by a steady movement of translation, any rotation on a bi-parietal axis so taking place as to favor occipital dipping and never dipping of the sinciput. It is easy to see how the erroneous idea of extension arose. The attendant, while the patient lay on her left side, watched the passage of the fœtal head from behind, saw more of the anterior portions of the head appear, and accounted for it by extension. We now pass on to (3) *a description of how the medical attendant can best guard the perineum, so as to avoid undue tear.* All the attendant can do, apart from the familiar means of relaxing perineal spasm by chloroform and hot applications, is to prevent the sinciput being forced down in advance of, or faster than the occiput. He restrains the fœtal head from passing too rapidly. He thus has always to get the occiput to lead, and to get it fully born first if possible. So far as I can judge, the best way of doing this is as follows: With the patient lying, of course, on her left side, the attendant places the thumb of his right hand, guarded by a napkin soaked in hot sublimate, in front of the anus and presses it gently there. The pressure is not in the direction of a line joining his thumb and the pubic arch, but nearly in that of the axis of the pelvic outlet. By this, descent of the sinciput is hindered, and that of the occiput favored. When the latter is beginning to pass under the pubic arch, the fingers of the same hand are placed between it and the apex of the arch, so that when the occiput has cleared the arch the fingers are passed toward the nape of the neck, and the head thus grasped in the hand, the thumb lying over the sagittal suture. This gives one complete command over the head, which is now engaging in the diameters between the nape of the neck and forehead and face, and allows the whole passage with as little tear as possible.

THE PRACTICE OF MEDICINE IN FRANCE.—The following are the principal features of the new bill about to be presented to the Chamber of Deputies relative to the practice of medicine in France. Medical practice in France is forbidden to all persons excepting those who hold the diploma of doctor or of officier de santé, which is granted by the French Government after examination by a medical faculty, preparatory school of medicine, or school of pharmacy, recognized by the State. Foreign physicians, of whatever nationality, are only allowed to practise their profession in France on passing the examinations required by the French medical faculties. A dispensation, however, may be granted in such cases, in accordance with a decree of the Council of Public Instruction; but in no case shall this dispensation extend to the whole examination. Officiers de santé must be assisted by a medical man, except in urgent cases, in all important surgical and obstetrical operations. They are forbidden to practise in the chief towns of departments and arrondissements, and in cities

of over ten thousand inhabitants. Experts, whether physicians or surgeons, can only be replaced in law courts, hospitals, and asylums, by doctors. The practice of dentistry is forbidden to all persons not provided with the diploma of doctor or officier de santé. Nevertheless, any dentist over thirty years of age, who can show by his license that he has practised his profession for two years before the promulgation of the present act, is allowed to continue to do so. This permission, however, does not include the right of administering anæsthetics. Midwives are permitted to practise only when provided with a diploma of the first or second class, delivered by the French Government; they are forbidden to use instruments or to prescribe medicines, except in extreme cases, but they may vaccinate. Doctors, officiers de santé, and midwives are required to have their diplomas registered within one month after taking up their abode in the place where they intend to practise. Medical students who are hospital assistants, and those who have finished their studies, are authorized to practise without a diploma in the case of an epidemic, or as substitutes for a doctor of medicine. The simultaneous practice of medicine and pharmacy is forbidden, even to persons holding both diplomas, except in cases where the nearest drug-shop is over four kilomètres from the medical man's residence; in that case he is authorized to dispense medicines for the exclusive use of his own patients. Whoever illegally practises as a medical man is punished with a fine of 100 to 500 francs; and in the case of a second offence the fine may be doubled and accompanied by imprisonment (fifteen days to one year). The wrongful assumption of a title is punishable by a fine of 1,000 to 2,000 francs; for a second offence this may be doubled and accompanied by imprisonment (six months to one year). The use of a foreign medical title without previous receipt of a diploma from the French Government comes under this category. Doctors, officiers de santé, and midwives practising pharmacy are fined 100 to 500 francs, which is doubled in the case of a second offence, with the addition of imprisonment (fifteen days to one year). Whoever practises as a doctor of medicine without having first registered his diploma is fined 100 to 500 francs. In the case of legal proceedings against persons guilty of the illegal practice of medicine, doctors or associations of doctors regularly authorized, and interested in the proceedings, may claim damages.—*The British Medical Journal.*

"Massage" for the Treatment of Corneal Opacities.—There are, perhaps, no affections of the eye which cause more disappointment to both surgeon and patient than the opacities of the cornea which are left by keratitis and ulceration. After prolonged and varied treatment the inflammation, which has perhaps undergone many remissions and relapses, finally subsides, only to leave an eye which is practically useless, owing to the loss of transparency of a great part of the cornea. So many different modes of treatment have been suggested for this condition, and, after trial, have been abandoned as useless, that there is much natural scepticism as to the efficacy of any new proceeding, and most surgeons trust to the effect of time and Pagenstecher's ointment. In a paper, read before the British Medical Association at Brighton, Mr. Snell redirected attention to friction or "massage," as a mode of hastening the disappearance of corneal opacities. Although not capable of effecting all that was at one time claimed for it, it has now stood the test of time, and may fairly be said to have met with more success than any other single mode of treatment. First proposed by Pagenstecher, in 1872, as a means of hastening the absorption of corneal opacities, it has since been advocated by many writers. But Dantziger (*Archiv für Ophthal.*, xxxi., 3, 187) has shown that its sphere of usefulness can be considerably enlarged, if it be preceded by the mechanical removal of the opaque corneal tissue by scraping. The employment of "massage" during cicatrization then prevents the newly deposited tissue becoming opaque. Although there is some difference of opinion on points of detail, the following is probably the best mode of employing the "massage." The inner surface of the eyelid should be lubricated, preferably with Pagenstecher's ointment; the pulp of the finger is then laid on the lid, and the latter moved to and fro over the cornea with great rapidity, in a direction radiating from the centre of the cornea. The operation is continued for about a minute, and repeated daily, as long as improvement continues to take place. The results of Dantziger's cases would encourage us to persevere for a considerable time.

Stunning and Burning from Electric-Wires.—As an incident in the development of the use of electricity for mechanical purposes, a class of injuries has arisen which present certain peculiarities. "Linemen" and "electric-light trimmers" are the ones most frequently injured; and in the pursuit of their vocations, as in every other dangerous occupation, there develops a certain carelessness which, at times, proves fatal. As the extensive use of electricity is of comparatively recent date, only a few fatal injuries of this description have been published. The remarkable instantaneous death of a workman at the Health-Exhibit in London, and a similar death of a sailor on the Russian Imperial yacht Livadia, led Sheild and Delépine to carefully note the post-mortem appearances in a case that came under their observation, which they have recorded in the *British Medical Journal*, March 14, 1885. They found that the blood remained fluid, and the heart was empty. They believe that it is quite possible to recognize an electric burn, not alone from its gross appearance, but also from certain peculiar microscopical appearances that exist in the blistered integument. The human body is, fortunately, a poor conductor of electricity; and it has been said by certain electricians that a wire (in circuit) transmitting enough electricity to light fifteen lamps may be handled with impunity, if the circuit is not broken. Occasionally, however, a "lamp-trimmer" brushes against the wire with a wet rubber coat, or touches it with damp hands, thus breaking the circuit, and receiving a severe shock and burn. Three cases of this character occurred in Boston last autumn, where men received an electric shock in the above manner. They were rendered unconscious, fell to the ground, and sustained, in addition to the bruising from the fall, a severe shock and local burns. The burns were peculiar in that the tissues were completely destroyed, the surrounding parts anæsthetized, and that, at first, there was no local congestion of the surrounding skin; the reparative process was very slow and tedious. The period of unconsciousness varied with the severity of the shock, which, in two of the cases, was recovered from in a few days. Professor George Buchanan reports the case of a laborer who was stunned and burned while working in the vicinity of a Brush light. The victim was engaged in handling a crane. By the wire of the light coming in contact with a chain attached to the crane, he was brought into the circuit. He was instantly "doubled up," his hands spasmodically grasped the chain, and in this position he was held for four minutes, until the lamp and chain were disconnected. The amount of shock was slight, but a full hour elapsed before consciousness returned; he then complained of a sensation of heat in the abdomen, and slight dimness of vision. There was a slight vesication on the hands, and at the point on the sole of the foot from which the current passed into the ground a charred surface, two inches square, remained. It is certainly remarkable that so powerful a current could pass through the foot without causing more injury in its passage. The treatment of these cases is essentially that adopted for severe nervous shocks, the burns being treated as their intensity may demand.—*The Boston Medical and Surgical Journal.*

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FUNDAMENTAL IDEAS REGARDING THE SUPPORT OF THE BODY PROPER FOR THE CURE OF DISEASE, THE RELIEF OF SUFFERING, OR THE ARREST OF DEFORMITY.

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IF mechanical support is to be utilized as a therapeutic agent in the cure of disease, the relief of suffering, or the arrest of deformity, a definite idea should be entertained by the physician as to the *modus operandi* of the production of its beneficial effects. Otherwise, he who uses such means may some day wake up to find that he has been the credulous supporter of the unsubstantiated assertions of authority, or the blind follower of the teachings of tradition, rather than an intelligent institutor of remedial measures the *rationale* of which he thoroughly comprehends.

Spinal caries.—First, let us see what changes take place as the result of spinal caries, or Pott's disease. Viewing the normal spinal column laterally, stripped of its appendages, we see it presents a curvilinear outline; that the vertebral bodies, with their respective processes and articular facets, alternately rest upon and are supported by intervertebral substances. When caries of the spine has progressed to the stage of deformity, the anatomical relationships of the different parts of the vertebral column to each other become changed.

A good idea of the disastrous nature and extent of the changes which take place when the disease is not properly treated from the first, can be gained by an inspection of Fig. 1. This figure represents a longitudinal sectional view of the vertebral column of an adult, aged thirty-five years, who had caries of the eighth, ninth, tenth, eleventh, and twelfth dorsal, and first lumbar vertebræ. It was drawn, from an actual specimen in my possession, by Dr. Charles Heitzmann, of this city. The eighth and ninth dorsal vertebræ are only slightly invaded. About one-half of the body of the tenth dorsal (C) and first lumbar (below A) vertebræ remain, while only a small remnant (R) of the body of the eleventh dorsal is to be seen. No trace of the body of the twelfth dorsal exists, it having been entirely destroyed by the carious inflammation. An abscess cavity, though it contained but little pus (A), occupies the site of the former vertebral bodies. The membranes of the cord and the adjacent periosteum have become fused together (D) and serve as a lining to the abscess cavity.

These, then, are the terrible ravages of disease which the surgeon is sometimes obliged to face, and which, when the patient comes under treatment early in the disease, he seeks, through the agency of mechanical and other remedial measures, to aid nature in preventing. Owing to the inaccessibleness of the diseased areas of bone, they being buried deeply beneath the soft parts, it would at first sight seem as if the surgeon were powerless to aid nature in such a manner that the vital forces, as manifested by the disastrous metamorphoses of disease, would finally become so transformed as to establish physiological action. Such a transformation would constitute the cure of the disease, and is therefore the ultimate aim of all our therapeutic endeavors.

Now, let us see how we can approach this problem in a rational manner from the standpoint of existing knowledge. At the outset it should be understood that in ostitis or caries of the vertebral bodies, the establishment and consummation of reparative processes, such as have been indicated, depend upon the material lessening and final arrest of irritation.

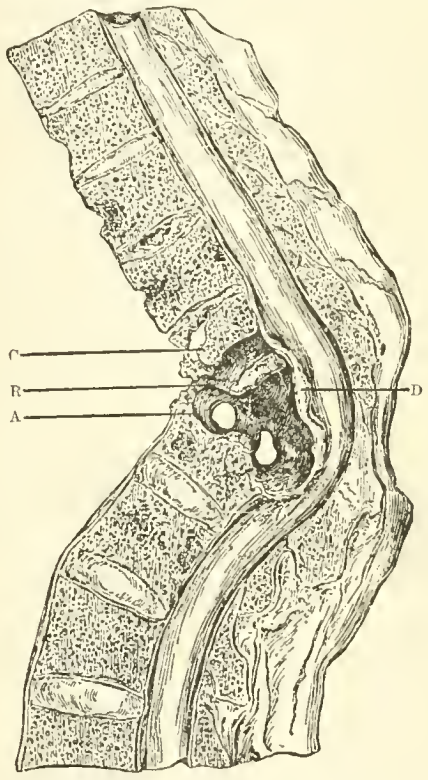

FIG. 1.

But how are we to lessen and finally arrest irritation? Before we can answer this question intelligently, it will be necessary to first formulate the sources of irritation. The irritation which it is in our power to lessen or remove is:

First, that which is caused by undue pressure at the seat of disease from superimposed bodily weight.

Second, that which results from the traumatisms of locomotion; or, in other words, the vibratory impulses which are due to the impact of the feet against the ground, and which are imparted to, and conducted up, along the bony framework to the seat of disease.[1]

Third, that which results from riding in vehicles of any kind—again, jars or vibratory impulses which are transmitted along the bony framework to the seat of disease.

The relief of irritation from the first-named cause, viz., superimposed weight, involves the use of an apparatus which will either transfer the weight of the parts of the body above the seat of disease to healthy parts below, or to some source of support other than the body of the pa-

[1] The Fundamental Principles of Mechanico-therapy in Hip Disease; based on a Consideration of Clinical, Pathological, and Physico-Physiological Data, with a Description of New Forms of Elastic Tension Hip Splints. Read before the Medical Society of the State of New York, February 6, 1884. The New York Medical Journal, March 15, May 3, and May 24, 1884. Proceedings of the Medical Society of the State of New York, 1885.

tient. Just how this is to be accomplished, how and where to get hold of the body, will be fully considered later on.

The relief of irritation from the second and third named causes, viz., jars or vibratory impulses, involves, in addition to the thorough sustentation of the patient, the use of an apparatus which will at the same time interfere with the transmission of jars or vibratory impulses along the bony framework of the body to the seat of disease. It will therefore be seen that all forms of rigid support, such as the plaster jacket and various forms of rigid apparatus made of iron or steel, do not, and cannot, meet these indications. An elastic or resilient apparatus is required.

But how is the relief of irritation to aid repair? It is all-important, for every surgeon who assumes the responsibility of treating the afflicted, that he should be able to give a rational answer to this question. The answer is this: In all inflammatory lesions of bone we have the formation of new embryonic cells. Now, if the irritation be excessive, these cells will break down and form waste products; if, however, the irritation be not too great, they become developed into healthy bone-tissue.

Thus, in the first place, it will be seen that, *for the cure of disease*, we have a clear indication for the relief of mechanical irritation by means of mechanical appliances; and just in proportion to the thoroughness with which we are practically able to carry out this indication, will reparative processes be established.

In the second place, *for the relief of suffering*, the complete and permanent removal of superimposed bodily weight will be found all that is necessary to overcome the pain resulting from pressure upon the sensory nerves.

In the third place, *for the prevention of deformity*, no success will attend treatment unless the vertebral bodies are kept from falling together by the removal of superimposed bodily weight.

In illustration of the beneficial results which accrue from affording thorough sustentation to patients affected with spinal disease, and in preventing jars or vibratory impulses from reaching the diseased areas, I may cite the case of a patient suffering from cervical caries, who was sent to me for treatment by Professor William C. Jarvis, of this city, June 27, 1881.

Fig. 2.

Fig. 3.

The disease had advanced to a condition in which it was absolutely impossible for the patient to maintain his head erect. It fell forward so that his chin rested upon the sternum, except when he supported it, as shown in Figs. 2 and 3. The method of supporting the head with the hands, illustrated in the figures referred to, was the one resorted to by the patient almost continually during his waking hours. By the application of an apparatus such as is illustrated in Fig. 4, the head was restored to, and maintained in, its normal position, thereby relieving the diseased areas from undue pressure. Jars or vibratory impulses were prevented from reaching the diseased vertebral bodies by means of two strong, spiral springs playing upon upright steel rods, which were placed upon either side of the neck, and so arranged as to exert linear traction upon the neck by tending to increase the distance between the upper or cervico-cephalic, and lower or cervico-truncal encasements. In this manner the mechanical irritation was relieved, the local circulation restored, and reparative processes estab-

Fig. 4.

Fig. 5.

lished, so that, within a year's time, the patient was discharged, cured, with perfect mobility of the segments of the cervical vertebræ, and without deformity, as shown in Fig. 5.

Again, even after the morbid process has ceased altogether, there may still remain the indication for support, not for the arrest of disease, but for the relief of discomfort or actual suffering due to the cramping of visceral organs. This is always apt to be true in those cases where the disease has progressed so far as to seriously deform the spine, and thus, by interference with its normal linear contour, impair its supporting capacity. Fig. 6, from a photograph by Mr. O. G. Mason, of a man forty-seven years of age, who came under my observation November 25, 1882, is a good illustration of this class of cases.

Lateral curvature.—In lateral curvature, a potent factor in increasing the deformity and consequent pressure upon nerves is the overtaxing of the spine by superimposed weight. In support of this statement it is only necessary to recall the familiar experiment of making linear traction upon the spine for the temporary reduction or obliteration of deformity and relief from pain, for in this way we relieve the spine of its undue burden. A good idea of the effect of suspension or linear traction applied to the spine may be gained by a comparison of Fig. 7 with Fig. 8, which are photographs, by Mason, of the same patient before and during suspension. It should be borne in mind that no such effect as this can be produced by any form of apparatus which seeks to reduce the deformity by means of leverage. It is essential to remove super-imposed weight, and this fact should always be borne in mind when selecting an apparatus to be worn by patients thus afflicted. This statement will receive further reinforcement later on.

Spinal weakness.—In simple weakness of the spine, unaccompanied by deformity, the patient continually as-

sumes faulty attitudes, especially in sitting, thereby cramping the visceral organs and giving rise to consequent discomfort. All such patients are greatly benefited by using a stay that precludes the possibility of their getting into these faulty attitudes.

These, then, are the considerations which lead us to make use of mechanical supports in the treatment of spinal affections. The therapeutic problem, therefore,

Fig. 6.

resolves itself into two questions: First, as to how and where to get hold of the body in order to support it in such a manner as to relieve irritation, by preventing the weakened or diseased member from being over-burdened; and secondly, the determination of the best means or therapeutic agents to employ in order to effect this most desirable end. In the present communication I shall deal only with the first question. A rational idea of this subject will be gained by considering the

Orthopragmatic[1] *holds of the body.*—In considering how and where to get hold of the body in order to support it, the body should be viewed from a thoroughly mechanical standpoint. We have the skeleton and overlying soft parts to deal with. Now, it is the prime function of bone to support weight. If, then, we are to transfer the weight of the parts above to a point below in order to relieve an intermediate diseased segment of the spine from mechanical irritation, it must be accomplished by getting hold of some part of the skeleton above and below the diseased zone, and introducing some form of artificial prop to take off the burden from the weakened spine. A clear idea of this extremely important part of our subject may be gained from a consideration of the normal relationship of the different parts of the body. Fig. 9 is a diagrammatic representation of a posterior view of the skeleton of the head and trunk, together with overlying soft parts, which I have elaborated as a result of my efforts as a teacher to illustrate this subject.

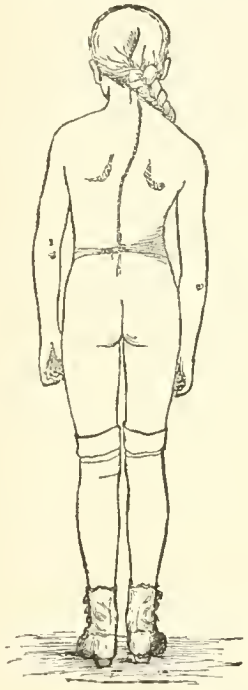

Fig. 7.

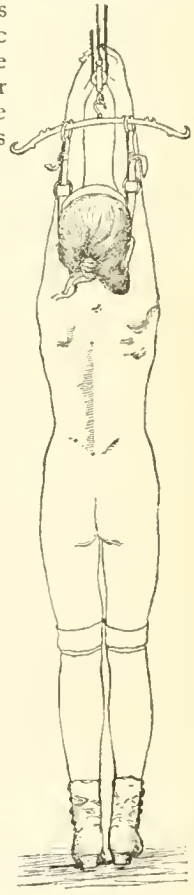

Fig. 8.

First, let us consider what parts of the skeleton we can utilize for getting hold of the body so as to relieve a diseased segment of the cervical spine, as at C. Before we go any further I wish to call attention to the fact that it is sound mechanical practice to secure a basis of support as near to, and directly under, the object to be supported as possible. Keeping this fact in mind, let us examine the skeleton as shown in Fig. 9. It will be seen that directly beneath the diseased zone C, we have that strong osseous structure, the shoulder-girdle. When we recall to mind the enormous loads which are habitually carried by laboring-men on this girdle, we are not inclined to look farther for a basis upon which to rest our support—it is both strong and near at hand. The dotted lines *b*, Fig. 9, indicates the extent of the surface available upon which to rest the shoulder-girdle envelope. Just above the diseased zone C, we have the globular form of the skull presenting, together with the lower jaw, as conve-

[1] Robert Heather Bigg, in his book entitled, Orthopragms of the Spine, London, 1880, page 56, remarks as follows in explanation of the meaning of the word "Orthopragm." "The human body has been shown to be a magnificently constructed machine. Under ordinary and natural circumstances its formation is mathematically perfect, its material strength and motor powers entirely adequate to its wants, and its integrity unimpaired. Under extraordinary ones, its symmetrical accuracy becomes lost or lapses into distortion, its inhereot abilities diminished, and its members abortive or accidentally removed. The human machine, in short, becomes in some point defective, and in these conditions a complementary mechanism or 'orthopragm' is adapted to make good the deficiency."

nient bony prominences, against which points we can make upward pressure or linear traction. This may be accomplished by adapting an occipito-mental encasement to the overlying soft parts (see dotted lines *a*, Fig. 9); and extending between this and the shoulder-girdle envelope on either side, adjustable bars (*a'*, Fig. 9), by means of which the weight of the head can be transferred directly through the lateral bars to the envelope adapted to and resting upon the shoulder-girdle, thus relieving the carious cervical spine of mechanical irrita-

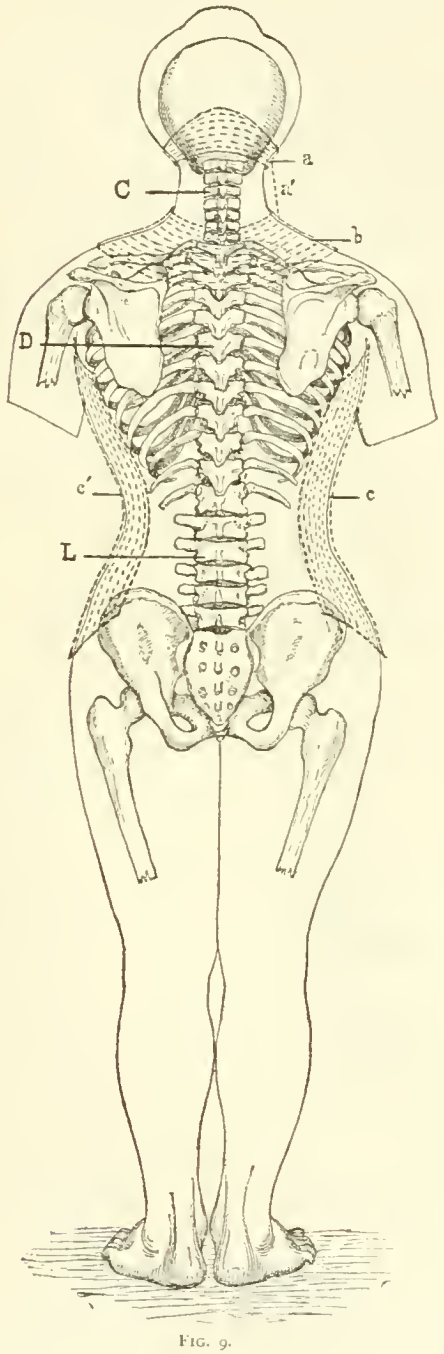

FIG. 9.

tion and undue burden. An appliance which I have invented for this purpose has already been alluded to (see Fig. 4).

Second, as to what parts of the skeleton we can utilize for orthopragmatic holds when the dorsal region of the spine is invaded as at D. Again examining the skeleton, we see that there is no bony prominence immediately below or above the affected zone which we can utilize for this purpose. Proceeding from above downward in search of a place upon which we can rest our orthopragm, the first site which presents, is, that of the pelvic girdle Here it is quite evident that we can get a very satisfactory hold of the body. Surveying the skeleton upward from the diseased zone, we find no bony prominences which can be utilized to get hold of the body so as to exert force to transfer the weight of parts above D to the pelvic girdle, until we again reach the globular form of the skull at *a*. It will thus be seen that, when we come to attach appliances to the body for the support of patients affected with disease of the dorsal vertebræ, we are working at a much greater mechanical disadvantage than when dealing with the problem of relieving mechanical irritation in the cervical region. One great disadvantage which we labor under is the enormous weight of the head, shoulders, upper extremities, and that part of the body above the diseased vertebræ at D which must be transferred by means of the occipito-mental encasement to parts below, in order to relieve the irritation at D.

The fact should not be lost sight of, that the head presents an extremely small area which can be utilized for orthopragmatic purposes, in transferring, through the agency of the applied support, this enormous weight, already referred to, to the pelvic girdle.

Finally, as to the relief of mechanical irritation when the lumbar vertebræ are involved, as at L:

Inspecting the skeleton with reference to orthopragmatic holds, we again find ourselves fortunately circumstanced. Here, as in the cervical region, we have bony prominences both immediately below and above the diseased zone, which can be utilized for applying a support to the body in such a manner as will transfer the great weight above the point L to the pelvic girdle. I refer of course to the bulge of the thorax above and, to the pelvic girdle below. The dotted lines, *c*, *c'*, indicate the position of orthopragms applied to the body for the transferring of the weight of parts above, to the girdle below.

It is a pertinent fact, and one that should never be lost sight of by those who are brought into the responsible position of making a prognosis, in any given case of spinal caries, regarding the prevention or arrest of the development of deformity, that the results of treatment in the vast majority of cases tally exactly with the above ideas regarding mechanical support of the spine. That is to say, the best results are obtained when the cervical and lumbar regions are affected; the most disastrous when the middle dorsal region is the seat of disease. Formerly, it was supposed that in the mid-dorsal region the best results could be obtained by treatment. Regarding the diseased and deformed spine as a broken shaft which could be drawn into position by means of a lever, theory suggested the idea that, with a fulcrum in the middle of the back and power applied to the body above and below, deformity could be prevented or overcome by drawing the body backward above and below against the lever, where it could be secured. But it must be remembered that the spinal column cannot be likened unto a shaft broken at one point—it has many segments—and that to execute the above idea in the same way that we would reduce deformity when a long bone is fractured in its middle is out of the question.

It will be understood, from what has already been said, that the problem of selecting orthopragmatic holds for the purpose of relieving diseased vertebræ of irritation, or the spine of its undue burden, is by no means always as simple as it would at first appear. It will be remembered that we have been considering this subject with reference to the normal relationship of the parts. Now, when patients come to us for treatment, these normal relationships are frequently found changed. The ground gone over is of great practical service, however; for in these days of diagnostic skill, patients with spinal caries are not infrequently brought under treatment long before the normal relationships of the skeleton have been seriously changed, or, in other words, before deformity has developed. Not only is this true of caries of the spine, but the same may be said of the early detection of lateral curvature. Then, again, there is a third reason why

the ground gone over is of great practical service. There is no inconsiderable number of patients who require mechanical support, not for the relief of spinal deformity or vertebral disease, but in consequence of spinal weakness.

When, however, we come to deal with patients requiring support, in whom the disease has already advanced so far as to give rise to serious distortion of the bony framework, the question of selecting orthopragmatic holds not infrequently becomes a difficult problem to practically solve. Take, for instance, individuals who are seriously deformed, as the one represented in Fig. 7. Under such circumstances it will be found that the lower ribs project down into the pelvic brim, and almost preclude the possibility of getting hold of the pelvic girdle and parts above so as to exert force advantageously. The reason of this is that the normal variations in the circumference of the pelvis, the waist, and thorax no longer exist. Not infrequently the waist measurement, or the measurement at the point which ordinarily corresponds to the waist, exceeds by a number of inches the circumferential measurement of the pelvis, while the circumference of the thorax on a level with the armpits is also less than that of the waist. When these abnormal changes in the circumferential measurements at the three points above named are due to changes in the relationship of the parts of the bony framework, it is a mechanical impossibility to get hold of the body with any portable support in such a manner as to effectually relieve all irritation. Enough support may be rendered, however, to add greatly to the comfort of the patient. Under such circumstances, if the disease be active, we should not permit either ourselves or our patients to rest contented with even the best of portable supports. Certain adjuvants should be made use of to bear the superimposed bodily weight. Of adjuvants of this class I have invented the suspension tricycle and the suspension crane, attached to the casement of a door or window or chair in which the invalid sits; and finally, a car travelling on a track attached to the ceiling. Having applied a portable support to the class of patients now under consideration, and provided it with shoulder- and head-straps, if necessary, the additional weight which it is desired to remove from the spine is transferred to one of the above-named mechanical adjuvants.

Sometimes the waist measurement of the patient exceeds that of the pelvis and thorax, the cause not being due to changes in the skeleton. This is especially apt to be the case in early caries of the spine affecting very young children. In such subjects the large waist and projecting abdomen are for the most part due to distention of the large intestines with gas, intestinal disturbances being a frequent occurrence in this class of cases. Under such circumstances it is possible to make sufficient circumferential compression at the waist to overcome the difficulty.

105 Madison Avenue.

For Vomiting of Pregnancy.—Professor H. C. Grosvenor (homœopath) says: "My usual treatment is sulphate of hydrastia, dissolved in water, sufficient to give the water a straw color. To be taken *ad lib.* If heartburn accompanies the nausea, put salycilic acid in the same glass. For pyrosis use Apollinaris water. When nausea is very severe two grains of svapina [a preparation of opium] in half a glass of water is to be taken in teaspoonful doses." Professor John W. Streeter [homœopath] spoke upon the same paper as follows: "I have had some unmanageable cases. My best remedy is chicken's gizzard [ingluvin], ten grains, as often as necessary. My second best remedy is skunk cabbage, 4oox. Look out for some local cause. Examine the pelvic organs." It will be seen that the above professors recommend only one homœopathic remedy, viz., skunk cabbage.

MENSTRUATION, ITS NERVE-ORIGIN—NOT A SHEDDING OF MUCOUS MEMBRANE.

By James Oliver, M.B., F.R.S. Edin.,

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In every healthy human female, during the so-called childbearing epoch, which extends, on the average, over a period of thirty-two years, the uterus becomes the seat of a periodically recurring functional disturbance, evidenced by the emission of a more or less marked hemorrhagic discharge. As the initial establishment and each subsequent recurrence of this monthly phenomenon is frequently accompanied by symptoms of a general as well as local character, we shall designate under the appellation *menstruation* the whole essential train of events, and not its mere outward manifestation.

The molecular world, organic as well as inorganic, exists in a perpetual state of trepidation, and equilibration of a vital character is the outcome of an inherent power of adaptation. Normally the structural and functional integrity of the organism is maintained by a mutual dependence of the organs upon each other, and according to the manner in which these, each and all, respond to those multifarious changes which, from time to time, arise in the environments of the individual. The variations in the waves of molecular motion occurring in every organ, and associated with physiological activity, are radiated to, and affect, however feebly, every ultimate tissue of the body. So completely is this intercommunication, through the medium of the nervous system, carried on, and so apt are the different structures of the organism to perform functions other than those for which they have apparently become specialized, that vicarious compensation may be readily established. In the case of double organs it is a noteworthy fact, with which everyone is familiar, that the removal of one may affect but little, if at all, the well-being of the body; generally the remaining organ at the same time becomes of augmented functional activity, undergoing slight or even well-marked enlargement. This compensatory change will be manifested, not only by organs recognized as active, but also by such as have hitherto been viewed as obsolete. In many of the lower organisms, where structural differentiation is ill defined, vicarious function is readily fulfilled. The animal may, for example, be turned outside in with impunity, the vital integrity of the organism being still maintained unimpaired—the endoderm, already but feebly specialized, although set apart for assimilation, performing with ease the function of the ectoderm, that of elimination; while the ectoderm, in turn, assumes forthwith the power of assimilation, and discharges effectually a function hitherto foreign to it and performed previously by the inner layer. In the animal economy we see constantly enunciated the fact, too frequently ignored, that functional activity and structural integrity proceed together, hand in hand, and are regulated by a mutual action and reaction upon each other.

If the functional activity of any organ be augmented, but not unduly, the structural integrity will be maintained and be rendered more perfect. Again, the more complete the structural arrangement has become, the more likely we are to find the function actively performed. All visceral activities are now, through habituation, fulfilled in a somewhat automatic manner; and although these transitional states may at one time have excited a conscious sensation, they are at the present stage of evolution wholly ignored by the higher cells of the cerebral lobes which participate in feeling. What is true of one organ of the body is likewise true of all the others. It is, therefore, more than probable that the physiological changes recurring from time to time in the uterus are anticipated by, and in reality the sequence of, a molecular disturbance arising spontaneously in some centre located in the higher part of the cerebro-spinal tract, possibly

somewhere in the medulla oblongata. The mere fact that the functions of the uterus may be revealed uninterruptedly after the spinal cord has been completely severed in the dorsal region is no criterion, and cannot justify us in concluding that there exists no representative higher centre. Structural evolution itself forbids the acceptance of such an hypothesis. Like all other nerve-centres fulfilling a similar dispensation, this uterine centre is undoubtedly beyond all volitional control, but is, nevertheless, capable of being disordered by emotional impressions. With this fact everyone is familiar. A sudden shock experienced during menstruation, and apart from any bodily injury, will produce, as I have frequently noted in some females, immediate cessation of the flow, and even interrupt for a more or less indefinite length of time thereafter its amount and periodic regularity. The resulting disturbance will depend essentially upon the state of the nervous system and its proneness to molecular instability.

With the approach and appearance of the monthly flow the whole frame, as one would naturally expect, participates more or less in the change, and the amount of disturbance experienced, as well as manifested, is commensurate with the power the organism possesses of adaptation, and hence of equilibration. The simple determination of blood, because of increased functional activity, to the genital and, in many cases, to the other pelvic organs of itself produces a definite alteration in the waves of molecular motion proceeding therefrom, and which, radiated in all directions, must necessarily affect the vascular state of other very important structures. In many chronic disorders, of whatever system, affecting the female, every observer must have remarked that, according to the menstrual type of the individual, there is often, either in anticipation or with the appearance of the flow, a proneness to aggravation, or in some very exceptional cases, it may be, to alleviation of symptoms; and with the cessation or disappearance a corresponding gradual reversion to the original already stationary or slowly progressive state. In some few cases the loss of blood may account for much of the disturbance manifested, yet it cannot be the sole factor. In many women, where, from some inexplicable cause, there is for a more or less indefinite period a total suppression of the characteristic discharge, we may detect frequently such a regularly recurring alteration in the symptoms or manner of the patient as to place beyond denial a direct relationship. In no class of functional disorder do we find so regularly and markedly an interference with the outward manifestation of uterine activity as in *epilepsy*, a disease the pathology of which is still undetermined. It is more than probable, however, that as we may consider the *epileptic female* as *epileptic* throughout, even to the finger-tips, the interruption of the periodically recurring functional change in the uterus is the result of some occult condition of the corpuscular elements governing the activity of this organ, and wholly independent of any defective structural state of the viscus itself. The structural integrity of the uterus may, however, eventually suffer, for inaction and overaction alike tend to exert a prejudicial influence.

Gestation, as a rule, although not invariably, determines for a period of nine months a cessation of the monthly recurring flow. Not infrequently, however, we see women who throughout one or more pregnancies continue perfectly regular, the amount or character of the flow being unaltered by the physiological process going on in the uterus. Usually the fertilized ovum affects in some unknown manner the uterine organ, thereafter destined to be its source of nutrition, and the gradual molecular variations so produced are radiated to the uterine centre, alter the corpuscular state, and determine the sequence of events. During the period of lactation, and consequent activity of the mammary glands, we find not only the manifestation of the monthly recurring functional change of the uterus held in abeyance, but also the activity of the generative glands, as impregnation rarely occurs while the mother continues to suckle the offspring. Should, however, lactation be prolonged indefinitely, the secretion of milk may become more or less habitual, as in the case of the cow, and the generative glands regain their activity. The life of every organism is twofold: first, the maintenance of the individual, and then the perpetuation of the species. The latter, however, is always subservient to the former, and so long as there exists a demand for nourishment from the mother on the part of the child in utero, so long will the reproductive power, as a rule, continue latent. Occasionally, however, I have noted that while the child is being suckled by the mother the uterus itself, and the generative glands, may throughout continue active; and impregnation resulting, signs of early constitutional enfeeblement are apt to accrue. In inflammation of the mucous lining of the Fallopian tubes with puro-fibrinous exudation, menorrhagia is frequently an associated symptom, and apparently results from some interference with the nerve-supply to the uterus. In all mammals there are two ovaries, and the oviducts are known as the Fallopian tubes. Each oviduct dilates, on its way to the external surface, into an uterine cavity, which in turn opens into the vagina. In the monkey and man only do we find the two uteri coalesce inferiorly, producing a single cavity, into the fundus of which the Fallopian tubes enter. It is more than likely that the nerves governing the functions of the uterus are transmitted along the Fallopian tubes, and although menstrual disorder may frequently result, with distinct pathological changes existing in these tubes, we must not too hastily conclude that these structures, *per se*, govern the uterine changes.

The true nature of the catamenial discharge is still conjectural; yet its elimination from the body renders it highly probable that, having already served some special end, its detention in the blood may exert some deleterious influence on the animal economy.

It is generally admitted that ovulation and menstruation are coincident; that they may or may not be, I am not prepared to dispute; that, however, they are invariably associated there seems to me much reason for doubt. That the discharge of an ovum may, and frequently does, occur quite independently of menstruation, I have no misgivings. No one would entertain the idea of gauging the reproductive power of the female either from the regularity or amount of the catamenial discharge. I have occasionally noted that women who menstruate with marked irregularity are specially prolific.

It is alleged as an established theorem, that from the period of puberty to the climacteric age there is, besides a gradual death of the mucous membrane lining the whole uterine cavity—which must ever occur to be compatible with life—a more or less regularly recurring and complete death of this coat. In the whole animal kingdom we search in vain for a physiological change truly analogous with this. The serpent, it is true, may shed its skin more or less intact; but ere it casts off the old coat a new one is already regenerated to protect its body from all extraneous injurious influences. In vital structures change is wont to be gradual—creation and destruction proceed together. There is apparently no departure from this inexorable law. Death of the mucous lining of the uterus takes place imperceptibly; the change is one ever going on, as in all organs of the body.

In several cases I have examined uteri removed from women who have died, not only during menstruation, but just before an expected period. In two cases the death was sudden, the patient at the time being in apparent good health. In three cases the uterine organ was invaded by growths of a fibroid character, which were chiefly submucoid. To the naked eye the mucous lining, in all, appeared in every respect like that of a normal uterus examined at any time indiscriminately. In no case did I detect any breach in the continuity of the lining membrane of the uterus, except in those in which this organ had be-

come the seat of fibroid growths. In such the mucous lining had in places become markedly thinned, or even vanished altogether, because of a constant vital pressure exerted on this coat by the underlying new-growth. Here gradual absorption had resulted, very much in the same manner as bone and soft tissues disappear before the constant pressure of an increasing aneurism. I have never at any time detected any evidence of structural change, microscopically, in the inner linings of the uterus, in cases in which this organ has been removed from the bodies of females who have died either during or just before an expected menstruation. The glands which stud the inner coat of the uterus in its entirety, consisting of columnar cells, lined by a basement as well as a limiting membrane, have, however, shown marked enlargement, in many cases so pronounced that the outline, not only of the separate cells but even of the gland itself, has been lost. The columnar cells appear swollen, and contain frequently large corpuscular-looking bodies, which I believe to be the simple manifestation of increased functional activity. Prior to cutting, by freezing in gum the tissues had been hardened for two days in spirits, and finally in a weak solution of chromic acid. The sections I stained in a variety of ways, my best stain, however, and that affording clearest definition, being *iron* and *pyrogallic acid*.

Those who support the denudation theory assert that each recurring monthly flow is anticipated by a fatty degeneration of the mucous lining of the uterus; that blood is extravasated into its substance, and eventually the whole, becoming disintegrated, is washed away imperceptibly with the escaped blood. A new mucous membrane is thereafter by degrees regenerated from the inner layer of the muscular coat, which, in its turn, too, like its predecessor, must undergo a similar degenerative change, and ultimately be removed from the body. Some of the lower animals, it is true, retain the power of reproducing limbs, and possibly other parts of the body removed by accident. If, however, the separation of the part be too frequently practised, we eventually exhaust the power—wholly irrecoverable—the structural integrity of the regenerated limb or tissue becoming less and less marked with each removal. Clinically, if the mucous membrane were shed with each catamenial flow, it must be capable of completing its cycle of degeneration, shedding, and regeneration, in an incredible number of days. Many are the menstrual anomalies which preclude the acceptance of such a phenomenon.

Taking all the facts into consideration, it is more than probable that the recurring monthly discharge in the human female is a secretion, or rather excretion, from the inner lining of the uterus and Fallopian tubes, without degenerative change other than that commonly associated with augmented functional activity, and comparable with that occurring in any other organ of the body under similar circumstances.

THE DEMAND FOR PHYSIC.—It is all very well for Sir William Gull to treat his aristocratic patients, as he wishes the profession to believe he does treat them, by leaving them to their warm bed and nature's efforts. Many doctors would be delighted to have the same liberty of action, but Mrs. Jones round the corner believes in physic, and if her medical attendant thinks otherwise, *tant pis pour lui*. It is idle for Sir William to pretend that this deeply seated prejudice is due to many years of apothecary rule. It exists in climes where the apothecary has been unknown for a century or two, and it flourished before he existed as a genus. Indeed, the desire to take physic is natural enough, for its results in certain disorders and maladies are very marked and beneficial, and one can hardly expect a suffering public to distinguish clearly between the complaints which are, and those which are not, benefited by drugs.—*Hospital Gazette.*

TWO CASES OF COMPOUND GUNSHOT FRACTURE OF BOTH EXTREMITIES.

CONSERVATIVELY TREATED, WITH RECOVERY.

BY RICHARD COLE NEWTON, B.A., M.D.,

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CASE I.—J. D——, a Mexican, aged forty-two, of robust physique and an excellent previous history, was received into the post-hospital at Fort Stanton, N. M., November 15, 1881. He had been engaged in an altercation on the previous day, and had received two gunshot wounds as follows: His assailant seized an ordinary Winchester repeating rifle (calibre, .44-inch) and fired at him at a distance of three or four yards. The patient fell down, and his cowardly adversary, standing almost directly over him, fired again and then fled.

The first bullet had passed through the lower portion of the left deltoid muscle, between the humerus and the skin. Its course had been backward, inward, and slightly downward. On emerging it had carried away a piece of the integument from the posterior axillary wall as large as a fifty-cent silver-piece. The humerus had not been struck by the bullet, as no bare bone could be detected by the finger or probe, but the bone was transversely fractured. The fragments were not displaced. The long head of the triceps was cut in two and the torn ends protruded, one from the upper part and one from the lower part of the wound of exit.

The second ball had passed through the right forearm, entering upon the radial side of the anterior aspect, three inches below the elbow-joint. It had emerged on the ulnar side of the posterior aspect, four inches below the elbow. About the wound of entrance one or two tags of torn muscle were hanging. A surface two and a half inches long by one and a half inch wide was denuded of integument. The wound of exit was more extensive. Three or four ruptured muscle-ends were protruding about the edges of the wound. The soft parts were bruised and pulpified, and fragments of bone were visible among the flesh. An area three inches wide and four inches long had been deprived of its integument and the underlying fatty and connective tissues.

Both radius and ulna were fractured and extensively comminuted. There was pulsation, however, in both radial and ulnar arteries, and the surface of the hand was not cold. There was slight power of movement in the thumb and one or two fingers. The swelling and deformity were considerable, and the forearm was considerably shortened.

The most probable explanation of this extensive wound is that the muzzle of the rifle, being only a few feet away, when discharged, from the arm, which was presumably resting upon the hard ground (the uncultivated soil of New Mexico is, as a rule, hard and gravelly), the tissues suffered from the following forces: (1) The direct impact of the ball; (2) the explosive force of the gases of combustion and of the unburned powder; (3) the bruising against the hard earth; and (4) the rebound of gravel-earth, etc., and possibly of the bullet itself.

Drainage-tubes were pulled through both wounds, which had been well washed with carbolized water. Small, light, straight wooden splints were applied. Dr. F. H. Atkins, U.S.A., and Mr. G. A. Mills, a dentist, from Brooklyn, N. Y., were present and assisted the writer with good counsel and in many ways.

The case gradually progressed to recovery, without a bad symptom. The left arm was apparently entirely well in eight weeks, without deformity or impairment of power. The superficial wound on the posterior axillary wall, which has been described as the loss of a bit of integument as large as a fifty-cent silver-piece, proved larger than we expected, and a slough the size of the palm of the hand came away, thus furnishing another evidence of the extensive bruising that occurs in gunshot wounds. The excavation granulated nicely, and

healed in about the same time as the wound of the left arm. On March 11, 1882, the writer turned over his charge as post-surgeon at Fort Stanton to Assistant Surgeon E. T. Comegys, U.S.A. The right forearm had then nearly healed up, but neither the fractured radius nor ulna had united. Bony fragments were from time to time discharged. On April 7th a letter from the hospital-steward said: "J. D—— still in hospital. No change. Pieces of bone coming away yet." On May 10th Dr. Comegys wrote: "J D—— left, because we objected to his getting drunk. Ulna reunited, but radius not."

Case II.—Private L——, Troop G, Fourth United States Cavalry, was brought into the field-hospital at Fort Cummings, N. M., on April 25, 1882. He had been wounded in "an affair with Indians" at Stein's Peak Pass, N. M., at about 4 P.M., April 23d. That same evening he rode eighteen miles on horseback. Most of the next day he and three wounded companions lay in the scorching sun, with one canteen (a little over a quart) of water between them. That afternoon they began a journey of forty miles, in a wagon, to the railroad. This they reached before daylight next morning. Thence sixty miles by rail (one soldier died in the cars) and six miles more by wagon, into Fort Cummings.[1]

Dr. W. Whitney, U.S.A., had charge of the party. L—— displayed great courage and patience. He was an American, aged thirty-five, of medium size and wiry build. His habits and family history were good, with no obtainable evidence of syphilitic taint. Two rifle-balls had struck the patient, as follows: The first had entered the arch of the left foot just below and anterior to the ankle-joint, in front of and about on a level with the outer malleolus; it had passed inward, slightly backward, and downward, and had emerged two inches below and a little anterior to the inner malleolus. The ankle-joint was not involved.

The second bullet had struck the right tibia on its internal face, at the junction of the upper and middle thirds, fracturing and splintering the bone. There was no wound of exit. The patient declared that the bullet had fallen out, and that it was a ricochet. The latter statement we were fain to accept, because the wound was oblong, irregular, and ragged. As to the former assertion we were sceptical, and spent a long time looking for the bullet. Dr. Gross has warned us that no reliance can be placed "upon the patient's assertion that the bullet has dropped out, unless the missile be found in his pocket."[2] Indeed, months afterward this bullet was searched for. The wound of the integuments was, as stated above, ragged in outline and irregular in form, and the surrounding tissues were bruised. A clot sealed the wound. But this was removed and the fractures of the tibia made out. The bony fragments were movable, but resisted moderate traction looking to their removal. A few blebs containing clear serum surrounded the orifice. The ecchymosis was considerable. The fibula was found not broken. There was moderate swelling and deformity. About four inches below the bullet-wound a sharp fragment of the tibia had nearly worked its way through the skin.

The leg was laid in a fracture-box filled with bran and kept wet with water, after having been well syringed with the same. To the foot similar applications were made.

Temperature, 100°. Pulse, about 100. Ordered quinine and supporting treatment, and carbolic acid was added to all the dressings. During the next four days the temperature ranged from 99¼° to 102¼°, and the pulse from 90 to 108.

April 29th.—The patient complains of pain in the leg, and of feeling sick, with headache and want of sleep. There is a putrid odor about the leg, which looks black and unfavorable. The little blebs above spoken of have, however, disappeared, after the evacuation of their contents with a needle. Both wounds were dressed with iodoform powder in excess. The powder was rubbed into the wounds with the finger. In four hours the temperature fell ⅖°, and the pulse 16 beats per minute, which is the more noticeable as the hour of observation was near that of the highest daily febrile movement.

April 30th.—Morning: Temperature, 100°; pulse, 80. 3 P.M.: Temperature, 101°; pulse, 84. 8 P.M.: Temperature, 99⅘°; pulse, not recorded. Patient complains of a sleepless night. The leg has given him no trouble, but gain in this quarter has been accompanied by discomfort in the other wound. The bandages had to come off the foot, which is swollen and angry looking. At 8 P.M. undoubted erysipelas was present here. All the iodoform was washed away, and a solution of borax (gr. xx. to aq. ℥ j.) was substituted. This change gave almost immediate relief.

May 1st.—Pulse and temperature normal. The record was discontinued. Back-wounds looking better. The improvement in the leg was most marked. No putridity anywhere noticeable. Healthy granulations appearing, etc. Foot still erysipelatous.

May 2d.—Carbolic salve to foot.

May 14th.—Leg improving. Foot seems about stationary. The wash-water refused to go through the wound for the first time to-day. Tissues about the wounds of exit and entrance are yet somewhat boggy. A small abscess, containing about two ounces of laudable pus, has been evacuated behind the internal malleolus. Applied iodoform to this wound as before.

May 18th.—The foot-wound has improved greatly. Put two straight wooden splints on the leg in place of the posterior felt one.

June 15th.—The tibia is now firmly united. The probe, however, detects some bare bone in this wound. The foot-wounds are closed up. The man can stand for a few minutes on his feet, but cannot walk.

August 2d.—He was transferred to Fort Bayard, N. M., his proper station.

November 16th.—The writer saw L——, in company with Dr. Whitney. Patient walks all over the post, uses a cane, and limps somewhat. The left ankle-joint is in normal condition; L——'s general appearance greatly improved. The doctor says that spiculæ of dead bone occasionally come away from the foot. There seems to be necrosed bone in both wounds, and the doctor thinks that the bullet is still embedded in the tibia.

December 8th.—Dr. Whitney writes: "All the dead bone was removed from the tibia. No bullet found. Operation-wound healing kindly. Surgeon's certificate of disability for L——'s discharge has been forwarded."[1]

I do not claim that there is anything wonderful in these cases, or that the results were brilliant. They have seemed worthy of being reported, because (1) such cases are apparently not frequent; (2) because they were treated with almost absolute conservatism; (3) the action of the iodoform seems interesting, and (4) because they offer another tribute to the glorious and health-giving climate of New Mexico.

I should like to add a few notes under each of the foregoing heads

(1) As to frequency of double or multiple gunshot wounds. "The Medical and Surgical History of the War of the Rebellion"[2] says: "It is impossible to give even a proximate estimate of the frequency of the cases in which several wounds were found in the same individual. The cases were classed with those injuries which seemed to be the gravest."

Macleod makes a similar statement[3] in his "Notes on the Surgery of the Crimean War."

[1] Mr. Longmore (Holmes' System of Surgery, vol. ii., p. 142) calls attention to the distances over which the wounded must be carried, and of the *mode* of carriage, as influencing the prognosis.

[2] System of Surgery, vol. i., p. 334. See also Holmes' Surgery, vol. ii., p. 144.

[1] The writer's thanks are due to Drs. Whitney and Atkins for various favors in connection with these cases.

[2] Part III., Surgical Vol., p. 868.

[3] Notes on Surgery of Crimean War, p. 272.

It would seem that both accuracy and convenience would be subserved by a correct classification of multiple injuries.[1]

In the volume of "Surgical Cases since the War,"[2] from 1866–71, 3,213 gunshot wounds are recorded, and 219 compound fractures. But no double or multiple gunshot wounds. Mr. Hornidge says[3] that fractures of two or more bones in separate parts of the body are comparatively rare, not more than one-third of one per cent. of all fractures.[4] Compound fractures (single) would seem comparatively frequent, as Dr. Stimson gives the percentum, according to Gurlt, as sixteen, counting all fractures of the limbs.[5] Perhaps an approximate estimate may be arrived at as follows: The whole number of amputations recorded in the "Medical and Surgical History of the War" is 29,980,[6] of which 172 only were double—something over one-half of one per cent. It is fair to assume that the proportion of cases of multiple wounds that enjoyed conservative treatment is no larger than the proportion of wounds of a single extremity that were not operated upon. Probably the number of those suffering from double or multiple gunshot wounds who died before they could receive attention is large compared to the number operated upon. But it would seem that multiple gunshot wounds of the extremities did not form over one per cent. of all gunshot wounds of the limbs in our war.

The paucity of records of such cases is astonishing. A search through the principal medical journals for the last eighteen years reveals but two cases of double compound fracture reported since the war, only one of which was a gunshot wound. These were apparently reported because they recovered under conservative treatment.[7] The first occurs in Braithwaite (July, 1870, p. 106). Fracture of both legs in railway accident, left comminuted and right compound comminuted; conservatively treated, with recovery. The other (*American Journal of the Medical Sciences*, April, 1874) was a double compound gunshot fracture of right thigh, conservatively treated, with recovery. Reported by Mr. Stewart.

My friend Dr. L. A. La Garde, U.S.A., reports a case of fracture of the right tibia by a pistol-ball which then buried itself in the left foot. This case prospered under conservative treatment, although to insure complete recovery an operation to remove dead bone, and perhaps the bullet from the foot, may have to be undertaken.

(2) As to the treatment and results, we know that all good authorities forbid amputation of the forearm for fractures complicated with lacerated and comminuted wounds when the principal blood-vessels and nerves are intact, and also in compound fractures of the leg, not involving a joint, whenever the great vessels and nerves have escaped, and especially when only one bone is broken. And, in a general way, it is fair to assume that the same rule holds good in such wounds when there is another fracture in some other part of the body. Dr. Stimson says,[8] "Dupuytren first called attention to the fact that while the danger of wounds and fractures is undoubtedly greater when they are numerous, yet it does not increase in direct proportion to their number. On the contrary, when there are several fractures each one runs a milder course in general than if it were single." Some remarkable recoveries after multiple wounds, which are to be found in "Guthrie's Commentaries," "Macleod's Notes," "The Medical and Surgical History of the War," etc., are only to be explained by this hypothesis. Of course, the introduction of "clean surgery," the use of antiseptics, and the improvements in therapeutics of every sort have changed the old surgical rules somewhat. And, as Dr. Stimson says,[1] "It is now the rule to save the limb where formerly it was the exception. The surgeon can advantageously wait in doubtful cases." Sir W. MacCormac strongly advocates[2] delay even in removing bony fragments from compound comminuted fractures. He speaks of one soldier in the American civil war who received a gunshot wound of the elbow-joint, and another in the knee, the second ball lodging in the cartilage, having nearly penetrated into the joint; and adds, sententiously, that fortunately the surgeon did not believe the man's statement that he had a ball in his knee, and the patient had good use of this knee for years afterward.

(3) In the matter of iodoform dressings, Dr. Michael has given an excellent summary of the present state of surgical opinion relative to this drug.[3] In this it is said that Von Mosetig, to whom the credit of introducing iodoform as a general wound-dressing is due, lays down the rule that traumatic erysipelas will not occur in wounds dressed with iodoform unless the wound-secretions are retained. In Case II. erysipelas occurred when the secretions were apparently not retained. The wound was thoroughly washed out, the wash-water readily passing through before the iodoform was applied, and again twice the next day. To the best of my recollection the discharge was not obstructed at any time by the iodoform. And yet the latter could not be kept to the wound on account of the local disturbance. A fortnight later it answered admirably, although no change in the wound had occurred, except that it had partly healed up and the wash-water would no longer go through it. Another reason for believing the erysipelas to be purely local, and therefore probably due to the iodoform, is that the man's general condition improved and his temperature diminished, *pari passu*, with the development of the erysipelas. When the latter was at its height the patient's temperature was less than 100° F.

Almost immediately after the removal of the iodoform the pain and swelling about the wound began to subside markedly. I have noticed no reported cases of local irritation or inflammation from iodoform, in the journals (although I have not taken the time to search thoroughly for such reports). I had a case at Fort Cummings, N. M., where iodoform was applied to a superficial burn of the dorsum of the hand, then partly healed, and had to be discontinued as it provoked ecthymatous eruption with considerable burning and pain. These are the only cases of local trouble from iodoform that have fallen under my notice, although, warned by them, in all cases where iodoform threatens to be too irritating, I dilute it with an equal part of flour or starch, which gives most satisfactory results. There is, of course, the possibility that the drug was not chemically pure. But I believe that it was.

(4) It would not be just to omit mention of the action of wounds in the climate of New Mexico, which is so dry, so equable, so mild and delightful. Numerous papers have of late appeared in the journals relative to Colorado and New Mexico as health-resorts, especially for phthisical patients.[4] The efficaciousness of the climate in lung complaints is well known, and its salubrity shown in the healing of wounds is, I believe, as great, although not perhaps so familiar to the profession.

There is a case of Mr. Lister's, mentioned in *Braithwaite's Retrospect* (January, 1868, p. 121), in which a boy, aged thirteen, sustained a fracture of the humerus, with extensive laceration and injury to the soft parts. The distinguished surgeon is represented as congratulating himself on saving this limb by the use of antisepsis,

[1] Although Mr. Longmore asserts that tables "afford little aid toward the prognosis of particular cases, each of which must be estimated according to its own particular features and circumstances" (Holmes, vol. ii., p. 142).

[2] Surgeon-General's office, U. S. A.

[3] Holmes' Syst. of Surg., vol. ii., p. 41.

[4] I take it for granted that this includes gunshot fractures.

[5] Treatise on Fractures, p. 60.

[6] Op. cit.

[7] Some remarkable cases which had occurred during the war were given in THE MEDICAL RECORD. One (vol. xi., 1876, p. 14), reported by Dr. Beck, recovered after seven serious musket-ball and canister wounds, both femora having been fractured and comminuted. Another (November 3, 1883, p. 478) interesting case is related by Sir W. MacCormac.

[8] Op. cit., p. 55.

[1] Op. cit., p. 193.

[2] Vide lecture in THE MEDICAL RECORD, November 3, 1883.

[3] Medical News, September 8, 1883.

[4] Vide, among others, leading article by Dr. H. C. Wood, Phila. Med. Times, October 6, 1883.

whereas it would certainly have been amputated without them. In New Mexico we should expect to save the arm, in a similar case, *without* carbolic acid. In Case I., reported, carbolized washes were used, but no attempt at thorough antisepsis was made. (Nor in this case was iodoform used, at least for the first four months.)

The beneficial action of the climate of New Mexico, upon consumption and wounds alike, might be construed as supporting the theory of the local origin [1] of phthisis.

At all events, wounded surfaces and diseased lungs enjoy a remarkable opportunity to recover in the localities mentioned; and I think one writer has asserted that no case of pulmonary consumption has ever originated in Colorado.

THE INTRA-PULMONARY TREATMENT OF PHTHISIS PULMONALIS NEARLY ONE CENTURY AGO.

By JOHN B. RICHARDSON, M.D.,

LOUISVILLE, KY.

In searching through my library for the advances made in the treatment of phthisis pulmonalis, and comparing the modes of treating this affection during the last century, I happened upon a work, bearing date "Edinburgh, Scotland, 1796," entitled "Annals of Medicine, for the Year 1796," by Andrew Duncan, Senior and Junior, Fellows of the Royal College of Physicians, Edinburgh. This book was purchased by my father, the late Dr. Samuel B. Richardson, of this city, "in the year 1825."

The preface reads: "Twenty volumes of a periodical work, under the name of Medical Commentaries, have been published at Edinburgh by Dr. Duncan, Senior. It was chiefly intended to exhibit a concise view of the latest and most important discoveries in medicine and medical philosophy, particularly those which tended to improve the practice of the healing art. . . . They also hope, that reflecting practitioners will occasionally use this work as a channel for communicating to the public those practical observations which they think worthy of its notice. These may be transmitted either to Dr. Duncan at Edinburgh or to Dr. G. Pearson, Leicester Square, London. . . . In the present volume, the intelligent reader will find many things well meriting careful examination. Not to mention other particulars, if what is related respecting the effects of Nitrous Acid as observed by Dr. Carmichael Smyth, Mr. Patterson and Mr. Scott, shall be fully confirmed by the experience of others, the discoveries of the present period will be entitled to particular notice in the history of medicine."

This book contains (to us of the present day) many quaint ideas, some of which are considered *novel* means, even by the practitioner of the year 1887—*e.g.*, the *topical* use of remedies in phthisis pulmonalis.

An analogous instance, the supposed newly discovered disease (twenty-five years ago) "trichinosis," and its cause, the eating of diseased swine-flesh. Now, it is known that the Egyptians, Ethiopians, and Israelites, from the earliest ages, refused to eat the flesh of swine.

The Western nations departed from this rule, and in these modern days we are beginning to realize the dangers of this article of food, on account of the trichinæ contained in it; and when we turn to the Talmud, we are told that it was forbidden to the Jews "because of a small insect which infests it." Just in this connection it will be of interest to mention—as it is not, I believe, generally known—that "the Egyptians, the Ethiopians, the Phœnicians, and other ancient nations practised circumcision, not only as a religious duty, but with the view—which was attained—of stamping out syphilis, and it was not until Columbus reopened communication with the infected people of the West India Islands that the scourge crossed the Atlantic and 'turned Europe'—as one has expressed it—'into a charnel-house.'"

The above fact sets at rest the charge that America sent this disease to Europe, as has been accredited to be true. I copy verbatim the following from this work: "Dr. Girtanner's Observations on Consumption.—The writings of Dr. Beddoes, and the hopes of giving relief in this dreadful disease, induced Dr. Girtanner to make similar experiments, especially as he is not satisfied with the practical part of Dr. Beddoes's work, because attention was not paid to the different species of consumption, to the stage or cause of the disease; because the histories of the cases were not sufficiently accurate, and because the carbonic acid, azotic, and hydrogen gases were indiscriminately recommended.

"To proceed methodically, he resolved to make a series of experiments with one kind of gas, and he selected the carbonic acid gas, because it is specifically heavier than the atmosphere, and will therefore sink to the bottom of the lungs, so as not to be immediately expired again; because it has been found, by the experiments of Ingenhouss and Beddoes, to diminish pain, and promote the healing of wounds; because it is easily prepared without expense or fire; and lastly, because the use of hydrogen gas is attended with danger, if expired near a candle, from its conversion into hydro-carbonous gas.

"On April 3, 1795, Professor Hoffman carried Dr. Girtanner to see a student of twenty-three years of age, with whom he wished the new method tried. The patient lay upon a sofa, unable to raise himself up; his countenance was fallen, his whole body extremely emaciated, his tongue of a bright-red colour, his hands burning hot, his pulse 120 in a minute, and his voice hoarse and weak. He complained of violent cough, which deprived him of sleep all the night and troubled him much through the day. His expectoration was copious, tough, thick, and of a sulphur colour. During the night he sweated so much that he said he felt as if he lay in water. He had also a violent colliquative diarrhœa and occasionally bleeding at the nose, which was difficult to stop.

"Upon inspiring deeply, he felt severe pain in the right lung. He was first affected a year and a half before, after cold, and was daily growing worse, though he had followed the advice of the most celebrated physicians of Goettingen, who had now given him over. In the evening Dr. Girtanner made him breathe a mixture of one quart of carbonic gas and two quarts of atmospheric air. After lying a few seconds without motion, he said he felt as if relieved of a weight which till now had pressed him; he could breathe more freely, and he felt in the right lung a soft warmth and a pleasant tickling. In a quarter of an hour he breathed a second portion, and in half an hour the third. He was ordered to live upon smoked and salted meat, abstaining from all vegetables, and to drink water and beer but no wine. No other medicines were prescribed. . . .

"Till the 7th of May he breathed three portions of the above-mentioned mixture twice a day. Afterward it was increased to four portions each time. Until the beginning of May he continued to recover; his appetite returned; he slept tolerably quietly the greatest part of the night, and without much coughing; his expectoration was diminished and less yellow; the bleeding at the nose had not returned; the hectic fever was slight, and lasted but a few hours; he was less emaciated, and could walk about his room and amuse himself. His pulse alone was not better. It was still small and beat 120 to 130 in a minute. . . . On the 3d of July he was permitted to return to his common diet, as he was tired of salted meat, and complained that it made him cough. . . . About the middle of August his cough ceased, his pulse was soft, and beat 70 to 80 in a minute; he gained strength and appetite, slept well, and complained of nothing except a trifling cough. On the 27th of August he found himself strong enough to leave Goettingen, and to undertake a journey of about eighty miles on foot,

[1] Vide Dr. A. Flint's paper on The Bacillus Tuberculosis, Med. News, January 19, 1884.

which he performed, and is now, Dr. Girtanner has heard, very well.

"The conclusion to which Dr. Girtanner arrives from this and many other cases is that the respiration of carbonic-acid gas is a very active remedy, which in some cases is of great service, is of no use in others, and is even hurtful sometimes.

"Dr. Girtanner promises to take another opportunity of relating his trials with azotic and hydrogen gases, both of which seem to have a much more beneficial action than carbonic gas."

This book contains the article from the pen of Dr. W. Scott, of Bombay, on the "Effects of Nitrous Acid on the Human Body," extracted from the "*Bombay Courier*, April 30, 1796," with a description of his manner of preparing it, and its uses as a medicinal agent in the fevers of India and syphilis; also a letter from Dr. W. Scott to Sir Joseph Banks, which ends as follows: "I have no objection to my name being used on this subject, for I really believe that such a remedy would be highly useful to mankind, if judiciously employed, especially in warm climates, where a tendency to animalization gives a particular character to all diseases."

It also contains an article, "Zoonomia; or, the Laws of Organic Life," by Erasmus Darwin, M.D., F.R.S., author of the "Botanic Garden." I judge he was the father of Professor Darwin, of "Darwinism" reputation.

Clinical Department.

A SIMPLE METHOD OF PREPARING TAMPONS.

Dr. N. W. Cady, of Logansport, Ind., writes: "Some time since I hit upon a handy method of preparing tampons. When made in the ordinary way, tampons are usually not firm enough, and the knots tied in the retaining string often produce pain, or even slight ulceration. The implement which I use in preparing them is a bit of wire twelve inches long, ending in a loop or hook. A piece of strong linen thread is doubled, and then looped over the hook, the ends being secured at the other end of the wire by two or three half-hitches. Cotton, oakum, jute, or wool, is now wound firmly around the wire and thread until the roll is from four to five and one-half inches long, and from one-half to three-fourths, or seven-eighths of an inch in diameter. The thread is now released from the wire loop, and the wire withdrawn, leaving the thread in the centre of the roll. The roll is then formed into a ring by tying the ends of the thread together firmly. Making the roll two and one-half inches or less, and correspondingly thicker, a conical tampon may be made. Oakum or jute answers very well for the interior of the roll, but I prefer cotton for the outside."

TREATMENT OF POTT'S DISEASE BY A PERIOSTEO-PLASTIC OPERATION.

Dr. H. C. Wyman, of Detroit, in a lecture reported by Dr. Zina Pitcher, of the U. S. Marine Hospital Service, advocates a periosteo-plastic operation for the treatment of and prevention of deformity in Pott's disease of the spine. In cases of this disease that have gone on to a favorable termination, he argues, there is a firm bony splint, formed by a union or welding together of the articular and spinous processes of the diseased vertebra. Sufficent proof of the existence of this bony union as a natural means of repair is shown at post-mortem examinations. In a number of experiments on dogs conducted during the past five years, Dr. Wyman has demonstrated the possibility of obtaining such bony union by means of a periosteo-plastic operation, which may be briefly described as follows: An incision is made on either side of the spinous processes of the diseased vertebræ, and of the two adjacent healthy ones, so as to permit of the dissection of the periosteum from the spinous processes. The loosened membrane is then moved over to the adjacent spinous process, previously denuded, where it is fastened by sutures. By this means it is expected to obtain a firm osseous splint, the unbroken line of periosteum, formed in the manner above indicated, favoring an osseous deposit between the spinous processes. A firm bony splint is thus formed, which supports the diseased portion of the spine and permits no friction or pressure upon the carious bodies, in this manner relieving the tendency to greater inflammation and giving physiological rest. Dr. Wyman says that this operation will be most useful when it is resorted to early in the course of the disease, before angular curvature is present. The author of the method claims that it is the most rational one for the treatment of vertebral caries, and bases his assertion on the following grounds: 1. It is a faithful imitation of nature's plan of cure. 2. It accomplishes all that could be hoped for from the most thorough counter-irritation. 3. It imposes two or three weeks of rest in the horizontal position. Dr. Pitcher adds, that he has seen a number of cases of Pott's disease among the Indians of Southeastern Alaska. These usually result in a cure by bony anchylosis, the spine being straight and perfectly rigid. Such result is obtained by the treatment adopted by the parents of the children, which is to make the little patients keep the spine always in a horizontal position by walking about on their hands and knees.

WIPING OUT THE LARYNX IN CROUP.

Dr. Marcell Hartwig, of Buffalo, N. Y., writes: "Dr. Horace Green employed this method successfully as long ago as 1859. I have had a case in which there was cyanosis, and used a bit of sponge, fastened to a suitably bent probang. Green used a ten per cent. solution of nitrate of silver, but I used a simple sponge without any medicine. Such a procedure is easy, and is not fraught with the dangers of lost tubes, and of entrance of food into the lungs. The only danger is that of crowding membrane into the trachea. To obviate this trouble as far as possible, I propose to introduce a bit of sponge, fastened to a guide, within a silver catheter with open end. After the catheter is in the rima glottidis, the sponge is pushed out and then withdrawn, together with the instrument. The sponge, previously compressed in the catheter, would expand and bring away them embrane during its withdrawal. Of course, such manipulation would have to be done with rapidity. But if the catheter were of the requisite size for the age of the patient, the entrance of air would not be entirely prevented until the sponge was pushed forward. What results my be obtained by simply wiping the larynx remains to be seen, but this method previously employed will not prevent subsequent intubation, if the latter should be found to be necessary. Certain remedial agents may also be applied in this manner. After the first membrane has been removed, that which is formed again is much less firmly adherent."

THE ETIOLOGY OF ALOPECIA PRÆMATURA IDIOPATHICA.

Dr. Chevalier Q. Jackson, of Pittsburg, Pa., sends us a communication on this subject, in which he claims that the hat is responsible for very many cases of so-called idiopathic premature alopecia. Women are comparatively rarely troubled with this affection, and for the reason that their scalps are not so continually confined in hot unventilated hats. Another fact which points to the hat as the offending cause is that this form of baldness is not only limited to the head, but to that portion of it which is covered by the hat. There are many ways in

which the hat interferes with the vitality of the scalp and hair. There can be no doubt that a tight constricting hat-band greatly interferes with the circulation of the blood in the scalp, and consequently impairs the nutrition and vitality of the hair-follicles, by compressing the temporal artery and the terminal branches of the occipital. Then much damage also is done by excluding the light, not only direct solar rays, but also the indirect or reflected light. Then, again, that portion of the head covered by the hat is deprived of the beneficial effects of the reactionary congestion following exposure to cold air. While it is rare at the present time to see a bald woman, it was quite common in England and France at the time when it was fashionable for women to wear wigs and to build up mountains of false hair, cotton wadding, and pads. The writer has taken accurate notes of thirty-one cases of this affection, with special reference to the possible relation existing between it and the wearing of the hat, and concludes, from a study of these cases, that confining the head in a close and unventilated hat will cause the disease in cases in which a predisposition exists, and in certain cases it will produce it in the absence of any predisposition. Among the predisposing causes may be mentioned heredity, poor general health, mental exertion, worry, loss of sleep, etc. It has been argued that some of the above factors, alone or combined, may be sufficient to cause the disease, but if such were the case the alopecia ought not to be confined solely to that portion of the scalp which is covered by the head-gear.

CHIAN TURPENTINE IN THE TREATMENT OF CANCER.

Dr. John Clay, of Birmingham, England, writes as follows concerning the administration of Chian turpentine in cancer: "Success in the treatment of cancer by this drug depends upon, 1, the mode of its administration; 2, the stage of the disease; 3, the complications by which the growth is attended; 4, the persistence of the treatment. The idiosyncrasy of the patient will also influence more or less the rapidity of action of the drug; in one case the good results will be apparent in two or three weeks, while in another it will be as many months before the external appearances will give evidence of any beneficial action. If there is no perceptible increase in the growth in the course of two or three months, it may be relied upon that the drug is exerting a favorable action, and, other things being equal, the ultimate success of the treatment will depend upon perseverance in its continuance. Everything depends upon the purity of the drug, for there is an immense amount of adulterated and fabricated stuff in the market. There is *prima facie* evidence of the genuineness of the gum if no violet odor is communicated to the urine, and if no skin-rash or cutaneous irritation is manifested after the lapse of a few weeks. The external application of a chromic-acid solution (twenty or thirty grains to the ounce of water) to a cancer in a state of ulceration is sometimes useful. The following is the formula for preparing the mixture as published by the dispenser to the Queen's Hospital, Birmingham: 'An ethereal tincture is first made by mixing equal parts of Chian turpentine and ether, and shaking frequently in a well-corked bottle until all soluble matter is dissolved. An emulsion is then prepared in the following manner: Place in a large mortar two hundred and forty grains of powdered acacia and fifty grains of powdered tragacanth and one ounce of the tincture of Chian turpentine, mix, and add, all at once, a fluidounce of water, triturate until an emulsion is formed, and then dilute gradually up to eight fluidounces. Two fluiddrachms will contain seven and one-half grains of the pure drug—the initial dose. All trace of ether must be removed by exposure in an open vessel, preferably in the cold.' Those cases are the most suitable for treatment in which the disease affects the skin or mucous surfaces, and the earlier the treatment is begun the better is the chance of success. When the lymphatics are extensively involved, or when the disease has invaded the peritoneum, pleura, or vagina, the drug can be recommended merely as a palliative. In cancer of the uterus or rectum, if treatment has not been begun very early, disease of the kidney (not necessarily of a malignant character) is apt to arise. If this condition becomes manifest, the action of the drug will require careful watching, and it may be necessary to abandon its administration altogether. It is advisable, after the medicine has been taken for two months, to omit it for two days in each month, beginning again with it in the same dose that was being given at the time of its discontinuance. Opium, in large doses, is antagonistic to Chian turpentine, and should be given only when absolutely necessary because of severe pain, and then only in small doses—about seven minims of the tincture, incorporated in the mixture. The combination of resorcin with the Chian turpentine (two drachms to eight ounces of the above mixture) is sometimes beneficial. The mixture is given in doses of one teaspoonful in cold milk three times a day, after meals, increased in two weeks to two, and in two weeks more to three, teaspoonfuls. Its administration is to be persevered in for a long time. Too speedy results are often expected from the remedy, and hence it may be abandoned too early before it has received a fair trial. If the disease seems to be arrested at the expiration of a few weeks it is quite sufficient to justify a continuance of the drug. After the arrest of the disease the remedy must be continued until some obvious change takes place, and it must be administered continuously, in increasing doses, under any circumstances, even if some apparently discouraging conditions arise." Dr. Clay adds some remarks concerning the administration of the remedy in individual cases, which, however, we are obliged to omit on account of the pressure on our columns.

RUPTURE OF THE BLADDER IN AN OX FROM IMPACTED CALCULI.

Dr. G. W. Squires, of East Avon, N. Y., writes: "A farmer lost a valuable ox, with the following history and autopsy: He had been in the habit of watering the team at the house well, which water was strong in the ingredients of lime. The ox was twelve years old, and had drunk of this water eleven years. It had at times shown signs of vesical trouble, but never to a degree to incapacitate him for work. He was found in the stable one day in great distress, lying down and getting up, turning round and round, swinging his head around to his haunches, and visibly in excruciating agony. He remained in this condition two days, all remedies failing to alleviate, but at the end of this time he was found lying down, apparently comfortable; he ate and drank a little, but with fastidious relish. For three days he lay down most of the time, and was noticed to be very thirsty—would drink great quantities of water. He now began to bloat, and there was a discharge of frothy water from the mouth and nose, increasing in quantity until it flowed almost in a stream. The ox appeared to be in little pain; died on the seventh day. The examination revealed rupture of the bladder at the fundus, with slight hemorrhage. The abdomen contained eight common-sized pailfuls of water, of a urinous color and odor. Numerous small calculi, from the size of a number six shot to a good-sized pea were found impacted at the neck of the bladder. The bladder contained one hundred and fifty of these calculi, about one hundred and twenty-five of them being of the smaller size. They were most of them perfectly round, and of surpassing smoothness and beauty. The calculi, becoming impacted in the neck of the bladder, doubtless caused spasmodic closure of the urethral outlet, causing retention of urine, until the viscus was dilated to such a degree as to rupture, after which the pain was alleviated, the water passing through the tear into the abdominal cavity."

Progress of Medical Science.

Sulphate of Sparteine.—From his own researches into the action of sulphate of sparteine, Dr. Gluzinski draws the following conclusions: 1. The main effect of sparteine consists in slowing the cardiac action and raising the blood-pressure, which effect in cold-blooded animals is more pronounced than in the warm blooded (mammals). 2. In the latter there may be distinguished three periods of the drug's action, in the first and third of which the retardation is more marked than in the second (in this even a quickening of the heart may sometimes be observed). The phenomena are to be explained by changes in irritability of the pneumogastric nerves and of the cardiac muscle. 3. Reflexes are at first increased, but subsequently lowered. 4. Death follows from asphyxia, and is dependent, not only upon a lesion of the medulla oblongata, but also upon that of the respiratory muscles. 5. Therapeutically, sparteine may be of use in such cases of uncompensated cardiac disease (*a*), "where the patient's state does not permit us to wait for a full development of the action of digitalis," (here sparteine may be given as adjuvant to digitalis); (*b*) where digitalis remains inactive; and (*c*) where the latter is contra-indicated. 6. In uncompensated cases the administration of sparteine is followed already in an hour by an improvement of the pulse and subjective symptoms; cardiac arhythmia, however, does not disappear. 7. As to energy of action, sparteine is inferior to digitalis.—*The London Medical Record.*

The Causes of Hæmoptysis.—In a work by M. Dejean, the author states that hæmoptysis is not always a symptom of incipient pulmonary phthisis, as is generally supposed, but may be due to dilatation of the bronchi from a varicose condition of the capillaries, or miliary aneurisms of the bronchial mucous membrane. Laënnec, who first described this affection, observed cases of hæmoptysis in which the necropsy revealed several bronchial dilatations, without any sign of the presence of tubercles. Barth, Gombault, Balzer, and other authors have often seen hæmoptysis in patients affected with bronchial dilatations, and attributed the bleeding to capillary aneurisms in the walls of the dilated bronchi. An important feature of this form of hæmoptysis is that the blood which is brought up is rarely frothy, as it is in the case of tubercular disease. The differential diagnosis between bronchial and other kinds of hæmoptysis may be established in difficult cases by the presence or absence of bacilli, as has been proved by Dr. Cochez.—*The British Medical Journal.*

O'Reilly's Method of Arresting Post-partum Hemorrhage consists in passing the vaginal nozzle of a good syringe through a sponge about four inches in diameter; then, moistening the sponge, it is compressed with the fingers and carried up into the fundus uteri. An assistant attends to the water-supply, an abundant injection of which quickly brings on uterine contractions, and the hemorrhage ceases, with no retained clots. The water injected flows back through the sponge, and if impregnated with some sort of antiseptic, such, for example, as one grain of mercuric chloride to the pint, would tend greatly to lessen the danger of carrying septic matters either in the sponge, the syringe, or the water used.—*Progress.*

The Danger of Ice in Post-partum Hemorrhage.—Several cases in which post-partum hemorrhage was successfully stopped by the introduction of pieces of ice into the uterus have been followed by symptoms of septicæmia. This fact, taken in conjunction with the recent researches of Prudden as to the presence of living bacteria in ice, may perhaps point to direct septic infection from the use of ice. Under any circumstances, hot water is probably preferable as a hæmostatic agent, and the possibility of conveying septic germs in ice thus brought forward is another and still stronger argument against the employment of the latter.—*Medical Press.*

Metastasis in Erysipelas.—An interesting contribution has been lately made to the pathology of erysipelas by Dr. von Noorden. It is based upon a fatal case of facial erysipelas, in which there was also suppuration in the sheaths of the extensor tendons of the right hand, parenchymatous nephritis, acute oöphoritis of the left side, and acute swelling of the spleen. It was concluded that this was an instance of secondary or metastatic infection of erysipelas. The blood in the cardiac cavities and the pus from the inflamed hand were found to contain large quantities of a streptococcus which neither microscopically nor by cultivations could be distinguished from streptococcus erysipelatis or from streptococcus pyogenes. Inoculations of the cultures obtained from the blood were made in the ear of rabbits. In three instances only redness, without swelling or suppuration, occurred; in one of these cases only isolated chains of cocci were found in the lymphatics of the ear. In a fourth rabbit there was no local effect, but death followed in two days, and the blood was found to contain numerous streptococci; while in the fifth rabbit redness of the ear appeared on the sixth day, and numerous chains of cocci were detected in the lymphatics of the amputated ear, yet on the twelfth day, when the animal died, no cocci were found in the blood. These variable results led Noorden to conclude that animal experimentation was an insufficient test of the species of streptococcus; and further that, contrary to general opinion, the erysipelas-coccus may, under certain conditions, gain entrance into the blood. This infection may, he thinks, explain the occasional occurrence of secondary pneumonia; but Weichselbaum states that in such cases the pneumonia is not due to the erysipelas-coccus, but to the diplococcus pneumoniæ, and that it is incorrect to speak of an erysipelatous pneumonia. The case related by Noorden was probably one of pyæmia, due to infection by the streptococcus pyogenes.—*The Lancet.*

Transperitoneal Nephrectomy.—At a recent meeting of the Paris Surgical Society, M. Terrier communicated a note on a new method of performing transperitoneal nephrectomy. The abdomen is opened in the middle line, and the intestine pushed aside so as to uncover the peritoneal membrane covering the kidney. A vertical incision is then made in the membrane, the edges of which are held back with clamps. After removal of the tumor, the pedicle and the ureter are tied and brought forward through the peritoneal incision to the abdominal wound, where they are secured. In this manner the peritoneal cavity is closed on all sides. M. Terrier claims that this operation does not necessitate drainage through the loin, as has generally been supposed.

The Nomenclature of Skin-diseases.—From a consideration of this subject, with especial reference to hybrid, syphilitic, and medicinal eruptions, Dr. Liveing (*The British Medical Journal*, May 7, 1887) concludes that:

1. When two skin-diseases coexist, they are generally quite distinct, and should be called by their well-recognized names.

2. That diseases are not natural, and do not follow the laws of natural development.

3. That it is very doubtful whether hybrid or crossed diseases exist at all, and that certainly there is no sufficient justification for a hybrid nomenclature.

4. That syphilitic skin-diseases differ from ordinary skin-diseases in their etiology, pathology, and treatment; and that this difference should be fully recognized in our nomenclature.

5. That medicinal rashes are not diseases of the skin, but simply eruptions, and should be so named.

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE USES OF ANTIPYRETIC DRUGS IN NERVOUS DISORDERS.

THE new antipyretic drugs, antipyrin and antifebrin, or acetanilide, have actually accomplished very little along the lines on which they first won their reputation. As symptomatic remedies, for occasional use in high fever, no doubt they serve a purpose. But for the systematic treatment of continued pyrexia of any type they are of no value, or may even be considered dangerous.

In other directions, however, both these drugs have shown powers which entitle them to a place in therapeutics. In the treatment of acute rheumatism both antipyrin and antifebrin act well, not better than the salicylates perhaps, but in many cases accomplishing the same result with less gastric or cerebral disturbance, and in some cases relieving the symptoms when the salicylates fail. Antipyrin has also been found to be an excellent remedy in febrile headache and in migraine. In addition to evidence of this already reported in THE MEDICAL RECORD, Dr. T. S. Robertson, at a recent meeting of the New York Neurological Society, reported a large number of cases illustrating the analgesic effects of this drug.

Antifebrin, or, better, acetanilide, holds a still higher place as a nervine, if we may judge from the experiences of Dujardin-Beaumetz and his pupil Weil.

Professor Lepine first discovered its sedative properties upon the nervous system. Its physiological action was further investigated by Dr. Weill (*Bull. de Ther.*, 1887, p. 150), who showed that it was a special sedative, and also that, given to non-febrile patients, it had no toxic effects in ordinary doses. The dose used when it is given as a nervine is from six to ten grains three or four times a day. This amount may be kept up for weeks without producing any of the physiological effects seen when the same dose is given to fever patients. It is best given dissolved in wine, or some alcoholic elixir, since it is not soluble in water.

Dujardin-Beaumetz has found acetanilide of value in combating pain in general, the special pains of locomotor ataxia, and in the treatment of epilepsy. In pure facial neuralgia the drug is inferior to aconite, but in those headaches which are of a rheumatic character, and in muscular or arthritic pains, the drug fully equals salicylic acid, and causes no disagreeable cerebral effects. In cases of locomotor ataxia the fulgurating pains were stopped temporarily or permanently by acetanilide. Dr. Signé, of Montpellier, reports similar results to those of Dujardin-Beaumetz in this class of cases.

As to the use of the drug in question in epilepsy, a good deal of caution is expressed. Beaumetz reports three cases in which the epileptic attacks ceased after acetanilide was given. But Dr. Signé, who used it in two cases, got no good results at all. Hence many more trials must be made before anything definite can be said.

A PILE-RIDDEN PEOPLE.

AMERICANS have been accused of being excessively nervous, very hard-headed, somewhat over-religious, and miserably dyspeptic. It was not until the present summer, however, that we are met with the charge of being, as a nation, the victims of piles. At the recent meeting of the German Surgical Congress, Dr. Lange said that in America hemorrhoidal disease was very common, not only among men, but also among women. This was in consequence of the very abundant diet, for the ladies took hardly any exercise at all, and the men were too preoccupied about business matters to pay attention to the state of their bowels. "Among hundreds of persons taken at random, scarcely a dozen would deny having piles if the question were asked, and it would in all cases be safe to ask the patient at once the name of his favorite purgative."

So, it appears that the American diathesis is hemorrhoidal. It has heretofore been considered that neurasthenia was our pet disease. But, if twelve per cent. of this great nation suffer from hemorrhoids, the pre-eminence of neurasthenia must lapse at once into innocuous desuetude.

It is less flattering to national vanity to know that wherever eight Americans are gathered together there is one case at least of piles, and that hemorrhoidal protrusions are coextensive with that magnificent territory over which the star-spangled banner waves. It is well, however, to learn of our infirmities, and try to correct them with maturing years and suitable topical applications.

Dr. Lange's remarks, therefore, upon the surgical treatment of hemorrhoids may be quoted here. He said that there was no need to invent a safe and easy method of operation for piles; it was only necessary to improve the present methods in two respects, namely, to lessen the severity of the operative procedures, and to shorten the duration of the treatment. The injection of concentrated carbolic acid into the hemorrhoidal masses had long been practised by quacks in the Western States of America, and at length legitimate practitioners were induced to make trial of the method. Dr. Lange spoke well of the results obtained thereby. The operation was as simple as possible, and no anæsthetic was required. The rectum should first be thoroughly emptied; then the piles must be brought down; and, after applying iodoform ointment to the mass, a solution of carbolic acid, more or less concentrated according to circumstances, should be slowly injected. Some surgeons used equal parts of glycerine and carbolic acid. In the case of large hemorrhoids, it was advisable to turn the point of the needle in various directions. Most practitioners allowed the patients to return at once to their business; but Dr. Lange usually insisted on their

remaining quiet for some days. After injection, the tumors began to swell somewhat rapidly, and assumed a glass-like appearance. In the case of internal piles, the operation was painless; but, in external hemorrhoids, sharp pain generally came on suddenly half an hour afterward. This should be relieved by suppositories. The next day the patients were quite well. The operation was repeated at intervals of three or four weeks. Dr. Lange had never observed any ill-effects, except slight sloughing. In the case of bleeding piles it was advisable to seek for the spots from which the hemorrhage came and to inject at those places, as the patients then recovered very quickly. Dr. Lange had performed the operation on forty or fifty patients only once, and in only one case had he been obliged to repeat it after two days.

THE NOMENCLATURE OF DRUG ERUPTIONS.

An English dermatologist utters a protest in the *British Medical Journal* against the current habit of attaching definite names of well-recognized skin-diseases to the various eruptions produced by drugs. He instances the fact that iodide of potassium causes, in some patients, pimples, and in others, blebs. The eruption has been called by Bumstead "pemphigus," and by Hutchinson "hydroa." Now these observers did not mean that the patient was actually suffering from either of these diseases, but that their eruption resembled, in its general type, "pemphigus" or "hydroa." The corollary is drawn that the proper designation should be "blebs from iodides." "Medicinal rashes," says the writer, "are not diseases of the skin, but simple eruptions."

This may seem a somewhat trivial matter, but it is one in which the point is well taken. It is simply an instance of the loose use of technical language where, nevertheless, we all understand each other. This license causes no trouble to the practitioner, but it is very apt to confuse a student, whose ideas about skin-diseases are apt to be very misty, and who contents himself, for a while, at least, with the brief classification of "eczema" and "not eczema."

THE ALLEGED CURABILITY OF GENERAL PARALYSIS OF THE INSANE.

It is generally acknowledged at the present day that general paralysis of the insane is an incurable affection, the tendency of which is, with occasional intervals of apparent improvement, constantly toward a fatal termination. Yet cases of this disease are from time to time reported in which a lethal issue has apparently been averted by treatment, and it has been suggested that possibly these cases were not true general paralysis, but that there is another affection bearing a close resemblance to it, which, however, is not always fatal.

In an article in the *Annales Médico-Psychologiques* for January, 1887, M. Baillarger seeks to differentiate these two allied disorders. There are, he says, two distinct affections, one, general paralysis of the insane, caused by chronic periencephalitis; the other, pseudo-general paralysis, produced by simple circulatory troubles. The differential points are, he asserts, simple and easily recognized. True general paralysis presents the pathognomonic signs of dementia and paralysis, while pseudo-paralysis commences by maniacal or melancholic delirium without being preceded by dementia or paralysis, and accompanied or not, as the case may be, by symptoms of muscular ataxia.

The following are the conclusions which the author has drawn from his investigations in this field:

1. There have hitherto been confounded, under the designation of general paralysis of the insane, two distinct affections.

2. In addition to general paralysis there is a special form of insanity characterized by irregular and incoherent ideas of grandeur, hesitancy in speech, inequality of the pupils, etc.; that is to say, by all the classical symptoms hitherto attached to the early period of general paralysis of the insane.

3. This form of insanity, distinct from general paralysis, cannot, however, be classed with simple insanity, and consequently it should be assigned to a special place in the nomenclature of diseases.

THE PAUPERIZATION OF THE WEST SIDE.

In 1875 there were four or five dispensaries in the poorer districts on the west side of the city. Out of the whole population, then, only about 25,000 were treated annually at these institutions. A patient, if sick, went to a doctor and paid him, if he could. If not, there were plenty who would treat him for nothing when the circumstances were explained.

In 1885, on the other hand, nearly 60,000 persons were treated *gratis* at the dispensaries. Instead of one large institution there are now three, all doing active work, and a fourth will be established this fall, when the College of Physicians and Surgeons opens in its new building.

Physicians practising on the west side observe that the people are getting educated up to dispensaries, and now get their medical service free as often as possible. In the past ten years an immense number of people have moved to the west side. The majority are not of the poorer tenement-house class, but ought to be able to pay the doctor.

IMMIGRANTS AND INFANTILE MORTALITY IN AMERICA.

Dr. Eklund, of Stockholm, has compiled statistics showing the number of deaths annually per hundred of all deaths among infants under one year of age. The lowest death-rates (14.3 to 26.2) are found in Belgium, Denmark, Sweden, England, and Switzerland. The highest (31 to 48 per 100) in Austria, Germany, and Russia. The cities with the lowest rate are Paris (30.8), and St. Petersburg (32.5), while the highest death-rate is in Berlin (58.1)! a city remarkable for its zeal in the pursuit of medical science and art.

Dr. Eklund states that the mortality of infants under one year of age in Europe generally is twenty-five per cent. of all deaths.

He tells us also that in the large cities of the United States the infants dying under one year of age average fifty per cent. of the number born.

The high death-rate credited to America is ascribed by Dr. Eklund to the fact that the European defective classes, whose natality and infantile death-rate are enormous, are forcibly exported in great numbers to this country, a large proportion going to our cities.

It is very true that the numbers of our sick and defective classes are enormously swollen by the immense tide of immigration. The figures of Dr. Eklund are incorrect for this city, however, where only twenty-five per cent. of the whole number born annually die within a year. Nearly three-fourths of the infants in this city have foreign-born mothers, and it is safe to say that four-fifths of the infant mortality is among the children of the immigrants.

News of the Week.

Our St. Louis exchanges complain that their delegates to the American Medical Association were not treated with proper hospitality, the delegates themselves referring "in bitter terms to the very unsocial features of the entertainments given."

More Money is needed for the International Congress. Present accounts give the amount raised, aside from the Congressional appropriation, as not above $5,000. We trust that the gentlemen who have talked so bravely about the prospects of the meeting will not stop with words.

Another Medical School for Women.—The St. Louis *Medical and Surgical Journal* states that St. Louis is to have a medical school for female students exclusively, "the means having been subscribed by wealthy citizens." We trust that the latter item is correct. We want no more Lazarus medical schools.

The Peoria "Journal" views with some doubt the possible working of the new Illinois Medical Practice Act, by which the practice of medicine, even by the simple process of laying on of hands and "shooing" the disease away, is a thing of difficulty. Still, it adds, a man can go to the drug-stores and get three fingers of whiskey and two grains of quinine and be all right. That sweet boon is not denied him, and as long as he can do this and keep off "the shakes" he can grin defiance at the State board.

Indian Doctors.—There are now twelve shows of these travelling in the West, each one having a band, a man who pulls teeth gratis, and one who sells patent pain-exterminating oil.

The Clinton County Medical Society of this State celebrated its semi-annual meeting, at Plattsburg, with an excursion on the lake and a dinner.

Another New Hypnotic, recommended by Professor von Mering and Professor Jolly, is amyl-hydrat, a tertiary amyl-alcohol. Von Mering has used it for insomnia in sixty cases, the dose being three to five grammes.

Board of Examiners in Michigan.—A bill creating a board of examiners in medical practice has passed the Michigan Legislature.

Headache and Poisoned Hats.—Dr. Joseph F. Gerster, in the *American Grocer*, describes a case of poisoning from wearing a hat with sweat-bands colored with lead. The chief symptom was headache. It is not uncommon to use lead in preparing the leather for sweat-bands, but there is rarely any dangerous amount.

The Death of Professor Akin C. Muller, of the Medical Department of Wooster University, occurred recently. At a meeting of students, resolutions warmly eulogistic and sympathetic were adopted.

Dr. John C. Gordy, a well-known physician in Western Louisiana for many years, died on July 11th, at Franklin, La., aged seventy-eight. Dr. Gordy was for thirty years Grand Lecturer of the Grand Lodge of Masons.

Dr. George Engs, of Newport, R. I., died on July 7th, of heart disease, aged forty-five. He was a graduate of the Harvard Medical School, and had studied abroad.

Adulteration of Drugs.—The New York *World* employed a chemist to examine samples of drugs in our local pharmacies. He reports: "The examination of the drugs submitted to me shows little adulteration. With the exception of one sample, pink-root, there was no case of substitution discovered, and it is possible that this sample was sold by mistake. Samples of oil of winter-green and solution of citrate of magnesia, in which the substitution of a cheaper article was rather expected, were found to be genuine. Oil of sassafras is sometimes used to adulterate oil of winter-green, and occasionally a solution of tartrate of potassium is labelled and sold for citrate of magnesia. In a few cases drugs were found to be of an inferior quality, notably ipecac, in which the medicinal portion of the drug had entirely disappeared; senna, which contained decayed leaves possessing no value; gentian, long kept and worm-eaten; taraxacum, aconite, and rhubarb, inferior specimens were gathered. The most important adulterations discovered were in the tinctures of nux vomica and opium—articles over which the retail druggist has absolute control."

Jubilee Medical Honors.—Our English medical brethren apparently expected some high honors to be bestowed upon them on the occasion of the Queen's Jubilee. We learn, however, that Her Majesty was "graciously pleased" to make knights of Dr. Garrod, Mr. G. H. Macleod, and Dr. Aitken. One veterinarian, Mr. H. L. Simpson, was also made a knight. Various minor decorations were also bestowed. But, plainly, the English doctor is not yet thought good enough to be made a peer.

Gaseous Enemata in Phthisis.—The use of these enemata has been entirely abandoned in the fourth division, Bellevue Hospital, where they have been earliest and longest tried.

Dr. C. B. Nancrede has accepted an invitation to deliver the Course of Lectures on Surgery at Dartmouth College, New Hampshire, in the absence of Dr. P. S. Connor in Europe.

The Inventor of the Operation of Cataract-extraction.—M. Panas has offered to the Academy of Medicine of Paris a bronze medallion of Jacques David, the inventor of the operation of cataract by extraction. A subscription is being raised to erect a monument to the memory of the distinguished oculist, at his birthplace, La Barre, in Normandy.

The Late Dr. Friedländer's excellent journal, *Fortschritte der Medicin*, will be continued under the editorial charge of Professor Unverricht, of Jena, and Professor Weigert, of Frankfort.

Medical Berlin and Medical New York.—Berlin has 10 medical societies; 30 hospitals, with 5,000 beds; 1 medical school; 1,150 physicians, who get from fifty cents to $1 per visit. New York has over thirty medical societies; 46 hospitals, with 6,000 beds; and about three thousand physicians, who receive $1, $2, and $3 per visit.

The Illinois State Medical Society.—The Peoria *Medical Monthly*, from between its new and attractive covers, utters a cry of warning regarding the Illinois State Medical Society. The meetings, it says, are not well attended, and the organization has not its due influence as the organ of four thousand regular physicians. At the last meeting the attendance was only about one hundred, the year before 105, and the year before that 145.

A Death from Antifebrin recently occurred in the practice of Dr. E. Von Quast, of Kansas City. A child with high fever was ordered a mixture containing antifebrin, with the instruction that one dose (containing four grains) be given in the morning, to be repeated in the evening if so ordered at the second visit of the doctor. The father of the child, believing that "if a little is good, a considerable must be better, in spite of the protests of the mother, gave the medicine every two hours during the day. In the evening, upon the doctor's calling, he found the child cyanosed and in extreme collapse, and, notwithstanding all efforts, the child died from the overdose of antifebrin.—*Kansas City Medical Index.*

An Interesting Malpractice Suit.—A man named Louis Brown, while working at a saw-mill, received a splinter one-fourth of an inch in width and seven-eighths of an inch long, which entered his orbit just below the globe of the eye and became imbedded in the retina. Dr. Casebeer and his partner, Dr. Metheney, of Fort Wayne, Ind., were called, and discovered nothing but a superficial flesh wound. Pus formed in the face and the sliver was pulled out, three weeks afterward, by a man named Jinks, who used his jack-knife. Brown lost the sight of his eye, and brought suit in the DeKalb Circuit Court against Drs. Casebeer and Metheney, laying his damages at $5,000, for malpractice. Among the witnesses who gave expert testimony were Dr. Frothingham, Professor of Ophthalmology at the University of Michigan, and Drs. Dills, Porter, and Wheelock, of Fort Wayne. Their testimony relieved the attending physicians of any blame in not discovering the imbedded splinter, and it was given with so much distinctness and unanimity as to lead many of the jurymen to believe that their expressed opinions were biased by a friendly feeling toward their professional brethren whose reputation was at stake. Dr. Frothingham produced the stem of a tobacco-pipe which had been driven into a man's face and was not discovered by Dr. Smith, of Detroit, nor was its presence even suspected until it worked its way to the surface. The jury, after being out for twenty-three hours, disagreed. They stood eleven for the plaintiff and one for the defendant.

Surgical Operations upon the Spinal Cord.—We believe that there have been at least two attempts to relieve pathological conditions of the spinal cord by surgical interference. In both instances the operations failed. We learn now, however, that a possibly successful attempt has been made in London. The *British Medical Journal* states that on June 9th, Mr. Victor Horsley removed a tumor in the dorsal region of the spinal cord from a patient under the care of Dr. Percy Kidd. The patient had been seen by Dr. Gowers, who diagnosed a localized neoplasm, and suggested operative interference. The tumor measured about one inch and a fourth by half an inch; it was situated within the dura mater, and apparently grew from the ligamentum denticulatum of the spinal cord. It compressed the latter severely, causing violent spasms, pain, and complete paraplegia. Although the operation was necessarily prolonged, the temperature has never reached 100°, and the wound is now practically healed. The patient has already recovered some power over the bladder, and the spasms and pain are rapidly diminishing.

How Men and Women should Dress.—*The Epoch* devotes three of its recent issues to a publication of the opinions of various people, including two medical women of the irregular type, on the subject of dress. This subject is a rather threadbare one, and we confess to having found nothing very novel in the wealth of views furnished us by *The Epoch*. It will not be of much use to talk about how men and women should dress until it is the fashion not to dress in fashion. Meanwhile the primitive savage and the introspective valitudinarian will form the two great classes on which dress-reformers can best exercise their taste.

Obituary.

JARED LINSLY, M.D.,

NEW YORK.

Dr. Jared Linsly died, on July 12th, at Northford, Conn., where he was born in 1803. He was graduated at Yale in 1826, and subsequently at the College of Physicians and Surgeons of this city in 1829. Since that time until his last illness he was actively and successfully engaged in the practice of his profession. He was well known by the old residents of New York, and was distinguished in his profession for his learning and practical skill. His life, too, has been signalized for his benefactions to the poor. He was a Trustee of the College of Physicians and Surgeons, and of the Ophthalmic and Aural Institute; and Consulting Physician to the Asylum for Lying-in Women, and to the New York Dispensary and the Presbyterian Hospital. He was a member of the New York Society for the Relief of the Widows and Orphans of Medical Men, and one of its managers and benefactors. He was also a member of the New York Physicians' Medical Aid Society, and of the Medical Society of the County of New York.

Reports of Societies.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, March 9, 1887.

T. Mitchell Prudden, M.D., President, in the Chair.

Dr. W. H. Porter read the

REPORT OF THE COMMITTEE ON MICROSCOPY,

signed by Drs. J. S. Thacher and G. C. Freeborn. In the specimens of ulcers of the pharynx and larynx presented by Dr. R. Van Santvoord, February 9, 1887, the committee were unable to find any evidence of tubercle.

Dr. Porter also presented a collection of

SMALL CALCAREOUS CONCRETIONS FROM THE SPLEEN.

Dr. H. J. Boldt presented a specimen of what he called

SYPHILITIC SALPINGITIS,

because there was no history of gonorrhœa; but there was a history of chancre, and the woman was suffering from well-developed secondary symptoms at the time of the operation, which was performed on account of the severe pain from which the patient suffered. The wound and the patient did well.

Dr. Boldt also presented a specimen of

PROLAPSED CYSTIC OVARY,

removed from a woman who had been under treatment about one and a half year without obtaining relief. The symptoms were intense backache, headache, dyspepsia, pain in the hypogastrium and inguinal region, severe dysmenorrhœa lasting throughout the entire period, and distressing cardiac palpitation. It had been two or three months since the operation was performed, and all the symptoms had disappeared except the palpitation, which had been very much modified.

Dr. Frank Ferguson presented a specimen of

CARCINOMA OF THE BLADDER,

removed from the body of a man, sixty-one years of age, a native of Ireland, a widower, and a painter by occupation. He was admitted into the New York Hospital on January 29, 1887. Two years previously he first complained of stinging pain in his testicles and severe pain in the region of the bladder during micturition. These symptoms had continued, and he applied at the hospital for treatment. He had never had gonorrhœa.

On admission he was weak and anæmic. Within the last two years he had lost considerable flesh. Micturition was frequent and painful. No. 22 steel sound was tightly grasped in the prostatic urethra. Examination of patient by the rectum revealed the prostate enlarged and indurated. The urine was alkaline and had a specific gravity of 1.014. It contained a trace of albumin. Microscopical examination revealed quantities of mucus and pus. He always suffered constant, dull pain, but his pain was quite severe during micturition.

During his residence in the hospital he passed daily from thirty-seven to sixty ounces of urine, micturating from ten to fifteen times. During the last ten days of his life he vomited daily a greenish-yellow fluid. He gradually and constantly failed, and died on the afternoon of the 15th of the following February.

The autopsy revealed the bladder moderately distended with urine, pus, mucus, and grumous material. There was a tumor at the base of the bladder, involving the entrance of both ureters. The tumor, on opening the bladder, appeared slightly raised above the mucous membrane, was circular in outline, and measured one and one-quarter inch in diameter. The connective tissue between the rectum and the bladder, and also the seminal vesicles, were invaded by the tumor. Microscopically, it was composed of fibrous tissue and epithelial cells; the fibrous tissue arranged into alveoli which were closely packed by epithelial cells of small size. The ureters were greatly dilated; the left more than the right. The outlet of the ureters could hardly be traced through the tumor. The pelvis of the left kidney was very greatly dilated; nearly the entire organ was destroyed. The pelvis of the right kidney was also dilated. The cortex of each organ showed the lesions of chronic diffuse nephritis. The stomach was congested, and its mucous membrane was thickened. The other organs were normal.

FOREIGN BODY ENTERING THE CRANIAL CAVITY THROUGH THE ORBIT.

Dr. J. A. Wyeth presented a piece of a fence-rail that Dr. Cross, of Decatur, Ala., four years ago, removed from the cranial and orbital cavities of a negro who had been thrown from a railroad train while in motion and pitched headlong into a pile of rails. As he went, head on, a piece of a rail was plunged into the right eye in such a manner as to push the eye out of the orbital cavity almost completely, it being necessary to clip off only a few connecting portions of lacerated tissue to separate it entirely. While dressing the wound the doctor felt something within the orbit, which he removed and found it to be a piece of wood two and three-fourths inches long, three-fourths of an inch in its greatest diameter, and in its smallest diameter one-half of an inch. After the piece of wood was removed some brain-matter oozed through the orbital cavity. The man recovered without cerebral symptoms, and subsequently suffered no inconvenience except that attending the loss of an eye. This case was an additional illustration of how severely the brain may be injured without producing serious symptoms.

Dr. A. Palmer Dudley presented a

TUMOR REMOVED FROM THE RIGHT PAROTID REGION

of a woman twenty-eight years of age, married six years, and the mother of two children. This was the third operation, the first being performed four years ago. The patient came to him from Dr. N. P. Dandridge, of Cincinnati, with the following letter, dated February 25, 1887:

"Mrs. A—— first came under my care in September, 1885, for a swelling in the right parotid region. Some eighteen months before, a small tumor had been removed by Dr. Porter, of Boston. Dr. Porter, in answer to a letter, stated that the growth was a small circumscribed fibroid tumor, distinctly incapsulated, and enucleated without difficulty. No microscopic examination was made, but no suspicion was entertained that the growth was anything but a simple fibroma. When first seen I found a distinct swelling beneath the cicatrix of the former operation, to which it seemed adherent. This swelling was distinctly movable on the underlying tissues, and when seen a second time, some two weeks later, seemed to have somewhat increased in size, and I advised its immediate removal. This was accomplished on September 30, 1885. The cicatrix and adjacent skin were included in the superficial incision, and the surrounding fat in the deeper part of the wound was freely removed. No circumscribed tumor was found, and no suspicious tissue was left behind. The mass removed was most carefully examined microscopically, and nothing but a somewhat dense cicatrix and fatty tissue found. The wound healed readily. For some months there has been a steady increase in the size of the growth, and it is now considerably larger than when removed, in September, 1885. For some months I have only seen Mrs. A—— at long intervals, and have noticed each time a steady increase in the prominence of the swelling."

The growth seemed to be encysted, but the sac was so attenuated and spread out that Dr. Dudley was unable

to say whether or not he removed all of it. The specimen was referred to the Committee on Microscopy.

Dr. Dudley also presented

A LARGE FIBROID, TOGETHER WITH THE UTERUS AND ITS APPENDAGES,

which he had removed the day before. The woman did not know that she had it until about ten days ago, when for swelling of the right leg she sought medical advice.

She was forty years of age, had never borne children, and she had never been troubled with her menstrual function. As soon as she learned of her condition she insisted that an operation be performed, which Dr. Dudley did, and found the ovaries and tubes and uterus so intimately connected with the growth that it was necessary to remove the whole. There were no adhesions. It was removed through an incision extending from the pubis to two inches above the umbilicus. The pedicle was transfixed and ligated in parts, cut short, touched with carbolic acid, and dropped back. The temperature of the patient was 100°, and her pulse 90. No morphine required to-day.

[At the stated meeting, March 23, 1887, Dr. Dudley reported that the patient was convalescent. On the sixth day he attempted to move the bowels, and did not succeed until several hours had been consumed in the use of ox-gall enemata, turpentine stupes, and a Seidlitz powder. Septic symptoms developed at once, and his patient nearly died; all of which, he believed, would have been avoided, had her bowels been moved earlier. He believed that he had lost two patients from septicæmia due to what he thought he had learned in the present case—namely, neglect to move the bowels sufficiently early. He also believed that the septic symptoms which frequently develop on the fifth or sixth day after laparotomy were frequently due to consequences attending failure to move the bowels.].

Dr. Ira J. Van Gieson presented

A MISPLACED KIDNEY,

removed from the body of a male thirty years of age.

The right kidney was found in the pelvic cavity; lying against the sacrum, behind the peritoneum, the superior apex is on a level with the pelvic brim, and its internal border follows the median line of the bodies of the sacral vertebræ. The renal artery is given off from the aorta at its bifurcation with the hilus, is situated on the anterior surface, and runs from the superior apex to about the middle of the anterior surface of the hilus. The ureter is situated inferiorly, the artery superiorly, and the vein lying between. The ureter measures seventeen centimetres.

Dr. Van Gieson also presented a specimen of

ATROPHIC KIDNEY WITH DILATED PELVIS.

There was nothing in the history referring to the kidneys.

Autopsy.—Heart: slightly enlarged; valves normal; atheroma of aorta. Lungs: emphysema; œdema; chronic bronchitis. Liver and spleen normal. Left kidney surrounded by dense, adherent tunica adiposa, containing calcific deposits; the kidney is small, measuring six by three centimetres; the pelvis is dilated, containing an amber-colored fluid; the cortex and capsule measure but two to three millimetres in thickness; ureter normal. Right kidney slightly enlarged, capsule adherent; the cortex is congested and rough.

Microscopical examination.—The cortex in places is one to two millimetres in thickness; the capsule is thickened. In the cortex there is an increased amount of connective tissue. This cortex is composed largely of altered glomeruli. The capsules of the glomeruli are thickened, and the tuft of vessels is changed to a mass of connective tissue in places calcified. Many of the tubules are present containing casts; there is obliterating endarteritis. The right kidney shows a moderate degree of chronic diffuse nephritis.

Dr. William P. Northrup presented a series of specimens removed from the body of a child that died of

GENERAL TUBERCULOSIS,

which were interesting on account of the extent and severity of the lesions.

Male mulatto child, aged two, returned to the New York Foundling Asylum from its hired nurse, in the city. It suffered from almost uninterrupted convulsions at this time; no diarrhœa nor vomiting. Two days later the child died. No further history could be gained, and no further symptoms were made out. On autopsy these extensive and severe lesions of general tuberculosis were found:

Brain.—The pia mater at the base was studded with fine, discrete, miliary tubercles. In diameter they were no more than the diameter of the shaft of an ordinary pin, and were difficult to see except where the meninges stretch across spaces, as at the optic chiasm and elsewhere. Along the vessels of the great fissures they were a trifle larger, thickly studding the membrane and gluing the folds to each other. In good light the ependyma showed the same-sized tubercles, still more difficult to see on account of the color of the surrounding tissues; ventricles not dilated. What was of most interest was a tubercular nodule in the right *flocculus of the cerebellum*. It was in size about a cubic centimetre. He regarded this condition as rare. In his somewhat extended experience in autopsies on tuberculous subjects, such tubercular deposits in the brain-substance had occurred but once or twice before, and never of the size of the specimen shown.

Lungs.—Both adherent throughout. Tubercular pleurisy on the left side. Bronchial glands extremely enlarged, cheesy, many of them fluid in centres, and a few wholly softened and fluctuating in their capsules. The lungs had a flabby, muscle-like feel, showing no tubercles on surface, but torn adhesions. On section, large, cheesy, rosette-shaped nodules were seen, varying in size from thirty to forty millimetres in diameter. These in appearance were much like the large tubercles seen on the costal pleura. Besides the discrete tubercles, there was also extended sclerosis and peribronchitis, probably made up largely or wholly of diffuse tubercle-tissue. Dilated bronchi, chronic and recent pneumonia, and œdema completed the picture of the lungs.

The *intestines* presented an equally serious lesion. The mesenteric glands were enlarged to the size of an ordinary native hickory-nut, and grouped closely into a nodulated mass. These were cheesy and partly diffluent. The agminate glands of the ilium showed ulcers occupying the entire site of the original gland, having deeply overhanging edges. In most cases the glands were wholly destroyed; in a few the swollen, cheesy, and softened glands still remained.

The *liver*, still more unusually, showed a few doubtful tubercles on the surface. The organ was enlarged and fatty.

The *spleen* was almost normal. Normal in size or a little undersized. No tubercles to be seen on the surface; two to four doubtful millet-seed-sized tubercles found.

The *kidneys* showed two to five similar undoubted tubercles.

The striking peculiarities of the case were (1) the large tubercular nodule in the cerebellum; (2) the extreme size of the bronchial glands; (3) the extent of the lesion, and the size of the mesenteric glands; (4) the somewhat infrequent occurrence of ulcers of Peyer's glands in tuberculous children, and in this case the great extent and advanced state of the ulcers; (5) the absence of tubercle in the spleen—this organ is usually involved greatly in general tuberculosis; and (6) the fact that there was tubercular meningitis with such extensive tuberculosis of the thoracic and abdominal organs.

It was more common to find the meninges intact where

there was well-distributed early tuberculosis of the other organs. It was the common experience in children, as in adults, to find children of the negro race more subject to tuberculosis.

Microscopic examination showed tubercular tissue in the nodule of the cerebellum, and also in the intestines.

Dr. J. W. Roosevelt showed some microscopic sections which illustrated the effect produced by

A NEW STAINING-FLUID,

which he thought was especially adapted to micro-photographic work. It does not undergo any change after once combining with albuminous tissue. As at present used it consists of about twenty-five drops of a saturated solution of ferrous sulphate to an ounce of water, and fifteen to twenty drops of pyrogallic acid.

The Society then went into executive session.

Stated Meeting, March 23, 1887.

T. Mitchell Prudden, M.D., President, in the Chair.

Dr. G. C. Freeborn, from the Committee on Microscopy, reported on

THE SPINAL CORD

presented by Dr. J. F. Ridlon, February 9, 1887. The portion of the cord included between the second and seventh dorsal segments, measuring about seven centimetres, is transversely flattened, and has an increased consistency. In this portion of the cord there is destruction of both the gray and white matter. The walls of the blood-vessels are thickened, and the anterior portion of the dura mater thickened, and it also contains calcareous deposits. The cord, above and below the compressed portion, shows the usual lesions of secondary degeneration.

The President presented a set of specimens accompanied by the following history:

EXTREME CIRRHOSIS OF LIVER, WITH CHRONIC PHTHISIS, CHRONIC DIFFUSE NEPHRITIS, AND TUBERCULAR PERITONITIS.

He was indebted for the epitomized clinical history of the case, and the report of the autopsy, to Dr. Ely, house-physician, First Medical Division, in Bellevue Hospital.

A married Irishwoman, forty-two years of age, came into hospital, January 27, 1887, with a history of morning sickness, anorexia, and nausea for five months. About Christmas there was abdominal distention, and she was tapped. After this the feet swelled and she had a slight, dry cough. On account of procedentia of long standing she has had painful micturition. Of late urine has been scanty. She has had spots before the eyes. She had no rheumatism; a good family but a marked alcoholic history. She was on admission anæmic, had œdema of the feet; the abdomen was distended with fluid, and the veins were enlarged. There was at both apices, behind, slight dulness, prolonged and high-pitched expiration, with exaggerated voice. The liver was small, extending from fourth rib to about one and a half inch from free border of ribs. Urine was 1.008; trace of albumin; fifteen ounces in twenty-four hours. She was tapped again on February 8th, and twenty pints of clear serum withdrawn, the catheter being left in for continuous drainage until the 13th. There was no more marked accumulation of fluid, but the patient became delirious, gradually failed, and died of exhaustion on March 21st.

At the autopsy twenty ounces of clear serum was found in the abdominal cavity. There were omental adhesions, miliary tubercles, and a little fibrin over peritoneal surfaces. There were tubercular ulcers of the small intestine. Kidneys: Capsule somewhat adherent; surface a little rough; cortex uneven, with obscure markings and yellowish streaks and patches (fatty degeneration). Spleen large and soft. Liver very small, weighing one kilogramme. Its surface is finely nodular, the small, projecting nodules being very yellow from fatty degeneration. The cut surface is rough, with broad and narrow bands of translucent connective tissue running between the islets of fatty parenchyma. There were partial adhesions of the lungs, which presented the lesions of general chronic miliary tuberculosis without cavities.

The anatomical diagnosis as already given was confirmed by the microscopical examination.

The President also presented a specimen

SMALL MULTIPLE ADENOMATA OF THE KIDNEYS.

A middle-aged man, without previous history, was run over by the horse-cars, receiving a severe lacerated wound of the leg, from which he died on the fourth day. The only noteworthy visceral lesions were those of the kidneys. These organs were small, capsules adherent, surface rough, cortex thin and rough, markings irregular. In the cortex of the right kidney was a white, dense mass about one centimetre in diameter at the broader side, wedge-shaped, and reaching from the capsule toward the medulla. The surface of the kidney at this place was slightly depressed. Projecting from different parts of the surface of the left kidney were five globular bodies—some white, others reddish-brown in color, and moderately firm in consistency, but less hard than the surrounding kidney tissue. These tumors were from seven millimetres to one centimetre in diameter, and were partly embedded in the cortical tissue. Although projecting from the surface of the kidney, the capsule extended over them. Several other small white and brown masses, looking somewhat like small, old, subcapsular infarctions, were scattered through the cortex of the left kidney.

Microscopically, all of the little tumors present alike the structure of adenomata. They consist of a moderately vascular connective tissue, stroma enclosing larger and smaller spaces. These spaces are mostly elongated, forming irregular tubules, which are either lined so as to form a lumen or completely filled with large cuboidal or polyhedral cells. The spaces in some parts of the tumors are larger and more irregular in shape, and are more or less completely filled with polypoid projections from the walls, covered with epithelium. The epithelium is in part finely granular, in part filled with small fat-droplets. The brown tumors owe their color to the deposition of blood-pigment in the epithelial cells, in the stroma, and in the kidney-tissue adjacent to them, and to undecomposed red blood-cells in the alveoli and tubules. While the larger tumors are sharply outlined against the adjacent kidney-tissue by a zone of squeezed and fibrous kidney-tissue, the smaller and apparently younger forms merge almost imperceptibly into the adjacent kidney-structure, so that intermediary forms between kidney and tumor tubules are readily made out. For the rest, the kidneys show the usual lesions of atrophied chronic diffuse nephritis.

Adenoma of the kidney is not of such infrequent occurrence as to be especially noteworthy; but this case is of unusual interest—first, because of the multiplicity of the tumors and their presence in both organs; second, because, microscopically, they show both of the structural forms which adenomata of the kidney may present, namely, the alveolar and papillary; and third, because of their uniformly small size.

PLEURO-PNEUMONIA IN AN INFANT.

Dr. J. Lewis Smith presented the thoracic viscera taken from the body of an infant that died at the age of eight months. Its parents were healthy. It did not present any marked degree of emaciation. About five weeks before its death an abscess formed in front of the left ear, which was opened, and discharged a couple of drachms of pus. The discharge from the abscess continued for nearly three weeks, when it gradually abated and soon ceased.

Two weeks before death the child became suddenly very feverish and restless, and vomited several times. Vomiting was not a prominent symptom after the first day and a half. From the sudden occurrence of the sickness, the temperature—104½° F. on the first day—and the rolling of the head, with more or less of twitching movements, the attending physician supposed that the case was one of *cerebral disease*. There was slight cough, and Dr. Smith discovered slight dulness over the apex of the right lung.

He did not see the child again until about a week afterward, when he was surprised to find complete dulness over the entire left lung, such as accompanies pleuritic exudation. The respiratory sounds were indistinct and distant, and faintly broncho-vesicular. The pulse was 180, respiration 76 to 80, and the apex-beat could not be detected. The temperature throughout was elevated; at one time 105½° F., and scarcely below 103° F. On the day of Dr. Smith's second visit the temperature had fallen to 101½° F. He was also inclined to the opinion that there was

PERICARDITIS WITH THE PLEURISY.

The autopsy revealed a nodule of pneumonic consolidation in the upper part of the right lung, with a small amount of fibrinous exudation along the free border of the upper lobe. On cutting into the lung immediately under the fibrinous exudation there were found seven or eight little spots of apparently necrotic tissue. When the left pleural cavity was opened, about two and a half ounces of sero-fibrinous fluid escaped, and the entire lung was covered with a plastic exudation. The lower lobe of this lung was almost completely hepatized by pneumonia. The superficial portion, besides, appeared to be in the condition of necrosis. The bronchi, the trachea, and the larynx showed only a very slight redness of the mucous membrane. Dr. Biggs had examined the specimens, and expressed the opinion that the pulmonary consolidation was probably of septic origin and secondary to the abscess. The heart was normal. The other organs were not examined.

The specimen was referred to the Committee on Microscopy.

Dr. H. J. Boldt said that he had made a sufficient number of post-mortem examinations in children who had exhibited marked cerebral symptoms with pneumonia to convince him that cerebral disturbance was of very frequent occurrence, and was of no special pathological importance.

Dr. Smith said that marked cerebral symptoms frequently occurred with the development of

PNEUMONIA AT THE APEX OF THE LUNGS IN CHILDREN.

Dr. W. M. Carpenter believed that marked cerebral symptoms were so frequently the precursor of pneumonia in children that a failure to examine the lungs was inexcusable.

Dr. Mary A. Dixon Jones presented a series of ovaries, the seat of

CHRONIC OVARITIS, WITH CIRRHOSIS AND MORE OR LESS DISEASE OF THE FALLOPIAN TUBES.

The histories of five cases were read in which she performed laparotomy for the removal of these organs. All the patients recovered, and were apparently benefited by the operation.

Case I.—S. S.——, aged twenty, a nurse by profession. When seventeen years of age she had a severe attack of Southern malarial fever, in consequence of which menstruation was suppressed for eighteen months. Since that time she has suffered with almost constant pain in the pelvis, greatly increased at the menstrual period; she was becoming incapable of attending to her duties, and more and more of an invalid.

The patient called to see her last December. On examination the right ovary was found enlarged, tender, and dislocated down into the Douglas cul-de-sac, and the left ovary was in position and apparently normal. The enlarged and prolapsed ovary was giving her almost continuous distress, and its evidently diseased conditions were affecting her general health and greatly disturbing her nervous system.

On January 20th she performed laparotomy and removed the right ovary and tube; the left ovary seemed all right and in good position, and she was glad to feel justified in leaving it. The incision in the abdominal wall was two and one-quarter inches, length of ovary two and one-half inches, transverse diameter one and three-quarters inch. The patient recovered without a bad symptom. The next day temperature, 90° F.; pulse, 84. Second day, pulse and temperature normal. The operation was to the patient much less trying than would have been the continued treatment, and the results would not have been obtained by it. March 17th, patient was the picture of health, vigorous, contented in mind, and able to work.

In examining the specimen, not a healthy Graafian vesicle nor healthy ovarian tissue was found.

Case II.—A girl, aged eighteen, came to the dispensary of the Woman's Hospital, pennyless and disheartened; said she had been turned from one situation after another on account of her frequent sickness and consequent inability to work; said her sufferings were indescribable, more than she could bear—pain, sick stomach, and a desire to go to stool when there were no demands of nature. The pain continued all the time, but the agonizing distress commenced some days before menstruation, and continued during the period. She was admitted into the Woman's Hospital of Brooklyn. Her sufferings during the next menstrual period were pitiful.

Examination.—Anteflexion, fundal enlargement of the uterus, and two sensitive masses on each side. Had tried many doctors and much medicine without relief. As soon as patient gained a little strength she removed the uterine appendages under thorough antiseptic precautions, or perfect cleanliness. There were considerable adhesions and some difficulty in removing the appendages. At the end of three days the patient was apparently well, had no more suffering, and now, March 16th, with a face beaming with happiness, she says, "she is glad she came to the hospital." She is now free from suffering and able to work.

The appendages were removed, not because she was suffering, but because they had such a condition of disease as to produce the suffering. Had they been healthy she would not have removed them on account of the great dysmenorrhœa, but would have labored to find out the cause of suffering and attempted to relieve it.

Case III.—Mrs. L——, aged thirty-six, married, no children; suffered with constant distress in the pelvis for the last thirteen years; great nervous disturbance. prostration, weakness, and inability to attend to her household duties.

Examination.—Ovaries enlarged and exceedingly sensitive, and dislocated low down in Douglas' cul-de-sac. For six months she was treated at the dispensary in hopes of relieving the tenderness, diminishing the size of the organs, and correcting the malposition. No special improvement in any of these respects. After consultation it was decided to remove the uterine appendages. The patient recovered from the operation without a bad symptom, and at the end of the third week she was able to assume the burden of her household duties. March 16th, called at the dispensary clinic, was the picture of health, suffering no distress, and able to work.

Case IV.—Mrs. M——, aged forty-three, has been suffering for many years; a confirmed invalid, in bed a great portion of the time, subject to sinking spells, at times remained unconscious for three or four hours, complained of great pain in the pelvis and bearing down. For the last five years has had at intervals severe uterine hemorrhages, and during the last five months has had a

constant flow without a day's intermission. Examination showed the uterus retroverted and retroflexed, and the fundus enlarged by an intramural fibroid, the appendages extremely sensitive and prolapsed. Laparotomy was performed March 9th. Uterus size of third month of pregnancy, ovaries atrophied, the tubes in a high state of inflammation, the veins of which were converted into great sinuses. At the close of the operation her pulse was 90. She recovered without a bad symptom; pulse and temperature normal.

The appendages were removed, first, because they were diseased; second, to cut off the blood-supply to the fibroid.

Case V.—Mrs. N——, aged thirty-one, married. The history of the last ten years has been a history of suffering—constant distress in the pelvis and in the back. Examination showed the appendages diseased, sensitive, and prolapsed. When she was taken into the hospital she was literally almost dead. She was kept quiet in bed, had good nourishment, massage, etc. March 14th, laparotomy was performed. April 2d, patient says she feels perfectly well. She recovered from the operation without a bad symptom.

Dr. Frank W. Jackson presented

A LIVER THAT HAD BEEN THE SEAT OF A GUNSHOT WOUND.

The patient was a male, thirty-six years of age, whose previous state of health had been excellent, except that for two months he had suffered from insomnia and mental depression. One Sunday morning he shot himself with a heavy revolver, carrying a long thirty-two ball, which passed through his white- and under-shirt, both of which it charred, and then entered the abdomen three-fourths of an inch below the tip of the ensiform cartilage, and half an inch to the left of the median line. He was immediately afterward found lying upon the floor. He was assisted to his feet, and he walked a distance of about thirty feet to his bed. He was then seen by a neighboring physician, who probed the wound apparently without antiseptic precautions. His own physician, Dr. Satterlee, saw him half-an-hour later, and found him in good condition, and with very little shock. In the afternoon Dr. Sands passed an antiseptic probe through the wound, three and three-fourths inches, in an antero-posterior direction, showing that the abdominal cavity had been entered. The ball was then found in the back, lying just beneath the skin, four inches below the angle of the scapula and one inch to the left of the spinal column.

THE QUESTION OF LAPAROTOMY

was at once discussed, but in view of the absence of the certainty of a wound of the stomach or intestines, and disinclination of the patient's friends to an operation, it was decided to wait for more definite symptoms. These never came. During the next week the patient's temperature was rarely above ninety-nine and a half, and he had absolutely no symptoms referable to the abdominal cavity. He had a short, hacking cough, and for four days after the injury there were physical signs of consolidation of the lung over an area of about the size of a silver dollar, heard just where the ball was lodged. He twice expectorated a small pellet of bloody mucus.

Seven days after the injury he was allowed to sit up for a while each day.

He did well for two weeks after this, when symptoms of mania came on; he finally became comatose, and after lying in coma for five days he died, just four weeks and four days after the shooting.

The autopsy showed that the peritoneal cavity was free of all evidence of the occurrence of general peritonitis, and there was no evidence that

BLOOD HAD ENTERED THE CAVITY.

Directly over the free border of the liver were found a few fine adhesions. There were also adhesions between the left lobe of the liver and the stomach. The stomach was otherwise intact. The liver showed a scar plainly, and the track of the bullet was traced directly through the substance of the left lobe, from before backward and from below somewhat upward. The ball then passed through the left crus of the diaphragm, and through the posterior mediastinum, but no evidence of wound of the lung was found. There were a few adhesions at the bases of both lungs.

The specimen was presented chiefly to show that the patient *did not die from gunshot wound of the liver.*

Dr. W. H. Porter reported an autopsy in which he found that a bullet had passed directly through the right lobe of the liver, just to the right of the gall-bladder, and there was absolutely no

HEMORRHAGE INTO THE PERITONEAL CAVITY.

The ball passed through the colon, and lodged in the vertebræ. The man lived two or three days after the injury, and died, apparently, from septicæmia.

In another case in which Dr. Porter made the autopsy he found that the bullet had traversed the liver, but there was no hemorrhage into the peritoneal cavity. He had also seen a case of rupture of the liver without hemorrhage.

The Society then went into executive session.

Correspondence.

OUR BERLIN LETTER.

THE SALARIES OF PROFESSORS—THE MEDICAL SCHOOLS AND SOCIETIES—PROFESSIONAL FEES—DEATH OF PROFESSOR HUBER—MUSEUM OF PATHOLOGICAL INSTITUTE.

Berlin, June 21, 1887.

The University of Berlin has 6,000 students, about 2,000 of whom are in the medical department. There are 44 medical professors, 57 docents, and 69 assistants.

Some of the professors of the medical department realize quite snug little sums from their teaching. Suppose, for instance, as is usually the custom, each student pays fifty marks ($12) per semester for his instruction. Say from one hundred and fifty to three hundred take a certain professor's lectures. He then receives $1,800 to $3,600 for his six months' work, which six months, omitting holidays and tardiness in beginning, is reduced to five months. For this, however, he lectures every day, or nearly so, sometimes twice in one day, and frequently two hours at a time. They depend more on their teaching, of course, and give it more time and attention. Many students do not pay cash, however. The professor gives him time to finish his course, get out into practice, and make the money to pay for his instruction. The student has not enough money to pay for his bier-kneipe, duelling expenses, and lectures too, so the latter is deferred. It is considered a debt of honor, though, and payment is seldom avoided. If the man dies and leaves nothing behind, the professor loses his money. For years afterward he receives frequent small instalments for a former semester's course of lectures.

The German lecture-room is a much more ceremonious place than with us. When the professor enters, all the students rise and respectfully bow, then resume their seats. The greatest quiet reigns during the lecture, and until its close. There are no late-comers or early goers, nor hooting, yelling, and other boyish pranks.

The student is required to attend nine semesters, four and one-half years, before graduating. Examinations are frequent, and he does not take up much at a time. There are several professors on each branch, and if he is expecting to be examined on that department he can spend almost the entire day in attending clinics and listening to lectures on that subject. The professor examines about four or six at a time, two or three times a week. The examinations are oral and clinical.

Berlin maintains ten medical societies: The Gesellschaft fuer Charité Aertze, Dr. M. Mehlhausen, president, Professor Henoch, secretary (seventy-six members, meets every two weeks); Gesellschaft fuer Geburtshülfe und Gynäcologie, Professor Olshausen, president, Dr. A. Martin, secretary (one hundred and forty-nine members, meets fortnightly); Gesellschaft fuer Heilkunde, Dr. Brock, secretary (one hundred and sixty-five members, meets annually); Gesellschaft fuer Naturwissenschaft und Heilkunde, Professor R. Hartmann, president, Dr. Bartels, secretary (fifty-two members, meets monthly); Gesellschaft fuer Psychiatrii u. Nervenheilkunde, Professor Westphal, president, Professor Bernhardt, secretary (ninety-two members, and meets monthly); Medicinische Gesellschaft, Professor R. Virchow, president, Professor B. Frankel, secretary (six hundred and fifty-two members, meets weekly); Physiologische Gesellschaft, Professor Du Bois Reymond, president, Professor Hirschley, secretary (one hundred and fifty-one members, meets fortnightly); Psychiatrischer Verein, Dr. Lehr, president, Professor Guttstadt, secretary (one hundred and twelve members, meets quarterly); Verein fuer Innere Medicin, Professor Leyden, president, Professor Paul Guttman, secretary (two hundred and thirty members, meets fortnightly). Vacations and holidays very greatly reduce the annual number of meetings. As will be seen, the Medicinische Gesellschaft is the leading medical society of the city. It meets in a fine large hall, with generally one hundred and fifty to two hundred members present, and is a power in the land. This society has a large library for the benefit of its members.

Berlin has thirty hospitals, containing five thousand beds; two thousand of these are in the Charité, by far the largest hospital in the city.

There are twenty-one institutions teaching midwifery in Germany.

The long, loud, and piteous wail from the Berlin correspondent of a Vienna medical journal, in a recent issue, over the number and increase of medical men in Germany, led your correspondent to study statistics, with the following results: Berlin has 1,150 physicians, 8.98 per 10,000 inhabitants—65 dentists, and 88 druggists. Prussia has 9,701, or 8.34 per 10,000 inhabitants—275 dentists—2,519 druggists—1,420 hospitals, with 72,308 beds. Germany has 15,783 physicians, 3.48 per 10,000—470 dentists—4,624 druggists—2,646 hospitals, with 128,306 beds. While these statistics show a low rate of physicians as compared with the United States, it gives a large number of hospitals and beds, which makes the difference. So many in Germany receive free treatment at the hospitals that there are fewer pay-patients left. Yet, I think, with the small number of physicians, they might get on without grumbling. What if they had one physician for every five hundred inhabitants, and old women were permitted to practise.

It may be of interest to American physicians to know a few of the legal rates allowed German physicians and surgeons for their work. Remember that a mark is a quarter, or about twenty-three and one-half cents: Light natural labor, 6 to 15 marks; twin, 9 to 24 marks; natural but tedious labor, day and night, 12 to 15 marks; foot presentation, 12 to 30 marks; turning, 12 to 36 marks; forceps, 12 to 30 marks; craniotomy, 30 to 60 marks; Cæsarean section, living woman—child alive or not—30 to 60 marks; same, dead woman, 12 to 24 marks; removal of unripe ovule or mole, 3 to 12 marks; examination of pregnant woman, 1.50 to 6 marks; writing a full report of case, 1.50 to 3 marks.

Surgery: Trepanning, 24 to 36 marks; strabismus, operation on one eye, 24 to 45 marks; both eyes, one-half more; extirpation epithelioma of the lip, 12 to 24 marks; second operation, one-half as much; enucleation of the eye, 12 to 36 marks; harelip, 12 to 24 marks; excision of the tonsils, 9 to 18 marks; removal of nasal polypus, 18 to 30 marks; catheterization, men, 3 to 6 marks; women, 1.50 to 3 marks; foreign body in the œsophagus, 6 to 12 marks; tracheotomy, 18 to 36 marks; excision of the breast, 24 to 45 marks; paracentesis thoracis, 15 to 20 marks; circumcision, 6 to 12 marks: castration, 30 to 60 marks; cut for stone, 60 to 150 marks; amputation, upper arm and leg, 24 to 45 marks; reposition, dislocated arm, 9 to 18 marks; setting broken collar-bone, 9 to 18 marks; neck of femur, 12 to 24 marks; blood-letting, 2 to 6 marks; assistant at operations, 3 to 9 marks; post-mortem, 6 to 12 marks.

Physicians' visits in the city: First two, 4 marks each; successive visit, with prescription, 1 to 2 marks. Patient one mile from city—first visit, 3 to 6 marks; each succeeding visit, 2 to 3 marks. Contagious fevers, charges doubled. Night-visits, first, 6 to 9 marks each; each following, 3 to 6 marks. Those between 10 P.M. and 6 A.M. are considered night-visits. Only two visits daily can be charged for; prescriptions in office, $\frac{1}{8}$ to $\frac{3}{4}$ mark. First consultation, 4.50 to 9 marks; each succeeding, 2.25 to 3 marks.

These fees, as may be readily seen, are very low; they are not followed closely, however, but are the legal fees, and are the amounts which may be collected by law. They have been in force since 1815, but usually these rates are exceeded.

As a contrast to these small figures we may now view some large ones. As nearly as your correspondent could ascertain, Professor Schroeder enjoyed from his practice an income of 250,000 marks annually; Gueserow, 150,000 marks; Martin, 100,000 marks; while Waldeyer, from his teaching, realizes 25,000 marks yearly. Martin has been known to ask, and receive, 4,500 marks for an ovariotomy.

Professor Emil Huber, of the Pathological Institute at Leipsic, died a few days since. Professor Huber was well known in former years to your correspondent, when Conheim's assistant. Many a dark subject has he made light for me. Always an enthusiast in his department, he was an indefatigable worker and a worthy teacher. He is called away in the midst of his usefulness, and will be missed in the medical world.

Dr. F. Mueller examined the fæces and the putrid active products of the urine of Cetti the faster, and reported to the last meeting of the Gesellschaft fuer Aertze. The products of the putrefaction of albumen in the intestines, iodol and phenol, developed the fact that the first was not discernible on the third day in the urine. The phenol sank up to the third day to quite a small quantity, but then increased to from three to seven times the usual amount. In experiments on animals the contrary has been observed. The sulphur in the urine, compared with the sulphuric acid, showed that the neutral sulphur did not maintain a comparison with the acid, but increased; also that a small portion of the sulphur oxidized to form sulphuric acid.

The urine showed the presence of acetic acid on the first day, in that it turned red, then black, upon the addition of chloride of iron. Acetone in large quantities was noticed in the urine on distillation. This is always seen in the urine in cases of severe disease, in marked cases of diabetes, in carcinoma, and with advanced cachexia. On the second fasting day the urine contained pepsin in large amounts. The speaker was therefore of the opinion that the urine contained albumen during the whole fast, but never grape-sugar.

On the eighth day the first stool was had; this was mostly from the last meal. Two hours after the first meal a stool occurred, the fæces of which came from the fasting period. Microscopical examination showed no remains of muscle-fibres or other nourishing matter. The field of vision was filled with numerous needles which consisted of sebaic acid. Spectroscopically, the hydrobilirubine streaks were noticed; also others which have not been described.

Dr. Zuelzer doubted if the light increase of carbonic and phosphoric acid in the urine was conducive to the theory that the change of bone-tissue was the real object

of the change of matter in starving organs. Experiments in the laboratory of the speaker had shown that in conditions where the bones are notoriously undergoing destruction, as in rachitis, this substance is most probably thrown out by way of the intestines. He was of the opinion that the carrying over of the phosphates into the urine, as he and others had observed in diabetes, was due to the co-operation of an agent which developed itself in the body—for instance, lactic acid.

Professor Virchow acknowledged that the source of the fat found in such quantities in the fæces might be in the bones. The examination of the bones in pernicious anæmia and other severe diseases had demonstrated that in these conditions the large long bones lost a great amount of their fat. Professor Virchow took this opportunity to call attention to facts which recent study of an artificial butter had given. In the time of Napoleon III. the first experiments were tried to produce a cheap substitute for butter. These originated from experiments which had been made on starving cows with regard to the composition of milk. From the moment nourishment was discontinued a change came in the milk which was only explained by the belief that bone-fat had been reabsorbed and thus appeared. It was quite possible the fat observed by Dr. Mueller in the fæces came from the same source.

The Museum of the Pathological Institute of Berlin has reached proportions which are remarkable. The office of custodian has hitherto fallen to the first assistant of Professor Virchow, and has been quite acceptably filled for the past fourteen years by Dr. Juergens. It has, however, grown to such dimensions as to demand a custodian especially appointed. It has increased from the union of two collections, that belonging to the Charité and a part of the Anatomical Museum of the University. The latter was separated from the Anatomical Museum in 1858, when an independent professor of pathological anatomy was first named. Professor Reichert, who was then director of the museum, clung to his rights so tenaciously that it was twelve or fifteen years before the preparations were removed, and then only in part. The entire collection was not removed until after his death. Part of these specimens came down from the earlier years of the last century. Of especial worth are the preparations left by Johannes Miller. It is the documentary evidence of his pathological anatomical work. The Charité collection, which was the groundwork of the museum, began to assume important proportions in the third decade of the present century. Its originator was Philip Phoebus, who was less known as pathological anatomist than by his labors in pharmacology and through his general usefulness. His industry has left us writings which remain to this day. He is particularly known in his dealings with the region of the heart. His successor was Robert Frossep. His most important work was not in the field of pathological anatomy either. Professor Virchow became prosector in 1846, and continued until 1849. The successors of Virchow were his friend Benno Rheinhardt, who, with Professor Virchow, originated the Archives of Pathological Anatomy, and Heinrich Meckel, of Heinsbach. Both died in early life, the victims of consumption. Meckel was the friend of the poet Lenabb, who died insane. Meckel examined his brain and published a carefully prepared report. In 1858 the museum was again put under Virchow's direction, and it continued to grow until it is one of the first of its kind both as to the number and worth of its specimens. Pathological anatomy is now the great incentive to a visit to Berlin. Virchow's reputation attracts students and practitioners from every part of the globe. It is true that the man is overrun with politics, the affairs of state, and his many other interests. His lectures can be read as well as heard. He is usually tardy, frequently absent, very cross and irritable, yet he has the reputation, and men crowd to his lectures.

OUR PARIS LETTER.

(From our Special Correspondent.)

THE DEPOPULATION OF FRANCE—PROSTITUTION IN PARIS—THE PRESERVATION OF CORPSES.

PARIS, July 1, 1887.

In a series of debates that have lately taken place at the Paris Academy of Medicine, on the alarming extent to which the depopulation of France continues to increase, a commission composed of MM. Ricord, Bergeron, Léon Collin, Le Roy de Méricourt, Léon Le Fort, and Albert Fournier, was instituted to investigate the subject. One of the principal causes of this depopulation is attributed to infant mortality, which seems to be on the increase, owing chiefly to the premature feeding of infants, and to other circumstances incidental to their being separated too early from their mothers and put out to nurse. But another cause of this great mortality among infants is attributed to hereditary syphilis, and in a very remarkable and lengthy report by Professor Fournier, which was recently read at the Academy of Medicine, the celebrated syphilographer proposes, among other means to prevent the extension of this affection, that the most rigorous measures should be carried out to put down what he terms clandestine prostitution, a term employed in contradistinction to authorized prostitution which is sanctioned by the Government and subjected to the strictest surveillance of the police. This clandestine prostitution is practised in various ways by women and girls little suspected of such a vice, to say nothing of those employed in shops, hotels, and public houses. Dr. Fournier's most erudite report is too elaborate to be reproduced here, but it deserves the most careful perusal by all concerned with the public health, which, in this country at least, is in permanent danger owing to the prevalence of what is appropriately termed "the modern plague," and which is none other than syphilis. The reporter admits the difficulties one must encounter in seeking a remedy for this state of things. He thinks this could be done by making the regulations respecting registered prostitutes more stringent than they have been. In the first place, they should be held under strict medical supervision, and instead of a visit bi-monthly for free prostitutes, and weekly for those domiciled, all, whether free or domiciled, should be subjected to a weekly visit by a medical man, and to a supplementary visit once a month by a medical inspector at an unfixed date. Each of these visits should be complete, and should be directed principally to the examination of the genital organs, and of the mouth. He recommends also special hospitals for the treatment of venereal diseases.

In the first edition of his treatise on "Descriptive Anatomy," Dr. Bouchard, Professor of Anatomy at the Faculty of Bordeaux, published a receipt for the preservation of corpses. He has since perfected his method, and in a formula given below, which he lately submitted to the Paris Academy of Medicine, he believes that a corpse may be preserved for an indefinite time, even at a high temperature, without altering its composition or modifying the structure of its anatomical elements: Borate of soda, hydrated to 10 equivalents of water, 10 kilogrammes; glycerine at 30° Baumé, 17 kilogrammes. The borate of soda, after having been reduced to a very fine powder, should be put into a vessel, and then made into a mixture by pouring glycerine slowly on it. The whole should be heated to a temperature of about 80° C., until the solution becomes complete. Finally, the solution should be strained through flannel. In this state the mixture is syrupy, and as it is somewhat thick for injecting, a little alcohol is added to it to render it more liquid. The injection is practised in the carotid or the femoral arteries. For dissected subjects the four extremities should be injected. Besides this preservative power of the liquid, it has the great advantage of rendering dissecting wounds inoffensive, and Dr. Bouchard stated that since the employment of this liquid, he has

had no cases of gastro-intestinal troubles among the medical students, which before its introduction were of frequent occurrence among them.

In continuing his researches on the therapeutics of morphinomania, already reported in THE MEDICAL RECORD of June 11th, Dr. Jennings read a paper at the Medical Society of the Arrondissement of the Elysée, on "The Inhibition of the Want of Morphine by the Use of Nitro-glycerine associated with Sparteine." Dr. Jennings finds that the one is a powerful adjuvant of the other, and as the action of the former is rather transitory, he recommends that the one should not be employed without the other, though not necessarily simultaneously. According to his experience, however, he found that the simultaneous administration of the two medicaments was preferable, the one (sparteine) in hypodermatic injection, the other by instillation on the tongue or in the form of pastilles. With these two drugs we possess, according to the author, a means of the first order to combat the feeling of the want of morphine in its double modality. In concluding his paper, which has also been published in the form of a pamphlet, Dr. Jennings explains that the sensation of the want of morphine is of complex origin, cerebral and peripheric, each element of which may be combated by appropriate medication. The organic weakness is counteracted by the sparteine, which raises the action of the heart in the morphinomaniac during privation, similar to what takes place after an injection of morphine. The cerebral suffering, often the most painful, and which responds to a particular want of habitual congestion, is arrested by nitro-glycerine. For morphinomaniacs in privation, this medicament recalls, by the sensations to which it gives rise, the effect of a hypodermatic injection. As to the intimate mechanism of relief, Dr. Jennings sees in it a phenomenon of inhibition by an action at a distance more than by an essential sedation of the nervous centres.

At a recent meeting of the Paris Municipal Council, it has been proposed that hospitals for the exclusive treatment of infectious diseases should be erected outside the city. This measure is considered preliminary to the removal of all hospitals from the town, reserving smaller establishments only for the treatment of urgent cases.

Dr. Albert Robin, an Agrégé of the Faculty of Paris, has been elected a member of the Academy of Medicine, of which he is the youngest in age, he being only about forty years.

Professor Bouchard and Professor Verneuil, both of the Faculty of Paris, have been recently elected members of the Academy of Sciences, in the Section of Medicine and Surgery.

THE FEE FOR A CASE OF GONORRHŒA.

To the Editor of The Medical Record.

SIR: The fee-bill attached to my pocket-record gives $20 as the amount to be paid the physician as a retainer in a case of gonorrhœa, and states that subsequent charges are to be graduated according to circumstances.

County medical societies pretend to regulate the fees for ordinary operations, specific treatments, etc., but their schedules are, like the weather, subject to marked variations. Custom, however, has established one inexorable law, namely, that when advice and treatment are sought, something in the shape of money is to be given to the adviser as preliminary to obtaining his services, and when it is not forthcoming he is at liberty to say what the said services are worth. Very few patients have the manliness to pay for what they get after recovery is once established, but this is not to be wondered at. The source being dishonest, it is not in human nature to be made honest by passing through an affliction which is notoriously tedious, painful, and disgusting.

Once upon a time a physician was consulted by a young woman who complained of having violent headaches. Being thoroughly acquainted with her character and history, he located the seat of the trouble in the genitalia, and in the course of a few minutes' conversation received satisfactory answers to leading questions, and made a diagnosis of gonorrhœa. An examination with speculum was not deemed necessary, for the simple reason that it is impossible to suppose a female so lost to decency and modesty as to claim to be so diseased falsely.

Even hysterical patients draw the line at "the bad disorder." Hot astringent injections were ordered, and the patient placed upon tonic treatment, tr. ferri chloridi.

The girl was earning her own living, and it was mutually agreed that a large fee would not be demanded, because, as she ingeniously claimed, she was the victim of some man's villainy. Such arrangements are perfectly legitimate, although it is not safe to admit a plea of that kind, for the attendant may find himself confronted with a fact stated in its naked truth by a female, as the writer once was. A young woman who had gonorrhœa for sale applied for treatment, and claimed that she had been the source of so large a revenue that she deserved medical attention gratis.

The patient first mentioned went about her business, and the incident had escaped the physician's memory, when it was recalled by the application for treatment of her employer, a young married man. His story was not a straightforward one at all. He had been lifting trunks at his establishment, and had strained his back, which had led to a chill, and these symptoms were in turn followed by a discharge from the penis. The existence of the purulent discharge was at first strenuously denied, and an inspection of the genital organs refused until he was confronted by testimony obtained from his washerwoman. He was perfectly satisfied to undergo whatever treatment was thought necessary, and did follow out the rules laid down to the letter. One thing of importance he neglected, and that was to pay for what he received. After a short interval he was advised to take a vacation for his health. This step was thought to be necessary, for the simple reason that while he attended to his work he was constantly in the company of the young woman referred to previously.

About the time he was ready to leave home, a young man employed in his establishment came to the same physician and asked for treatment for gonorrhœa, and told without any hesitancy where he had picked it up.

A wayfaring man, though a fool, would hardly question the physician's diagnosis of these cases under the circumstances, but, to his utter astonishment, when after the lapse of a month a reminder was given to them, they denied having received the services for which pay was demanded.

There had been a money-transaction between the physician and one of his patients prior to this time, and the latter held a note bearing the former's signature. An attempt to collect the bill was threatened with a foreclosure of the obligation. But the note having been paid, suit was entered against the two men for $50.

At the hearing the plaintiff, defendants, attorneys for both sides, and two physicians summoned as experts (?), were locked in the office of a justice of the peace.

One of these physicians testified that he treated one of the defendants for *uric acid* about one month before the date of first treatment for gonorrhœa. When asked for his prescriptions, he stated that he had *told* his patient to take lithiated hydrargea; also said that it took a month to effect a cure of *uric acid*. According to his testimony, it was customary for the patient with gonorrhœa to pay $10 in advance, and the medical attendant was bound to render any further services for nothing. He said he once received a fee of $50 for treating a case of gonorrhœa, but he did not make such a charge; he only took it because it was offered to him.

The same man said that the second defendant could not have had gonorrhœa, because he had phimosis.

The second physician testified that his fees for gonorrhœa ranged from two to ten dollars; also that gonorrhœa only affected the head of the penis. Notwithstanding the admission of one of the defendants that he lied to his physician when he applied for treatment, judgment was entered against the physician in both cases.

The suits were appealed. In the meantime, a warrant for the physician's arrest was put in the hands of the sheriff, and a bond of $1,000 required for his appearance at court to answer a charge of slander.

Such law was too wonderful for the physician, and he allowed proceedings to drop, and a like termination came to the suit for slander.

One thing more may be of interest to any who should ever find themselves placed in similar circumstances.

Both the men mentioned went to the same locality during their treatment. Having ascertained the name and address of each druggist in this town, a request for copies of his prescriptions was mailed to each. Courteous replies came in due time from all but one firm, saying that such prescriptions were not on file. A second letter to this house, couched in the following language, failed to elicit a response.

"Sirs: Some time ago I wrote to you for the purpose of obtaining information in regard to two prescriptions which I had reason to suppose were on file at your drug-store. Up to the present time no reply has been received. The request for copies of my own prescriptions is unusual, but the circumstances under which it was made are equally so, and in renewing that request I desire to make some explanation of the facts which render it of importance to me to obtain what is asked for. In July —— I treated two young men and a girl for gonorrhœa. One of the men was a former resident of —— and spent a fortnight in that place while undergoing treatment; during that time he had my prescriptions filled at one of the drug-stores there—so he told me after his return. The other druggists have informed me that their files do not contain duplicates of the enclosed prescriptions, and it is therefore concluded that they are on file at your establishment. My attempt to collect my bill is now met with the cry of thief, liar, coward, and blackmailer, and as a last resort with a suit for slander. Now I know that it is the duty of the pharmacist to shield his patrons, but at the same time I do not believe you regard it as necessary to countenance such an attempt to injure a physician."

J. E. Free, M.D.

Harrisburg, Pa.

THE CENTRES FOR SIGHT AND HEARING.

To the Editor of The Medical Record.

Sir: Permit me, through your valuable columns, to ask the assistance of our learned profession in the settlement of a question that is now under discussion and consideration by the Neurological Society of London, viz.: "The localization, in the cerebral cortex, of the centres presiding over sight and hearing."

In a somewhat lengthy and careful series of experiments upon monkeys, recently made at University College, London, by Professor E. A. Schäffer and myself, with the purpose of throwing some light upon the subject, we uniformly obtained results directly opposed to Ferrier's views, as set forth in his last edition of "Functions of the Brain," viz.: That the centre for hearing, in one ear, is in the superior temporo-sphenoidal convolution of the opposite side, and that for sight, in one eye, in the angular gyrus of the opposite side.

Now it appears that some seventeen cases of cortical lesion in the human subject have been collected which seem to support Ferrier's conclusions. Without questioning the reliability of these cases, I must suggest that unilateral defect of both sight and hearing is very common when not due to cortical lesion, which would, to a considerable extent, tend to bring the above-mentioned cases within the range of coincidence, while a case of lesions in these situations, without defect of sight or hearing, would not be open to this objection.

Though it is a less cheerful task to publish evidence destructive of an ingenious theory than to furnish facts in its favor, the interests of science demand that as much zeal should be displayed on the one hand as on the other.

Hoping, Mr. Editor, that The Medical Record and the profession at large may not lose sight of the fact that it is even of more importance to carefully examine and report a case of cortical lesion in which, during life, there has been no disturbance of function than one wherein such disturbance may have existed,

I remain, yours very respectfully,

Sanger Brown.

163 State Street, Chicago, June 23, 1887.

[Reports of cases such as Dr. Brown suggests are certainly desirable. It should be stated, however, that Dr Ferrier no longer holds the angular gyrus to be the sole centre of vision, while many observers have contributed more than Ferrier to show that the first temporo-sphenoidal convolution is in relation with the function of hearing.—Ed.]

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from July 3 to July 9, 1887.

Tremaine, William S., Major and Surgeon. Ordered for examination by Army Retiring Board, at Governor's Island, New York Harbor. S. O. 151, A. G. O., July 1, 1887.

Skinner, J. O., Captain and Assistant Surgeon. Granted leave of absence for four months, on surgeon's certificate of disability. S. O. 151, A. G. O., July 1, 1887.

Harris, H. S. T., First Lieutenant and Assistant Surgeon. Will be relieved from duty at Fort Ringgold, Tex., upon the return of Assistant Surgeon W. F. Carter, and will then report to commanding officer at Fort McIntosh, Tex., for duty. S. O. 73, Department of Texas, June 27, 1887.

Official List of Changes in the Medical Corps of the United States Navy for the week ending July 9, 1887.

Hudson, A., Medical Inspector. Detached from the Trenton and wait orders.

Scofield, W. K., Medical Inspector. Ordered to relieve Medical Inspector Hudson on the Trenton.

Coleridge on the Subjective Side of Jaundice.—In a letter from Coleridge, recently found and published, he says: "I have felt unwell and depressed by day and wandering all night through the Swedenborgian Devildom, like a Dante all at once left by his guide, or whose supposed Virgil had turned into Mrs. Brownrigg. While I remained quiet and motionless I had full possession of my thoughts, but as soon as I attempted to give them utterance I became flurried and lost all command over them. The cause and occasion of all this distemperature were at length disclosed, and on commencing my morning shave, the only time I have the pleasure of looking at myself, I was greeted by a duplicate (in color though not in stature) of Nebuchadnezzar's images. From the hair-line of my forehead to the soles of my feet all gold, with some alloy of brass or copper for the neck and breasts; in short, a consummated jaundice."

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending July 9, 1887:

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	11	5
Scarlet fever	26	7
Cerebro-spinal meningitis	4	4
Measles	22	4
Diphtheria	92	34
Small-pox	5	2
Yellow fever	0	0

The Niagara University at Buffalo, in conferring its degrees "hoods" its candidates, in pursuance of an ancient custom. Instead of the Hippocratic oath a special formula is used, taking "*religio, mores, cultura*" as the motto.

Prostitution and Insanity.—At the first (Moscow) congress of Russian alienists, Dr. Prascovia N. Tarnovskaia, of St. Petersburg, communicated (*Vratch*, No. 9, 1887, p. 216) the results of the anthropometric examination of fifty habitual prostitutes, who had all been inmates of brothels for a period of not less than two years. For the sake of comparison she examined in the same way fifty peasant women of the same age, and as far as possible of the same intellectual development, etc. The results of this — probably unique — investigation may be summed up as follows: 1. The prostitutes presented a shortening, amounting to half a centimetre, of the antero-posterior and transverse diameters of the skull. 2. As many as eighty-four per cent. of habitual prostitutes showed various signs of physical degeneration, such as irregularity in the shape of the skull, asymmetry of the face, anomalies of the hard palate, teeth, ears, etc. 3. In eighty-two per cent. of the prostitutes the parents were habitual drunkards. 4. In eighteen per cent. of cases the prostitute examined was the last survivor of a large family of eight to thirteen children, all of whom had died at an early age. 5. These facts afford ground for the belief that prostitutes, as a class, furnish the largest contingent of subjects predisposed to nervous and mental affections. There is no special work in any language on this subject, nor are there any statistics as to the number of prostitutes yearly admitted to asylums. Dr. Tarnovskaia urges the desirability of collecting such statistics for the purpose of determining the part which professional prostitution plays in the causation of mental and nervous disease.—*British Medical Journal.*

The Dose of Antipyrine.—Dr. Herman Ostrander, of Lansing, Mich., writes that he has used antipyrine very extensively in his practice for more than a year, and has never failed to get the desired result with five-grain doses, repeated every hour until fifteen grains were taken. He has never exceeded thirty grains in twenty-four hours. He adds that he can corroborate what has been said as to its use in migraine, and is also sure it will relieve pain of rheumatism.

Plurality of Urinary Albumens.—Dr. Lucas-Championnière observes that it is now known that the albumen which is found in the urine is not single, that its constitution varies, and that the presence of these different forms of albumen may imply also a different prognosis. He quotes as follows from the recent works of M. Jaccoud: We may say to-day that there are three kinds of albumen to consider in pathological urine. First: Serine. This albumen is identical with that of the serum of the blood; it is the albumen most distinctly pathological, if we may say so, the albumen of Bright's disease; there is no Bright's albuminuria without serine. Second: The numerous family of globulins, paralbumen, metalbumen, of which the most ordinary type is paraglobulin, again called simply globulin. Third: The peptones, which correspond to the ancient albuminose of Mialhe. Now, from the examination of facts it results that, of these three forms of albumen the first only, serine, is related to a lesion of the kidney; globulin and peptone are not dependent upon lesion of the kidney, but must rather be referred to a peculiar state of the albuminoids of the blood. There is great practical interest in this, for globulin precipitates by all the reactions which are commonly employed in the study of albuminuria, and its presence may consequently lead one to believe in a renal lesion which does not exist, or, if it co-exists with serine, may cause one to suppose that a present albuminuria is much more abundant than in reality it is. As to peptone, that does not precipitate by the usual reagents for serum-albumen, and its presence in the urine does not give place to any error in this respect. The only difference that can be noted between the precipitates given by the two albumens are the following: With globulin the coagulation is a little slower, it is not absolutely instantaneous like that of serum-albumen; moreover, the precipitate, however abundant it may be, is never flaky at the moment of its formation, it does not become so secondarily, and does not present the phenomenon of retractility. These facts are important, for the slowness, the homogeneity, the absence of flaky divisions, and its retractility are precisely the characteristics of albuminous precipitates which are observed in the transient albuminuria, notably in the course of and following acute diseases; and inasmuch as, even of late, the precaution is not taken to separate the globulin before treating the urine with the ordinary reagents, it is probable that in most of these cases there has been found a globulinuria and not a serum-albuminuria, that is to say, in fine, a false albuminuria due to a transient modification of the protein substances of the blood under the influence of acute diseases. The process for the separation of the two kinds of albumen is very simple. A saturated solution of sulphate of magnesia is prepared, the saturation being such that some crystals are left undissolved. To a given quantity of urine an equal quantity of this solution is added, and the mixture is kept cold for twenty-four hours. At the end of this time an opaque cloud has formed by the precipitation of globulin. This substance is coagulated fully, and is pure, without admixture with other albuminoids. The coagulum so produced is separated by filtration, and in the filtered liquid one can test without fear of error by the ordinary reagents for serum-albumen.—*St. Louis Courier of Medicine.*

Acute Melancholia Caused by Impacted Fæces.—Hutchinson (*American Journal of Insanity*) has detailed a case of this kind occurring in a married woman of forty. At the time of her admission into the Western Pennsylvania Hospital for the Insane, the patient suffered from acute melancholia, was very weak and extremely emaciated, her skin was bronzed, dry, and harsh, her hair was dry and falling out, and all the secretions of the body were perverted. On examination, a distinct tumor could be felt through the abdominal walls, following the course of the rectum and sigmoid flexure, and making the introduction of a catheter to relieve the distended bladder almost impossible. The tumor was thought to be an accumulation of hardened fæces. Accordingly, the scoop and appropriate injections were employed for several days, with the ultimate result of removing the mass entirely. Rapid improvement in the patient's health, both mental and physical, followed this evacuation, so that in less than one month she was discharged, being then in the enjoyment of perfect health of body and mind alike.

Juvenile Intermittent Albuminuria.—Considerable interest attaches to cases of cyclical albuminuria, for their pathology is unknown, and perhaps is different in different cases. The causation of mere intermittency of symptoms generally has not received adequate attention. M. Teissier has collected a fresh series of ten cases of cyclical albuminuria. He lays stress on the following features: A separation of oily matter on the urine, and the presence in it of brilliant bluish or metallic looking spangles; the absence of true casts, though cylindroids, possibly of mucus, and sometimes drops of fat, may be detected with the microscope; the slightness of the subjective symptoms, which may consist of mere vague feelings of malaise, of pain in the back, of weakness, or of pains in the limbs. Neuralgic troubles are rare. There is great nervous excitability or impressionability. Physical examination has never revealed the "bruit de galop." The lowness of arterial tension, which is calculated to be equal to a column of mercury sixteen to seventeen centimetres high, is important as an item in the differential diagnosis of cyclical albuminuria from interstitial nephritis. Dilatation of the stomach was observed in three cases. Three patients had had eczema or urticaria. Neither œdema nor "dead fingers" was noted. Speaking generally, the aspect of the patients is one of good health. The complaint, if such it can be called, is commonly curable; but slight relapses may recur under the influence of fatigue or violent impressions. The age that is most liable to the affection is ten years from puberty onward; males suffer more than females. Violent exercise and excessive emotional excitement are direct causes. Teissier does not accept the mechanical theory of Bar, nor the theory of disturbance of the glomerular circulation of Magnin. His own view, propounded two years ago at Grenoble, he now believes to be insufficient to explain all the phenomena. A slowing of the combustion of albumens will not explain the presence of fatty matters or the increase of urea in the urine. His present position is to regard the malady as due to over-action of the liver, which is the factory for urea, uric acid, and fatty matters. In treatment the importance of hygiene is very great. These patients are perhaps predestined to become gouty. Shampooing, plenty of fresh air, prohibition of alcohol and white wines, and moderate exercise, are to be prescribed for these young men. Arsenic, inhalations of oxygen, cold baths, bromides and hydrotherapy, tannin, benzoate of soda, etc., are recommended, but especially sweet spirits of nitre, twelve to fifteen drops a day (alcool nitrique); milk, eggs, and ham may be eaten, but not fish; thermal waters are good.—*The Lancet.*

Pasteur Defends Himself.—At a recent meeting of the Imperial Society of Physicians, a letter from M. Pasteur, in Paris, was read, in which he defends himself against the imputations made against his system by the Vienna professors, especially Prof. Billroth, who pronounced the vaccination of hydrophobia a fiasco.

An Overdose of Eserine.—Dr. Dunlop has reported the following case in the *Lancet:* A lady of about sixty years of age, who had slowly advancing cataract in the left eye, and incipient disease of the same kind in the right, began, early last October, to suffer from irritation of the conjunctivæ. The eyes were suffused and the conjunctivæ often somewhat injected, and the discomfort was increased by fatigue, exposure to cold, or strong artificial light. The patient consulted an oculist in London in November, and a variety of constitutional and local remedies were employed without any very satisfactory result. On January 19th the use of eserine was advised, with the view of lessening the amount of light passing into the eye. Accordingly a solution of the strength of one grain to the ounce was prescribed, and a drop was ordered to be placed in the eyes twice a day. At about 4 30 the same afternoon the first application was made, and a small drop of the solution placed in each eye. A good deal of smarting and lacrymation followed, and as this passed off, in about a quarter of an hour severe clonic spasm of the eyelids set in, the upper eyelid, as the patient described, falling down on the lower every few seconds. About a quarter of an hour later a feeling of spasmodic stiffness in the lips, especially the upper, set in, and soon there was the same sensation under the jaw on the left side. Within an hour there was a feeling of tremor or spasm, but without any actual muscular movements in the arms and thighs, and at the same time there was a sensation of pressure on the eyeballs and of weight and pressure within the head. The patient also began to suffer from some mental confusion, and her memory was impaired. By 11 P.M. the movements of the eyelids had diminished considerably, but the other symptoms had altered very little. She slept uneasily, waking at frequent intervals during the first part of the night, and when she awoke was conscious of the same sensation, though in diminishing degree. In the morning the muscular sensations had disappeared, but she felt weak and shaken. Dr. Dunlop saw her a little before noon on the 20th, when he found the pupils contracted to a fine point, and the conjunctivæ a good deal injected. All the spasmodic muscular feeling had disappeared, but she complained of the pressure on the head and on the eyes. She said there was some mental confusion and a general feeling of weakness. Next morning, the 21st, the pupils were still minutely contracted, and as she still complained of the pressure on the balls, he ordered a weak atropine lotion. On the morning of the 22d, before using the atropine, the weight in the head and the pressure on the eyeballs passed off, and she felt stronger and better. A visit to the druggist who dispensed the prescription fully explained the matter, however, for it appeared that by mistake he had made the solution of the strength of one grain to the *drachm* instead of one grain to the *ounce.*

The Antiquity of Trephining.—Antiquarian research sometimes produces curious and unexpected results. A short time since a dental surgeon made it his business to examine microscopically the teeth in some pre-historic skulls, and as a result thereof was able to determine the food on which the owners of the said skulls had subsisted. Professor Horsley has also occupied himself with ancient skulls, and judging from the marks found on them, concludes that the operation of trephining is by no means modern. He has extended his researches in this direction, and recently read a paper on the subject at the Anthropological Institute of London.

Expulsion of the Uterus during Labor.—Dr. Francisco saw the following case in consultation: A primipara, aged twenty-three, feeling the pains of labor beginning, sent for a physician, who examined and found the vertex presenting. The pains continued satisfactorily, when suddenly, after an intense pain, the whole womb with the child in it was expelled from the vulva, carrying with it the vagina. The cervix lay only two or three fingers' breadth above the knees of the patient. The os was only dilated to about the size of an English shilling, and was very rigid. While the doctors were consulting, the patient had two pains, and the child was born; two deep lacerations having taken place on the left side of the os tincæ. The cord being tied, and the after-birth and membrane extracted, the womb and vagina were carefully replaced and a binder applied. The temperature marked 101.3° for the first two days, then became normal, and the patient made a capital recovery. The child was a female, living, and appeared of full time and strong.

Illegitimacy as a Cause of Idiocy.—Dr. A. Mitchell has collected a large number of statistics bearing on the question of idiocy, and comes to the conclusion that illegitimacy is a very prolific cause of this condition. He believes that the mental agony suffered by the unfortunate mother reacts upon the fœtus, causing an arrest of development and occasioning congenital idiocy.

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NEURO-MYOLOGY:

CLASSIFICATION OF THE MUSCLES OF THE HUMAN BODY WITH REFERENCE TO THEIR INNERVATION, AND NEW NOMENCLATURE OF THE MUSCLES.

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INTRODUCTORY.

A NERVE may be defined as a line of least resistance to motion in a living organism. A sensory or æsthesodic nerve is one which transmits certain modes of molecular motion from without inward, or from the locomotorium to the sensorium of the organism. A motory or kinesodic nerve is one which transmits a certain mode of molecular motion from within outward, or from the sensorium to the locomotorium of the organism. A motory nerve is the means of translating molecular into molar or mechanical motion; a sensory nerve reverses this process. Most nerve-tracts are sensorimotor, acting both ways.

A muscle may be defined as a line of least resistance to the motor influence of a nerve. Muscle is next most kinesodic after nerve. This is the tissue in which the cumulative effect of molecular motion in nerve is immediately translated and manifested in molar movement. A voluntary muscle is one from which motor influence can be withheld at will. An involuntary muscle is one from which such influence cannot be thus withheld.

The simplest case of muscular motion resulting from nervous influence is when one part of a single cell moves mechanically in consequence of a sensation in the other part of the cell. The ciliary vibration of a ciliated epithelicell is a case in point: for this implies the translation of sensation, which is a vital mode of motion, into ordinary mechanical movement. All transfer of motion along any line of least resistance, as a nerve, to another line of next least resistance, as a muscle, is no more than the extreme amplification and elaboration of the simple case cited. Motility is the prime characteristic common to nerve and muscle; it shows their relation to be immediate and their connection to be the closest possible

The whole nervimuscular system of an animal maintains this close connection, which is not less intimate when myriads of cells stand in such inter-relation than when two cells, or two parts of one cell, are thus interdependent. Nor is the case altered if, as usually happens, nerves remain slender threads while muscles become bulky masses. For muscle is only an aggregate of filaments as fine as nervous fibrils, and both are cells in ultimate analysis. In point of fact, the total motility of a nerve-tract exactly equals that of the corresponding muscle-tract; the motor power of nerves being in every case nicely adjusted to the resistance which can be overcome by muscular action.

No muscle is developed except in connection with some nerve, and every muscle sustains the character of an instrument of some nerve. From an anatomical as well as a physiological stand-point, upon genetical as well as functional grounds, nerve and muscle are inseparable.

It appears, then, that the whole muscular fabric is built upon the plan of the nervous system. It follows that the clew to the organization of the muscular system, and consequently the rational classification of the muscles themselves, is found in the disposition and arrangement of the nerves. Neurology is the key to myology; and a neuro-myology is practicable.

The coming neuro-myology is forecast in outline in the present article, which offers to classify and name the voluntary muscles of the human body according to the nerves which severally supply them with motor power. We only compromise the matter here and there, in order to disturb the text-book order of things as little as possible. For the present we would rather evade the full consequences of our audacious iconoclasm than lay too violent hands upon the venerated relics of anatomical antiquity. There is too much rubbish to get rid of all at once, and the very cobwebs that cover the bogies in the garret are dear to our hearts. So the new arrangement of the muscles is not quite off with the old love. But we make bold to attack the *names* of muscles with all our might. There is no reason why a muscle should be called *levator labii superioris alæque nasi*, except that it has been called so; and it need not be called so any longer, if calling it *nasi-labialis* will be better. Why must generations of students be compelled to talk of an *abductor ossis metacarpi minimi digiti* and a *musculus accessorius ad sacro-lumbalem*, because some old anatomist described certain muscles in that way when he wrote in his book about them? We discard all such cumbersome, meaningless, or otherwise objectionable phrases as names of muscles, and select or invent other words that we conceive to be preferable. We are sustained in this raid on the time-honored bugbears by the conviction that the horror with which conservative age views new names for old things is less than the terror with which progressive youth gazes upon our cherished fetiches, and is no greater than our own irreverence for the sleepy old gods of the amphitheatre.

But the world moves, and ideas move it, just as nerves move muscles. Half the difficulty of anatomy is inherent; the other half is in wordiness. The trouble with the student is more in the names of things than in the things themselves. He mistakes one for the other, his head swims, and then he founders in a Latin storm at sea. But that need not be.

Gray's "Anatomy" takes about 450 words to name the muscles which we here name in 303 words. Gray's names run from one word to five words apiece, averaging more than two. Our names are mostly in one word; a few are in two words; none in three or more. This is a positive practical advantage.

The old names show scarcely a trace of any system of naming. Some muscles are named from their size or shape or other appearance; some from their relative position; some from their origin or insertion; some from their function or office. Some names are historical or complimentary; others fanciful or whimsical. Some are words, others are phrases; some are nouns, others adjectives or participles; some are singular, others plural;

some are Greek or Latin, others English or dog-Latin or nondescript. The old classification or arrangement of the muscles in groups for the purposes of description is scarcely less artificial and faulty. Muscles have been mostly divided into "regions," "layers," etc., by a trick caught at the dissecting-table. This presumes upon the ability of the man on the table to describe his own muscles scientifically, whereas he can only furnish the information which may enable another to construct a scientific system of myology.

We have gone by the old-fashioned landmarks as far as possible, but never hesitated to leave them behind if we must, in threading our way through the muscular labyrinth by the Ariadnean clew which the nervous system affords. For a favorable sample of the way our plan works, take the muscles of the thigh. It was only necessary to see in the so-called "obturator externus" a muscle of the adductor set, and in the so-called "tensor vaginæ femoris" a muscle of the glutæal region, to see all the femoral muscles leap into their proper places at the will of the lumbar and sacral plexuses. Then we have several clean-cut nervimuscular groups: these we call *antecrural*, *adductorial*, *glutæal*, *coxal*, and *postfemoral*. The first two of these are innervated from the *lumbiplex;* the last three from the *sacriplex*. The first is anterior, and presided over by the antecrural nerves. The second is internal, governed by the obturator nerves. The third is posterior, superior, and superficial, ruled by two special branches of the sacriplex. The fourth is posterior, superior, and deep-seated, impressed directly by as many sacriplexal nerves as there are muscles. The fifth is posterior, innervated by branches of the *magnisciatic* nerve. Next, how shall these muscles be *named* so as to show to which of these five sets every one of them belongs? The easiest way is to make the names in each set agree with one another in termination, and differ from those of all the other sets. Acting on this plan, and also compromising with the old lack of system, we name the muscles thus:

Antecrural Group: *Sarticruræus*, *recticruræus*, *extracruræus*, *medicruræus*, *intracruræus*, *subcruræus*.

Adductorial Group: *Obturiductor*, *pectiniductor*, *breviductor*, *longiductor*, *magniductor*, *graciliductor*.

Glutæal Group: *Vaginiglutæus*, *ectoglutæus*, *mesoglutæus*, *entoglutæus*.

Coxal Group: *Pyriformis*, *obturiformis*, *quadratiformis*, *gemelliformis*, *geminiformis*.

Postfemoral Group: *Tendinosus*, *membranosus*, *bicipitosus*.

Here are twenty-four words for twenty-four muscles. Gray has forty for the same. Notwithstanding that this changes almost every name in the text-book, we imagine there are few students who will not recognize them all on sight.

Such systematic classification and methodical nomenclature we have carried out to the best of our ability in the present paper, hoping that we have at any rate got rid of a good deal of dead wood, if we have not also improved the order of things in other respects. All the names we use are printed in **thick type**, and the old ones are bracketed in quotation-marks opposite them for facility of comparison. Our names are all nouns, in due Latin *form*, nominative case, masculine gender, and mostly singular number. A very few of them are bad Latin, like *malledius*, *complicalis*, and *trachelalis*, but they look well enough, and we found reason for inventing them. We sometimes compound words of Greek origin with Latin prepositions, or vice versa, and sometimes clip a good deal in compounding; but, as a rule, the words are kept pure in fact as in form. We also incidentally introduce some new names of nerves, like *sacriplex* for "sacral plexus," having in view the revision of the nerves in like manner on some future occasion.

We begin by advancing the following:

General Propositions.

I. Agreeably to the plan of the vertebrate skeleton, which consists of a main axis or trunk, with diverging appendages or limbs, the muscular system is divisible into Axial and Appendicular musculation.

Axial muscles are those which belong to the axial skeleton—that is to say, to the trunk, including the head. The muscles of the head, neck, chest, belly, back, and perinæum, are *axial*.

Appendicular muscles are those which belong to the appendicular skeleton—that is to say, to the limbs. The muscles of the anterior and posterior extremities are *appendicular*.

II. Spinal nerves first divide into "anterior" and "posterior" trunks. These prime *divisions* are respectively Hypaxial and Epaxial.

Hypaxial nerves are those which pass below the vertebral axis—that is, in man, in front of the bodies of the vertebræ.

Epaxial nerves are those which pass above the vertebral axis—that is, in man, behind the bodies of the vertebræ.

Cranial nerves do not divide like spinal nerves. Those of them which are motor — that is, those which innervate muscles—correspond to "anterior" divisions only of spinal nerves. They are therefore *hypaxial*.

It is only the "anterior" or *hypaxial* divisions of spinal nerves which form the great knots known as the *cervical*, *brachial*, *lumbar*, and *sacral plexuses*. The "posterior" or *epaxial* divisions are smaller, as a rule, and scarcely or not plexused; their motor function is confined almost entirely to the "muscles of the back," and they have nothing to do with the appendicular muscles.

III. The muscles of the limbs are innervated entirely from *hypaxial* nerves—that is to say, from the several plexuses, together with the accessispinal nerve, which is the equivalent of a hypaxial nerve, and only a cranial nerve "by courtesy." Muscles of the limbs are therefore *hypaxial* as well as *appendicular*.

IV. All the prevertebral muscles—that is, those which are situated in front of the spinal column—are innervated from anterior divisions of spinal nerves, and are therefore *hypaxial*.

V. All the muscles of the head which are innervated by cranial nerves are innervated as above said—by equivalents of anterior divisions of spinal nerves, and therefore are also *hypaxial*.

VI. It follows from the foregoing that the "muscles of the back" are the only *epaxial* muscles of the body.

VII. Every muscle[1] which is attached to the shoulder-girdle (scapula, coracoid, or clavicle), or beyond on the fore limb, is also innervated primarily, chiefly, or entirely from the *brachiplex*, or by the accessispinal nerve; and every such muscle is a *Muscle of the Anterior Extremity*.

VIII. Every muscle which is attached to the femur or beyond on the hind limb is innervated either from the *lumbiplex* or from the *sacriplex;* and every such muscle is a *Muscle of the Posterior Extremity*.

IX. The muscles of the perinæum are *hypaxial*, but they are *non-appendicular*. For, although they attach to the hip-girdle (ilium, ischium, pubis), such connection with the appendicular skeleton is incidental, like that of various muscles of the back or belly. The perinæal muscles are *axial;* they develop in relation with the urogenital and digestive systems, and represent muscles of the head at the opposite pole of the body-axis.

X. Combining the foregoing considerations respecting (a) *Axial* and *Appendicular* skeletal relations of muscles with (b) *Epaxial* and *Hypaxial* neural relations of muscles, we lay the foundation of a rational classification of muscles as follows:

[1] Save one—the omohyoideus.

A. EPAXIAL AXIAL MUSCLES.

I. The Muscles of the Back: Dorsal Muscles.

B. HYPAXIAL AXIAL MUSCLES.

II. The Muscles of the Head: Cranial Muscles.
III. The Muscles of the Neck: Cervical Muscles.
IV. The Muscles of the Chest: Thoracic Muscles.
V. The Muscles of the Belly: Abdominal Muscles.
VI. The Muscles of the Perinæum: Perinæal Muscles.
VII. The Muscles of the Tail: Coccygeal Muscles.

C. HYPAXIAL APPENDICULAR MUSCLES.

VIII. The Muscles of the Anterior Extremity: Arm Muscles.
IX. The Muscles of the Posterior Extremity: Leg Muscles.

A. EPAXIAL AXIAL MUSCLES.

Innervated by posterior divisions of spinal nerves.

The so-called "first layer" and "second layer" of the muscles of the back are not epaxial; are not axial; and are not innervated by posterior divisions of spinal nerves. They therefore are not muscles of the back. They are hypaxial appendicular muscles of the anterior extremity.

There is little foundation in fact for the recognition of the so-called "third layer." In so far as the innervation is concerned, the "third layer" and the "fourth layer" are one, innervated by *outer branches of posterior spinal nerves.*

The so-called "fifth layer" is more distinct, being innervated by *inner branches of posterior divisions of spinal nerves.*

Lengthwise, or axially, the muscles of the back are continuous from occiput to coccyx with such slight modifications that it is needless, if not useless, to divide them into "cervical," "dorsal," "lumbar," and "sacral" regions. These muscles require to be renamed and redescribed, as well as reclassified, in order to be intelligible. The most distinct among them, after the splenii and serrati, are those which provide for the movements of the head, and of the ribs upon the vertebræ.

The "levatores costarum," which Gray puts with the muscles of the chest, are epaxial, and therefore muscles of the back.

The most unconformable muscles of the back are the splenii and the serrati.

I. THE MUSCLES OF THE BACK.

1. SUPERFICIAL GROUP.

["Third" and "Fourth" "Layers."]

Innervated by outer branches of posterior divisions of spinal nerves.

(*a*) *Spleni-serrator Series.*

1. **Capiti-splenius.** ["Splenius capitis."]
1a. **Colli-splenius.** ["Splenius colli."]
2. **Supra-serratus.** ["Serratus posticus superior."]
3. **Infra-serratus.** ["Serratus posticus inferior."]

This peculiarly unconformable series is *oblique: i.e.*, the muscles arise from spiniprocesses and proceed obliquely to mastoid portion of skull, to transprocesses of cervical vertebræ, and to ribs. The splenii draw the head back and to either side. The serrati are antagonistic respiratory muscles.

(*b*) *Spinirector Series.*

(Sacri-lumbar region.)

1. **Sacri-lumbalis.** ["Erector spinæ."]

(Lumbi-dorsal region.)

2. **Dorsi-spinalis.** ["Spinalis dorsi."]
3. **Lumbi-dorsalis.** ["Longissimus dorsi."]
4. **Lumbi-costalis.** ["Sacro-lumbalis."]
5. **Costi-costalis.** ["Musculus accessorius ad sacro-lumbalem."]

(Dorsi-collar region.)

6. **Colli-spinalis.** ["Spinalis colli."]
7. **Dorsi-cervicalis.** ["Transversalis colli."]
8. **Costi-cervicalis.** ["Cervicalis ascendens."]

(Colli-capital region.)

9. **Biventralis.** ["Biventer cervicis."]
10. **Complicalis.** ["Complexus."]
11. **Trachelalis.** ["Trachelo-mastoideus."]

Eleven muscles may be named as more or less distinct in the *spinirector* series of man; that is to say, there is one muscle, with ten divisions, making eleven. These are all *direct;* that is, they are longitudinal or vertical, on the whole and in almost every detail. Thus they run from spine to spine of vertebræ, from transprocess to transprocess of vertebræ, from ilium to ribs, from rib to rib, and thence to corresponding positions on the occiput. The muscular masses collectively lie on either side of the middle line of the vertebræ, as far outward as the crest of the ilium, the angles of the ribs, and the mastoid process of the skull. The series is *artificially* divisible into those sections which run respectively along the sacri-lumbar, lumbi-dorsal, dorsi-collar, and colli-capital regions; that is to say, which lie in the three intervals between these four bounds. In the loin the muscle is indivisible. In passing thence to the thorax it splits into three parts, lying parallel and running abreast. These three parts are: (1) from spine to spine of vertebræ ("spinalis dorsi"); (2) from lateral processes of vertebræ to lateral processes of vertebræ and adjoining parts of ribs ("longissimus dorsi"); (3) from angle of rib to angle of rib ("sacro-lumbalis"). Then division (3) splits in two, giving (4) the "accessorius ad sacro-lumbalem." This makes the four partitions, which are best displayed near the middle of the back, say opposite the eighth rib. Thence, in passing from the thorax to the neck, three partitions of the muscle continue on: the "spinalis dorsi" as the "spinalis colli;" the "longissimus dorsi" as the "transversalis colli;" the "accessorius" as the "cervicalis ascendens." Meanwhile, however, we meet, before leaving the thorax, with the pointed prolongation down upon the thorax of the three muscles which lie parallel with one another and run abreast to the head. These are the "biventer cervicis," the "complexus," and the "trachelo-mastoideus." Their thoracic origin is from transprocesses of vertebræ; therefore they are the prolongations of the "transversalis colli" and "longissimus dorsi" partitions of the whole muscle; they lie between the "transversalis colli" and the "spinalis dorsi et colli." Then they rapidly increase in bulk, especially the complexus, and finish the *spinirector* series by insertion in the occipital and mastoid regions of the skull. The series is simplest at its either end; it is most complex at the root of the neck, where good dissection will show no fewer than six bundles of muscle. These are, from the middle line outward, (1) spinalis colli, (2) biventer cervicis, (3) complexus, (4) trachelo-mastoideus, (5) transversalis colli, (6) cervicalis ascendens. This means that the three bundles coming down from the head onto the thorax are wedged between the three bundles going up from the thorax onto the neck.

The arrangement is really not difficult to learn, but the way it is usually described, with such names as we

have used in the foregoing paragraph, makes it almost impossible to remember. Accordingly we have invented a system of names which express their own meaning; and which are connected with one another in the same way that the muscles themselves are connected, as will be seen by the following diagram, where the names are printed in somewhat the same relative positions that the muscles themselves occupy:

Sacro-lumbalis.	Dorsi-spinalis	Colli-spinalis.	
	Lumbi-dorsalis	Dorsi-cervicalis	Biventralis. / Complicalis. / Trachelalis.
	Lumbi-costalis	Costi-costalis	Costi-cervicalis.

It will be observed that these names are each a single word, and that they uniformly end in *-alis*. This is a matter of such practical convenience that we have changed two very good words, "complexus" and "trachelomastoideus," into very dubious forms to make them correspond with the rest. Secondly, with the exception of the three occipital muscles of the series, where we retain the old names in a modified form, every name indicates the situation of the muscle it designates. Thirdly, the connections of the names are such that they indicate what divisions of the series are continuous with one another. Thus, *dorsi-spinalis* + *colli-spinalis* are the continuous series of slips along the spinous processes of the back and neck. Again, *sacri lumbalis* + *lumbi-dorsalis* + *dorsi-cervicalis* are the next series, running from the sacrum along the lumbar and dorsal to the cervical region, its divisions being lumbi-dorsal and dorsi-cervical. Once more, *sacri-lumbalis* + *lumbi-costalis* + *costi-costalis* + *costi-cervicalis* are together the outermost series which run from the sacrum along the ribs to the neck, broken into sets of slips in the lumbi-costal, costal, and costi-cervical portion of its extent.

The innervation of this whole series is regular and uniform, from *external* branches of posterior divisions of the spinal nerves. To this statement the complicalis offers an exception. There being no external branch of the posterior division of the first cervical nerve, the complicalis draws upon that nerve direct. But the muscle is chiefly supplied by the "great occipital," the internal branch of the posterior division of the second cervical nerve, and the size of the muscle accounts for that of the nerve. The muscle is, however, in part supplied in the regular way by external branches of cervical nerves. These facts clearly show it to be a compound muscle, quite worthy of its name; and we suppose that it represents in itself muscles even of different groups. The biventralis, for example, the least distinct part of the muscle in man, is very different in birds, resembling a collispinalis.

2. DEEP GROUP.

["Fifth Layer."]

Innervated by inner branches of posterior divisions of spinal nerves.

The muscles of this group are more distinct from one another than those of the superficial group, because they lie so deeply between the processes of the vertebræ and the ribs as to be for the most part broken up in passing between successive segments of the trunk, much as the intercostals are. They also differ from the superficial group and resemble intercostals again, in being for the most part *oblique;* that is, they connect a given process of one vertebra with a different process of another vertebra, or with a rib. Their serial character is quite uniform from sacrum to axis, but is modified, in the thoracic and cervical regions, by the presence of "semispinales" in the thoracic region, by the occurrence of "rotatores" and "levatores," and, especially between the axis, atlas, and occiput, by special provision for the movements of the head. The innervation of the posterior recti and obliqui of the head is also peculiar, owing to the special character of the first cervical nerve which supplies these muscles. We may therefore divide the Deep Group into two subgroups, to which a recognizable third may be added for the peculiar coccygeal condition of man.

(*a*) *Suboccipital Subgroup.*

Innervation mainly by suboccipital nerve.

1. **Atlanti-rectus.** ["Rectus capitis posticus minor."]
2. **Axi-rectus.** ["Rectus capitis posticus major."]
3. **Atlanti-obliquus.** ["Obliquus capitis superior."]
4. **Axi-obliquus.** ["Obliquus capitis inferior."]

The first two of these muscles are modified interspinales, passing from the spiniprocesses of the atlas and of the axis, respectively, to the supra-occipital bone, which corresponds to the spiniprocess or neural spine of an ordinary vertebra. The last two muscles are modified *semispinales* or *fidispinales*, since they connect a transprocess with a spiniprocess; the *atlanti-obliquus* passing from the transprocess of the atlas to the supra-occipital bone, the *axi-obliquus* from the same point to the spiniprocess of the axis. Besides their regular innervation they draw upon the next cervical nerve, the "great occipital," to some extent.

(*b*) *Vertebral Subgroup.*

Innervation by internal branches of posterior divisions of spinal nerves.

5. **Semispinales.** ["Semispinalis dorsi et colli."]
6. **Fidispinalis.** ["Multifidus spinæ."]
7. **Rotispinales.** ["Rotatores spinæ."]
8. **Supraspinales.**
9. **Interspinales.**
10. **Transpinales.** ["Intertransversales."]
11. **Costispinales.** ["Levatores costarum."]

The arrangement is here very simple and regular. The basis of this system of musculation is the oblique set of fibres called the "multifidus," connecting the transprocess and artiprocess of a vertebra with the lamina and spiniprocess of some vertebra higher up. The more superficial the fibres the more vertebræ they pass by, and thus the *semispinales*, in the thoracic and cervical regions, are seen to be but superficial slips of the *fidispinalis*, and, similarly, the *rotispinales*, peculiar to the thoracic region, are but the deepest slips of the *fidispinalis*, passing only from one vertebra to the next. The *costispinales* (the so-called "levatores costarum"), also peculiar to the thoracic region, are simply the prolongation of the multifid system onto the ribs. The remaining muscles are the slips which directly connect spiniprocesses with one another and transprocesses with one another. The innervation of this whole group is regular, except that the most lateral or superficial slips may attract some supply from outer rather than inner branches of the nerves.

(*c*) *Caudal Subgroup.*

12. **Coccygerector.** ["Extensor coccygis."]

When any muscle is found on the back of the stunted coccyx of man, it is the vestige of epaxial caudal muscles which, in some animals, are as numerous, distinct, and even as bulky as those of other parts of the spinicolumn. The human remnant represents all of these, and therefore can hardly be brought under any of the foregoing categories. It appears most like a prolongation of the *spinirector*, and to that extent belongs with the spinirector series.

B. HYPAXIAL AXIAL MUSCLES.

Innervated by anterior divisions of spinal nerves or their equivalents; and not appendicular.

There is little intrinsic difference in the whole series of hypaxial muscles of the trunk, their innervation being continuously derived from anterior divisions of spinal

nerves, or, as in the head, by motor cranial nerves which are the equivalents of anterior divisions of spinal nerves. Unlike the disposition of the epaxial muscles of the back, however, the conformation of the parts enables us to group these muscles into the several obvious "regions" of the head, neck, chest, belly, and perinæum.

The first and second (olfactory and optic) nerves, being purely sensory or æsthesodic, have no voluntary muscles attached to them.

(The intrinsic involuntary musculation of the eye (iridian and ciliary) is derived from filaments of the nasal branch of the ophthalmic division of the trigeminus, together with filaments from the ophthalmic ganglion of the sympathetic.)

II. THE MUSCLES OF THE HEAD.

1. ORBITAL GROUP.

Innervation by the third, fourth, and sixth cranial nerves.

(a) Oculi-motor Subgroup. Third nerve.

1. **Palpebralis.** ["Levator palpebræ superioris."]
2. **Supra-rectus.** ["Rectus superior."]
3. **Infra-rectus.** ["Rectus inferior."]
4. **Intra-rectus.** ["Rectus internus."]
5. **Infra-obliquus.** ["Obliquus inferior."]

(b) Trochlear Subgroup. Fourth nerve.

6. **Supra-obliquus.** ["Obliquus superior."]

(c) Abducent Subgroup. Sixth nerve.

7. **Extra-rectus.** ["Rectus externus."]

These muscles lift the eyelid and roll the eyeball about.

2. MASSETERIC GROUP.

Innervated by the fifth cranial nerve (motor filaments of its infra-maxillary division).

1. **Temporalis.**
2. **Masseter.**
3. **Ecto-pterygoideus.** ["Pterygoideus externus."]
4. **Ento-pterygoideus.** ["Pterygoideus internus."]

These are muscles of mastication; they move the lower jaw upward and sideways. (For mylohyoideus and predigastricus muscles, also innervated from the *fifth nerve*, see beyond.)

3. CAPITI-CERVICAL GROUP.

Innervated by the seventh cranial nerve (the facial).

The panniculus carnosus or platysma myoides and its subdivisions, being the cutaneous muscles, or muscles of expression—*innervated by the facial nerve*—(with certain exceptions noted).

A. Cranial Region.

1. **Occipito-frontalis.** [Primary innervation normal, by the *facial nerve*, to anterior belly of the muscle; secondary innervation, to its posterior belly, by the *occipitalis minor*, from the *cerviciplex*.]

This muscle moves the scalp to and fro.

B. Facial Region.

(a) Aural Subregion.

2. **Attollens.** [Innervation irregular, by the *occipitalis minor*, like posterior belly of occipito-frontalis.]
3. **Attrahens.**
4. **Retrahens.**

These muscles move the ear up, to and fro.

(b) Ocular Subregion.

5. **Orbicularis.** ["Orbicularis palpebrarum."]
6. **Superciliaris.** ["Corrugator supercilii."]
7. **Tarsalis.** ["Tensor tarsi."]

These muscles shut the eyelids and wrinkle the skin of the forehead. The orbicularis is the sphincter of the eye.

(c) Nasal Subregion.

8. **Pyramidalis.**
9. **Compressor.** ["Compressor nasi," and "Compressor narium minor."]
10. **Depressor.** ["Depressor alæ nasi."]
11. **Post-dilatator.** ["Dilatator naris posterior."]
12. **Pre-dilatator.** ["Dilatator naris anterior."]

These muscles move the nose about, acting especially upon the nostrils.

(d) Oral Subregion

13. **Oscularis.** ["Orbicularis oris."]
14. **Buccinator.**
15. **Nasi-labialis.** ["Levator labii superioris alæque nasi."]
16. **Supra-labialis.** ["Levator labii superioris proprius."]
17. **Canini-labialis.** ["Levator angulæ oris."]
18. **Zygo-labialis.** ["Zygomaticus minor."]
19. **Malari-labialis.** ["Zygomaticus major."]
20. **Risi-labialis.** ["Risorius."]
21. **Anguli-labialis.** ["Depressor anguli oris."]
22. **Infra-labialis.** ["Depressor labii inferioris."]
23. **Menti-labialis.** ["Levator menti, or labii inferioris."]

These muscles move the lips, cheek, and chin. The buccinator is the sphincter of the cheek. The oscularis or kissing-muscle puckers the mouth, and is the sphincter of the lips. The labial muscles pull the lips in every direction. Those above No. 20 move the upper lip; those below No. 20, the lower lip. This set radiate from the mouth in a half-circle, from the nose around by the ear and thence down to the chin, in the order above given.

C. Cervical Region.

24. **Platysma.** ["Platysma myoides."]

This muscle wrinkles the skin of the neck and breast and indirectly lowers the jaw. It blends with all the muscles of the oral subregion.

D Tympanic Region.

25. **Stapedius.**
26. **Incudius.** ["Laxator tympani."]
27. **Malledius.** ["Tensor tympani."]

These muscles move the bonelets of the ear. No. 26 is improperly called a muscle, and likewise it is called incudius because it is not inserted in the incus. It may seem abrupt to pass from the platysma, a muscle of the skin of the neck, to the stapedius, a muscle of the tympanum. But the *facial nerve* here proves a safe guide. For the tympanum is primitively an infolding of the skin of the neck, and leads us through the Eustachian tube to the next group of muscles. Muscles of the tympanic subregion derive secondary innervation from other sources than the facial, as would be expected from their immediate position and transitional character between cutaneous and palatal regions.

(For stylohyoideus and digastricus, innervated from facial in part, see beyond.)

[The eighth cranial nerve, auditory, being purely sensory, has no muscular connections.]

4. PALATO-PHARYNGEO-LARYNGEAL GROUP.

Innervated by the ninth, tenth, and eleventh cranial nerves: sensory, sensori-motor, and motorial (motor influence supposed to be from the eleventh).

The innervation in this group is very complex, especially in the palatal subgroup, which is supplied largely by the *facial* (through branches from the *otic* and *sphenopalatine sympathetic ganglia*), and to that extent the group belongs to the preceding one. At least one muscle of the palatal subgroup (the tensor of the palate) may even get some innervation from the infra-maxillary divi-

sion of the *fifth*. But the regional relation of the muscles of the soft palate make it most convenient, if it be not also most natural, to bring them under this head.

(*a*) *Palatal Subgroup.*

1. **Uvularis.** ["Azygos uvulæ."]
2. **Palati-levator.** ["Levator palati."]
3. **Palati-tensor.** ["Tensor palati," or "Circumflexus."]
4. **Palati-glossus.**
5. **Palati-pharyngeus.**

[Nos. 1, 2, 4, 5, < *Meckel's ganglion*, < *facial*. No. 3, < *otic ganglion*, < *facial*; also ? < *infra-maxillary nerve*. No. 5, also ? < *pneumogastric*.]

These muscles move the soft palate, including the pillars of the fauces.

(*b*) *Pharyngeal Subgroup.*

6. **Stylo-pharyngeus.**
7. **Supra-constrictor.** ["Constrictor superior."]
8. **Medi-constrictor.** ["Constrictor medius."]
9. **Infra-constrictor.** ["Constrictor inferior."]

These muscles lift and squeeze the pharynx. The palatal and pharyngeal muscles are scarcely "voluntary" or under control of the will.

(*c*) *Laryngeal Subgroup.*

10. **Thyro-glottideus.** ["Thyro-epiglottideus."]
11. **Supr-aryglottideus.** ["Aryteno-epiglottideus superior."]
12. **Infr-aryglottideus.** ["Aryteno-epiglottideus inferior."]
13. **Triticeo-glossus.**
14. **Arytenoideus.**
15. **Post-arytenoideus.** ["Crico-arytenoideus posticus."]
16. **Pre-arytenoideus.** ["Crico-arytenoideus lateralis."]
17. **Thyro-arytenoideus.**
18. **Crico-thyroideus.**

The laryngeal are involuntary muscles, like the pharyngeal, but there is no harm done in naming them here. Nos. 10, 11, 12, whose names end in "-glottideus," go to the epiglottis. No. 13, in "-glossus," goes to the tongue. No. 14, the only muscle not paired, is the only one whose name is not compounded of two words. They are innervated by the inferior or *recurrilaryngeal* nerve from the pneumogastric, excepting No. 18, the crico-thyroideus, which is supplied by the external branch of the superior laryngeal branch of the pneumogastric; in a word, by the *cricolaryngeal* nerve.

5. GLOSSO-HYOID GROUP.

Innervated by the twelfth cranial nerve.

The muscles of the tongue and hyoid bone are well marked by their motor nerve, the *hypoglossal*, and its descending loop communicating with the cerviciplex, but the motor influence of the *facial* is here, as nearly everywhere else in the head. The intrinsic muscle of the tongue, the lingualis, is affected by the facial through the *tympani-chordal* nerve; and the stylo-hyoideus and post-digastricus are innervated directly by the facial. But the stylo-hyoideus often or usually has a branch from the *hypoglossal*, showing its proper relation to this group. The mylo-hyoideus and pre-digastricus, forming the floor of the mouth, have attracted their nerve-supply from the *infra-maxillary* branch of the *fifth*.

(*a*) *Glossal Subgroup.*

1. **Lingualis.**

From facial, through tympani-chordal.

(*b*) *Mylo-hyoid Subgroup.*

2. **Mylo-hyoideus.**
3. **Pre-digastricus.** ["Anterior belly of the digastricus."]

These muscles floor the mouth. Innervation from infra-maxillary > infra-dental > mylo-hyoid nerve.

(*c*) *Temporo-hyoid Subgroup.*

4. **Post-digastricus.** ["Posterior belly of digastricus."]
5. **Stylo-hyoideus.**

These muscles lift the hyoid apparatus. Their innervation is partly from the *hypoglossal*, chiefly from the *facial*.

The "digastricus" is a very remarkable muscle, and there is reason to think that it occurs in a highly specialized or even anomalous condition in man. There is no "anterior belly" in many animals, and the muscle supposed to answer to the posterior belly may go, as in birds, to the angle of the lower jaw, having nothing to do with the hyoid bone. Its innervation in man, from two different sources, and neither of these the *hypoglossal*, favors our view that it represents two distinct muscles, neither of which, very probably, belong to the glosso-hyoidean group. Though we keep it here for the present, we divide it into *pre-digastricus* and *post-digastricus*, associating the former with the *mylo-hyoideus*, the latter with the *stylo-hyoideus*.

The "digastricus" is still further anomalous in that its so-called anterior belly perforates another muscle, the stylo-hyoideus.

(*d*) *Supra-hyoid Subgroup.*

6. **Stylo-glossus.**
7. **Hyo-glossus.**
8. **Genio-hyoglossus.**
9. **Genio-hyoideus.**

These four muscles, like the four preceding, lift the hyoid apparatus; and they lower the jaw.

(*e*) *Infra-hyoid Subgroup.*

10. **Thyro-hyoideus.**
11. **Sterno-thyroideus.**
12. **Sterno-hyoideus.**
13. **Omo-hyoideus.**

These four muscles lower the hyoid apparatus and, with it, the jaw. This subgroup and the last are very fine ones, making up for the difficulty about the others. Down to No. 10, inclusive, the innervation is direct from the *hypoglossal*; then it comes from the communicating loop of the *cerviciplex*. With the last of this group, the omo-hyoid, we first find a muscle passing to insertion in a bone of the fore limb, pointing the way to consider the sterno cleido-mastoid and trapezius as muscles of the anterior extremity.

Of these thirteen muscles, throwing out the lingualis, which has no notable bony attachment, leaves twelve, all of which attach to the hyoid bone. These twelve divide into three groups of four each, one of these groups subdividing in two. Thus there are four infra-hyoid muscles, four supra-hyoid muscles in one group, and four more in two groups—a regularity of disposition which may help one to remember them.

(To be continued.)

PROFESSOR NATHANIEL LIEBERKÜHN.—In the correspondence from Berlin which appeared in our issue of June 18th, it was stated that the late Professor Lieberkühn was the son of the discoverer of Lieberkühn's glands. The word should, of course, have been descendant instead of son.

STATISTICAL RECORDS OF INTUBATION, WITH REPORT OF EIGHT HUNDRED AND SIX CASES.

By DILLON BROWN, M.D.,

NEW YORK.

Number.	Date.	Operator.	Sex.	Age.	Duration before intubation of: Laryngeal symptoms.	Duration before intubation of: Pharyngeal diphtheria.	Urine.	Cause of death.	Complications.	Result.
1	Dec., 1885	Joseph O'Dwyer.	F.	3 yrs. 3 mos.	2 days.	1 day.	Not exam.	Extension to bronchi.	.....	Died 2 days after intubation.
2	"	" "	F.	14 months.	.....	Several days	"	Exhaustion.	.....	Died 6 hours after intubation.
3	"	" "	M.	18 months.	1 day.	4 days.	"	Extension to bronchi.	.	Died 7 hours after intubation.
4	"	" "	F.	3 yrs. 4 mos.	5 days.	4 days.	Albumen.	Extension to bronchi.	.....	Died 2 days 10 hours after intubation.
5	Feb., 1886	" "	M.	2 yrs. 3 mos.	3 days.	None.	"	Nephritis.	.....	Died 8 days 3 hours after intubation.
6	Mar., 1886	" "	M.	5 years.	3 days.	3 days.	"	Uræmic convulsions.	.....	Died 1 day 9 hours after intubation.
7	April, 1886	" "	M.	3 yrs. 1 mo.	2 days.	7 days.	"	Suppression of urine.	.. ..	Died 4 days 1½ hour after intubation.
8	"	" "	M.	2 yrs. 5 mos.	1 day.	Several days	Not exam.	Exhaustion.	....	Died 36 hours after intubation.
9	May, 1886	" "	F.	3 yrs. 9 mos.	1½ day.	None.	Albumen.	Sepsis.	....	Died 6 hours after intubation.
10	"	" "	F.	3 yrs. 2 mos.	1½ day.	Next day.	Not exam.	Pneumonia.	....	Died 5 days 8½ hours after intubation.
11	"	" "	F.	6 years.	2 days.	Several days	No albumen.	Exhaustion.	Followed scarlet fever.	Died 5 days after intubation.
12	"	" "	F.	7 years.	3 days.	Not noted.	Not exam.	Pneumonia.	Pneumonia when intubed.	Died 18 hours after intubation.
13	"	" "	M.	3 yrs. 3 mos.	4 days.	1 week.	"	.....	.....	Recovered. Tube worn 4 days.
14	"	" "	F.	18 months.	2 days.	Several days	"	Extension to bronchi.	....	Died 2 days after intubation.
15	June, 1886	" "	F.	3 yrs. 6 mos.	2 days.	"	"	Convulsions.	.....	Died 1 day 8 hours after intubation.
16	"	" "	M.	2 yrs. 6 mos.	1 day.	Few hours	"	Extension to bronchi.	.....	Died 2 days 6½ hours after intubation.
17	"	" "	F.	2 yrs. 6 mos.	1 day.	2 days.	"	Sepsis: convulsions.	.....	Died 1 day 8 hours after intubation.
18	July, 1886	" "	M.	4 yrs. 2 mos.	1 day.	3 days.	Albumen.	.....	....	Recovered. Tube worn 4 days 18½ hours.
19	"	" "	M.	23 months.	1 day.	1 day.	"	Extension to bronchi.	... .	Died 3 days 7 hours after intubation.
20	"	" "	M.	5 yrs. 6 mos.	2 days.	Next day.	"	Exhaustion.	....	Died 2 days 10½ hours after intubation.
21	"	" "	M.	4 years.	2 days.	Several days	"	.....	....	Recovered. Wore tube 5 days 6 hours.
22	"	" "	M.	7 years.	7 days.	4 days.	Not exam.	.....	... .	Recovered. Wore tube 3 days.
23	"	" "	F.	4 yrs. 6 mos.	2 days.	Several days	Albumen.	Uræmia.	....	Died 1 day 22½ hours after intubation.
24	"	" "	F.	3 yrs. 1 mo.	2 days.	4 days.	"	Extension and pneumonia.	....	Died 7 days after intubation.
25	Aug., 1886	" "	M.	4 yrs. 8 mos.	2 days.	2 days.	Not exam.	Extension to bronchi.	.....	Died 2 days after intubation.
26	Sept., 1886	" "	F.	2 years.	26 hours.	Several days	"	Extension to bronchi.	... .	Died 13 hours after intubation.
27	"	" "	M.	5 yrs. 10 mos.	1 day.	2 days.	"	Exhaustion.	.....	Died 1 day 14½ hours after intubation.
28	"	" "	F.	4 yrs. 4 mos.	3 days.	5 days.	"	.....	.....	Recovered. Wore tube 4 days 8 hours.
29	Oct., 1886	" "	F.	3 years.	2 days.	None.	Albumen.	Extension to bronchi.	.....	Died 2 days 9½ hours after intubation.
30	"	" "	F.	6 yrs. 7 mos.	2 days.	"	"	Pneumonia 25 hours after removal of tube.	Bronchitis.	Died 3 days 20 hours after intubation.
31	Nov., 1886	" "	F.	3 yrs. 2 mos.	2 days.	Several days	"	Nephritis: œdema of lungs.	....	Died 4 days 22½ hours after intubation.
32	"	" "	M.	2 yrs. 11 mos.	36 hours.	None.	None.	.....	.....	Recovered. Wore tube 5 days.
33	"	" "	M.	5 yrs. 6 mos.	3 days.	4 days.	Not exam.	.....	.....	Recovered. Wore tube 68 hours.
34	"	" "	F.	18 months.	12 hours.	2 days.	"	Extension to bronchi,	.....	Died 15 hours after intubation.
35	"	" "	F.	4 years.	1 day.	1 day.	None.	.. ..	.....	Recovered. Wore tube 10 days 6 hours.
36	"	" "	F.	6 yrs. 11 mos.	4 days.	7 days.	Albumen.	Sepsis.	....	Died 1 day 4 hours after intubation.
37	"	" "	F.	20 months.	4 days.	3 days.	Not exam.	.. ..	.....	Died 36 hours after intubation.
38	"	" "	M.	2 yrs. 11 mos.	3 days.	5 days.	Albumen.	Extension to bronchi.	.....	Died 2½ days after intubation.
39	"	" "	F.	15 months.	6 days.	9 days	Not exam.	.. ..	Measles.	Recovered. Wore tube 9 days.
40	"	" "	F.	20 months.	1 day.	3 days.	"	Extension to bronchi.	....	Died 2 days after intubation.
41	Dec., 1886	" "	M.	11 years.	2 days.	4 days.	Albumen.	Œdema of lungs.	.....	Died 12 hours after intubation.
42	"	" "	M.	5 years.	2 days.	None.	"	.....	... .	Recovered. Wore tube 6 days.
43	"	" "	M.	2 yrs. 6 mos.	7 days.	"	.....	Broncho pneumonia.	.....	Died 2 days after intubation.
44	"	" "	M.	2 years.	3 days.	6 days.	.....	Extension to bronchi.	.....	Died 1 day 20 hours after intubation.
45	"	" "	M.	3 yrs. 5 mos.	1 day.	2 days.	None.	Extension to bronchi.	.....	Died 2 days 9 hours after intubation.
46	"	" "	M.	3 yrs. 2 mos.	7 days.	7 days.	.....	.....	.....	Recovered. Wore tube 6 days 19 hours.
47	"	" "	F.	10 months.	1 day.	2 days.	Not exam.	Extension to bronchi.	.....	Died 1 day 14 hours after intubation.
48	"	" "	M.	6 yrs. 2 mos.	7 days.	3 days.	"	Extension to bronchi.	... .	Died 19½ hours after intubation.
49	"	" "	M.	8 years.	36 hours.	5 days.	None.	.....	.....	Recovered. Wore tube 2 days 9 hours.
50	"	" "	M.	4 years.	2 days.	4 days.	Albumen.	Extension to bronchi.	.....	Died 2 days 22 hours after intubation.
51	"	" "	F.	9 years.	2 days.	10 days.	.....	.....	Measles.	Recovered. Wore tube 7 days 22½ hours.
52	Jan., 1887	" "	M.	3 yrs. 3 mos.	1 day.	Present.	None.	Extension to bronchi.	.....	Died 3 days 21 hours after intubation.
53	"	" "	F.	6 yrs. 5 mos.	36 hours.	"	Albumen.	Extension to bronchi.	....	Died 5 days 2 hours after intubation.
54	"	" "	M.	3 yrs. 5 mos.	1 day.	Next day.	.....	.....	Not seen after operation.	Died 4 days after intubation.
55	"	" "	F.	3 yrs. 4 mos.	1 day.	Present.	Albumen.	Sepsis.	Sepsis.	Died 17 hours after intubation.
56	"	" "	M.	4 yrs. 6 mos.	3 days.	"	"	Extension to bronchi.	.....	Died 8 days after intubation.
57	"	" "	F.	2 yrs. 10 mos.	36 hours.	None.	.....	Extension to bronchi.	.....	Died 1 day 2 hours after intubation.
58	"	" "	M.	3 yrs. 6 mos.	.....	....	.....	Pneumonia.	Measles; pneumonia.	Died 62 hours after intubation.
59	Feb., 1887	" "	M.	4 yrs. 6 mos.	36 hours.	None.	.....	Extension to bronchi.	.....	Died 16¼ hours after intubation.
60	"	" "	F.	2 yrs. 6 mos.	15 hours.	3 days.	Not exam.	Extension to bronchi.	.....	Died 1 day after intubation.
61	"	" "	M.	2 yrs. 8 mos.	4 days.	5 days.	Albumen.	Extension to bronchi.	.....	Died 9 days after intubation.

Number.	Date.	Operator.	Sex.	Age.	Duration before intubation of		Urine.	Cause of death.	Complications.	Result.
					Laryngeal symptoms.	Pharyngeal diphtheria.				
62	Mar., 1887	Joseph O'Dwyer.	M.	3 yrs. 6 mos.	3 days.	6 days.	Albumen.	.....	.....	Recovered. Wore tube 26 hours.
63	"	" "	F.	2 yrs. 6 mos.	1 day.	None.	Not exam.	Extension to bronchi.	.....	Died 1 day after intubation.
64	"	" "	F.	5 years.	2 days.	"	Albumen.	.....	.....	Recovered. Wore tube 6 days.
65	"	" "	....	18 months.	36 hours.	4 days.	Not exam.	.....	.....	Recovered. Wore tube 4 days 4 hours.
66	"	" "	F.	4 months.	2 days.	7 days.	"	Broncho-pneumonia.	.....	Died 1 day 16 hours after intubation.
67	"	" "	F.	8 yrs. 9 mos.	4 days.	7 days.	"	Exhaustion.	.....	Died 2 days after intubation.
68	"	" "	M.	3 yrs. 7 mos.	14 days.	14 days.	None.	.....	.....	Recovered. Wore tube 3 days 21½ hours.
69	April, 1887	" "	M.	23 months.	3 days.	1 day.	Not exam.	Extension to bronchi.	.....	Died 1 day after intubation.
70	"	" "	M.	2 yrs. 2 mos.	3 days.	None.	"	Extension to bronchi.	.....	Died 2 days after intubation.
71	"	" "	F.	19 months.	3 days.	"	"	Asthenia.	Bronchitis.	Died 2 days after intubation.
72	"	" "	F.	4 years.	3 days.	10 days.	None.	Nephritis.	.....	Died 2 days 4 hours after intubation.
73	May, 1887	" "	F.	4 yrs. 9 mos.	3 days.	3 days.	Albumen.	Sepsis; exhaustion.	.....	Died 7 days after intubation.
74	"	" "	M.	5 yrs. 9 mos.	1 day.	21 days.	"	.....	Scarlet fever; suppurating cervical glands	Recovered. Wore tube 4 days 10 hours.
75	"	" "	M.	7 yrs. 1 mo.	½ day.	None.	None.	.....	.....	Recovered. Wore tube 1 day.
76	"	" "	F.	3 yrs. 1 mo.	36 hours.	14 days.	Not exam.	Extension to bronchi.	.....	Died 2 days 5 hours after intubation.
77	"	" "	F.	.....	1 day.	Present.	.....	Extension to bronchi.	Sepsis.	Died 2 days after intubation.
78	"	" "	M.	4 yrs. 9 mos.	3 days.	4 days.	.....	.....	.....	Recovered. Wore tube 4 days.
79	July, 1885	Dillon Brown.[30]	M.	3 yrs. 3 mos.	2 days.	5 days.	Albumen.	.....	.....	Recovered. Wore tube 14 days.
80	Oct., 1885	" "	M.	16 months.	1 day.	4 days.	"	Extension to bronchi.	.....	Died 1 day after intubation.
81	Nov., 1885	" "	M.	1 yr. 11 mos.	1 day.	8 days.	"	Double broncho-pneumonia.	Rickets.	Died 6 days 16 hours after intubation.
82	"	" "	F.	3 years.	6 hours.	.....	"	Double broncho-pneumonia.	.....	Died 2½ days after intubation.
83	"	" "	M.	3 yrs. 4 mos.	Several days	4 weeks.	"	Tuberculosis.	Tuberculosis.	Died 8 days after intubation.
84	Dec., 1885	" "	F.	3 yrs. 4 mos.	1 day.	Present.	.....	Extension to bronchi.	.....	Died 2½ days after intubation.
85	"	" "	F.	3 yrs. 6 mos.	3 days.	2 days.	Albumen.	Extension to bronchi.	Pneumonia and pertussis.	Died 38 hours after intubation.
86	"	" "	F.	3 yrs. 7 mos.	1 day.	3 days.	"	.....	.....	Recovered. Wore tube 3 days 15 hours.
87	"	" "	F.	11 months.	½ day.	1 day.	"	Swelling over the top of the tube.	.....	Died 14½ hours after intubation.
88	"	" "	F.	3 yrs. 3 mos.	1 day.	None.	"	Extension to bronchi.	.....	Died 3 days after intubation.
89	Jan., 1886	" "	F.	4 yrs. 8 mos.	2 days.	2 days.	"	.....	Pertussis.	Recovered. Wore tube 2½ days.
90	"	" "	F.	1 year.	1 day.	None.	Not exam.	Extension to bronchi.	Varicella.	Died 18 hours after intubation.
91	"	" "	F.	3 yrs. 9 mos.	1 day.	11 days.	.....	.....	Pertussis.	Recovery. Wore tube 39 hours.
92	"	" "	F.	3 yrs. 5 mos.	1 day.	1 day.	None.	Extension to bronchi.	.....	Died 21½ hours after intubation.
93	"	" "	F.	5 months.	2 days.	2 days.	.....	Extension to bronchi.	.....	Died 21½ hours after intubation.
94	"	" "	F.	4 yrs. 6 mos.	½ day.	None.	Not exam.	Exhaustion.	Syphilis; marasmus.	Died ½ day after intubation.
95	"	" "	F.	3 yrs. 4 mos.	1 day.	6 days.	"	Extension to bronchi.	Pertussis.	Died 2 days after intubation.
96	Feb., 1886	" "	F.	2 yrs. 2 mos	1 day.	1 day.	Albumen.	.....	.....	Recovered. Wore tube 12 days.
97	"	" "	M.	5⅛ months.	1 day.	1 day.	"	Double broncho-pneumonia.	.....	Died 1 day after intubation.
98	Mar., 1886	" "	F.	7 months.	6 hours.	.....	Not exam.	Extension to bronchi.	Varicella.	Died 2 days after intubation.
99	"	" "	M.	3 yrs. 6 mos.	4 days.	5 days.	Albumen.	.....	.....	Recovered. Wore tube 4 days 2 hours.
100	"	" "	M.	3 years.	2 days.	2 days.	"	Extension to bronchi.	.....	Died 2 days 14 hours after intubation.
101	April, 1886	" "	F.	3 years.	1 day.	1 day.	Not exam.	Extension to bronchi.	Varicella.	Died 2 days after intubation.
102	"	" "	M	8 months.	1 day.	2 days.	"	Pneumonia.	.....	Died 9 hours after intubation.
103	May, 1886	" "	M.	2 years.	1 day.	1 day.	"	Extension to bronchi.	.....	Died 24 hours after intubation.
104	Mar., 1886	" "	F.	18 months.	10 hours.	None.	"	Extension to bronchi.	.....	Died 7 hours after intubation.
105	"	" "	F.	8 years.	18 hours.	4 days.	Albumen.	Exhaustion.	.....	Died 4 days after intubation.
106	May, 1886	" "	M.	13 months.	4 days.	Several days	"	Nephritis.	.....	Died 16 days after intubation.
107	June, 1886	" "	F.	2 yrs. 8 mos.	2 days.	9 days.	"	Extension to bronchi.	.....	Died 2 days after intubation.
108	"	" "	M.	2 yrs. 4 mos.	1 day.	None.	"	Broncho-pneumonia	.....	Died 2 days 21 hours after intubation.
109	"	" "	M.	6 years.	3 days.	4 days.	"	Suppression of urine.	.....	Died 5 days after intubation.
110	"	" "	F.	2 yrs. 6 mos.	1 day.	Several days	Not exam.	Extension to bronchi.	.....	Died 1½ day after intubation.
111	July, 1886	" "	M.	4 years.	36 hours.	None.	Albumen.	Extension to bronchi.	.....	Died 1 day 13½ hours after intubation.
112	"	" "	M.	4 years.	2 days.	Several days	"	.....	.....	Recovered. Wore tube 5½ days.
113	"	" "	M.	3 years.	1 day.	None.	Not exam.	Exhaustion.	.....	Died 1 day 6½ hours after intubation.
114	Aug., 1886	" "	F.	2 yrs. 9 mos.	1 day.	7 days.	Albumen.	Extension to bronchi.	.....	Died 3 days after intubation.
115	"	" "	F.	4 yrs. 6 mos.	32 hours.	4 days.	"	Extension to bronchi.	.....	Died 4 days after intubation.
116	Sept., 1886	" "	M.	21 months.	2 days.	4 days.	"	Extension to bronchi.	.....	Died 1 day 4½ hours after intubation.
117	"	" "	M.	4 yrs. 6 mos.	9 days.	6 days.	"	.....	.....	Recovered. Wore tube 4 days.
118	"	" "	M.	8 yrs. 1 mo.	3 days.	2 days.	"	Extension to bronchi.	.....	Died 7 days after intubation.
119	Oct., 1886	" "	F.	7 years.	.....	Present.	.....	Extension to bronchi.	.....	Died 6 days after intubation.
120	"	" "	F.	2 yrs. 6 mos.	5 days.	7 days.	Albumen.	Uræmic convulsions.	.....	Died 1 day 9 hours after intubation.
121	"	" "	F.	6 years.	4 days.	6 days.	"	Suppression of urine.	.....	Died 2 days 1 hour after intubation.
122	"	" "	M.	2 yrs. 2 mos.	1 day.	10 days.	None.	Extension to bronchi.	.....	Died 7 days after intubation.
123	"	" "	F.	4 yrs. 2 mos.	1 day.	3 days.	Albumen.	Extension to bronchi.	.....	Died 2 days 10 hours after intubation.
124	Nov., 1886	" "	F.	3 years.	4 days.	7 days.	"	Extension to bronchi.	.....	Died 4 days after intubation.
125	"	" "	M.	1 year.	5 days.	7 days.	Not exam.	Extension to bronchi.	.....	Died 5 days after intubation.

Number.	Date.	Operator.	Sex.	Age.	Duration before intubation of: Laryngeal symptoms.	Duration before intubation of: Pharyngeal diphtheria.	Urine.	Cause of death.	Complications.	Result.
126	Nov., 1886	Dillon Brown.	M.	2 yrs. 7 mos.	7 days.	1 day.	Albumen.	Convulsions.	....	Died 1 day 17 hours after intubation.
127	Dec., 1886	" "	M.	5 years.	½ day.	14 days.	None.	Exhaustion.	.....	Died 26 hours after intubation.
128	"	" "	M.	3 yrs. 2 mos.	5 days.	7 days.	Albumen.	.....	.....	Recovered. Wore tube 4 days 5 hours.
129	"	" "	F.	2 yrs. 1 mo.	27 hours.	4 days.	"	Convulsions.	.....	Died 19 hours after intubation.
130	"	" "	M	13 months.	4 days.	None.	"	"	Measles.	Died 2 days 2½ hours after intubation.
131	"	" "	F.	2 years.	3 days.	Several days	"	Pushing down membrane.	"	Died 18 days after intubation.
132	"	" "	F.	3 yrs. 6 mos.	18 hours.	4 days.	"	Sepsis.	Sepsis.	Died 12 hours after intubation.
133	"	" "	F.	5 years.	3 days.	None.	"	Exhaustion.	.....	Died 3 days after intubation.
134	Jan., 1887	" "	F.	2 years.	2 days.	1 day.	None.	.....	.....	Recovered. Wore tube 3 days.
135	"	" "	F.	4 years.	3 days.	7 days.	"	Extension to bronchi.	Measles.	Died 5 days 17 hours after intubation.
136	"	" "	M.	2 years.	½ day.	.....	"	Extension to bronchi.	"	Died 2 days after intubation.
137	"	" "	F.	17 months.	1 day.	Several days	Albumen.	Convulsions.	"	Died 1 day 6 hours after intubation.
138	"	" "	F.	5 years.	1 day.	None.	Not exam.	Extension to bronchi.	"	Died 19 hours after intubation.
139	"	" "	M.	5 yrs. 4 mos.	8 days.	2 days.	Albumen.	Pneumonia.	"	Died 1 day 19 hours after intubation.
140	"	" "	M.	13 months.	2 days.	Several days	Not exam.	Extension to bronchi.	"	Died 1 day 1 hour after intubation.
141	"	" "	M.	19 months	8 days.	.....	Albumen.	.....	"	Recovered. Wore tube 4 days.
142	"	" "	F.	20 months.	1 day.	1 day.	Not exam.	Extension to bronchi.	.....	Died 2 days 1 hour after intubation.
143	"	" "	M.	19 months.	1 day.	7 days.	"	Extension to bronchi.	.....	Died 8 hours after intubation.
144	Feb., 1887	" "	M.	3 yrs. 2 mos.	16 hours.	Convalescent	Albumen.	.....	.....	Recovered. Wore tube 6½ days.
145	"	" "	F.	23 months.	1 day.	4 days.	"	Sepsis.	Sepsis.	Died 1 day after intubation.
146	"	" "	F.	22 months.	2 days.	Several days	"	Extension to bronchi.	.....	Died 1 day 4 hours after intubation.
147	"	" "	M.	14 months.	36 hours.	"	"	After coughing out the tube.	.....	Died 28 days after intubation.
148	"	" "	M.	2 yrs. 9 mos.	1½ day.	10 days.	Not exam.	Extension to bronchi.	Measles.	Died 1 day 6 hours after intubation.
149	"	" "	M.	4 years.	2 days.	6 days.	"	Extension to bronchi.	.....	Died 1½ day after intubation.
150	Mar., 1887	" "	M.	2 yrs. 9 mos.	2 days.	Several days	Albumen.	.....	.....	Recovered. Wore tube 6 days.
151	"	" "	M.	5 years.	36 hours.	4 days.	Not exam.	Extension to bronchi.	.....	Died 1 day after intubation.
152	"	" "	M.	5 years.	3 days.	Several days	None.	.....	.....	Recovered. Wore tube 4 days.
153	"	" "	M.	2 yrs. 5 mos.	4 days.	None.	Not exam.	Extension to bronchi.	.....	Died 1 day after intubation.
154	"	" "	M.	3 years.	4 days.	7 days.	Albumen.	.....	.....	Recovered. Wore tube 2 days.
155	"	" "	M.	4 years.	2⅓ days.	8 days.	"	Pneumonia.	.....	Died 10 days after intubation.
156	"	" "	F.	3 yrs. 9 mos.	2 days.	7 days.	"	Sepsis.	.....	Died 2 days after intubation.
157	April, 1887	" "	F.	20 months.	2 days.	2 days.	Not exam.	Pneumonia.	.....	Died 2 days 6 hours after intubation.
158	"	" "	M.	5 years.	2 days.	4 days.	Albumen.	Sepsis.	....	Died 7 days 18 hours after intubation.
159	"	" "	M.	6 years.	4 days.	7 days.	"	.....	.....	Recovered. Wore tube 5 days.
160	"	" "	F.	16 months.	1 day.	3½ days.	Not exam.	Sepsis.	.....	Died 19 hours after intubation.
161	"	" "	F.	4 yrs. 6 mos.	2 days.	.....	"	Extension to bronchi.	Sepsis.	Died 1 day after intubation.
162	May, 1887	" "	F.	3 yrs. 6 mos.	2 days.	7 days.	Albumen.	.....	.....	Recovered. Wore tube 6 days.
163	.....	Francis Huber.	....	1 year.	.....	Present.	.....	Heart failure.	.....	Died 18 hours after intubation.
164	.....	" "	....	2 years.	.....	"	.....	Sepsis.	.....	Died 6 hours after intubation.
165	.....	" "	....	2 yrs. 8 mos.	.....	"	.....	.....	.....	Recovered. Wore tube 6 days.
166	.....	" "	....	6 years.	.....	"	.....	.....	Measles.	Recovered. Wore tube 5 days.
167	.....	" "	....	3 yrs. 8 mos.	.....	"	.....	Nephritis; pneumonia.	.....	Died 3½ days after intubation.
168	.....	" "	....	3 years.	.....	"	.....	Uræmic convulsions.	Measles.	Died 6 hours after intubation.
169	.....	" "	...	2 yrs. 2 mos.	.....	"	.....	.....	.....	Recovered. Wore tube 5 days.
170	.....	" "	....	3 years.	.....	"	.....	.....	Old mitral endocarditis.	Recovered. Wore tube 5 days.
171	.....	" "	....	2 yrs. 6 mos.	.....	"	.....	Pulmonary œdema of Bright's disease.	Measles.	Died 5 days after intubation.
172	.....	" "	....	1 year.	.....	"	.....	.....	.....	Recovered. Wore tube 3 days.
173	.....	" "	....	2 yrs. 6 mos.	.....	"	.....	Sepsis.	Sepsis.	Died 1 hour after intubation.
174	.....	" "	....	11 months.	.....	"	.....	.....	Measles.	Recovered. Wore tube ——
175	.....	" "	....	15 months.	.....	"	.....	Exhaustion.	Measles and gastro-enteritis.	Died 12 hours after intubation.
176	.....	" "	....	18 months.	.....	"	.....	Pneumonia.	....	Died 2½ days after intubation.
177	.....	" "	....	3 years.	.....	None.	.....	.....	Measles.	Recovered. Wore tube 4 days.
178	.... .	" "	....	4 years.	.....	Present.	.....	.....	.....	Recovered. Wore tube 4 days.
179	.....	" "	....	2 years.	.....	"	.. ...	Pneumonia.	.....	Died 2½ days after intubation.
180	.....	" "	....	3 years.	.....	"	.....	Sepsis.	Hemiplegia.	Died 3 days after intubation.
181	.....	" "	....	18 months.	.....	"	.....	Pneumonia.	.....	Died 2 days after intubation.
182	.....	" "	....	11 months.	.....	"	.....	Sepsis.	.....	Died 2 days after intubation.
183	. ....	" "	....	2 yrs. 8 mos.	.....	None.	.....	.....	Measles.	Recovered. Wore tube 10 days.
184	.....	" "	....	8 months.	.....	Present.	.....	Heart failure.	Pneumonia.	Died 18 hours after intubation.
185	.....	" "	....	4 yrs. 6 mos.	.....	None.	.....	.....	Measles.	Recovered. Wore tube 6 days.
186	.....	" "	....	2 yrs. 8 mos.	.....	.....	... ..	Pneumonia.	"	Died 3½ days after intubation.
187	. ..	" "	....	3 yrs. 6 mos.	.....	Present.	.....	.....	.....	Recovered. Wore tube 5 days.
188	.....	" "	....	10¾ months.	.....	"	.....	.....	Pneumonia on second day.	Recovered. Wore tube 3½ days.
189	.....	" "	. ..	2 yrs. 10 mos.	.....	"	.....	Extension to bronchi.	.....	Died 2 days after intubation.
190	... ..	" "	....	3 years.	.....	"	.....	Sepsis.	Sepsis.	Died 2 days after intubation.
191	.....	" "	....	4 yrs. 6 mos.	.....	"	.....	... .	Pneumonia.	Recovered. Wore tube 5 days.
192	.....	" "	....	2 years.	.....	None.	.....	.....	.....	Died.
193	.....	" "	....	11 months.	.....	"	.....	.....	.....	Recovered. Wore tube 7 days.
194	.....	" "	....	13 months.	.....	Present.	.....	Exhaustion.	Pneumonia.	Died 2½ days after intubation.
195	.....	" "	....	9 months.	.....	....	.....	.....	Measles.	Died 6 hours after intubation.
196	.....	" "	....	2 yrs. 6 mos.	.....	Present.	.....	.....	"	Recovered. Wore tube 5¾ days.
197	.....	" "	....	7 years.	.....	"	.....	.....	.....	Recovered. Wore tube 64 hours.
198	. ..	" "	....	3 yrs. 6 mos.	.....	"	.....	Extension to bronchi.	.....	Died 2 days after intubation.
199	.....	" "	....	18 months.	....	None.	.....	Heart failure.	.....	Died 18 hours after intubation.
200	.....	" "	....	18 months.	.....	Present.	.....	Convulsions.	.....	Died 10 hours after intubation.
201	...	" "	....	9¼ months.	.....	None.	.....	.....	.....	Recovered. Wore tube 5 days.
202	.....	" "	....	2 yrs. 6 mos.	.....	Present.	.....	.....	.....	Recovered. Wore tube 6 days.
203	.. ...	" "	....	5 yrs. 6 mos.	.....	"	.....	.....	....	Died 6 days after intubation.
204	.....	" "	....	2 yrs. 9 mos.	.....	"	.....	Extension to bronchi.	.....	Died 2 days after intubation.
205	.....	" "	....	22 months.	.....	"	.....	.....	.....	Recovered. Wore tube 6 days.
206	.....	" "	....	4 years.	.....	"	.....	.....	.....	Recovered. Wore tube 5 days.
207	.....	" "	....	3 years.	.....	"	.....	Extension and pneumonia.	Pneumonia.	Died 2 days after intubation.
208	.....	" "	....	11 months.	.....	None.	.....	Extension and pneumonia.	.....	Died 2¾ days after intubation.
209	.....	" "	....	5 years.	.....	Present.	.....	Extension to bronchi.	.....	Died 3 days after intubation.

Number.	Date.	Operator.	Sex.	Age.	Duration before intubation of		Urine.	Cause of death.	Complications.	Result.
					Laryngeal symptoms.	Pharyngeal diphtheria.				
210	July, 1885	F. E. Waxham (reported by M. P. Hatfield.[16, 28]	M.	16 months.	3 days.	9 days.	.....	Œdema of the lungs.	... .	Died 27 hours after intubation.
211	April, 1885	F. E. Waxham.[15]	..	2 yrs. 1 mo.	1 day.	3 days.	.....	Extension to bronchi.	.....	Died 30 hours after intubation.
212	"	" " [28]	F.	3 years.	.....	.....	.....	Two hours after removal of tube from stenosis.	.....	Died 36 hours after intubation.
213	Sept., 1885	" "	F.	5 years.	2 days.	7 days.	.....	.....	....	Recovered. Wore tube 1 week.
214	"	" "	F.	2 yrs. 7 mos.	1 day.	3 days.	.....	Pneumonia.	.....	Died 6 days after intubation.
215	Nov., 1885	" " [17, 29]	M.	20 months.	3 days.	5 days.	.....	.....	.....	Recovered. Wore tube 9 days.
216	"	" "	F.	4 years.	2 days.	6 days.	.....	Sepsis.	.....	Died 2 days after intubation.
217	"	" "	....	2 yrs. 2 mos.	.....	.....	.....	.....	.....	Recovered. Wore tube 13 days.
218	"	" "	...	3 years.	.....	.....	.....	Extension to bronchi.	.....	Died 2 days after intubation.
219	"	" "	M.	5 years.	8 days.	8 days.	.....	Extension to bronchi.	. .....	Died 50 hours after intubation.
220	"	" "	M.	5 years.	2 days.	14 days.	.....	.....	.....	Recovered. Wore tube 4 days.
221	May, 1886	" " [19]	...	14 months.	.....	Present.	... ..	.....	Measles.	Recovered. Wore tube 3½ days.
222	"	" "	....	3 years.	.....	"	.....	Extension to bronchi.	.....	Died 4 days after intubation.
223	Oct., 1886	" " [21]	F.	8 years.	6 days.	.....	.....	Pneumonia.	Electrolysis.	Died 1 day 9 hours after intubation.
224	Aug., 1886	" " [25]	F.	9 months.	1 day.	1 day.	.....	.....	....	Recovered. Wore tube 3 days.
225	Nov., 1885	" " [29]	M.	7 years.	Several days	Several days	.....	Congestion of lungs.	.....	Died 1 day after intubation.
226	Dec., 1885	" "	M.	5 years.	.....	"	.....	.....	Measles.	Recovered. Wore tube 3 days.
227	"	" "	....	4 years.	3 days.	Present.	.....	.....	.....	Recovered. Wore tube 4 days.
228	"	" "	M.	4 years.	2 days.	7 days.	.....	.....	.....	Recovered. Wore tube 3 days.
229	Jan., 1886	" "	F.	5 years.	.....	.....	.....	.....	.....	Recovered. Wore tube 3 days.
230	Dec., 1885	" "	....	3 years.	.....	Several days	.....	Sepsis: pneumonia.	.....	Died 2 days after intubation.
231	Mar., 1886	W. P. Northrup.[26]	F.	2 yrs. 9 mos.	1 day.	6 days.	Albumen.	.....	..... .	Recovered. Wore tube 6½ days.
232	April, 1886	" " [39]	F.	5 yrs. 3 mos.	1½ day.	1½ day.	"	Extension to bronchi.	.....	Died 1 day 13 hours after intubation.
233	May, 1886	" "	F.	5 years.	3 days.	1 day.	"	.....	.....	Recovered. Wore tube 5 days.
234	"	" "	M.	3 yrs. 9 mos.	5 days.	5 days.	"	Extension to bronchi.	.....	Died 3½ days after intubation.
235	"	" "	M.	3 yrs. 9 mos.	3 days.	7 days.	"	.....	. .....	Recovered. Wore tube 40 hours.
236	June, 1886	" "	M.	5 yrs. 10 mos.	1 day.	4 days.	"	Pneumonia.	.....	Died 4 days after intubation.
237	"	" "	F.	7 years.	1 day.	2 days.	"	Sudden heart failure.	.....	Died ½ day after intubation.
238	"	" "	M.	5 years.	2 days.	1 day.	None.	Sepsis.	.....	Died 1 day after intubation..
239	"	" "	M.	1 yr. 11 mos.	11 days.	Present.	Albumen.	.....	.....	Recovered. Wore tube 6 days.
240	Sept., 1886	" " [24]	F.	5 yrs. 2 mos.	1 day.	1 day.	Not noted.	Extension to bronchi.	.....	Died 1 day after intubation.
241	"	" "	M.	7 years.	5 days.	5 days.	Albumen.	.....	.....	Recovered. Wore tube 5 days.
242	Oct., 1886	" "	F.	25 months.	2 days.	Present.	Not exam.	Extension to bronchi (?).	.....	Died 1 day after intubation.
243	Nov., 1886	" "	F.	4 yrs. 4 mos.	2 days.	2 days.	.....	Extension to bronchi (?).	.....	Died 31 hours after intubation.
244	"	" "	F.	4 yrs. 6 mos.	2 days.	2 days.	Albumen.	Extension to bronchi (?).	....	Died 59 hours after intubation.
245	"	" "	M.	2 yrs. 6 mos.	.....	.....	Not exam.	Extension to bronchi (?).	.....	Died 2 hours after intubation.
246	"	" "	M.	14 months.	8 hours.	2 days.	"	Double pneumonia.	.....	Died 45 hours after intubation.
247	Dec., 1886	" "	M.	23 months.	1 day.	2 days.	"	Extension to bronchi.	.....	Died 51 hours after intubation.
248	"	" "	F.	22 months.	½ day.	1 day.	.....	Heart failure.	.....	Died 20 hours after intubation.
249	"	" "	F.	10 months.	½ day.	4 days.	.....	Extension to bronchi.	.....	Died 62 hours after intubation.
250	Jan., 1887	" "	F.	4 yrs. 8 mos.	2 days.	2 days.	.....	Extension to bronchi.	.....	Died 18 hours after intubation.
251	"	" "	M.	4 yrs. 8 mos.	.....	4 days.	.....	Extension to bronchi.	.....	Died 38 hours after intubation.
252	"	" "	F.	4 years.	3 days.	2 days.	Not exam.	Extension to bronchi.	.....	Died 32 hours after intubation.
253	"	" "	F.	4 years.	½ day.	1 day.	"	Pneumonia.	.....	Died 65 hours after intubation.
254	"	" "	M.	2 years.	4 hours.	3 days.	.....	Extension to bronchi.	.....	Died 12 hours after intubation.
255	"	" "	M.	20 months.	1 day.	2 days.	.....	Extension to bronchi.	.....	Died 48 hours after intubation.
256	"	" "	M.	3 years.	1 day.	3 days.	.....	Extension to bronchi.	Measles.	Died 48 hours after intubation.
257	Feb., 1887	" "	F.	4 yrs. 6 mos.	½ day.	None.	Albumen.	.....	.....	Recovered. Wore tube 7 days.
258	April, 1887	" "	M.	6 years.	2 days.	9 days.	.....	Extension to bronchi.	.....	Died 15 hours after intubation.
259	"	" "	F.	3 years.	5 hours.	.....	Albumen.	Exhaustion.	....	Died 5½ days after intubation.
260	"	" "	F.	16 months.	½ day.	17 days.	"	Extension to bronchi.	Scarlatina.	Died 8 hours after intubation.
261	May, 1887	" "	M.	4 yrs. 3 mos.	5 days.	5 days.	.....	Extension to bronchi.	Rickets.	Died 36 hours after intubation.
262	Sept., 1886	James McManus.	M.	2 years.	1 day.	4 days.	None.	Asthenia.	... .	Died 2 hours after intubation.
263	Nov., 1886	" "	F.	11 months.	20 hours.	3 days.	Not exam.	"	Measles.	Died 11 hours after intubation.
264	Dec., 1886	" "	F.	2 yrs. 6 mos.	14 hours.	7 days.	"	.....	.....	Recovered. Wore tube 3 days.
265	Mar., 1887	" "	M.	9 yrs. 2 mos.	12 hours.	5 days.	None.	Asthenia.	.....	Died 8 hours after intubation.
266	April, 1887	" "	M.	7 years.	2 hours.	½ day.	"	.. ..	.....	Recovered. Wore tube 4 days.
267	July, 1886	E. L. Cocks.	M.	6 years.	16 hours.	5 days.	.....	Laryngeal obstruction.	.....	Died. Coughed out tube.
268	"	" "	M.	7 years.	10 hours.	5 days.	.....	Cardiac failure.	.....	Died 5 days after intubation.
269	Aug., 1886	" "	M.	9 years.	7 hours.	7 days.	.....	Extension to bronchi.	After tracheotomy.	Died.
270	Sept., 1886	" "	F.	5 years.	12 hours.	4 days.	.....	.....	.....	Recovered. Wore tube 3 days.
271	Nov., 1886	" "	F.	2 years.	10 hours.	4 days.	.....	.....	Tracheotomy refused.	Died.
272	Dec., 1886	" "	F.	3 years.	6 hours.	5 days.	.....	.....	Tube obstructed.	Died 4 days after intubation.
273	"	" "	F.	7 years.	12 hours.	5 days.	.....	.....	.....	Recovered. Wore tube 3 days.
274	Jan., 1887	" "	F.	2 years.	10 hours.	3 days.	.....	.....	.....	Recovered. Wore tube 2 days.
275	Mar., 1887	" "	M.	9 years.	11 hours.	7 days.	.....	Pneumonia, 7 days after removal of tube.	.....	Died 11 days after intubation.
276	May, 1887	" "	F.	2 years.	7 hours.	4 days.	.....	Exhaustion 3 days after removal of tube.	.....	Died 5 days after intubation.
277	May, 1886	F. Van Fleet.	F.	2 yrs. 6 mos.	1 day.	3 days.	.....	Extension to bronchi.	.....	Died 2 days after intubation.
278	Oct., 1886	" "	M.	3 years.	½ day.	1 day.	Albumen.	.....	.....	Recovered. Wore tube 7 days.
279	"	" "	M.	6 years.	2 days.	14 days.	.....	.....	.....	Recovered. Wore tube 3 days.
280	Nov., 1886	" "	F.	2 years.	1 day.	Present.	.....	Pneumonia.	.....	Died 2 days after intubation.
281	"	" "	M.	10 years.	1 day.	.....	.....	Sepsis.	....	Died 4 days after intubation.

Number.	Date.	Operator.	Sex.	Age.	Duration before intubation of: Laryngeal symptoms.	Duration before intubation of: Pharyngeal diphtheria.	Urine.	Cause of death.	Complications.	Result.
282	Dec., 1886	F. Van Fleet.	F.	4 years.	4 days.	8 days.	.....	Pneumonia; exhaustion.	Pneumonia.	Died 12 hours after intubation.
283	"	" "	M.	5 years.	10 hours.	2 days.	.....	Exhaustion.	Broncho-pneumonia.	Died 55 hours after intubation.
284	"	" "	M.	9 years.	2 days.	None.	.....	.....	.....	Recovered. Wore tube 10 days.
285	"	" "	M.	11 years.	6 hours.	3 days.	.....	.....	.....	Recovered. Wore tube 4 days.
286	"	" "	M.	5 years.	2 days.	4 days.	.....	.....	.....	Recovered. Wore tube 5 days.
287	Jan., 1887	" "	M.	4 years.	36 hours.	2 days.	.....	Broncho-pneumonia.	.....	Died 4 days after intubation.
288	"	" "	F.	3 years.	½ day.	6 days.	.....	Extension to bronchi.	.....	Died 3 days after intubation.
289	"	" "	M.	2 years.	6 hours.	1 day.	.....	Heart failure.	Broncho-pneumonia.	Died 4 days after intubation.
290	"	" "	M.	1 yr. 10 mos.	2 days.	None.	.....	Pneumonia.	.....	Died 5 days after intubation.
291	"	" "	M.	2 yrs. 3 mos.	8 hours.	3 days.	.....	Asthenia.	Pneumonia.	Died 2 days after intubation.
292	"	" "	M.	1 yr. 6 mos.	2 days.	4 days.	.....	Convulsions.	.....	Died 3 days after intubation.
293	"	" "	M.	7 years.	8 days.	10 days.	.....	Exhaustion.	.....	Died 2 days after intubation.
294	Mar., 1887	" "	M.	3 years.	2 days.	3 days.	Albumen.	Convulsions.	.....	Died 18 hours after intubation.
295	"	" "	M.	4 years.	1 day.	3 days.	.....	Asthenia.	.....	Died 7 days after intubation.
296	April, 1887	" "	F.	3 years.	2 days.	5 days.	.....	Extension to bronchi.	.....	Died 4 days after intubation.
297	"	" "	F.	3 years.	36 hours.	None.	.....	.....	.....	Recovered. Wore tube 18 days.
298	May, 1887	" "	F.	9 years.	1 day.	5 days.	.....	.....	.....	Recovered. Wore tube 15 days.
299	Mar., 1887	Frank Tipton.[41]	M.	4 years.	1 day.	None.	.....	.....	.....	Recovered.
300	Nov., 1886	J. M. Bleyer.	M.	2 yrs. 10 mos.	12 hours.	2½ days.	.....	Sepsis.	.....	Died 1 day after intubation.
301	"	" "	M.	6 years.	10 hours.	7 days.	.....	Broncho-pneumonia.	.....	Died 2 days 3 hours after intubation.
302	"	" "	M.	2 years.	6 hours.	6 days.	Albumen.	.....	.....	Recovered. Wore tube 4 days.
303	Dec., 1886	" "	M.	18 months.	12 hours.	5 days.	.....	Heart failure.	.....	Died 2 days 2 hours after intubation.
304	"	" "	M.	7 years.	15 hours.	4¾ days.	Albumen.	.....	Scarlet fever.	Recovered. Wore tube 4 days 18 hours.
305	Jan., 1887	" "	M.	3 years.	7 hours.	7½ days.	.....	.....	.....	Recovered. Wore tube 3 days 20 hours.
306	"	" "	F.	4 years.	17 hours.	3½ days.	.....	.....	.....	Recovered. Wore tube 4 days.
307	"	" "	F.	2 yrs. 6 mos.	10 hours.	2 days.	.....	.....	.....	Recovered. Wore tube 3 days.
308	"	" "	M.	2 years.	1 day.	8 days.	.....	Bronchitis.	.....	Died 7 hours after intubation.
309	"	" "	M.	3 years.	7 hours.	3½ days.	.....	.....	.....	Died 15 hours after intubation.
310	"	" "	M.	2 years.	5 hours.	3 days.	.....	Pneumonia.	.....	Died 2 days after intubation.
311	Feb., 1887	" "	M.	3 yrs. 6 mos.	9 hours.	1½ day.	.....	.....	.....	Recovered. Wore tube 3½ days.
312	"	" "	M.	3 years.	7 hours.	3 days.	.....	Extension to bronchi.	Rachitis.	Died 10 hours after intubation.
313	"	" "	F.	13 months.	5 hours.	2 days.	.....	Extension to bronchi.	.....	Died 15 hours after intubation.
314	"	" "	M.	10 months.	4 hours.	1 day.	.....	Bronchitis.	.....	Died 18 hours after intubation.
315	"	" "	M.	7 years.	9 hours.	7½ days.	.....	.....	.....	Recovered. Wore tube 4 days.
316	Mar., 1887	" "	F.	18 months.	7 hours.	2 days.	.....	Broncho-pneumonia.	.....	Died 1 day after intubation.
317	"	" "	M.	2 yrs. 2 mos.	5 hours.	None.	.....	.....	.....	Recovered. Wore tube 3½ days.
318	"	" "	M.	2 yrs. 4 mos.	4 hours.	4 days.	.....	Pneumonia.	.....	Died 2 days after intubation.
319	"	" "	M.	13 months.	7 hours.	4½ days.	.....	Acute bronchitis.	.....	Died 1½ day after intubation.
320	"	" "	M.	3 years.	12 hours.	5½ days.	.....	Double pneumonia.	.....	Died 1 day after intubation.
321	"	" "	F.	2 years.	5 hours.	None.	.....	.....	.....	Recovered. Wore tube 2 days.
322	"	" "	M.	2 yrs. 3 mos.	10 hours.	2 days.	.....	Heart failure.	Erysipelas of face.	Died 23 hours after intubation.
323	April, 1887	" "	M.	2 years.	5 hours.	2½ days.	.....	"	.....	Died 1 day after intubation.
324	"	" "	M.	4 years.	11 hours.	3 days.	.....	Diffuse bronchitis.	.....	Died 1½ day after intubation.
325	"	" "	M.	4 yrs. 6 mos.	3 hours.	4 days.	.....	.....	.....	Recovered. Wore tube 3½ days.
326	"	" "	F.	2 yrs. 3 mos.	7 hours.	2½ days.	.....	Asphyxia; tube expelled and not notified.	.....	Died 1½ day after intubation.
327	"	" "	M.	1 yr. 6 mos.	15 hours.	3½ days.	.....	Double pneumonia.	.....	Died 1 day after intubation.
328	"	" "	M.	22 months.	12 hours.	53 hours.	.....	Bronchitis.	.....	Died 1 day after intubation.
329	May, 1887	" "	F.	3 yrs. 6 mos.	12 hours.	9 days.	.....	Exhaustion.	.....	Died 2 days after intubation.
330	"	" "	M.	2 years.	.....	14 days.	.....	Pneumonia.	Rachitis.	Died 4 days after intubation.
331	"	" "	F.	13 months.	5 hours.	4 days.	.....	Extension to bronchi.	.....	Died 15 days after intubation.
332	"	" "	M.	1 yr. 6 mos.	7½ hours.	3½ days.	Albumen.	Extension to bronchi.	.....	Died 5 days after intubation.
333	"	" "	M.	2 yrs. 6 mos.	15 hours.	7 days.	.....	.....	.....	Recovered. Wore tube 4 days.
334	"	" "	M.	2 yrs. 3 mos.	4½ hours.	2½ days.	.....	Extension to bronchi.	.....	Died 2 days after intubation.
335	"	" "	F.	3 yrs. 1 mo.	9 hours.	5 days.	.....	Pneumonia.	Swallowed tube.	Died 1½ day after intubation.
336	Jan., 1887	" "	M.	6 years.	14 hours.	3 days.	.....	Scarlet fever.	Scarlet fever.	Died 22 hours after intubation.
337	April, 1887	" "	M.	4 yrs. 6 mos.	7 hours.	8 days.	Albumen.	Extension to bronchi.	.....	Died 1½ day after intubation.
338	"	" "	M.	1 yr. 6 mos.	4 hours.	4 days.	.....	Pneumonia.	.....	Died 27 hours after intubation.
339	May, 1887	" "	M.	15 months.	4 hours.	5 days.	.....	Extension to bronchi.	.....	Died 12 hours after intubation.
340	Mar., 1887	" "	M.	6 months.	8 hours.	3 days.	.....	Extension to bronchi.	.....	Died 1½ day after intubation.
341	May, 1887	" "	M.	5 years.	9½ hours.	1 day.	.....	Extension to bronchi.	.....	Died 2 days 6 hours after intubation.
342	.....	J. J. Reid.	F.	7 yrs. 6 mos.	3 days.	.....	.....	.....	.....	Recovered. Wore tube 7 days.
343	.....	" "	F.	11 months.	1 day.	.....	.....	Extension to bronchi.	.....	Died 4 days after intubation.
344	.....	" "	M.	7 years.	3 days.	3 days.	.....	.....	.....	Recovered. Wore tube 18 hours.
345	.....	" "	M.	2 yrs. 7 mos.	1 day.	2 days.	.....	Extension to bronchi.	.....	Died 16 hours after intubation.
346	.....	" "	M.	2 yrs. 6 mos.	2 days.	.....	.....	Broncho-pneumonia.	Pneumonia.	Died 10 days after intubation.
347	.....	" "	F.	2 years.	1 day.	2 days.	.....	.....	.....	Recovered. Wore tube 18 days.
348	.....	" "	M.	4 years.	1 day.	3 days.	.....	.....	.....	Recovered. Wore tube 11 days.
349	.....	" "	F.	19 months.	2 days.	7 days.	.....	Pneumonia.	.....	Died 5 days after intubation.
350	.....	" "	F.	3 years.	3 days.	.....	.....	Extension to bronchi.	.....	Died 3 hours after intubation.
351	.....	" "	M.	3 years.	2 hours.	2 days.	.....	Extension to bronchi.	.....	Died 3 days after intubation.
352	.....	Geo. McNaughton.	....	4 years.	3 days.	Present.	Albumen.	.....	.....	Recovered.
353	.....	" "	....	3 years.	2 days.	"	.....	Broncho-pneumonia.	.....	Died 40 hours after intubation.
354	.....	" "	....	6 years.	6 days.	"	.....	Sepsis.	.....	Died 24 hours after intubation.
355	.....	" "	....	3 years.	3 days.	"	.....	Broncho-pneumonia.	Measles.	Died 40 hours after intubation.
356	.....	" "	...	4 years.	3 days.	"	.....	.....	.....	Died 96 hours after intubation.
357	.....	" "	....	11 months.	2 days.	"	.....	Broncho-pneumonia.	.....	Died 36 hours after intubation.
358	.....	" "	....	3 years.	3 days.	"	.....	Fatal asphyxia after coughing out tube.	.....	Died 96 hours after intubation.

Number	Date.	Operator.	Sex.	Age.	Duration before intubation of: Laryngeal symptoms.	Duration before intubation of: Pharyngeal diphtheria.	Urine.	Cause of death.	Complications.	Result.
359	.....	Geo. McNaughton.	....	5 years.	1 day.	Present.	Albumen.	Nephritis.	.....	Died 36 hours after intubation.
360	.....	" "	....	19 months.	2 days.	"	.....	Broncho-pneumonia.	Measles.	Died 30 hours after intubation.
361	....	" "	....	3 years.	5 days.	"	.....	.....	.....	Recovered.
362	Sept., 1886	V. Caillé.	F.	2 yrs. 6 mos.	4 days.	8 days.	Albumen.	Broncho-pneumonia.	Scarlatina.	Died 4 hours after intubation.
363	Feb., 1887	" "	F.	5 years.	7 days.	1½ week.	Not exam.	.....	....	Recovered. Wore tube 4 days.
364	"	" "	M.	2 yrs. 6 mos.	2 days.	4 days.	"	Broncho-pneumonia.	.....	Died 3 days after intubation.
365	"	" "	F.	3 yrs. 6 mos.	3 days.	6 days.	"	Broncho-pneumonia.	.....	Died 2 days after intubation.
366	Mar., 1887	" "	M.	4 years.	2 days.	4 days.	"	Double pneumonia.	.....	Died 2 days after intubation.
367	"	" "	M.	1 year.	4 days.	After intubation.	"	Sepsis.	.....	Died 14 days after intubation.
368	April, 1887	" "	F.	3 years.	2 days.	None.	"	.....	.....	Recovered. Wore tube 2 days.
369	"	" "	M.	1 yr. 3 mos.	4 days.	"	"	Pneumonia: heart failure.	.....	Died 2 days after intubation.
370	"	" "	F.	1 yr. 2 mos.	5 days.	"	"	....	.....	Recovered. Wore tube 3 days.
371	"	" "	F.	1 yr. 6 mos.	2 days.	3 days.	"	Pneumonia.	.....	Died 2½ days after intubation.
272	"	" "	F.	7 years.	3 days.	None.	Albumen.	.....	.....	Recovered. Wore tube 2 days.
373	May, 1887	" "	M.	5 years.	2 days.	3 days	Not exam.	.....	.....	Recovered. Wore tube 4 days.
374	"	" "	M.	2 years.	3 days.	4 days.	"	Sudden heart failure.	.....	Died 3 days after intubation.
375	May, 1886	W. K. Simpson.	M.	2 yrs. 6 mos.	4 days.	2 days.]	None.	Extension to bronchi.	.....	Died 58 hours after intubation.
376	Oct , 1886	" "	F.	3 yrs. 4 mos.	5 days.	None.	Albumen.	Extension to bronchi.	.....	Died 3 days after intubation.
377	Jan., 1887	" "	F.	2 yrs. 7 mos.	3 days.	"	None.	Heart failure.	.....	Died 3 days 19 hours after intubation.
378	"	" "	F.	7 years.	1 day.	1 day.	.....	Extension to bronchi.	....	Died 2 days 6½ hours after intubation.
379	"	" "	M.	5 years.	5 days.	.....	.....	Extension to bronchi.	.....	Died 2 days 3 hours after intubation.
380	Feb., 1887	" "	F.	8 months.	1 day.	1 day.	.....	Extension to bronchi.	.....	Died 3 days after intubation.
381	Mar., 1887	" "	F.	15 months.	1 day.	.....	.....	Sepsis.	.....	Died few hours after intubation.
382	April, 1887	" "	M.	2 yrs. 8 mos.	3 days.	None.	.....	Pushing down membrane.	.....	Died ——— after intubation.
383	May, 1887	" "	M.	3 years.	2½ days.	"	None.	Extension to bronchi.	.....	Died 30 hours after intubation.
384	"	" "	M.	13 months.	1½ day.	6 days.	.....	Extension to bronchi.	.....	Died 26 hours after intubation.
385	May, 1886	G. H. Cocks.	F.	6 years.	2 days.	6 days.	Not exam.	.....	.....	Recovered. Wore tube 2 days.
386	Aug., 1886	" "	F.	2 years.	2 days.	5 days.	"	Œdema of lungs.	.....	Died 4 days after intubation.
387	Sept., 1886	" "	M.	3 yrs. 10 mos.	1 day.	3 days.	"	.....	....	Recovered. Wore tube 3 days 7 hours.
388	Oct., 1886	" "	M.	5 years.	1 day.	.....	"	Extension to bronchi.	.....	Died 40 hours after intubation.
389	"	" "	...	18 months.	1 day.	....	"	Sepsis.	.....	Died 4 hours after intubation.
390	Nov., 1886	" "	M.	3 years.	7 days.	.....	"	.....	....	Recovered. Wore tube 4 days.
391	"	" "	F.	2 yrs. 6 mos.	4 days.	7 days.	"	Sepsis.	.....	Died 4 days after intubation.
392	Feb., 1887	" "	F.	3 years.	2 days.	7 days.	"	"	.....	Died 3 days after intubation.
393	Mar., 1887	" "	M.	18 months.	2 days.	4 days.	"	.....	.....	Recovered. Wore tube 3 days.
394	April, 1887	" "	M.	2years.	1 day.	4 days.	"	Extension to bronchi.	.....	Died 36 hours after intubation.
395	"	" "	M.	4 yrs. 6 mos.	3 days.	4 days.	"	Extension to bronchi.	.....	Died 48 hours after intubation.
396	May, 1887	" "	F.	5 years.	2 days.	.....	"	Extension to bronchi.	.....	Died 36 hours after intubation.
397	"	" "	F.	9 years.	2 days.	.....	"	Paralysis of heart.	.....	Died 5 hours after intubation.
398	Mar., 1887	" "	F.	2 yrs. 8 mos.	1½ day.	8 days.	"	Sepsis.	.....	Died 24 hours after intubation.
399	May, 1886	H. F. Ivins.[14]	M.	23 months.	1 day.	1 day.	.....	"	... .	Died 8 hours after intubation.
400	May, 1886	E. F. Ingalls.[27]	F.	4 years.	2 days.	5 days.	.....	.....	.....	Recovered. Wore tube 4 days.
401	June, 1886	" "	F.	4 yrs. 8 mos.	40 hours.	.....	.....	.....	.. ..	Recovered. Wore tube 3 days.
402	"	" " [37]	....	2 years.	.....	Several days	.....	Exhaustion.	.....	Died 40 hours after intubation.
403	"	" "	M.	5 yrs. 6 mos.	1 day.	None.	.....	Extension to bronchi.	.....	Died 39 hours after intubation.
404	"	" "	....	.....	... ...	.....	.. ...	.....	.....	
405	April, 1886	I. H. Hance.[35]	F.	13½ months.	1 day.	1 day.	.....	.....	.....	Died 20 hours after intubation.
406	"	" "	M.	14 months.	1 day.	None.	.....	Extension to bronchi.	.....	Died 14 hours after intubation.
407	May, 1886	" "	M.	23 months.	1 day.	1 day.	Albumen.	Sepsis.	.....	Died 1 day 8 hours after intubation.
408	June, 1886	" "	F.	2 yrs. 3 mos.	3 days.	11 days.	"	.....	.....	Recovered. Wore tube 4 days.
409	.....	J. A. Anderson.[34]	F.	3 yrs. 7 mos.	.....	Several days	.....	Sepsis.	Sepsis.	Died 17 hours after intubation.
410	.....	" "	M.	3 years.	.....	Present.	.....	.....	.....	Died 13 hours after intubation.
411	.. ...	" "	....	2 yrs. 6 mos.	.....	None.	.....	Catarrhal bronchitis.	.....	Died 5 days after intubation.
412	.....	" "	....	18 months.	.....	"	.....	Extension to bronchi.	.....	Died 72 hours after intubation.
413	.....	" "	M.	26 months.	.....	Present.	.....	.....	.....	Recovered. Wore tube 19 days.
414	.....	" "	F.	38 months.	.....	"	.....	Exhaustion.	.....	Died 14 hours after intubation.
415	.....	" "	....	35 months.	.....	"	.....	Heart failure.	.....	Died 8 days after intubation.
416	.....	" "	....	26 months.	.....	None.	.....	Extension to bronchi.	.....	Died 3 days after intubation.
417	.....	" "	....	3 yrs. 6 mos.	... . ..	Present.	.....	Exhaustion.	.....	Died 2 days after intubation.
418	.....	" "	....	17 months.	.....	None.	.....	Broncho-pneumonia.	.....	Died 20 hours after intubation.
419	Dec., 1886	Jos. Eichberg.[2]	F.	3 years.	3 days.	.....	.....	....	.....	Recovery. Wore tube 5 days.
420	Jan., 1887	W. E. Shaw.[2]	M.	5 years.	1 day.	.....	.....	Extension to bronchi.	.....	Died 5 days after intubation.
421	"	" " [36]	M.	4 yrs. 6 mos.	..... .	.....	.....	Extension to bronchi.	Measles.	Died 3 days after intubation.
422	"	Jos. Eichberg.[36]	M.	5 years.	.....	Present.	.....	Extension to bronchi.	.....	Died 1 day after intubation.
423	"	" "	....	3 yrs. 7 mos.	1 day.	1 day.	.....	Exhaustion.	.....	Died 5 days after intubation.
424	"	" "	M.	7 years.	1 day.	Several days	... ..	.....	Tracheotomy to remove tube.	Recovered. Wore tube 5 days.
425	"	" "	F.	5 years.	... .	Present.	.....	.....	.....	Recovered. Wore tube 8 days.
426	"	" "	F.	3 yrs. 6 mos.	.....	.....	.....	.....	Measles.	Died 3 days after intubation.
427	Oct., 1886	A. S. Hunter.	M.	7 yrs. 6 mos.	2 days.	3 days.	Not exam.	Bronchitis.	Measles and bronchitis.	Died 2½ days after intubation.
428	Dec., 1886	" "	F.	3 yrs. 6 mos.	4 days.	4 days.	"	Extension to bronchi.	.....	Died 2 days after intubation.
429	Jan., 1887	" "	F.	2 yrs. 6 mos.	3 days.	2 days.	"	.....	.....	Died 15 hours after intubation.
430	Jan., 1887	J. B. Wheeler.[8]	F.	3 yrs. 6 mos.	24 hours.	None.	.....	Laryngeal stenosis from sudden plugging of the tube by pseudo-membrane.	.....	Died 14 hours after intubation.

Number.	Date.	Operator.	Sex.	Age.	Duration before intubation of		Urine.	Cause of death.	Complications.	Result.
					Laryngeal symptoms.	Pharyngeal diphtheria.				
431	Dec., 1886	G. W. Mason.[9]	F.	8 yrs. 6 mos.	4 days.	Present.	.....	Extension to the lungs.	.....	Died 2½ days after intubation.
432	"	" "	M.	8 years.	2 days.	2 weeks.	.....	.....	.....	Recovery. Wore tube 5 days.
433	Jan., 1887	" "	F.	4 years.	3 days.	.....	.....	Asthenia.	Followed whooping-cough and croupous pneumonia.	Died 12 hours after intubation.
434	——, 1886	C. G. Jennings.[10]	F.	6 years.	3 days.	.....	.....	Exhaustion.	....	Died 1½ day after intubation and ½ day after tracheotomy.
435	Aug., 1886	" "	....	12 months.	.....	None.	... ..	Pneumonia.	Measles.	Died same day (?).
436	Sept., 1886	" "	F.	4 years.	.....	Present.	.....	Extension to bronchi.	.....	Died 1 day after intubation.
437	——, 1886	" "	F.	5 years.	.....	"	.....	Extension to bronchi.	.....	Died 6 days after intubation.
438	Oct., 1886	W. Cheatham.[12]	F.	4 years.	2 days.	9 days.	.....	Extension to the bronchi.	....	Died 17 hours after intubation.
439	——, 1886	" "	....	.....	.....	Present.	.....	Extension to the bronchi.	Pulmonary complications.	Died 24 hours after intubation.
440	Nov., 1886	" "	F.	2 years.	1 day.	2 days.	.....	.....	....	Recovered. Wore tube 3 days 21 hours.
441	"	" "	F.	13 months.	.....	...	.....	Not known.	.....	Died 41 hours after intubation.
442	Mar., 1887	Austin G. Case.[1]	F.	10 yrs. 6 mos.	3 days.	None.	.....	.....	.....	Recovery. Wore tube 8½ days.
443	Nov., 1886	David Prince.[3]	M.	3 years.	.....	Several days	.....	.....	Under ether.	Recovery. Wore tube short time.
444	Dec., 1886	" "	M.	7 years.	.....	None.	.....	....	Under chloroform.	Recovered. Wore tube 4 days 10 hours.
445	Dec., 1886	L. L. Palmer.[4]	F.	5 yrs. 3 mos.	2 days.	4 days.	.....	Extension to bronchi (?).	.....	Died 28 hours after intubation.
446	Jan., 1887	B. T. Shimwell.[5]	M.	8 years.	4 days.	None.	Albumen.	Capillary bronchitis.	.....	Died 15 days after intubation.
447	Mar., 1886	L. L. Dunning.[36]	F.	2 yrs. 6 mos.	18 hours.	"	.....	Broncho-pneumonia.	.....	Died 3 days after intubation.
448	Nov., 1886	" " 6	F.	2 yrs. 4 mos.	6 days.	Present.	.....	.....	.....	Recovery. Wore tube 3 days.
449	Dec., 1886	" "	F.	2 yrs. 4 mos.	5 days.	.....	.....	Extension to bronchi.	.....	Died 2 days 8½ hours after intubation.
450	"	" "	M.	3 yrs. 6 mos.	1 day.	5 days.	.....	....	.....	Recovery. Wore tube 4 days 15¼ hours.
451	Jan., 1887	" "	F.	2 yrs. 3 mos.	6 days.	.....	.....	Exhaustion.	.....	Died 1 day after intubation.
452	Feb., 1887	Charles Denison.[7]	M.	6 years.	12 hours.	12 hours.	.....	.....	Measles.	Recovered. Tube dislodged a cast of the larynx and the obstruction did not return.
453	April, 1887	N. S. Roberts.	F.	4 yrs. 5 mos.	2 days.	Present.	None.	.....	.....	Recovered. Wore tube 10 days.
454	May, 1887	" "	F.	2 yrs. 9 mos.	1½ day.	"	.....	Sepsis.	Sepsis.	Died 13 hours after intubation.
455	... ..	Langmann.[42]	F.	11 years.	1 day.	"	.....	....	Schluckpneumonie.	Recovered. Wore tube 4 days.
456	Jan., 1887	Carl Beck.	M.	3 years.	2 days.	6 days.	Albumen.	.....	Measles.	Recovered. Wore tube 6 days.
457	Feb., 1887	" "	M.	2 yrs. 6 mos.	20 hours.	3 days.	.....	Pneumonia.	"	Died 3 days after intubation.
458	"	" "	M.	3 yrs. 3 mos.	12 hours.	4 days.	.....	.....	.....	Recovered. Wore tube 2½ days.
459	April, 1887	" "	M.	4 years.	1½ day.	.....	None.	.....	.....	Recovered. Wore tube 4 days.
460	May, 1887	" "	F.	6 years.	16 hours.	16 hours.	Albumen.	....	.....	Recovered. Wore tube 2½ days.
461	June, 1886	T. H. Meyers.	M.	6 months.	3 days.	4 days.	None.	Convulsions.	.....	Died 45 hours after intubation.
462	July, 1886	" "	M.	23 months.	1 day.	6 hours.	"	.....	.....	Recovered. Wore tube 8 days.
463	Aug., 1886	" "	M.	2 years.	1 day.	1 day.	.. ..	Pulmonary œdema.	.....	Died 23 hours after intubation.
464	Nov., 1886	" "	M.	7 years.	1½ day.	.....	.....	.....	.....	Recovered. Wore tube 44 hours.
465	Jan., 1887	" "	M.	2 years.	6 hours.	6 hours.	None.	Heart failure.	.....	Died 22 hours after intubation.
466	"	" "	M.	4½ months.	.....	.....	"	Pneumonia.	.....	Died 41 hours after intubation.
467	"	" "	M.	3 yrs. 6 mos.	3 days.	1 day.	Albumen.	Heart failure.	Measles; pneumonia.	Died 6 days after intubation.
468	"	" "	F.	25 months.	½ day.	.....	None.	"	.....	Died 73 hours after intubation.
469	Feb., 1887	" "	M.	3 yrs. 6 mos.	1½ day.	None.	Albumen.	.....	Pneumonia.	Recovered. Wore tube 4 days.
470	Mar., 1887	" "	M.	4 years.	½ day.	½ day.	"	Nephritis.	"	Died 1 day after intubation.
471	April, 1887	" "	M.	7 months.	4 days.	.....	.....	Heart failure.	Measles; pertussis.	Died 14 hours after intubation.
472	"	" "	M.	3 years.	4 days.	3 days.	.....	"	Measles; pertussis.	Died 70 hours after intubation.
473	"	" "	F.	3 yrs. 6 mos.	1 day.	1 day.	Albumen.	.....	Scarlet fever.	Recovered.
474	May, 1887	" "	M.	3 yrs. 6 mos.	1 day.	1 day.	"	Tuberculosis.	"	Died 34 hours after intubation.
475	"	" "	F.	3 yrs. 3 mos.	1 day.	½ day.	"	Nephritis.	Scarlet fever; measles.	Died 13 hours after intubation.
476	"	" "	F.	3 yrs. 6 mos.	½ day.	½ day.	None.	Heart failure.	Scarlatina; measles.	Died 5 hours after intubation.
477	"	" "	M	3 years.	½ day.	None.	Albumen.	Sepsis.	Measles.	Died 43 hours after intubation.
478	"	" "	F.	3 years.	14 hours.	1½ day.	"	Exhaustion.	Scarlatina; measles.	Died 6⅓ days after intubation.
479	"	" "	M.	4 yrs. 3 mos.	30 hours.	4 days.	"	"	Rötheln; pneumonia.	Died 20 hours after intubation.
480	"	" "	F.	7 months.	½ day.	½ day.	.....	Convulsions.	... .	Died 42 hours after intubation.
481	"	" "	M.	4 yrs. 4 mos.	2 days.	1 day.	Albumen.	Pneumonia.	Scarlatina; measles.	Died 10 days after intubation.
482	.....	D. C. Cocks.	M.	11 months.	.....	....	.....	Œdema of lungs.	....	Died 6 hours after intubation.
483	.....	" "	M.	4 years.	.....	....	.....	Extension to bronchi.	After tracheotomy.	Died.
484	.....	" "	M.	8 years.	.....	.....	.....	... .	.....	Recovered.
485	.....	" "	F.	3 years.	.....	.....	.....	....	.....	Recovered.
486	.....	" "	M.	4 years.	.....	.....	.....	Was moribund and never rallied.	....	Died.
487	.....	" "	F.	3 years.	.....	.....	.....	.....	.....	Recovered. Wore tube 5 days.
488	.....	" "	F.	3 years.	.....	.....	.....	Œdema of lung.	.....	Died 48 hours after intubation.
489	.. ...	" "	M.	2 yrs. 6 mos.	....	.....	.....	Extension to bronchi.	.....	Died 7 days after intubation.
490	.....	" "	F.	4 years.	....	.....	... ..	Extension to bronchi.	.....	Died 6 days after intubation.
491	.....	" "	M.	2 yrs. 6 mos.	.....	.....	.....	.....	.....	Recovered. Wore tube 7 days.
492	.....	" "	F.	4 years.	.....	.....	.....	.....	....	Died 10 days after intubation.
493	.....	" "	F.	7 years.	.....	.... .	.....	Sepsis.	....	Died 3 days after intubation.
494	.....	" "	F.	3 years.	.....	.....	.....	.....	.....	Recovered. Wore tube 6 days.
495	.....	" "	F.	5 years.	.....	.....	.....	Sepsis.	....	Died 1 day after intubation.
496	.....	" "	M.	4 years.	.....	.....	.....	Erysipelas.	After tracheotomy.	Died 9 days after intubation.
497	.....	" "	M.	3 years.	.....	.....	.....	Œdema of lungs.	.....	Died 15 hours after intubation.
498	.....	" "	....	1 yr. 6 mos.	.....	.....	.....	Œdema of lungs.	.....	Died 48 hours after intubation.
499	.....	" "	M.	4 years.	.....	....	.....	.....	....	Recovered. Wore tube 6 days.
500	.....	" "	F.	3 years.	....	.....	.....	Sepsis.	....	Died 12 hours after intubation.
501	.....	" "	M.	4 years.	..... .	.....	.....	"	....	Died.
502	.....	" "	F.	3 years.	... ...	... ..	.....	Clogging of tube.	.....	Died 60 hours after intubation.
503	.....	" "								

Operator.	Cases.	Recoveries.	Operator.	Cases.	Recoveries.
Joseph O'Dwyer	81	20	James McManus	5	2
F. E. Waxham	106	31	L. L. Dunning	5	2
Dillon Brown	87	18	C. G. Jennings	4	0
F. Huber	47	20	W. Cheatham	4	1
O'Shea	37	14	H. D. Ingraham	3	0
A. B. Strong	31	1	A. S. Hunter	3	0
J. M. Bleyer	42	11	G. W. Mason	3	1
W. P. Northrup	32	6	N. S. Roberts	2	1
C. E. Denhard	24	10	David Prince	2	2
F. Van Fleet	22	7	W. E. Shaw	2	0
D. C. Cocks	21	6	J. W. Niles	1	0
T. H. Meyers	21	4	E. C. Morgan	1	0
E. E. Montgomery	15	8	F. Donaldson, Jr.	1	0
G. H. Cocks	14	4	Charles Denison	1	1
A. Caillé	13	5	Langmann	1	1
E. F. Ingalls	12	3	Frank Tipton	1	1
J. Tascher	11	4	H. F. Ivins	1	0
W. K. Simpson	10	0	J. B. Wheeler	1	0
J. A. Anderson	10	1	A. G. Case	1	1
E. L. Cocks	10	3	L. L. Palmer	1	0
J. J. Reid	10	4	B. T. Shimwell	1	0
Geo. McNaughton	10	2	W. L. Carr	2	0
A. E. Hoadley	9	0	F. K. Priest	5	0
F. Henrotin	7	3	J. E. Winters	6	0
J. Eichberg	6	2	F. W. Merriam	3	2
H. O. Bates	6	3	S. A. W. Williams	3	0
W. H. Prescott	6	2	H. W. Berg	8	2
W. P. Bolles	2		J. L. Millfinger	2	1
H. L. Smith	2		Harles	2	2
H. H. Mudd	6	2	E. D. Ferguson	1	0
I. H. Hance	5	1	F. C. Shaefer	4	0
Carl Beck	5	4	Forscheimer	5	2
G. W. Gay	4	0			

Total number of operators, 65.

Total number of cases, 806, with 221 recoveries, = 27.4 per cent. Male, 225; female, 198.

Average age of fatal cases, 3 years 2 months.

Average age of cases which recovered, 4 years 1⅓ month.

Duration of laryngeal symptoms before intubation in cases of recovery, 2 days 9 hours; in cases of death, 1 day 19 hours.

Urine contained albumen in 117 cases, and no albumen in 31 cases.

In fatal cases, average length of life after intubation, 2 days 8 hours.

In cases of recovery, average time of tube in larynx, 5 days 3½ hours.

Cause of death in 339 cases:

Diphtheritic bronchitis	139
Pneumonia	55
Sepsis	37
Exhaustion	33
Nephritic complications	25
Heart failure	20
Pulmonary œdema	9
Bronchitis	8
Asphyxia, from clogging of tube	9
" " pushing down membrane	2
" " swelling over head of tube	1
" " neglect to notify operator after coughing out tube.	4
Tuberculosis	2
Congestion of lungs	1
Scarlatina	1
	339

[1] Medical Review, Pittsburgh, 1887, i., 114.
[2] Cincinnati Lancet-Clinic, 1887, lvii., 97.
[3] St. Louis Medical and Surgical Journal, 1887, lii., 115.
[4] Canadian Practitioner, Toronto, 1887, xii., 1.
[5] Medical Register, Philadelphia, 1887, i., 174.
[6] Journal of the American Medical Association, 1887, viii., 199.
[7] Journal of the American Medical Association, 1887, viii., 342.
[8] New York Medical Journal, 1887, xlv., 238.
[9] Medical News, Philadelphia, 1887, l., 341.
[10] American Lancet, Detroit, 1886, N. S., x., 401.
[11] Maryland Medical Journal, 1886, xvi., 67.
[12] American Practitioner and News, Louisville, 1886, N. S., ii., 321.
[13] The Medical Record, 1886, xxx., 665.
[14] Hahnemannian Monthly, June, 1886. Reprint.
[15] Chicago Medical Journal and Examiner, 1885, l., 475.
[16] Archives of Pediatrics, Philadelphia, 1885, ii., 657.
[17] Chicago Medical Journal and Examiner, 1885, li., 511.
[18] Chicago Medical Journal and Examiner, 1886, liv., 353.
[19] Chicago Medical Journal and Examiner, 1886, liii., 132.
[20] Buffalo Medical and Surgical Journal, 1886, xxvi., 226.
[21] Medical and Surgical Reporter, Philadelphia, 1886, lv., 506.
[22] Maryland Medical Journal, Baltimore, 1886, xvi., 168.
[23] Weekly Medical Review, St. Louis, 1887, xv., 57.
[24] The Medical Record, New York, 1886, xxx., 487.
[25] The Medical Record, New York, 1886, xxx., 683.
[26] Medical Journal, New York, 1886, xliii., 384.
[27] Journal of the American Medical Association, Chicago, 1886, vii., 35.
[28] Chicago Medical Journal and Examiner, 1885, li., 401.
[29] Chicago Medical Journal and Examiner, 1886, liii., 214.
[30] The Medical Record, New York, 1886, xxix., 410.
[31] Medical Register, Philadelphia, 1887, i., 146.
[32] Journal of the American Medical Association, Chicago, 1887, viii., 337.
[33] Journal of the American Medical Association, Chicago, 1887, viii., 359.
[34] Pacific Medical and Surgical Journal, San Francisco, 1887, xxx., 129.
[35] Cincinnati Lancet-Clinic, 1887, N. S., xviii., 321.
[36] Journal of the American Medical Association, Chicago, 1886, vi., 426.
[37] Journal of the American Medical Association, Chicago, 1886, vi., 147.
[38] New York Medical Journal, 1886, xliv., 273.
[39] New York Medical Journal, 1886, xliv., 322.
[40] Medical Times, Chicago. Reprint.
[41] The Medical Record, 1887, xxxi., 608.
[42] New Yorker Medizinische Presse, 1887, iii., 259.

A New Pharmacopœia in Austria.—The Austrian government has appointed a committee to revise the pharmacopœia of that country, in order to bring it up to the level of the recent advances in science. The last (sixth) edition of the work was published in 1869.

LARYNGEAL CRAMP OF MUSICIANS AND SPEAKERS.[1]

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The motor disturbances to which attention is invited in this paper have, it is believed, received no formal description in treatises on laryngology, or in special works on diseases of the nervous system.

They may be defined as professional neuroses of motility, and they are to be classified in that large group of nervous diseases of which writer's cramp constitutes the most familiar type. Inco-ordinate and excessive action rather than loss of motion prevails in them, and hence Ross, not inappropriately, uses the expression "professional hyperkineses" as a collective designation for all forms of professional cramp, and in accordance with this nomenclature the term laryngeal professional hyperkineses has been chosen.

The etiology of these laryngeal hyperkineses is as evident as their pathology is obscure. Clinical observation has established, beyond all doubt, that excessive functional activity is a cause of various forms of motor disease in groups of muscles of the extremities, and in all parts of the body capable of nicely co-ordinated voluntary movements. The motor troubles of writers, musicians, telegraphers, and of a host of manual occupations confirm this fact as regards the hands and arms, and the observation is renewed for the feet and legs in turners, ballet-dancers, sewing-machine workers, and in many other trades. It would be a contradiction of physiological analogy and of etiological law if a similar sequence of disease were not to result from a like cause in the laryngeal muscles, which are capable of such complex associated movements.

The existence of the laryngeal professional hyperkineses might then be reasonably predicated on *a priori* grounds, but fortunately there are observed facts which form a basis for these disorders, and they will now be described. The symptoms and cases naturally fall under two main groups, which may be technically termed hyperkinetic and hypokinetic.

The hyperkinetic group is characterized by spasmodic and inco-ordinate action of the muscles of the larynx, or of muscles immediately associated in phonation or in similar acts. To this group belongs the first case of laryngeal professional hyperkinesis which came under the writer's notice. The observation was made some years ago in a professional flutist—a German, about fifty years of age, of large frame and strong muscular development, and in the enjoyment of apparent good health. Flute-playing in this instance was attended by spasmodic action of the adductors of the glottis and of the tensors of the vocal cords, which were thrown into sympathetic vibration and produced a low-pitched and continuous sound, which was all the more annoying as it could not be prevented by any effort of will.

The only cause known for this affection was the too constant use of the instrument. The patient had made a common-sense diagnosis of his trouble, which he called cramp in his throat, and in speaking of its cause he said: "Das kommt vom zu viel blasen," and thus in a word he gave its true etiology. Gerhardt has reported a similar observation in a man who had already suffered from cramp of the arm, and the analogy between the two affections was thus very direct. In these instances certain sets of laryngeal muscles are called into gentle and concerted action, for there is naturally, the writer finds in his own use of the flute (and no doubt it is true for other flute-players), a slight contraction of the crico-thyroids and of the adductors of the glottis. But when flute-playing was carried to great excess in the above cases these muscles became hyperkinetic, and the constant spasms were such as to interfere with the patients' occupation.

[1] Read at a meeting of the New York Neurological Society on June 7, 1887.

It is well known that in writers the arm as well as the hand may become affected, and it is natuaral to suppose that in players on wind-instruments neighboring muscles of the laryngeal group would become secondarily involved, and it is probable that in them labial, lingual, and laryngeal hyperkinesis may exist synchronously.

Strümpell has already put on record a case of clonic lingual spasm in a clarionet-player, who was thus incapacitated for his occupation. Adequate inquiry would probably reveal many similar facts, and the writer has already had verbal accounts of like instances.

In this first hyperkinetic group should be classed also those cases called choked voice, which are, in reality, instances of expiratory adductor spasm from continued vocal strain ; and cases of painful laryngeal contractions briefly alluded to by Sée, of Paris; and, in fact, all persistent spasmodic symptoms of the singing or speaking voice due to its immoderate employment.

Instances from a like cause, in which the voice habitually breaks from a chest to a falsetto tone, may perhaps belong to this category also, though the supposition of the spasmodic contraction of the vocal cords and of their vibration between nodal points is not fully satisfactory, for it is well known that in unilateral paralysis of the adductors, with vibration of the mere edge of the inefficient vocal cord, there is still falsetto phonation.

In this group, too, are to be included certain allied hyperkinetic conditions which are very rare and interesting. In these instances the rima respiratoria closes during expiration, and, through involuntary action of the tensors of the inferior thyro-arytenoid ligaments, there are produced audible sounds, which receive accidental modification by the position in which the buccal, nasal, and pharyngeal cavities chance to be.

One such instance of expiratory tension of the chordæ vocales and of involuntary phonation has come within the writer's observation. A further symptom of interest in the laryngeal hyperkineses is that ordinarily the adductor spasm is excited only during forced expiratory efforts, and not during inspiration, even though it be voluntarily prolonged. To such an extent is this true that the patient may resort to the expedient of vocalization of the in-going current of air, and thus learn to speak solely with an inspiratory voice. It is probable that in time this inspiratory speech would become also spasmodic, though the only case known to the writer of spasmodic phonation during inspiration was in a stutterer whom he once treated, with only partial success, for some months.

It is well known that paralysis of certain laryngeal muscles may give rise to spasm of others, and when the laryngeal hyperkineses have been more thoroughly studied, it will likely become necessary to establish a mixed group in which paralysis and tonic or clonic spasm will be found to coexist.

With this forethought as to future classification, the second or hypokinetic group of these disorders is mentioned. It is characterized by diminution or loss of power in the laryngeal muscles as the result of continued overuse.

In this connection belongs an observation made by the writer, of a man in fair health, who, during a series of many months, and for several hours daily, read foreign languages aloud. This vocal action was forcible, and sustained with unusual voluntary effort. The final result was paretic loss of voice, with painful sense of fatigue. The laryngoscopic appearances were normal, and there were neither local, catarrhal, nor general constitutional conditions to account for the symptoms. Voluntary reaction of the vocal muscles was simply lost through overstrain, as in the paralytic forms of professional cramp.

To this group belong some of those cases of loss of voice among professional singers and arduous aspirants for the operatic stage.

Teachers of vocal music speak of these cases as due to bad methods of voice-training, and some of them are attended by inflammatory conditions, but a few cases free from all such complications can only be regarded as instances of hypokinesis of overtaxed laryngeal muscles. The paresis may simply reveal itself through inability to evenly sustain tones which may become clearly forced, tremulous, flat, or unmusical, or there may be loss only of a part of the range of the voice, as of the highest soprano or lowest bass notes. The defect of innervation in these instances presumably exists in the lateral crico-arytenoid, arytenoid, and thyro-arytenoid muscles.

In the description of symptoms only expiratory forms of spasm have as yet been noticed, but it is likely that some inspiratory spasms and certain cases of aphonia spastica are to be numbered among the disorders in question, and that the extrinsic as well as the intrinsic muscles of the larynx are sometimes involved in these forms of hyperkinesis.

The main symptoms, then, may be briefly summed up as inco-ordination, paresis, tremor or spasm of laryngeal muscles, displayed especially in expiration and during phonatory efforts.

The pathology of all the professional neuroses of motility is, to say the least, hypothetical. The theories of the myopathic or peripheral neuropathic origin of these diseases do not adequately explain all the clinical facts. The influence of heredity is not to be overlooked in these cases, which occasionally present a distinct "diathesis spasmodica" from earliest childhood. Of course, this instability of nerve-centres may be acquired as well as inherited.

The most plausible theory is that the laryngeal hyperkineses are of central origin—that the prime points of pathological irritability are, first, in cortical centres and, secondly, in the medulla oblongata itself.

The fact that the movements which become disordered are such as are voluntarily co-ordinated, and that they are uniformly initiated by cortical impulses, tends to confirm this view. A purely cortical phenomenon, too, is the painful consciousness of fatigue excited by the simple unexecuted idea of the customary movements.

The diagnosis of the professional laryngeal hyperkineses is to be arrived at by a process of exclusion of certain well-known pathological conditions. Thus there are to be excluded all forms of pressure on the pneumogastric nerves by enlarged glands and various tumors, and on the recurrent laryngeal nerves by thoracic aneurisms ; also, diphtheritic, rheumatic, syphilitic, and other diathetic or toxic states, attended or followed by motor disorders of the larynx.

It is also necessary to eliminate the early laryngeal crises of locomotor ataxia, the aphonia of hysteria, certain reflex spastic states, cases of balbuties spasmodica, and the phonetic inco-ordination of general paresis. In regard to the latter disease, it is to be remarked that professional singers who become cases of general paresis may present laryngeal hyperkinesis as the initial phenomenon.

A noted negro minstrel who died of general paresis under the writer's care had inco-ordination and spasm of laryngeal muscles months before the appearance of any other symptom, either psychical or somatic.

The differential diagnosis is not necessarily more difficult than in other cases of professional cramp which often have superficial resemblances to various motor disorders.

As the larynx, however, is less accessible to observation than the hand or other parts concerned in the professional neuroses of motility, the finer diagnosis of the muscles specially affected in any given case becomes admittedly somewhat difficult. In view of the great advances in modern laryngology, it is believed that it will soon be possible, in cases of speaker's cramp, as in those of writer's cramp, to decide with precision as to the muscles directly involved in every instance.

The prognosis in the laryngeal, as in other kinds of

professional hyperkineses, is bad. The disease is usually of gradual development, and by the time that it is fully pronounced and recognized, it has assumed a chronic character.

In most singers and speakers attacked there is to be expected more or less permanent disability, and the exact prognosis will depend somewhat on the age and constitution of the patient, on the duration of the malady, and on the willingness of the sufferer to persevere in the treatment prescribed.

The treatment of the laryngeal hyperkineses has at least one uniform indication, and that is, complete rest of the muscles affected. All forced expiratory acts like coughing, laughing, and crying should, as far as possible, be avoided, and, above all things, voluntary use of the laryngeal muscles is to be forbidden.

Even the silent reading of musical scores common among singers provokes latent motor impulses, and is harmful.

In the case arising from the reading aloud of foreign languages above mentioned, even mental rehearsal of a few pages without vocalization excited a painful sense of fatigue referable to the larynx

After attention to this first indication for functional repose, the observance of hygienic rules, change of climate and habits of life, hydrotherapy and topical treatment are in order.

Of local measures, electricity and laryngeal massage are perhaps the most effectual.

In fortunate cases the return to the full professional use of the laryngeal muscles should be gradual.

In conclusion, let it be said that this paper is simply a small contribution to the literature of rare neuropathic affections which would seem to have almost escaped recognition. If it serve to excite an interest in their more complete study, its object will have been accomplished.

Progress of Medical Science.

Intra-uterine Death.—Dr. Priestley's Lumleian Lectures on this subject will form an important addition to obstetrical literature. Among the more general causes, some appear referable to the father, for the procreating power is distinct from the developing power, so that, as it appears, a man may beget a fœtus which cannot develop to the end of the normal term of gestation. In the case of the mother, anæmia, starvation, and overfeeding, are active agents in killing the fœtus. Dr. Priestley discusses some important questions respecting the effects of high temperature, the immediate cause of death of the fœtus when the mother is stricken with any complaint where the temperature rises considerably. Runge's experiments show that the temperature in the fœtus is higher than in the mother, and rises proportionately higher when her temperature rises. The fœtus may die solely from high temperature in cases where the mother recovers. Overcharging of the fœtal capillaries occurs in the fœtus, and it is expelled dead by contraction of the uterus, stimulated by the carbonized blood in its sinuses. In puerperal eclampsia the fœtus is killed either by a rise of temperature, or by uterine contractions which cause imperfect aëration of blood, or by uræmic vitiation of blood. Suckling and mental emotion are given as undoubted reflex causes of intra-uterine death. The child is frequently killed by disease of the fœtal appendages, generally due to previous inflammation of the unimpregnated uterine mucous membrane. These diseases are chronic diffuse endometritis, polypoid endometritis, and catarrhal endometritis, the hydrorrhœa of pregnant women. Dr. Priestley dwells at great length on cystic disease of the chorion. It is probably the cause, not the effect, of the death of the fœtus. The embryo either disappears in the cystic mass, or is found shrivelled and wrapped in its amnion, or even without an amnion, in the midst of the "mole." Hydramnios is a cause of fœtal death; this affection is associated with twin gestation, monstrosities, syphilis, and female children. It is rare in first pregnancies. Placental disease plays an important part in causing fœtal death. Dr. Priestley, in accordance with other living authorities, agrees that there must be several distinct diseases of the placenta. The different stages of one disease are liable to be taken for distinct affections. Apoplexy and true inflammation of the placenta, or placentitis, are noted by the lecturer, who then proceeds to speak of a remarkable affection known as placental phthisis. It is not tubercular, no specific bacilli can be found, nor is it essentially a fatty degeneration. A deposit, probably a low type of exudation, is thrown out among the villi. This deposit breaks down and cavities form, which fill with blood. The placenta is thus rendered totally unfit for its functions, and as the dead child is sometimes expelled plump, and otherwise in good condition, this placental disease must run a rapid course. True fatty degeneration of the placenta, described by Drs. Barnes and Kilian, and myxoma fibrosum, a fibroid hypertrophy of the villi sometimes forming distinct tumors in the placental structure, are active causes of fœtal death. It appears that we are not yet able to say with precision that any one distinct lesion of the placenta belongs alone to syphilis. Fränkel describes a "disfiguring granulation cell-disease," the placental affection which appears to be the most frequently associated with syphilis. He further notes that the evidences of placental syphilis vary according as to whether the syphilitic virus is derived from the mother or the father. The treatment of patients subject to bring forth dead fœtuses prematurely cannot be said to be satisfactory. Antisyphilitic drugs are no sure protection against intra-uterine death, even if they do not of themselves kill the fœtus, while curing or producing no effect on the mother, as has been suspected on reasonable grounds. Even rest may, in some cases, be an inferior therapeutic agent to certain forms of exercise. The most satisfactory cases are those where fœtal death has been due to anæmia or debility. Aix-les-Bains has been recommended in these cases. Dr. Priestley believes that the baths of Schwalbach have tonic properties for anæmic patients, while a visit to Kissingen is appropriate for those in whom the digestive and portal systems are at fault.—*The British Medical Journal.*

Aspiration of the Stomach in Drunkenness.—In the *Dublin Journal of Medical Science*, Mr. George Foy relates the following case: One night in November, 1884, he was called to a man reported to be dying. He had taken a large quantity of whiskey and claret, and for two hours his drunken companions had been trying to rouse him, but had totally failed. When seen he was quite insensible; extremities cold, face livid, pupils widely dilated, respiration and pulse almost imperceptible. Treatment was commenced by opening the median-basilic vein of the left arm, when, by rubbing the forearm briskly, the blood gradually flowed until sixteen ounces were drawn off. In the meantime the fine trocar of an aspirator was pushed through the abdominal wall in an upward, backward, and outward direction, just at the sternal end of the eighth rib. The cannula was attached by the ordinary method to an exhaust bottle, and on turning the cock a stream of claret-colored fluid flowed into the bottle. Very soon the heart commenced to beat; the pulse was readily felt at the wrist, respiration recommenced. The cannula was then withdrawn, and a stomach-pump was used to wash out the stomach. Very soon the man was able to speak, and soon recovered. The author saw no good in giving apomorphia in this case, as it has no emetic action when sensibility is quite deadened, while the respiration was too feeble to allow a stomach-tube to be introduced; so that there seemed no chance for the patient unless aspiration was attempted.

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THE ANTI-TOXIC FUNCTION OF THE LIVER.

PERHAPS one reason why there is now so little rational treatment or intelligent recognition of the functional disorders of the liver is the minor importance assigned to it in physiological text-books. In none of the standard works does one find a definite and complete description of the hepatic functions. These one may discover, by studious investigation, to be the secretion of bile, the manufacture of glycogen and discharge of liver-sugar, the production of chemical changes in albumin and fat, modifications of hæmatosis, the detention and neutralization of alkaloids, while incidentally the liver produces a large amount of heat. The main work of the liver is in its powerful influence upon the materials taken into the body for nutrition—its metabolic function.

Among the minor but yet extremely important duties of the liver is its anti-toxic action. M. Héger, in 1873, Schiff, in 1877, and several later experimenters have shown that certain poisons injected into a mesenteric vein were far less potent than when given hypodermically. According to M. Roger (Paris, 1877), such alkaloids as strychnia, quinine, atropine, hyoscyamine, and morphine, are about one-half as poisonous when injected into the portal vein as when given subcutaneously. De Jacques found that the nicotine carried to the liver was precipitated there and was not excreted by the bile, while strychnia and quinine were found in the bile. Further experiment showed that nicotine gets into the general circulation mainly by the lymphatics.

The anti-toxic action of the liver was shown by De Jacques to be due to the formation in the liver of an insoluble combination of the alkaloid with albumin.

The protective power of the liver, however, exercises itself in other ways than on extraneous poisons. There are, it is believed, poisons constantly being formed in the digestive tract. Even peptone in doses of three or four ounces introduced into a peripheral vein is poisonous, while it would require nearly three times as much to produce toxic effects if it were introduced into the liver. The blood-albumin in the portal vein and its tributaries seems to possess some poisonous power which is not present in the blood-albumin of the general systemic circulation. The phenol produced by intestinal decomposition undergoes a change in the liver into the less poisonous substance phenyl-sulphate (Kochs, Roger).

The liver barely acts upon alcohol, however, and does not modify the toxicity of acetone.

In the metabolic changes by which proteids are reduced to urea occur, probably, several stages, in which products are developed that are more poisonous than urea. Thus Bouchard claims to have shown that nitrogen is four times more poisonous as carbonate of ammonia than as urea. While this may be considered somewhat doubtful, it is no doubt true that in a general way the liver constantly reduces the primary products of proteid metabolism into less poisonous and more easily excretable substances.

That the liver, to some extent, destroys ptomaines carried to it in the blood is also an accepted fact.

How does the liver exercise this protective function? De Jacques has shown, by some very precise experiments, that alkaloids are combined in the liver with a proteid. M. G. H. Roger (*Gazette des Hôpitaux*, 1887, p. 527) has brought forward some striking facts to prove that it is the glycogen of the liver which gives to it its anti-toxic power. In starved animals or in those in which, by dieting, the glycogen had been reduced to a minimum, poisons acted very quickly. On the other hand, by increasing the amount of hepatic glycogen, poisons injected were much less innocuous. He also found that toxic alkaloids heated in a closed vessel with glycogen had their toxicity greatly lessened.

The practical deduction from M. Roger's experiments is that in diseases attended with auto-intoxication, such as the infectious fevers, for example, it is of the greatest importance to keep at its highest point the glycogenic activity of the liver. This is to be done by a suitable diet, avoiding beef-tea and soups, but giving plenty of milk. In addition, partial intestinal antisepsis is to be obtained by the use of naphthaline. The use of substances containing large amounts of the salts of potassium is deprecated, since these salts are shown to be quite poisonous.

A NEW OPERATIVE PROCEDURE IN THE TREATMENT OF HERNIA.

THE results of herniotomy, as at present practised, are far from satisfactory, for, although the operation is undoubtedly efficacious in saving many lives that would otherwise be sacrificed, the death-rate following its performance is not inconsiderable. For this reason a new method, advanced by Dr. A. C. Bernays, and described in the St. Louis *Medical and Surgical Journal* for May, 1887, would seem to be worthy of the attention of surgeons.

The operation, which consists simply in the subcutaneous tenotomy of Poupart's ligament, is described by Dr. Bernays as follows: A small incision, one-eighth of an inch in length, is made through the skin only, in a vertical direction, exactly in the inguinal fold. Next, a probe-pointed knife is pushed through the subcutaneous fatty tissues under Poupart's ligament, which is found tense, and, by pressing the ligament against the edge of the knife from without with the left hand while the right hand holds the tenotome, the ligament is cut. The knife is withdrawn as soon as the resisting ligament is cut. If, after the probe-pointed knife is introduced, Poupart's ligament is found relaxed, it should be immediately withdrawn; for, in all probability, the case is then one in which the strangulation is caused by the sac

itself, and its cause is not to be sought for in the inguinal or femoral canal. After the ligament is cut, the hernia will, it is stated, almost immediately slip back, if the patient is not too deeply anæsthetized, or it can be returned to the abdominal cavity with the greatest ease by manipulation.

The after-treatment must consist of perfect rest in a recumbent position, in order that union of the cut ends of the ligament may take place. Judging from the experience of tenotomy upon other tendons, one week ought to be sufficient in most cases to achieve an organization of the lymph which will be poured out between the cut ends.

The author recommends that the incision be made about an inch from the hernial protrusion in the direction of the spine of the ilium, though he thinks it quite possible that an incision of the lateral half, or nearer the spine of the ilium, will perhaps answer as good a purpose as a division of the median portion of Poupart's ligament nearer the seat of strangulation. The effect of dividing the ligament is a complete relaxation of the external and internal ring and all intermediate parts of the canal, as well as of Gimbernat's ligament and the femoral ring.

The operation is certainly simple and easy of performance, and would seem to be devoid of danger. In the two cases in which Dr. Bernays had employed it, at the time his article was written, the results, both immediate and remote, were entirely satisfactory.

THE REPORT OF THE BRITISH HYDROPHOBIA COMMISSION.

By far the most important medical event of the present year is the publication of the report of the British Commission on Hydrophobia. Taken in connection with the report of Dr. Ullmann before the Royal Society of Physicians of Vienna, we are now asked to accept as a fact that Pasteur has devised a method by which animals can be given immunity against rabies. Furthermore, it is also claimed that, by means of serial inoculations, animals who have been bitten by rabid dogs can be kept from developing the disease. The confirmation by the Commission of these two claims of Pasteur implies that the earlier investigations were also substantiated, by which he discovered that the virus was contained in the spinal cord, that it could be transmitted by inoculation, that it was intensified by being transmitted through rabbits, and exhibited itself in the furious, the paralytic, and the mixed forms of rabies.

The great practical question now comes, as to whether it is shown that the serial inoculations of dried cords prevent the development of hydrophobia in men who have been bitten by mad animals. Although the evidence does not amount to exact demonstration, the Commission present it in such a way as to give a moral support to the correctness of Pasteur's claims. The Report states that Professor Burdon Sanderson, Dr. Lauder Brunton, and Mr. Victor Horsley went to Paris in May, 1886, and personally investigated the history of 90 patients residing in Paris, Lyons, and St. Etienne, whose names appear consecutively on M. Pasteur's list. Full particulars of all these patients are given in an appendix. In 31 instances there was no reliable evidence that the dog was rabid, in others the bites were inflicted through the clothes; but in 24 the patients had been bitten on naked parts by undoubtedly rabid dogs, and the wounds were not cauterized or treated in any way likely to have prevented the action of the virus. None of these 90 persons have died of hydrophobia. The Committee estimates that 8 would have died if the inoculations had not been practised. This (says the *British Medical Journal*) is the most precise evidence obtained by the Committee, but it would be difficult to over-estimate its value, and it is well worthy the great time and pains expended in obtaining it. No previous observers or critics have contributed any evidence of the kind, and it must be held fully to confirm the claims advanced by M. Pasteur. The other statistics given are of a kind with which we are already familiar; taking the whole series of cases inoculated from October, 1885, to December, 1886, and using the lowest mortality ever estimated for untreated cases (five per cent.), the Committee is of opinion that, "making fair allowance for uncertainties, and for questions that cannot now be settled, we believe it sure that, excluding the deaths after bites by rabid wolves, the proportion of deaths in the 2,634 persons bitten by other animals was between 1 and 1.2 per cent., a proportion far lower than the lowest ever estimated among those not submitted to M. Pasteur's treatment, and showing, even on this lowest estimate, the saving of not less than 100 lives."

It is also stated that it has been proved, either by inoculation experiments with their spinal cords, or by the occurrence of rabies in animals also bitten, that in the cases of 233 persons bitten the dogs were indubitably rabid, yet only 4 persons died; whereas the Committee estimates that at least 40 would have died if the inoculations had not been performed. Even the cases of the 48 patients bitten by rabid wolves, of which so much has been made by M. Pasteur's opponents, are made to tell in his favor, for the Committee estimates that, if untreated, nearly 30 would have died, whereas only 9 actually succumbed. Further, it is stated that, during the first three months of this year, M. Pasteur had inoculated 509 persons bitten by animals proved to have been rabid, either by inoculation or by the deaths of animals bitten, or so certified by veterinary surgeons. Of this number only 2 have died, and one of these had been bitten by a wolf a month before the inoculations were commenced, and died after three days' treatment.

The practical conclusion at which the Committee has arrived is, that until police regulations of the most stringent kind can be enforced with complete success, there will always be a considerable number of persons who will require treatment by the method of M. Pasteur. During the ten years ending 1885, the annual average of deaths from hydrophobia was 43, and this probably represents a total number of over 800 persons bitten by rabid dogs; it is not possible to say which, among this whole number, are not in danger of hydrophobia. Police regulations applied over the whole of Great Britain would very materially diminish this number, but the Committee is of opinion that, to be effective, the regulations must require (1) the destruction of all wandering, ownerless dogs; (2) discouragement of the keeping of useless dogs by taxation or other means; (3) prohibiting importation

of dogs from countries where rabies is prevalent, or the imposition of quarantine; (4) compulsory use of muzzles in districts where rabies is prevalent.

In this city the average annual death-rate from hydrophobia for the twenty years from 1854 to 1874 was 2.3, and the average number of persons bitten would be 46. For the whole country, the average annual death-rate should be not far from 100 persons annually, with 2,000 bitten. Inoculations would save 80 lives annually, if we accept the conclusions of the Commission. It is for the public to say whether it is worth while to undertake such a work.

THE INFLICTION OF THE DEATH-PENALTY.

THE July number of the *Forum* contains a very readable article by Mr. Park Benjamin, with the above caption. The particular point made is concerning the manner in which the death-penalty should be inflicted—in those cases where the law has decreed it. Hanging he condemns as barbarous, and he denounces the manner in which executions are carried on. He claims that the large number of persons allowed to be present tends to martyrize the unfortunate man. Even the part allotted to medical men on such occasions, of listening to the heart-beats after the drop has occurred, he cannot reconcile himself to. He then discusses the various methods which have from time to time been suggested as a substitute for hanging.

"Any proceeding which the subject can physically oppose, or of which he can ward off the deadly effect for a reasonable period of time, is unsuitable. This sets aside suffocation by carbonic-acid gas, drowning, and the use of deadly anæsthetics, and, even more certainly, all forms of poison. The hypodermic injection of poison, which lately has found many advocates, fails to meet the requirements that death must be caused instantly—just as rapidly to the strongest as to the weakest individual."

There is something sublime in the picture which historians have drawn for us of the manner in which Socrates calmly awaited the approach of death after having taken the fatal hemlock. Firm in the faith of his convictions, his last words were those of inspiration and encouragement to his fellows. His uninspired words form perhaps the nearest approach to inspiration of any in profane writings. With the modern sufferer of the death-penalty we should not expect such affecting surroundings, and his great desire would probably be to "die game."

Mr. Benjamin sensibly argues that "any proceeding which involves the application of medical or surgical skill to insure its efficiency must likewise be ruled out. The medical faculty, presumably, will not assume the rôle of executioners. A physician may be called upon, as now, to distinguish apparent death." This will, of course, at once decide against pithing the medulla. Public sentiment will declare against any mutilating methods, and even shooting, which is, perhaps, the most speedy method of all thus far alluded to, is open to many objections.

Having mentioned all these methods to decry against them, the writer brings forward electricity as the method which is the most speedy and humane, and destined to eventually supersede all others. Sensation, as a physiological process, requires, he says, one-tenth of a second. Any method, therefore, which requires less than this time for its performance is absolutely painless. Tyndall, in one of his experiments, accidentally received a very large charge of electricity from some apparatus, and declared that there ensued in his system an appreciable interval in which all the powers of life seemed to be held in abeyance, and in which he experienced no pain. The electrodes might be placed one under the feet and the other at the base of the brain. The pressing of a button would close the circuit, or the closure might be made by some clock-work apparatus, and thus the execution would take place without the direct intervention of a human hand.

One argument advanced in favor of electricity may seem to some a rather curious one. It is the horror inborn in man of instantaneous death. The litany, we are reminded, contains a distinct supplication that we may be delivered from "sudden death." It is argued that this inherent fear would surround the death-penalty with more of terror and abhorrence than now exists, and that certain classes of evil-doers would be more powerfully deterred from crime than they are under the existing state of affairs. In the use of electricity, the fatal result would be positively assured. Judicial executions are often shocking blunders. The experiments of D'Arsonval have shown that while, after a shock of under five hundred volts, life can generally be resuscitated by artificial respiration, a stronger electro-motive force is absolutely fatal.

From some of the minor conclusions of the article under consideration we might dissent. With the major ones we are disposed to agree. Before any method of inflicting the death-penalty may become the ideal one, a vigorous reformation in attendant circumstances is necessary. It is a judicial procedure, and should be surrounded with the law's stern majesty.

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showed chronic congestion. In the *trachea* the mucosa was covered with closely aggregated translucent elevations, looking like

MILIARY TUBERCLES.

These ceased at the bifurcation. At the bifurcation of the primary bronchi there were a number of deep pin-point erosions. The *œsophagus*, near pylorus, was covered with a brownish adherent film, and there were several small sharply defined erosions of the mucosa. Several of the cervical lymph-glands were of a deep-red color. The *mesenteric glands* were normal.

Microscopical examination. In the

THE QUESTION OF PLAGIARISM.—We are quite willing to admit the injustice of calling it plagiarism, for the *Provincial Medical Journal* to publish without acknowledgment an article which first appeared in the RECORD, but which was sent directly to the former journal by the author. We have a right to be suspicious, however, of the journal in question. On February 16, 1884, we published an editorial on "Bromoform." This appeared copied exactly, without acknowledgment, in the editorial columns of the *Provincial Medical Journal* (then the *Midland Medical Miscellany*) for April 1, 1884. On June 2, 1884, we published an editorial entitled "The Mobility of the Brain." This was also copied *verbatim* in the editorial columns of the same journal for June 2, 1884. Whether other unacknowledged copying was done we cannot at this moment say.

News of the Week.

The Status of Medical Practitioners in Minnesota.—There are in Minnesota 1501 licensed physicians, and 10 un-licensed. Of the licensed, 1268 are regulars.

A Strong Inducement.—An Australian doctor advertises to pay one-half the funeral expenses in cases in which he is not successful.

Canada and Her Foundlings.—The medical health officer of Montreal has made an investigation regarding the care of the city's foundlings, and states, according to the *True Witness*, that out of over 700 in the care of the Grey Nuns, 678 died during one year.

Laryngology in Berlin.—A new clinical institute is to be opened in Berlin next week. It is to be devoted to the study of diseases of the nose and throat. Professor B. Fraenkel will lecture on laryngoscopy and rhinoscopy, and on the local medication of the upper air-passages.

The Medical Department of the University of Vermont held its thirty-fourth annual commencement at Burlington, on July 15th. Fifty-three candidates received degrees. The annual address was delivered by Hon. James W. Patterson, of Hanover, N. H.

Dr. Ariel Ballona, of Woonsocket, R. I., died on July 15th, at the age of eighty-two years. He was for fifty years a medical practitioner in Woonsocket. For many years he was prominent in the politics of the State.

Properly Equipped.—All the conductors on the Maine Central Railroad have been provided by the management of the road, with cases containing all the remedies to be used in cases of accident.

A Branch of the British Medical Association has been organized in Halifax, N. S. This is the first branch of the association in North America.

as a fact that Pasteur has devised a method by which animals can be given immunity against rabies. Furthermore, it is also claimed that, by means of serial inoculations, animals who have been bitten by rabid dogs can be kept from developing the disease. The confirmation by the Commission of these two claims of Pasteur implies that the earlier investigations were also substantiated, by which he discovered that the virus was contained in the spinal cord, that it could be transmitted by inoculation, that it was intensified by being transmitted

, contains only 1,920 [illegible] 1,400 physicians, so-called, in our city, are not recognized as such by the editor of the Register. These include homœopaths, eclectics, etc.

The Gross Medical College is the name of the newly organized Medical Department of the Rocky Mountain University, situated at Denver, Col. As Denver has a population of eighty thousand, and only one medical college, the need of a second is most apparent. The State of Colorado, also, having a population of over two hundred thousand, and only two medical colleges, plainly needs a third.

Sanitary Congress at Lima.—The Peruvian Government has invited the Republics of Central and South America to co-operate in the formation of a sanitary congress to be held at Lima, November 1st.

Civil Service Reform and Illiteracy at Buffalo.—According to the Buffalo *Medical and Surgical Journal*, the recent stir made by the County Society over the matter of preliminary education was brought about in an unexpected way. An examination was held by the Civil Service Commission for the position of District Health Physician. The medical applicants made such an extraordinarily poor showing in grammar, literature, etc., as to surprise the examiners and lead to the discussions which ended in action by the County Society.

The Treatment of Hysteric Cephalalgia by Compression.—At a recent meeting of the Paris Biological Society, M. Féré communicated a note on the above subject. Manual compression in such cases being too tiresome for the operator on account of the length of time required—half an hour or more—the author had recourse to a mechanical contrivance. The instrument best suited to the purpose consists of cushioned sacks, filled with shot, which may be formed into any conceivable shape. In this way a helmet may be made, producing any required pressure. In four cases cited by the author, satisfactory results were obtained by this method of treatment. When the pain, however, as often happens, is in both temples, the difficulties of compression are best overcome by means of a compressor provided with a spring, as constructed by M. Aubry.—*Sacramento Medical Times.*

The Old Building of the New York College of Physicians and Surgeons is to be occupied as a Business College.

Obituary.

JOSEPH C. HUTCHISON, M.D., LL.D.,

BROOKLYN, N. Y.

Dr. Joseph C. Hutchison, of Brooklyn, died of pneumonia, July 17th. He had been ill for over a month. Dr. Hutchison was born in Old Franklin, Mo., sixty years ago. He graduated in medicine at the University of Pennsylvania in 1848. After practising four years in Missouri he settled in Brooklyn and remained there, building up one of the largest practices in the city. He was a member of the Kings County Medical Society, and in 1864 was its president. He was also connected in various official capacities with the New York Medical Society, the New York Pathological Society, was a Fellow of the New York Academy of Medicine, and an honorary member of several Connecticut and New Jersey medical societies.

Dr. Hutchison gained his laurels in surgery, and since 1854 he was connected, at different times, with every hospital in Brooklyn. Previous to that time he had devoted himself to a study of cholera, and was physician in charge of the Cholera Hospital. He founded the Brooklyn Orthopedic Infirmary, and was its chief surgeon for many years. In 1860 he became Professor of Operative and Chemical Surgery in the Long Island College Hospital, and continued in that position for seven years. For three years, beginning in 1873, he served as Health Commissioner of Brooklyn. Several important works on surgery resulted from Dr. Hutchison's long study of the subject.

Dr. Hutchison was a delegate to the International Medical Congress, held in Philadelphia in 1867, and to that in London in 1881. In 1880 he received the degree of LL.D. from the University of Missouri.

Reports of Societies.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, April 27, 1887.

T. Mitchell Prudden, President, in the Chair.

Dr. Frederick Peterson (Poughkeepsie) presented portions of lungs from a case of

ANTHRACOSIS PULMONUM.

G. R——, sixty-seven years of age, and a worker in the cleaning-room of a stove foundry, fell dead in the street. Dr. Peterson was sent by the coroner to make a post-mortem examination, which took place five hours after death. The body was well formed and well nourished. *Rigor mortis* absent. The pupils were dilated. There was nothing abnormal about the brain.

Thorax: On opening this cavity both lungs were found bound to the chest-wall by old and strong adhesions. They were extraordinarily black over the whole surface, and strikingly hard and lobulated (very much like a cirrhotic liver, except that the nodules were larger). There were numerous patches of emphysema, the dilated and confluent air-vesicles being in places the size of peas. There was œdema to a great degree in both lungs. In the left pleural sac was about a litre of clear serum. The whole upper lobe of the right lung was one extremely hard tumor, like a fibroma, and perfectly black on cutting through it. In this tumor was a small abscess the size of a hazel-nut. When the hands were brought into contact with a freshly cut lung-surface, they became discolored and blackened, as if one were handling bone-black with wet fingers. The bronchi, bronchial tubes, and trachea had clean, white mucosæ. The mediastinal glands were greatly hypertrophied, wholly black with carbon, and very hard. The pericardium contained sixty cubic centimetres of clear serum. The endocardium was exceedingly fatty, somewhat hypertrophied, and dilated. This fatty metamorphosis was, of course, due to the condition of the lungs. The mitral, pulmonary, and aortic valves were somewhat thickened, and at the bases of the pulmonary and aortic lunulæ were small calcified patches, but not sufficiently large to produce stenosis of the orifices. There was an advanced general endarteritis deformans.

Abdominal cavity: The *spleen* was a little enlarged, hard, and very adherent to the diaphragm. The *liver* was small, very fatty, and everywhere strongly adherent to the diaphragm. There was chronic *gastric* catarrh. Both kidneys showed signs of senile atrophy. All the other organs were normal.

A certificate of death from fatty degeneration of the heart was made out. The most interesting pathological objects were the lungs, with their enormous quantities of carbonaceous matter, and also in the lymphatic glands in their neighborhood. Undoubtedly this carbon had caused fibrous phthisis, the pleuræ and peritoneum on the diaphragm subsequently becoming involved.

This man had worked in the cleaning-room of the stove works for thirty-one years. During all this period he had at no time manifested physical illness other than a "terrible morning cough," as his wife termed it. The cough he had had always while at this occupation. In this cleaning-room is brushed from the iron castings the charcoal dust which is used in their manufacture. The atmosphere of the room is so dense with carbon that one can scarcely see through it, and it is nearly irrespirable to one unaccustomed to it. There is also a small amount of sand in the air. ALL OF THE LARGE FORCE OF MEN EMPLOYED IN THIS ROOM SUFFERED FROM PULMONARY DIFFICULTIES. The case was interesting because it showed what devastation this occupation could cause in the lungs, and yet how assiduously one could pursue it without apparent shortening of his life. It was probable that this particular man had a fine constitution. But many others had spent a decade or more in the same room without further detriment than the bronchial catarrh and cough.

Dr. Ira Van Gieson presented a

KIDNEY CONTAINING A LARGE CALCULUS.

The main part of the stone was cylindrical, *five* centimetres long and one centimetre in diameter, and was lodged in the sinus of the organ, with two prolongations, each about one centimetre long, entering into calyces. There were indentations of the surface of the kidney corresponding to the position of the branches of the calculus in the calyces.

Dr. Van Gieson also presented specimens illustrating the lesions of

PHOSPHORUS-POISONING,

death occurring on the fourth day.

A middle-aged man, on February 1, 1887, dissolved a box of ordinary phosphorus matches in a glass of water and drank it. He entered Bellevue Hospital twenty-four hours afterward, where he was given tea, which he immediately vomited. He continued to vomit all medicine which was given him and died, February 4th, at noon, with slow respiration and jaundice.

Autopsy, twenty-four hours after death. The *heart* showed grayish-white patches near the ventricles; the valves were normal. Old atheroma in the aorta; small ecchymoses beneath the diaphragmatic pleura. *Lungs* œdematous and congested; *bronchi* trabeculated, and contain muco-pus. *Liver* enlarged, fatty, with slight increase of interstitial connective tissue. *Kidneys*. The capsules were adherent, the cortical markings distinct, the labyrinths grayish-white in color, and looked swollen. *Spleen* slightly enlarged. In the *stomach*, near the upper curvature and near the pylorus, there was an oval patch of erosion of the mucosa about three centimetres long; there were also smaller scattered erosions. In places the mucosa had a dull, grayish-white, thickened appearance. The mucosa of the *duodenum*, for a short distance beyond the pylorus, showed the same appearance, but there were no erosions. The *small intestine* and Peyer's patches showed chronic congestion. In the *trachea* the mucosa was covered with closely aggregated translucent elevations, looking like

MILIARY TUBERCLES.

These ceased at the bifurcation. At the bifurcation of the primary bronchi there were a number of deep pin-point erosions. The *œsophagus*, near pylorus, was covered with a brownish adherent film, and there were several small sharply defined erosions of the mucosa. Several of the cervical lymph-glands were of a deep-red color. The *mesenteric glands* were normal.

Microscopical examination.—In the *heart* fatty degeneration; the *lungs* showed the lesions of heart disease. In the *liver* the cells were swollen and contained fat droplets. The *kidneys* showed the lesions of parenchymatous degeneration. In places in the *stomach* the mucosa was nearly of normal thickness; in other places the thickness was much decreased; in places the principal cells of the follicles were swollen and granular, and completely filled the lumen of the follicle; in other places the principal cells were few in number, and the peptic cells were very numerous. With osmic-acid staining both varieties of cells showed minute fat-droplets. The epithelia of *Brunner's glands* were swollen and granular—as were the cells of the *pancreas* and the mucous glands of the trachea. It was the swelling of the latter cells which caused the prominent elevations of the mucosa. Sections from one of the bronchial glands showed miliary tubercles. The deep-red, cervical lymph-nodes showed a distention of the peri-follicular spaces and the lymph-sinuses of the medulla of the node, with red blood-cells,

and there was a notable decrease in the number of small round cells in these nodes. One of the bronchial glands exhibited the same appearance.

Remarks.—The following were the interesting features of the case: First,

THE VERY SELECT AREA OCCUPIED BY MILIARY TUBERCLES—NAMELY, ONLY ONE BRONCHIAL GLAND.

This showed one of the stages in the development of tuberculosis, and illustrated that constant breathing of tubercle-bacilli might, in some, set up tuberculosis of the bronchial glands. The second point of interest was the peculiar appearance presented by some of the cervical glands, as if a blood-vessel had ruptured into some of the lymph-channels, or the blood had been conducted into these glands and had lodged into the peri-follicular spaces and lymph-sinuses of the medullary portion. Specimens were exhibited under the microscope.

The stomach was interesting on account of the *increased number* of *peptic cells*, probably due to the stimulating effect of the phosphorus, and a conservative effort to supply the place of those that had been destroyed by the poison.

The President remarked that the specimens presented by Dr. Van Gieson showed remarkably well the lesions which had been described, and he regarded them as especially interesting in connection with the question of the absorption of pigment in the lungs, shown to such a remarkable degree in the specimens presented by Dr. Peterson.

LARYNGEAL, TRACHEAL, AND BRONCHIAL DIPHTHERIA—INTUBATION.

Dr. A. Brothers presented specimens from a case of diphtheria with the following history:

F——, aged nineteen months, was seen first on the morning of April 5, 1887. The boy had been suddenly taken sick during the previous night with symptoms of croup. At his first visit the temperature was 103° F. and respiration 35. The cough and breathing were distinctly laryngeal. There was moderate dyspnœa. with dilated nostrils. Dr. F. Huber, who saw the case at this time, expressed it as his opinion that the dyspnœa was in part pulmonary. An examination of the lungs showed dulness over the upper portion of the right lung. By night the difficulty in breathing had become decidedly worse.

THE THROAT SHOWED CONSIDERABLE MUCOUS DISCHARGE, BUT NO FALSE MEMBRANE.

There was marked retraction visible in the supra-clavicular and epigastric regions with each inspiration. The lips were beginning to be cyanotic. In view of the urgency of the symptoms, Dr. Brothers decided to intubate, and succeeded, after several attempts, in introducing the O'Dwyer tube. This was followed by the characteristic cough and immediate abatement of the dyspnœa. On the following day the temperature was 101° F. and breathing 35 per minute. The child had not slept much all night. On the 7th the child was decidedly worse. The temperature was 102½° F. and respiration 50. The dulness over the right lung had increased. On the 8th the temperature was 103½° F. and respiration 60. It was now impossible to nourish the child, on account of the severe paroxysms of cough caused by each attempt to swallow. During the night the child became worse, and died on the morning of the 9th—the fourth day after intubation. The treatment had consisted of bichloride of mercury (one-fourth grain in the twenty-four hours), brandy, antipyretics (antifebrin and antipyrin), and steam inhalations.

Autopsy.—This was made five hours after death, with the assistance of Dr. A. T. Joyce. An incision in the neck only was permitted. The portion of tonsils and pharynx removed presented no false membrane. The larynx with its contained tube was taken out, and showed the latter to be in proper position. The arytenoid cartilages were slightly eroded at those points which had served as support for the shoulder of the tube. The lower end of the tube was not obstructed by membrane. Its cavity contained a gelatinous material, probably a mixture of mucous and membranous débris. The larynx, trachea, and larger and smaller bronchi were lined by false membrane which could be peeled off. The lower lobe of the right lung was completely hepatized, so that a section of it in water at once sank to the bottom. The apex of the left lung was in a similar condition. There were no pleuritic adhesions. The other organs were not examined.

Dr. Brothers made a very careful examination of the smaller bronchi, but could not find evidence that any particles of food, after intubation was practised, entered the lungs. The epiglottis covered the tube, and there was evidence of pulmonary consolidation before the tube was introduced. The case did not speak against intubation, because there was evidence that false membrane was present in the smaller bronchial tubes before the tube was introduced, thus putting it in the class of cases in which the disease is almost always fatal.

Dr. Frank Ferguson presented a

FRESH SET OF SPECIMENS.

They were interesting on account of their freshness and the multiple lesions which they illustrated. They were taken from the body of a man forty-eight years of age, a native of Ireland, and a trunkmaker by occupation. He was admitted into the service of Dr. George P. Wheelock, attending physician to St. Luke's Hospital, on April 26, 1887, to whom he was indebted for the clinical notes and the opportunity to present the material. The patient never had rheumatism. When three years of age he had scarlet fever. His family history was negative. For a long time he used alcohol freely, taking it often before breakfast.

For years previous to his admission into the hospital he had swelling of his feet and lower part of the abdomen, lumbar pain, headache, visual disturbances, and dizziness.

Three weeks before his death his feet, scrotum, and abdomen became greatly swollen, which gradually increased until his death. He suffered greatly from dyspnœa, he became delirious, and died twenty-four hours after admission. He said at the hospital that he had passed no urine for four days, and no fæces for five days.

Autopsy.—There were one hundred and twenty ounces of serum in the peritoneal cavity, and a few ounces in each pleural cavity. There were four ounces of serum in the pericardium. The *heart* was large and soft, and its muscular tissue contained fat. The valves were competent. The *lungs* were congested and œdematons. The *spleen* was four times its normal size, and very soft. The *stomach* was very intensely congested. The mucous membrane was thickened, but its muscular wall was normal. The *kidneys* were firm in consistency, the capsules were not adherent, the surfaces were smooth, and the markings of cortex were quite distinct. There was fat in the straight tubes. The *liver* contained a very great quantity of fibrous tissue and fat. The *pancreas* was fatty and very firm in consistency. It was slightly larger than normal.

The Society then went into executive session.

Stated Meeting, May 11, 1887.

T. Mitchell Prudden, M.D., President, in the Chair.

MEASLES FOLLOWED BY PNEUMONIA.

Dr. W. P. Northrup presented specimens removed from the body of a child that died in the New York Foundling Asylum, and for the clinical history of the

case he was indebted to Dr. Meyers, house-physician. The child was brought in on May 3d, sick with measles, and it died of pneumonia on May 11th. There was only slight disturbance of respiration, and no symptoms of croup. What dyspnœa existed was supposed to be due to well-marked double pneumonia.

At the autopsy, which was performed very early, there was found false membrane from the tip of the nose to the terminal portion of the finest bronchi. In the larynx there was abundance of false membrane, and yet

THERE WAS NO EVIDENCE OF CROUP.

This point was interesting in connection with cases of measles which he had seen with croupy cough, and yet no false membrane was found. But, at the anterior commissure of the vocal cords there was found a small ulcer, which showed a slight amount of fibrin in the slough. If that was diphtheria, it was the only spot where it existed. In the measles cases there was marked croupy cough and loss of voice. In this case there was neither loss of voice nor symptoms of croup, and it was not suspected that there was any exudation in the larynx. The false membrane was also abundant in the trachea, and it could be distinctly traced into the lungs as a thick, tough membrane. The lower lobe of the left lung was nearly solid, and that of the right one presented the same appearance, and corresponded to the condition described as collapse. But he inflated the right lung, and the inflation was easily made complete. This had been given as

ONE OF THE CRUDE TESTS FOR ATELECTASIS,

and therefore, according to the test, the condition present should be that of atelectasis, and not of pneumonia. In no case, however, of diphtheria of the trachea and bronchi, where the lungs showed these elevated and depressed areas upon the cut surface, had he failed to find

EVIDENCE OF PARENCHYMATOUS PNEUMONITIS.

That is, in the alveoli were found pus, swollen epithelia, and occasionally fibrin.

This child was sick, from the third until the eleventh day of May, with measles and pneumonia. Within half an hour after death he drew urine from its bladder, and found that it contained albumen. It also contained casts in abundance, and the kidney was found to be the seat of parenchymatous nephritis. The kidneys were exceedingly anæmic—so markedly so that he suspected the pale appearance might be due to the rapid exsanguination caused by making the post-mortem so early. The lungs, also, were anæmic, except where the pneumonia existed. This he had seen before, but had never seen the peculiar pallor of the kidneys.

Dr. Northrup also presented specimens from a case of

GENERAL TUBERCULOSIS WITH HEMORRHAGES IN THE FLOOR OF THE LATERAL VENTRICLES, AND DILATED TUBERCULOUS BILE-DUCTS.

The child was aged two and a half years. No diagnosis was made. The complaint was that, on the day previous, it vomited. It was admitted at ten o'clock, had eleven convulsions, and died the next morning at 8.30 o'clock, never having recovered consciousness.

At the autopsy the cerebral convolutions were found very much flattened, the ventricles dilated and containing from four to six ounces of fluid, and on the floor of the lateral ventricles, beneath the ependyma, were found minute punctate hemorrhages. There were tubercles upon the ependyma and at the base of the brain. There were tubercles in the lungs, without consolidation.

The *liver* was very much enlarged, the bile-ducts were dilated, stained with bile, and had thickened walls surrounded by diffuse tubercular tissue. He had not seen this condition of the bile-ducts in adults, but he believed that it was present in the majority of cases of extensive tuberculosis in children.

Dr. Heineman remarked that the portions of lung involved in pneumonia in *children* were frequently below the level of the cut surface, which was one of the striking differences between the appearance of pneumonia in children and that of adults, where the portions involved were frequently *above* the level of the rest of the surface; that is, above the portions containing air.

Portions of these lungs become collapsed and settle below the level of the surrounding parts containing air, because the bronchi are involved and prevent expansion of these particular groups of acini; so that the collapse is simply an accident, and not of much importance, although it had been made much of. He was unable to see why the test should ever have been brought forward; that if a lung could not be inflated it was pneumonic, whereas a pneumonic lung could be inflated. If a little mucous plug at the terminal part of a fine bronchial tube could give rise to feeble respiration and prevent proper inflation during life, he was unable to see why a slightly increased force could not inflate it after death, as had been done in these lungs presented by Dr. Northrup, by applying a comparatively slight degree of force.

As to the anæmic condition of the kidney, he doubted if the mere fact of emptying the organs of blood by a sudden gush from the divided aorta had anything to do with the gross appearance which required the microscope for its solution.

Dr. Cheesman had seen the same pale appearance of the kidneys of rabbits that had been bled to death rapidly.

The President fancied that a good deal that had heretofore been said concerning the color of organs after death would have to be revised. He would ask Dr. Northrup if he had noticed any of the karyokinetic figures in his search for evidence that the new cells were produced from the epithelia of the alveoli.

Dr. Northrup said that he did not. He would inquire if this condition of the gall-ducts had been noticed in adults.

Dr. Heineman remarked that tubercle of the gall-ducts in adults was not common; perhaps for the same reason that in general tuberculosis, tubercles were usually very abundant in the liver of children, whereas in the adult liver only a few were found.

The Society then adjourned.

Syphilitic Broncho-pneumonia.—Drs. Balzer and Grandhomme have recently made several necropsies of syphilitic still-born infants, and the result of their examinations proves that syphilitic lesions which are caused by microbes, like other inflammation, do not appear to preserve any specific character in their evolutions. With regard to the lungs, syphilitic pneumonia may be classed with broncho-pneumonia, in the same degree as secondary pneumonia in acute infectious diseases, such as measles, or in chronic affections like tuberculosis. Syphilis in the fœtus assumes the different forms of broncho-pneumonia and other lesions according to its violence and the degree of its chronic stage. The authors classify these forms of broncho-pneumonia as follows: 1. Recent or slight broncho-pneumonia, including pulmonary congestion, and lesions which are not apparent on microscopic examination. 2. Broncho-pneumonia or agglomerated nuclei disposed in a vertical band at the posterior portion of the lungs. These forms correspond, with regard to lesions, to subacute forms of broncho-pneumonia of other infectious disease, and insensibly assume the following type: 3. Broncho-pneumonia with white hepatization, without dilatation of the bronchi, corresponding to the hepatization of other forms of broncho-pneumonia. It may lead to fibro-caseous or gummy degeneration. 4. Broncho-pneumonia accompanied by dilatation of the bronchi. In conclusion, it may be said that pulmonary syphilis is identical at different ages.—*American Lancet.*

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, June 7, 1887.

THE PRESIDENT, C. L. DANA, M.D., IN THE CHAIR.

DR. E. C. SEGUIN presented a case of

ABNORMAL CHOREA, WITH EJACULATORY NOISES.

The patient was a boy, twelve years of age, who for a long period had suffered from violent choreic movements, with ejaculatory noises. The disease had been but little modified by treatment. Several drugs had been used, and hyoscyamin had, within limits, controlled the symptoms. Two to five tablets, each containing $\frac{1}{100}$ of a grain, had been given per day, and the patient had borne this daily dose of $\frac{5}{100}$ of a grain without mydriasis or dryness of the throat. The patient was now under the observation of the Neurological Commission, and had had during the past week two operations upon his eye-muscles. As a theoretical explanation of the patient's condition, he suggested discharges from the motor area of the cortex. If ordinary chorea were assumed to be due to discharges from one or the other side, or from both simultaneously, it was but fair to assume that the laryngeal spasm and the ejaculatory language were also due to an appropriate cortical discharge—the words from an implication of the foot of the left third frontal convolution, the well-known region of Broca, and the laryngeal noise from the implication of the foot of the right third frontal convolution, as four recent autopsies had located the centre for the laryngeal muscles in this region.

DR. GRACE PECKHAM had a case of laryngeal spasm which had persisted during all but the most profound sleep, but which had yielded to hypnotism after resisting all other treatment. The patient was a woman, thirty-three years of age. The spasm involved the laryngeal muscles and the diaphragm, the sound being that of an exaggerated hiccough. Antispasmodics had had no effect. The metals were used, and zinc and copper each controlled the paroxysms for about a month, when their influence ceased. The patient was easily hypnotized, going into a profound sleep. At first the spasms were interrupted for an hour, later for several days, then for a week, and finally for a number of months, having been absent from February to the present time. The metals were used in the shape of a necklace of disks, one and one-half inch by one inch, a dozen being bound around the throat.

THE PRESIDENT referred to the case, similar to Dr. Seguin's, reported by himself and Dr. Wilkin, and described as tic convulsif. He thought the term chorea misleading in connection with this spasm, unless the fact of a large number of kinds of chorea were borne in mind. This spasm was etiologically distinct from the chorea of Sydenham; not only the muscles of one side, but associated muscles, such as the respiratory muscles, were affected.

Referring to Dr. Seguin's suggestion of a cortical discharge, he would add that Hughlings Jackson places the centre for ejaculatory language also in the foot of the right third frontal convolution.

DR. KELLOGG inquired whether Dr. Seguin's case differed in any way from the

CASES OF BARKING COUGH

known to be epidemic in some instances. In a Philadelphia boarding-school there had been a dozen cases at one time. They had been reported by Dr. Cohen. The sound made was the same.

DR. SEGUIN said that it should be borne in mind that the noise made in his case was but a degenerated form of the obscene utterances, or coprolalia, of four or five months ago. The speaker had seen several cases of barking, snorting, and hiccoughing chorea. He recalled a case from Kentucky, referred to him by Dr. Sayre, in which a sneeze, a snort, and a cough seemed combined. He did not consider this case identical with cases of that character.

DR. KELLOGG read a paper (see p. 106) upon

THE LARYNGEAL SPASM OF MUSICIANS AND SPEAKERS.

DR. STARR inquired why the condition described was not identical with that of hysterical aphonia. In the case of the singer referred to, certain co-ordinated movements of cortical origin were impossible. In hysterical aphonia all co-ordinated movements of cortical origin were impossible. Hysterical aphonia seemed to be the same condition exaggerated to suspension of all the functions of the cortical centres for the larynx.

DR. FISHER had had no experience with this affection of the larynx, but supposed it analogous to the similar affections of the face, lips, and tongue. He recalled the case of a man who had difficulty in talking. He did not stutter, but was unable to make the muscular movements necessary to form words.

DR. SEGUIN referred to the fact that early impairment of the laryngeal movements in the cases referred to was analogous to that of other professional movements, and should, he thought, be referred to a progressive lesion of the cortex, interrupting automatic associated paths, rather than to mere strain from muscular application. He referred to a pianomaker in the conscious stage of general paresis in whom this symptom was prominent.

DR. DANA stated that three cases similar to Dr. Kellogg's had been reported in literature. The first was that of a gentleman, aged forty-five, who had attacks of laryngeal spasm when attempting to use his voice professionally. These became more violent and were accompanied by dyspnœa; he could sing what he wished to say. In another case, reported by Dr. Hartman, a clergyman could only speak comfortably in a whisper. He suffered from spasm whenever he attempted a loud voice. A third case had been reported as one of "neugophonia."

DR. KELLOGG had no doubt of the analogy of spasmodic affections of the larynx to those of writers' cramp. Many cases would probably be recognized so soon as attention was directed to the subject. They would be more frequently seen by laryngologists, although belonging to the class of neurological disorders. The spasms might be mild or severe and clonic or tonic in character. They were, however, distinct from the expiratory spasm of laryngismus stridulus. Beginning general paresis should, of course, always be excluded in the diagnosis of a case. He had referred to the negro-minstrel in whom hyperkinesis and adductor spasm preceded other symptons of general paresis for some months.

THE PRESIDENT then reported for Dr. D. W. Bennett, of Brookhaven, Miss., seven cases of the so-called juvenile type of hereditary progressive muscular atrophy.

They formed the first examples of the type as yet observed in this country, and were striking illustrations of the hereditary character of the disease. The President referred to the fact that recent post-mortem observations had shown that there were two classes of progressive muscular atrophies, those of spinal and those of muscular origin. Omitting the pseudo-muscular hypertrophy group, the progressive muscular atrophies of purely muscular origin were grouped clinically into, first, the facial type, described by Duchenne as the progressive muscular atrophy of infancy; second, the scapulo-humeral type, described by Erb under the head of juvenile progressive muscular atrophy; and third, the peroneal type, beginning in the lower limbs, described by Tooth.

Dejerine and Landouzy had shown that the first and second classes were often united. Dr. Bennett's cases belonged to the scapulo-humeral type. The other cases referred to by the American observers, Dr. William A. Hammond and Dr. Osler, had belonged to the third or peroneal type.

In all of Dr. Bennett's cases the disease began in the

shoulder-girdle, attacking first one arm and then the other. It progressed very slowly, the average duration being forty years. The atrophy was limited in the last two generations to the shoulders and arms. In the first generation it had affected finally the lumbar and thigh-muscles. The health, apart from the atrophy was perfectly good. The disease was transferred to the third generation through the female. It became more acute in the last generation. Of three affected in the first generation, only one had children, showing a tendency for the disease and family to die out. There were no fibrillary contractions observed in any of the cases. In the first generation an uncle was born with only one arm. In the second generation there were seven sons and six daughters. Of these, two males and one female were affected. One of the males had children (number not given); the other two affected had no children. In the third generation one female and one male were affected. The former had seven healthy childen. The latter had thirteen children, eleven healthy and two diseased. In the fourth generation, therefore, there are now two affected and eighteen in health.

The President had inquired of a number of neurologists in and about the city without finding any further cases of this type.

Dr. Fisher asked how early the disease developed.

The President replied, in all before the age of twenty-one years. In this, also, it resembled the so-called juvenile type of Erb.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE REPORT OF THE HYDROPHOBIA COMMITTEE—THE DEGREE QUESTION—CHANGES AT THE UNIVERSITY—HOLIDAYS FOR DOCTORS—AN INTERNATIONAL CONGRESS ON INEBRIETY—THE HOSPITAL SUNDAY FUND—CASES OF SUNSTROKE.

London, July 9, 1887.

The report of the hydrophobia commission has caused not a little astonishment among the profession here. The tenor of the report is certainly calculated to excite some surprise. Pasteur's views are by no means universally accepted in this country, and even those who indorse them could scarcely have been prepared for the verdict of the committee. This verdict is an almost unreserved acceptance of Pasteur's theory. The committee have visited Paris, have watched Pasteur at work, and carefully investigated many of his past cases, the subsequent histories of many being followed up to date. Under the direction of the committee Professor Horsley has made experimental investigations on various points. As the result of their labors they enunciate the opinion that inoculations with the attenuated virus from the spinal cords of rabbits do confer immunity from the disease. This conclusion is strongly confirmed by the experiments performed by Professor Horsley in this country.

As to whether inoculations performed after infection with the virus of hydrophobia are curative and arrest the development of the disease the committee are evidently less decided. They have, however, carefully examined M. Pasteur's statistics and cases, and after eliminating every possible source of fallacy they have come to the conclusion that, even if not invariably successful, the method has at least been the means of saving many lives. They devote some space to considering the alleged dangers of the method. Those of Pasteur's ordinary method they regard as *nil*. They admit that the "intensive method" is attended with risk, but point out that this is partly counterbalanced by the fact that in the worst cases it is more efficacious. As preventives of rabies and hydrophobia the committee recommend the destruction, under certain conditions, of all stray dogs; that the keeping of useless dogs should be discouraged, by taxation or otherwise; that the importation of dogs from countries where rabies is prevalent should either be forbidden or only allowed subject to quarantine; and that, where rabies is prevalent, muzzles should be made compulsory, except for sheep-dogs and others similarly employed. The latter plan was carried out very extensively during the hydrophobia scare of last year. A police-order was issued applying to the whole of the metropolis. The destruction of stray dogs was at the same time carried out on a large scale, to the great comfort of many Londoners—especially those residing in the suburbs. After the report of the hydrophobia committee these orders may not improbably be renewed and extended. The committee remark that, should the protection by inoculation prove permanent, rabies could be suppressed by inoculating all dogs. They are careful to say that they do not think either that all dog-owners would adopt it or that it could be enforced on them. But for this remark one might be tempted to think the committee are intent on a joke. Supposing the procedure to be infallible, would it be possible to carry it out so thoroughly that no dog escaped? To do so would necessitate the establishment of several thousand public vaccination stations for dogs.

The degree question moves slowly onward. The Colleges of Physicians and Surgeons have agreed to combine and ask for a charter to confer degrees in medicine and surgery, and have refused to act in concert with University and King's Colleges in the matter. University College is therefore applying for a charter on its own account. This step was foreshadowed some time since by the part Professor Lankester and others took in the discussion on the subject. University College is, however, a house "divided against itself." Many members of its council view the proposed step with disfavor, as tending to injure the existing university in London, and have resigned their seats on the council. These have, it is true, been promptly filled up, but the secessions must tend to weaken the college, and where opinion is so divided, it is tolerably clear that the government is not likely to take any very decided step.

Concurrently with the changes in the council, but altogether independent of them and bearing no relation to them, numerous changes in the teaching staff have been going on. The retirement of Professor Williamson and Dr. Graily Hewitt, and the death of Dr. Wilson Fox, have caused vacancies, and a readjustment of professorial chairs has been going on. One result of this is that Mr. Victor Horsley, F.R.S., now becomes Professor of Pathology. Mr. Horsley may certainly be congratulated on the distinguished position he has attained. He is only about thirty years of age, and it is only six years since he took his degree at the University of London. He has held the position of Professor-Superintendent at the Brown Institution for some years.

The tropical heat from which we have been suffering during the past few weeks suggests the welcome reflection that the holiday season is at hand. Not to all alike though will it come. Many unfortunate practitioners will be unable to get away from the cares of practice until late in the autumn, and then only for a brief period. Some make a sort of compromise by going a little way from town and coming home for a day or two at intervals. Those who are able to go away for a long spell—say for two or three months at a time—and leave all cares behind during that period, are the few and far between. The late Sir Henry Holland took his annual holiday of three months, and kept up the custom for years, and a distinguished living obstetric physician does the same; but the inevitable loss of practice is too much for most physicians to face, and for most general practitioners the expense of a prolonged tour renders it out of the question. In Sir Henry Holland's case he

avoided holiday practice, but some physicians visit the Continental spas, and sometimes some of their patients make a point of accompanying them so as to continue under their treatment. A venerable physician of my acquaintance remarked once—speaking of holidays—that he formerly knew a medical man in very extensive practice who made a point of spending one day a week out of town. However numerous or important his engagements might be, he would never see anyone on a Wednesday, but would drive out in his carriage some little distance into the country and enjoy the *dolce far niente*. To this periodical recreation my friend attributed in a large degree the preservation of the health of the medical man in question. He carried on for years a large practice without ever being laid up by illness. At present the holiday season is for most of us merely an expectation. Realization has yet to come. In the meantime, in spite of the abnormal heat, most of the London doctors are going about their work as usual, and evince a great disinclination to depart from the ordinary garb of civilization. Black coats and tall hats still prevail. I have, it is true, ere now seen a hospital physician going his rounds in an alpaca coat, and, calling on a West End surgeon during consultation hours, have found him clad in a thin serge jacket; but these are merely the exceptions that prove the rule.

An international congress on inebriety and the special treatment and legislation required for inebriates was held on Wednesday last at the Westminster Town Hall, and was numerously attended.

The collections this year for the Hospital Sunday Fund have already realized about thirty-six thousand pounds. There are still some more to come in.

Cases of sunstroke are reported from various parts of the country.

ILLEGITIMACY AND CATHOLICISM.

To the Editor of The Medical Record.

Sir: In the editorial, "Illegitimacy in Europe," in a recent issue, I find quoted an opinion of L. A. Bertillon, that Roman Catholicism is the great coefficient of illegitimacy in Austria.

There is no one more opposed than I to the introduction of religious controversy into the pages of a medical journal; but since you have seen fit to publish the opinion referred to, I am warranted in claiming the privilege, even in a humble way, of defending the Catholic Church from this most unjust imputation.

When you quoted Bertillon's statement, why did you not also give his proofs? Was it because he had no proofs? I strongly suspect that the latter question is the only answer to the former. If that be so, there is no fair minded-man who will not doubt the accuracy of Bertillon's figures. The animus is patent; the wish in the statistician's heart is father to the thought.

In placing "Austria" in parenthesis you would, perhaps, have us draw the inference that the influence of the Catholic Church in that country is altogether exceptional; in fact, that she pursues one policy (of evil) in Austria, and another (of good) in the other countries in which she holds sway. It may be, however, that I misinterpret your use of the parenthesis. Be that as it may, I am happy to find that the same editorial contains, to some extent, though not to the extent that justice and fair play demand, a refutation of Bertillon's assertion. In the statistical list of illegitimacy in different countries therein contained, I find that the ratio of illegitimates to legitimates in Catholic Italy and Spain is much less than in that heaven-favored, perennial fountain of the good, the true, and the beautiful—Great Britain. I cannot help thinking the ratio you publish of that blessed land is too low. If correct, its lowness can be accounted for only on the principle that Ireland was included, though care is taken to conceal the fact. It is a matter of common observation that whenever England finds occasion to proclaim to the world her renown for martial deeds or her greatness in the realm of intellect, she makes a considerable draft on her "beloved Irish subjects" to swell the number of her eminent men.

It is not to be wondered at, therefore, if, in the present instance, finding the number of her legitimates proportionately small, she, with commendable spirit, falls back on Ireland to augment the quantum of virtue to which she claims title. I am sorry I have not the figures at hand, but I will make the assertion, without fear of contradiction, that in Ireland, whose inhabitants live more under the influence of Roman Catholic teaching than those of any other Catholic country, the ratio of illegitimate to legitimate births is less than in any other civilized land on the globe.

Thos. J. Kearney, M.D.

107 Lexington Avenue, June 22, 1887.

[Our correspondent is in error in supposing that we indorsed the views of Bertillon in the notice referred to. The statistics were compiled by Dr. Holland, and were simply quoted by us. All fair-minded men, we think, recognize the fact that the Catholic Church enforces, with all its power, the observance of sexual purity, and nowhere is the marriage-tie more sacred than among the members of that communion who are faithful to the teachings of their church.—Ed.]

COUNTRY DOCTORS AND THEIR METHODS.

To the Editor of The Medical Record.

Sir: The country doctor, with his traits, trials, and tactics, has furnished your columns some interesting reading. Barring the adjective, the following is fairly within the line:

Was within twelve miles of home, from a long professional jaunt up country. Was hailed from road-side to see a man who proved an old acquaintance, and former—barnacle! This man had a history with me. I knew him to be a mangy, malicious cur, so thoroughly canine that the physiological action of drugs on man didn't apply; who boasted a disbelief in doctors, but was first to call them; able to pay, but wouldn't; low by birth, habit, instinctively—just a *brute*, minus caudal appendage, all-fours, and needful hirsute.

At sight of him, however, the old score was forgotten, the soft side of the doctor came up. Plainly the man was ill, very ill, and a present sufferer; the sunken orbits, corrugated brows, pinched visage, and quickened breathing told this at a glance. A little talk developed that he'd had gonorrhœa some years before, degenerating into gleet; had undergone all kinds of handling, the one trouble being obstinate dysuria. For this he'd been burned, cut, and drawn, with aggravation of it all for net results. Some days before came a seizure unusually prolonged and severe, he passing, with great effort, just enough urine "to keep him from bursting," as he expressed it.

Exposing the parts, there presented a well-defined, dusky-red tumor in the perineum, painful, boggy to touch, but without evident fluctuation; œdematous scrotum and vivid red striæ up groin on either side; cyst uncomfortably full of urine. All this, added to general appearance already detailed, with temperature of 103°, and pulse seemingly growing tired of so much hurry, made a case. A No. 8 catheter, obstinately stopping at five or six inches, didn't improve the outlook.

Diagnosis, reluctantly arrived at: deep-seated, close urethral stricture, urinary extravasation, pus, and all that comes of it.

Preferably, 'twas a case for office, hospital—anywhere but the road-side; a case for help, anæsthesia, and appliances. But I was twelve miles in the country, five from nearest doctor, minus chloroform, staff—everything but scalpel, catheter, and things of minor mention. I be-

lieved in pus, but 'twas deep and couldn't be just nicked out. Too long delay was for the man to die; to operate, so scantily equipped, was, perchance, to kill him. To gain thinking-room and get topography of situation, sent messenger for five-mile doctor, his chloroform—for all he had that would help. Of course, he wasn't at home! The presumptuous wretch, oblivious of "surgical emergencies," aping the privileges of a freeman, had actually gone fishing! His good wife sent, with a note revealing her husband's depravity, a bottle of chloroform—that was all. But 'twas much in a dilemma, the one horn of which was centrally impaling me—gave me one more hand, at least.

Taking a plucky and fairly intelligent farm-hand into my service, gave him a hasty lesson in administration of chloroform by promptly anæsthetizing my patient. He neld him thereafter to operating-point handsomely. With a silver catheter for staff, so far, I did external urethrotomy without a guide. Dividing integument a sufficient length, on a line with raphe, a second incision passed through fascia, and beneath. No pus, but I believe 'twas there—it *had* to be now! A third and deeper cut now developed it; foul enough, and free for locality. Another incision opened urethra.

My diagnosis confirmed, I proceeded more confidently. Passing soft catheter through wound into cyst, drew off large quantity of offensive urine; reversing beak, it came promptly in contact with stricture, just in front of forward angle of wound. Extending incision last made, with probe-pointed bistoury, the stricture was divided.

Nothing remained but the dressing, which was simple enough—a soft catheter in cyst, brought out at wound, the necessary drainage, half grain morphine in rectum, by means of large capsule, cleanliness, etc.

This last is but a routine expression; to talk of possible cleanliness in the case is to know nothing about it. Luckily, antisepsis wasn't so imperative then as now. Otherwise, less than a regiment of veritable scavengers wouldn't have cleansed the premises and cleared operator of the law. Frankly, things were open to the suspicion of being dirty.

This man, with the further attention given, got well without an ugly symptom. Of course he did—first, because such material, obedient to some occult law governing the "fitness of things," rarely succumbs to other than a special dispensation of Providence. Again, and for some further wise purpose, ingratitude and the seemingly correlevant poetry of motion required a demonstration. So it was. Under the friendly cover of one opportune night, he shouldered his load of sin, together with other mobile effects, and hied him to the far West, there to further swell some fluxional movement by the dumb occupancy of useless space. As if the average doctor isn't always more than glad to take it all out in glory!

This little history wouldn't be complete without the relation of a coincidence.

On the very day I was thus playing Samaritan, a most excellent surgeon came to my little city from a larger, skilfully performed an operation wonderfully like my own, and gracefully pocketed a well-earned fee of $250.

I wish to disavow any real bitterness in the premises; trust I'm too well up in the beautiful theories for that, even in view of the coincidence!

And there's really nothing in all this—wouldn't be, at least, in one's office with a clever assistant and all the *jurantia*. Confessedly, however, I've done worse, with ample means for doing better. But it does give one instance more of how things are sometimes done in the country, net cash assets and all.

Very respectfully,

A. G. Browning, M.D.

Maysville, Ky., May 12, 1887.

Professor Flügge, of Göttingen, has been appointed to a newly established chair of hygiene in the University of Breslau.

Army News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from July 10 to July 16, 1887.

Heger, A., Lieutenant-Colonel and Surgeon. Ordered to Fort Columbus, N. Y. H. S. O. 156, A. G. O., July 8, 1887.

Janeway, J. H., Major and Surgeon. Ordered to Benicia Barracks as Post Surgeon, also as Attending Surgeon at Benicia Arsenal, Cal. S. O. 156, A. G. O., July 8, 1887.

Birmingham, H. P., Captain and Assistant Surgeon. Ordered to Fort Myer, Va. S. O. 156, A. G. O., July 8, 1887.

Woodruff, C. E., First Lieutenant and Assistant Surgeon. Ordered to Fort Mackinac, Mich. S. O. 156, A. G. O., July 8, 1887.

Winne, C. K., Captain and Assistant Surgeon. Ordered to Fort Wadsworth, N. Y. H. S. O. 156, A. G. O., July 8, 1887.

Havard, Valery, Captain and Assistant Surgeon. Ordered to Fort A. Lincoln, Dak. Ter. S. O. 156, A. G. O., July 8, 1887.

Maus, L. M., Captain and Assistant Surgeon. Ordered to Fort Schuyler, N. Y. H. S. O. 156, A. G. O., July 8, 1887.

Girard, J. B., Captain and Assistant Surgeon. Ordered to Fort Lowell, Ariz. Ter. S. O. 156, A. G. O., July 8, 1887.

Poindexter, J. D., First Lieutenant and Assistant Surgeon. Ordered to Camp Poplar River, Mon. Ter. S. O. 156, A. G. O., July 8, 1887.

Macauley, C. N. B., First Lieutenant and Assistant Surgeon. Ordered to Fort Gibson, Ind. Ter. S. O. 156, A. G. O., July 8, 1887.

Byrne, C. B., Captain and Assistant Surgeon. Ordered to Washington Barracks, D. C. S. O. 156, A. G. O., July 8, 1887.

Wilcox, T. E., Captain and Assistant Surgeon. Ordered to Fort Niobrara, Neb. S. O. 156, A. G. O., July 8, 1887.

Lippincott, H., Major and Surgeon. Ordered to Fort Union, N. M. S. O., 156, A. G. O., July 8, 1887.

Cleary, P. J. A., Major and Surgeon. Ordered to Fort D. A. Russell, Wyo. Ter. S. O. 156, A. G. O., July 8, 1887.

Caldwell, D. G., Major and Surgeon. Ordered to Fort Assiniboine, Mon. Ter. S. O. 156, A. G. O., July 8, 1887.

Torney, G. H., Captain and Assistant Surgeon. Ordered to Fort Robinson, Neb. S. O. 156, A. G. O., July 8, 1887.

Reed, Walter, Captain and Assistant Surgeon. Ordered to Mount Vernon Barracks, Ala. S. O. 156, A. G. O., July 8, 1887.

Patzki, J. H., Captain and Assistant Surgeon. Ordered to Fort Huachuca, Ariz. Ter. S. O. 156, A. G. O., July 8, 1887.

Ebert, R. G., Captain and Assistant Surgeon. Ordered to Fort Custer, Mon. Ter. S. O. 156, A. G. O., July 8, 1887.

Pilcher, J. E., First Lieutenant and Assistant Surgeon. Ordered to Fort Monroe, Va. S. O. 156, A. G. O., July 8, 1887.

Gardiner, J. de B. W., Captain and Assistant Surgeon. Ordered to Fort Washakie, Wyo. Ter. S. O. 156, A. G. O., July 8, 1887.

CHAPIN, A. R., First Lieutenant and Assistant Surgeon. Ordered to Newport Barracks, Ky. S. O. 156 A. G. O., July 8, 1887.

FORWOOD, W. H., Major and Surgeon. Ordered to Fort Snelling, Minn. S. O. 156, A. G. O., July 8, 1887.

PERLEY, H. O., Captain and Assistant Surgeon. Ordered to Fort Wayne, Mich. S. O. 156, A. G. O., July 8, 1887.

MATTHEWS, W., Captain and Assistant Surgeon. Assigned as member of Army Retiring Board at Washington, D. C., and relieves Captain J. O. Skinner, Assistant Surgeon. S. O. 159, par. 2, A. G. O., July 12, 1887.

MAUS, L. M., and PERLEY, H. O., Captains and Assistant Surgeons. Ordered to accompany the Eleventh Infantry in changing station from Department of Dakota to Department of the East. S. O. 158, A. G. O., July 11, 1887.

GARDNER, E. F., Captain and Assistant Surgeon. Ordered to accompany the Twelfth Infantry from Madison Barracks to Duluth, and to return with Eleventh Infantry. S. O. 143, Division of the Atlantic, July 13, 1887.

EBERT, R. G., Captain and Assistant Surgeon. Will, in changing station from Fort Hamilton, N. Y. H., to Fort Custer, Mont. Ter., accompany the Twelfth Infantry from Department of the East to Department of Dakota. S. O. 159, A. G. O., July 12, 1887.

WALKER, F. V., First Lieutenant and Assistant Surgeon. Granted leave of absence for four months. S. O. 160, A. G. O., July 13, 1887.

CABELL, JULIAN M., First Lieutenant and Assistant Surgeon. Ordered for duty as Medical Officer at Department of Rifle Camp near Bellevue, Neb., August 1st next. S. O. 66, Department of the Platte, July 8, 1887.

A board of medical officers, to consist of Major J. S. BILLINGS, Surgeon; Captain W. MATTHEWS, Assistant Surgeon, and Captain F. C. AINSWORTH, Assistant Surgeon, is constituted to meet in this city for the examination of a candidate for admission to the Medical Corps of the Army. S. O. 157, A. G. O., July 9, 1887.

Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending July 16, 1887:

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	13	7
Scarlet fever	44	7
Cerebro-spinal meningitis	4	4
Measles	30	10
Diphtheria	103	44
Small-pox	3	1
Yellow fever	0	0

ACTION OF DRUGS IN GASTRIC MOVEMENTS.—Some excellent researches are still in process of conduction by Schütz, on the action of some medicaments on the movements of the stomach. Emetine, tartar emetic, apomorphine, strychnine, in a less degree caffeine, veratrine, chloride of barium, nicotine, and pilocarpine in small doses, act as direct excitants of movements of the stomach, which become spontaneous and of abnormal character (*The Lancet*). Muscarine directly stimulates the terminal ramifications of nerves, in causing generalized contractions of the stomach. Physostigmine, digitaline, scillitine, and helleborine produce an increase in the excitability of the muscular coats in such a fashion that the stomach at a given time is agitated by generalized and prolonged contractions. Actual paralysis of the auto-motor centres has not been observed, but chloral, urethane, morphine, pyrophosphate of zinc, arsenic, as well as nicotine and pilocarpine, in large doses, have caused weakness of the gastric contractions. Paralysis of the terminal branches of the nerves has only been obtained by atropine. Ether and chloroform suppress the excitability of all the innervation apparatus, but only during the time when the stomach is exposed to the direct action of the vapors. During anæsthetic sleep the gastric movements are not influenced.

ACIDS OF THE STOMACH IN HEALTH AND DISEASE.—Drs. Cahn and Von Mering (*Ann. de la Société Médico-Chirurg. de Liége*) have lately been investigating the subject of the acids present in the stomach in health and in disease. They find that: 1. The quantity of lactic and hydrochloric acid in the stomach can be determined. 2. In the healthy subject, hydrochloric acid is found in the stomach half an hour after taking food. 3. Under a diet consisting exclusively of meat, hydrochloric acid alone is found. 4. Under a mixed diet, the stomach, whether healthy or diseased, contains hydrochloric, lactic, and volatile acids, in quantities varying according to the length of time the food remains in the stomach. 5. In fever and anæmia, hydrochloric acid may be wanting; but it is always present in amyloid degeneration, and it is only exceptionally absent in carcinoma of the pylorus. Violet of methylaniline does not form a reliable test for the presence or absence of hydrochloric acid in the stomach.

RUMINATION IN MAN.—A communication was recently made by M. Le Juge de Segrais to the Société Médicale de l'Elysée concerning rumination in the human subject. The author records a case, observed by Johannesen, of a peasant, aged twenty-seven, who was subject to frequent epistaxis. He chewed his food imperfectly, and it returned to his mouth automatically from five to fifteen minutes after meals; he then masticated it a second time, the proceeding being attended with a pleasurable sensation. Rumination lasted from fifteen to forty minutes. After a slight meal, or when the man was angry, these phenomena did not appear. Recently the patient suffered from dyspepsia, with tenderness in the epigastric region. The stomach was washed out and the indigestion was relieved, but the rumination continued. The case observed by M. Le Juge de Segrais himself differed from the one above described in that there was no second mastication. The patient, a child, aged eleven, had contracted the habit of causing food to return into the mouth, in order to renew the pleasure of anything the taste of which he liked. In order to effect this, he first recalled the taste of whatever he had most enjoyed in his meal, then held his breath, and, by contraction of the abdominal muscles, brought the particular thing which he wished to taste again up into the mouth; he occasionally did this a second time. On examination, the stomach was found to be slightly dilated, but made no rumbling sound; the child was pale and rather anæmic. His parents had tried every means of curing the habit. When a young child he lived in the country, and milk was his principal article of diet; the stomach became overloaded, and regurgitation ensued. The child became accustomed to these regurgitations, which finally caused a pleasurable sensation, and the habit of rumination was thus established.—*Journal de Médecine de Paris.*

THE CHINESE AND COLD BATHS.—In the northern parts of China it is the custom to use only warm water for bathing purposes, and an attempt, which was made not long ago, to induce the people to use cold water, for the face at least, on the ground that it was more conducive to health, was strenuously opposed by the people, who are accustomed to look on cold water as a medicinal agent, and to be used only in cases of great necessity.

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Original Articles.

NEURO-MYOLOGY:

CLASSIFICATION OF THE MUSCLES OF THE HUMAN BODY WITH REFERENCE TO THEIR INNERVATION, AND NEW NOMENCLATURE OF THE MUSCLES.

BY ELLIOTT COUES, M.D.,

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AND

D. K. SHUTE, M.D.,

PROSECTOR OF ANATOMY, NATIONAL MEDICAL COLLEGE.

(Continued from page 98.)

III. THE MUSCLES OF THE NECK.

Innervated by deep branches of anterior divisions of cervici-spinal nerves.

1. **Majori-rectus.** ["Rectus capitis anticus major."]
2. **Minori-rectus.** ["Rectus capitis anticus minor."]
3. **Lateri-rectus.** ["Rectus capitis lateralis."]
4. **Colli-longus.** ["Longus colli."]
5. **Ante-scalenus.** ["Scalenus anticus."]
6. **Medi-scalenus.** ["Scalenus medius."]
7. **Post-scalenus.** ["Scalenus posticus."]

These muscles bend the neck forward, bend the head forward upon the neck, and raise the ribs. No. 4 is strictly vertebral (prevertebral); but its connection with "anterior tubercles" of transverse processes of cervical vertebræ, that is, with pleurapophysial elements, shows its intimate relation with the scalene or costo-vertebral muscles, Nos. 5, 6, and 7. The three upper muscles, Nos. 1, 2, and 3, are cranio-vertebral. These are innervated from the upper cervical nerves which form the *cerviciplex;* more exactly, by three branches from the first cervical nerve, before it joins the plexus. The four lower muscles are innervated from the lower cervical plexus or *brachiplex;* but the scaleni also get some supply from higher up. The *lateri-rectus*, or "rectus lateralis," extending from the transprocess of the atlas to a transverse portion of the occipital bone, is by position like an "intertransverse" spinal muscle; but it is hypaxial, not epaxial.

It may be observed, that those muscles of this group which are supplied from the lower cervical nerves are innervated by branches given off *before* these nerves are plaited into the brachiplex.

IV. THE MUSCLES OF THE CHEST.

(*a*) *Innervated by the phrenic nerve, etc.*

1. **Diaphragma.**

The most remarkable and important voluntary muscle of the body, primarily innervated from several *cervici-spinal* nerves, far from the site of the muscle itself; also from several lower intercostal or *thoracispinal* nerves, and moreover from the diaphragmatic *sympathetiplex.* The physiological activity of the muscle is as extensive and diverse as its innervation, being concerned in respiration, circulation, parturition, and defecation.

(*b*) *Innervated by upper intercostal (suprathoracic) nerves.*

2. **Extracostales.** ["Intercostales externi."]
3. **Intracostales.** ["Intercostales interni."]
4. **Infracostales.**
5. **Sterno-costalis.** ["Triangularis sterni."]

These are among the many muscles of respiration. They are all more or less perfectly intercostal, that is, represent myocommas between and separated by ribs. The "upper intercostal nerves" are a convenient grouping of the superior set of *thoracispinal* nerves, being those mainly confined to the thorax. The *supracostales* or so called "levatores costarum" are innervated by posterior, not anterior divisions of the *thoracispinal* nerves, and are therefore epaxial. (See muscles of the back.)

V. THE MUSCLES OF THE BELLY.

Innervated by lower intercostal (infrathoracic) and lumbiplexal nerves.

1. **Extrobliquus.** ["Obliquus abdominis externus."]
2. **Introbliquus.** ["Obliquus abdominis internus."]
3. **Transversus.** ["Transversalis abdominis."]
4. **Quadratus.** ["Quadratus lumborum."]
5. **Intrarectus.** ["Rectus abdominis."]
6. **Extrarectus.** ["Pyramidalis."]
7. **Cremaster.**

Muscles of respiration, parturition, and defecation, and likewise flexors of the trunk. They are closely related to intercostals, chiefly differing in not being broken up into myocommas by intervening ribs. Their innervation corresponds to that of the intercostals, being from successive lower *thoracispinal* nerves and some of the *lumbi-spinal* nerves from the *lumbiplex*, as the "ilio-hypogastric," "ilio-inguinal," and others.

VI.—THE MUSCLES OF THE PERINÆUM.

Innervated by pudic nerve from sacriplex.

1. **Ani-sphincter.** ["Sphincter ani externus."]
2. **Ani-levator.** ["Levator ani."]
3. **Transperinæus.** ["Transversus perinæi."]
4. **Peni-rector** (or **Clitoridi-rector**). ["Erector penis" (or "Erector clitoridis").]
5. **Urin-accelerator.** ["Accelerator urinæ."]
6. **Urethri-pressor.** ["Compressor urethræ."]

A very special group of muscles developed in connection with the urogenital and digestive systems, innervated by the pudic or perinæal nerve from the *sacriplex.* Though attached to the hip-girdle, these muscles are not otherwise related to those of the posterior extremity.

VII.—THE MUSCLES OF THE TAIL.

Innervated by coccygeal nerves.

1. **Coccygeus.**

This is a *hypaxial* muscle; it is *axial* in so far as it agrees with other axial muscles, as those of the abdomen, which are, nevertheless, attached to the hip-girdle; in which latter respect the coccygeus is *appendicular.* It is also the only vestige in man of various large muscles which in some other animals pass from the *coccygispinal* or caudal region of the *spinicolumn* to the pelvis, to the thigh, or even to the leg below the knee. For the present we let it stand by itself.

C.—HYPAXIAL APPENDICULAR MUSCLES.

Innervated by anterior divisions of spinal nerves (or by the accessispinal nerve); and appendicular.

These are the muscles of the limbs, obviously divided into those of the Anterior Extremity, fore-limb, or arm, and those of the Posterior Extremity, hind limb, or leg.

VIII.—THE MUSCLES OF THE ANTERIOR EXTREMITY.

Innervated by the accessispinal nerve and by the brachiplex.

1. CRANIACROMIAL GROUP.

Innervated by the accessispinal nerve.

1. **Sterno-cleido-mastoideus.**
2. **Trapezius.**

Notwithstanding the partial sternal insertion of one of these muscles, they are incontestibly appendicular muscles of the anterior extremity. They are scarcely more than parts of one great *craniacromial* muscle by which the shoulder-girdle, and so the whole fore limb, is attached to the head. The great extent of the trapezius also attaches the limb to a large part of the *spinicolumn*. The only other attachment of the fore-limb to the head is slight and incidental, by means of the omo-hyoid, which belongs to the hyoidean group. The prime and main innervation of the *craniacromial* group is by the *accessispinal* nerve, which, it may be observed, arises from the *spinichord*, low down in the cervical region, opposite the *brachiplex*, whence the fore-limb derives most of its nerve-supply. The great length and breadth of these craniacromial muscles attracts additional innervation from some other sources, notably from deep external branches of the *cerviciplex*.

2. THORACACROMIAL GROUP.

Innervated from lower cervical nerves before these form the brachiplex.

1. **Clavicularis.** ["Subclavius."]
2. **Dorsi-scapularis.** ["Rhomboideus major" et "minor."]
3. **Cervici-scapularis.** ["Levator anguli scapulæ."]
4. **Costo-scapularis.** ["Serratus magnus."]
5. **Coraco-pectoralis.** ["Pectoralis minor."]

A group well-marked in several respects. In the first place, all these muscles get their nerve-supply from lower cervical nerves before the *brachiplex* is fairly formed. Secondly, they are all "short"[1] muscles, connecting the shoulder-girdle with the neck, back, and chest, none of them going on to the humerus. All the nerves to these muscles come off from the forming *brachiplex* above the clavicle, excepting that to the *coraco-pectoralis*. The *cervici-scapularis* attracts additional innervation from deep branches of the *cerviciplex*, owing to its extension in the neck. The so-called "levator anguli scapulæ" and "serratus magnus" really form but a single muscle, extending from pleurapophysial elements of vertebræ, (that is, from anterior tuberlces of cervical vertebræ in the neck, and from ribs in the thorax) to the vertebral border of the scapula; in some animals they are obviously one indivisible plan of muscular fibres, forming a *musculinteger*.[2] The *coraco-pectoralis* is intermediate between the *clavicularis* and the *pectoralis* ("pectoralis major"); it agrees with the former in position and relations (rib to shoulder-girdle), but is innervated by a *brachiplexal* nerve from a different part of the plexus.

The craniacromial and thoracacromial groups of muscles together move the shoulder-girdle in every direction, but especially upward and backward. The movements are reducible in ultimate synthesis to circumduction about the sterno-clavicular articulation as a pivotal point. The *costo-scapularis* is a powerful respiratory muscle.

3. ACROMIAL GROUP.

Innervated directly from the brachiplex.

In this group the innervation is from the midst of the *brachiplex*, that is, after the plexus is fairly formed, and before it is resolved again into the four main nervous chords which are to go along the arm. The muscles agree with one another, moreover, in all going to the upper part of the humerus, at or near the shoulder-joint. But they come from different origins, as far remote, in man, as the sternum and even the sacrum, as opposite as epaxial and hypaxial regions of the body; while some are "long" muscles, coming from the trunk, past the shoulder-girdle, to the arm, others are "short" muscles, coming directly from the shoulder-girdle to the humerus. This renders it expedient to divide the acromial group into subgroups. On the whole, this group is nearest related to the posterior cord of the plexus.

(*a*) *Pectoral Subgroup.*

1. **Pectoralis.** ["Pectoralis major."]

The great sterno-cleido-humeral muscle, innervated from the upper cord of the *brachiplex*.

(*b*) *Dorsal Subgroup.*

2. **Dorsalis.** ["Latissimus dorsi."]

The great vertebro-humeral muscle. Notwithstanding its enormous extent on the back, this muscle is closely allied with the *subscapularis* by its innervation by the long subscapular nerve from the posterior cord of the *brachiplex*.

(*c*) *Acromial Subgroup.*

3. **Acromialis.** ["Deltoideus."]

An acromio-clavicule-humeral muscle, passing farther along the humerus than any other of the *acromial group*, in position related to the *pectoralis*, by innervation allied to the *infrascapularis;* supplied by circumflex branches from the posterior cord of the *brachiplex*.

(*d*) *Scapular Subgroup.*

4. **Prescapularis.** ["Supra-spinatus."]
5. **Postscapularis.** ["Infra-spinatus."]
6. **Infrascapularis.** ["Teres minor."]
7. **Subscapularis.** ["Subscapularis."]
8. **Teretiscapularis.** ["Teres major."]

These are all scapulo-humeral muscles, and all are "short" muscles, proceeding directly from the scapula to the upper part of the humerus. Those upon the dorsum of the shoulder-blade are innervated by supra-scapular branches from the upper cord of the brachiplex; the rest by subscapular and circumflex branches from the middle or posterior cord of the brachiplex. The *infrascapularis* is related by origin and insertion to the *postscapularis*, but by innervation it is singularly allied to the *acromialis*, an apparent anomaly, not easy to explain. The *teretiscapularis* and *subscapularis* are clearly related to each other both by position and innervation; and in the latter respect both agree also with the *dorsalis* ("latissimus dorsi").

The muscles of the acromial group collectively circumduct and rotate the humerus, besides having sundry other effects.

All the remaining muscles of the anterior extremity are innervated from the four main cords,[1] into which the

[1] "Short" and "long" muscles.—A *short* muscle is one which lies on only two segments of a limb, *i.e.*, passes over only one joint. A *long* muscle is one which lies on more than two segments, and passes over two or more joints. Thus, the coraco-brachialis is a *short* muscle: the biceps-brachialis is a *long* muscle. Short muscles have as a rule but one function, whether of flexion or extension, long muscles, an additional reciprocal function. Thus the antico-brachialis simply flexes the forearm: the biceps-brachialis flexes the forearm and reciprocally extends the arm.

[2] Since this paper was written, we have found in the human subject, and publicly demonstrated, the connection between the "Levator anguli scapuli" and "serratus magnus," by means of anomalous additional slips of origin of the former from several lower cervical vertebræ, so that the two supposed muscles constituted an almost continuous single muscle. In some animals, as the opossum, the two muscles are inseparably one, as pointed out many years ago by Dr. Coues in his treatise on the myology of that animal.

[1] These nerves ought to be renamed. "Musculo-cutaneous" is no distinctive name, for it implies what nearly all nerves do—seek the skin after supplying muscles. Besides, there is another nerve of the same designation in the leg, in nowise related to that on the arm.

brachiplex is now resolved—"musculo-cutaneous," "musculo-spiral," "median," and "ulnar."

4. BRACHIAL GROUP.

Innervated from "musculo spiral" and "musculo-cutaneous" nerves.

These are the muscles which lie upon the upper arm.

(*a*) *Pre brachial Subgroup.*

Innervated by musculo-cutaneous nerve.

1. **Coraco-brachialis.**
2. **Biceps-brachialis.** ["Biceps."]
3. **Antico-brachialis.** ["Brachialis anticus."]

The extensors of the upper arm and flexors of the forearm. Innervation definite, and absorbing all the motor power of the nerve which supplies this group; the *antico brachialis* often attracting some additional supply from the "musculo-spiral" nerve. The *coraco-brachialis* is a "short" muscle, only extending the humerus; the *antico-brachialis* is a "short" muscle, only flexing the forearm, constituting its ulnar flexor; the *biceps-brachialis* is a "long" muscle, scapulo-radial, extending the upper arm, and flexing and also supinating the forearm, of which it is the radial flexor.

(*b*) *Post-brachial Subgroup.*

Innervated by "musculo-spiral" nerve.

4. **Triceps-brachialis.**
   - (4*a*) **Extra-triceps.** ["Outer head of the Triceps."]
   - (4*b*) **Medi-triceps.** ["Middle or long head of the Triceps."]
   - (4*c*) **Intra-triceps.** ["Inner head of the Triceps."]
5. **Anconeus.**
6. **Sub-anconeus.**

The triple extensor of the forearm. The *medi triceps* is a "long" muscle, scapulo-ulnar, flexing the upper arm as well as extending the forearm. The *extra-triceps* and *intra-triceps* are "short" muscles, humero-ulnar. The *anconeus* is a prolongation of the *extra-triceps*. The so-called *sub anconeus* is a slight detachment of the triceps, inserted in the elbow-joint.

5. CUBITAL GROUP.

Innervated from musculo-spiral, median, and ulnar nerves.

These are the muscles of the forearm, which (a) flex the forearm, (b) pronate and supinate the forearm, (c) flex and extend the hand and fingers. The musculo-cutaneous nerve having been exhausted of motor power higher up the arm, there are left only the continuations of three cords from the *brachiplex*. These are practically *radial*, *median*, and *ulnar*. (What is meant here by *radial* is the continuation of the musculo-spiral, giving off its "muscular branches" and dividing into two main branches, the so-called "radial" and the *post-cubital*.) According to our views, the many muscles of the forearm ought to fall in *two* primary regions, as in fact they do.

(1. POST-CUBITAL REGION.)

Innervated from "musculo-spiral" nerve and its continuations.

This is the "back of the forearm," where are situated all the cubital extensor muscles of the hand and fingers, and with these the supinators.

(*a*) *Supinator Subgroup.*

1. **Longi-supinator.** ["Supinator longus."]
2. **Brevi-supinator.** ["Supinator brevis."]

These are "short" muscles, humero-radial. The long supinator arises so high up on the *ectocondylar* ridge of the humerus that it gets its nerve direct from the musculo-spiral: it is more powerful as a flexor than as a supinator of the forearm. The short supinator has its nerve from the *postcubital* division of the "musculo-spiral."

(*b*) *Extensor Subgroup.*

(Metacarpal extensors.)

3. **Extensor longi-radialis.** ["Extensor carpi radialis longior."]
4. **Extensor brevi-radialis.** ["Extensor carpi radialis brevior."]
5. **Extensor ulnaris.** ["Extensor carpi ulnaris."]

(Digital extensors.)

6. **Extensor digitorum.** ["Extensor digitorum communis."]
7. **Extensor indicis.**
8. **Extensor minimi.** ["Extensor minimi digiti."]

(Pollical extensors.)

9. **Extensor meta-pollicis.** ["Extensor ossis metacarpi pollicis."]
10. **Extensor primi-pollicis.** ["Extensor primi internodii pollicis."]
11. **Extensor secundi-pollicis.** ["Extensor secundi internodii pollicis."]

It will help to recall the nine extensor muscles whose tendons pass over the back of the wrist, to group them by threes—three to the metacarpus, three to the thumb alone (including its metacarpal), and three to the other digits. The *extensor longi-radialis* arises so high up on the humerus that it gets a nerve direct from the "musculo-spiral"; but all the rest are supplied from the *post-cubital* division of that nerve after it has given off the radial. All the extensors of the thumb and forefinger arise from the back of the forearm, and are *cubiti-digital;* all the others from the *ectocondyle* of the humerus; and these are either *humero-metacarpal* or *humero-digital.*

(2. ANTECUBITAL REGION.)

Innervated by median and ulnar nerves.

This is the "front of the forearm" where are situated all the cubital flexor muscles of the hand and fingers, and with them the pronators.

(*a*) *Pronator Subgroup.*

1. **Tereti-pronator.** ["Pronator radii teres."]
2. **Quadrati-pronator.** ["Pronator radii quadratus."]

These are "short" muscles, humero-radial and ulno-radial; both are innervated from the median, the round pronator directly, the square pronator by a branch from the *antecubital* nerve.

(*b*) *Flexor Subgroup.*

(Metacarpal flexors.)

3. **Flexor radialis.** ["Flexor carpi radialis."]
4. **Flexor palmaris.** ["Palmaris longus."]
5. **Flexor ulnaris.** ["Flexor carpi ulnaris."]

(Digital flexors.)

6. **Flexor perforans.** ["Flexor profundus digitorum."]
7. **Flexor perforatus.** ["Flexor sublimis digitorum."]
8. **Flexor pollicis.** ["Flexor longus pollicis."]

The bulk of the flexor system is much greater than that of the extensor, but the muscles are fewer by three, and in only two sets instead of three sets. Thus there is but one radial carpal flexor, whereas there are two radial carpal extensors. There is but one pollical flexor, to offset three pollical extensors. There is no individual flexor of the index or little finger to offset the respective extensors of these digits; but all the digits except the thumb have two sets of flexors collectively, "sublime" and "profound," or *perforatus* and *perforans*. There is also a gain of a palmar flexor, to which there is no corresponding extensor.

The innervation of this whole region is mainly from the median, either direct, or through its antecubital branch. This nearly exhausts the motor power of the median, leaving very little to supply to the hand. The *flexor ulnaris*, as would be expected, is innervated from the ulnar nerve. The case of the *flexor perforans* is interesting, its supply being from *both* median and ulnar nerves, indicating that it is a compound muscle. The real division of the deep flexor system would appear to be radial and ulnar; that is, the deep flexors of the thumb and of the index and middle finger would form one division, innervated from the median; and the ring and little finger flexors would form the other division, innervated by the ulnar nerve. Such a view is borne out by the innervation of the four accessory muscles of these tendons, the lumbricales, whereof the two outer, or first and second lumbricales, belonging to index and middle fingers, are supplied by the median; whereas the other two lumbricales are supplied by the ulnar.

To sum the motor power of the four main nerve-trunks of the fore limb it may be said: (a) that the "musculo-spiral" presides over the whole extensor system of the limb; (b) the "musculo-cutaneous," over the flexor system of the upper arm; (c) the median, over the flexor system of the forearm, with some assistance from the ulnar; (d) and the ulnar, over the flexor system of the hand, with some assistance from the median.

6. MANUAL GROUP.

Innervated by ulnar and median nerves.

These are the muscles which lie wholly in the hand, and subserve the movements of the fingers. They are all palmar, though certain interossei are sunk so far between the metacarpals as to be best seen from the back of the hand. They constitute adductors and abductors of all the digits; short flexors and extensors of all the digits (except that the thumb has no such extensor), with certain additional short flexors of the thumb and little finger. The extensor function is confined to the dorsal interossei; it is only incidental to their adducting and abducting office, and its exhibition is only partial.

(*a*) *Thenar Subgroup.*

1. **Opponens pollicis.** ["Flexor ossis metacarpi pollicis."]
2. **Abductor pollicis.**
3. **Adductor pollicis.**
4. **Breviflexor pollicis.** ["Flexor brevis pollicis."]

Muscles of the ball of the thumb. Nos. 1, 2, and outer head of No. 4, from median nerve; rest from ulnar nerve. The *breviflexor* may be two muscles, of which the outer head is related to the abductor, the inner head to the adductor.

(*b*) *Lumbrical Subgroup.*

5. **Accessiflexor indicis.**
6. **Accessiflexor medii.**
7. **Accessiflexor annularis.**
8. **Accessiflexor minimi.**

} ["Lumbricales."]

These are the four lumbricales, ancillary to the tendons of the flexor perforans. They lie all on the radial sides of the tendons they respectively subserve, and their innervation is the same as that of these tendons.

(*c*) *Hypothenar Subgroup.*

9. **Breviflexor minimi.** ["Flexor brevis minimi digiti."]
10. **Abductor minimi.** ["Abductor minimi digiti."]
11. **Opponens minimi.** ["Flexor ossis metacarpi minimi digiti."]
12. **Transpalmaris.** ["Palmaris brevis."]

Muscles of the ball of the little finger: innervation entirely from ulnar nerve. The *transpalmaris* is an uncertain as well as inconstant muscle, agreeing with this subgroup in innervation and position, but differing from it in the direction of its fibres, in which it resembles the outer head of the *breviflexor pollicis* to some extent.

These superficial muscles of the manual group are seen to fall in three subgroups, of four muscles apiece.

(*d*) *Interosseous Subgroup.*

13. **Dorsosseus primus.**
14. **Dorsosseus secundus.**
15. **Dorsosseus tertius.**
16. **Dorsosseus quartus.**

} ["Dorsal interossei."]

17. **Palmosseus primus.**
18. **Palmosseus quartus.**
19. **Palmosseus quintus.**

} ["Palmar interossei."]

These are the four dorsal and three palmar interossei; all innervated from ulnar nerve. They are enumerated from the radial side: the numeral names show what fingers they serve. Thus, the index has a dorsal and a palmar; the middle finger, two dorsals; the ring finger, a dorsal and a palmar; the little finger, only a palmar. The dorsals have their tendons all directed toward the axis of the middle finger: the palmars, all away from this axis. There is no second or third palmar; and there is no fifth dorsal.

IX.—THE MUSCLES OF THE POSTERIOR EXTREMITY.

Innervated from the lumbiplex and sacriplex.

The musculation of the hind limb is very definite and easy to classify, if we regard its innervation, yielding some of the most perfectly neural groups of muscles to be found in the body. Thus the muscles of the front of the thigh are all supplied from one part of the *lumbiplex*, those of the inner aspect of the thigh from another part of the *lumbiplex*, and all the rest of the hind limb from the *sacriplex*.

1. PSOATIC GROUP.

Innervated from upper portions of the lumbiplex.

1. **Parvipsoas.** ["Psoas parvus."]
2. **Magnipsoas.** ["Psoas magnus."]

This is the least satisfactory group. The *parvipsoas*, an irregular and inconstant muscle in man, is particularly unconformable. It is, moreover, vertebro-pubic, stopping short of the hip-joint, and thus not falling in with any muscles of the thigh. The *magnipsoas* is vertebro-femoral, but very closely related to the iliacus in all other respects, as of innervation, function, and insertion. Its nerve-supply is primarily from high in the *lumbiplex*, but it also attracts some from the antecrural part of the plexus, like the iliacus.

2. ILIAC GROUP.

1. **Iliacus.**

An ilio-femoral muscle, thus a "short" one, proceeding from the venter of the ilium to the *entotrochanter;* innervation from *antecrural* nerve. This antecrural nerve is mainly derived from the fourth nerve of the lumbiplex (that is to say, from the old "third" nerve [1]) but has connections both with the nerve above it and the nerve below it. It supplies the *magnipsoas* in part, as well as the *iliacus*, showing the connection of these muscles with the antecrural group.

3. ANTECRURAL GROUP.

Innervation by the antecrural nerve.

1. **Sarti-cruræus.** ["Sartorius."]
2. **Recti-cruræus.** ["Rectus femoris."]
3. **Medi-cruræus.** ["Cruræus."]
4. **Extra-cruræus.** ["Vastus externus."]
5. **Intra-cruræus.** ["Vastus internus."]
6. **Sub-cruræus.**

The muscles of the front of the thigh, or anterior femoral region; a well-defined group, exhausting the motor

[1] It should be here noted that Dr. Coues' renumeration of the spinal nerves counts *seven* instead of the alleged "eight" cervical nerves. Consequently, the so-called "eighth cervical" is with him the *first dorsal*, and each succeeding nerve changes its number by one, the so-called "first dorsal" being his *second dorsal*, etc. See his article in the American Naturalist, xviii., 1884, p. 379.

power of the *antecrural* set of nerves. The "sartorius" and "rectus" are *ilio-tibial*, and therefore "long" muscles, flexing the thigh as well as extending the leg. Extension of the leg upon the thigh is the primary and proper function of the sartorius, its flexion of the leg in the human subject being an acquired peculiarity. The *cruræus* and its subdivisions, inner and outer, are femoro-tibial, and therefore "short" muscles, simply extending the leg upon the thigh. The so-called "tensor vaginæ femoris" has nothing to do with this group.

4. ADDUCTORIAL GROUP.

Innervation by the obturator nerve.

1. **Obturiductor.** ["Obturator externus."]
2. **Pectiniductor.** ["Pectinæus."]
3. **Breviductor.** ["Adductor brevis."]
4. **Longiductor.** ["Adductor longus."]
5. **Magniductor.** ["Adductor magnus."]
6. **Graciliductor.** ["Gracilis."]

Rightly regarded, this is one of the most perfect muscular groups in the body. The innervation of all these masses of muscle is almost exclusively by the obturator nerve, including of course its accessory, and thus primarily from the fifth and last—the old "fourth"—nerve of the *lumbiplex*. The *pectiniductor* seems to attract a little supply from an antecrural source, and the magniductor, owing to its great size, steals a little from the sciatic. The trouble has been, that this group has never before been properly put together, the *obturiductor*, the so-called "obturator externus," having always been grouped with the "obturator internus," with which it has nothing to do, instead of being recognized as one of the adductors. Excepting the *graciliductor*, these adductors are all *pubo-femoral* or *ischio-femoral*, and therefore "short" muscles. They extend down the thigh-bone to an increasing extent from the insertion of the *obturiductor* in the *cctotrochanter* to that of the *magniductor* in the *entocondyle*. The *graciliductor* is *pubo-tibial*, a "long" muscle, and therefore flexes the leg on the thigh as well as adducts the limb.

5. GLUTÆAL GROUP.

Innervation from upper part of the sacriplex.

1. **Vaginiglutæus.** ["Tensor vaginæ femoris."]
2. **Ectoglutæus.** ["Glutæus maximus."]
3. **Mesoglutæus.** ["Glutæus medius."]
4. **Entoglutæus.** ["Glutæus minimus."]

Nothing has tended to obscure the true character of the glutæal group so much as the location of the *vaginiglutæus* among the muscles of the anterior femoral region. In man this muscle is inseparable from the *ectoglutæus* without arbitrary use of the knife, it being clearly continuous with that part of the great glutæus which is inserted into the *latifascia* of the thigh. Its innervation, hitherto regarded as "exceptional," is now seen to be regular and conformable with that of the other glutæi. The enormous development of the *ectoglutæus* in man makes it attract from the *sacriplex* a nerve of notable size, which has received the special name of "small sciatic." But this nerve comes from the upper part of the *sacriplex* near the origin of the "superior glutæal" nerves which go to the other glutæal muscles. The name "small sciatic" has no special meaning, and makes the upper glutæal part of the *sacriplex* liable to be confounded with the main continuation of the plexus. It would be better to say *supraglutæal* for the nerve which goes to the *vaginiglutæus*, *mesoglutæus* and *entoglutæus*, and conformably therewith to say *infraglutæal* for the nerve to the *ectoglutæus* muscle, which, after exhausting its motor power on that muscle, become cutaneous in the glutæal, pudendal, and postfemoral regions.

5. COXAL GROUP.

Innervation by muscular branches direct from the sacriplex.

1. **Pyriformis.**
2. **Obturiformis.** ["Obturator internus."]
3. **Gemelliformis.** ["Gemellus superior."]
4. **Geminiformis.** ["Gemellus inferior."]
5. **Quadratiformis.** ["Quadratus femoris."]

A neat group, each member of which has its own nerve direct from the *sacriplex*. Of the six muscles collectively called "rotatores femoris," proceeding from the pelvis to or near the *ectotrochanter*, one, the so-called "obturator externus," belongs elsewhere (see above), and two others, the "gemelli," are simply ancillary to the *obturiformis*.

6. POST-FEMORAL GROUP.

Innervation by muscular branches direct from the sciatic nerve.

1. **Bicipitosus.** ["Biceps femoris."]
2. **Membranosus.** ["Semimembranosus."]
3. **Tendinosus.** ["Semitendinosus."]

Another good group, being the muscles which lie along the back of the thigh, tapping the sciatic nerve as it passes by. The *bicipitosus* is as to its long head a "long" muscle, *ischio-fibular*; as to its short head a "short" muscle, *femoro-fibular*. The other two are "long" *ischio tibial* muscles. The group extends the thigh and flexes the leg.

7. PRETIBIAL GROUP.

Innervation from the pretibial branch of the cctopoplitæal nerve.

1. **Flexor tarsi.** ["Tibialis anticus."]
2. **Extensor hallucis.** ["Extensor proprius pollicis pedis."]
3. **Extensor digitorum.** ["Extensor longus digitorum."]
4. **Flexor metatarsi.** ["Peroneus tertius."]

The muscles of the front of the leg, a group all supplied by the *pretibial*, one of two main branches of the *ectopoplitæal*. They are the long flexor system of the foot and the long extensor system of the toes. All their tendons pass over the instep in front of the malleoli—one to the tarsus on the tibial side, one to the great toe, one to the other toes, one to the metatarsus on the fibular side. The latter has been very badly named "peroneus tertius."

8. PERONEAL GROUP.

Innervation from the peroneal branch of the ectopoplitæal nerve.

1. **Longiperoneus.** ["Peroneus longus."]
2. **Breviperoneus.** ["Peroneus brevis."]

These are the only two peroneal muscles proper, lying in the fibular region, their tendons passing behind the *extramalleolus* to sole of foot. They are long extensors of the tarso-metatarsus. The *peroneal nerve* which presides over this group is badly named "musculo-cutaneous."

9. POST-TIBIAL GROUP.

Innervation from post-tibial continuation of the entopoplitæal nerve.

1. **Poplitæus.**
2. **Ecto-gastrocnemius.** ["Gastrocnemius externus."]
3. **Ento-gastrocnemius.** ["Gastrocnemius internus."]
4. **Soleus.**
5. **Plantaris.**
6. **Extensor tarsi.** ["Tibialis posticus."]
7. **Flexor digitorum.** "Flexor longus digitorum."]
8. **Flexor hallucis.** ["Flexor longus pollicis."]

This is an extensive group, which might, perhaps, be advantageously subdivided, according to its innervation

from the entopoplitæus itself—that is to say, from the main poplitæal trunk above the lower border of the poplitæus, and from its continuation below that line as the *post-tibial*. This would practically give us a superficial subgroup and a deep subgroup. The former would consist (a) of the very peculiar *poplitæus*, a "short" *femoro-tibial* muscle whose oblique direction recalls a pronator or supinator of the forearm; and (b) of the very compound *gastrocnemius*, the outer and inner portions of which are perfectly distinct to the heel in some animals, but in man are blended and further complicated by the development of a *soleus* to an extent unknown in other animals; and (c) of a plantaris, vestigial in man, in comparison with its great size in some species. All these excepting the poplitæus have a common insertion by an Achillean tendon in the heel-bone; they extend the whole foot and (excepting the soleus) reciprocally flex the leg on the thigh. The remaining three muscles complete the extensor system of the foot, and constitute the long flexor system of the toes.

10. PEDAL GROUP.

Innervation by an extratarsal branch of the pretibial nerve.

1. **Brevextensor digitorum.** ["Extensor brevis digitorum."]

The only muscle on the instep, representing the short extensor system of the toes.

11. PLANTAR GROUP.

Innervation by intraplantar and extraplantar branches of the post-tibial nerve.

The muscles of the sole are numerous and do not agree well with their innervation by the inner and outer plantar nerves, if we are to treat them in any similar way to that in which the palmar muscles have been grouped: that is, according to their position and relation to the digits.

(*a*) *Digital Subgroup.*

1. **Breviflexor digitorum.** ["Flexor brevis digitorum."]

To the toes collectively, excepting the great toe. Innervation intraplantar. Though confined to the sole this muscle is a *flexor perforatus*, corresponding to that so named in the forearm.

(*b*) *Accessidigital Subgroup.*

2. **Accessiflexor digitorum.** ["Flexor digitorum accessorius."]

3. **Accessiflexor secundi.**
4. **Accessiflexor tertii.**
5. **Accessiflexor quarti.**
6. **Accessiflexor quinti.**

} ["Lumbricales."]

This is the accessory flexor set, ancillary to the tendon of the long *flexor digitorum*. The nerve-supply is nearly conformable, being mainly *extraplantar*, only the lumbricales of the second and middle toes being supplied by the *intraplantar* nerve. But this separation of the lumbricales into two sets, inner and outer, by their nerve-supply, agrees with the case of the palmar lumbricales. We have named the plantar lumbricales to agree with the name accessiflexor, in the first place, and secondly, to distinguish them as going to the second toe, middle toe, fourth toe, and little toe. Each goes to the inner side of the toe and tendon to which it is related.

(*c*) *Hallucal Subgroup.*

7. **Abductor hallucis.** ["Abductor pollicis pedis."]
8. **Breviflexor hallucis.** ["Flexor brevis pollicis pedis."]
9. **Adductor hallucis.** ["Adductor pollicis pedis."]
10. **Transductor hallucis.** ["Transversus pedis."]

The muscles peculiar to the great toe; named in their order from the inner to the outer side of the sole: the inner two supplied from the *intraplantar* nerve, the outer two from the *extraplantar*. It is very convenient to speak of the great toe as the *hallux*, to distinguish it from *pollex*, the thumb, so as to be able to say *hallucis* simply instead of "pollicis pedis."

(*d*) *Minimal Subgroup.*

11. **Abductor minimi.** ["Abductor minimi digiti."]
12. **Breviflexor minimi.** ["Flexor brevis minimi digiti."]

The muscles peculiar to the little toe; innervation *extraplantar*.

(*e*) *Interosseous Subgroup.*

13. **Dorsosseus primus.**
14. **Dorsosseus secundus.**
15. **Dorsosseus tertius.**
16. **Dorsosseus quartus.**

} ["Dorsal interossei."]

17. **Plantosseus tertius.**
18. **Plantosseus quartus.**
19. **Plantosseus quintus.**

} ["Plantar interossei."]

There are four dorsal and three plantar interossei, all with *extraplantar* innervation. They are enumerated from the inner side of the foot; and the numerals show what toes they serve, since the great toe, like the thumb, has none. Thus the second toe has two dorsossei, the *primus* and the *secundus*. The third toe has both the *tertii*, one dorsal, the other plantar. The fourth toe has the two *quarti*, one dorsal, the other plantar. The little or fifth toe has the only *quintus*, a plantar one. The dorsals have their tendons all directed to the axis of the second toe; the plantars, all away from this axis. There is no second or third plantar; and no fifth dorsal. The arrangement is thus exactly as in the hand, excepting that the axial digit is the second toe instead of the third finger.

The total number of plantar and palmar muscles is the same, viz., nineteen. There is the same number of dorsal and plantar interossei of hand and foot, seven; and the same number of lumbricales, four. The peculiar muscles of the thumb and great toe are the same in number, four. There are only two muscles of the little toe, to correspond to four of the little finger (if we count the *transpalmaris* as one of these); to balance which discrepancy the sole has a *breviflexor digitorum*, wanting in the palm (the corresponding perforated flexor being carried up to the forearm), and also an *accessiflexor digitorum*, with nothing to correspond in the palm; thus bringing about the same number, nineteen.

But the foot has a *brevextensor digitorum* on the instep, to correspond with which there is no muscle on the back of the hand.

DIOSCORINE IN HEPATIC COLIC.—A judge of one of our highest courts was reduced to the verge of the grave with frequent attacks of that excruciating malady, *hepatic colic*. He had the best medical advice that Georgia could give; he vainly sought distant watering-places and other physicians; he was a wreck; gave up his business and lost hope. He was advised to take fluid ext. wild yam—dioscorine—by someone, and never after did he have an attack. I do not mean that one dose cured him, but that from the beginning of its use dated the end of his trouble. He is now one of the finest specimens of the physical man that you meet in our city of healthfulness. He imparted this information to me five years ago. My success with the remedy in hepatic colic has been simply all that I expected or desired. It heightens the pain-relieving power of opium during the attacks, and prevents their return when the remedy is continued. I will not worry you with details, but affirm that I have cured cases where parties had suffered for years with oft-repeated attacks.—DR. J. S. TODD, *Atlanta Medical and Surgical Journal*.

A NEW LOCAL ANÆSTHETIC.

By J. HERBERT CLAIBORNE, Jr., M.D.,

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During the past fall Mr. M. Goodman, V.S., in travelling through West Feliciana Parish, La., had occasion to apply a poultice to the fetlock of one of his horses. Having none of the customary means at hand with which to make it, he raked together a number of leaves from the ground, and having saturated them with hot water, applied the mass as a poultice to the inflamed part. After the swelling had arrived at the proper condition, he made a free incision into the part without the horse giving any evidence of pain. It occurred to him that the leaves might have anæsthetic properties; and a few weeks after, having occasion to open an inflamed bursa on the elbow of another horse, he made a similar poultice, applied it as before, and again made the incision without any pain to the animal.

Dr. Allen M. Seward, of Bergen Point, N. J., having obtained, through Mr. Goodman, some of the leaves, made an analysis of them. He found a number of constituents, among them an alkaloid, and having excluded all others as the anæsthetizing element, concluded that this virtue lay in the alkaloid. He made a two per cent. solution of the alkaloid, and settled the point by obtaining local anæsthesia in a cat's eye with several drops. Mr. Goodman informs me that the tree is known in the locality mentioned as the Tear Blanket Tree.

It grows to the height of thirty-five to forty feet, with a diameter to the bole of about eighteen inches and a spread of foliage of about thirty to thirty-five feet. The leaves resemble those of an acacia. The bark is smooth. From the ground up the tree is furnished with clumps of forked spines or thorns, the parent spine springing at right angles from the bough or trunk. Though Mr. Goodman is a native of the region, he has never seen the tree blossom. As fruit it bears pods eight or ten inches in length, flat and slightly curved, containing seeds and a viscid juice.

The spines are very tough and highly polished, and the wood is extremely tough. It grows in clumps and singly, and is abundant in Louisiana.

From the likeness of the tree to the acacia stenocarpo Dr. Seward dubbed the new alkaloid stenocarpin. It would have been better, however, to withhold the naming of the alkaloid until the botanical name of the tree had been known.

Through the kindness of Dr. Seward I was put into possession of two drachms of a two per cent. solution of the alkaloid.

The results obtained under its use are appended below.

On the afternoon of June 25th two drops of an aqueous solution of the alkaloid were instilled into the eye of a rabbit.

In five minutes there was insensibility of the cornea and conjunctiva palpebral and bulbar, so that the corneal epithelium could be abraded and the conjunctiva seized and twisted with forceps without any evidence of pain or sensation from the rabbit.

In ten minutes there was the same insensibility, with slight dilatation of the pupil. The palpebral fissure seemed wider than at first.

In fifteen minutes the palpebral fissure was markedly widened, the insensibility was the same, the dilatation of the pupil increased.

In twenty minutes the dilatation of the pupil was *ad maximum*, the anæsthesia the same; no change in the width of the palpebral fissure.

At the end of forty minutes there was slight sensibility of the conjunctiva, but complete anæsthesia of the cornea. Dilation still *ad maximum* and width of palpebral fissure same.

Throughout the period of observation, that is, after anæsthesia was established, the cornea presented the same dry, glazed appearance as is observed in cocaine anæsthesia.

In thirty-six hours after the last observation, the dilatation of the pupil was still *ad maximum*, the anæsthesia had entirely disappeared, and the palpebral fissure was normal in width. No blanching of the conjunctiva was observed at any time.

Two drops were placed also on the inner surface of one of the animal's ears, and in ten minutes the surface of the ear covered by the drops could be pierced by a scalpel without a cry or movement from the animal. Multiple punctures in the surrounding tissue elicited abundant evidence of pain. As no untoward symptom appeared at the end of two days, I suggested to my friend, Dr. Allis, of Plainfield, N. J., to allow me to put some into one of his eyes. Without any urging on my part, and with a praiseworthy devotion to science, he allowed me.

June 27th.—Three drops of the above-mentioned solution were instilled into his left eye. He complained that they stung a little. Immediately afterward there was slight lachrymation.

Five minutes: Anæsthesia of cornea and conjunctiva complete; reaction of pupil to light, normal; no dilatation; palpebral fissure increased slightly. The doctor complains that there is a "stiff" sensation in the lids.

Eight minutes: Punctum proximum, five inches. States that the lids feel less stiff, but says that the eyeball feels fuller than before.

Ten minutes: Anæsthesia still complete; palpebral fissure markedly increased; no appreciable difference between the pupils.

Thirteen minutes: P. P., five inches.

Fifteen minutes: Anæsthesia same; width of palpebral fissure same; left pupil slightly larger than the right; reaction to light, direct, accommodative, and consensual, normal; pupil seems to be wider from above, and outward, downward, and inward; conjunctiva seems slightly paler.

Eighteen minutes: P. P., five inches.

Twenty minutes: Anæsthesia of cornea and conjunctiva *not* complete; touching with a strabismus hook gives slight pricking sensation. Dilatation increased; reaction to light direct, accommodative, and consensual. Does not complain of any blurring of the vision.

Twenty-three minutes: P. P., six inches.

Twenty-five minutes: Anæsthesia and width of fissure same as last recorded; dilation of pupil almost *ad maximum*.

Twenty-eight minutes: P. P., seven inches.

Thirty minutes: Anæsthesia abolished; left pupil dilated *ad maximum* and uniform; *neither* direct, consensual, *nor* accommodative reaction can be seen. *Right* pupil contracted to pin-head size, and somewhat irregular; no difference between the tension of the two eyes can be detected. Although the right pupil is contracted it reacts to light, directly, in accommodation and consensually. No systemic effect. Pulse, 80.

Thirty-three minutes: P. P., seven and one-half inches.

Sixty minutes: Palpebral fissure less than at the last recording; dilatation of pupil still *ad maximum* and uniform; reaction of pupil to light, direct, accommodative, and consensual, faint. P. P., nine inches.

In the afternoon of the same day the doctor said he was not able to read at all with the left eye; right eye unaffected.

June 28th, 4 P.M.—P. P., twelve inches; dilatation about medium; palpebral fissure normal; the three reactions of the pupil to the light, faint.

June 29th.—P. P., eight inches; pupil slightly dilated; reaction to light, marked.

On the 30th the pupil was normal, with P. P. at five inches.

At no time was there any unpleasant symptom, so that the doctor had no occasion to regret his immolation to science.

In the days following the above experiments a number of foreign bodies were removed from the corneæ of patients, invariably without pain. Usually two drops sufficed, but in one case, in which the cornea was considerably inflamed, four drops were necessary to cause complete anæsthesia. Whenever the conjunctiva was deeply inflamed, it always retained a certain amount of sensibility, which seemed to be in direct proportion to the dignity of the inflammation. Under no condition did the cornea fail to become perfectly anæsthetized to the spud. When the insensibility was wearing off we invariably noticed that the conjunctiva became sensitive before the cornea.

In several cases where more than several drops were instilled the dilatation was alarmingly great; in fact, the merest rim of iris being visible. As far as we know, however, the pupils returned in time to their normal sizes.

A number of cases of conjunctivitis simplex were treated with it also. We invariably noticed some constriction of the vessels, but which by no means approached that caused by cocaine. It was the uniform verdict of the patients that their eyes felt better and clearer after its use.

In two cases of iritis where the iris was tightly bound down, great effect was observed from only two drops. In one case of trachomatous pannus, the pupil was not dilated *ad max.* at the end of an hour, although six or seven drops had been instilled.

We observed irregular dilatation of the pupil in three cases beside Dr. Allis'; one patient, however, had, in the eye treated, partial atrophy of the optic nerve; in this same case we also observed irregular contraction of the pupil in the untouched eye, but not to the pin-head size.

With a view to ascertaining the effect of the drug on the mucous membrane of the nose, my friend, Dr. L. P. Walker, of this city, painted the solution on the mucous membrane covering my right turbinated bone. In ten minutes I was not able to feel the pressure of the probe at all, and had I had my eyes shut, would not have known that he had touched it. Contact of the probe with parts where the solution had not been placed, settled beyond a cavil the correctness of my observation. The doctor told me he observed a slight blanching, but no contraction to speak of. This might be explained by the fact that only very little of the solution was used.

Dr. Walker also placed into my right ear, at my suggestion, four or five drops of the solution. At the end of twenty minutes a probe was allowed to rest upon the drum; at first there was only tactile sensation, but after a few seconds there was slight pain.

Having waited ten minutes more, he touched the drum in various places. I cannot say that there was pain then, but certainly there was the very unpleasant sensation which one has from striking the drum gently with some blunt instrument. At my request, he then touched the drum of my other ear, in which there had been nothing put. The sensation was almost the same, but I think I can conscientiously say that the drum on which the solution had rested was slightly less sensitive than the other. No unpleasant symptom was caused other than a slight deafness from the presence of the fluid on the drum. This passed away as soon as the fluid was allowed to trickle out.

With reference to its anæsthetic effect on the skin, Dr. Seward had informed me that he removed, under its influence, a wart from a young lady's face by cauterization with the pernitrate of mercury, without any pain. Having saturated a thin piece of absorbent cotton with the two per cent. solution of the drug, I placed it on the anterior aspect of my left forearm. At the end of twenty minutes the skin could be pricked with a scalpel without any sensation. In ten minutes more I made an incision of one-half inch in length in the area which had been covered by the drug. In passing through the cuticle there was the faintest sensation; having passed this, there was absolutely no sensation. I placed several drops of the solution in the wound and continued to dissect, I think, about as far down as the thick fascia, without any sensation, save the grating of the knife against the connective tissue.

In further proof of the anæsthetic effect on the skin, I submit the following:

An Irishman of fifty years presented himself at the Northwestern Dispensary with *otitis media catarrh. acuta.* I observed a sebaceous tumor on his forehead, between the hair and the left eye. I suggested to him to have it removed, telling him that I thought it could be taken away without any pain. He consented. A thin piece of cotton was saturated with the solution and tucked over the tumor and its vicinity; in twenty minutes the skin could be pricked without any pain. In ten minutes more I made a long horizontal incision across the tumor, dissected the skin from around the sac down to the bone, and removed it *in toto.* The man sat perfectly still and said nothing during the whole operation, save at one point, where I made a deep sweep into the connective tissue; he merely observed it scratched a little. Several drops of the solution were immediately instilled in the neighborhood, and in a few seconds I continued to the end without another word from him. When asked if it hurt, he said he had often been hurt worse by the scratch of a pin. Passing of suture caused no pain, and the wound, dressed antiseptically, healed by first intention. The patient seemed very much surprised when I showed him the tumor, and expressed himself as dumfounded.

I have made no experiments on the physiological effect of the drug when introduced into the general system. It should be borne in mind that only a limited quantity of a two per cent. solution was used in the above experiments.

From analogy it would be reasonable to expect that the anæsthetic effect would be increased by stronger solutions. In its effect upon the eye it seems to stand midway between atropine and cocaine. Its anæsthetic effect lasts about as long as that of cocaine; its mydriatic effect is greater than that of atropine, while its paralysing effect upon the muscle of accommodation is perhaps as great as that of atropine, reaching its maximum effect in about six or seven hours, and disappearing rapidly thereafter. It would seem to be indicated wherever cocaine is, so far as its anæsthetic properties are concerned, and where atropine is, so far as its mydriatic properties are concerned. In fact, for irides rendered sluggish by inflammation it seems to be superior to atropine, though the duration of its effects, as we have seen, is by no means as great.

In Dr. Allis' case I was not able to detect any difference in tension, even when the pupil was dilated *ad maximum.*

After examining a number of eyes at the same time, I may confidently say that in seven instances I have observed a *diminution* in tension when the pupil was dilated *ad maximum,* though I have not been able to detect it in all cases. If this property can be settled beyond a doubt, it will truly possess a phenomenal characteristic, of peculiar interest with reference to glaucoma. The contraction of the opposite pupil, though it has not been observed in all cases, was marked in several, particularly in Dr. Allis'.

From the foregoing observations its therapeutic value in eye diseases cannot be inconsiderable.

There is no reason to assume that it will not cause anæsthesia of all mucous surfaces as it has been shown to do in the eye and nose. In view of the results obtained by myself, I feel safe in predicting for it a wide field of usefulness in all departments of surgery where local anæsthesia is desired, and it only remains for further experiment to develop all its possibilities.

It may fairly be reckoned as a rival of cocaine.

Dr. Seward informs me that the winter leaves yield seven and a-half grains of the alkaloid to every ten

pounds, while the summer ones yield only five grams to every ten pounds. The supply of the alkaloid is very small at present and the price very high. An ounce of a two per cent. solution costs $6, which would give sixty cents as the cost per grain. These figures remind one strongly of the market value of cocaine soon after its introduction.

130 Lexington Avenue.

SOME OBSERVATIONS ON BOW-LEG AND IN-KNEE, WITH ESPECIAL REFERENCE TO THE QUESTION OF OUTGROWTH OF THESE DEFORMITIES.

By ROYAL WHITMAN, M.D.,

ORTHOPEDIC SURGEON TO THE BOSTON DISPENSARY.

A large proportion of the cases seen at an orthopedic clinic are deformities of the lower extremity (bow-legs and in-knees). Any radical treatment in such cases is especially difficult, because of the firmly held belief among parents that these deformities are outgrown, and even the application of apparatus is objected to or delayed until such treatment is ineffectual. Family physicians usually advise delay, and that authorities differ may be seen by the following brief extracts from three of the many writers on this subject :

"When rachitis has disappeared such amount of curvature may remain as to require treatment. In the great majority of cases this is unnecessary, since, as has already been stated, the curvatures spontaneously disappear with the growth of the skeleton. Only in the leg, curvatures sometimes remain so that the foot is distorted and only the inner or outer border can be placed on the floor. If this remain for years at the same point an attempt may be made to straighten it." [1]

"The curvatures of rachitis often become less marked during growth, but many of them are so severe that they remain for life. These might have been benefited by timely interference." [2]

"Most of our best surgeons are of the opinion that the so-called *vis medicatrix naturæ* is sufficient to correct the deformed leg if sufficient time be allowed for it to regain the necessary strength, hardness, and ability to bear the weight placed upon it. This is a most dangerous error. No time, no natural process, is sufficient to bring a bent bone which, by a diminished quantity of lime-salts, has once lost its original elasticity back to its normal position." [3]

It is evident that the only way this question of outgrowth could be conclusively settled would be by a series of observations on children suffering from these deformities, extending over the entire period of growth. Such observations have never, to my knowledge, been made, and how the authorities who believe in such outgrowth arrive at their conclusions is not stated. Meanwhile, is one justified in allowing the comparatively short time, during which these bent bones can be easily replaced, to go by? I think not, as I shall endeavor to show.

In considering this subject, as to the advisability of treatment, I concluded to make some observations on the prevalence of bow-leg and in-knee among adults, thinking that by comparing such results with the supposed prevalence of such deformities in children, some general conclusions might be arrived at. Aggregations of adults on whom observations might be made, being presumably of a better or worse grade, it was finally decided that the opportunity which presented itself in the streets of Boston would be most satisfactory. This, of course, limited me to adult males, but as the deformities under consideration were more of cosmetic than of medical importance, this did not seem an objection.

These results are as follows :

Number of observations.	Number of adults observed.	Bow-legs.	In-knee.
1	25	6	2
2	25	4	1
3	30	6	1
4	13	1	2
5	65	9	2
6	27	5	..
7	37	9	..
8	23	5	..
9	27	6	..
10	68	12	2
11	34	6	..
12	52	8	2
13	21	3	1
14	28	6	..
15	20	4	..
16	51	8	..
17	58	13	1
18	24	3	1
19	14	4	.
20	92	19	
21	60	9	1
22	57	11	..
23	92	13	2
24	57	20	1
25	94	18	.
26	78	21	..
27	48	8	1
28	45	8	2
29	150	30	1
30	70	17	..
31	65	11	1
32	143	28	2
33	87	25	1
34	136	21	2
35	47	16	..
36	37	7	1
Totals	2,000	400	32

Thus, according to these observations, the legs of one adult male in five, or twenty per cent., are curved to a greater or less degree, while only one in sixty-two, or .016 per cent., are affected with in-knee.

As to the relative frequency of these deformities in children, no very satisfactory statistics can be obtained. Most observations have been on the prevalence of rachitis, without regard to deformities, among children presented at hospitals for various diseases or injuries.

McNamara states it to be as high as thirty per cent. at hopsitals, and believes it to be as frequent among children of the better classes, induced by the cold, damp climate of England.

Parry found twenty-eight per cent. of children at Philadelphia hospitals affected with rachitis.

Gee, thirty per cent. at London hospitals.

Ritter von Rittershain, thirty-one at the Prague Poliklinick.

Smith, among the children at the various institutions in New York over which he had supervision, found less than ten per cent. affected by rachitis.

I have no data from which to estimate the prevalence of rachitis and its resulting deformities in children, other than by general observation of children in the poorer quarters of the city and at the primary schools, but I am convinced that the proportion of these deformities among children will not exceed, even if it equals, it in adults.

It seems reasonable to suppose that in certain cases bow-leg may be an inherited peculiarity, and not the result of disease. Again, a certain proportion of these deformities are developed during adolescence, as shown by the well-known prevalence of in-knee among the bakers of Vienna, induced by the peculiar strain to which their knees are subjected, and very probably bow-legs may also result from certain laborious occupations.

In considering this question of outgrowth of rachitic deformities, it must be remembered that the upper and lower extremities stand in completely different relations. In the arms, their weight alone tends to rectify it, and the strains

[1] Billroth : Surg. Path. Tenth edition.
[2] O. Lannelongue : Nouv. Dict. de Méd. et de Chir., art. Rachitisme.
[3] John Bishop, F.R.S., etc. : Unters. üb. d. Wesen u. d. Behandlung d. Deformitäten d. Menschl. Körpers.

to which they are subjected also tend in the same direction, but the legs, already weakened by disease, have a constantly increasing weight to bear. It is very possible that the bones may so gain in strength that the deformity may not increase, and as the leg grows longer it becomes less marked. Still it must be remembered that the majority of children one is called upon to treat for such deformities are already from thirty to thirty-six inches in height, and that the curve in a well-marked case of bow-leg, even if lessened one-half, would still remain in the adult a noticeable deformity.

Thus, taking into consideration all possibilities and probabilities, the following will, I think, be considered fair propositions:

1. A bow-legged boy is more likely to become a bow-legged man than a boy with straight legs.

2. If such a proportion of bow-legs exists among adults as would appear by these observations, it would seem more reasonable to treat such cases in children, rather than to trust to nature for their rectification.

3. If these deformities are to be treated, the sooner treatment is applied the better.

At an orthopedic clinic children are rarely seen during the acute stage of rachitis. In my experience, those applying may be divided into three classes—

First, those who have evidently suffered from a severe form of the diseases, with various irregular curvatures of the bones, which are thickened and deformed, usually with marked inequality, between the upper and lower extremities, stunting of the growth, etc.

Second, children with no well-defined history of rachitis, tardy in development, showing slight general enlargement of the epiphyses, with curvatures principally in the lower extremities.

Third, large, active children with curvatures of the lower leg, with no history of rachitis, and, in many cases, no signs of the disease excepting the deformity.

The proportion of cases in these two latter classes is much greater than in the former, from which I infer that the children of Boston are subject to a milder form of the disease than often occurs elsewhere. The worst cases that I have seen have been among Italian and colored children,. especially the latter. I have also noticed a greater proportion of deformities of the leg among adult negroes, though my observations have been too limited to be of any particular value.

In-knee, a much less frequent deformity, I have only considered incidentally. Why rachitis should in one child cause bow-legs and in another in-knee has never been satisfactorily explained. Possibly, in some cases, a weak child in attempting to stand aids itself by pressing the knees together, the feet being widely separated for a larger base of support. This position, combined with lax internal lateral ligaments, with possibly an exaggerated outward bending of the femur, might induce this deformity. It is a much more serious deformity than bow-leg, as interfering more with locomotion, and as tending to produce laxity of the ligaments at the ankle, with flat-foot, a condition often accompanied by more or less pain.

As to treatment, of course the general condition is of the first importance, but, as has already been stated, these cases are rarely seen until they have nearly or quite recovered from the original disease.

If a patient is seen early enough mild forms of the deformity may be remedied by massage with daily bending of the bones, with possibly the application of splints at night, the child being restrained as much as possible from walking. In more advanced cases suitable apparatus may be applied. In moderately stiff bones I prefer the gradual forcible reposition under ether, with retention by plaster bandages. Often the bones crack during the operation, green-stick fractures being apparently produced. Apparatus, which may be applied at the end of a few weeks, is then simply retentive.

In stiff bones, where the external or anterior curves are low down, apparatus is in most cases useless, and osteoclasis or osteotomy should be performed, osteoclasis being safer when children are to be treated at their homes. In-knee can usually be remedied by apparatus; in more severe cases, where it is not considered advisable to perform osteotomy, the epiphyses of the femur may be partially separated and plaster bandages applied, to be replaced by suitable braces at the end of a few weeks.

A CASE OF VISIONS VERY MUCH BENEFITED BY SODIUM HYPOPHOSPHITE.

By F. A. BURRALL, M.D.,

NEW YORK.

My patient is an American widow lady, aged ninety-three, whose general health is in a remarkable state of preservation, who is not addicted to opium or alcohol, and from whom Dr. Roosa skilfully removed a cataract in December, 1885. Previous to the operation she had been annoyed by visions of gayly dressed young women and ill-favored men, who came to her room at night. A stimulant gave her some relief. After the operation the figures persisted in their visits and caused much annoyance. About the beginning of the present year my attention was especially called to her, as her mind was so much disturbed by the presence of these nightly visitors that it was feared lest it might become necessary to place her in an institution for the treatment of nervous diseases. Her nocturnal guests were not composed of "such stuff as dreams are made of." My patient did not, as would a dreamer, regard these figures as imaginary when remembered on the following morning. To her they were real, and she would express surprise that such persons should be allowed to enter a respectable house and invade domestic privacy. One or two dark men and from three to twenty young dark women would come to my patient's room and remain nightly until near morning. The men would sit and look at her, and the young women, clad in light, handsome dresses, and with gay caps and bonnets, would talk in a low tone, and smile, and hang wet flowers over her pictures or doors, lie upon her bed, and try to pass from her room into the one behind it; they were not rude, but would not leave the apartments when ordered to do so. My patient was annoyed not only by this violation of her privacy, but also felt shocked at the unhealthfulness consequent on the presence of so many persons in her room at night. Life was becoming almost intolerable. Stimulants had been administered by a friend, but the effect was unsatisfactory. On the theory that there was a defective cerebral nutrition which might be benefited by the exhibition of phosphorus, I began the administration of sodium hypophosphite, in doses of ten grains, to be given a short time before retiring. The improvement was so immediate that I cannot regard it as a mere coincidence, since the apparitions had been long and constant in their attendance. It was singular to observe that there was a kind of method shown in the manner in which the visions disappeared. Those which had been present at first, were coarse and would not go when ordered away; those which remained after the use of the medicine, were less disagreeable, and my patient told me on January 25th that the previous night there was only one little woman, who was coming down the curtain, but she told her to go away and she obeyed; one man was also there.

By March 16th my patient was experiencing only slight annoyance from the apparitions, but in April her nervous system became somewhat disturbed by the excitement consequent upon a visit of a real relative. The medicine had been discontinued for some time. There had also been considerable constipation, and this seemed to prove a cause of nervous excitement. Her sleep was again disordered; the medicine was again resumed, and once more speedy improvement followed.

At the present time my patient's condition remains re-

markably better than when she first began the hypophosphite. She still has an occasional uncanny guest, but such visitors have been robbed of their power. She treats the subject of visions with comparative indifference.

Since treating my first patient, I have had under my care a gentleman, aged eighty-three, who was delirious at night during an attack of subacute rheumatism. The bromide of sodium did not diminish the delirium, but he became more quiet after taking ten grains of sodium hypophosphite at bedtime. I thought the same dose also proved of service in inducing sleep in the case of a gentleman, aged sixty, who had been consuming an unusual quantity of spirits for several days, and whose insomnia had not been relieved by bromide of sodium.

I do not think it advisable, in our present defective knowledge of the minuter details of cell-nutrition, to explain the action of this hypophosphite in a less general way than by the theory of impaired cerebral nutrition benefited by phosphorus. Those cases in which we change mental action by drugs are among the most interesting in practice.

Macbeth would not have consigned physic to the dogs and left a slur upon our art, lasting as the immortal lines of Shakespeare, if his physician could have given him "some sweet, oblivious antidote" which might "cleanse the stuffed bosom of that perilous stuff which weighed upon the heart."

48 West Seventeenth Street.

Clinical Department.

A MEANS OF FACILITATING CATHETERIZATION IN WOMEN.

Dr. G. H. Kemp, of Barnesville, O., reports the following case: "Mrs. B. B——, aged twenty-six, primipara, of delicate habit and nervous temperament, gave birth to a child after a protracted and rather severe labor. A couple of days later the patient complained of retention of urine, and examination showed her to be suffering from considerable local irritation and feverishness, with symptoms of pelvic cellulitis. In the course of a few minutes a catheter was introduced and the patient relieved of the urinary difficulty. The next evening the patient was found to be again suffering from retention of urine. The vagina, urethra, and neighboring parts were now swollen and very irritable—in fact, so much so that it was found impossible to introduce the catheter. While reflecting on what to do next, it occurred to me to use cocaine. A small compress was saturated with a four per cent. solution and applied to the irritable parts. In the course of half an hour another attempt was made to introduce the catheter, which proved successful. The effect of the cocaine in allaying the tenderness and pain was so decided that the patient complained scarcely at all while the instrument was being used."

A CASE OF PSEUDO-MEMBRANOUS PHIRITIS.

Dr. George Sterling Ryerson, Lecturer on the Eye, Ear, and Throat in Trinity Medical School, Toronto, writes: "The occurrence of such a case as I am about to describe is rare—so rare that I have been unable to find an account of one in any systematic work on the nose at my disposal, although a certain number may be found scattered through the current medical literature. Mrs. A—— called on me by the advice of my friend, Dr. Burns, on April 6th of this year, bringing with her what looked like a shrivelled polypus, which she said her husband had blown from his nose, and she added that he had thrown off several similar bodies. As he was confined to the house from the effects of an accident, I went to see him that afternoon, and found the left nostril hot, tender, and swollen. From it ran a thin watery discharge. The left nasal passage was completely occluded, partly by swelling and partly by a whitish, tough-looking membrane which covered the inferior turbinated bone. He stated that this membrane had formed several times, and that when it reached a certain stage it became loosened, and by blowing hard he could extrude it. I endeavored to open the passage by the application of a four per cent. solution of cocaine muriate, but with only partial success. I gave him Dobell's solution, with two grains of cocaine to the ounce, with directions to spray frequently; also half a drachm of liq. hydrg. bichlor. and five grains of potas. iodid. three times a day. The only change for some days was that the nasal passage was more free, but the membrane still formed, and the nose remained hot and swollen as before. I then ordered thirty grains of calomel in an ounce of vaseline, to be applied freely and externally to nose. This had the effect of reducing the redness and swelling in a few days. I might remark, in passing, that I have found this application of great value in furuncle of the nose. I also cauterized the mucous membrane, after application of cocaine, with a sixty-grain solution of nitrate of silver. Marked improvement shortly took place, and now, six weeks from the onset, the trouble is cured. The causation in this case was obscure. I suspected syphilis, for various reasons which need not be discussed here, but the patient stoutly denied the accusation, although the improvement under mercurials would tend to confirm the suspicion."

A CASE OF MALIGNANT ENDOCARDITIS SIMULATING INTERMITTENT FEVER.

Dr. Andrew H. Smith, Professor of Clinical Medicine and Therapeutics in the New York Post-Graduate Medical School, Physician to the Presbyterian Hospital, reports the following case: "Henry R——, aged twenty, clerk, called on me, January 27, 1887, complaining of gastric trouble and palpitation of the heart, both of which he attributed to excessive smoking. A careful examination of the heart showed only increased force and frequency of the beat. There was no murmur, and no hypertrophy. The same day, after returning home, he had a severe chill, followed by fever and sweating, for which he took quinine. On the 31st the chill was repeated, and on February 1st I was called in. I learned that since some time in the autumn he had been spending nearly every evening in a malarious district near Hoboken, returning late at night to the city. Also, that he was in the habit of smoking cigarettes in great excess. The violent cardiac action still continued, and I found the spleen somewhat enlarged. I ascribed the chills and the enlarged spleen to the effect of malaria, to which there had been ample exposure, and accounted for the cardiac disturbance as due to nicotine-poisoning in a very neurotic subject, and probably made more active by association with the malarial intoxication. A few days, however, showed this view to be incorrect, as the paroxysms observed no regularity in their recurrence, sometimes being absent for two or three days, and then, again, being repeated at intervals of only a few hours. Moreover, they were entirely uninfluenced by the most liberal use of quinine, arsenic, and Warburg's tincture. During the intervals the temperature was sometimes slightly elevated, sometimes subnormal. Urine not albuminous. As the case progressed the chills were accompanied by vomiting, and followed by extreme depression. The sweating was very profuse. The cardiac disturbance became more violent, and at last a systolic murmur was developed at the apex. This was very soft when first detected, but in a few hours became loud and harsh. The febrile paroxysms grew more marked, the temperature reaching 105°. Diarrhœa with tympanites supervened. No spots were found at any time upon the surface. The strength failed very rapidly, coma supervened, and in the last few hours of life inspiration was

embarrassed in a way that suggested laryngeal paresis from cerebral embolism. Death took place within thirty-six hours after the development of the cardiac murmur, the entire duration of the illness being twenty-nine days. An autopsy was not permitted."

NAPHTHOL IN THE TREATMENT OF ENURESIS.

Dr. S. J. Wright, of Tallmadge, O., writes: "I had a case of enuresis, without cystitis or calculus or any pain, occurring in a neurotic lady thirty-four years old. The condition had existed since childhood. No relief had been found in local or general treatment. She had been obliged to rise many times every night for years. The quantity of urine passed each time was small, the total amount for the twenty-four hours being about three pints. A nervous cough had lasted a year in spite of treatment, and, fearing bacterial infection, I gave her a No. 2 capsule filled with naphthol, also using the drug in the form of a spray. The enuresis rapidly subsided during this treatment, although no change was visible in the appearance of the urine. A temporary cessation of the naphthol for a few days was promptly followed by a return of the enuresis, which again left on resuming the drug. She is now free from enuresis, and can sleep better than ever before. Her throat gives her no pain, her cough is nearly gone, and she can omit naphthol without a return of her enuresis."

PUBIC DISLOCATION OF THE FEMUR.

Dr. C. L. Kinnaman, of West Salem, O., reports the following case: "On June 10, 1887, I assisted Dr. A. S. Kinnaman, of Homerville, O., in reducing a pubic dislocation of the hip-joint, caused as follows: A young man, aged twenty, while breaking a colt, was riding at a rapid pace across a bridge, when the colt fell and slid forward, with the man's right leg and thigh under it, acting as a roller. The forward momentum of the animal, acting on the thigh, rotated the head of the femur out of the acetabulum and over the ramus of the pubic bone, resting the neck on the ramus. The right patella was dislocated outward. Both dislocations were easily reduced by manipulation."

IRRIGATION OF THE PLEURAL CAVITY, IN EMPYEMA, THROUGH THE ASPIRATOR-NEEDLE.

Dr. J. P. Esch, of Huron, O., writes: "In the article on 'The Surgical Management of Empyema,' by Robert Abbe, M.D., in your issue of May 28, 1887, I notice the following statement: 'It was long ago proposed to irrigate the cavity through the aspirator-needle with antiseptic solutions, but there is no literature to show that the results are good, and the method does not appeal strongly to practical operators.' In view of the above I venture to give my experience in this direction, which has caused me to form a different opinion. About four years ago I attended a boy, about eight years old, who had empyema in the right side. The first time I aspirated I drew out about twelve ounces of pus. Temporary improvement followed, but the cavity filled up again and I aspirated again, and repeated this operation seven times in the course of a few weeks, withdrawing each time from eight to fourteen ounces of pus. The boy had chills meanwhile, the temperature ranging from 102° to 104° F., and the pulse kept from 120 to 144 beats per minute. I had about made up my mind to make a free incision and insert a drainage-tube, but concluded to irrigate, and after carefully withdrawing every drop of pus I could get with the aspirator-needle, I injected a two per cent. solution of biborate of soda, using about eight ounces. I left the solution in the cavity for five or ten minutes, meanwhile changing the boy's position slightly several times, so as to bring the solution in contact with every part of the cavity, and then withdrew every drop of it as nearly as possible. The cavity did not fill up again after that and the boy made a rapid recovery, and to-day is as strong and robust as any boy of his age. I have since then used the biborate solution in various cases, and always with the happiest results. In one case of hydrocele I had to repeat the operation, and I then increased the strength of the solution to three per cent. Aside from the fact that the results were so much more favorable than I ever obtained with any other method, the operation is almost painless, and in cases of hydrocele I attend to the patients in my office, allowing the patients to go home afterward, simply wearing a suspensory bandage."

NEW AFTER-TREATMENT OF CATARACTS.

Dr. Julian J. Chisolm, of Baltimore, Md., read a paper on this subject before the Ophthalmological Section of the American Medical Association, of which the following is an abstract: His theory—which the practice of the past year at the Presbyterian Eye and Ear Charity Hospital of Baltimore City has sustained—is that when the extraction operation has been well done, and the eyelids carefully closed by a piece of diaphanous adhesive plaster, the eyeball is so protected from any injury from the movements of the patient that no restrictions need be practised. He treats such cases as if the patient presented himself for the treatment of an accidental wound of the cornea. He only closes the eye operated upon, leaving the other open for the guidance of the patient, who is not even put to bed. His only restrictions are to keep the sunlight out of the room, and to prevent the patient from using the open eye in reading. The adhesive strip is kept on the eye operated upon for five days, by which time the corneal wound, kept in perfect position by the tarsal cartilages of the closed lids, is perfectly healed. He finds that where the patient has not been deprived of light, the eye is not sensitive when the thin strap is removed. In this way convalescence is very much expedited, and smoked glasses are not required. Patients, untrammelled in their movements, can take exercise, eat their regular meals, talk to friends, and in this way relieve the tedium of the week's confinement. In the time which had elapsed since the author adopted this liberal method of after-treatment, only one eye was lost after cataract-extraction, and that through contagion (panophthalmitis). Since May, 1886, Dr. Chisolm reports 98 cataract-extractions and 69 iridectomies, treated by light dressings, with a loss of 6 eyes out of the 167. When contrasted with the usual method of dressing and treatment, the difference in results is most marked. Usually the ophthalmic surgeon, fearing that the slightest movement on the part of the patient will be detrimental to the success of the operation, performs the manual while the patient is in the bed in which he proposes remaining during the treatment. After the operation the eyes are closed with heavy compresses, and secured by a head-bandage which shuts out all light, and is designed to support the eye operated upon. The patient is kept for several days on his back, not allowed to turn over on his side; must not eat solid food, and must not converse, for fear that mental excitement will do injury to the eye. The room is kept dark. At the end of eight to ten days the bandages are removed, and the watery, injected, sensitive eyes are protected under dark smoked glasses for several days, or even weeks, while the eye is getting strong. Dr. Chisolm removes all restraint of any kind, and finds not only that he secures much greater comfort to his patients, but increases the percentage of successes. At the recent meeting of the American Medical Association, in Chicago, many ophthalmic surgeons reported successes by this method of treatment, and they stated that they would, for the future, do away with bandages, dark rooms, and restraint after operations for the extraction of cataracts.

A NOVEL TREATMENT OF PLACENTA PRÆVIA.

Dr. John Winslow, of Ithaca, N. Y., writes: "The interest lately shown by your correspondents in the subject of placenta prævia leads me to report a case whose treatment differed from any that I have seen described. Summoned in haste one night to a stout German primipara, I was at her bedside in less than five minutes after the messenger had left it. The blood had already saturated the bed, made a pool under it, and flowed across the room. It was still pouring from the vagina, when, introducing the whole hand, I found the os about the size of a half-dollar, with the presenting placenta so firmly adherent all around that it could nowhere be detached, and too thick and firm to be penetrated by the finger. So, to check the hemorrhage, I closely applied the palm over the os (with the fingers in the posterior cul de-sac, as the patient lay supine), while the external hand over the fœtal breech strongly held the head against the placenta, the lowest part of which was thus firmly compressed. Hemorrhage was impossible, and not another ounce of blood was lost until, after four fatiguing hours of this steady pressure, the os had so far dilated as to allow one edge of the placenta to slip out, forced down by the head, which now of itself compressed the attached portion against the pelvic wall. Delivery was spontaneous and speedy; and the large, thick after-birth showed near its centre a circle some four inches in diameter much thinned and completely blanched. Both mother and child did well."

THE QUESTION OF OPERATION IN PERITYPHLITIS.

Dr. G. W. Davis, of Holyoke, Mass., writes: "I have been very much interested in the paper of Dr. Robert F. Weir which appears in The Record of June 11th.

"I have been led to consider its teachings more carefully because of its (to me) timely appearance. I now have two patients, both convalescent, coming within the class of cases in which I understand we are advised in the paper to operate, and in both of which the question of operation was considered and laid aside. Had the paper been published a few weeks earlier, I fear I might have been persuaded to interfere, and in the light of present facts my patients might have been the worse for it. I, upon the other hand, would have had a case or two of operation to report.

"Case I.—Mrs. W——, aged thirty-four, widow, was indisposed with moderate fever, thought to be possibly typhoid fever of mild type, but not presenting any certain symptoms of this disease. When, after one week of this mild illness, she was suddenly seized with pain in the right iliac region, rapidly followed by extreme tenderness, frequent pulse, increased fever, and the development of a fulness or swelling which was unmistakable, but which could hardly be called a tumor, it was undoubtedly perityphlitic. I first saw the case in consultation at this time. The diagnosis was perforation with local peritonitis and perityphlitis. From this local beginning a general peritonitis was developed of great severity, and the patient's life was despaired of. An unfavorable prognosis was given, but, contrary to our expectations, after some days she very gradually improved, and is now convalescent; the tympanites and swelling or tumefaction are nearly gone. She was treated with opiates, turpentine, antipyretics, stimulants and support, fomentations, blisters, etc.

"Case II.—Miss D——, aged nineteen, weaver in cotton-mill. Recovered two months ago from attack of dysentery. She was taken while at her work, June 7th, with severe pain in right inguinal region; bowels moved several times without cathartic medicine, and when I saw her, June 8th, there was well-marked local peritonitis or typhlitis with tumefaction, pain, and tenderness. Temperature, 103° F.; high pulse, and seemingly a case of well-marked perityphlitis. Morphine sufficient to quiet all pain was given and continued, turpentine stupes, quinine, and ice. After twenty-four hours, allowed liquid diet. This course continued for five days, when the fever subsided, pulse became normal, the pain and tenderness much diminished, the tympanites became less, and the anxious expression of the face gave way to one of repose and quietude. Now, the eighth day from the attack, there is a well-marked perityphlitic tumor, tender to pressure and not movable, but diminishing in size. An enema was ordered two days ago, but castor-oil was given instead, which occasioned a free movement of the bowels with no bad result. The patient is evidently convalescent.

"Cases III. and IV. were both young adult males. Both developed well-marked perityphlitis with all the usual symptoms, as fever, pain, tenderness, tumor, constipation, etc. They were treated with opiates, quinine, with local applications and fomentations, and a generally expectant course. One of these cases suffered a relapse when nearly convalescent, with return of the inflammatory symptoms and increase in size and sensitiveness of tumor, but both patients fully recovered.

"Case V.—Miss M. A——, aged seventeen. Developed a perityphlitic inflammatory tumor, with all the usual symptoms, which was treated in the manner mentioned in the previous cases, but, as suppuration was found to be inevitable, I was about persuading my patient to submit to an operation, when the symptoms suddenly improved, the tumor subsided, the tenderness diminished, the fever became less, and a general improvement commenced. The same day a free evacuation of the bowels occurred, which was natural, except that a good quantity of pus was mixed with the fæces. Traces of pus could be seen for two or three days. The patient rapidly recovered.

"It seems to me that the proposition 'to open all inflammatory swellings of the right iliac region' is too sweeping and liable to occasion unnecessary and harmful interference; as is the further proposition, 'that where general peritonitis is progressing, with any history of right iliac pain, a limited lateral, or a median laparotomy should be made, to explore the region of the appendix, within forty-eight hours from the inception of the disease.' If such teaching had been followed, all of my five cases would have been subjected to operation, and, had they recovered, I should have been an enthusiastic supporter of early operation.

"There can be no doubt that when suppuration is present and no decided contraindications to operation exist, it should be treated by incision and drainage, but there should be a distinction made between cases in which there is no decided tendency to suppuration and those of a suppurative nature.

"I would like to enter a protest against the universal use of the aspirator-needle for exploration in cases of this kind. May not cases that would subside without suppuration be aggravated and become suppurative as a result of the thrusting of an aspirator-needle in several directions into the already inflamed tissues?"

The Great Questions of the Hour are not prohibition and license, or the ascendency of political parties; it is not the adjustment of differences between capital and labor; it is not the hair-splitting and grain-weighing adherence to the code of medical ethics; it is not the fruitless search after specifics; it is the education of the masses in how to live that they may live happily. I hold that that medical man who employs his time and talents in teaching his fellow-men the laws of life and the principles underlying them, is a greater man than he who devises schemes to prolong the lives of an imperfect race.—Dr. J. A. DeArmond, *Iowa State Medical Reporter.*

Progress of Medical Science.

Atropine Injections in Hæmoptysis.—The subcutaneous injection of atropine in cases of hæmoptysis was recommended by Tacke in 1882, and Dr. Hausmann, of Meran, has found it to be a most successful means of allaying recurring hemorrhage from the lungs (*The British Medical Journal*). The great indication is to allow of the formation of a thrombus in the bleeding vessels, as Traube explained, by diminished blood-pressure. The capillary pressure will be lowered when the smaller arteries have their calibre lessened: hence the use of digitalis, restricted diet, and rest. Reflex vasomotor constriction may also be assisted by astringents or the application of cold. In chronic (and passive) cases iron is recommended. Ergotine, turpentine, morphine injections, and alcohol are favorite remedies. In passive hemorrhage from congestion some recommend wine, walking about, and deep respirations; in active hemorrhage, only rest, ice, and morphine. But there are cases which resist all these measures, and in these Dr. Hausmann has found hypodermic injections of atropine wonderfully efficacious. The following examples are given: 1. A patient with cavities in both lungs had hæmoptysis twice daily for six days to an alarming extent. The hemorrhage was then arrested by a hypodermic injection of $\frac{1}{200}$ grain of atropine. After two months the hemorrhage recurred, and was only arrested by recurrence to atropine. 2 A patient at San Remo was troubled with hæmoptysis all through the winter of 1884, in spite of every care, and it only desisted in the summer. Next winter at Meran he was again similarly affected for a long time, till two injections of atropine (of the same strength as above) arrested the attack altogether. 3. In October last year Dr. Hausmann at once stopped severe hæmoptysis in a lady who had been treated in vain for eight days by ergotine injections, turpentine, etc. The quantities of atropine recommended for hypodermic injection in cases of profuse or moderate hemorrhage from the lungs, which resists other means of treatment, vary between $\frac{3}{1000}$ grain to $\frac{7}{1000}$ grain.

Congenital Occlusion of the Pharynx.—Dr. Illera has given an account of a case in which a newly born child could not be taught to suck, and whose mouth, on the introduction of the finger, grasped it like a ring (*The Lancet*). On inspection the middle third and edges of the tongue were found to be connected to the superior alveoli by firm adhesions, which entirely prevented the organ from being depressed. In addition to these adhesions, two little tumors were seen on the palate near the arch of the fauces, which almost occluded the passage into the pharynx, thus rendering swallowing of liquids almost impossible. It was evident, therefore, that unless operative measures were resorted to the child must necessarily succumb very shortly from sheer inanition. The parents, however, though the state of the case was laid before them, refused to permit of an operation till the fourth or fifth day, when they decided to allow it. The author seized the tumors with forceps and cut them off at the base, touching the bleeding surfaces immediately with the actual cautery. The adhesions were then divided, and after the application of a sponge with cold water for a few hours, repeated very frequently, the child was able to swallow some milk quite easily, and ultimately attained complete use of the tongue. Dr. Illera was induced to publish this case, as he once saw a similar case in which the practitioner in attendance had considered the risk of operation too great to be attempted.

Bone-grafting in Cases of Extensive Loss of Substance.—From a child, aged eleven, Poncet removed the entire right tibia excepting the superior articular surface. The portion extirpated was twelve inches long, and but six inches of periosteum was preserved. After several series of grafts a useful tibia permitting locomotion was produced; the repair was complete in the ninth month. The author considers this practice of advantage in extensive losses of bone-substance, such as are observed after acute necrosis of long bones in children and adolescents or after compound fractures, when a considerable portion of bone has been sacrificed, since it will obviate to a certain extent the shortening of the diseased member and, above all, permit the conservation of its functions by assuring the solidity of the skeleton. In infectious epiphyseal ostitis, the resection should not stop with the removal of the necrosed bone, but extend to the neighboring bone, ulna or fibula, taking care to make the section within the epiphyseal cartilage, in order to prevent the growth of this bone beyond its fellow and the resulting deformity. For the success of bone-grafting, certain conditions are indispensable both to the transplanted fragments and the point of implantation. (1) The grafts should be small, not exceeding six to eight millimetres in length and three to four in thickness; they should include the periosteum and be taken preferably from parts of the skeleton where ossification is the more active; whenever possible the bones of the new-born, dead without pathological taint, should be used; limbs amputated in consequence of traumatism may also furnish material for bone-grafts; so also with the bones of young animals. The fragments should be detached carefully with a strong scalpel, never with a saw, in a direct parallel to that of the bone; the surface of the section should be smooth, and present no projecting laminæ. (2) The place of implantation plays an important rôle in bone-grafting. Implantation should be performed in the period of repair of the wound, when the inflammatory troubles have completely disappeared, when the granulations are healthy, vascular, rosy, and suppurating but little, and when the edges have commenced to epidermize. The transplanted fragments probably never grow; perhaps they are even absorbed after a greater or less time; in any case, they enter for a certain time into the formation of the new bone, which they render firm and reenforce after the fashion of stone or brick in a substance capable of hardening. It is probable also that they awaken by their presence osteogenetic properties in the neighboring tissue. Antisepsis of the graft and of the wound is indispensable; so also is immobilization, such as can only be obtained by a plaster splint.—*Annals of Surgery*, May, 1887.

Drowsiness and Dyspepsia.—Drowsiness accompanying digestive troubles is very common (*The Lancet*). The patient is anæmic and irritable, troubled with palpitation and sensation of fulness after meals, caused by flatus. Bowels may be constipated or not. Used to a sedentary life. The principal points, however, to be looked to are the teeth and urine; the former are bad, and the latter scarcely acid, or else alkaline, and often phosphatic. Alkalinity or deficient acidity is probably present in the stomach, and germs from the teeth swallowed in the saliva. In the stomach, as a rule, the trouble commences; hence the distention and, from pneumo-gastric irritation, the palpitation. Pepsine can only act in an acid medium, and so the food undergoes some abnormal decomposition, with the production of gas instead of normal digestion. It is not difficult to imagine that the products of such changes, taken up and passing through the liver into the general circulation, would produce toxic symptoms. The brain, already badly nourished and anæmic, cannot work with blood deficient in oxygen-carrying corpuscles and loaded with morbid products as well. It therefore "sleeps," disturbed, however, by fitful dreams as more or less irritating matter is supplied to it. What should be the treatment of such a condition? Simply supply what is deficient. If there be constipation, a mild aperient—say, ext. cascar. sag., gr. iij., o. m. ante cib. Attend to the teeth. For the alkalinity and palpitation the following: ℞. Acidi hydroch. dil., ♏ xv.; tr. nucis vom.,

℥ x.; tr. calumbæ, ℥ xv.; aquam ad ℥ j.; ter die post cibos, with or without succus taraxaci, ℥ j., or vin. pepsin., ℥ j., as required. Limit smoking. Stop all tea, coffee, cocoa, and hot fluids. Let the patient drink cold water for breakfast, light ale, claret, or water at dinner—say at 2.30—and a light supper at 8 P.M., with the same drink, and no fluid between meals. Nearly finish every meal before drinking. Advise friction with a towel over the abdomen, sufficient out-door exercise, and early bed.

Toxic Effects of Salicylate of Soda.—Dr. Hampeln, of Riga, has published the case of a gentleman, aged sixty, who suffered from chronic catarrh of the bladder, and to whom salicylate of soda, in the daily dose of one drachm was administered. From November 22d to January 5th over five ounces of the drug were taken by the patient. During that period there gradually appeared striking lassitude, drowsiness, unsteady movements, tremor of the hands, loss of attention, failure of memory, weakness of sight, and listlessness. At first a suspicion about incipient dementia was entertained by the author, and shared by a specialist. But then an idea of the possibility that the symptoms could be caused by the salicylate crossed the author's mind, and induced him to discontinue the drug. No change was observed during the first ten days, but during the next fortnight there ensued complete recovery from all nervous symptoms. Dr. Hampeln draws attention to the disproportion between small doses of the drug and the intense effects in his patient. He was able to find in literature only one similar case of chronic salicylism, that by Dr. Mueller, in which a diabetic patient had taken almost five ounces of the drug in nine days.

Fatal Result of Intra-uterine Medication.—Dr. Engström relates the following case in a Swedish medical journal: A woman, aged thirty-seven, had suffered from persistent metrorrhagia. The uterus was retroflexed, but no signs of past or present inflammation could be discovered. It was replaced and scraped out with a Simon's sharp spoon, two small spoonfuls of hyperplastic tissue being removed. A solution of iodine in iodide of potassium at 113°F. was then injected, the relative proportions of iodine, iodide of potassium, and water being 1, 2, 30. No fever and scarcely any pain followed. In five days' time a second injection was used, the temperature being 104°F., and the relative proportions of iodine, iodide of potassium, and water 1, 2, 10. No pain was experienced, and the patient walked up and down stairs. On the evening of the second day, however, a rigor came on, followed by pyrexia, abdominal tenderness, diarrhœa, and convulsions, death occurring two days latter. At the necropsy there were found broncho-pneumonia, chronic œdema of the lungs, encodarditis, and purulent peritonitis. The substance of the uterus was soft, friable, and gray-colored, containing specks of blood and lymph. The peritoneum over the uterus was of a yellowish-red color and covered with puriform matter. The Fallopian tubes and their fimbriated extremities were not dilated or particularly reddened, and the mucous membrane presented no abnormality. The os uteri was too small to admit a fine probe. A large quantity of pus occupied the peritoneal cavity. Dr. Engström does not think any of the injection can have passed into the tubes, still less into the peritoneal cavity, and believes that the fatal peritonitis was due to an extension of the inflammation directly from the uterine wall to the peritoneum.

Rectal Intussusception Due to a Tumor.—At a recent meeting of the Royal Medical and Chirurgical Society (*The Lancet*, May 14, 1887) Mr. A. E. Barker communicated a case of intussusception of the upper end of the rectum, due to obstruction by a new-growth, in which complete recovery ensued, after excision of the intussusception and suture of the cut ends of the bowel. The case narrated is that of a married woman, aged twenty-eight, who for sixteen months had noticed streaks of blood with her motions, and for eight months had been conscious of a foreign body in her rectum. Two or three months before operation the latter had begun to prolapse at each stool, with copious bleeding. There was much constipation, but there had never been any diarrhœa. On examination of the rectum in June, 1886, a mass of new-growth was found surrounding nearly the whole of the apex of an intussusception of the rectum. The reflexion of the rectal wall could be felt about three inches from the anus, so that the apex of the mass belonged to a spot about six or seven inches from the latter. On June 9th Mr. Barker drew down the intussusception and operated, as follows: The left index-finger was passed well into the intussusception and the two layers of bowel were pinched together beyond the growth between the finger and thumb. An ordinary sewing-needle, carrying stout carbolized silk, was then passed through the two layers from the intussuscipient into the lumen of the intussusception and returned, including about one-sixth of an inch of bowel-tissue. This loop was tied firmly, and another stitch was similarly introduced, about one-sixth of an inch from the first, and tied in the same way. By repeating this the whole bowel was encircled with a row of stitches well above the growth. When this had been done, a second row was similarly introduced about half an inch higher up. The whole intussusception was then cut away *en masse* immediately below the lowest row of stitches. Only one small vessel bled, and was tied; the rest of the cut surface was dry. The mass cut away consisted of a nodular mass of adenoid epithelioma, taking up about two inches of the bowel, and with a margin of healthy tissue above it. The patient's recovery was rapid and uninterrupted. A large motion was passed on the sixth day. The patient left the hospital about four weeks after operation, feeling quite well. The rarity of intussusception of the rectum is discussed and some statistics are given. The rarity also of intussusception of the lower bowel produced by cancerous growths is alluded to, the author having only been able to collect eleven such cases. These are briefly described, six of them being either purely rectal or in the sigmoid flexure. Of these six, only four were operated on; the first two by Verneuil, but both with a fatal result. The next excision was performed by Kulenkampff, with an ultimately good result, but a loop of small intestine had been opened in excising the intussusception and a provisional colotomy had to be done. The case now related is the fourth.

Gastric Syphilis and Simple Ulcer of the Stomach.—Dr. Galliard discusses the question of syphilitic disease of the stomach, and the influence of syphilis in the pathogeny of ulcer of that organ (*The London Medical Record*). The existence of syphilitic affections may be shown by clinical or by anatomical evidence. It has been proved by observation that certain gastric troubles, occurring in the course of secondary or tertiary syphilis, may be successfully treated by mercury and iodide of potassium. M. Galliard, however, does not exaggerate the value of such facts, since gastric troubles and hæmatemesis are not sufficient to prove a lesion of the stomach itself. Syphilitic disease of the liver, for example, like ordinary cirrhosis, may cause hæmatemesis. The anatomical signs are divided by M. Galliard into disputable and indisputable; the former are gastric catarrh, hypertrophy of the walls of the stomach, and ulceration due to amyloid degeneration. The true syphilitic lesions of tertiary syphilis are gummata, ulcerated or not ulcerated. The author reports two clear cases of gastric syphiloma. Gastric cicatrices found in syphilitic persons may be due to former gummata or to simple ulcers. They are only of moderate value in diagnosis unless gummata be also present, in which case it would be reasonable to consider the scars evidence of by-gone specific lesions. When, instead of cicatrices, there are found in syphilitic persons ulcers having the characters of Cruveilhier's ulcer, the

question ought to be asked whether the primary erosion was not of a syphilitic nature—whether, for example, its occurrence was not determined by the gastric catarrh of secondary syphilis, or by syphilitic arteritis. It is easy to understand that such an erosion, exposed to the contact of the gastric juice, may be capable of becoming a round perforating ulcer. It is thus necessary to study with great care, both during the period of ulceration and that of cicatrization, the so-called simple ulcers of the stomach when they are found in syphilitic subjects. In this way the pathogenic influence of syphilis on the stomach, perhaps even the characters of ulcerating syphilides of the stomach, may some day be decided; and when the diagnosis has been made, such affections will be amenable to treatment and capable of cure; but at present the diagnosis is surrounded by difficulties.

The Antagonism of Cocaine to Caffeine.—Dr. Martin states that a child eighteen months old drank the contents of a bottle containing eight grains of cocaine in four drachms of syrup of marsh-mallow, which had been prescribed for teething pains. Serious symptoms of poisoning occurred. Another doctor was called in, who prescribed syrup of ipecacuanha. There was slight vomiting, after which a diuretic, composed of acetate of ammoniac and syrup of roots was administered as an antidote to the action of the cocaine on the urinary organs. The general symptoms improved, but there remained considerable irritation of the visual organs, which ceased on the patient taking two spoonfuls of syrup of caffeine. The author asks whether caffeine may be considered as an antidote to cocaine. Dr. Schilling (*American Journal of Pharmacy*) maintains that he has successfully combated the effects of cocaine by means of inhalations of nitrite of amyl.

The Treatment of Hydrocele.—Dr. Tedenat has followed one hundred and fifty patients, whom he has treated by iodine injection, for from six months to five years or more; there were eight recurrences in the first four months, and in all twelve per cent. But if, instead of the more attennated solutions, pure tincture of iodine is introduced, the percentage of recurrence is reduced to two or three per cent. According to the partisans of incision of the scrotum and excision of the tunica vaginalis, recurrence should never occcur; but as a matter of fact it does, sometimes, at least. Bergmann excises the entire tunica vaginalis. The author has performed this operation fifteen times, and all the cases were cured. While he does not know of a death from iodine injections, an accident, which is not rare, consists in losing a drop of the fluid in the scrotum, giving rise to phlegmon; besides infiltration of iodine into the scrotum there may be suppurating perivaginalitis; however, these accidents are of little gravity. Incision doubtless ought to obviate these accidents if it is aseptic, but asepsis is particularly difficult to insure in this region. The true danger of iodine injection is hemorrhagic perivaginalitis; accordingly, he believes that excision should be performed in case of ancient hydrocele with thick and but slightly transparent walls; in ordinary hydrocele, translucid, with thin walls and without calcification, the treatment of election is iodine injection; a small quantity of tincture of iodine should be injected and allowed to remain in the tunica vaginalis.—*Annals of Surgery*, May, 1887.

The Diet of Childbed.—Dr. Rubenstroth (*Memorabilien*) says that every practising physician can easily verify that, in regard to the diet of lying-in women, there still exists an incredible number of prejudices, errors, and fallacies, and that not altogether with the laity alone, but also among midwives and even a large number of physicians. Experience teaches that among the common people traditions endure for a long time and with great tenacity. When more thorough knowledge shows that old teachings are wrong and worthy to be rejected, it often happens that in practice we have not only to fight the folly of the common people, but also the superannuated and erroneous precepts of our medical predecessors. The withholding of a choice and model diet from women in childbed is directly injurious both to mothers and children, on account of the deficiency of nourishment connected with it. Kleinwächter, by weighing and measuring, has shown that by the use of a good and rich fare on the part of the mother, not only does she recover more rapidly from the debilitating influences of confinement, but that children thrive much better and increase much more rapidly in weight. *A priori* it is not easy to conceive how a woman, whose strength has been so extraordinarily taxed by childbirth and lactation, could find herself the better by being robbed of her accustomed nourishment. It is quite obvious that the proper nutrition of the mother must benefit the child. The author is convinced that many a mother, now unable to nurse her child on account of want of milk, would not be so if, from the first day of confinement, she had been richly and strongly nourished. As a consequence, artificial instead of natural nursing has to be resorted to, with the bad results that are so well and generally known. In our country Barker answers the question, what nourishment the lying-in woman should have, in a very clear and simple way: "A lying-in woman should have all the good, nutritious food that her appetite demands and her digestion can control and assimilate." Therefore, it is not a matter of so many days, but of the condition of the appetite and the digestion. If both are found in normal condition, the mothers may have meat and easily digested preparations. In this way they will certainly get along better than if allowed to go hungry. If a good and rational nourishment is a necessity with every lying-in woman, it is an imperative matter when the confinement has been accompanied with great loss of blood or other exhaustive influence. Dr. Rubenstroth has seen women who, from loss of blood during the third stage of labor, had become so weak that they were unable to raise the head without fainting, and who yet, by the use of roast meats and other nutritious diet, were able to be up at the accustomed time, fresh and strong; while by the spare diet so commonly supplied they could only have returned to their household duties in the course of months. Furthermore, if the return of strength is not favored, and pregnancies follow in rapid succession, a condition of anæmia becomes chronic and may last through the whole of afterlife. As soon, however, as lying-in women become convinced of the good effects of abundant nourishment they become enthusiastic partisans of the *régime*, and then often do too much of a good thing. Gastric catarrh produced in this way can certainly cause harm and give the physician a great deal of care.

A Freezing Microtome.—Dr. Isaac N. Himes, of Cleveland, sends a description of a new freezing microtome which will be useful in the examination of fresh specimens, and especially in the demonstration of tissues removed at a post-mortem examination, to classes in practical microscopy. The freezing is effected by the evaporation of distilled ammonia. The microtome is a modification of Dr. Thomas Taylor's freezing microtome. In the latter a freezing mixture of salt and ice is used, the cold salt water being allowed to flow through a hollow chamber upon the flat upper surface of which the specimen to be frozen is laid. In Dr. Himes' modification the ammonia liquid or spray is made to enter a hollow chamber, altered in construction to suit the ammonia method of freezing. The instrument is always ready for use, there is no sloppiness incidental to the use of salt and water, there is no subsequent labor in cleaning up, and the temperature may be made so low that alcoholic preparations may be cut without much soaking to remove the alcohol.

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THE PRESENT STATUS OF THE QUESTION OF INTUBATION.

THE subject of intubation is still one of great interest, and will justly continue so until its place in therapeutics is fairly established. The glowing expectations excited at first have not been realized, and in some quarters there have come most discouraging reports. Yet it is not an operation which will be discarded. Dr. E. Fletcher Ingals, in an article on intubation in the New York *Medical Journal*, summarizes the present condition of the question as follows :

1. Intubation may be quickly and easily performed, and with but little danger.

2. Friends readily consent to the procedure.

3. There is no necessity of tedious after-treatment, as the tube is kept clear by the respiratory efforts.

4. The results so far are practically as good as those of tracheotomy at all ages, and apparently better in very young children.

5. To secure the best results, great care must be taken to prevent the entrance of foreign substances into the trachea.

6. At present, with O'Dwyer's tubes, the most successful plan is to absolutely prohibit the deglutition of fluids while the tube remains in the larynx. Small bits of ice may be sucked to allay thirst ; soft solids may be swallowed, and fluids may, if necessary, be supplied by enemata, or the tube may be removed to feed the patient, and then be reintroduced.

7. Tubes with smaller heads, designed to rest on the vocal cords, have not yet been used sufficiently often to enable us to speak positively about them. If experience proves that they do not often slip into the trachea, and that they do not injure the vocal cords, they will be especially useful, for they will nearly overcome the difficulty in deglutition, and patients wearing them may eat and drink at pleasure, excepting when paralysis or some other result of the disease prevents closure of the epiglottis.

8. Medical treatment should be carefully attended to after intubation, and we must spare no effort to prevent extension of the disease to the bronchial tubes, or to relieve the dyspnœa which it occasions. I apprehend that successful after-treatment depends largely upon the judicious and timely use of suitable expectorants and respiratory and cardiac stimulants.

9. Though short tubes may be used with good results in some cases, the danger of their becoming filled with pseudo-membrane is so great as to render long tubes preferable.

10. Intubation may and should be practised early, and it does not preclude subsequent tracheotomy.

11. For serious cases of spasmodic croup, and for œdema of the glottis, this will prove a most useful procedure.

12. For the treatment of chronic laryngeal stenosis this method will, doubtless, be of value.

EAR DISEASE AND CEREBRAL ABSCESS.

THE death of the late Professor Schroeder from cerebral abscess, and the recent impetus furnished to cranial surgery by the successful operations of English surgeons, give especial interest to an elaborate paper on "Cerebral Abscess due to Ear Disease," published by Dr. P. McBride and Mr. A. G. Miller in the Edinburgh *Medical Journal* for May and June.

The authors in question have collected forty-four fatal cases of middle-ear suppuration causing intracranial complications. The complications caused are arranged in the following order numerically : Diffuse purulent meningitis, 16 ; thrombosis of sinus, usually the lateral, 10 ; cerebral abscess, usually in middle lobe alone, 9 ; cerebellar abscess, 7. Wernicke, in his work on diseases of the brain, places caries of the cranial bone, and especially the petrous bone, as second in the cause of brain abscess. It will be seen from the figures above given that abscess and meningitis are the two most frequent fatal sequelæ of ear disease, and that the two complications are themselves of about the same frequency.

Since abscess from middle-ear suppuration is not extraordinarily rare, the question whether the modern methods of cranial surgery may not be applied here very naturally arises. So far Dr. McBride can collect only four successfully treated cases, recorded by Schondorff, Truckenbrod, Greenfield, and Gowers and Barker. In the two former, however, there was an external fistula, the surrounding scalp being œdematous and tender. In the last-mentioned case, an abscess of the temporo-sphenoidal lobe was correctly diagnosed by Gowers, and successfully operated upon by Barker. In this instance the point of the trephine was inserted an inch and a quarter behind, and the same distance above, the meatus. Before proceeding to operate on the bone, the state of the opening for the mastoid emissary vein was examined.

An important diagnostic point in distinguishing between meningitis and abscess is that in the latter condition the pulse and temperature are as a rule low, or subnormal at some period at least in the progress of the disease. In cerebral abscess there are the usual signs of focal lesion ; in cerebellar abscess severe occipital headache, distressing vomiting, giddiness, and in cases due to ear disease, absence of bone-conduction are to be expected. Dr. McBride thinks that abscess near, or in communication with, the tympanum, having spread through its roof, is the form that affords the best prospects of treatment. The mode of operation suggested as the best is described as follows : One should make a dissection of the auricle downward so as to define the osseous meatus. When

this has been done, an opening should be made just above and in front of it—a proceeding which exposes the dura mater within a very short distance of the roof of the tympanum, with which the great majority of cerebral abscesses are in intimate relation, without any danger of wounding the middle meningeal artery.

The conclusions reached by the writers are worth recording:

(1) That in a case of chronic middle-ear suppuration, whether the mastoid region be tender or not, opening the mastoid antrum should not be too long delayed if deep-seated pain in the ear be complained of, and if the general symptoms point to head mischief.

(2) That in advanced cases we should attempt to arrive at an exact diagnosis as to the nature of the intracranial mischief, with a view to operative interference.

(3) That we can in most cases detect sinus-phlebitis from the presence of pyæmic symptoms and from local manifestations. Thus, if the lateral sinus be involved, the region of the jugular vein will often be found tender and occasionally corded; if the cavernous sinus be at fault, we should expect œdema of the retina, and around the eye, perhaps also exophthalmus (for further information on this point I must refer to special treatises).

(4) That having excluded sinus-phlebitis the diagnosis may be said to lie between diffuse meningitis and localized abscess.

(5) That the situation of the intracranial suppuration will probably be behind the tentorium if bone conduction be lost, *i.e.*, if the auditory nerve is involved. That, in my opinion, this is also more likely to be the case when there is marked inflammation of the mastoid (*i.e.*, its external and posterior part), than when the pain seems only to proceed from the tympanum; but I have been able to obtain no definite proof of this. The results of aural examination must, of course, be taken together with the general symptoms in localizing the brain lesion.

(6) That the most common seat of localized abscess and starting-point of suppurative meningitis is near the roof of the tympanum.

(7) That we cannot in most cases distinguish positively between localized and diffuse suppuration; but that in cases where pulse and temperature are subnormal, the probability is in favor of localized abscess.

(8) That the point chosen for opening the skull in otitic cerebral abscess should be just above and in front of the osseous meatus.

(9) That such an operation may save a number of cases of localized abscess, and may possibly benefit some in which the suppuration is more diffuse.

(10) That the propriety of exploring the cerebellar region is not so clear, and that this operation should only be undertaken when the presence of pus behind the tentorium is almost certain.

NEW MYDRIATICS.

Despite the emphatic claims for superiority none of the various new mydriatics have supplanted atropine. There are two, however, which deserve some attention and occasional use. These are duboisine and hyoscine.

Duboisine is obtained from the *duboisia myoporoides*, of which it is the active principle. Upon the eye it acts more rapidly than atropine as a mydriatic, and it causes complete paralysis of accommodation. This latter paralysis is prolonged, while the mydriatic effect is shorter than that of atropine. It is also claimed to be less irritating (Dr. William F. Norris), but this is not always the case, and several persons have seen it produce conjunctivitis. De Wecker advises the employment of duboisine in order to get a certain, quick, and complete paralysis of accommodation. In the treatment of synechiæ it is not more efficient that atropine; and collyria of duboisine may cause constitutional effects. These consist of great motor weakness, trembling, and anorexia. Physiologically it acts much like atropine, but is said not to stimulate respiration.

The internal dose is about one-half that of atropine. For instillation the following formula is recommended by Dr. Paul Chéron (*Union Médicale*): ℞. Sulphat. dubois., 0.25 to 0.05; aquæ destillat., 10.00.; to which one can add 0.05 acid. boric.

Hyoscine is the alkaloid associated with hyoscyamine in *hyoscyamus niger*. It is nearly identical with amorphous hyoscyamine of Merck. It forms a soluble salt with HI, HW, and HCl. The bromo-hydrate is the salt most used, it being very soluble in water. It possesses a formula like that of hyoscyamine and atropine, viz., $C_{17}H_{23}NO_3$.

On January 29, 1887, Drs. Ghy and Rondeau, of Paris, reported that one drop of a one per cent. solution instilled in the eye produced paralysis of the accommodation which lasted five days. It also produced mydriasis. The results were confirmed by Drs. Tweedy and Collins, of London. Mydriasis is produced in from five to ten minutes. The dilatation of the pupil is much more energetic than that caused by atropine, duboisine, or homatropine in the same doses. At the Congrès d'Ophthalmologique M. Trousseau said that he had used the drug two hundred and ten times without accident.

Hyoscine is a useful sedative in insomnia and motor excitation. It is given in doses of gr. $\frac{1}{100}$ to gr. $\frac{1}{120}$. A great deal was said about homotropine some years ago, but it does not seem to have held its own against other mydriatics. Its principle advantage is that its action is comparatively brief, disappearing in five or six hours. But this fugacious action is not always desirable, hence its field of usefulness is limited.

THE QUESTION OF RAG-DISINFECTION AGAIN.

Dr. Charles F. Withington has made a most exhaustive study of the above subject and his results ought to settle, for the present, the discussions which have been raised regarding rag-importation and disinfection. His conclusions are:

1. Small-pox has been transmitted through the medium of rags in a certain number of cases, small in proportion to the whole number of persons who handle rags, but absolutely numerous enough to show that unvaccinated workers in rags are exposed to an actual, if not imminent, danger of infection from this source.

2. The source of this infection is more frequently domestic than foreign rags, though the disease has been caused by the latter. This possibility of infection through imported rags accords with what is known of the tenacity of life of the variolous poison.

3. Among the rarer means whereby cholera is transmitted are textile fabrics infected with choleraic discharges. There is evidence that clothing from cholera patients, and possibly clothing merely packed in an infected locality, has, when transported to a distance and there unpacked, caused the disease in those who have handled it, thus starting a fresh cholera focus. A proper distinction exists between clothing, on the one hand, recently removed from the body and again not long after to be put on to the body; and rags, on the other hand, which, if transported to this country, are certain to have undergone a carefully discriminative sorting and drying, and to have spent a considerable time in warehouse and on shipboard.

4. The statement that cholera has been transmitted by paper rags rests upon a solitary case, of which the details are not complete, and on the reliability of which some of the highest authorities on cholera have cast doubt. If the case be accepted, it is one of infection by *domestic* rags, carried only fifty miles from their place of collection.

5. An epidemic infection known as "rag-sorters' disease" appears to have broken out on three or four occasions in European paper-mills. It was probably, though not certainly, the disease called anthrax.

6. Authenticated instances are not to be found in which the other infectious diseases—typhus and typhoid fevers, scarlet fever, measles, and diphtheria—have been transmitted through rags.

He further concludes that rag-sorters as a class are no less healthy than other persons engaged in in door manual occupations. It is, he thinks, a reasonable precaution to prohibit the importation of rags from epidemically infected localities. Workmen in paper-mills ought to be vaccinated. There should be a carefully arranged system of ventilation in the mills, and attention should be paid to domestic rags as a source of infection quite as much as to the imported article.

The Mississippi Valley Medical Association held a successful meeting at Crab Orchard Springs, Ky., July 13th, 14th, and 15th. Dr. Dudley S. Reynolds was elected President. The following interesting speech of welcome was made by Manager L. J. Frazer: "Gentlemen, it has been my fortune to see several distinguished bodies of men, among others the French Chamber of Deputies, the British Parliament, and the American Congress, but the most distinguished assembly I ever attended was the World's Medical Congress, in London, in 1881. For that pleasure I am indebted to a gentleman now present, Dr. Dudley S. Reynolds. To him, and to you all, I say welcome to Crab Orchard Springs, and may your stay be as agreeable to you as your deliberations are, and should be, beneficial to the world."

A Reporter with a sense of humor and the eternal verities made the following note: "One good effect of the gathering of physicians is seen in the rapid improvement of Miss Fanny Lyon, who was yesterday injured while horseback riding. She was sufficiently recovered this evening to receive and cheerfully entertain a number of friends."

News of the Week.

Cholera has appeared at Palermo.

Yellow Fever at Key West.—Up to July 14th there have been one hundred and ten cases and thirty deaths.

Jubilees are decidedly in vogue just now. Professor Gruber, of St. Petersburg; Professor Külliker, of Würzburg; and Professor Carl Vogt have all recently celebrated the fortieth year of their teaching.

Dr. Frederick L. Fischer, of this city, died on July 24th. He was born at Heilbronn, Würtemberg, May 1, 1817, and was graduated at Tubingen University in 1842. He was implicated in the German revolution of 1848, and in 1852 came to this city, where he has since remained as a practising physician.

A Venerable Anatomist.—On April 30th, at 11 A.M., the Anatomical Theatre of the Imperial Medico-Chirurgical Academy of St. Petersburg was the scene of a lively and noteworthy gathering of physicians, surgeons, students, and deputies from numerous learned societies, lay and medical, from every part of Russia, to congratulate Professor Wenzel Gruber upon his having held the professorship of practical anatomy for no less a period than twoscore years. During that time Dr. Gruber, besides having instructed, examined, and passed eight thousand medical students in practical anatomy, has himself dissected, or superintended the dissection of, upward of thirty thousand bodies.

Trouble among Washington Physicians.—The daily papers give publicity to the following: Last spring Dr. Sowers, of Washington, criticised, through the newspapers, the President's manner of living, from a medical point of view. Surgeon General Hamilton, of the Marine Hospital Service, preferred charges against Dr. Sowers before the Medical Association in Washington for unprofessional conduct. These charges were not sustained by the majority of the committee appointed to investigate Dr. Sowers' case, although a minority report was prepared convicting him of unprofessional conduct. Dr. Sowers has now filed charges with the Association against Dr. Hamilton. He states that Dr. Hamilton has violated two articles of the Association regulations in having shown to ex-Representative Hazelton the charges which he was about to prefer against Dr. Sowers last April. This was done, it is charged, with the full knowledge that Mr. Hazelton and his family were patients of Dr. Sowers, and was intended to lower him in the estimation of his patients.

Rheumatism as a Theme for Preachers.—The reputation which clergymen have gained as indorsers of quack remedies received an amusing illustration at Carson, Nev., lately. The Rev. Mr. Van D.—— sent to the local paper the notice of the subject upon which he was to preach the next Sunday. The actual title was, "Receipt for the Cure of Hoodlumism." This appeared in print as "Receipt for the Cure of Rheumatism," and it had the effect of crowding the church with people, many of whom had not attended divine worship for a quarter of a century, and a considerable number of whom were stiffened more or less with rheumatism.

Programme of the International Medical Congress.—The Chairman of the Committee of Arrangements announces the following programme:

First Day—Monday, September 5th.—The Congress will assemble at Albaugh's Opera House, at 11 A.M., and will be formally opened by the President of the United States, to be followed by a short address of welcome by the Secretary of State; address by the President of the Congress; report of Secretary-General and Chairman of Committee of Arrangements. Adjourn at 1.30 P.M. From 3 to 6 P.M., meeting of the Sections at their respective halls. Evening *conversazione* at U. S. Pension Hall from 8 to 11 P.M.

Second Day—Tuesday, September 6th.—Meeting at 10 A.M. at Albaugh's Opera House. General addresses by Drs. Flint and Semmola. Sections will meet at 11 A.M., and adjourn at the same hour with Congress at 1 P.M. In the afternoon the Sections will meet from 3 to 6 P.M. In the evening it is expected that a reception will be given by the President of the United States, and the Corcoran Art Gallery will be thrown open to the members and their families.

Third Day—Wednesday, September 7th.—The Congress will meet at 10 A.M. General addresses until 1 P.M. The Sections will meet as usual at 11 A.M., and adjourn at 1 P.M. Afternoon meeting of the Sections from 3 to 6 P.M. Evening reception to the members and their families by the citizens of Washington.

Fourth Day—Thursday, September 8th.—General meeting at 10 A.M. Addresses, if not previously delivered. Meeting of the Sections at 11 A.M.; adjourn at 1 P.M. Afternoon, Sections meet from 3 to 6 P.M. General reception buffet banquet at U. S. Pension Hall from 8 to 11 P.M.

Fifth Day—Friday, September 9th.—General meeting at 10 A.M. Transaction of business affairs of Congress. Meeting of Sections at 11 A.M., and adjourn at 1 P.M. Afternoon, Sections meet from 3 to 6 P.M.

Sixth Day—Saturday, September 10th.—General meeting at 10 A.M. Adjourn at 11 for visit to Mount Vernon.

On Sunday or Monday, the day not yet determined upon, an excursion train will leave Washington with the foreign members and their families for Niagara Falls, under the escort of a part of the Committee of Arrangements, selecting the route which will afford our foreign brethren an opportunity to see some of the most interesting and thrifty portions of our country, as well as very beautiful scenery.

In completing the details of this programme it may be necessary to make some slight modifications.

Medicine in New Haven.—There were 100 doctors in New Haven, Conn., eight years ago, of whom 11 were homœopaths. Now there are 129, with 18 homœopaths.

Professor Virchow's Report on the third piece of tissue removed from the Crown Prince's throat ends as follows: "The tissue did not in any part exhibit an alveolar structure, nor any epithelial deposit or ingrowth. It consisted of delicate connective tissue, which increased toward the surface, but not in the other direction, and in part contained proliferating elements. Nowhere did this proliferation attain the character of independent centres of growth. The excised portion has, therefore, to a greater extent than that removed at the last operation, the character of a hard compound wart growing on a moderately irritated and thickened surface, and its base does not favor in the slightest the opinion that it is a new growth invading the tissues."

The State Board of Health of West Virginia is suffering, says the *Wheeling Daily Intelligencer*, from a governor not in sympathy with its work and purpose. He has recently appointed as a member a physician declared by twenty-nine physicians of Wheeling and by the State Society to be ineligible.

Can Doctors Practise Dentistry?—A case involving this point recently came up in this city, and was decided in the affirmative. A Dr. Bradford was charged with illegally practising dentistry. He showed that he was a legal physician, and the complaint was dismissed.

Bequest to a Medical School.—A valuable library, together with the sum of 15,000 francs, has just been bequeathed to the Medical School of Montpellier by M. Bouisson, who desires that the monetary legacy shall be employed in erecting a suitable building for the reception of the volumes and for the expenses of printing a catalogue. In addition to all this, M. Bouisson has left 100,000 francs to found five annual prizes to be called by his name.

The late Dr. J. S. Jewell.—The announcement made in the general session of the A. M. A. at the last meeting in Chicago by Dr. N. S. Davis, to the effect that the books and instruments of the eminent scientist, Dr. J. S. Jewell (recently deceased), of Chicago, were on sale at a neighboring book-store, and the purchase on the part of members would be of great aid to his wife and children, was a sad commentary upon the error of a slavish and absorbing devotion to the scientific part of the medical profession at the expense of money, family, health, and life itself. A man's first duty is to his family; this being the case the query may well be made as to whether the physician, the soldier, or the clergyman should be permitted to marry.—*Weekly Medical Review.*

Treatment of Toothache Due to Dental Caries.—Dr. Popoff, writing in the *Russkaya Meditsina*, states that he has succeeded in relieving toothache caused by caries of the teeth by making the patient rinse the mouth every half-hour with a dessert-spoonful of a twenty per cent. solution of permanganate of potash, taking care to hold the liquid in the mouth for some minutes.

Curing Cancer Homœopathically.—An ingenious homœopath, Dr. C. F. Ring, has had prepared triturations of the proximate principles that go to make up carcinomata, and suggests for epitheliomata—keratin, leucin, tyrosin. For scirrhus—tyrosin, kreatin, karnin, sarcosin. For encephaloid—kreatin, kreatinin, hæmoglobin. For melanotic cancer—*melanin*, kreatin, hæmin, hæmatin. For colloid cancer—leucin, sarkin. For osteoid cancer—leucin, tyrosin. For innocent tumors—the proteids and the carbo-hydrates. For semi-malignant growths—both the crystallizable and non-crystallizable proximate principles. Dr. Ring does not seem to have tried his remedies, or perhaps he would not have written so much about them.

Reports of Societies.

AMERICAN OTOLOGICAL SOCIETY.

Twentieth Annual Meeting, held at the Pequot House, New London, Conn., on July 19, 1887.

The Society was called to order by the President, Dr. J. S. Prout, of Brooklyn.

In the absence of the Secretary, Dr. E. E. Holt, of Portland, was elected Secretary *pro tem.* Resolutions expressing regret at the absence of the Secretary, Dr. J. J. B. Vermyne, who was prevented by ill-health from being present, were adopted.

Dr. John Green, Dr. J. A. Andrews, and Dr. J. A. Lippincott were appointed as a Nominating and Business Committee.

The report of the Committee of Conference with reference to the formation of a Congress of American Physicians and Surgeons was adopted.

The naming of the representative and alternate to the Executive Committee of the Congress was left to the Nominating Committee.

THE EXAMINATION OF THE POWER OF HEARING, AND HOW TO RECORD ITS RESULTS,

was the title of a paper read by Dr. H. Knapp, of New York.

This was the report of a committee consisting of Drs. H. Knapp, J. S. Prout, and D. B. St. John Roosa. The tests for hearing described were the watch, the voice, Politzer's acumeter, and the tuning-fork. The watch is one of the best means of testing the hearing. A low-ticking watch is of service in indicating the lowest degree of hardness of hearing in those cases where the patient has not become aware of the defect. This is, however, not sufficient to measure the higher degrees of deafness. In these cases a loud-ticking watch or Politzer's acumeter must supply its place. Each of these instruments must be tested by the physician in his office on a number of normal ears, in order that he may obtain a standard. It is a fact that in persons over fifty-five years of age a low-ticking watch may not be heard when placed over the temporal or mastoid bone if the ear is closed, but will be heard if the ear is open.

With reference to the voice as tests for hearing, the whispered voice, the voice of ordinary conversation, and the loud voice are used. Each observer must test his own voice by the acuteness of hearing of normal persons between twenty and forty-eight years of age. The state of the room as to noise and quiet should always be considered; the tuning-fork over all parts of the skull is heard louder and longer when the ear is closed than when it is open. All tuning-forks are heard longer by air-conduction than by bone-conduction. Low tuning-forks are heard louder, but not longer, by bone-conduction than by air-conduction. Departure from these conditions indicate disease.

Dr. Samuel Sexton, of New York, said that it seemed to him that sufficient importance had not been given to the varying conditions of the patients themselves. In cases of chronic catarrhal inflammation of the middle ear, and also in acute forms of inflammation, there are constantly varying changes in the tension of the drum and in the transmitting mechanism. In these cases the acuteness of hearing changes from hour to hour or day to day. He had noticed that in the morning, when the perceptive faculties are active, a patient will hear better than he will later in the day. It is also well known that the vapor-tension of the air, as well as the temperature, has something to do with the transmission of sound. The hearing is better in cold weather than in hot.

Dr. D. B. St. John Roosa, of New York, was not inclined to lay such stress upon the variations in hearing from hour to hour in cases of chronic inflammation of the middle ear. These variations do occur in cases of disease of the middle ear, but they are more marked in disease of the internal ear. In cases of a nervous deafness, the condition of nervous exhaustion has much to do with the capacity for hearing.

Dr. Samuel Theobald, of Baltimore, had noted in certain cases that when he had placed the tuning-fork on the vertex the patient would hear it louder in one ear, say the right. Then striking the fork again and placing it upon the forehead it will be heard best in the left ear. This had given him less confidence in the tuning-fork as a differential test between middle-ear and labyrinthian troubles.

Dr. H. Knapp, of New York, said that for practical purposes we must test the hearing as accurately and with as little loss of time as possible. In certain cases of chronic catarrah no change could be gotten in the hearing power by any test. In these cases he thought that nothing is to be looked for from treatment. Where, however, by changes of weather or changes in the patient's condition, there is a change in the hearing-power we know that there is something to improve. We get not only an estimation of the condition, but we also get a foundation for prognosis and an indication for treatment.

Dr. Charles H. Burnett, of Philadelphia, gave an account of

THE SUCCESSFUL REMOVAL OF AN EXOSTOSIS FROM THE EXTERNAL AUDITORY CANAL BY BONE-FORCEPS AND CHISEL.

The patient was a physician, about thirty years of age, in whose right ear the exostosis had been growing for fifteen years, and within the past year it had entirely occluded the meatus and caused deafness. The growth was about one centimetre in diameter, pediculated, and attached to the anterior wall of the meatus just within the outer edge of the tympanic bone. Its outer surface was covered with thick and rather insensible skin. After a hypodermic injection into the concha of fifteen minims of a five-per-cent. solution of hydrochlorate of cocaine, the outer surface of the exostosis was seized by specially devised bone-forceps and a piece of the bone-tumor cut off. About one-half of the growth was thus removed in successive pieces. As the blades of the forceps could not enter farther into the meatus and get hold of the remnant of the exostosis, a small chisel a few millimetres in width was placed against the attachment and a blow from a hammer on the chisel knocked off the remainder of the growth *en masse*. The operation caused very little pain or bleeding. The fundus of the canal and the membrana tympani were covered with a glove finger cast of epithelium. This was removed and the hearing found to be normal. The ear was dressed with a little iodoform and stopped with cotton. There was no reaction, and the cut surface of bone on the wall of the meatus at the point of attachment of the exostosis was entirely covered with skin in two or three days. Usually, drills impelled by the dental lathe have been used to open the lumen of the canal occluded by exostosis. The novelty in this case consisted in the use of bone-forceps, devised by the author, to remove the growth as far as possible, and then the use of hammer and chisel to complete the opening.

Dr. H. Knapp, of New York, said that to attack these exostoses at the apex with the chisel, where they consist of ivory-bone, is most difficult. The most efficient way, in my experience, is to attack them at the base, cutting through healthy. Here the bone may be much softer. In the after-treatment cleanliness and antiseptic precautions are of the utmost importance.

Dr. J. A. Andrews, of New York, said that where these osteomata are situated in the orbit much serious injury may be inflicted upon the brain by the use of the chisel. It would be much easier to fracture the plate of bone lying against the brain in osteoma of the frontal sinus by attacking the tumor itself than by attacking the bony surroundings of the growth.

Dr. D. B. St. John Roosa, of New York, read a paper on

THE DIFFERENTIAL DIAGNOSIS BETWEEN AFFECTIONS OF THE MIDDLE EAR AND THOSE OF THE LABYRINTH.

There has been some difference of opinion as to our ability to differentiate between affections of the middle ear and those of the labyrinth. Many cases usually classed under affections of the tympanum should be placed among diseases of the cochlea, or of the acoustic nerve. The records of seven recent cases were given in detail. These cases were nearly all in the middle period of life, when its cares and troubles are most pronounced. Such patients often exhibit symptoms of nervous exhaustion. These cases may be benefited by the administration of strychnia, arsenic, and quinine; proper hygiene should be employed. The universal use of the watch as a test of hearing occasionally leads to false conclusions on the part of the general practitioner who discovers loss of hearing by testing with the watch alone. When used alone, I regard the watch as insufficient; when both the watch and the voice are heard badly, there is cause for anxiety. Many persons have lesions which cause them to hear the watch and certain other tones badly, but who can hear the voice well. In the opinion of the author, those persons who hear conversation better than the watch, who hear better in a quiet room than where there is noise, and who hear the tuning-fork better through the air than through the bone, suffer from an affection of the labyrinth or nerve, and not from disease of the tympanum, although the latter may be engrafted upon the previous affection. The general adoption of this view would save a good deal of local treatment of the naso-pharynx and tympanum, and greatly simplify and improve our therapeutics. As far as the aural condition is concerned, I regard these cases as incurable. I think we can assure these patients that if the general health be looked after carefully, they will never hear so badly but that they can hear in a quiet place. This has a good moral effect—it makes the patient happier, and enables us to dispense with much useless treatment.

Dr. E. E. Holt, of Portland: For several years I have performed experiments with the tuning-fork, but I have not been able to reach the same conclusions as those presented by Dr. Roosa. You may find quite a degree of deafness and still the tuning-fork will be heard much longer by air-conduction than by the bone. I have seen many cases where bone-conduction would be longer than air-conduction, and where by treatment the air-conduction would become longer. It is difficult to test the hearing properly with the watch unless it is made with a stop.

Dr. D. B. St. John Roosa, of New York, made some

REMARKS UPON A CASE OF CEREBRAL ABSCESS.

The patient, a boy eleven years of age, came under observation, May 4, 1887, with a painful swelling over the right ear. It was said that the boy had had some trouble with the ear two years before, but that there had been no discharge. For three months he had had tinnitus aurium and vertigo. One week before he was seen he had had pain in the ear, then this swelling appeared. Bone-conduction with the tuning-fork was better than aërial conduction. The hearing-power of the left ear was normal. Immediately above and in front of the auricle there was a swelling about the size of a walnut. This presented fluctuation. There was a history that previous to admission to the hospital the treatment had consisted in the use of injections and the insufflation of powders. The auditory canal was filled with a white substance, which was supposed to be the powder that had been employed. The day after admission the patient was etherized and the abscess opened, with the removal of half an ounce of laudable pus. No fistula was discovered. The patient did well for nine days. Nausea and vomiting then set in, and the temperature went up to 104°. The patient sank into a condition of coma and died on the tenth day after admission. At the autopsy there was found a cerebral abscess one and one, half inch in diameter, situated in the temporo-sphenoidal lobe, half an inch from the surface of the brain. This was lined with thick membrane. The membrana tympani was perforated, and the upper wall of the canal was necrotic. At the junction of the mastoid and squamous bones there was a spot of necrosis half an inch in diameter. The canal and mastoid cells were filled with caseous material.

Dr. Roosa also reported the history of

A CASE OF SUPPURATION OF THE TYMPANUM OCCURRING IN A PATIENT WITH BRIGHT'S DISEASE.

The patient, a woman forty-two years of age, was seen on April 11, 1887. There was intense pain, referred to the left ear, which had existed since the day before. The hearing was much impaired, as the result of a chronic non-suppurative inflammation of the middle ear. The bone-conduction was better than the aërial. There was a watery discharge from the left auditory canal. Examination of the urine revealed the presence of Bright's disease, and the patient died some days later from œdema of the lungs. The point which the author made was that, although this patient complained a good deal of the mastoid process, it was determined that there was no lesion requiring operation because of the absence of the characteristic symptom of tenderness at the apex. The case was regarded as one of tympanic trouble. The post-mortem proved that there was no trouble with the mastoid, but acute suppuration of the tympanum, occurring in a patient with chronic non-suppurative inflammation. The patient died from the Bright's disease.

Dr. W. H. Carmalt, of New Haven: The author speaks of tenderness of the mastoid as though it were an almost infallible sign of suppuration in the mastoid cells. I would ask if we should expect to find this sign always?

Dr. Roosa: I think that this is a very strong test, although by no means infallible.

Dr. Emil Gruening, of New York: I have this winter seen a number of cases of abscess. In two months I saw seven cases. In children I open the abscess and invariably open the mastoid cells. I do this especially where the abscess has been preceded by otitis media purulenta. In four of the seven cases the mastoid cells were filled with pus. In this way through drainage was established and all the patients recovered. I saw three cases of otitis media purulenta treated by insufflation of powder, leading to retention of secretions and death. All died of meningitis.

Dr. Lucien Howe, of Buffalo: This calls to mind one which I had in a child where there was a history of recurring attacks of ear trouble with discharge. It was stated that good results had been obtained by the use of alum and boric acid. This was continued and the patient began to develop the typical signs of mastoid trouble. I etherized the child and removed the accumulation in the outer ear; all the symptoms then subsided.

Dr. W. H. Carmalt, of New Haven: The fact that the cerebral abscess was surrounded by a thick membrane does not prove that it was of long duration. In a recent case of cerebral abscess, resulting from an injury over the parietal bone, I attempted to reach the abscess by trephining, and passed my knife two and a half inches in the direction where I supposed the abscess to be, but got no pus. The man died, and I found an abscess in about the position I had passed the knife, but the wall was so thick that the pressure of the knife had squeezed the pus into the lateral ventricles and death had been the result. In this case the operation was performed within two months of original injury.

Dr. O. D. Pomeroy, of New York, presented a paper entitled

DESQUAMATIVE INFLAMMATION OF THE MIDDLE EAR, WITH REMARKS,

which was read by title and referred to the Publication Committee.

Dr. E. E. Holt, of Portland, exhibited

AN EFFICIENT POWDER-BLOWER, WITH REMARKS ON THE USE OF POWDERS IN THE TREATMENT OF DISEASES OF THE EAR.

The powder-blower consists of six or eight inches of small glass tubing, to which is attached about fifteen inches of rubber tubing. The glass tube is plunged into the powder until a sufficient amount is introduced into it. The powder is gently drawn into the proximal end of the glass tube. The distal extremity is then placed in the speculum and the powder blown into the ear. By drawing the powder from the distal end before blowing it, it is carried *en masse* to the desired point and applied evenly to all parts. The instrument can be used with great facility.

After trying various powders, boric acid has been found the most efficient in the largest number of cases. One of the first cases in which the author had used this powder was one in which treatment for over two years had failed to cure a suppurative otitis media. Upon the application of the powdered boric acid the discharge ceased and has not returned—a period of five years. Cleanliness before using the powder is essential. A comparison of cases of chronic suppurative otitis media treated with boric acid with those treated without this agent led to the conclusion that while the discharge from the ear ceases much earlier when the powder is used, yet perforations in the drum-head heal less frequently.

Dr. Samuel Theobald, of Baltimore, exhibited a powder-blower similar to that of Dr. Holt, with the exception that the glass tube was substituted by a piece of goose-quill, and that the rubber tube was furnished with a mouth-piece consisting of a quill. The powder is introduced into the quill and, by shaking, brought to the proximal extremity of the tube, the object being that it shall be thrown into the ear in the form of a cloud.

Dr. William W. Seeley, of Cincinnati, said that he had never seen any benefit from blowing powder into the ear. He had only seen good results where the powder is packed into the canal. He, however, now rarely uses the powder in any way. In these cases of suppuration there are three points to be observed—the Eustachian tube should be kept open, the naso-pharynx should be treated as in any other case of inflammation of the middle ear, and the ear should be kept clean by the use of cotton tubes.

Dr. D. B. St. John Roosa, of NewYork, remarked that he found the syringe the best means of cleaning the ear. He considered powders inferior to other methods of treatment.

Dr. B. Alexander Randall, of Philadelphia, stated that in treating a number of cases of purulent discharge which had continued from five to fifteen years, and in which the discharge had been pretty continuous and fetid, he had cleansed the canal and used boric acid, at first blowing it in lightly, and finally filling the canal pretty full without packing. Within a few days the powder is dissolved, and the discharge is usually diminished in quantity and the odor is lost. In eight out of every ten cases that had been his experience. He had never seen any bad results.

Dr. H. Knapp, of New York, in acute cases of otorrhœa used boracic acid as an antiseptic and cleansing powder. The patient is directed to cleanse the ear with the syringe three times a day. The powder is then introduced by means of a spoon until the canal is loosely filled. If the powder becomes moist the patient is directed to syringe the ear and renew the application. The majority of acute cases do not require any other treatment. In chronic cases he removes any polypoid growths or any carious bone that may be present, and then uses alcohol in fifty or sixty per cent. strength, or absolute with sulpho-carbolate of zinc, and changes that with nitrate of silver. He continues this treatment until there is no discharge, and directs the patient to do nothing beyond using a light cotton plug to filter the air. In one case he makes an exception, and that is when a perforation of moderate size has perfectly clear edges and remains in the same condition for weeks or months. Here he pastes a small piece of sized paper over the perforation. In many cases the hearing is improved, and it seems to stimulate the healing of the perforation.

Dr. C. R. Agnew, of New York, said that in using fluid applications in the treatment of these cases he had employed a procedure which must be new to some of the members. After cleaning the ear in which he wants to diffuse a fluid application as much as possible, he turns that ear uppermost and fills the external canal with the solution. Then he inserts the nozzle of the Politzer apparatus into the external canal and makes pressure, diffusing the liquid to all parts of the ear and making it appear, in some cases, in the pharynx. This sometimes may be of value.

Dr. Samuel Theobald thought that both powders and solutions may be used with advantage. He had never seen any direct harm follow the use of boracic acid. In cases of suppuration, with a small or moderate sized perforation, he had seen it dry up the discharge and leave the perforation larger than before its use. In such cases he prefers solutions. In acute cases his practice is to always use solutions. He had used a fifteen-grain solution with satisfaction. Where the drum-membrane is practically gone, with a granular condition of the mucous membrane, the use of boracic-acid powder is indicated. He had never found it necessary to pack the canal. One puff of the powder-blower fills the canal sufficiently full.

Afternoon Session.

The discussion on the use of powders in the treatment of inflammation of the ear was continued.

Dr. H. Knapp, of New York, said that in acute suppurative otitis, which is certainly of bacterial origin, he used boric acid largely on account of its drying properties. Suppuration, fermentation, and decomposition do not take place where a part is kept dry. As soon as the boric acid becomes moist he had it removed. For acute cases he knew nothing better than this method of treatment.

Dr. Emil Gruening, of New York, with reference to three cases which he had already mentioned, said that in these cases he attributed the fatal result to the use of powder, which was boracic acid. The first case, that of a girl nineteen years of age, had otitis as a result of the use of the nasal douche. In a few days she began to suffer with headache, dizziness, and intense tenderness on one side of the head and slight puffiness in the region of the mastoid. He saw the patient after she had become comatose, and found the tympanic membrane bulging and injected. There was a slight tit-like projection, and in this there was an opening filled with powder. He made an opening in the membrane and cleaned it out carefully, and advised the family physician to open the mastoid. He did so, and found the mastoid cells filled with pus. The patient recovered consciousness, but died the next day from heart-failure. The second case was that of a lady, seventy years of age, who had otitis media with perforation. A powder was applied, and a few hours later she began to suffer with intense headache. Symptoms of meningitis appeared, and the speaker was called in. He found a small opening in the membrane occluded with powder. A free opening was

made, but the patient died of meningitis. The third case was that of a child with long-standing otitis media and destruction of both membranes. This is the only case in which the powder had been packed. After the ears had been packed the child had repeated chills. I was called in and removed the plugs, which were hard, concrete masses and were taken away with difficulty. In spite of the removal of the powder the child died, with all the symptoms of pyæmia.

Dr. D. B. St. John Roosa, of New York, thought that in a large percentage of cases acute inflammation of the middle ear is a self-limited affection. He tries to secure cleanliness and then dries the parts. He did not use dryness as a means of destroying the germs or preventing them from acting, for he does not believe in the germ theory of disease. In a large proportion of the acute cases the only treatment required is irrigation with warm water *pro re nata* and drying afterward. He believes that the pus has a chemical quality, apart from the presence of germs, which renders it corrosive.

Dr. Samuel Sexton, of New York, said that, in the cases referred to by Dr. Gruening, where there is a nipple-like formation there is little discharge from the atrium. In these cases he makes an early and free opening, and in this way has avoided many of the consequences which are apt to follow in these cases. The opening is made through the membrana flaccida into the attic, and through the integument of the upper wall, which usually becomes tumefied.

Dr. Samuel Theobald, of Baltimore, did not think that the good effects of boric acid are due to its drying qualities alone. Some of his most brilliant results have been with the solution of boric acid.

Dr. J. A. Lippincott, of Pittsburg, counted boric acid a most valuable agent. There are, however, certain cases in which, as a result of idiosyncrasy on the part of the patient, the powder acts as an irritant. In the cases reported by Dr. Gruening the fatal results are to be attributed to its improper use. It seemed to him that the dangers of boric acid can be avoided by applying it in the form of a loose powder

Dr. Charles H. Burnett, of Philadelphia, read a paper detailing

AN EXAMINATION OF FIFTEEN DEAF-MUTES BY MEANS OF J. A. MALONEY'S OTOPHONE.

The cases examined were pupils in the Pennsylvania Institution for the Deaf and Dumb, Philadelphia, and were between the ages of twelve and twenty-one years of age. The cases were divided into three classes: 1, Congenital cases; 2, those losing their hearing between the ages of one and five years; 3, cases of profound hardness of hearing, but who still hear a little and can talk, so-called semi-mutes.

The method of procedure was as follows: Five vowels were written and pointed out at the time of their repetition three times in succession, through the otophone, by Mr. Maloney. The pupil was then told to indicate which vowel was spoken, when Mr. Maloney made another repetition, care being taken to mix about in the tests. The words *Philadelphia*, *Mississippi*, *Burlington*, *Missouri*, *boy*, *baby*, *papa*, and *mama* were also used as tests, as well as the consonant *B*.

Hearing was excited in every instance; but fourteen of the fifteen cases gave ample evidence of hearing by their successful indications with the pointer as the different tests were repeated in their ears. It was noted that the results were not as good with the acquired cases as in the so-called congenital cases of deafness. This may be due to the fact that the process productive of the acquired form is more violent, involving the internal ear, as in spotted fever, than in congenital cases, which generally give evidence of being simply catarrhal in their origin, and affect the middle ear but not the internal auditory organ. In the case of semi-mutes, the results were especially satisfactory, as they heard nearly everything said to them, and returned intelligent answers to the questions. In such cases, both the remaining hearing and the articulation could, in all probability, be improved by the systematic employment of such an instrument as the otophone as a means of instruction, the best results being obtainable where the instruction is begun early in life.

A paper with the same title was presented by Dr. F. B. Loring, of Washington. In the absence of the author the paper was read by title.

Dr. William W. Seely, of Cincinnati, asked whether the use of this instrument was recommended simply as a help to hearing, or as a therapeutic measure.

Dr. C. H. Burnett, of Philadelphia, said that the instrument seems to be an immediate help and is also a valuable therapeutic measure. In the case of an extremely deaf person who was unable to hear a loud voice when the words were spoken close to the ear, and who with an ordinary ear-trumpet could hear slightly, with this instrument he could hear fairly well from the first. After exercising for fifteen minutes, he was able to hear with closed eyes the unaided voice, the words being spoken a foot from the ear.

Drs. H. L. Morse, of Boston, and B. Alexander Randall presented a series of photographic illustrations of the anatomy of the human ear.

Dr. Samuel Sexton, of New York, read a paper entitled

EXCISION OF THE OSSICLES OF THE DRUM OF THE EAR FOR CHRONIC PURULENT INFLAMMATION OF THE MIDDLE-EAR TRACT.

Since bringing this subject to the attention of the Society, one year ago, the writer has continued the practice with satisfactory results and presented some further observations, based upon the records of 19 operations. Of these 19 operations, 13 were on females and 6 on males. Seven cases were between five and twelve years of age, 8 were between thirteen and twenty years of age, and 4 were between twenty-three and forty years of age. The left ear was affected in 11 cases, the right in 8. In 2 cases both ears were the seat of suppurative inflammation, and in 1 there had been a mastoid abscess. In the majority of the cases there had been a history of recurrent aural catarrh for a long time, attended with pain in the ear. There was much deafness and distressing acoustic phenomena, as autophonia, and the like. The discharge was usually offensive. The general health of most of the patients was fair.

In all cases the drum-head was greatly impaired, the membrana vibrans being usually almost entirely gone; in most of the cases the membrana flaccida alone remained, perhaps with some portion of the membranum vibrans attached. Where any of the latter remained, it was liable to be found connected by bands with the inner wall of the tympanum. Sometimes a sinus of greater or less size opened through these diseased structures into the attic. The membrana flaccida, together with the membranous and ligamentous attachment of the ossicles, generally held the latter in place, even after the most extensive suppuration had long existed. Under these circumstances, drainage was extremely likly to be interfered with. The manubrium and cicatricial structures depending from the auditory plate were frequently found adherent to the inner wall of the tympanum, while the attic and antrum were lined with much thickened mucous membrane.

Some portion of the middle-ear tract was found to present more or less carious bony surface. In some instances the ossicles themselves were carious or anchylosed. In several of the cases the malleus handle was adherent to the inner wall of the drum. In some, only a necrosed stump remained. In some, the malleus and incus were adherent to each other. The incus was less liable to caries. The stapes cannot be so well examined as the other bones, since it is never removed. In some of the cases the operation was not resorted to until months or

years after ordinary methods of treatment had been resorted to without success.

Without going into all the details of the operation, the author said that experience had shown that it may be performed much more rapidly than was at first supposed. The first operations required an hour, the later ones not more than fifteen minutes. To the protracted operation he attributed some disagreeable symptoms, such as nausea, which had not been presented by the later cases.

The remaining fragments of the drum-head are everywhere detached from the tympanic ring with a slender, trowel-shaped knife. The malleus is then freed from its attachments, including the tensor tympani muscle, by one or more sweeps of the knife. After all blood is removed the long process of the incus is separated from the stapes, if it be connected with that bone. The malleus handle is separated from the inner wall of the canal, if it has been attached. The malleus handle is seized with stout forceps as high as possible and gradually detached and brought away. The removal of the incus is more difficult, since its long process is liable to be swept from view. With a little patience, however, the bone may be soon found, and its removal is then a simple matter. When lying in the attic, the scraper may be of service in bringing it down. In most instances he no longer divides the chorda tympani. In some cases, where the ossicles were very adherent, considerable force was necessary to detach them, and in one instance this was impossible.

After the operation the drum should be carefully dried with cotton, and ten drops of a four per cent. solution of cocaine may be instilled. This is usually unnecessary. Usually very little or no reaction follows the operation. In females it is important to defer operation until a little time after the menstrual period.

In the 19 cases both malleus and incus were removed in 10. In 1 the body of the incus alone was removed. In 6 cases the malleus only was excised.

When possible, it is well to clear the drum of granulation-tissue by treatment before the operation, since less hemorrhage will then be encountered. The duration of treatment after the operation was, in 5 cases, one month; in 2, two months; in 2, three months; in 1, six months; and of the other 9 cases, 3 were unimproved, 1 failed to continue treatment, and 5 are yet under observation. Many of these were dispensary patients under bad physical conditions. A marked improvement in hearing occurred in nearly all cases. In the cases noted as cured, it was restored to from seventy-five to one hundred per cent. of the normal as far as testing with voice was concerned.

This marked improvement in hearing was unexpected, and gave rise to the conjecture that we may recommend the operation for deafness alone in many cases where the drum is obstructed by the results of chronic purulent inflammation, although all discharge may have ceased.

It might be expected that the taste might be affected by injury to the chorda tympani nerve. In a few this was the case for a short time. Recovery, however, always took place. Reproduction of the drum-head never took place. Among the results of the operation may be mentioned the prevention of recurrent accumulations of purulent matter in the attic and antrum. The general health was nearly always improved. In two phthisical cases the cough was lessened in one and ceased in the other, while both gained much in weight. In children the effect on health was most marked.

The operation is performed with the patient upon the back and under ether narcosis. The electric light is almost essential. Magnifying lenses introduced into the speculum are of service in making preliminary examinations. The after-treatment consists in keeping down granulation-tissue and aiding in the transformation of the mucous lining into a dermoid condition. A meddlesome plan of treatment is undesirable. Where a large secreting tract exists a cure is sometimes almost impracticable. Alcohol has not been found useful in treating granulation-tissue. Salicylic acid and boric acid have done good in a few cases. The peroxide of hydrogen has its use in certain cases. The persistence of discharge after operation may be expected in catarrhal and run-down subjects, especially where caries of the bone exists.

The specimens removed in these nineteen cases were presented.

Evening Session.

"A case of Rapid and Almost Total Loss of Hearing in a Child Seven Years of Age; Inherited Syphilis apparently the Cause; Marked Improvement following the Use of Iodide of Potassium," by Dr. A. H. Buck, of New York, was read by title.

Dr. Samuel Theobald, of Baltimore, reported

A CASE OF SYPHILITIC DISEASE OF THE LABYRINTH,

exhibiting remarkable variations in the degree of deafness.

The patient was a man about thirty-four years of age, the subject of inherited syphilis. In one ear the deafness was nearly complete, and in this ear there was but little variation. In the other ear frequent and sudden relapses occurred after the hearing on several occasions had been brought up almost to the normal standard. Within twenty-four hours the hearing would fall from the ability to distinguish words in a whisper at twenty inches, to a degree of deafness which would require the same words to be spoken in a loud voice. Iodide of potassium was given with but little effect, but decided benefit resulted from the administration of bichloride of mercury in combination with muriate of ammonia.

Executive Session.

The following were elected to membership: Drs. J. C. Lundy, of Detroit; Wm. H. Hotchkiss, of New Haven; S. D. Risley, of Philadelphia; and David DeBeck, of Cincinnati.

OFFICERS FOR ENSUING YEAR.

President—Dr. J. S. Prout, of Brooklyn.

Vice-President—Dr. George C. Harlan, of Philadelphia.

Secretary and Treasurer—Dr. J. J. B. Vermyne, New Bedford, Mass.

Representative to Executive Committee of Congress of American Physicians and Surgeons—Dr. C. R. Agnew, New York.

Alternate—Dr. Wm. H. Carmalt, of New Haven.

The next meeting of the Association will be held at the Pequot House, New London, Conn., Tuesday, July 19, 1888.

An Apparatus for the Application of Dry Heat.—Dr. G. M. Shillito, of Allegheny, Pa., sends a description of an apparatus devised by him for the continuous application of dry heat. The apparatus consists of a copper boiler, in which the steam is generated, and a flattened circular vessel of very thin brass, covered with six folds of cotton-sheeting and one of muslin on the outside. The steam is conveyed from the boiler through tubing to the hollow, disk-like vessel, which is supported on a light wire rack at any required distance from the patient's body. The steam then passes into a condensing vessel, placed on the floor near the bed, or on the bed itself. Dr. Shillito has employed the apparatus in acute pleurisy, peritonitis, and puerperal metro peritonitis, with very satisfactory results. In one instance the heat was applied constantly, the apparatus never being cool for fourteen days.

Army News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from July 17 to July 23, 1887.

HEGER, A., Lieutenant-Colonel and Surgeon. Assigned to duty as member of Army Retiring Board, command at Governor's Island, New York Harbor, N. Y.; *vice* Colonel Charles Sutherland, Surgeon, hereby relieved. Par. 13, S. O. 167, A. G. O., July 21, 1887.

GARDINER, JOHN DE B. W., Captain and Assistant Surgeon. By par. 43, S. O. 162, A. G. O., July 15th, so much of par. 1, S. O. 156, c. s., A. G. O., as directs him to report for duty at Fort Washakie, Wyo., is revoked.

TORNEY, GEORGE H., Captain and Assistant Surgeon. By par. 42, S. O. 162, A. G. O., July 15th, so much of par. 1, S. O. 156, c. s., A. G. O., as relieves him from duty at Fort Monroe, Va., is revoked.

BARNETT, R., Captain and Assistant Surgeon. Sick leave still further extended six months, on account of sickness. S. O. 162, A. G. O., July 15, 1887.

TAYLOR, A. W., Captain and Assistant Surgeon. Now at Laramie, Wyo., is ordered for temporary duty at Fort Robinson, Neb. S. O. 162, A. G. O., July 15, 1887.

Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending July 23, 1887:

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	15	5
Scarlet fever	48	8
Cerebro-spinal meningitis	3	3
Measles	29	4
Diphtheria	89	34
Small-pox	8	2
Yellow fever	0	0

ELECTRICITY IN THE TREATMENT OF TEDIOUS LABOR AND POST-PARTUM HEMORRHAGE.—Dr. Fayette reports the following case: The patient was a primipara, twenty-three years of age. Twelve days before labor came on he was engaged to attend her, and on examining her urine he found it contained a large quantity of albumen. When labor commenced the woman's face was œdematous, pulse 110. Head presented in the first position. The os uteri was at first rigid, but gave way after a dose of 30 grains of chloral-hydrate. Uterine contraction was feeble and ineffectual. After working twelve hours, a strong and rapidly interrupted current of electricity was brought to bear on the inert uterus. When the head came down on to the perineum the current was stopped. After delivery, as the uterus did not contract well, a dose of ergot was given. About an hour later the doctor was called hurriedly upstairs and found his patient flooding. He at once passed his hand into the uterus, but did not succeed in setting up contraction; he then removed the clots and injected vinegar, but still no effectual contraction took place. The injection of hot water was equally in vain. The battery was then requisitioned, and, with the positive electrode in the patient's hand and the doctor holding the negative electrode in his left hand, he grasped the flaccid uterus through the abdominal walls with his right hand; the effect was instantaneous, the uterus at once becoming powerfully contracted, and the hemorrhage ceased. After a few minutes the current was discontinued and the bleeding did not recur.

A CALCULUS IN THE BRONCHUS.—Dr. Montané recently communicated the following case to the Havana Academy of Sciences. The patient was a young lady from the United States, who, up to 1884, when she was first seen, had enjoyed good health. In that year she had an attack of pleurisy on the right side, for which parathoracentesis was performed, which removed nine hundred and thirty grammes of fluid. After this she completely recovered. In the early part of 1886 she was again seen for a persistent dry cough, which was considered to be due to pharyngitis, but which did not yield to the remedies prescribed. A painful spot was complained of at the base of the neck, a little above the left sterno-clavicular articulation. Up to May 13th there had been no elevation of temperature; for some days after this, however, there was a slight degree of fever, which was quite unaffected by quinine. The cough afterward became more spasmodic—somewhat resembling whooping-cough; some streaks of blood also appeared in the sputum. On auscultation occasional dry rhonchi were heard over the left apex, and a slight roughness in the breath-sounds; there was, moreover, a want of percussion-resonance in the left infra-clavicular region. An active counter-irritant was applied, and digitalis ordered, but no good effect was produced. On the morning of May 20th it was noticed that the respiratory sounds over the left apex had become weaker, and in the afternoon the whole of the left lung was almost impermeable to air, only some very slight rhonchi being perceptible at the apex; the percussion-resonance was also highly exaggerated, showing the existence of an emphysematous condition of the entire lung. A consultation was now held with Dr. Jover, who suggested that there might be pneumonia of the apex, and that a pseudo-membranous plug, due to the inflammation, was obstructing the left bronchus. He proposed to order an emetic in the hope of dislodging this plug. After ipecacuanha had been given, the cough became less violent, the fever diminished, and the air entered more freely into the obstructed lung. The next morning, however, all the previous symptoms returned with as much severity as before, and this condition continued till May 24th, when the patient, during a violent fit of coughing, expectorated a hard substance, which proved to be a calculus. It measured one centimetre by seven millimetres, and was irregular, ovoid, and hollow, with a rough surface. Its weight was twenty centigrammes. On analysis it was found to be composed of carbonate and phosphate of calcium. Immediately after the expulsion of this body the air penetrated freely into every part of the left lung, the cough disappeared as if by magic, and the fever gradually diminished, till in three days' time the patient was perfectly well. The author states that this is the first case of the kind which has been reported in Cuba. Indeed, such a case as this is of extreme rarity everywhere.—*The Lancet.*

THE BOWEL LESION IN TYPHOID FEVER.—How far ought the intestinal ulceration met with in typhoid fever to be considered pathognomonic? Is the detection of ulcers in Peyer's patches, presenting none of the characters of the tuberculosis or dysentery, to be taken as proof of typhoid fever, even in the absence of well-marked clinical symptoms? Are we justified in believing in latent typhoid from post-mortem evidence alone? Such are the questions which are suggested by an interesting *brochure* recently published by Dr. Vandyke Carter, upon "A Peyerian Ulcer Lesion of the Small Intestines, apparently new" (Bombay, 1886); and the answer he would impel us to give to them would be a decided negative (*The Lancet*). The material upon which he bases his paper consists of about ten cases, in natives (in whom typhoid fever is rare) suffering from symptoms described as remittent fever, and after death, which in some cases was due to perforative peritonitis, exhibiting more or less extensive ulceration of the small intestines. Constipation rather than diarrhœa was the rule; and in not more than one case did the "fever" run the course of typhoid.

But Dr. Carter does not rely on clinical grounds to establish the non-identity between the intestinal lesion in these cases and that present in typhoid fever. He subjects the type of ulceration to a close scrutiny, and points out several prominent features of difference, the most striking being the absence in his cases of the excessive swelling and infiltration of the Peyer's patch that precede the stage of ulceration in typhoid fever. He inclines to the belief that these non-specific ulcers are produced by embolic or thrombotic plugging, and that this depends on septic conditions. That septic causes are adequate to produce intestinal lesions of this kind is not to be gainsaid; and we think that Dr. Carter has made out a case for further investigation. At the same time, with the knowledge we have of the various forms assumed by typhoid fever, or at any rate by cases classed together as typhoid, and the great variety and extent of the intestinal lesion in cases of this disease, we may hesitate at first to accept his conclusion. A less cautious observer than Dr. Vandyke Carter would doubtless have been satisfied with the detection of the numerous ulcers in the favored seats of election and the occurrence, in many cases, of perforation, to declare that the cases came under the head of typhoid fever, modified, it may be, by the conditions under which the disease occurred. Hitherto we have been led to rely upon the ulceration of the intestines as the only positive criterion of this disease; but now it will be necessary to review our position in regard to it, and it may be that we shall have to fall back upon the detection of the typhoid bacillus to determine the diagnosis.

Honors to a Medical Publisher.—King Humbert, of Italy, has recently nominated Signor Giovanni Jovene, publisher of the *Riviste Clinica e Terapeutica*, and of many medical works, to the rank of Chevalier of the Italian Crown. The title is accorded in consideration of the great impulse which Signor Jovene has given to science in Italy by the publication of so many important scientific works. We congratulate Signor Jovene, and wish him many years to enjoy the honors which he has so well deserved.

Lanoline and Cutaneous Absorption.—It is commonly stated and generally supposed that lanoline favors cutaneous absorption. But M. Aubert asserts that his experience is absolutely contradictory to this belief. So far from favoring absorption, he says, it prevents it almost wholly. In consequence of this, as lanoline does not spread over the skin, but adheres strongly to the part to which it is applied, and as it is not absorbed, he advises that it be used as a vehicle for antiseptic substances in surgical practice.

Absence of the Patella.—M. Redard reported at a meeting of the French Surgical Congress a very rare anomaly in the person of an infant who presented a congenital absence of one patella. The patella on the other side was present and normally formed.

Treatment of Catarrh of the Antrum.—M. Combe recommends trephining in the treatment of chronic catarrhal inflammation of the antrum of Highmore, and subsequent disinfection by iodol, which, on account of the absence of odor, is preferable to iodoform in such cases.

In an Article on "Indications and Contraindications for Laparotomy," Dr. J. R. Nilsen makes some very strong arguments against indiscriminate laparotomy. He gives the following sketch: "Dr. A, we will suppose, has a large hospital service; his patients come from among the poorer classes. Before entering the hospital, have they all been able to engage physicians who had it in their power to try all known modes of treatment, or several of them, or any of them? Here is Mrs. Malony, very ill, and very poor. She went to Dr. B three times, and then her means gave out. Dr. B advised her to go to a dispensary; she did (and, unfortunately for her, not to the Post-graduate). She came into the hands of Dr. C, who found a large, tender uterus, great tenderness in the parametrium on both sides, and a swelling-like something where the ovaries and tubes should lie, and so he put down in his case-book: 'Hyperplasia of the uterus; chronic oöphoritis, with disease of the Fallopian tubes;' painted a large figure with iodine upon the vaginal wall twice a week for two months, and told her to take a hot injection twice daily, without telling her how or how long to take the douche. After the two months he thought her a little better, but still she remained pretty bad. 'Would Mrs. Malony be willing to undergo an operation? Everything else had failed.' Indeed, she would. 'Anything to get well.' So she was sent to the ward of Dr. A. 'Gentlemen, I shall to-day perform laparotomy upon this patient, who was brought here last week by Dr. C for the removal of her ovaries and tubes, which are probably far advanced in disease, and give her constant intolerable suffering, even after all other means have been systematically used without the slightest effect.' So Mrs. Malony has them removed. One more successful laparotomy—done as a last resort. How much of the bulk of our statistics is made up of similar cases, and how long after their discharge as cured are the patients watched carefully?"

Medical Requirements in Virginia.—A correspondent from Washington takes exception to an item, taken from the *Virginia Medical Monthly*, appearing in a recent issue of The Medical Record, in which high praise was given to the Virginia Board of Medical Examiners. He encloses a prescription written by a practitioner in Virginia. The prescription calls for two grains of sulphate of strychnine and five drachms of citrate of iron and ammonium, and one ounce of aromatic sulphuric acid in seven ounces of water. The handwriting is not very good, and the writer betrays a lack of accurate knowledge of Latin terminations. But he is by no means peculiar in this respect, and his medical attainments may well be of such a character, despite other deficiencies, as to entitle him to receive a license from the Board.

A Large Child.—Dr. R. Cyrene McDonald, of Boston, writes that he attended a woman in her first confinement on December 2, 1886. The child, when born, was of ordinary size. On May 1st the infant was measured, with the following results: Head, 17½ inches; shoulder, 20½; waist, 18¾; upper arm, 7¾; forearm, 6; thigh, 10; leg, 7. The length of the child was twenty-six inches and its weight twenty-one pounds. Dr. McDonald reported a similar case in these columns not long ago.

A Solvent for Antifebrin.—Dr. Proegler, of Fort Wayne, Ind., writes that he has used the aromatic spirits of ammonia as a solvent for antifebrin, and has found it very good for that purpose. It was suggested to him by Mr. Louis Schmidt, a pharmacist of that city.

Almén's Test for Sugar.—In the formula given by Dr. Norderling in The Medical Record of April 23, 1887, of Almén's test for sugar, the equivalent of potassio-sodium tartrate should read Gm. iv. (℥ j.), instead of ℥ iv., as printed.

Novelists and the Medical Profession.—In that clever and interesting novel by Maxwell Gray, "The Silence of Dean Maitland," which, though bearing this year's date, has already reached a fourth edition, there is, says *The Lancet*, a graceful allusion to the medical profession, the members of which receive but scant justice from novelists in general: "The medical profession, strangely enough, has never been popular, skill in the healing art being usually attributed by the unlearned to the favor of the evil one; a clever physician is prized and feared, but rarely loved. Even among the cultured there still lingers a faint repulsion for the man who is the only welcome guest in the day of sickness and peril, and society is only just beginning to honor the cultivated intellect and recognize the social value of the doctor." The real hero, and certainly the finest character in the book,

Henry Everard, is a young surgeon, and when asking his clerical friend, Cyril Maitland, the future dean, for the reason why clergymen were more popular than doctors, received a reply in which the truth is somewhat satirically given: "Clergymen are of no use save at two or three august moments of life—when a man dies, gets married, or is born; therefore they inspire popular reverence as belonging to the ornamental and superfluous portion of existence, its fringes, so to speak. Doctors, on the contrary, cannot be dispensed with; their services are needed and obtained on the most homely occasions, and men never reverence the indispensable. Bread and cheese are taken as a matter of course, but the champagne of festivals is thought much of."

The Sixth International Congress for Hygiene and Demography.—The Congress will be held this year in Vienna, commencing on September 26th and closing on October 2d. During the continuance of the Congress there will be an Exposition of all publications, photographs, maps, models, apparatus, etc., relating to hygiene. Among those who are announced to read papers or to take part in the discussions are MM. Brouardel, Paris; v. Pettenkofer, Munich; Corradi, Pavia; Humphreys, Memphis; Inama-Sternegg, Vienna; Hueppe, Wiesbaden; Marchiafava, Rome; Beaujon, Amsterdam; Körösi, Budapest; Semmola, Naples; Proust, Paris; Bohm, Vienna; and many others. The address of the Committee of Organization of the Congress is I., Renngasse, 20, Vienna. On the programme of social events are excursions to the "Höllenthal," to Kahlenberg and to Budapest.

Almén's Test for Sugar.—Of all tests for sugar in urine, Fehling's is undoubtedly the most satisfactory. The only objection that can be urged against it is the difficulty of preserving it a sufficient length of time, so that unless recently prepared it may lead to fallacious results, owing to stale solutions having a tendency to throw down the suboxide of copper spontaneously when heated. This, of course, is a great disadvantage to practitioners, who may be seldom called upon to use the test, and are at a distance from manufacturing chemists from whom they may procure a fresh supply. To remedy this Professor Almén, of Upsala, has improved the old bismuth test for sugar, and has prepared a solution which has the advantage of keeping unchanged for years and being at the same time an extremely delicate test for sugar in urine (*The Lancet*). It consists of a solution of bismuth subnitrate, with caustic soda and potassio-sodium tartrate. In testing for sugar, the albumen, if present, must be first removed by precipitation by heat and acid, and one part of the solution treated with ten of the urine, when, if sugar be present, the bismuth will be deposited in a metallic state. The test is sufficiently delicate to detect sugar in the proportion of only .05 per cent. This test, as we have already said, is chiefly valuable on account of its preservative qualities, keeping well on board ship and in hot climates, though we doubt if it will supersede the use of Fehling's solution, especially as the latter is now supplied in hermetically sealed capsules which preserve the test for a considerable time.

Dental Disease in Savages.—Dr. Whitney, writing from Honolulu, describes, in the *British Journal of Dental Science*, the bleached skeletons of Kauai, and points out that it is a great mistake to believe the "noble savage" enjoys an immunity from suffering due to disease affecting his teeth; in spite of the simple nature of his food and his out-door life, he still has toothache. Dr. Whitney found both superior and interior maxillaries, but none had complete dentures. This does not take into account the loss of the anterior lower, and, less frequently, upper teeth, which were knocked out to express their grief at the death of a favorite chief, as was their universal custom in those times. Some had lost but one or two teeth, others the greater portion of the molars; while not infrequently the anteriors showed decay upon their surfaces, or had left the traces of alveolar abscess. In several cases traces existed of much suffering, caused by the eruption of the inferior third molars, and in several by the superior. One specimen showed the ravages of salivary calculi, but, as a general rule, there was but little tartar upon the teeth. No instances of erosion were met with, but many of the teeth were much worn by use. There was one case of anchylosis of the jaw. Several had oxostosis. The effects of alveolar abscess were very frequently seen, sometimes leaving but a small opening through the outer plate of the jaw, in others the whole outer plate being gone. Dr. Whitney found the antrum to vary greatly in size. On the whole, the teeth were set in a regular arch, but there were a few instances of irregularity. In uncovering two skeletens lying side by side, it was seen that both were females, one much older than the other, and in them the peculiar dental irregularity of the one was exactly repeated in the other.—*The Lancet.*

A New Instrument for the Relief of Deafness.—An interesting demonstration of certain new instruments for the improvement of the hearing of the partially deaf was made before the last meeting of the College of Physicians, and repeated at a recent meeting of the County Medical Society. The instruments were those devised by Mr. Maloney, Washington, D. C. In these instruments there is no tube to enter the meatus and thus obstruct the entrance of the sound-waves. A tightly stretched rubber membrane, about two inches in diameter, is secured between two rings and enclosed in a hard rubber box, which is applied against the external ear. To the outer portion is attached a cone-shaped tube for collecting the sound-waves. The vibration of the rubber membrane sets in vibration the air contained in the external auditory canal. One form of the apparatus consists of the ear-piece just described, to which is attached a flexible rubber tube, terminating in a mouth-piece. This modification is intended to be used in the training of the partially deaf, the speaker applying his mouth to the mouth-piece and speaking in the tube while the listener applies the other extremity to his ear. The impact of the air upon the membrana tympani is prevented by the presence of the rubber membrane. In several tests made before the societies it was found that a person so deaf as to be unable to hear a loud voice was able to hear through this tube a whisper, while a person standing near the speaker and trying to catch what was said heard nothing.—*Progress.*

A Thermometer for taking Mouth Temperatures.—A new form of clinical thermometer has been devised by Mr. John Barry for taking the sublingual temperature. The modification is in the bulb, which, instead of being joined to the stem of the instrument in the same axis, is at right angles to it, and is slightly curved on itself. By this means the thermometer lies more securely and conveniently under the tongue, and a greater surface of the bulb is in contact with the mucous membrane.

Treatment of Laryngeal Phthisis.—At a recent meeting of the Société Médicale des Hôpitaux, M. Gouguenheim described the results obtained by M. Ehring by his surgical treatment of tubercular laryngitis. This consists in scraping and cleaning the ulcerations, or, when this is impracticable, in making lactic acid or iodoform injections under the laryngeal mucous membrane after the application of cocaine. Of two hundred patients thus treated last year, twenty-eight were cured. M. Gouguenheim showed specimens which proved that tubercular ulcers had been cured. The nature of the disease was established by the presence of the characteristic bacillus in the microscopic preparation which had been examined by Professor Virchow. M. Labbé said these statements embodied facts of an extraordinary nature, which could not be accepted without reserve.

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Original Articles.

NEW METHODS OF APPLYING THE PLASTER-OF-PARIS JACKET TO OBTAIN EXTENSION, WITH ILLUSTRATIVE CASES.

By W. R. WHITEHEAD., M.D.,

DENVER, COL.

THE infrequency and grave character of the two cases which I propose briefly to report, and the extremely different indications which called for the use of the plaster-of-Paris jacket in each case, together with the excellent results obtained, will, I believe, make the few remarks which I desire to offer of sufficient interest to elicit the attentive consideration of the readers of THE MEDICAL RECORD.

Case of pseudo-hypertrophic muscular paralysis, with exaggerated lordosis, corrected by extension with adhesive plaster, aided by a new and peculiar application of the plaster-of-Paris jacket.—Emma D——, aged three and a half years, about two years ago was noticed by her attending physician to have a commencing deformity of the spine, and he applied a brace to correct this deformity; this brace caused distress and uneasiness, and it was soon thrown aside. She was under the care of a number of physicians, and finally, about three months ago, her parents came with her to consult me. It had been alleged that she had hip-joint disease. On being undressed she presented the appearance shown as exhibited by the wood-cut Fig. 1, copied from a photograph by Rinehart, of Denver. It was soon perceived that there was perfect freedom of motion at both hip-joints, and that there was not the slightest pain on moving either thigh in any direction. The little girl, when she walked, had a waddling gait, like a duck, swaying from side to side. She experienced no pain in walking, only a weakness in her back and in her legs, and soon became tired. There was no pain along the spine; neither did jarring motions cause any pain in this part. Along the course of the erector spinæ muscles on the right side, and in the lower dorsal region, there was a manifest tenderness when these muscles were pressed—they contracted spasmodically. The gluteal muscles are apparently unusually developed, as also are the muscles of the thigh and leg, especially are the calves of the legs of unusual size. This considerable development of the gluteal region, and of the lower limbs, has excited the attention of the parents and of their friends. She stands and walks with the legs rather widely apart, and there is seemingly less power in the extensor muscles of the legs than in the flexors.

FIG. 1.

Having suspended her by the arms the deformity disappeared, as shown at Fig. 2, copied from a photograph.

The spine being free from disease, and there being no disease of either hip-joint, it of course follows that the lordosis is due to paralysis or diminished power of the erector spinæ muscles. The psoas and iliacus muscles acting from below, while the little girl is standing, draw the lumbar portion of the spine and pelvis forward, and produce the deformity observed at Fig. 1. Two indications of treatment at once suggested themselves to me; the first was to support the spine, and the second was to arrest the paralysis of the spinal muscles and invigorate those of the limbs, and for this purpose the suitable application of galvanism to improve the nutrition and to arrest fatty degeneration of the muscles I regard of equal importance with the mechanical support which I have already supplied. This electrical part of the treatment I shall apply so soon as an improved fifty-cell permanent gravity battery, which is making for me to be placed in my office, is completed, and which I much need for the treatment of paralysis attending other deformities under my care. However, the main object of this communication is to show this mechanical device for the support of the spine in this case, and which device is equally applicable to other diseases affecting the spine. Indeed, I did not at first succeed in obtaining so simple and effective an arrangement of the plaster-of-Paris jacket until after two or three trials.

FIG. 2.

My first application of this apparatus in its present form was on a patient, a consumptive, with vertebral caries, and an external opening which discharged at least half a pint of pus daily. Dr. Wm. M. Fay, of Denver, requested me to see this patient, a young man of about twenty-five years of age from New York State, in an almost exhausted condition, but having a fairly good appetite and craving to get out of doors, so as to breathe the fresh air. I was struck with the comparative ease and comfort with which he could walk, if supported under the shoulders by his wife, a strong, well-developed young lady, who was accustomed to assist him about his apartment in this manner. I suggested the use of the plaster-of-Paris jacket apparatus, and applied it; the relief was considerable, especially while standing. A hole having been made, and properly protected with oil-silk and rubber cloth during the application of the jacket, the wound was washed out each day by Dr. Fay. But the patient was in a very feeble condition, and his general health failed so rapidly that I was called to see him, and removed the jacket, or rather I cut it in front; he objected to its removal entirely, as he had experienced such relief from its use. However, a few days afterward he died.

In applying this apparatus to the little girl, the following is a brief description of its mode of application: I cut two pieces of Mead's adhesive plaster, prepared by Seabury & Johnson, each one large enough to nearly half encircle the body, and of the shape shown at Fig. 3. To the upper ends of each piece of adhesive plaster were pieces of gaiter-webbing, strongly sewed, and application loosely tied over the shoulder. Vigilant care was taken to prevent any creases or wrinkling of the plaster; and a close-fitting undershirt was then put on, and drawn smoothly over the adhesive plaster. The child having

been properly suspended, and a sufficient number of turns of wet plaster-of-Paris roller bandages applied from the armpits to the hips, over the close-fitting undershirt, then two pieces of curved steel, as shown at Fig. 4, were applied to the back, one on each side of the spine, and

Fig. 3.

Fig. 4.

fastened in place, one after the other, with additional turns of wet plaster-of-Paris bandages. Each one of these pieces of steel had been made to fit the back of the patient, and was supplied above with a roller and buckle; and below, to each piece separately, was riveted a piece of tin, like the tin of a nutmeg-grater, but rough on both sides, as in the Sayre jury-mast, except that the upright pieces of steel were not connected, and which permitted of their ready and handy application. After the removal of the pads placed over the stomach and bladder, and after the plaster jacket was dry, the two pieces of webbing on each side were drawn over the rollers of the upright pieces of *steel, and each piece of webbing separately drawn tight*, and then both buckled. This had the effect to draw the chest and shoulders upward, and by means of the upright pieces of steel, which were thoroughly incorporated with the plaster-of-Paris jacket, the jacket was pushed down on the hips, thus producing extension and counter-extension in the manner shown at Fig. 5, which is copied from a photograph, and shows the little girl standing in a perfectly erect posture, and in marked contrast to her condition as exhibited at Fig. 1. She continues to wear the apparatus with comfort and advantage, especially in walking.

Fig. 5.

On the 24th of last March a gentleman residing at Cheyenne, Wyo., who had recently seen Dr. Lewis A. Sayre, of New York City, by his advice consulted me concerning his little son, aged about four years. Dr. Sayre had not seen the child, and knew of his condition only from the father's relation of the case to him. The father, Mr. M——, with the child and his mother, came to my office, but not until after having, at the earnest solicitation of a friend, previously seen a certain prominent physician, who, on seeing the little patient, declared that he had hip-joint disease, and at once, as the father states, proposed a hip-joint splint for his child. By a careful examination it was made quite evident that there was not the slightest sign of any disease about either of the hip-joints, and the forcible and rapid manner in which I moved the femurs in their sockets, without any pain whatever, fully satisfied the parents also. Neither was there any evidence of disease of the bones of the spine, as no jarring motions, on other tests that I subjected him to, affected him in the least. The boy was apparently in excellent health and seemingly well developed, except that there was an unusual muscular development, for a child, about the lower limbs, and a slight lordosis. It was probably this curvature of the lower part of the back that misled the prominent doctor referred to, inducing him hastily to believe, without examining into the motion at the hips, the case to be one of hip-joint disease. This boy had a waddling motion in walking; he stood with his legs widely apart, and was weak in his lower limbs. On suspending him by the arms the lordosis disappeared. The feet were disposed to turn in slightly, and the peroneus longus and brevis muscles responded somewhat feebly to the faradic current. I thought the case one of pseudo-hypertrophic muscular paralysis, and similar to the one just described, but in a less advanced stage. At this time, however, I had not yet fully decided upon the merits of my plaster-of-Paris jacket extension apparatus. I recommended massage, and the future careful and intelligent use of galvanism, and requested the father to see me again, with his child, in about a month or six weeks.

Case of fracture of the pelvis, and upward dislocation of the iliac bone at the sacro iliac articulation; two inches of shortening of the left leg; treated successfully without shortening, by downward extension from the hips, with weights and pulleys attached to a plaster-of-Paris jacket. —Mr. F—— some weeks ago accidentally fell from the railing on the top floor of one of our public buildings—the Chamber of Commerce—fracturing the pelvis, the right ulna, and sustaining a number of other serious injuries. He was conveyed to the Arapahoe County Hospital, at Denver, and about ten days or two weeks after receiving these injuries I was requested by Dr. H. W. McLauthlin, the attending physician of the hospital, to see him. There was a shortening of the left leg of two inches. Every movement of the pelvis was extremely painful; there was extensive ecchymosis about the perineum, and of the upper part of the left thigh, both in front and behind. The horizontal ramus of the pubes on the left side was distinctly felt to be fractured and displaced, and probably the ascending ramus was also fractured. In the region of the sacro-iliac symphysis there was a considerable prominence, forming a somewhat flattened lump of the thickness of a man's wrist. Mr. F—— is a stout, heavy man, about five feet eight inches in height, and about one hundred and sixty pounds in weight. There was present a nurse, a German, of herculean strength and proportions, and who, at my request, suspended Mr. F—— under the arms, as I suspended the little girl, as shown at Fig. 2; immediately the lump at the sacro-iliac articulation and the shortening of the leg disappeared. A day or two afterward I had Mr. F—— properly suspended, with his toes slightly touching the floor, and applied a plaster-of-Paris vestment, or jacket, investing the hips from the waist downward. While so doing I passed around the body, above the hips, on each side and separately, two turns of a double roller bandage; I tied each one on the side and flattened the knots, leaving the ends of each double roller bandage hanging on the outside of each thigh, like the ends of a sword-sash, to which I subsequently tied cords for extension weights. Finally, with additional turns of wet plaster-of-Paris bandages, I completed the plaster-of-Paris vestment of the hips. The patient was gently lowered, and placed on a hard mattress, the pads over the bladder and stomach were removed, and he was put to bed, with the foot of the bed raised, and a twelve-pound weight on each side, attached to the plaster-of-Paris jacket. A day or two afterward he was removed

to his home, where I attended him, increasing the extension weight a few pounds. Yesterday, after five weeks of confinement in the plaster jacket, I removed it—the deformity no longer exists; neither is there any shortening of the leg. He turns with great freedom and ease in bed, and after recovering from a slight attack of dizziness on attempting to get up, he stood on his feet erect, and was able to make a few steps. He is quite stiff about the back and hips, but he will, I believe, be able in a week or ten days to walk quite as well as before the fracture and dislocation.

PASSIVE MOTION IN THE TREATMENT OF PARALYSIS OF THE OCULAR MUSCLES.[1]

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The treatment of paralysis of the ocular muscles is, even under the most favorable circumstances, unsatisfactory, and the longer the muscles have been paralyzed the more unsatisfactory are the results of treatment, whether by internal medication or external applications or galvanism. Many cases of syphilitic paralysis improve up to a certain point and then the improvement stops, and though the paralyzed muscle or muscles may have regained some of their motility, the annoying diplopia still remains. Other cases are not improved at all, in spite of all the methods of treatment at our disposal. Cases of rheumatic paralysis are even more obstinate in resisting treatment, and it is in this class of cases, more than in any other, that the method of treatment first suggested by Michel in 1877 has proved, in the writer's experience, most useful. The influence of the galvanic current is most uncertain in producing the desired effects, mainly because it is, in the nature of things, almost impossible to localize or concentrate its action upon the paralyzed muscle, owing to a diffusion of a large part of the strength of the current through the overlying and surrounding tissues. By the ordinary method of application one pole, usually a moist sponge, is placed over the closed lids, and the other pole is placed at the nape of the neck. Here a portion of the strength of the current does undoubtedly pass through the paralyzed muscle, but the greater part is diffused through the tissues of the lids and conjunctiva, and does not pass through the affected muscle. The same disadvantage attaches to the method advocated by De Wecker, in which the positive pole is placed over the supra-orbital or infra-orbital foramen, according to the position of the muscle involved, while the negative pole, an olive-shaped electrode, is passed over the eye, the lids being closed, in the direction of the paralyzed muscle. Direct stimulation of the muscular fibres by means of a small electrode passed through an opening made in the conjunctiva, and brought directly in contact with the muscle in its sheath, produces perhaps more contractility in the muscular fibres, but always causes considerable pain, and sometimes great irritation and congestion at the point of contact. Hence this method of direct stimulation of the paralyzed muscle has been given up in favor of the indirect or reflex method.

In the *Klinische Monatsblätter für Augenheilkunde* for November, 1877, Professor Michel proposed an orthopedic method of treatment of the paralyses of the ocular muscles, which was novel in conception and offered theoretically certain advantages. It was based on the principle of passive motion, and was very simple in execution. The paralyzed muscle is to be seized at its line of sclerotic implantation with a pair of ordinary fixation-forceps, and the eyeball is then to be pulled backward and forward in the direction of the line of contraction of the affected muscle, as far as possible toward or even beyond the limit of contraction, and then back in the reverse direction as far as the limit of extreme relaxation, and these to-and-fro movements are to be continued for about two minutes. According to Michel the effect produced is greatest immediately after these manipulations, and sometimes the increase in contractility amounts to a millimetre and a half. The effect gradually diminishes until in about an hour it corresponds to a prism of twelve to sixteen degrees in strength. Michel states that the pain produced was trifling, and that the induced conjunctival irritation soon subsided under cold applications. He recommended a daily performance of the manœuvre, and called attention to the considerable resistance at first offered to the manœuvre by the antagonistic muscle. The advantages claimed by Michel for this method were: 1, Elimination of the action of the antagonistic muscle; 2, the brief duration of the treatment. Since the appearance of Michel's article the writer has tried this method of passive motion in a number of cases, and now gives the result of his experience in twenty-one cases, as follows:

I. *Paralysis of external rectus; secondary convergent squint.*—Mr. M. F——, aged thirty-five; December 17, 1877. Has had homonymous diplopia for several weeks, and an examination showed paralysis of right external rectus and a slight tendency to convergent squint; also a rather marked weakness in action of the internal recti muscles. Vision normal, fundus healthy. No history of either syphilitic infection or rheumatic tendency. Attributes the muscular paralysis to a severe cold. Internal administration of potassium iodide and application of the galvanic current three times a week, though persisted in, gave no result. Passive motion of the right externus daily, for a minute and a half to two minutes, caused in nine days a complete recovery. The pain caused was very severe, and the conjunctival irritation remained for several weeks after the last application.

II. *Paralysis of internal rectus.*—Mrs. B——, aged thirty-one; June 25, 1878. Crossed diplopia for some months. Paralysis of right internal rectus almost total. Patient is remarkably rheumatic. V. = $\frac{20}{30}$ +, unimproved. No trouble with eyes until the diplopia appeared. No history of syphilis. At first a mixture of potassium iodide and sodium salicylate, combined with the galvanic current, seemed to bring about a certain improvement, but after a few weeks this ceased, and the case remained at a standstill. Passive motion daily for a period of two minutes was then instituted, and an improvement began almost immediately. At the end of the twelfth session the diplopia had entirely disappeared, and the motility was apparently restored. This patient also complained greatly of the pain, and after several of the visits there was a distinct subconjunctival extravasation of blood.

III. *Paresis of superior rectus and external rectus.*—Miss H. S——, aged seventeen; November 29, 1878. Two weeks ago was attacked with severe pain in right eye and orbit, and right side of head, and after some hours diplopia appeared, and still exists. Pain at irregular intervals. Is a tall, pale, anæmic girl, subject to rheumatism. Diplopia is homonymous, and one image stands higher than the other. V. and fundus normal. Examination showed a paresis of the right superior rectus and external rectus. The internal administration of iron and bark, and the daily application of the galvanic current, soon brought about a cure of the paresis in the superior rectus, but the external rectus remained paralyzed in spite of everything that was done. It was then decided to try passive motion, and the external rectus was pulled backward and forward daily for a period of one minute, causing the patient very severe pain, so that, after the fifth session, it was deemed advisable to use the passive motion not oftener than every second day. This was kept up, but at

[1] Read before the American Ophthalmological Society, New London, July 20, 1887.

the end of the second week it became necessary to stop it altogether, on account of the irritation and pain which it occasioned. Considerable motion, however, had been regained in the paralyzed muscle.

IV. *Paresis of inferior rectus.*—Mr. A. W. T——, aged forty; October 7, 1880. Chancre fourteen months ago, followed by cutaneous and glandular lesions. Mucous patches on tongue and in mouth and nose. Five weeks ago diplopia appeared. Examination showed paralysis of right inferior rectus muscle. V. and fundus normal. Prolonged administration of mercury and potassium iodide, together with the application of the galvanic current, failed to produce the slightest effect upon the paralyzed muscle. Passive motion was then instituted, with daily sessions of two minutes, which proved very painful, but also almost at once brought about an improvement in the paralyzed muscle, and at the end of the tenth session the paralysis had disappeared.

V. *Paresis of external rectus.*—Mr. F. D. S——, aged thirty-two; December 3, 1880. Is rheumatic to a marked degree. Four months ago, while travelling in the West, he was caught in a storm and laid up with an attack of rheumatism, and during the attack the diplopia suddenly appeared. Examination showed paresis of right external rectus. V. and fundus normal. Potassium iodide and sodium salicylate, with the galvanic current every second day, produced considerable amelioration in the paralysis, but after the first two weeks there was no further improvement, though the treatment was persisted in for a month. Passive motion was then instituted daily, and a further improvement began at once. After a month's treatment the motility of the eye seemed restored, though diplopia exists at the extreme right of the field.

VI. *Paralysis of internal and external recti.*—Mr. J. P. W——, aged twenty-one; March 28, 1880. Has had for three years complete paralysis of left internal rectus, and partial paralysis in left external rectus, origin unknown. Present condition about what it was when the trouble began. Refraction hypermetropic. V. and fundus normal. Slight divergence of right eye. This patient had a long and faithful trial with the galvanic current and potassium iodide, and some improvement was produced in the paresis of the external rectus, but the paralysis of the internal rectus remained complete. Passive motion of the latter muscle was then begun, and carried out daily for nearly a month, but no improvement followed. This patient bore the manipulation extremely well.

VII. *Paresis of external rectus.*—Mr. G. B. B——, aged thirty-seven; April 23, 1881. Homonymous diplopia when looking to right of median line, for several weeks. Partial paralysis of right external rectus. Subject to muscular rheumatism. V. and fundus normal. No history of syphilis. Galvanism in this case proved absolutely useless, and there was no perceptible improvement from the administration of soda or potash. But three applications of passive motion on succeeding days produced a complete cure of the paresis and the disappearance of the diplopia. This patient complained greatly of the pain, and the conjunctiva remained congested for several weeks after the treatment ceased.

VIII. *Paresis of inferior rectus.*—Mr. J. R——, aged forty-one; June 6, 1881. Chancre seven years ago; numerous constitutional symptoms since. Has had two attacks of diplopia before this one, from both of which he entirely recovered, except that there still remains partial ptosis of right eye. Present attack of diplopia began a month ago, and examination shows paresis of right inferior rectus. V. and fundus normal. The persistent administration of potassium iodide in rapidly increasing doses and the daily application of the galvanic current proved of no avail, and the same result followed the employment of passive motion carried on daily for a month.

IX. *Paresis of internal rectus.*—Mr. R. H. F——, aged seventeen; February 20, 1883. Crossed diplopia for three months. Paresis of right internal rectus, traced directly to exposure for hours to severe cold. V. = $\frac{20}{20}$, fundus normal. Has had some pain, not very severe, in right eye and orbit. Galvanism and hot water caused a temporary improvement, but on the tenth day the condition was as bad as when the patient was first seen. Passive motion, however, acted extremely well in this case, and at the end of the seventh application the diplopia had entirely disappeared and the patient was discharged. This patient did not complain much of pain.

X. *Paresis of external rectus.*—Miss C. M. C——, aged eighteen; October 23, 1883. Has convergent squint in left eye, due to paralysis of external rectus of same eye, of nearly two years' duration, which has remained unchanged in spite of continuous internal medication and galvanism. V. = $\frac{20}{30}$, media clear, and fundus healthy. This case was deemed a very unfavorable one from the beginning, owing to the length of time the paralysis had existed. There was a slight improvement in muscular power of the external rectus during the first few sessions of the passive-motion method, but no subsequent improvement whatever, and after two weeks the treatment was discontinued.

XI. *Paresis of external rectus.*—Mrs. J. T——, aged forty-three; November 30, 1883. Long subject to rheumatism. Two years ago had an alveolar abscess in upper jaw on right side, which opened inward and outward through cheek. One month ago had diplopia, which examination shows is due to paresis of left external rectus, with secondary contraction of internal rectus. V. = $\frac{20}{20}$, media clear, fundus normal. This patient had gone through a long course of anti-rheumatic treatment, including sulphur and other medicated baths, without any effect being produced upon the paralyzed muscle. Eleven daily sessions of passive motion produced considerable improvement in the action of the external rectus, but the diplopia persisted even after division of the internal rectus.

XII. *Paralysis of external rectus.*—Miss M. K. J——, aged thirty; February 21, 1884. Diplopia and convergent squint in right eye, following paralysis of external rectus. V. = $\frac{20}{20}$, media clear, and fundus normal. No history of either rheumatism or syphilis. Galvanism proved of no avail, though employed for six weeks. The internal rectus muscle was then divided, and at the end of a week passive motion was begun, daily sessions of two minutes each being held. Improvement began at once, and after six applications the diplopia disappeared and did not return. There was a slight apparent divergence of the axis resulting, but no diplopia, and the internal rectus acted well.

XIII. *Paresis of internal rectus.*—Mr. E. J. B——, aged twenty-four; October 29, 1884. Had paralysis of right internal rectus nearly two years ago, with diplopia and secondary contraction of external rectus, from which he has partially recovered, but diplopia is still annoying. V. normal, fundus healthy, optic axis still divergent, but the right can be turned somewhat to the left of the median line. Daily applications of passive motion for two minutes during two weeks produced a decided improvement in the power of the internal rectus, so that double images appeared only on the extreme left. No further improvement, however, was perceptible after the end of the second week, and the treatment was stopped.

XIV. *Paresis of external recti muscles.*—Mr. L. O——, aged sixteen; March 7, 1885. Convergent squint appeared in both eyes some months ago, with annoying diplopia. Both external recti muscles are affected, but not entirely paralyzed. Attack preceded by pain in the eyes and orbits. V. = $\frac{20}{20}$, media clear, but fundus of both eyes seem abnormally injected. This was the first case in which cocaine was employed, and the relief from pain was a very great advantage. Daily employment of passive motion was continued for three

weeks, and produced marked improvement in the motility outward of left eye, and to a less degree in the right eye. But the diplopia still continued, though to a much less annoying degree. There still remained a slight convergence in the right eye, but no further improvement was gained and the treatment was given up. The galvanic current was subsequently employed every second day, and under its influence the right external rectus continued to improve in motility, but after three months slight diplopia still continued and all treatment was stopped.

XV. *Paralysis of external rectus.*—Mr. G. W. W——, aged thirty; December 27, 1885. Chancre four years ago. Constitutional symptoms, one attack of iritis in right eye. Three months ago diplopia made its appearance and remains. Has complete paralysis of right external rectus. V., media, and fundus normal. Slight convergence of the right eye. Potassium iodide and mercury had been previously tried, but produced only slight temporary benefit. The potash was again essayed in large doses and pushed to toleration, but caused no appreciable improvement in the external rectus. Very decided improvement, however, followed the daily employment of passive motion for from two to three minutes, and continued for sixteen days. Here all improvement stopped, leaving still a loss of power in the externus of about twenty degrees, and of course a corresponding diplopia. Galvanism in this case proved useless. Cocaine did not entirely relieve the pain in this case.

XVI. *Paresis of inferior rectus.*—Mr. H——, aged forty-nine; March 17, 1886. Is rheumatic, but denies syphilis. Eight years ago had an attack of diplopia which lasted several months. Three years ago had paralysis of the left arm, from which he entirely recovered. Three months ago had a second attack of diplopia, which still exists. Vision, media, and fundus normal. Examination shows a paresis of the right inferior rectus. Galvanism and sodium salicylate in large doses produced some slight improvement. Passive motion under cocaine produced absolutely no effect whatever in increasing the power of the muscle or in diminishing the annoying diplopia.

XVII. *Paresis of external rectus.*—Mr. F. A. W——, aged thirty-five; April 11, 1886. Diplopia originally came three years ago, from paralysis of external rectus muscle of right eye, and secondary convergent squint. The paresis is still present, though there has been considerable improvement. Media clear; R. E., $\frac{20}{70}+$; L. E., $\frac{20}{20}$. Refraction hypermetropic. Galvanism proved useless in this case, though faithfully persisted in for about six weeks. Passive motion under cocaine, employed daily, produced considerable improvement in the movements of the external rectus during the first six sessions, but after this proved valueless, the diplopia remaining.

XVIII. *Paralysis of external rectus.*—Mrs. C. W. I——, aged forty-eight; November 2, 1886. Long subject to rheumatism. Nine years ago, after a very severe attack of pain in right eye and orbit, diplopia came on and persisted ever since. Examination showed complete paralysis of the right external rectus and secondary contraction of internal rectus. Refraction hypermetropic. V. normal, media and fundus healthy. Galvanism was faithfully tried, but failed to produce any effect. Passive motion daily, under cocaine, proved equally valueless, and after twelve applications was given up.

XIX. *Paresis of external rectus.*—Mrs. T. P. K——, aged thirty-five; December 7, 1886. For many years she has not been able to turn her eyes to the right side without seeing double, and she habitually carries her head to the right side. Examination shows paresis of right external rectus. Refraction hypermetropic and astigmatic. Media and fundus normal. V. normal when the refractive error was corrected. Tenotomy of the right internus and daily employment of passive motion under cocaine produced no effect whatever in improving the power of the external rectus, and after sixteen daily applications all treatment was discontinued.

XX. *Paralysis of external rectus; secondary convergent squint.*—Miss S. T.——, aged nineteen; February 2, 1887. Homonymous diplopia, but ill-defined for two months. Examination shows complete paralysis of the right external rectus, probably as a result of exposure to cold. Both corneæ cloudy from old ulcerations in childhood. R. E., $\frac{20}{50}$; L. E., $\frac{20}{100}$. This patient had been treated continuously by potassium iodide and the galvanic current since the appearance of the diplopia, but without any result. Daily passive motion for two minutes under cocaine produced a complete cure in nine days.

XXI. *Paralysis of internal rectus.*—E. R——, aged twenty-seven; March 18, 1887. Diplopia and divergent squint in right eye for more than a year. Examination shows paralysis of right internal rectus. R. E., V. $\frac{20}{100}+$; L. E., $\frac{20}{20}$. Media clear, fundus healthy. Refraction slightly myopic, which corrected in right eye gave normal vision. Seven daily applications of passive motion for two minutes each day caused a disappearance of the diplopia and return of motility in the paralyzed internal rectus.

In considering the results of treatment by passive motion in these twenty-one cases, it will be seen that the paralysis was entirely cured in eight cases, partially relieved in six cases, while in seven cases the treatment proved valueless. This is certainly no very brilliant showing, and yet the results are sufficiently favorable to make it advisable to continue our efforts in this direction. A more extended experience may perhaps teach us that passive motion in connection with the careful application of the galvanic current may give us better results than heretofore in the treatment of paralysis of the ocular muscles of long standing.

Michel reports in detail one case in which a recovery took place in five weeks. Spalding (*Arch. of Ophthal.*, xv., 4) reports four cases, of which two recovered within three weeks and two were failures. Alt (*Amer. Jour. of Ophth.*, April, 1887) reports five cases, of which three recovered and two were failures.

The pain caused by the manipulation when no anæsthetic is used is in most cases severe, and is by no means entirely relieved by cocaine. The conjunctival irritation caused by the treatment is considerable, but usually transient. In several cases more or less extensive extravasation of blood took place beneath the conjunctiva, which, however, was readily absorbed. In three cases a rather pronounced œdema or chemosis of the conjunctiva followed the manipulation; but all these symptoms were transient in duration and limited to the region involved in the manœuvre. An attempt was made to substitute a pair of smooth-pronged forceps, something like the ordinary epilation-forceps, for the toothed fixation-forceps, in order to diminish the pain and cause less laceration of the conjunctiva, but such forceps proved useless, as they failed to take hold of the muscle and constantly slipped when traction was made.

Cocaine in Inflamed Tissues.—Dr. J. R. Campbell, of Newton, N. C., says that a writer in a recent issue of The Medical Record was incorrect in his statement that cocaine is useless when injected into inflamed tissues. He writes that he recently had occasion to incise a thumb for a neglected case of whitlow. Five minims of a ten per cent. solution of cocaine were injected into the ball of the thumb, and a like quantity just in advance of the second joint in the line of proposed incision. A bistoury was passed slowly and carefully down to the bone, and although the patient was a very nervous young lady, she felt no pain, and thought, until she looked at the thumb, that the operator had been merely paring the nail.

THE ABORTIVE TREATMENT OF FURUNCLES.

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Although the treatment of furuncles has received a great amount of attention, we must admit that it has so far been rather unsatisfactory. We have not been able to relieve the enormous painfulness at the commencement of the affection very quickly, nor has it been possible to materially shorten the course of the disease. A great many different remedies have been tried, but with no very encouraging results.

The causes of furuncles are, as is generally supposed, various, and it has been customary to divide them into idiopathic and symptomatic. The idiopathic furuncles are the results of different irritations to the skin; the symptomatic occur either in the course of general systemic derangements, or are the results of them. I believe it would be much better if we were to divide the causes into direct and indirect. The direct cause is the Staphylococcus pyogenes aureus, which was first described as being present in furuncles by Garré, about two years ago; the indirect ones are those mentioned above. Recent and most careful researches of several bacteriologists, especially of Rosenbach and Passet, have shown that, with the exception of only a very few substances, such as turpentine and mercury, neither mechanical nor chemical irritants will produce suppuration without the presence, at the same time, of micro-organisms. Some authors deny even these exceptional cases, and say, "No suppuration without micro-organisms." Whether this axiom is correct or not we will not investigate here, but that the Staphylococcus pyogenes aureus is the real cause of the furunculous inflammation has again recently been proven by an experiment of Garré upon himself, in which he rubbed into the perfectly healthy skin of his arm several staphylococcus colonies taken from osteo-myelitic pus, and these, penetrating the excretory ducts of the cutaneous glands, produced furuncles in large number.[1]

Before I discuss the treatment of boils, I would like to mention the so-called predisposition to furunculosis. It is taught in many, especially in American text-books, that a disposition to the formation of furuncles is more or less necessary. This view fortunately loses more and more adherents, and to-day there are probably few physicians who will doubt that furuncles can be formed without predisposition, even in the healthiest person. According to what was said above, it is sufficiently clear how boils originate, and why they are so often present in the course of itching or pustular skin-diseases, such as eczema, scabies, phthiriasis corporis, prurigo, or acne. The disposition, in connection with internal derangements, such as diabetes, tuberculosis, uræmia, etc., can also easily be explained, if we remember how easily vulnerable the skin is in such affections.

Taking into consideration such extremely different views in regard to the etiology of furuncles, we cannot be surprised that the internal treatment has been so various. It would lead too far were I to attempt to enumerate all the modes of treatment and medicines that have been used; and still, in spite of the great number, we cannot deny that we have so far not been able to prevent the formation of furuncles nor to abort them. The simplest treatment at the commencement of the affection was the application of cold or moist heat, according to the effect in each individual case or the sensation of the patient, for the course can be shortened neither by the one nor by the other. Another, but certainly not very agreeable method, was the application of caustics, of which quite a number have been recommended, but more especially caustic potash and solid nitrate of silver. Paintings with tincture of iodine, sesquichlorate of iron, carbolic acid, the use of mercurial ointments, and a good many others were tried, but without the desired effect. Lassar recommends scooping out at the very commencement of the disease; he uses small spoons, with which he opens and scoops out circumscribed suppurating cavities, especially furuncles. In 1873 Hueter recommended parenchymatous injection and infusion of carbolic-acid into inflamed tissues, but since this method was not specially recommended for furuncles, it was very soon forgotten till it was more recently again taken up by Bidder.[1] Bidder uses injections of a two per cent. carbolic acid solution, and has successfully treated 100 cases. He makes several punctures according to the size of the furuncle, and says that the feelings of pain when the injections are made are, in most cases, only slight; he is especially careful to mention that the inflammatory infiltration disappears very quickly, and that necrosis can easily be prevented if the injections are made early enough.

It must certainly be considered a great advance, that antiparasitics began to be used in the treatment of boils, but injections are not as advantageous as might be desired, for not only are they, according to the statements of a physician in whom they were made in a hazel-nut-sized furuncle, excessively painful, but it is also not possible to use them in every part of the body. It would, for instance, not be very easy to make an injection into the scalp, and it would certainly not be pleasant for the patient were they to be made into furuncles situated in the perineum or in the ear. Even where this method could be used for single furuncles, it would not be easy to apply it if numerous nodules were present; that is, in furunculosis.

After it was shown, some years ago, that micro-organisms are the actual causes of furuncles, it is rather surprising that parasiticides have not long ago been used in the local treatment of boils. It is well known that among the numerous parasiticides, salicylic acid often does excellent service in diseases of the skin, but in furuncles it has, to my knowledge, never been used. I therefore tried to abort furuncles with salicylic acid, plaster or salve, and the result was really surprising, for it acted beautifully. The first case in which it was used was that of a young man, who, for three weeks previously had suffered from a large number of boils of different sizes at the back of the neck. In spite of numerous incisions, new nodules appeared as soon as others were cured. The man suffered such pains that he was unable to sleep, and he could not turn his head in the slightest degree without most severe pains. When I saw him first, he had about one dozen larger and smaller elevated, indurated, inflammatory nodules on the left side of the back of the neck. I prescribed locally an eight per cent. salicylic-acid plaster. ℞. Acid. salicyl., ʒ ij.; empl. saponat., ℥ ij.; empl. diachyl. s., ℥ j. When I again saw him, three days later, the pains had disappeared, he could move his head in every direction, and only a few superficial nodules remained; in three days more he was cured. I had opportunity to test the action of salicylic acid in furuncles several times, and almost every time with the best success. If applied early enough, it never took longer than six or eight days to cure furuncles of even a large size and of long duration, and the relief to the patient was manifested in a very short time. It is immaterial whether the salicylic acid is used as a salve or in the form of a plaster, the effect is always the same, and a five to ten per cent. salicylic-acid salve is of the same service. I use the officinal Unguentum aquæ rosæ as the basis for salves, not only because it has an agreeable smell, but because it is harmless, and this cannot always be said of vaseline, which is sometimes not free from sulphuric acid. A pleasant way to use the salicylic acid is in the form of the ten per cent. mull, which was first introduced by Unna; it is used in the same way as

[1] Flügge: Die Mikroorganismen, 2te Auflage, pag. 148.

[1] Berliner klinische Wochenschrift, No. 14, 1887.

the plaster, and causes a superficial formation of blisters, or a sloughing of the skin.

If, as I hope, the salicylic acid will prove as efficacious in other hands as it has in mine, we have a means to cure the furuncles every time as soon as they are formed, and, if applied early enough, necrosis will never set in. I have noticed that, if applied too late, no core will be formed, but merely an accumulation of pus, which can be treated as a common abscess. If necrosis of the tissue is once present, salicylic acid also will have no more effect, and the best thing then is to open the boil with the knife, and hasten the cure by application of the salicylic-acid salve. This treatment of furuncles is very simple, and is, I think, to be preferred to an injection. Whether this mode of treatment is also efficient in carbuncles and felons I do not know, for I have had no opportunity to use it in these. In all probability a favorable result will be seen even here, since salicylic acid first macerates the epidermis and then sloughens it, whereby it can quickly penetrate into the skin and kill the staphylococcus.

In conclusion, a few words about the general treatment of furunculosis and about the so-called furunculous diathesis. It cannot be denied that a badly nourished person or one weakened by disease offers, on account of the great irritability of the skin, a more favorable soil to the staphylococcus than a healthy individual, and an improvement of the general health, as far as it is in our power, is certainly indicated. The local treatment, however, is by all means more important in furunculosis than the general, since it gives immediate relief to the patient. I know of cases where a furunculosis, which had lasted for weeks and months, was cured by the local application of a one per cent. salicylic-acid salve. Special care must be taken that the salicylic acid is equally divided throughout the salve, and all the patient has to do is to apply it every morning and evening in a thin layer.

Family Predisposition to Fractures.—Stüdensky observed an instance of family fragility of bones. Unfortunately the details, which concern only father and seven children, are far from being complete. The number of fractures sustained by the family is upward of fifteen: 1. The father had four fractures (three of the left upper extremity and one of the femur) during the first five years of his life, while between fourteen and eighteen he broke many times his legs and arms, and that always from most trifling injuries, such as making a slip, etc. 2. The second son, at present aged twenty-seven, had six fractures (five of the left forearm, twice both the ulna and radius being broken, and one of the left humerus) during the first six years of life. All the fractures took place during some harmless plays—from slipping and falling, or from striking his arm against the table's foot, etc. His general health at the time was satisfactory, but in adolescence he suffered from extreme anæmia, while now his state is very satisfactory. 3. A fourth son, always anæmic and emaciated; at three, had a fracture of a forearm (both of the ulna and radius), from a slip on the ice; at five, a fracture of forearm from tumbling down during play; at twenty-two, a fracture of his right clavicle from slipping on an ice-glazed pavement. 4. A fifth son, always anæmic, broke one of his forearms in childhood. 5. A seventh son (weak), at five, fractured a forearm after a trifling fall when at play in the room.

Observations on a Faster.—At a recent meeting of the Berliner Medicinischer Gesellschaft, Dr. Senator reported the results of daily examinations of the excretions of Cetti, while he was undergoing one of his long fasts. No very important facts were learned from the series of observations made, but the speaker hoped to be able to repeat his examinations, and to obtain more satisfactory results.

Clinical Department.

A CASE OF ACONITE-POISONING, WITH RECOVERY.

Dr. C. C. Bradley, of this city, reports the case of a patient, age not stated, who swallowed an ounce and a half of Fleming's tincture of aconite: "After the usual symptoms of numbness and tingling of the lips and extremities, profuse sweating, cold surface, and dilated pupils, general convulsions occurred. These were three in number and epileptiform in character. Three hours after taking the dose the patient became comatose, pulseless, and devoid of sensation, respiration became stertorous and irregular, and the heart-sounds almost imperceptible. After remaining in this condition for nine hours, the circulation was gradually restored. Treatment consisted in administration of emetics, followed by brandy, ether, digitalis, ammonia carbonate, and caffeine, hypodermatically and per orem, ammonia and amyl nitrite by inhalation, and hot applications externally."

OBSTRUCTION OF THE BOWELS RELIEVED BY GASEOUS ENEMATA.

Dr. W. P. Copeland, of Eufaula, Ala., reports the following case: "A man, aged about forty, sent for one of my confrères because of severe pain in the region of the ileo-cæcal valve. On an examination, a tumor the size of a large orange was outlined in the right inguinal region, which was very sensitive and painful on manipulation. The pain was so severe that the attending physician found it necessary to give morphine hypodermatically; he also gave calomel and, later on in the day, a large dose of castor-oil, followed by enemas of water. During the early part of the succeeding night, as the patient failed to obtain relief, the pain becoming so severe as to be unendurable, I was called in, and administered another hypodermic administration of morphine, and resorted to enemas of various substances without obtaining any reduction of the tumor or movement of the bowels. On the following day, the second one of his sickness, the case looked so hopeless that we thought best to notify the family of the patient's critical condition. They telegraphed to one of the most experienced and skilful physicians in another city, for his earliest possible attendance in consultation. Late in the afternoon it occurred to me to use an enema of carbon dioxide, and, having the apparatus for generating and administering the gas near at hand, I proceeded to do so. When about one-third of the contents of the gas bag had been injected, the patient expressed a desire to go to stool, which he did, with the result of passing about half a teacupful of fæcal matter. The enema was repeated, this time being followed by a considerable passage, after which the patient had other actions without further administration, and has since been able to move his bowels as usual. Whatever doubts may occupy the medical mind as to the beneficial results of gaseous enemas, recommended by Dr. Bergeon, there is none as to its efficacy in the above case. Of course, the precautions as laid down in regard to overdistention should be carefully observed, as I have no doubt much harm might accrue from a careless use of the method."

Iodoform Pencils in Soft Chancre.—Dr. Oscar V. Petersen, of St. Petersburg, recommends, in the treatment of chancroid, pencils made of fifty or seventy per cent. of iodoform, together with glycerine and gum-arabic, and enclosed in a wooden holder. In the case of a chancroid ulcer, the pencil need only be applied to its surface, which then becomes coated with a more or less thick layer of iodoform. The chief advantage of the method is, that the patient remains absolutely free from an unpleasant and tell-tale odor.

Progress of Medical Science.

Abdominal Exploration for Chronic Intestinal Obstruction: Relief of Symptoms by Formation of an Artificial Anus and Subsequent Removal of Growth Involving Splenic Flexure of Colon.—At a recent meeting of the London Clinical Society, Dr. Pitts read a report on a case illustrating the subject of the title. The patient, Mrs. D., came under observation in St. Thomas' Hospital, on August 21, 1886. She was aged thirty-seven, and had enjoyed good health till October, 1885, when the first obstructive attack took place. For the six weeks prior to her admission, she had had no satisfactory evacuation of the bowels, even after repeated enemas. She was a thin, pale woman with distended abdomen, coils to be seen and felt, much peristaltic movement, and occasional vomiting—one large coil was especially marked, running across the abdomen from above downward toward the left groin. On examination under an anæsthetic, no tumor could be felt, and the rectum was normal. On September 21st the vomiting became continuous and offensive, and the patient was very exhausted; the vomiting was checked by morphia, but no action of the bowels could be obtained. In consultation with Mr. Edmunds, it was decided to explore the abdomen in the middle line, and this was done on September 24th; the transverse colon was greatly distended and displaced downward, and the descending colon was completely empty. The end of the transverse colon was attached to a small separate incision in the upper part of the left semilunaris, but the bowel was not opened till several days had elapsed, and the central wound had healed. The patient was in a very depressed state for the week following the opening of the colon. A very large quantity of fæces continuously passed, and she was apparently poisoned by the gases generated during the evacuation. Her breath had a strong fæcal odor, she was for days very drowsy, not recognizing her husband—fractious, and suspicious of those around her. After getting rid of the very large fæcal collection she rapidly improved, and was able to get up on November 5th; her weight was then seven stone four pounds; weight before operation, six stone ten pounds. By introducing the finger into the colotomy-opening, a movable mass about the size of a small orange could be felt under the the ribs, evidently a malignant stricture at the splenic flexure. It was therefore decided to attempt the removal of the affected bowel. After careful preliminary treatment, this secondary operation was performed on November 22d. An oblique incision was made on the left side below the ribs, about two inches above the colotomy-opening, and, by hauling on the collapsed descending colon, the affected portion of bowel was drawn out of the wound—and about four and a half inches excised; several small glands, and some adherent omentum were also taken away. The two ends of the bowel were carefully united by silk sutures throughout their posterior and lateral aspects. The muscular coat of this united part of bowel was then attached by numerous sutures to the abdominal opening, and the everted mucous membrane carefully stitched to the skin. The patient was then left in the condition of possessing a second colotomy-opening, the first opening having contracted to the size of the little finger. The patient made a rapid recovery; the temperature remained normal; and on the tenth day she was able to get up. She left for home on January 2d, wearing a vulcanite tube, with the hope that fæces might pass into the lower bowel, and the natural passage be restored. Mrs. D. was now, five months after the removal of the growth, in perfect health, and able to do ordinary household work. Her weight was nine stone, or a gain of more than two stone since the relief of the obstruction; the bowels were open regularly every morning by the second colotomy-opening, but there was complete control for the rest of the day. The specimen, a typical columnar epithelioma of the bowel, was shown and described. Mr. Pitts, in remarking on the case, gave his reasons for making the abdominal exploration, and quoted two other cases of stricture of the large bowel, in which he had made a preliminary abdominal exploration before opening the bowel at a selected position. By the exploration it was possible to gain definite information as to the cause and extent of the mischief, and this was of immense advantage when any further radical measure was contemplated. When no stricture was found in the rectum, he regarded a chance colotomy as an unsurgical procedure. In each of these cases the selected portion of the bowel had been attached to a separate opening in the abdominal wall for three reasons. 1. It allows the exploration-incision to heal by first intention, and as the second opening is exactly the size wanted, and as the bowel is stretched all round, there is no wound near the bowel-opening to heal. 2. The bowel is not displaced from its natural position by being drawn up to the central wound. 3. And most important, it is of great advantage for after-examination to have the opening near the seat of mischief, so that an after-exploration with the finger may determine the character of the stricture and its relations. At the primary exploration, when the bowels are greatly distended, it is well to be content with a very limited examination, and on no account to attempt any removal of growth until all obstructive trouble has been relieved, and the bowel has been thoroughly washed out.—*Medical Press.*

Against Bergeon's Method of Treating Diseases of the Respiratory Organs.—Dr. Wyss, of Geneva, passing in review Dr. Bergeon's new method of treating the diseases of the respiratory organs, and blood-poisoning, by means of rectal injections of gases, on which Dr. V. Morel recently published a treatise ("Nouveau Traitement des Affections des Voies respiratoires et des Intoxications du Sang par les Injections rectales gazeuses," Paris, 1886), makes the following remarks (*London Medical Record*): Every new suggestion for the treatment of tuberculosis of the lungs calls forth new hopes of having at last discovered an infallible remedy for this dire disease, and is eagerly submitted to the test both by the profession and the patients. This has always been the case, and was so again. But within the last few years Professor Rokitansky, in Innsbruck, reported on the eminent successes of his treatment of pulmonary tuberculosis with natrium benzoicum. The affected lungs cicatrized with unusual rapidity, the general condition of the patient visibly improved, the weight of the body rapidly increased, and the confidence in an ultimate complete recovery for some time seemed to become realized. But, unfortunately, only too soon the French saw that "Elle a duré ce que durent les roses" also applied to these cases. Already, after a few months, this method, like so many others, has been abandoned; not one single control and test experiment by impartial investigators bore out Rokitansky's asserted brilliant results. The question at issue in this case is: Is Dr. Bergeon's new method based on sound scientific principles, or will it be doomed to failure like that of Rokitansky and others? Only those therapeutic methods can be considered to be in accordance with the present state of medical science which are supported by the scrutinizing test of experiments. Especially in the treatment of diseases the origin of which is beyond contest of parasitic nature, previous experiments on animals are indispensable. "The degree of efficacy of any method of treatment of tuberculosis," Professor Cornil very pertinently maintains in his communication to the Académie de Médecine, "can only be corroborated by experimental investigation on animals previously rendered tuberculous. The effects of a therapeutic on microbes can only be ascertained by the most conscientious experiments on pure cultures." Dr. Bergeon's mode of treatment has not yet been borne out by this indispensable test, at least nothing is known on the subject, and the publications of Professor Cornil's

promised experiments are still expected. Dr. Bergeon's treatment, as is now well known, consists in the intimate permeation of the whole body by gaseous substances, on the supposition that these will destroy bacilli and the products of their secretions without a poisonous or otherwise injurious effect upon the patient. It is, however, doubtful whether the tubercle-bacilli and the presupposed products of their secretions be really rendered innocuous by this proceeding, which has not been proved, the less so as bacilli still continued in the sputa of patients treated according to this method after their alleged cure. The temporary improvement of the patients may have been due to exceptionally favorable hygienic or dietetic conditions. It is a well-known fact that many tuberculous patients regularly improve during the warmer season, while the changeable climate of the winter has a very injurious influence on their disease. Professor Cornil, in his communication to the Académie de Médecine, on October 19, 1886, reported on patients who had been treated after Bergeon's method during the summer months by Dr. Chantemesse, in Paris. The then undoubtedly apparent improvement may partly have been the effect of the beneficial influence of the warm weather. It is therefore necessary to have unbiassed observations on the results of Bergeon's mode of treatment during the winter. This new treatment has been tested by several physicians at Geneva, by Dr. Côrdés, Professor Dr. Vuiller, in the Cantonal Hospital, etc. Dr. Wyss watched the effects on three patients, who had long continued under his observation, and in whose expectorations he continually discovered numerous bacilli. Every one of these had borne the rectal injection of gases badly, and died within one to two months after. In one of them, a man aged forty, whose treatment Dr. Bergeon personally conducted, the injection brought on such violent colics and diarrhœas that they had to be entirely discontinued after one month. It is very questionable whether this otherwise ingeniously devised method of treatment will prove of positive therapeutic value in other infectious diseases, and in non-parasitic affections of the respiratory organs.

Jaundice in Pregnant Women.—According to Dr. Queirel (*Nouv. Archives d'Obstét. et de Gynécol.*) the condition of pregnancy affects not only the secretion, but the structure of the liver; a fact which has frequently been observed both post-mortem and clinically. The intensity of the jaundice depends upon the degree of structural change in that organ. It is also sometimes due to simple secretory irritation or congestion. Jaundice occurring early in pregnancy is rarely serious, but toward its termination the graver forms present themselves. However grave the case may be, if delivery take place the affection generally yields and disappears. On several occasions he had noticed jaundice to supervene at the very commencement of pregnancy, coinciding with the first menstrual lapsus. In none of the cases could any hepatic enlargement be made out, and it yielded to treatment. The author quotes four cases where the woman was jaundiced during the first few months of pregnancy, but where labor took place with living children at term. In the severer forms the absorption of the bile-salts is the immediate cause, and this is conduced to by the gravid alterations in the hepatic structure. He observed the case of a woman, twenty-nine years of age, in whom jaundice had lasted throughout pregnancy, becoming very intense toward its termination, yet she made a good recovery. In three other cases labor was followed by death from coma, puerperal peritonitis, and post-partum hemorrhage.

Thallin in Typhoid Fever.—Dr. Ehrlich, from further experience with the drug, concludes that the advantages of the thallin are: 1. The marked beneficial effect on the sensorium and the consequent avoidance of complications. 2. After apyresis the specific feeling of illness disappears, to make room for absolute euphoria. 3. Thallin agrees remarkably well with the stomach, some few cases of idiosyncrasy excepted, the appetite being at once good after apyresis. 4. Ehrlich assumes that thallin has a good effect on the local processes in the intestinal canal, since he never met with intestinal hemorrhage and peritonitis. 5. The largest doses do not affect the heart or kidneys unfavorably, the pulse becoming less frequent, and the traces of albumen disappearing. Perspiration occurs, but is not inconveniently great. On the other hand, thallin appears to retard retrogression of the splenic swelling, and, during convalescence, patients generally remain pale, with a feeling of lassitude. Though it does not hurt certain parenchymata, it has an unfavorable effect on the general nourishment. This may be accounted for by the fact that, like antifebrin and antipyrin, thallin causes a considerable increase of urine, partly perhaps because it causes thirst. With the hydropathic treatment death occurred chiefly during the height of the fever, while with thallin it occurred later. In the height of the disease thallin is most efficacious, warding off the peculiar dangers better than any other known remedy; while in the later period and during convalescence the hydropathic treatment is to be preferred, because it does not tax the strength of the patient as thallin does.

Prophylaxis of Croup.—The subject of the prevention of croup has been studied by Dr. Dumas for several years, and he has tried a great many substances with this object in view. The agent which he thinks best of is iodine, given internally in quantities not exceeding eight drops daily. He gives it in orange-flower water, sweetened with sirup, and adds a little iodide of potassium. He quotes a number of cases where there was every reason to suspect an attack of croup, and where the use of this remedy appeared to prevent its onset. He is anxious to see the method tried generally, so as to be enabled to arrive at a definite opinion on its merits.

A Remedy for Neuralgia.—It is claimed that a few drops of the following—eau de Cologne, ether, chloroform, ana ʒ iij.—poured on a handkerchief previously wetted with cold water, and placed on the seat of a neuralgic pain gives instantaneous relief. It is also very efficacious for nervous headache. A burning sensation is felt at first, but quickly disappears.

Tetanus Cured by Hypodermic Injections of Cocaine.—Dr. Lopez reports the following case (*London Medical Record*): M. G——, fifty years of age, after working in the wet and cold, complained of rheumatic pains of back and limbs. Three days later he had marked opisthotonous and painful cramps, and all the symptoms of idiopathic tetanus. Chloral hydrate and morphine were prescribed. For three days the patient was kept under the influences of these drugs, with the result that the pain was lessened, but the muscular rigidity and cramps increased. He now became unable to swallow, and death seemed imminent. Morphine was injected hypodermically, but was followed by no amelioration of the symptoms. Three syringefuls of the mixed solutions of the morphine and cocaine (each five per cent.) were then injected. The effect was immediate. After two hours he could move the limbs, turn in bed, and open his mouth. On the next day he was going on well; slight trismus and stiffness of the neck remained. On both sides of the neck, and at the angle of the jaw, a fourth part of the syringeful of the same solution was injected. On the next day all the symptoms had disappeared. The patient rapidly regained strength, and in a week's time returned to work.

Professor Schroeder enjoyed from his practice an income of 250,000 marks annually; Gusserow, 150,000 marks; Martin, 100,000 marks; while Waldeyer, from his teaching, realizes 25,000 marks yearly. Martin has been known to ask and receive 4,500 marks for an ovariotomy.

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THE PROPHYLAXIS OF MALARIA.

IN a paper read before the Reale Accademia dei Lincei (Rome, 1887), Dr. Tommasi-Crudeli gives an excellent *résumé* of our present knowledge concerning the nature of malaria, and of the means which have been found to be most efficacious in the purification of malarious regions and in the personal prophylaxis of those living in them. Passing over for the present the first two of these subjects, we desire to direct our readers' attention to the last, namely, the measures which have been found by experience to be most effectual in preventing the symptoms of the disease in those who are exposed to malarial influences.

The methods proposed are not new, and have already been discussed more than once in these columns. Nevertheless, the subject is one of such importance, and the authority of the writer is so universally recognized, that no excuse is necessary in again referring to the matter.

The value of arsenic in the prophylaxis of malaria is well known, but it is by no means an infallible remedy. One cause of failure in certain cases is explained by the author. Arsenic owes its efficacy as a preventive remedy to its action in artificially increasing the power of the human organism to resist the aggressions of the malarial ferment. But it not infrequently fails in this effect because the natural powers of resistance are already depressed far below the normal in consequence of insufficient food, of unhealthy surroundings, or of previous malarial attacks. In such cases it has been proposed by Dr. Ricchi to administer *trefusia*, known among us as dried blood, in addition to the arsenic. The combined use of these two remedies, the author asserts, has served to preserve many from malarial attacks, who would otherwise have almost surely suffered from some of the manifestations of the poison.

Sometimes, however, this fails to afford the hoped-for protection. Such failures are met with usually in regions where the malarial poison is especially active, and are due to the fact that the natives are so impregnated with the infection that it is impossible to eliminate it by quinine, arsenic, or any of the usual remedies. In these cases the author has found the decoction of lemon to be especially serviceable. This domestic remedy, for advocating which Crudeli has suffered much ridicule, has been found by many competent observers to be of singular, and as yet unexplained, efficacy. Possibly its effects may be due, in a measure at least, to its manifest tonic properties. It certainly increases the appetite and aids digestion. As some of our readers may not remember the directions for preparing this decoction, we will repeat them here. A fresh lemon is cut into thin slices, rind as well as pulp, and is boiled in three cupfuls of water in an earthen vessel which has served no other uses. This amount is boiled down to one cupful, is then strained with pressure through linen, and set aside over night. It is then drank in the morning before breakfast. It has a slightly bitter, but not disagreeable taste, and is taken readily even by children. Such a simple and inexpensive remedy, recommended as it is by as high an authority as Tommasi-Crudeli, is well worthy of a more extended trial than it has received in this country, although it has been experimented with to some extent, we understand, in some of the Philadelphia hospitals. A hospital, however, is not the place for such an experiment, and we shall be glad to learn of its extended trial in country districts where malaria is rife. The results of such trials would be interesting, and a valuable contribution to therapeutic science.

SOME OF THE MEDICAL USES OF THYMOL.

THYMOL, as is well known, is a stearoptene obtained from the *Ptychotis Ajowan*, and in small amount also from *Thymus vulgaris*. It occurs in large transparent crystals, is soluble in eight hundred parts of water, and freely soluble in ether and alcohol. It has been employed chiefly as an antiseptic in surgery, and though used to some extent internally, its value in this respect is not as generally recognized as, perhaps, it ought to be.

It is said to be of considerable utility in catarrh of the bladder and also in diabetes mellitus, though its mode of action in this affection is not easy of explanation. It is in diarrhœa, however, that it has found its principal employment as an internal remedy. Three years ago, when the cholera was prevalent in Italy, Bozzolo endeavored to popularize the remedy by articles in the daily press, urging its general use in that disease. His recommendations were based purely on theoretical grounds, and whether they were acted upon, and, if so, what the results were, we are unable to learn. It has, however, been used to some extent in the summer diarrhœa of children, with, it is said, considerable success.

In a recent monograph by Dr. V. Martini, of Sienna, entitled "The Efficacy of Thymol in Intestinal Disinfection" (Milan, 1887), an account is given of a number of experiments with thymol in intestinal disorders, in which its utility would appear to be clearly shown. The author regards the insolubility of this substance as perhaps the one quality which renders it of peculiar value in intestinal disinfection. This quality renders it possible to exhibit the drug in large doses without fear of producing toxic effects by reason of its absorption. It passes in great measure undissolved into the intestinal canal, and there exerts locally its powerful antiseptic action. Dr. Martini reports *in extenso* nineteen cases of diarrhœa and dysentery in which thymol was used. The cases embraced chronic diarrhœa, diarrhœa from overeating, acute dysentery, the diarrhœa of phthisis, chronic dysentery, and the diarrhœa of teething children. In

almost every case a cure was obtained in from two to twelve days, the only exception being the cases of chronic dysentery, in which no good results were obtained, except that the number of the evacuations was slightly reduced. In only one case, that of a debilitated child to whom very large doses had been given, were any toxic symptoms noted. This child had some delirium and sopor. In the case of adults the author gave from twenty grains to two drachms in divided doses in the twenty-four hours.

Thymol has also been used with success as an external application in eczema and psoriasis, and especially in burns. But of these external uses we need not speak, as it was to the alleged value of thymol as an internal disinfectant that we wished especially to refer. It may, however, be worth alluding to the fact that a solution of thymol, employed in the form of a mouth-wash and gargle, is very useful in destroying the odor of tobacco which remains in the breath after smoking.

CALCIUM PHOSPHATE IN TUBERCULAR JOINT-DISEASES.

A NEW method of treatment of chronic tubercular joint-diseases has been proposed by Dr. Kolischer (*Wiener Medizinische Presse*, No. 22, 1887), which is said to have given remarkable results in the cases in which it has been tried. The author of the method was led to its adoption by a consideration of certain cases of spontaneous cure of local tuberculosis by the calcification of the morbid product, or by the intercurrence of an intense inflammation from traumatic or septic causes, as after an articular fracture. His object was therefore twofold—to obtain calcification of the tuberculous product, and to excite an inflammation which would be substitutive to the tubercular process. This object he claims to have obtained by the injection at the seat of disease of a concentrated solution of the acid phosphate of calcium.

A few experiments sufficed to show that the best results were obtained when the solution contained an excess of phosphoric acid. The solution used for injection, prepared after a formula suggested by Dr. Freund, is made as follows: 75 grains of the neutral phosphate of calcium are dissolved in 12 drachms of water, and phosphoric acid is added slowly until a perfect solution is obtained; to this are added 9 minims of dilute phosphoric acid (Austrian Pharmacopœia) and water enough to make 3 ounces. The solution is sterilized by boiling. A second solution, prepared like the first, but containing 90 or 180 instead of 9 minims of dilute phosphoric acid, is used for impregnating the gauze for dressings.

The solution is thrown at several points into the fungoid mass by means of a hard-rubber syringe armed with a platinum needle, and then a dressing of gauze impregnated with the second solution is applied. The pain, for a few hours, is very severe, and must be combated with morphine. There is some fever for a few hours, and the inflammatory reaction lasts from four to seven days. At the end of from two to four weeks considerable induration of the parts is present, but this gradually disappears in the course of a few weeks more, and the joint resumes its normal contour. In those cases in which caseation is present the skin breaks, and there is considerable discharge for a time, but the opening gradually closes if the calcium-phosphate dressing is continued, and a firm cicatrix forms.

In a letter from Vienna to *La Riforma Medica* for July 2, 1887, Dr. del Torre writes that this method has already been tried in about two hundred cases, and the results obtained have been in the highest degree satisfactory. Professor Albert has also given it his emphatic approval, and speaks of it in enthusiastic terms. There can be no question that some such method, by which the long and tedious treatment of chronic joint-diseases may be hastened, is a thing to be desired, and it is to be hoped that the activity that is now shown by surgeons in this direction may be productive of fruit in the near future, even if Kolischer's method does not come up to the high expectations of its author and his followers.

BASE-BALL PITCHER'S ARM.

DR. A. H. P. LEUF, of Philadelphia, has made an original and valuable contribution to the physiology and pathology of our national game in an article in the *Medical News* of June 16, 1887. It is fortunate for those interested in the game that Dr. Leuf is both a good ball-player and a good physician. He has given the first clear description of the physiology of pitching, and of its pathological results. The pitching of balls for amusement is an occupation which collects hundreds of thousands of Americans together during the season, and earns for the pitcher an average income considerably above that made by members of learned professions.

The work of pitching, however, is most arduous while it lasts. The ball has not only to be sent with great swiftness, but, by a peculiar jerk or snap of the forearm and hand, it is given a twist which causes it to curve in or out, up or down. Different sets of muscles are especially called into play in giving the different curves.

The *in-curve* calls into action most particularly the pectoralis major, the biceps, brachialis anticus, and flexors of the forearm. The *out-curve* affects the pectoralis major, coraco-brachialis, infraspinatus, teres minor, and ulnar muscles. The *down-curve* strains most especially the pectoralis major, trapezius, deltoid, and serratus magnus. The *up-curve* is mostly caused by the pectoralis major, biceps, and supinator brevis.

All kinds of pitching strain the elbow-joint. There is a tendency each time to a separation of the bones at the outer side of the joint—*i.e.*, radius and capitellum of the humerus. This is prevented, however, by the biceps, supinator longus, and extensor carpi radialis longior. The constant necessity for quick and forcible flexion of the elbow greatly strains the brachialis anticus; this is, therefore, one of the first among the muscles to feel the strain.

The symptoms brought on by the exercise are soreness, tenderness, myalgia, and severe, continuous, sickening pains due to involvement of the bones. There is also stiffness and weakness of the arm. These symptoms are due to the straining of the muscles and ligaments, with, probably at times, rupture of small fibres. Dr. Leuf makes the interesting observation that in cases of long standing the bones become affected, and that in pitcher's arm the trouble is largely osteitic. The ostei-

tic changes occur wherever the muscles most used have their attachment, and especially where the bone at the point of attachment is soft and porous. For this reason most trouble is encountered at the extremities of the bones. The particular change seems to be really a periostitis and osteitis, with local hypertrophy of bone.

The muscles most often or earliest affected are the brachialis anticus, lower part of the biceps, the deltoid, trapezius, and latissimus dorsi. The forearm gets tender and sore for a short time. The ligaments most affected are the coraco-humeral and coraco-clavicular, and the lateral ligaments of the elbow-joint. The wrist ligaments are sometimes affected.

The treatment consists first in prophylaxis. The pitcher must practise regularly daily in the sun. When the temperature in the shade is below 60° F., it is risky to pitch with vigor. This point is certainly often disregarded. Liniments, rubbing, and massage are all useless. The best local application is heat, which, combined with elevation of the limb, will often relieve pain. The main treatment for pitcher's arm is regular exercise, twice daily. In severer chronic cases, mild galvanic currents are of some value, and should be applied at night.

It appears from the foregoing that ball-pitcher's arm is not a rough pathological condition, but that in its severer and chronic forms it is a painful osteitis and periosteitis, combined with some ligamentous and muscular strain. The treatment is not rest, but exercise.

THE CONDITION OF THE CROWN PRINCE—CABLE MESSAGE FROM DR. MACKENZIE.

A CABLE message from Dr. Mackenzie, of London, to THE MEDICAL RECORD announces that a fourth operation upon the throat of the Crown Prince of Germany was performed on Tuesday in consequence of a recurrence of the disease. A platinum-pointed galvano-electrode was used for the purpose.

On examination of the throat immediately after the operation, an eschar was to be seen in the centre of the base of the growth. The condition of the larynx was most satisfactory, there being no inflammatory reaction, the voice being good, and the general health excellent.

The nature of the operation would preclude the possibility of any microscopical examination of the diseased tissue being made. We are thus thrown, in our estimates of final results, upon the purely clinical character of the growth. It is gratifying to infer that there has not been as yet any serious encroachment of the disease upon the tissues of the vocal cords.

In fact, thus far, everything appears to be favorable, save a marked tendency to recurrence of the disease. The latter, however, is of the greatest possible significance in estimating the probabilities regarding the ultimate malignancy of the growth. We regret to say that the outlook is not as encouraging as it might be. The best we can hope is that there will be no further disposition for the return of the growth.

THE MURIATE OF QUININE is the best salt for hypodermic use.

News of the Week.

THE FIFTH ANNUAL MEETING OF THE AMERICAN RHINOLOGICAL ASSOCIATION is to be held at Washington City, D. C., September 1st, 2d, and 3d. The profession is cordially invited to attend the sessions.

WEST VIRGINIA STATE MEDICAL SOCIETY. — The twenty-first annual meeting of the West Virginia State Medical Society was held at White Sulphur Springs, on July 13th to 15th, inclusive. There were in attendance about seventy-five members. Drs. Miles, Welch, Michael, and Opie were in attendance from Baltimore; Drs. Cullen, White, and Upshur from Richmond, Va. Thirty new members were admitted. Dr. Brock, of Morganton, was elected president for the ensuing year. The next meeting will be held at Huntington, W. Va., in May, 1888.

OUR MEDICAL COLLEGES are very busy preparing for the coming season's campaign. At the University the whole interior of the building has been torn out, and is to be remodelled, while the Loomis laboratory is rapidly approaching completion. At the Bellevue Medical College repairs and changes are going on in the Carnegie laboratory and College building itself. The new building of the College of Physicians and Surgeons, with the Sloane maternity hospital and Vanderbilt clinic, are to be ready by fall.

HUMID HEAT.—A serious danger in cities and the country from a humid atmosphere, combined with great heat, is the greater tendency for disease-germs and microorganisms of all kinds to develop. New York City in the past month has been a huge culture-plate. So far, fortunately, the death-rate from zymotic diseases has not been greatly increased. But it is to be feared that dysentery, malaria, and miasmatic troubles of various kinds will become very prevalent later.

A NEW HOSPITAL has just been opened at Camden, N. J.

A BILL WHICH PROVIDES FOR THE SUPPLYING OF ANATOMICAL MATERIAL to the medical colleges has passed the Georgia Legislature. A similar bill passed in 1879, but was vetoed by the governor.

THE MEDICAL SOCIETY OF WEST VIRGINIA has done itself credit by taking a firm stand against an attempt to mix politics up with the State Board of Health and public charitable institutions. Resolutions strongly condemning certain recent acts of the governor in this matter were unanimously adopted. We trust that some good may result. If physicians would organize and unite in action on all matters of State medicine, they would soon find that politicians would pay more attention to their opinions. At present the astute "boss" knows very well that the vote and influence of the doctors is not a thing worth bidding for.

ABDOMINAL ANEURISM CURED BY THE INTRODUCTION OF WIRE.—A case of this kind is reported by Dr. J. F. Morse, in the February issue of the *Pacific Medical and Surgical Journal*.

LONDON PROPOSES to have a Therapeutical Society. New York has proposed and tried it, but without success.

The late Dr. Joseph C. Hutchison.—At a special meeting of the Board of Managers of the Alumni Association of the Long Island College Hospital, held July 20, 1887, convened to take action in the matter of the death of Joseph C. Hutchison, M.D., LL.D., late President of the Collegiate Department, the following preamble and resolutions were adopted:

Whereas, In the death of Joseph C. Hutchison the College has lost an able worker in his recent official capacity, and one to whom it was indebted for a more active part in the past as professor of surgery, and believing the reputation and honor of the institution rests in the hands of its teachers; it is

Resolved, That one who showed such boldness and fidelity in defending its best interests is worthy of the highest praise and respect of this Association.

Resolved, That the Association extends its heartfelt sympathy to the family of the late Dr. Hutchison, and its condolence to the Board of Regents of the Long Island College in this our common affliction.

Resolved, That a copy of these resolutions be sent to the family of Dr. Hutchison, the Board of Regents, and the press.

H. Messenger Ayres,
A. H. Buckmaster,
Committee.

Cholera is said to have broken out with great violence at Catania on the island of Sicily. Twenty-five deaths occurred in one day.

Mackenzie's Fee. — Some inventive news-gatherer has started into circulation the report that Dr. Morell Mackenzie's bill for treating the Crown Prince is $13,000. Monarchies may have their faults, but it is perfectly safe to say that Dr. Mackenzie and his colleagues will be better rewarded than were the surgeons who took care of President Garfield.

Gifts to Hospitals.—Hon. Carter H. Harrison, of Chicago, has given $1,500 to the Michael Reese Hospital in that city, to be invested in its perpetual fund in the name of his late wife, Margarette Stearns Harrison.

St. Agnes' Hospital.—The Misses Drexel, of Philadelphia, have given $30,000 to St. Agnes' Hospital, with which a large lot of ground adjoining the hospital has been purchased. The property had long been desired.

How to Make Money in Physic.—Under this title an anonymous writer in the *Western Medical Reporter* publishes a long communication, which is a bold plagiarism of the well-known letter on a similar subject by the celebrated Dr. Mead. It has been in print for a hundred years, but seems applicable to-day.

International Medical Congress Railroad Rates.—The rate upon all railroads, for those designing to attend the Congress to be held at Washington in September next, has been made at one and one-third fare for the round trip, tickets to be issued on the certificate plan.

The Illinois State Medical Society.—A correspondent from Galesburg, Ill., writes: "Regarding the Illinois State Medical Society, there is but one door to that institution; no side doors nor unbarred windows, and the one door has but one door-keeper. This condition of affairs has reached such a burdensome pitch during the past five years that the profession at large, and outside of one of the Chicago medical colleges, have become very *tired*—particularly so since the caucus at New Orleans."

A Decision Against Private Hospitals.—In view of the recent discussion over the question of the unpleasant character of a certain private hospital in this city, a recent decision by Judge Hornblower in the California courts is of great interest. The case was that of the People *vs.* certain parties who were conducting a private hospital in San Francisco, known as The Hahnemann. The proprietors were charged with misdemeanor, and the charge was sustained by the judge, who said: "A private hospital must of necessity, in a populous neighborhood, be and become a public nuisance, and the people of that neighborhood have a right to protection from the courts, that they may enjoy health and happiness." The defendants were found guilty, but the case will be appealed.

Strong Galvanic Currents in the Treatment of Uterine Disease.—As a good deal has been said in regard to and in favor of Apostoli's method of treating uterine fibroids, etc., it may be well to hear the views of Dr. A. Tripier on the matter, as expressed to Dr. Julius Althaus, in the *British Medical Journal:* "More than twenty years ago M. Tripier had treated uterine fibroma with faradization, and thereby given not only considerable relief to subjective symptoms, but also obtained the dispersion of the peri-uterine engorgement which is often present in these cases, without, however, reducing the tumors. Later on he likewise made use of positive and negative electrolysis, but without any very positive results. Finding that about the latter date Apostoli was inclined to further investigate the subject, he advised him to use a current of moderate power, and for a considerable length of time, and to cover the electrodes with a protecting substance. Apostoli, however, went entirely the opposite way to work, for he used a current strength of enormous power, up to two hundred and fifty milliampères, and that for a very short time only. In this manner he obtained energetic cauterization, but left the question whether the effects produced were owing to the action of the current, or simply to the sore which was established, unsettled. He has, however, established the fact that the uterus may swallow an enormous dose of electricity for a short time, and that large fibromas may be by this proceeding considerably reduced in size in a few months. It is true that this is brought about at the price of considerable suffering to the patient, and of risks which M. Tripier would not be disposed to run. With regard to chronic metritis, M. Tripier considers M. Apostoli's proceeding to be much inferior to his own, as it leads to the formation of cicatrices. For endometritis Tripier prefers his iodine injections; for simple engorgement, faradization; and for fibrous hypertrophy, again injections. Finally, M. Tripier does not believe in the distinction which Apostoli has drawn between positive electrolysis, which is said to be hæmostatic, and negative, which is declared to be hemorrhagic. In several cases which he has seen, negative electrolysis has proved rather hæmostatic than hemorrhagic."

Reports of Societies.

AMERICAN NEUROLOGICAL ASSOCIATION.

Thirteenth Annual Meeting, held at Long Branch, N. J., July 20, 21, and 22, 1887.

WEDNESDAY, JULY 20TH—FIRST DAY—MORNING SESSION.

THE Association convened at the West End Hotel, and was called to order at 11.30 A.M., by the retiring President, DR. CHARLES K. MILLS, of Philadelphia.

Present.—Drs. C. K. Mills, of Philadelphia; L. C. Gray, of Brooklyn; R. T. Edes, of Washington; J. J. Putnam, of Boston; G. M. Hammond (Secretary), of New York; James Henrie Lloyd and Francis X. Dercum, of Philadelphia; E. C. Spitzka, G. W. Jacoby, B. Sachs, and R. W. Amidon, of New York.

NEW MEMBERS.

The Council reported favorably to the election of the following applicants: Drs. Henry Hun, of Albany; Henry M. Lyman, of Chicago; Irvine C. Rosse, of Washington; Theodore H. Kellogg and N. E. Brill, of of New York; and Philip C. Knapp, of Boston.

MEMBERS BY INVITATION.

Professor J. Jastrow, of Johns Hopkins University, Baltimore, and Dr. Samuel Ayers, of Pittsburg, Pa.

DR. MILLS then delivered

THE ADDRESS OF THE RETIRING PRESIDENT,

in which he recommended the adoption of certain proposed amendments to the constitution and by-laws, and briefly referred to the proposition to join the Congress of American Physicians and Surgeons. He closed his address with a reference to the subject of "Arrested and Aberrant Development of Fissures and Gyri of the Brain," brought forward in his address last year, and then read a letter from Professor Benedikt, of Vienna, to whose work in connection with the subject of the "Brains of Criminals" he had directed attention.

At the close of his address he introduced DR. LANDON CARTER GRAY, of Brooklyn, N. Y., who then delivered

THE ADDRESS OF THE PRESIDENT-ELECT,

in which he departed from the somewhat established custom of presenting a paper on a subject connected with the scientific work of the Association, and gave a brief *résumé* of the history and present status of neurological science as represented by neurological societies in Europe and in this country. The first neurological society (New York) in this country was organized in 1872, and the American Neurological Association began its existence in 1875. Three years ago the Philadelphia Neurological Society was organized.

With all its prestige and intrinsic advantages, Europe has only three special neurological societies, as against three in this country, established within fifteen years.

The President then reviewed the work which had been done by neurologists, and expressed himself as having but little sympathy with the attacks being made on specialism. Neurology had made within the last quarter of a century astonishing strides, which were illustrated in the advancements made in cortical localization, insanity, locomotor ataxy, multiple neuritis, athetosis, and many other diseases, as well as by the means of study. These justly entitled it to be placed in a position which rendered a thorough knowledge of the phenomena of the nervous system a necessity for the general practitioner, if he would be most competent to practise medicine.

In conclusion, he expressed the hope that the Association would become an integral part of

THE CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.

The first paper was read by DR. E. C. SPITZKA, of New York, on

SOME POINTS REGARDING THERAPEUTICAL AND OTHER INJURIES OF THE BRAIN.

The observations were made while experimenting on animals for purposes other than those set forth in the paper. They varied from the excision of entire hemispheres and simple trephining and the introduction of foreign substances into the arachnoid cavity to the injection of such substances into the brain-tissue directly, into the ventricular cavities, and into the arachnoid sacs at the base of the brain. Terebration or trephining necessarily preceded the introduction of hypodermic needles in the latter instances. It was also his fortune to witness one extensive operative exposure of the human brain, and to make the post-mortem analysis in two cases where operations had been attempted or made in accordance with the modern teachings of cerebral surgery.

He concludes that, so long as the brain-axis is not injured in special provinces, practically an unlimited amount of brain-tissue can, under antizymotic precautions, be removed without compromising life; that hypodermic needles can be thrust into the brain without harm; that the button of bone removed by trephining can with safety be reinserted and left to unite.

Exploratory needles, however, should never be introduced into the internal capsule, the contiguous ganglia, or the lateral ventricles, merely for exploratory purposes, unaided by positive clinical indications of the location of disease.

Exposures of large surfaces of brain are not feasible in persons with feeble vascular walls, owing to the danger of intra-cerebral hemorrhage.

Buttons of bone reinserted under antiseptic precautions, after trephining, are, even in the event of non-union, entirely harmless.

In young persons buttons of bone may become reunited with the cranium, even though perfect coaptation be not assured.

The paper was discussed by Dr. G. M. Hammond, of New York, Drs. J. H. Lloyd and C. K. Mills, of Philadelphia, and the discussion was closed by Dr. Spitzka.

DR. JAMES J. PUTNAM, of Boston, then presented specimens and reported two cases. The first was one of

DISTROPHY OF FACE AND HEAD.

It was a case of general hyperostosis of the cranium, occurring in the person of a Swedish woman, twenty-nine years of age, and in good health up to nine years ago. There was no reason to suspect the presence of syphilis. Soon after the birth of her first child, nine years since, she began to suffer from severe headaches, and headache was a prominent symptom throughout. About two years afterward, broadening of the face and protrusion of the eyes began to be noticed, steadily increased, and became very prominent. Three years ago some of her teeth fell out, and finally all were lost. Purulent discharge from both ears appeared two years ago, and the patient became entirely deaf. Five years ago menstruation disappeared. Dizziness, accompanied by slightly tottering gait. Intelligence remained good. Sensibility of the skin normal. No evidence of paralysis of any of the ocular muscles. No optic neuritis, but dense opacity in a part of the cortical portion of the lens of the left eye, on the side where there was the greatest degree of exophthalmos.

The circumference of the head was 59 ctm., and its breadth 16 ctm., at the last measurement.

Photographs showing the increased size of the head and the protrusion of the eyes were exhibited.

Such cases had been described by Foerster, and in the museum of the Harvard medical school was a skull

which showed thickening to the extent of one and a half inches, with narrowing of all the cavities, particularly the orbital.

The second case was one of

INTRA-CRANIAL TUMOR,

occurring in a woman thirty-eight years old, who, without family history bearing on the case, suffered from periodical headaches. Eighteen months before Dr. Putnam made his examination these headaches increased in frequency, but otherwise their character remained unchanged. The whole duration of the sickness was about twenty-one months, but no symptoms unequivocally due to the disease were noticed until about four and a half months before death, the first being a terrific headache that lasted two days, and ushered in an almost unbroken series, mainly frontal. Vision was slightly indistinct, and well-marked optic neuritis was present. There were no localizing symptoms of cerebral disease. The mental condition was good. For six weeks before death she was nearly unconscious, with her right hand constantly at her head, and the power of conversation became more and more limited. When conscious she complained a great deal of pain in the two middle fingers of the left hand, running upward to the elbow. There was paresis of the buccal muscles of the right side of the face, with slight deviation of the tongue to the right. The pulse varied in frequency, and the temperature remained normal. The autopsy revealed a cerebral tumor, the outer aud upper part of which was a cyst filled with blood and detritus, occupying the position of the caudal extremity of the second and third left frontal convolutions; the remainder of the tumor was much firmer and was situated mainly beneath the frontal lobe, reaching toward the median line so far as to push the left olfactory nerve somewhat to one side. The only attachment of the tumor was to the dura, covering the left wing of the sphenoid over a space somewhat larger than a nickel-cent. The third frontal convolution in particular was thinned and softened. Except by the cerebral arteries there was no connection between the tumor and the brain. Dr. Putnam suggested the propriety of a surgical operation for the removal of the growth in such cases.

The second case was discussed by Dr. Spitzka of New York, and the discussion was closed by Dr. Putnam, after which the Association went into executive session.

AFTERNOON SESSION.

The Association was called to order by the President, DR. GRAY, when, on motion by DR. E. C. SPITZKA, of New York, the by-laws were suspended, and the Association elected William A. Hammond, of New York,

AN HONORARY MEMBER,

his name having been presented in the morning session by Dr. Charles K. Mills, of Philadelphia.

DR. C. L. DANA, of New York, then read a paper on

HEREDITARY TREMOR,

an affection heretofore undescribed.

DR. J. J. PUTMAN, of Boston, had seen such cases occurring in families in which there was no other disease. An example lived in his vicinity, who also had tremor of the head, as did the patients in some of Dr. Dana's cases, but which was not senile.

DR. G. M. HAMMOND, of New York, mentioned a case of choreaic tremor which certainly was hereditary, and he asked Dr. Dana if he regarded the form of tremor he had described the only hereditary variety.

DR. DANA recalled Dr. Hammond's case, which he had opportunity to see, but he was not aware it was hereditary, and had regarded it as one of tic convulsif rather than of tremor. The peculiarity of the cases he had described was their marked hereditary character.

DR. GEORGE W. JACOBY, of New York, then read a paper in which he gave the results of microscopical studies in a case of

PSEUDO-HYPERTROPHIC PARALYSIS.

The case occurred in a boy, fifteen years of age, who presented the usual symptoms of the disease. He obtained the privilege of removing portions of the muscles, and the results of his study had been to sustain the view that the disease is primarily myopathic. The following changes were observed: The number of bundle-fibres was reduced, at least one-half, and the size of single muscle-fibres was smaller than normal. The connective tissue was augmented to two or three times that of normal muscles. Whence comes this increase, was a question that had not been answered satisfactorily. All his specimens, however, went far to show that it had grown at the expense of the contractile substance, and that the medullary corpuscles had developed new connective tissue. Exceptionally, fat-cells were found in muscle-fibres. There were fat-cells in the new connective tissue, besides formations in the perimysium, cartilaginous in character.

His conclusions were that in his patient the disease was essentially a chronic inflammation, invading both the perimysium and the muscle-tissue. The pathological process, whatever its cause may be, consisted in a gradual reduction of the muscle-fibres into medullary or inflammatory corpuscles, which in turn go to build partly fibrous, partly cartilaginous, and partly fat connective tissue. The process, which is extremely slow, gradually leads to an augmentation of myomatous or other varieties of connective tissue at the expense of the muscle-tissue. He does not agree with Gowers and Buss that the proliferation of connective tissue is the primary, and the disease of the muscular tissue the secondary process. Either the reverse is true or the process occurs simultaneously both in the muscle and in the perimysium. Dr. Jacoby does not hesitate to place the entire process, as seen in his specimens, in the same category with the process termed *myositis ossificans progressiva.*

DR. DERCUM, of Philadelphia, had seen cases of interstitial myositis and also of myositis proper, but whether the connective-tissue change was secondary or not was difficult to say. In Dr. Jacoby's case there did not seem to be much doubt.

DR. J. J. PUTNAM, of Boston, cited cases in which a mixture of the degenerative processes occurred.

DR. B. SACHS, of New York, then read a paper on

ARRESTED CEREBRAL DEVELOPMENT,

with special reference to its pathology. The child, whose brain he had examined with the assistance of Dr. Ira Van Gieson, was two years old, with absolute lack of mental development, and without any evidence of either syphilis or rachitis. There was a distinct history of traumatism. Examination of the brain showed that the fissures were very much like those of the low type of brain illustrated in Dr. Mills' paper, read before the association last year. The island of Reil was completely exposed. The microscopical examination pertained to the cortex of the brain, and the most characteristic changes concerned the large and small pyramid-cells. Scarcely a single pyramid-cell in the entire cortex presented a normal appearance; the majority of them looked like mere clumps. Their number was notably diminished. The nucleus was entirely absent in many, and in others it was small and surrounded by detritus. The processes were either poorly developed or entirely absent.

There were no changes affecting the glia, the blood-vessels, the white fibres, or the neuroglia. There was no indication of an inflammatory process, and for that reason he regarded the case as one of pure inhibited development, and not arrest of development from previous inflammatory conditions.

The paper was discussed by Drs. Mills and Dercum, of Philadelphia, and Amidon, of New York.

The Society then went into executive session.

THURSDAY, JULY 21ST—SECOND DAY—MORNING SESSION.

The Association was called to order by THE PRESIDENT.

There were present during the day, Drs. Gray, Hammond, Miles, Putnam, Edes, Hun, Dercum, Lloyd, Jacoby, Mills, Starr, Sinkler, Sachs, Ott, Spitzka, Brill, Dana and Jastrow.

DR. J. J. PUTNAM, of Boston, reported a case of

SARCOMA INVOLVING THE INTRA-PELVIC NERVES.

It was a contribution to the clinical and pathological history of "paraplegia dolorosa," due to the invasion of the intra-abdominal nerves. The facts observed harmonized fully with those reported in the recent excellent summary and analysis by Dr. R. W. Amidon, of New York; but he regarded the case as worthy of record because of the very late appearance of anything that could be called cachexia, or of enlargement of the lymphatic glands; because of the secondary and indirect involvement of the spinal cord; and because of the very notable fluctuation of some of the symptoms. The patient was a man seventy-two years of age, of excellent previous history and habits, and no family tendency which could be expected to make him liable to sarcomatous disease. The first symptoms showed themselves about one year and a half before his death, and consisted of pain in the middle toe of the left foot, recurring frequently for some months, and occasionally throughout the remainder of his life. Although a bilateral distribution of the symptoms is usually so early and valuable a guide, the right leg in this case was not attacked until nearly six months after the left. Meantime the pain in the left had greatly lessened during a trip to Florida. No glandular enlargements could be detected until about two months before death, when a bunch was noticed in the right groin that rapidly increased in size. The new growth finally invaded the skin.

The paper was discussed by Dr. C. K. Mills, of Philadelphia, and Dr. F. T. Mills, of Baltimore, both reporting similar cases of malignant disease.

DR. JAMES HENDRIE LLOYD, of Philadelphia, then read a paper in which he reported one of a number of cases of

INSANITY OF DOUBT,

which he had seen. They are characterized by a special form of delusions which differs from the delusions of grandeur or persecution. The delusions of doubt are changeable and negative, and somewhat allied to those of melancholia. It is a species of reasoning mania. If one spirit of doubt is removed a dozen rush in to take its place. The affection belongs to the neurotic type.

The paper was discussed by Dr. C. K. Mills, of Philadelphia; Dr. L. C. Gray, of Brooklyn; and the discussion was closed by Dr. Lloyd.

The President, DR. L. C. GRAY, of Brooklyn, then read a paper on

CHOREA,

in which he argued that this disease is not so trivial an affection as it is generally supposed to be. After giving an analysis of 134 cases, which showed a large percentage of relapses, and mentioning the fact that it is a developmental disease, liable to be transformed from an apparently harmless one into a violent and dangerous affection, he cited five classes of cases which especially should be observed seriously: (1) Cases with convulsive phenomena; (2) cases with spasmodic contraction of the muscles of respiration; (3) cases with marked hysterical symptoms; (4) cases with rapid pulse or dyspnœa, without evident pulmonary or cardiac lesions; and (5) cases with cardiac and pulmonary lesions.

In the treatment he regards *rest* as the *sine qua non*—absolute rest in bed. He has not much confidence in the efficacy of arsenic to effect a permanent cure. There is danger, however, in using it in very large doses. Iron he uses as a very valuable remedy—large doses of the dialyzed. Galvanism to the spinal cord in chronic cases is usually of great service. He has not used hyoscyamine except where the bromides failed. A radical change of air is especially valuable. The paper was discussed by Dr. Starr, of New York; Dr. Lloyd, of Philadelphia; Dr. Miles, of Baltimore; Dr. Dercum, of Philadelphia; Dr. Jacoby, of New York; Dr. Hammond, of New York; Dr. Sinkler, of Philadelphia; Dr. Edes, of Washington—who reported severe cases, some fatal, some complicated with epilepsy, insanity, pregnancy, etc., and also mentioned other drugs than those referred to by Dr. Gray which they had found efficacious in the treatment of the disease.

DR. M. ALLEN STARR, of New York, then exhibited some specimens which showed the advantages of Weigert's staining for nerve-tissue.

The Association then went into executive session.

AFTERNOON SESSION.

DR. FRANCIS X. DERCUM, of Philadelphia, read a paper in which he reported two cases of

HEMICHOREA ASSOCIATED WITH BRIGHT'S DISEASE.

How shall we explain these cases? Is there a causal relation between Bright's disease and the hemichorea, or is the association of the two affections merely accidental? While he did not pretend to give a positive or final answer to the questions, he maintained that the weight of evidence was in favor of the first hypothesis. In the first place, there were no evidences of organic cerebral disease, such as were to be expected from the researches of Weir Mitchell and, later, from the work of Charcot and Raymond. There was, in these cases which he reported, no history of a previous hemiplegia, and, secondly, the autopsy of Case I. proved the entire absence of any focal lesion, while the most detailed and careful study of Case II. likewise negatived any hypothesis of organic disease.

It might seem strange, indeed, that if the chorea was really related to the Bright's disease it should be so limited in its distribution. It might be difficult to understand why a general cause should give rise to such a localized set of nervous phenomena, and yet, that disturbances of the nervous system strictly limited to one-half of the body do occur in Bright's disease was no longer a matter of doubt. The one-sided action of the nervous system in uræmia is by no means limited to old persons. DR. EDES, of Washington, was inclined to regard the association of the two diseases as accidental, and DR. MILLS, of Philadelphia, was strongly inclined to the same opinion.

DR. E. C. SPITZKA, of New York, then read a paper on

ACUTE OR GRAVE DELIRIUM,

first recognized by DR. LUTHER BELL, of Massachusetts. Ordinarily it begins with insomnia, malaise, and inability to think, accompanied by a bursting sense of pressure in the head, increasing irritability, and the sense of impending misfortune. The outbreak is often so sudden as to suggest the fulminating type of typhus or of epidemic meningitis. In such cases the patient, rising from a confused sleep, staggers around as if drunk, or, having lain down oppressed by some real grief or subjective melancholy, he or she rises hilarious, dances around, vociferates, indulges in erotic or expansive imagery, to pass into apathy, either with or without the intervention of lucid intermission. Soon the flight of ideas increases—in some a wild, aggressive delirium, in others a distress-

ing anxiety which deepens and becomes a panphobic delirium. The more violent class pray, sing, whistle, yell, and tear off their clothing continuously for days. Those who early suffer from impaired consciousness exhibit a suffused, stupid face, and lie almost motionless, groaning, or puffing and blowing with their mouths in a peculiar manner.

The findings in the brain vary from the negative to the most profound structural changes. These cases seem to illustrate the fact that any multiple irritative lesion, suddenly overwhelming the brain-function, can produce delirium and coma. All the changes, in his opinion, were the collateral results of hyperæmia, which is the characteristic of the disturbed brain-circulation, and throw no direct light on the essential pathological foundation of grave delirium. He suggested that attention should be directed to the very important question of the ability of the predisposed and overburdened nervous centres to poison themselves.

The paper was discussed by Dr. Gray, of Brooklyn, who had seen two cases like those described by Dr. Spitzka, except that they were not fatal, and by Dr. Mills, of Philadelphia, who had seen cases belonging to this category in which recovery took place. He also spoke of the difficulty of drawing the line between grave or typho-mania and the cases of common acute mania and other affections.

Dr. Spitzka, in closing the discussion, said that while in theory he was opposed to mechanical restraint in the treatment of the insane, he would find it difficult to get along without such restraint in cases of this kind, as chemical restraint fails when used in a form that would be justifiable.

Dr. Henry Hun, of Albany, read a paper entitled

GLIOMATOUS HYPERTROPHY OF THE PONS.

The patient was a girl, six years of age, who showed steadily increasing inco ordination of movements, bulbar paralysis, and general motor paresis. At the autopsy the pons was found enlarged to three or four times its natural size by a tumor, which occupied it almost completely and was glio-sarcomatous in character. He preferred the title, however, of gliomatous hypertrophy of the pons.

The paper was discussed by Drs. Starr and Spitzka, of New York.

Dr. M. Allen Starr, of New York, read a paper on

PARAMYOCLONUS MULTIPLEX,

in which he reported a case. This is a spasmodic affection of the muscular system of peculiar character, distribution, and course, dependent upon irritation of the nervous motor mechanism. It is limited to the muscles of the body and proximal portion of the limbs, only occasionally affecting the neck and face, and was first described by Friedreich. His case brings the total number up to nine. It must be regarded as a distinct disease, since it is widely different from chorea, hysterical spasms, epileptiform convulsions, convulsive tremor, or tetanilla, and tic convulsif. Its causation is uncertain. The spasms are bilateral and symmetrical. They are limited to certain muscles of a physiological group. The usual limitation of the spasm to the body-muscles, with those of the thighs and arms, is very noticeable. The character of the spasm is characteristic. It is a rapidly repeated clonic spasm, occurring at intervals, varying from fifty to one hundred and eighty per minute. The clonic contractions continue, when once set up, for a varying time from half a minute to ten minutes, and are succeeded by a complete interval of freedom from spasm. In the majority of cases, any tapping of the tendons or any irritation of the skin was sufficient to produce a spasm. This is an important diagnostic symptom. In none of the cases has consciousness, motion, sensation, co-ordination, or electric excitability been in any way affected—an important negative fact. It is a functional neurosis.

Prognosis is favorable, although relapses may occur. The treatment which has been most serviceable has been the strong galvanic current to the spine and neck, and the application of the anode to sensitive points, in case they exist. The exact effect of nerve-sedatives and nerve-tonics seems to be doubtful. The hypodermatic use of arsenic under the conditions described by Hammond deserves a trial.

The paper was discussed by Drs. Spitzka, C. L. Dana, and G. W. Jacoby, of New York, who added cases and commented on the question of differential diagnosis; by F. X. Dercum and C. K. Mills, of Philadelphia, who agreed with the other gentlemen with regard to the propriety of making this symptom-group a permanent affection; they saw no good reason for separating it from convulsive tremor, or from some affections called hysterical.

Dr. Sachs, of New York, supported Dr. Starr, and Dr. Sinkler, of Philadelphia, had seen a number of cases of convulsive tremor which closely corresponded to the description given by Dr. Starr and others, of paramyoclonus multiplex.

The discussion was closed by Dr. Starr.

The Society then went into executive session.

The annual dinner was served in the evening.

Friday, July 22d—Third Day—Final Session.

The Society was called to order by The President.

Present: Drs. Edes, Putnam, Spitzka, Hammond, Starr, Brill, Dana, Parsons, Jacoby, Ott, Dercum, Hun, Miles, Gray, Lloyd, Fisher, Mills, Kellogg, and Jastrow.

The first paper was read by Dr. Isaac Ott, of Easton, Pa., on

THE THERMOGENETIC APPARATUS.

Testimony now is in favor of the theory of spinal heat-centres. Atropia was used in his experiments on cats and rabbits, and the conclusion reached that atropia increases temperature by stimulation of the thermogenetic centres in the spinal cord. He believed that the phenomena of tetanus substantiated this view.

Dr. Spitzka, of New York, referred to Dr. Kinnicutt's paper, in which the temperature, in a case of chorea in an adult, averaged 104° F., and at times rose to 107° F., with no reason for it except muscular working. He had seen a fatal case of chorea in which the temperature reached 103° F.

Dr. C. L. Dana, of New York, read a paper in which he reported a case of

ANENCEPHALY ILLUSTRATING THE SENSORY TRACT.

The cerebral hemispheres and the corpora striata were entirely absent, while the cerebellum, pons, medulla, and optic thalami were present. There was absence of the motor tracts, while the sensory tracts were present and could be traced as far as the optic thalami. Microscopic sections and drawings were shown. Some peculiarities in the spinal cord were noted.

The paper was discussed by Drs. Starr and Spitzka, of New York.

Dr. George W. Jacoby, of New York, then read a paper (to appear in full in The Medical Record) on

THE TREATMENT OF NEURALGIA BY MEANS OF INTENSE COLD.

Dr. R. T. Edes, of Washington, referred to the use of rhigolene, as also did Dr. Dana, of New York, who had found that it produced relief in some cases for a long time, but that large quantities were required. He could confirm the value of the use of cold in the treatment of pain.

Dr. Jacoby had used rhigolene, but found it objectionable because it could not be applied to a sufficiently large surface, and because of the less degree of cold produced as compared with that obtained by the other agents.

Dr. Charles K. Mills, of Philadelphia, read a paper entitled

REMARKS ON POLIO-MYELITIS AND MULTIPLE NEURITIS OF SYPHILITIC ORIGIN.

He reported three cases which had a distinct syphilitic origin—two without other associated history, and one with the history of traumatism. The clinical phenomena in these cases corresponded very closely with those given by Dr. Starr, of New York, in his Middleton Goldsmith Lectures on multiple neuritis, and the question arose whether the symptoms were due to myelitis or to multiple neuritis, or to both.

According to his view, there are at present no clear diagnostic points between these affections which will enable one to say that, of certain cases, this is one of multiple neuritis, and that of diffuse myelitis or polio-myelitis anterior. Dr. Mills believed it to be fallacious: (1) To hold that because cases get well they are multiple neuritis, and not polio-myelitis or some other form of myelitis; (2) that because of marked sensory symptoms the case commonly is one of multiple neuritis; and (3) that because of gradual onset the case is one of myelitis, and not multiple neuritis.

The presence of positive, limited tenderness over certain nerve-trunks and the absence of paralysis of the sphincters give rise to the likelihood, in most cases, of the presence of multiple neuritis. But the symmetrical affection of physiologically related muscles, he thought, could not be relied upon to distinguish between the two diseases, and he was positive that he had seen a number of cases of multiple neuritis that were distinctly syphilitic.

The paper was discussed by Dr. Miles, of Baltimore, who believed that there were cases in which the differential diagnosis between central and peripheral paralysis could not be made; by Dr. R. T. Edes, of Washington, who thought that Dr. Mills was correct in his assumption that the two affections could coexist, but he did not feel quite certain that one was not secondary to the other in such cases.

The discussion was continued by Dr. Lloyd, of Philadelphia; by Dr. Putnam, of Boston; by Dr. Starr, Dr. Spitzka, and Dr. Dana, of New York; and the discussion was closed by Dr. Mills.

Dr. E. D. Fisher, of New York, read a paper in which he reported a case of

BULBAR PARALYSIS

that had been under his observation throughout its entire course of one and a half year. There was paralysis of the tongue and, to a milder degree, of the lower lip. The only cause ascertained was anxiety and grief. The microscopical examination revealed almost entire disappearance of the hypoglossal nuclei, and atrophy of the nerves themselves.

Dr. G. M. Hammond, of New York, mentioned a case that had a duration of six years.

Dr. Theodore H. Kellogg, of New York, read a paper on

HYDROTHERAPY IN MENTAL DISEASE.

The use of water as a therapeutical measure may be guided by the following principles:

First—careful physiological experiments have proved the effects of hot and cold water on respiration and circulation, bodily temperature, the increase of oxygenation and carbonic acid, the conversion of fat, and changes in nitrogenous tissues.

Second—rational hydrotherapeutics in mental as in other diseases must consist in the application of those physiological facts to meet symptomatic indications in accordance with the etiology and pathology of each individual case.

The indications for hydrotherapy in mental diseases are to control bodily temperature, to stimulate local and general circulation, to produce diaphoresis, to improve general nutrition, to allay irritability of peripheral nerves, to procure sleep and relieve cerebral anæmia and hyperæmia; and, in a measure, to take the place of drugs.

Dr. Ralph L. Parsons, of New York, spoke favorably of water as a therapeutic measure in the treatment of mental diseases, also of the caution which should be used with shower and other baths.

Dr. Mills, of Philadelphia, spoke of the favorable effects produced by the judicious use of this measure.

PAPERS READ BY TITLE.

The following papers were read by title: "The Treatment of Progressive Locomotor Ataxia with Rarefied Air," by H. M. Lyman, M.D., of Chicago; "Hemiplegia in Childhood," by Philip Coombs Knapp, M.D., of Boston; "Illustration of Error in Diagnosis of Some Nervous Diseases," by Irvine C. Rosse, M.D., of Washington; "On the Anatomical and Physiological Relations of the Tract usually Designated as the Column of Goll," by Nathan E. Brill, M.D., of New York.

The Association adjourned, to meet at the call of the Council.

MISCELLANEOUS BUSINESS.

The Treasurer's report showed a balance in the treasury of $110.

Amendments to the Constitution and By-Laws were adopted which provided for two Vice-Presidents (instead of one); that nominations for officers shall be made on the second day of the annual meeting (instead of the first); that the officers shall enter upon their duties immediately after they are elected; and that the membership be increased from fifty to one hundred.

The Secretary presented a number of documents received from Professor Camillo Golgi, honorary member, and also a volume of the "Transactions of the Rhode Island Medical Society."

The thanks of the Association were given to the donors, and the documents placed in the custody of the Secretary.

Drs J. J. Putnam, of Boston, G. M. Hammond and B. Sachs, of New York, were appointed by the President as a Committee on Revision of the Constitution and By-Laws and List of Members.

The President also appointed the following memorial committees: On the death of Dr. J. S. Jewell, of Chicago—Dr. Charles K. Mills, of Philadelphia, and Dr. Robert T. Edes, of Washington; on the death of Dr. Thomas A. McBride, of New York—Dr. E. C. Spitzka, of New York, and, as an intimate friend of the deceased, he (the President) claimed for himself the privilege of serving on the committee with Dr. Spitzka.

The Association voted to become an integral part of the American Congress of Physicians and Surgeons, and Dr. Landon Carter Gray, of Brooklyn, was appointed delegate, with Dr. Charles K. Mills, of Philadelphia, as alternate, to attend the meeting of the Conference Committee to be held in Washington in September next.

The Committee on Encephalic Nomenclature was continued, with the addition of Dr. E. C. Seguin, of New York, to fill the vacancy caused by the death of Dr. McBride.

OFFICERS FOR THE ENSUING YEAR.

President—J. J. Putnam, M.D., of Boston.

Vice-Presidents—Wharton Sinkler, M. D., of Philadelphia, and B. Sachs, M.D., of New York.

Secretary and Treasurer—Graeme M. Hammond, M.D., of New York.

Councillors—George W. Jacoby, M.D., of New York, and Robert T. Edes, M.D., of Washington.

A Valuable Gift.—The widow of the late Dr. Alfred Meadows has presented the library of this distinguished gynecologist to the British Gynecological Society.

THE AMERICAN OPHTHALMOLOGICAL SOCIETY.

Twenty-third Annual Meeting, held at the Pe uot House, New London, Conn., on Wednesday and Thursday, July 20 and 21, 1887.

WEDNESDAY, JULY 20TH—FIRST DAY—MORNING SESSION.

THE meeting was called to order by the President, DR. WILLIAM F. NORRIS, of Philadelphia.

Under the head of unfinished business the following were elected to membership: Drs. J. B. Emerson, New York; H. F. Hansell, Philadelphia; J. O. Tansley, New York; M. Haywood Post, St. Louis; and Edmund C. Rivers, Denver, Col.

A memoir of Dr. Ezra Dyer, of Newport, R. I., one of the founders of the Society, was read by DR. HASKET DERBY, of Boston, and referred to the Publication Committee.

The death of Dr. William S. Little, of Philadelphia, was also reported.

DR. C. S. BULL, of New York, presented a

REPORT OF THIRTY-SIX CASES OF SIMPLE EXTRACTION OF CATARACT WITHOUT IRIDECTOMY.

Twenty of these 36 cases were males and 16 females. In 24 the cataract was hard and senile; in 11 it was traumatic and soft or semi soft; and in 1 case it was of secondary origin. Careful antiseptic precautions were adopted in all the operations. The operation was done with the patient lying in the bed he was to occupy after operation. The knife was long, and narrower than that of Von Graefe. It was quickly passed across the anterior chamber, the flap measuring about two-fifths of the corneal circumference. Prolapse of the iris did not usually occur, but if it did, it was allowed to remain until the extrusion of the lens. The capsule was then opened by a quadrilateral incision, and by pressure the lens was caused to pass out of the corneal wound. If reduction of the iris did not occur spontaneously, it was reduced with a spatula. All soft lens-matter was washed out with the antiseptic solution and one drop of a solution of eserine instilled, of the strength of one grain to the ounce of a saturated solution of boracic acid. The lids were then closed and an antiseptic dressing applied. If the eye did well the bandage was not removed for two days, but the eserine solution was instilled twice daily under the bandage. At the end of two days the bandage was removed and the eye washed. The lids were not opened for four days, unless there was some indication for it. If at the end of this time the appearance was favorable, eserine was reinstilled and the bandage applied for another day, when it was removed altogether. The healing process was usually favorable. There was no suppuration in any case. The average duration of the treatment was a little more than twenty days. A secondary operation—usually a needling or a laceration of the posterior capsule—was required in 12 cases. Prolapse of the vitreous occurred in 4 cases, and dislocation of the lens downward in 2 cases. Eserine was not used after the healing of the cornea. The degree of acuteness of vision obtained was as follows: $\frac{20}{xxx}$, in 2 cases; $\frac{20}{xl}$, in 8 cases; $\frac{20}{1}$, in 8 cases; $\frac{20}{lxx}$, in 10 cases; $\frac{20}{cc}$, in 5 cases; and $\frac{20}{cc}$, in 2 cases.

DR. H. KNAPP, of New York: During the past year I have performed this operation 68 times. Following the operation there was mild iritis in 3 cases; severe iritis, with closure of the pupil, in 1 case; protrusion of the iris in 3 cases; incarceration of the iris, without protrusion, in 2 cases; capsulo-iritis in 1 case; and suppuration in 1 case—this was secondary to an old disease of the eye. In 27 cases a secondary operation was performed.

Dr. H. Knapp, of New York, reported

A SERIES OF ONE THOUSAND SUCCESSIVE CASES OF EXTRACTION OF CATARACT WITH IRIDECTOMY.

These 1,000 cases were operated on during the years from 1866 to 1886. A tabular statement was given showing the results obtained in each series. V = $\frac{20}{cc}$ to $\frac{20}{xx}$ was considered a good result; V = $\frac{21}{cc}$ to $\frac{1}{cc}$ was considered a moderate result; and where V = less than $\frac{1}{cc}$ the case was considered a failure.

In the first series of cases the method of extraction was by a very peripheric section, more curved than linear, with the following results—good, 70 per cent.; moderate, 22 per cent.; failures, 8 per cent. Of the failures, 3 per cent. were from suppuration. In the second series a peripheric linear section was employed. Results—good, 87 per cent.; moderate, 12 per cent.; failures, 2 per cent., all from suppuration. In the third series linear section was employed. Results—good, 86 per cent.; moderate, 9 per cent.; and failures, 5 per cent., 3 per cent. of which were due to suppuration. The fourth and fifth series were performed by peripheric linear section, with removal of the anterior capsule. Results—good, 82 per cent.; moderate, 7.5 per cent.; and failures, 11.5 per cent., of which 8.5 per cent. were due to suppuration. In the sixth series, in which peripheric linear incision with peripheric capsulotomy was performed, the results were—good, 89 per cent.; moderate, 1 per cent.; and failures, 10 per cent., of which 8 per cent. were due to suppuration. The seventh series was operated on by the same method, only the section was less peripheral. Results—good, 88 per cent.; moderate, 7 per cent.; and failures, 5 per cent., of which 2 per cent. were due to suppuration. The eighth series was operated on by circular marginal section with peripheric capsulotomy, and with antiseptic precautions. Results—good, 90 per cent.; moderate, 8 per cent.; and failures, 2 per cent., of which 1 per cent. was due to suppuration. The ninth and tenth series of cases were operated on in the same way, with the following results—good, 90.5 per cent.; moderate, 5 per cent.; failures, 4 per cent., of which 3 per cent. were due to suppuration. The results obtained, taking the 1,000 cases as a whole, were—good, 85.2 per cent.; moderate, 9 per cent.; failures, 5.93 per cent., of which 3.8 per cent. were due to suppuration.

DR. J. A. SPALDING, of Portland, read a paper entitled

DOES SUNSTROKE AFFECT THE SIGHT PERMANENTLY?

So many pension claimants were now coming forward, asserting that they suffered from sunstroke and permanent loss of sight in the army, and finally became more or less blind, that it is quite desirable for the expert in examining such cases to be supported by greater authority than he is likely to discover in any text-books or accessible literature. In point of fact there has never been reported in the vast extent of ophthalmic literature but a single undeniable case in which sunstroke has been followed by permanent blindness, and only six others in which the eyes were ophthalmoscopically examined soon after the attack. In all of these optic neuritis was distinctly marked, and in several vision was reduced to a low degree, yet ultimately all six recovered perfect vision without much, if any, treatment. The frequent allegations of patients "losing their sight during a sunstroke," or of "a dimness coming over their eyes," are simply descriptive of the incipient stage of unconsciousness, and are untruthful in a scientific point of view. These recollections become in later years the basis of pension claimants' assertions that their vision was seriously affected by sunstroke.

Dr. Spalding expressed the opinion that these were false, and hoped that the members would support expert examiners against the insults of politicians and claimants' friends in refusing to grant pensions for asserted blindness fifteen or twenty years after a sunstroke.

Dr. D. B. St. John Roosa, of New York, gave an account of

A CASE OF PROBABLE QUININE AMAUROSIS.

The patient was a young lady who had been living in a malarious district. While in Washington she had an attack of intermittent fever. Some time after this she was seized with convulsions and unconsciousness. It was believed to be a case of malarial coma, and thirty grains of sulphate of quinine were administered by the rectum on four occasions. On the third day consciousness was restored, but she was then unable to distinguish light from darkness. The pupils were dilated. She had been taking quinine and iodide of potassium before I saw her, which was on October 18, 1886; vision was slightly recovered, and she could count fingers at four feet. On ophthalmoscopic examination the optic papillæ were found small, the vessels very small, but no exudation was seen. Quinine three times a day, with a hypodermic injection of strychnia, was given. The dose of strychnia was gradually increased to one twenty-fourth of a grain, and kept at that for some time. Vision gradually improved. It was at first excentric, but by December 10th she had centric vision of $\frac{20}{lxx}$. The papillæ were still white and the vessels small. The treatment was continued. She returned to her home, and now states that she can see almost as well as she ever could. The urine was tested in this case several times, with negative results.

Dr. Emil Gruening, of New York: I recently saw a lady, fifty years of age, who had been given thirty grains of quinine in one dose. When she awoke in the morning she was blind and deaf. She was deaf for about twelve hours, and absolutely blind for twenty-four hours. I saw her about five days after the attack. The fundus was apparently perfectly normal in both eyes, but the field was much contracted in all directions. It does not seem to me that the ischæmia which has been described in the more severe cases should necessarily be present in the lighter cases of quinine amaurosis.

Dr. Swan M. Burnett, of Washington, read a paper entitled

CLINICAL CONTRIBUTIONS TO THE STUDY OF RING SCOTOMA.

The speaker gave the histories in full of two cases of ring scotoma which he had followed for the space of two years. In one case there was a history of syphilis, and in the other not; in both there was choroiditis, with vitreous opacities. In one case there were no gross changes in the choroid; in the other the changes did not correspond with the defect in the visual field. In one case only one eye was affected; in the other the affection was binocular. In one case the trouble began as a typical right hemianopsia, with left semiannular scotoma. The central clear spot, more or less oval in form, 10 x 20. was never, through all the changes, diminished in size. All who have written on the subject (a full bibliography was appended to the paper) have placed the pathological process inside of the eye, though in none have the changes in the choroid manifest under the microscope been sufficient to warrant such a conclusion, and in none have the changes in the form of the visual field been followed so closely or so long as in these cases, eighteen diagrams of the fields at various times being exhibited. The course of the nerve-fibres in the tract, chiasm, and nerve, as demonstrated by Bunge, Lamelsoker, Leber, Vassius, and others, particularly in the somewhat analogous condition of central scotoma, which in nearly every instance coincided in form and size with the central clear space in these cases, seems to justify the assumption that the fibres supplying the intermediate parts of the retina were hindered in their function either from a localized neuritis or by pressure of the adjoining parts.

Dr. Henry D. Noyes, of New York: A young lady, aged seventeen, came to me complaining of pain and dimness of sight in one eye; the ophthalmoscope showed no material lesion, but with the perimeter I discovered a ring scotoma. There were no local lesions, no symptoms of brain-trouble, and no evidences of hysteria. Further examination showed signs of orbital neuritis; I based this view chiefly on the fact that pressure of the globe backward elicited unquestionable pain. The ring scotoma subsequently entirely disappeared, and vision was restored to the normal.

Dr. C. S. Bull, of New York: I reported, not long ago, a case of a man, aged thirty-six, who when two years of age injured the right side of the skull by a fall; vision of right eye was impaired, and a convergent squint followed. He could count fingers at two feet with the right eye. In 1878 he had a compound depressed fracture over the left parieto-occipital region of the skull. Trephining was resorted to; this was followed by convulsions, which have since grown less marked. He noticed that he could not see through a part of the field of the left eye. The ophthalmoscope shows a neuro-retinitis of low grade in that eye. The field was normal for twenty degrees around the point of fixation, then there was an irregular defect in the field for fifteen to twenty-five degrees; all around and outside of this the field was normal.

Dr. C. S. Bull, of New York, read a paper (see p. 151) entitled

PASSIVE MOTION IN THE TREATMENT OF PARALYSIS OF THE OCULAR MUSCLES.

Dr. O. F. Wadsworth, of Boston, read a paper entitled

RECURRENT PARALYSIS OF THE MOTOR OCULI.

The patient, after an attack of scarlet fever in 1874, when three years of age, had headache recurring every month or so. On February 24, 1879, she was brought to the hospital, with the history that she had suffered with daily pain in the head for two weeks; this was referred to the supra-orbital region. It would commence about noon, then intermit, recur again about five o'clock, and continue for several hours. There was vomiting on the first two days of the attack, and there was a slight discharge from the right ear. She was seen one month later; the headaches had recurred every two or three days; there was then paralysis of all the branches of the right motor oculi nerve, with ptosis and divergence of the right eye. By February, 1887, the headaches had diminished in frequency and for the last few years she has had three or four attacks a year, the more severe being accompanied by ptosis and dilatation of the pupil. It was subsequently learned that with each severe attack there was a free discharge of ill-smelling fluid from the right ear. On May 1st the right ear was examined and a polypus, filling the meatus, found and removed. The writer had been able to find only fifteen cases of this affection on record; of this number, four were males and eleven females. The period between the attacks was variable and irregular. In several instances there was evidently a persistence of a certain amount of paralysis between the attacks; this was noted in the case just described. There has been no instance of permanent relief, and three of the cases have terminated fatally.

As to the cause of the affection, the results of the autopsies point to a basal origin. In one case plastic exudation surrounded the right oculo-motor nerve, in another case the right oculo-motor nerve was pressed upon at its point of emergence from the crus cerebri, and in the third case there was a fibro-chondroma which had developed in such a way as to separate the fibres of the right oculo-motor nerve without destroying them. In the case reported the speaker thought that there was an evident association of the paralysis with the chronic aural trouble.

Dr. J. A. Lippincott, of Pittsburg, read a paper on

HYPERÆMIA IN MUSCULAR INSUFFICIENCY.

The speaker reported several cases of localized hyperæmia of the eye, which he said were due to weakness of

the muscles. The grounds on which he based this view were the form and location of the spot of hyperæmia, and its disappearance, along with other evidences of the muscular insufficiency.

The Society then adjourned until eight o'clock in the evening.

EVENING SESSION.

DR. W. F. NORRIS, of Philadelphia, gave an account of

CASES OF ACUTE PRIMARY GLAUCOMA, OF HEMORRHAGIC GLAUCOMA, AND OF SECONDARY GLAUCOMA.

The first case reported was that of a married woman, aged fifty-two, who was admitted to the Wills Eye Hospital, with acute glaucoma of the left eye. The attack was of twelve days' duration. Vision was much impaired. The right eye was entirely quiet and presented a narrow iridectomy upward. In August, 1875, a severe attack of glaucoma had suddenly occurred in the right eye, and on the fifth day iridectomy had been performed; since then the eye had given no trouble. When admitted to the hospital the patient was in a feeble condition. She was put to bed, a leech applied, and eserine instilled. The eye improved and became quieter; the cloudiness of the cornea and the other symptoms remaining, iridectomy was performed twenty-eight days from the commencement of the attack. A year later she had a severe attack of pain, not relieved by eserine, and stereotomy was performed. The eye continued to give trouble from time to time, and it finally became necessary to enucleate it.

Primary hemorrhagic glaucoma.—Miss B——, aged seventy, was seen in February, 1867, with marked hemorrhagic retinitis and incipient cortical cataract. She stated that she had had a sudden loss of vision two years previously; the present attack of loss of vision came on suddenly ten days before, when the patient was stooping. Examination showed numerous hemorrhages into the retina. One month later the right eye was more cloudy, the tension increased, and there was some hemorrhage into the anterior chamber; iridectomy was then performed; the wound did well until the fourth day, when there was a sudden attack of pain; on the ninth day, apparently without exciting cause, this symptom recurred. After this there would be an exacerbation every few days. The eyeball was subsequently enucleated, the patient dying a year or two later with apoplexy.

Secondary glaucoma after successful operation for cataract.—A man, aged sixty-six, had been operated on for cataract in both eyes some time before coming under observation. This had been done in England, both operations having been successful. Some eighteen months later the right eye had been operated on by a needle-operation, and since then it had not been free from irritation. When seen, the right had lost the perception of light, and the left eye presented signs of sympathetic irritation. The right eye was enuncleated, and this relieved the irritation in the left eye. The patient now sees fairly well.

A number of micro-photographs, showing sections of the eyes removed in these cases, were exhibited by means of a lantern.

DR. B. ALEXANDER RANDALL presented the notes of a case of

SARCOMA OF THE EYELID SIMULATING A MEIBOMIAN CYST,

occurring in a man, aged forty-one, who came under observation in 1885, with the history of two operations in the previous three years for the removal of a cyst. The tumor had the position, size, color, and apparent fluctuation of a chalozion, but a vague grayness suggested pigmentation, and led to its total removal by a V-shaped incision through all the tissues of the lid. Section proved the tumor to be a solid, incapsuled sarcoma of large spindle-cells. The patient passed out of sight for two years, and then returned with recurrence very like the original, which had been treated, in the interim, as chalozion. The outer half of the lid had now to be removed, and the tumor was found to be of the same nature as before and again incapsuled. The meibomian glands at both operations seemed to be entirely normal, and the tarsus was entirely uninvolved.

Dr. Randall also presented some of the ophthalmoscopic cases of cilio-retinal vessels, with the remark that they were far from rare, and that the occurrence of such an origin of even a principal artery or vein, supplying different quadrants of the retina, had come to notice. As to the origin of these vessels, in two cases they could be distinctly seen to join the net-work of the choroid. The reported cases examined anatomically have been seen to arise directly from a short ciliary vessel. Photo-micrographs of such a case, in the collection of Dr. William F. Norris, were shown.

Dr. Randall also called attention to the Hohlschnitt of v. Jaeger in cataract-extraction, as differing in no essential from the modified linear operation, except in the knife with which it is made. He asked attention to the knife, with the claim that, with it, almost all the usual modifications of the linear extraction could be made, but that no aqueous need be lost until the completion of the incision, and, consequently, that the cut could be made more safely and smoothly than was possible with the Graefe knife. As illustrative of the perfection of the healing, he demonstrated a photo-micrograph of a Hohlschnitt executed by v. Jaeger himself, which he had prepared in Professor Alt's laboratory about a year after the operation.

Adjourned.

THURSDAY—SECOND DAY—MORNING SESSION.

DR. H. P. NOYES, of New York, presented a

CASE OF GLIOMA OF THE RETINA.

The patient, a child, was first seen when fifteen months old. The eye was enucleated, and microscopical examination confirmed the diagnosis of glioma, which was made prior to operation. The patient was again seen fourteen and a half years later, when sixteen years of age. An artificial eye had been worn. There was not the slightest evidence of a return of the disease.

Pseudo-glioma.—This case was reported on account of the interest connected with the diagnosis. It was difficult to say positively whether or not there was an intraocular tumor. The case was examined by Dr. H. Knapp and the author, and a diagnosis of inflammatory trouble was made. Enucleation was advised on account of the doubt as to the correctness of the diagnosis, and, even if the affection were purely inflammatory, enucleation was the wisest plan in view of future possibilities. The patient was a boy, aged five, who in November, 1886, had fallen from his velocipede, the handle of the machine causing a wound of the left cheek under the orbit. There was no apparent injury to the eye, and during the following winter there was no trouble. On May 4, 1887, he was first seen by the author. There was at this time a cicatrix one inch below the border of the left orbit. No irregularity of the orbital edge could be detected, and pressure on the globe caused no pain. The movements of the eye were normal, and the pupil active. The iris had a slightly greenish hue. An extremely vascular growth was seen with ease. This appeared to fill the fundus. After consultation it was deemed advisable to enucleate the eye. This was done, the wound healing promptly. Examination showed that there had been cyclitis, with inflammation of the vitreous, with the production of a mass of inflammatory tissue extending across the eye behind the lens, forming a perfect septum. The retina was totally detached, and the choroid was partially detached. There was also marked hypertrophy of the tis-

sues at the base of the orbit. It was thought that the original process had been an injury to the floor of the orbit.

Dr. Noyes also reported a case of prolapse of the lachrymal gland: C. S——, aged twenty, who consulted him on account of a swelling in the upper lid of the right eye. This had been growing for nine years; it could be freely moved over the globe, and moved with movements of the eyeball. There was no history of injury or of inflammation of the eye. The mass was removed, and found to be a displaced lachrymal gland. The removal has been followed by no unpleasant effects. Four cases of displacement of the lachrymal gland are on record.

While in theory the operation for the relief of entropion of the lower eyelid is very simple, yet in practice it often fails to accomplish the desired end. The author described an expedient which he had employed four years ago. He excised a piece of skin below the border of the lid, and then dissected up a flap, leaving an open wound. He next freshened a spot on the outer border of the lower lid, taking out a piece of conjunctiva. He then turned the flap upward, and attached it to the freshened surface. This little flap served to hold the lid in a position of eversion. In one week the stitches were removed. The patient then disappeared, and was not seen for four years. It was then found that the lid remained in a natural position. The little bridge of skin still was present, and under it there was a sinus through which a probe could be passed. The piece of skin was divided, and the result was perfect.

Dr. Samuel Theobald, of Baltimore: In connection with the case of glioma, I would mention one that has gone nine and one-half years without a return. The only weak point in the case is that no microscopical examination was made. The macroscopical appearances were, however, characteristic. The operation was done when the boy was six years of age. The boy is still perfectly well, and there is no suggestion of the return of the disease.

Dr. H. Knapp, of New York: Until lately I have held the view that there was such a thing as the permanent cure of glioma, but now I am very doubtful if this is ever accomplished. There are exceptional cases which do not terminate fatally until ten or fourteen years after operation. They then die from a return of the local disease, or else from a generalization of the condition. Graefe said that all of these cases died.

Dr. Emil Greuning, of New York: I have seen two cases in which there has been an apparent immunity from the return of glioma. The first case was operated on in 1875; the patient was a girl five years of age. The optic nerve was not involved. The girl is still under observation and in perfect health. The second case, a child, aged one year, was operated on in May, 1880. It was a case of true glioma, with no involvement of the optic nerve. The child is still perfectly healthy. Both of these patients have been wearing artificial eyes since the operation.

Dr. W. F. Mittendorf, of New York, called attention to

A PHENOMENAL PULSATION OF THE INTERIOR OF THE EYE.

The patient, aged fifteen, came under observation for asthenopic trouble. He showed no signs of disease. The tension of the eye was normal and the fundus was normal. There was no pulsation of the arteries or veins, but pulsation could be induced by pressure. A short distance above the disk there was a grayish-white band stretching from one vein to the other, and looking like a little sac filled with fluid. In the middle this band presented a little point. This band presented distinct pulsation, which corresponded with the cardiac pulsations. The patient was seen a number of times, and the appearance was always the same. A little higher up, and more to the nasal side, there was a similar band connected with an artery. This did not pulsate except when pressure was made. It was thought that the band was composed of connective tissue, which was thrown into vibration by the meeting of the vibration of the two veins with which it was connected.

Dr. Edward Jackson, of Philadelphia: I recently saw in a case that presented no spontaneous pulsation a little band extending from the perivascular sheath, which was thrown into vibration with each radial pulsation. This condition occurred in both eyes.

Dr. Lucien Howe, of Buffalo, read a paper on

INCREASE OF BLINDNESS IN THE UNITED STATES.

The author called attention to the fact that while the population during the ten years from 1870 to 1880 increased at the rate of thirty per cent., blindness during the same time increased over one hundred and forty per cent. By means of a diagram this percentage of increase in each State separately was shown. The statistics also show that blindness increased in an almost constant ratio from north to south in the United States, and that it decreased in the same way from east to west. This was also shown by colored maps. The cost of sustaining this army of over fifty thousand blind was estimated, on the lowest basis of cost, and of wages which would have been earned, at over sixteen million dollars in 1880, or over twenty-five million in 1887. As for the causes, contagion was found to exercise the most important influence. Immigration was also considered as an important factor, in view of the large number of contagious diseases of the eye introduced every year into the country, and the laxity or absence of quarantine regulations regarding them. As for the prevention, suggestions were offered, first, as to the care of new-born children; second, the isolation of suspicious cases in residential schools and other institutions, even for adults also; third, the instruction of the public as to the advisability of guarding against contagious forms of disease.

In connection with this matter Dr. Howe offered the following resolutions:

Whereas, The census reports indicate that there has been an increase in the number of blind in the United States more than four times as great as that of the total population, and

Whereas, An inquiry as to the causes of this shows that it is largely due to contagious diseases of the eye, therefore

Resolved, That a committee of three be appointed to examine further as to this apparent increase, and recommend means for its prevention.

Resolved, That the President of the United States and the Secretary of State be respectfully requested to furnish this committee with whatever letters or other recommendations may be necessary to further their investigations in this country or elsewhere.

Resolved, That the officials in charge of residential schools and similar institutions also be requested to assist the committee to any extent in their power.

These resolutions were adopted, and the President announced Dr. Lucien Howe, of Buffalo, as chairman of the committee—the other members to be appointed subsequently.

Dr. Charles A. Oliver, of Philadelphia, read a paper on

THE EYE OF THE ADULT IMBECILE.

The speaker presented the following conclusions:

First.—The eye of the male adult imbecile is an organ which is capable of proper functional activity.

Second.—By reason of early mental incapacity the ordinary appearances seen in the used eyes of the mentally healthy are lessened in due proportion to the amount of work given to the organ.

Third.—The eye of the imbecile, being practically an unused organ for close and careful near work, the distention of the globe and the elongation in its visual axis,

with consequent increase in index of refraction, is almost entirely avoided; this being in direct ratio to use.

Fourth.—The want of these physical changes may be considered as significant of a type of unused healthy, adult, human eyes.

Fifth.—The healthy eye of the imbecile serves to teach us that the various conditions seen in the used eye of the mentally healthy must be considered as pathological changes, the representatives, not only of general want of tone, but of constant and frequent abuse of a delicate organ.

Dr. Charles A. Oliver also exhibited water-color sketches of a case of double chorio-retinitis with partial degeneration of the optic nerve, associated with curious lymph-extravasation into the retina and vitreous, in a boy, twelve years of age, who had had an attack of basilar meningitis five years previously, at which time eyesight became bad. No hereditary dyscrasia could be discovered. Vision was greatly reduced, and patellar tendo-reflex was almost abolished.

Dr. S. D. Risley, of Philadelphia, reported

ADDITIONAL CASES OF HYPERMETROPIC REFRACTION PASSING WHILE UNDER OBSERVATION INTO MYOPIA.

The most important measure in the treatment of these cases was considered to be the use of correcting glasses. When we consider the large number of cases which at the first present the same conditions as the cases reported, and who have subsequently had no return of the trouble, we cannot but think that the group of cases now presented are only those in which the treatment has failed, and that without their correcting glasses a much larger number would have pursued the same history. A study of these cases has demonstrated to the author the importance of astigmatism, when present in very low degree, as a factor in setting up those changes in the nutrition of the eyeball which result in impaired resistance to even normal intra-ocular tension.

Dr. Samuel Theobald, of Baltimore, read a paper entitled

THE PATHOGENESIS OF PTERYGIUM.

The generally accepted theory of Arlt, that pterygium has its origin in a marginal corneal ulcer, to which a tag of conjunctiva has become attached, he thought was untenable, because if this were its usual mode of origin pterygium would be found approaching the cornea from every possible direction, since marginal corneal ulcers are not apparently more frequent in one position than in another. It is known, however, that such is not the case, but that pterygium is almost always situated directly over the recti muscles, and that in a very large proportion of cases it is over the rectus internus. The more recently proposed theory of Poncet, that pterygium is due to the presence of microbia, which tunnel their way under the corneal epithelium, is open to the same objection, for this also assumes the existence of a precedent corneal ulcer. The view long held, that conditions which tend to induce chronic hyperæmia of the conjunctiva favor the formation of pterygium, he thought was well established.

Assuming that this view is correct, are there reasons why a localized hyperæmia of the conjunctiva should be of frequent occurrence where pterygium usually forms to the nasal side of the cornea? This was answered affirmatively. The close connection between the vessels of the recti muscles and those of the anterior portion of the conjunctiva were referred to, and it was pointed out that the determination of blood to these muscles might influence the blood-supply of the overlying conjunctiva, and that this would be the case especially with the recti interni, since they were the largest of the straight muscles and in close relationship with the conjunctiva, because attached to the sclerotic nearer to the corneal border than any of the others. Abnormality in the distribution of the blood-supply of the internal recti muscles, and of the overlying conjunctiva, and, more frequently still, disturbance in the normal relationship between convergence and accommodation, such as insufficiency of the internal recti muscles, the different varieties of ametropia—these were regarded as the usual causes of pterygium through the localized hyperæmia of the conjunctiva to which they give rise.

Dr. Samuel Theobald, of Baltimore, also presented a case of

RECURRENT RETINAL HEMORRHAGES FOLLOWED BY THE OUTGROWTH OF NUMEROUS SMALL BLOOD-VESSELS FROM THE OPTIC DISK.

The case reported was that of a lady, aged fifty-two, in whom menstruation had recently ceased. During a period of nine months she had suffered with recurrent hemorrhages into the retina and the posterior part of the vitreous humor of one eye. The macula escaped serious involvement, and central vision was but little affected. The hemorrhages were supposed to be due to thrombosis of one of the larger retinal veins. Finally a nebulous outgrowth from the optic disk, extending forward into the vitreous humor for some distance, made its appearance. This consisted of numerous small and nearly parallel blood-vessels, running from behind forward, and held together by semi-opaque tissue, the outline of which could be easily distinguished from the surrounding vitreous. When last seen this growth had diminished somewhat in size. The prognosis was regarded as favorable, the development of new vessels being looked upon as an effort of nature to repair the damage caused by the repeated hemorrhages.

Dr. W. H. Carmalt, of New Haven: On February 17, 1877, a gentleman presented himself to me complaining of sudden blindness in the left eye. I found it filled with blood, which prevented a thorough examination. A month later examination showed nothing peculiar, except traces of coagula in the vitreous. On August 3d of the same year he began to complain of affection of the other eye. On this occasion Dr. Noyes examined the eye and found hemorrhages into the vitreous of the right eye. The condition cleared up in that eye, and on June 3, 1878, the eye was again affected. These attacks have continued to recur every few months.

Dr. B. E. Fryer, of Kansas City: I would ask, with reference to the cases of recurrent hemorrhages, whether or not attention has been directed to scurvy as a cause? I have seen one case of recurrent retinal hemorrhage which I thought was due largely to that cause.

Dr. H. Knapp, of New York: I wish to say a word with reference to treatment. The main point is not to fatigue the eyes, and to put them at rest early in the evening. A waitress in a New York family suffered from hemorrhages every time the family gave an evening party. She was sent to the country and the hemorrhage cleared up. She returned and served at an evening party, and again the eye filled with blood. She has now given up service, and for two or three months has had no trouble. The treatment consists in rest, and in avoidance of everything that would produce a dropsical condition of the blood.

Dr. G. C. Harlan, of Philadelphia, read a paper entitled

EMBOLUS OF THE CENTRAL RETINAL ARTERY.

The patient was a clerk, aged fifty-two, in good general health. While reading, in perfect comfort, a shadow suddenly appeared before the left eye, and on closing the other he could just distinguish large objects about the room "through a brownish haze," and in a few minutes sight was entirely gone.

An ophthalmoscopic examination made the next morning showed an extensive œdema of the retina, giving the whole fundus a grayish tinge; disk pale, and its margins blurred; arteries very pale, although not much narrowed, and some of the smaller branches lost in the retinal

œdema; larger veins contracted in places, particularly in and near the disk, but generally of full calibre; phenomenon of visible slow continuous circulation of blood in bead-like sections, well marked in superior temporal artery and vein; macula occupied by bright-red patch, oval in form, with its long diameter horizontal, and several minute terminal vessels in its neighborhood enlarged and apparently isolated; two small dots of retinal hemorrhage at outer margin of disk. The œdema increased decidedly for the first few days, and then gradually subsided. There was still a little remaining on the nineteenth day; after which the patient was not seen for three weeks, when the color of the fundus was normal. The visible circulation lasted only about a day and a half, disappearing first in the artery. The veins refilled at their narrowed portions, and retained nearly their full calibre; while the arteries became paler and narrower until only the two main trunks could be seen, and these showed white lines along their margins from perivasculitis. The spot at the macula gradually disappeared. The disk regained the distinctness of its outlines, but remained dead-white. Colored plates were shown illustrating the first and the final appearance of the fundus.

The pathology of the case was evry obscure. The heart and kidneys were normal, and there was no symptom of degeneration of the arteries. A caries of the middle turbinated bone on the same side, from long-standing nasal catarrh, was not thought more likely to act as a cause than would be a similar local disease in any other part of the body. The only possible causes seemed to be that some product of the nasal disease might have found its way into the general circulation and lodged in the retinal artery; that an embolus might have been formed of a fragment washed from a parietal thrombus in some distant vessel; or that the obstruction might have resulted from disease in the retinal artery itself.

Dr. David Coggin, of Salem, Mass., read a paper entitled

CHRONIC GLAUCOMA,

describing a case, the object being to elicit discussion as to the best method of treatment.

Dr. George C. Harlan, of Philadelphia, read a paper on

DANGER TO IRON-WORKERS FROM THE USE OF OLD HAMMERS.

A hammer was shown from which a fragment had split off, injuring the eye of a workman. The constant concussion of the hammer causes it to assume a crystalline condition and become very brittle.

Dr. Myles Standish, of Boston, gave an account of

A CASE OF RETINITIS PIGMENTOSA TREATED ELECTRICALLY.

The patient was a woman, aged thirty-three, and was myopic 1.50 D.; she had worn glasses since she was seventeen years of age. When first seen, on April 14, 1886, her sight had been failing for three years, and for the last three months had failed very rapidly, so that she could not go on the street alone after dark. Upon ophthalmoscopic examination characteristic patches of retinitis pigmentosa were found in the periphery of the fundus of each eye.

Her vision was—right eye, $\frac{12}{40}$; left eye, $\frac{12}{50}$; and the fields of vision were limited to less than 20° in the vertical and horizontal axes.

The only treatment has been the use of the constant current, of such strength as could be easily borne. This has been applied once in five days during the last fifteen months. Her present vision is—right, $\frac{12}{XXX}$; left eye, $\frac{12}{XV}$; and the fields of vision have now vertical and horizontal axes of 70°. She now goes on the streets after dark with safety.

Dr. C. H. Williams read a paper on

ASEPTIC CATARACT-EXTRACTION, WITH IRRIGATION.

The author reported five cases of irrigation of the anterior chamber, after extraction, with a one-half per cent. solution of chloride of sodium, as recommended by Dr. McKeown. Instead of a syringe a glass flask was used, bearing two glass tubes blown in the side. One of these was drawn out to a fine nozzle that could be easily inserted into the anterior chamber; the other had a rubber tube and mouth-piece attached, so that the pressure of the stream could be controlled by the operator. The flask had a capacity of 50 c.c., more than enough to complete any irrigation without removing the tube from the eye. The irrigating instruments and the two-per-cent. solution of cocaine were sterilized in the steam sterilizer, and this was not found to injure the anæsthetic properties of the cocaine. The rest of the instruments and the dressings were sterilized by dry heat at a temperature of 150° Cent. In order to determine the efficiency of the solution of the biniodide of mercury used for the preliminary washing out of the conjunctival sac, some experiments with plate-cultures were made at the laboratory of the Harvard Medical School, through the kindness of Dr. Ernst. An equal amount of the biniodide of mercury and the iodide of potassium were dissolved in water, and added to ten per cent. nutrient gelatine, to give a series of strengths up to 1 to 5,000 of the biniodide to the gelatine. Ten days after exposure to the air of the laboratory for six and one-half hours no growth of bacteria were found on any of the plates, although on the unprotected plates exposed at the same time there was an abundant development of colonies of bacteria. Gelatine of the strength of Pana's solution (1 to 20,000) was then tried, and these plates, after four days, showed an average of 1.5 and 0.8 colonies of bacteria to the square centimetre of surface in the two series of plates, while on the unprotected plates the average was 10.5. In two of the cases of extraction a suture was passed through the piece of conjunctiva above, and this held the wound well in apposition. All of the extractions were done without iridectomy, and a layer of iodoform was dusted on the edge of the closed lids just before applying the bandage.

Dr. O. F. Wadsworth, of Boston, read a paper on

A CASE OF CONGENITAL ZONULAR GRAYISH WHITE OPACITY AROUND THE FOVEA.

The patient was a child eleven months of age. She was unable to sit or stand, and could not hold anything in her hands. She appeared to take little notice of anything. Externally the eyes were normal. With the ophthalmoscope the disks did not seem to vary from the normal appearance. The macula was dark red, and surrounded by a grayish-white opacity. The remainder of the fundus appeared to be normal. There appeared to be some light-perception. Five months later there seemed to be no perception of light. The disk was sharply defined; the central vessel small. The mother had had four healthy children. The fifth, according to the history, had been sick in a similar way as the one under consideration. In all the reported cases some weakness of the general muscles was noted.

Dr. O. F. Wadsworth, of Boston, read a paper entitled

SEPARATION OF THE RETINA IN BOTH EYES, WITH ALBUMINURIA OF PREGNANCY—REPLACEMENT.

The patient was a married woman, seven and one-half months pregnant; about the beginning of the eighth month œdema of the eyelid appeared. This was soon followed by indistinctness of vision. The urine was loaded with albumen, and contained hyaline and granular casts. When seen by the speaker there was a general separation of the retina in the right eye. In the left there was also separation of the retina, but not so

distinct. After consultation it was decided to induce premature labor. This was done, and a living child was delivered. Before the completion of labor a convulsion occurred, for which bleeding was resorted to. The patient convalesced, and vision gradually returned. When last seen the disks were clearer. No separation could be made out in either eye.

Dr. B. Alexander Randall, of Philadelphia, read a paper describing

A CASE OF COLOBOMA OF THE OPTIC NERVE.

Dr. F. Buller, of Montreal, Canada, read a paper describing

A PECULIAR FORM OF GRANULAR CONJUNCTIVITIS ASSOCIATED WITH ICHTHYOSIS.

Two cases in which this combination was present were reported.

Adjourned.

Afternoon Session.

Dr. W. S. Dennett, of New York, exhibited an ophthalmoscope in which the mirror was substituted by an electric light.

Dr. Lucien Howe, of Buffalo, presented a small pocket-ophthalmoscope with movable disk.

Dr. Howe also exhibited several photographs of the interior of the human eye.

Dr. Edward Jackson, of Philadelphia, presented

A SET OF SMALL TEST-LENSES WITH A MODIFIED TRIAL-FRAME.

Dr. S. D. Risley, of Philadelphia, described an

OPHTHALMOSCOPE WITH CYLINDRICAL LENS.

The ophthalmoscope is of the usual form, but behind the mirror there are two slides containing the cylindrical glasses. In one slide the cylinders are +.50, 1.00, 1.50, 2.00, 2.50; in the other, +.25, .30, 4.00, 5.00, and 6.00. With these numbers any desired combination can be made. The axes of the cylinders are rotated by rotating the instrument as a whole. The instrument is especially useful at the bedside for the purpose of correcting a high degree of astigmatism when present.

Dr. Swan M. Burnett, of Washington, D. C., presented

A MODIFICATION OF THE REFRACTION-OPHTHALMOSCOPE, WITH AN ATTACHMENT FOR USING CYLINDRICAL LENSES.

The modifications of the ophthalmoscope which were offered by the speaker consisted, first, in a clip behind the instrument into which the cylinders in the test-case can be inserted. The inclination of the axis is read on a graduation on the back of the mirror. The author had found this arrangement satisfactory in verifying the diagnosis of astigmatism made by other methods, and for examining the fundus of the astigmatic eye free from its anomalous refraction. Secondly, two superposed disks containing lenses, which singly and by combination give 47 numbers (22 plus and 25 minus lenses), with a regular interval of 0.5 D. up to 10.5 plus and minus. Thirdly, a plane circular mirror, with a concave tilting mirror swung in front of it. The plane mirror does not interfere with the tilting mirror when in use, and when it is desired to use the plane mirror alone the tilting mirror can be detached from its upper bearing and swung downward, out of the way, on its lower bearing. The instrument is very light. It is made by Queen & Co., of Philadelphia, and its cost is about twenty dollars.

Dr. John Green, of St. Louis, gave an account of

TRANSIENT MYOPIA FOLLOWING IRITIS.

In 1867 the speaker had been the subject of iritis involving both eyes. During convalescence he noticed that the dimness of vision was not wholly due to lack of transparency of the media, and that vision was improved by the use of concave glasses. He had occasionally observed in other patients with iritis that as they recovered vision was benefited by the use of concave glasses. Last April the speaker had iritis affecting the left eye. He was then able to compare the one eye with the other, and found that the myopia induced by the iritis amounted to 1.50 D. This gradually diminished until it disappeared at the end of four weeks, leaving the normal refraction. He had been unable to find accounts of myopia as a transient symptom during convalescence from iritis.

Dr. O. F. Wadsworth, of Boston: I can confirm Dr. Green's observation with reference to the occurrence of myopia during the convalescence from iritis. Patients who have had no myopia before are benefited by concave glasses. This has gradually grown weaker. I have seen this repeatedly, but it does not occur in every case.

Dr. G. C. Harlan, of Philadelphia, reported an interesting case recently under his care.

A young man, myopic 2½ D., came under observation several months ago, with the history that he had spots coming before the right eye, and that there had been a sudden decrease of vision. I found a certain amount of choroidal irritation and a posterior polar opacity. This began as a six-armed cross with rectangular arms. These became more diffused during the following six weeks. During this time there had occurred a marked opacity in the anterior portion of the lens, without traumatism, and with only a moderate degree of choroid inflammation. There was no special increase in the myopia so far as the author was able to determine.

EXECUTIVE SESSION.

The report of the Committee on Congress of American Physicians and Surgeons was received, and the following resolution adopted:

Resolved, That the American Ophthalmological Society appoint a representative and alternate to the proposed executive committee of arrangements for the congress of special societies, with the proviso that in making the appointment this Society does not commit itself to an approval of the present sketch in all its details.

Dr. William F. Norris, of Philadelphia, was elected representative to the executive committee of the congress, and Dr. D. B. St. John Roosa, of New York, was elected alternate.

The Nominating Committee reported as follows:

OFFICERS FOR ENSUING YEAR.

President.—Dr. William F. Norris, of Philadelphia.

Vice-President.—Dr. Hasket Derby, of Boston.

Secretary and Treasurer.—Dr. O. F. Wadsworth, of Boston.

Corresponding Secretary.—Dr. J. S. Prout, of Brooklyn.

The following were elected to membership: Dr. George Cutter, of Brooklyn; Dr. D. C. Cocks, of New York; Dr. H. S. Oppenheimer, of New York; Dr. Clark McIlvaine, of Trenton; Dr. David Beck, of Cincinnati.

The next meeting of the Association will be held at New London, Conn., on the third Wednesday of July, 1888.

A Conical Rectal Speculum.—Dr. Q. A. Shuford, of Tyler, Tex., describes a speculum devised by himself for use in examining the rectum. It is of the shape of a gradually tapering conical tube, at the smaller end of which is cut a wide slot running more than one-third of the way down the barrel. A plug is inserted into the speculum during its introduction, which closes the slot. After the instrument is in position the plug is removed, and the parts are brought readily into view through the slot. By means of this speculum applications can be made with ease to hemorrhoidal or other tumors in the rectum.

Correspondence.

RULES OF THE NEW YORK STATE BOARD OF EXAMINERS.

To the Editor of The Medical Record.

Sir: A law of 1874 established for the State of New York a State Board of Medical Examiners. Frequent deaths and occasional resignations changed its original membership several times, until, upon the recommendation of the undersigned (who, therefore, objected repeatedly to his own appointment), and for reasons easily understood, all the members of the present Board, with one exception, were selected, by the Honorable the Board of Regents of the University of the State of New York, from among the medical men of Albany, the seat of the Government and the Board of Regents.

The profession never expected the law, as it was passed in 1874, to be efficient. It was believed by many that some of the medical colleges objected to the establishment of a State Board altogether, though others were known to favor it. It was certain that sectarian influences succeeded in undermining the passage of the original bill and emasculating it. *It is certain* that no State Board of Examiners will ever benefit either the profession or the public—both of which stand in equal need of it—before the license to practise medicine will depend on the *compulsory* passing of a successful examination before the State Board. As the law stood, nobody ever applied for examination and the degree of M.D. of the University of the State of New York, who was in the possession of a diploma from a college in good standing. Such few as volunteered to come forward were men who had previously failed in their college examination, or "practised medicine" without study, knowledge, or any title whatsoever. There being no rules and regulations referring to a minimum of accomplishments or requirements, a few of these were let loose upon the unsuspecting public with a diploma; the majority, however, failed.

When the new Board was appointed in the beginning of this year, its members accepted their positions upon the condition that the Board of Regents would authorize a number of rules and principles which were to regulate the examinations. As such have been approved by the Regents, I am directed by the Board of Examiners to present them to you, for your information and, if you deem proper, for publication and comment. We know quite well that, as long as the examination by the State Board is not made *compulsory*, any number of rules and principles will prove their inadequacy and inefficacy again and again. But the present Board hopes that its earnest recognition of the rights and dignity of medical science, art, and practice will be admitted by, and found acceptable to, the profession, and that the latter, after a minimum of requirements for the admission into the ranks of the profession has been officially accepted by the Regents, will feel encouraged to continue its exertions in behalf of both the elevation of the standard of medical education and the protection of the public.

Not one of the recent applicants for a degree has proved successful. One of them had failed in his college examination a few weeks previously, and now threatens to swell the number of graduates of the "university" of a neighboring State. Similiar occurrences are not rare at all. Candidates failing in one college will obtain their degrees from other colleges in the same or other States. Will not that suggest the necessity instead of a "State Board" of a United States Board of Examination?

Very respectfully,

A. Jacobi, M.D.

110 West Thirty-fourth Street,
New York, July 25, 1887.

State Board of Medical Examiners.

The members of the State Board of Medical Examiners accept their positions with this understanding:

A candidate for the degree of Doctor of Medicine, to be given by the Board of Regents, either desires an additional degree after he has received a diploma from a chartered medical college, or he has no diploma from any chartered medical college, and desires or prefers one from the Board of Regents. The degree given by the Board of Regents is to be, or become, an honorable distinction. It must be the object of the law to protect the people and to ennoble the medical profession, and not to facilitate the entrance into it of persons unfit or unqualified. The profession does not require larger numbers, but does insist upon an elevated standard. Therefore, the examination must be strict, and must be conducted according to the following rules:

1. The examinations before this Board shall be conducted in the English language, exclusively.

2. The candidate shall be allowed two and a half hours for each examination. The examination shall be in writing. The candidate must not consult books, extracts, notes, or persons, and must not communicate with anyone during the two and a half hours allotted to him. To do so is to be considered a failure to pass.

3. The examination in clinical medicine and in clinical surgery shall consist in the actual examination of patients by the candidate, and a discussion in regard to the diagnosis, prognosis, and treatment of the cases.

4. The examination in chemistry shall include the actual testing of a specimen of urine, in regard to its reaction, specific gravity, and the presence or absence of albumen and sugar.

5. Each examiner shall have the privilege, if he so desire, of supplementing his written examination by an oral one, in the presence of two other members of the Examining Board.

6. The scale of marks shall be from zero to ten; ten being perfection, and anything below six being a failure to pass the examination.

7. The questions and answers, with their marks, shall remain in the possession of the Board of Regents, and shall be open to inspection.

8. When the candidate shall have completed all his examinations the Board of Examiners shall meet and hear the result of the examination in each branch. And within ten days thereafter, each member of the Board shall make a written report as to the merits and acquirements of the candidate; being guided in this report, not alone by the result of the examination in his particular branch, but also by the result of the examinations in the other branches. And each member of the Board shall send his report, together with the questions and their answers and their marks in his branch, to the secretary of the Board of Examiners; to be by him transmitted to the secretary of the Board of Regents.

And, furthermore, it is the opinion of the Board of Examiners: That in order to receive the degree of Doctor of Medicine, the candidate should successfully pass in every branch; or at least in every branch but one.

State Board of Medical Examiners.

Abraham Jacobi, M.D., President, Examiner in Pathology.

Albert Vanderveer, M.D., Vice-President, Examiner in Surgery and in Clinical Surgery.

Henry Hun, M.D., Secretary, Examiner in Clinical Medicine and in Materia Medica and Therapeutics.

James P. Boyd, M.D., Examiner in Obstetrics.

Franklin Townsend, M.D., Examiner in Physiology.

Samuel R. Morrow, M.D., Examiner in Anatomy.

William Hailes, Jr., M.D., Examiner in Histology.

Willis G. Tucker, M.D., Examiner in Chemistry.

Blind Gynecologists.—The latest Eastern practice which has been introduced is that of having a blind man to make the digital examinations in a gynecologist's office. A Chicago gynecologist is the innovator.—*Medical Age.*

Army News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from July 24 to July 30, 1887.

MAGRUDER, D. L., Colonel and Surgeon. Granted leave of absence for one month, to take effect on or about August 10, 1887. S. O. 170, A. G. O., July 25, 1887.

CALDWELL, D. G., Major and Surgeon. Order relieving him from duty at Fort D. A. Russell, Wyo., and assigning him to duty at Fort Assiniboine, Mont., is revoked. S. O. 168, A. G. O., July 22, 1887.

CLEARY, P. J. A., Major and Surgeon. Ordered to Fort Assiniboine, Mont., instead of Fort D. A. Russell, Wyo. S. O. 168, A. G. O., July 22, 1887.

MCCLELLAN, ELY, Major and Surgeon. Detailed as member of a board of survey to meet at the Medical Purveying Depot, St. Louis, Mo., on August 1, 1887. S. O. 173, A. G. O., July 28, 1887.

COWDNY, S. G., Captain and Assistant Surgeon. Granted one month's leave, to take effect on or about July 24th. S. O. 79, Department of Texas, July 13, 1887.

BURTON, H. G., Captain and Assistant Surgeon. Sick leave of absence extended three months. S. O. 171, A. G. O., July 26, 1887.

GARDNER, E. F., Captain and Assistant Surgeon. Ordered for duty at Fort Reno, Ind. Ter. S. O. 170, A. G. O., July 25, 1887.

BLACK, C. S., First Lieutenant and Assistant Surgeon. Ordered for duty as Post Surgeon, Fort Bliss, Tex., during the absence, on leave, of Captain S. G. Cowdny, Assistant Surgeon. S. O. 79, Department of Texas, July 13, 1887.

MCCAW, W. D., First Lieutenant and Assistant Surgeon. Ordered for temporary duty at Fort Riley, Kan. S. O. 78, Department of the Missouri, July 25, 1887.

THE RECTUM AS A FIELD FOR SPECIALISTS.—The rectum, says the *Medical Age*, is rapidly becoming to the general practitioner what the uterus was to the gynecologist for so many years—an abiding place or point of origin for a great many reflex disturbances. With the proper speculum properly applied, and a blunt hook, the operator reaches into the rectum of his patient. If, on drawing the hook toward him, it catches in a fold or pouch of the rectum, a pus pocket is alleged to be discovered, and is removed with the scissors. The patient after that is alleged to be cured of his reflex disturbances, and progresses on the high road to health and happiness. One man will have his lumbago, another his pain in the top of his head, and yet another be cured of his vertigo and muscular asthenopia by having little snips of mucous membrane cut from his rectum. These little snips of membrane will be found to be the seat of disease; the epithelium softened and infiltrated with white blood-corpuscles; the end organs of nerves in direct communication with the spinal cord and sympathetic ganglia are eroded and irritated by the presence and movements of fæcal masses and gases, until they are pulled down with the blunt hook and excised with the scissors. All the mysterious phenomena said to be induced by physical changes in the uterus and ovaries and bladder may be induced, it is claimed by rectal enthusiasts, by lesions of the rectum and anus.

MARRIAGE OF SCHROEDER'S DAUGHTER.—The approaching marriage of the daughter of Schroeder to Professor Hoffmeier is announced in the German papers.

Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending July 30, 1887:

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	19	8
Scarlet fever	29	3
Cerebro-spinal meningitis	4	3
Measles	35	3
Diphtheria	96	25
Small-pox	2	0
Yellow fever	0	0

TRAINING SCHOOL FOR MALE NURSES.—Dr. F. M. Welles, of Chelsea, Mass., writes that there is a training school for male nurses connected with the McLean Asylum, at Somerville, Mass.

LARGE DOSES OF QUININE.—Apropos of the item in a recent issue of THE RECORD concerning Dr. Knight and his large dose of quinine, Dr. A. T. Bodle, of Grand Rapids, Mich., quotes the following from Burt's "Physiological Materia Medica:" "Dr. Clapton gives a case in which a soldier took an ounce of the sulphate, stirred up in some water, that only produced delirium and stupor. In the famous case of Bazire, five ounces, taken in the course of ten days, caused death."

A SURGICAL CASE AT BUFFALO BILL'S.—"Buck" Taylor, of Buffalo Bill's Wild West Show, now exhibiting in London, has recently become of surgical interest. While performing on horseback not long ago, by a horse running against him he suffered a simple and perfectly transverse fracture of the right thigh bone, at the junction of the upper with the middle third of the shaft. The shortening hardly amounted to half an inch, owing to the direct violence which broke the bone without the aid of muscular force, also partially to the transverse nature of the fracture. The point of special interest surgically was the production of the fracture by direct force, applied to the outer aspect of the thigh. This force was apparently not great in amount, and was without injury to the soft parts. Only a very few such cases have been recorded. "Buck" has become quite a hero, and receives visits from persons of high social position and culture.

THE KARAVAYEFF SCHOLARSHIP IN KIEFF.—A subscription has been raised by the colleagues and admirers of Professor Karavayeff, the eminent Kieff surgeon, for the purpose of founding a scholarship in his honor for students in the medical faculty. It appears, however, that candidates must be of the "orthodox" faith; so that Lutherans, Dissenters, and Jews are debarred the chance of obtaining either the honor or emolument attaching to the possession of a Karavayeff scholarship.

TREATMENT OF BILIOUS HEADACHE.—Dr. Illingworth writes to the *British Medical Journal* that he has obtained the best results with biniodide of mercury in this affection. It is given in pill at bedtime and repeated in from four to six hours if necessary.

THE BERLIN DERMATOLOGICAL SOCIETY was organized toward the latter part of last year, with Drs. Köbner and Lewin as presidents, and Drs. Müller and Rosenthal as secretaries. Meetings of the society are held on the first Tuesday of each month.

BACTERIA AND THE PRICE OF ICE.—"I see that bacteria have been discovered in Hudson River ice," observed Fangle. "Ah!" replied his wife; "that will be another excuse for raising the price, I suppose."

Impotence and Syphilis.—Dr. Bunin relates in the *Russkaya Meditsina* a case of impotence depending upon syphilis, and concludes his paper as follows: 1. Syphilitic affection of the nervous system is expressed sometimes by a single symptom, viz., impotence. 2. The later forms of syphilis may not first declare themselves on the skin. 3. The cause of many otherwise inexplicable cases of impotence may be found in syphilis, and it is important to recognize this fact, not only from a clinical, but also from a medico-legal point of view, since impotence is so often urged as a ground for divorce.

Salol in Sciatica.—Salol is recommended by Dr. Aschenbach, on the strength of personal experience, as a remedy of great efficacy in sciatica. He had been suffering from the affection for three weeks, being confined to the bed, and had tried all the usual remedies without experiencing any amelioration, when he was advised to try the effect of salol. He took seven grains of the drug in the evening and fifteen grains more at midnight. The result was that he slept soundly that night and awoke perfectly free from his trouble in the morning.

The Pathological Significance of Venous Murmurs.—Apetz arrives at the following conclusions from his study of this subject: 1. The venous murmurs perceptible in the internal jugular vein are above all things dependent on the age of the individual affected, and are met with less frequently with increasing age. 2. The venous murmurs audible when the head is drawn to the opposite side are not to be referred to anæmia, but are physiological occurrences. 3. True venous murmurs heard, when the head is held erect, loudly and continuously, in individuals of middle age (twenty to sixty years), have a certain pathological significance; they are not, however, in general to be considered as diagnostic of anæmia. 4. Venous murmurs possess under no circumstances any special diagnostic value in chlorosis or other anæmic conditions.

The Fundamental Cause, or *materies morbi* of chronic disease, Hahnemann, after entertaining the "coffee theory" and the "itch theory," termed *psora—herpetic diathesis* of the French. This malady he considered as at the bottom of seven-eighths of all chronic diseases, the remaining eighth being of venereal origin.—*Homœopathic Recorder.*

Fees of Veterinarians.—Dr J. C. Smith, of Western Texas, writes to the *Medical and Surgical Reporter:* "From personal observation in a number of Western States, I must say that it is a rare exception for a veterinary surgeon to collect $100 per month, and many do not collect half so much for purely professional work, and are *forced* to give some attention to other matters in order to secure a living. Doubtless, in *some* of the Eastern States, veterinary surgeons are better paid; but in the West such men, now, are *pioneers*, and must submit to a pioneer's lot or quit the profession."

Creasote in Phthisis.—Dr. Guttmann, of Berlin, has been conducting a series of experiments with creasote in pulmonary phthisis, and reported his results at a recent meeting of the Verein für innere Medicin. In many cases the administration of the remedy had to be discontinued, because of the nausea and vomiting which it caused. In a small proportion of the cases there was an improvement in the appetite, and in some the cough and expectoration were sensibly diminished; but in general the results do not seem to have been very satisfactory.

A Story about Matthews Duncan.—It is related that a wealthy lady was once sent from the country to consult Dr. Matthews Duncan. On entering his office and being asked what was the matter, she replied: "Oh, doctor, I have so much trouble with my mucous membranes." "Tak' her awa', tak' her awa'," said the gynecologist, in his most decided Scotch, and he refused to have anything to do with a woman who knew that she had mucous membranes.

Mr. W. S. Savory, senior surgeon to St. Bartholomew's Hospital and president of the Royal College of Physicians, was recently offered knighthood by Queen Victoria, but declined the honor, thinking, it is said, that there should have been a baronetcy attached.

A Compliment to American Medicine.—Sir Andrew Clark, in his Cavendish lecture before the West London Medico-Chirurgical Society, on "A Speedy and sometimes Successful Method of Treating Hay Fever," thus spoke of American Medicine: "From America, the most earnest and persevering of all countries at work, we have received the best and largest fruits in efforts to discover the nature and most appropriate treatment of this malady."

A Chinese Anæsthetic.—Dr. Lambuth mentions, in his third annual report of the Soochow Hospital, an experiment made, at the suggestion of a Chinese doctor, with a substance resembling wax, but harder, and semi-transparent (*Medical Press*). This, in the form of a tablet, was cut into small pieces and digested in water for twenty-four hours, together with a small white woody excrescence. The liquid was then found to possess well-marked anæsthetic properties. It was found that a numbness of the lips and tongue was produced, and that the finger immersed in the solution for some minutes could then be pricked with a needle without any pain being felt. The tablet was described as being the juice of the eyes of a frog. It was probably the substance obtained by the Chinese by placing a frog in a jar containing flour and irritating the animal, when it exudes a liquid which forms a paste with the flour. This is then dried and made into cakes bearing some resemblance to button lac.

Ill Effects of a Small Aneurism.—Dr. H. F. A. Goodridge reports in the *Bristol Medico-Chirurgical Journal* for March, 1887, the case of a man suffering from bronchitis, in which there was unusual difficulty in coughing. There seemed to be a hitch or impediment in the act of expectoration, which was very manifest to the patient on attentive observation, and which seemed to be situated high up in the air-passages. Emetics were of little avail, though strychnine afforded transient relief. On post-mortem examination there was found to be a small aneurism of the arch of the aorta, which pressed directly backward on the trachea at a point just above its bifurcation. The author has seen a somewhat similar case, and thinks that it teaches the importance in the mechanism of expectoration of the point where the confluence of the expiratory currents from the two lungs takes place. And he believes that the free and unrestricted play of the trachea at this point is as essential to the efficiency of expectoration as are ciliary action, pulmonary elasticity, and contractile energy of the respiratory muscles, as well as also proper closure of the glottis.

How to Count the Ribs.—Dr. Duroziez states that the best way to number the ribs is not to start from the clavicle, but from the suprasternal notch. If the finger be passed obliquely downward and outward from this point, it will pass to the first intercostal space. Or the sternum may be palpated, and the first prominence encountered in passing from above downward will be the point of union of the first and second pieces of the sternum, opposite which is the second rib.

Expulsion of Foreign Physicians from Russia.—The announcement is made in *Vratsch* and other Russian medical journals that all foreign physicians resident in Russia, but especially those from Austro-Hungary, must become naturalized immediately or get out of the country.

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Original Articles.

TREATMENT OF FIBROID TUMORS OF THE UTERUS BY ELECTRICITY; WITH STATISTICS.[1]

BY G. APOSTOLI, M.D.,

PROFESSOR OF GYNECOLOGY AND ELECTRO-THERAPEUTICS IN PARIS, FRANCE.

GENTLEMEN: You will permit me to ask of you a temporary suspension of the well-merited celebration of the triumphs of gynecological operative surgery, in which you have held so important a position, while I lay before you my views on a point of conservative treatment.

The surgical measures proposed, discussed, and put in practice for the removal of uterine tumors have of late years occupied a great share of the attention of practitioners, and yet many of the questions connected with this subject still remain undecided, obscure, and perplexing. After all, the dangers of excision are not much less formidable. For this reason I have endeavored to find out a way, neither strictly medical nor strictly surgical, of dealing with these cases by which I might avoid equally the reproach of surgical insecurity and the defect of medical insufficiency. By this I mean my electrical treatment of uterine fibroids. It is now five years since I adopted a proceeding which I may define as a galvano-chemical cauterization of the uterus—vaginal, intra-uterine, or parenchymatous, and always monopolar. For those who have not much exercise in electrical manipulations these few simple words require to be made clear and explained. This I will endeavor to do plainly and shortly.

I may, first of all, point out what my predecessors had done in the electrical cure of fibroids. Apparently they had used a current of electricity, but all the attempts made were defective in ways that I may here recapitulate.

The current of electricity was employed:

First, in a vague and variable manner. Sometimes there was faradization; sometimes there were continuous, sometimes interrupted galvanic currents, but always without a definite object. The current was set in motion in ignorance of its intensity and with imperfect knowledge of the best means of employing it. The proceeding was purely empirical, discrediting a certain agent, capable of doing much good or none at all, according to the skill and intelligence with which it was directed.

Secondly, without dosage; that is to say, without any instrument in the form of a galvanometer, which admitted of measuring the force of the current employed, or of repeating it under the same conditions.

Thirdly, in a dose insignificant, generally so small as to be useless

Fourthly, by a method always extra-uterine, in no way directly acting upon the uterine cavity and but slightly upon the neighboring parts of the vagina.

Fifthly, by a method often dangerous, from the galvano-puncture being made above the pubes and through the abdominal integument.

With these imperfections and dangers in view, it was in 1882 that I originated a new and rational way of using electricity for this purpose. I have since gone on modifying and improving my mode of operating, and I now propose to give you an account of my method as I practise it at the present time.

I have supplanted the old way of operating by a method which is:

1. Precise, by the introduction of new galvanometers of intensity—exact counters and measurers of the electrical current. It is in this way only that we can estimate the value of the fluid passed and utilized through the uterine tissues.

2. Energetic, by an absolutely novel service of high intensities of current which I have progressively carried, according to the necessities of my cases, from fifty to one hundred and fifty and two hundred and fifty milliampères.

3. Tolerable, in spite of the enormity of these doses, in consequence of the introduction of a new form of electrode, the wetted clay, which renders the cutaneous pole innocuous and permits us to transmit through it easily and without injury a current of signal medical intensity.

4. Better localized, by a direct application of the active pole, by way of the vagina, to the uterus, either in its cavity or in the substance of the fibroid deposit.

5. Thoroughly under control, by the exclusive choice of the unipolar method. In fact, I apply to the diseased uterus a continuous galvanic current, of an intensity and duration sufficient to produce the therapeutic effect required. Now, this application, which is generally inaccurately described as electrolytic, ought to be defined as a galvano-chemical cauterization, that is to say, a cauterization purely chemical. In the course of this current through the tissues there are two successive and distinct effects developed.

(*a*) The tangible effect, at the points of entry and exit of the current, which, according to the dose and duration, will be a chemical cauterization more or less severe (but not thermic), variable in conformity with the pole, and different in character at the positive and negative poles. This polar action may, at the will of the operator, be either monopolar or bipolar.

(*b*) The effect resulting from the circulation of the current from one pole to the other, which is, therefore, called interpolar action. This action follows every electrical application and sets up a subsequent process of disintegration, proportionately wide and lasting, of the morbid products through which it is made to pass.

In availing myself to the utmost of the polar and interpolar effects of the electric current for the treatment of fibroma, I adopt always a galvano-caustic, intra-uterine and monopolar. I thus only use directly one active pole, closing the current outside the abdomen by a second pole made as nearly as possible inert. At the same time I reckon upon the interpolar effects of the current, as it necessarily finds its way through the entire uterine substance from the internal pole to the external or cutaneous pole. This, as I have explained elsewhere, is the principal reason why I do not place the two poles in the vagina, and why I advocate the method known as uterine monopolar.

6. More scientifically exact—from the due appreciation of the topical effects of the two poles, and the precise chemical and anatomical indications peculiar to each of them.

I have been able to demonstrate in the clearest manner that we have in our hands a double-edged agent that we can make use of at discretion to afford us local

[1] Read before the British Medical Association, at Dublin, August 2, 1887.

effects quite different. On the one side is a hæmostatic more or less rapid in its action, and either direct and immediate or secondary and remote. I allude to the positive pole, with which we can arrest hemorrhage, either instantly, if the cavity of the abscess be of normal dimensions, if the action be relatively intense, and if the hemorrhage be not excessive; or more deliberately and gradually, after several successive operations, by the formation of contractile cicatrices. The various gradations of the narrowing of the uterine canal are the plain evidence of this secondary and prolonged effect of positive cauterizations.

The positive pole will therefore be the "medicament par excellence" in cases of bleeding or hemorrhagic fibroids.

On the other hand, with the negative pole we obtain a state of temporary congestion, without direct hæmostatic effect. The interstitial circulation of the atoms they momentarily stimulated will be hurried on, and a regression of the non-hemorrhagic fibromata is the consequence, either of this state of congestion or of the supplementary artificial and salutary hemorrhages which take place. The negative pole will therefore be found to render invaluable benefit (though it is possible with the positive pole to arrive at the same point by a way more indirect and tedious) in those cases of fibroids accompanied with amenorrhœa and dysmenorrhœa, which are only too often the despair both of patients and doctors without such means at command.

Looking, therefore, at the difficulties and dangers of abdominal surgery, and at the avowed impotency of the greater part of medication in cases of fibromata, I do not hesitate to assert for my method of treating them a precedence on the following grounds:

1. It is easy of application, since it only requires an elementary acquaintance with the principles and practice of electro-therapeutics; it being unconditionally understood, however, that a profound knowledge of gynecological science must be the indispensable prelude to any attempts.

2. It is simple, for it is ordinarily nothing more than a skilful, uterine, therapeutical sounding. This is only what may be expected of every surgeon provided with a good galvanometer of intensity, some sort of battery capable of yielding an adequate current of electricity, an inoffensive cutaneous electrode in wet potter's earth, an inattackable intra-uterine electrode in platinum, and a steel trocar for the galvano-punctures.

3. The current is mathematically dosable, so that every operator can carry on the treatment under the same conditions, and adjust the force of the remedy to the nature of the effects to be obtained.

4. The seat of operation is optional, for the surgeon has the power of limiting and defining the point of entrance of the current, making it either the mucous membrane or the tissue of the organ.

5. It is of easy control, and only uses an amount of force which should cause neither shock nor suffering, and ought never be put to use but in progressive and adjusted doses.

6. It is antiseptic in itself, by virtue of the high cauterization of the active pole.

7. It is for the most part easily supported, anæsthetics being only required for certain cases of galvano-puncture.

8. It does not impose upon the patients any forced seclusion, and mostly admits of their continuing the usual habits of life, and even of doing hard work, in the intervals between the operations.

9. But, over and above all these considerations, there is a dominant point to be advanced, which alone is of weight enough to turn the scale in favor of electrical treatment. The simple chemical cauterization, for which you may find the equivalent in the laboratory of the chemist, or in the actual cautery, is not the only matter we have to take account of. This chemical cauterization, so called, is only the first part of the therapeutical scene which gradually unfolds itself.

The electrical current, the power we wield and the accompaniment of every vital manifestation, in its course through the tissues acts prolongedly and profoundly on every molecule, and causes ulterior changes in the tumor-structure which may well astonish, both by their extent, safety, and certainty.

I regret I cannot do more on this occasion than roughly outline these questions of prime interest, and I turn at once to the clinical and purely practical results of my treatment.

With this powerful agent, the constant galvanic current of high intensity, of which I have pointed out the tractableness, as well as its many advantages in our hands, let us ask what can it do, and what ought we to be able to do with it, for the relief of the uterine fibroid?

Symptomatically, the fibroids may be divided into two great classes—those which are hemorrhagic and those which are not so.

The positive pole is the express remedy for the cases attended with hemorrhage, the negative pole when they are not hemorrhagic. Each of the two poles conveying the current acts in the first instance locally on that part of the mucous membrane with which it is in contact, the negative pole as producing congestion, the positive pole as hæmostatic. If both, however, in their secondary interstitial action induce a regression of the tumor, I believe in this respect the greater potency belongs to the negative pole. But, beyond this, the negative pole has a further faculty. If we make it enter by puncture into the substance of the fibroid deposit, it will more rapidly insure the diminution of the tumor; and what is truly remarkable is, that this negative pole, naturally causing congestion and little if at all hæmostatic, becomes by a sort of *contre-coup* markedly hæmostatic, and will at the end of a certain time arrest even troublesome hemorrhage.

The stanching effect is due to the cutting off of the supplementary circulation by the rapid atrophy brought about by the action of the negative current.

As a supplement to the rule which I have just formulated—pole positive intra-uterine for the restraining of hemorrhage, pole negative intra-uterine for tumors without hemorrhage—comes the second indication for galvano-punctures. These punctures, as my experience increases, assume daily a more and more preponderating importance in my estimation.

The indications for galvano-puncture are twofold: first, as a matter of necessity in consequence of uterine atresia, or where there is such displacement of the organ as to prevent any introduction of the sound; second, by preference when we see that we cannot advantageously combine punctures with intra-uterine cauterization, so as to expedite and make sure of the effects that with the cauterization we should imperfectly and tardily realize. We must, therefore, undertake the galvano-punctures, alone whenever the case will fairly admit of them, or use them in other cases as adjuncts to the extra-uterine cauterization previously tried.

The manipulations in the operation of galvano-puncture will always be more difficult and even dangerous in incautious hands. I cannot, therefore, too much insist upon a rigid observance of the directions and precautions I have elsewhere given at length. I can now only offer a very short summary of them.

1. Absolute and regular antiseptic irrigation of the vagina, before and after each operation.

2. Use as the puncturing instrument a small steel trocar or needle, and let the puncture be shallow, that is, not deeper than one to two centimetres.

3. Make the punctures on the most prominent part of the fibroid, whenever possible in the posterior cul-de-sac.

4. Make the puncture without the speculum. Slide the trocar through the celluloid sheath which protects the vagina, after having examined and chosen by touch the point where the puncture is to be made.

5. Take the precaution of ascertaining the seat of any pulsation, so as to avoid wounding an important vessel.

6. In case of any unusual hemorrhage, immediately dilate the vagina with an expanding speculum, and if necessary put on pressure-forceps to the bleeding point.

Such is a rapid sketch of the directions for operation. What, now, are the anatomical and clinical results to be expected? They are:

A. As regards the material changes we may affirm that every fibroid tumor submitted to this treatment, sometimes after so short a time as one month, but certainly when the treatment is fully carried out, will undergo a manifest reduction of size, a reduction appreciable by the touch and demonstrable by internal measurement. The further diminution of the tumor, which continues for some months, varying in amount from one-fifth to one-half of the original volume, is generally associated with a coincident and equal accumulation of subcutaneous adipose tissue on the abdominal walls. The regression of the tumor is not only apparent during the time of active treatment, but goes continuously on after it has been superseded, and is the persistent proof of the enduring influence of the electrical operations.

The liberation of the tumor from its local attachments takes place simultaneously with its decrease of bulk. The tumor which at the commencement of the treatment was immovable can progressively be made more and more to change its position as the absorption of the enveloping tissues deposited round it advances.

Another phenomenon is observed in connection with the regression of the tumor. It not only contracts on itself, but shows a tendency to separate from the uterus, to become more distinctly subperitoneal, to detach its mass, as it were, from its setting in the uterine wall, and to remodel itself into a pedunculated form.

B. Clinically the results are not less striking. Perhaps they are even more so, as they are not only matter of proof by the examination of the surgeon, but the patient herself is the living exhibition of them. We may generalize the extent and importance of these results by saying that ninety-five times out of one hundred they comprise the suppression of all the miseries constituting the fibroidal symptomatology. These may be categorically enumerated thus: Hemorrhages, the troubles of menstruation, dysmenorrhœa, amenorrhœa, nervous disturbances, the direct pains in the growth itself and from mechanical pressure and the harassing series of reflex actions.

In a word, the assertion may be safely advanced that, though our therapeutic resources only carry us so far as the sensible reduction of fibroid tumors, and not to their total absorption, we may with regard to the symptoms certainly anticipate their complete removal and the establishment of a state of health equivalent to a true resurrection. I am justified in saying that the greater number of women who have persisted in the necessary treatment not only were cured, but remain well.

I use the expression "greater number" because there is no such thing as human infallibility, especially in medicine. I acknowledge having been sometimes unsuccessful, and so instructive are my failures that I shall recount them at length in a work now preparing. It will be seen that they were cases in which there was no possibility of satisfactory treatment, owing to an apparently absolute intolerance of high intensities of current. I see now that I was wrong in retreating before this supposed intolerance. Among them were three cases of fibroma with ascites, and I now regret that with the aid of anæsthetics I did not persist in going to the limit of my power. I have also met with the same intolerance in some hysterical subjects, in cases of very irritable uterus, and in others of peri-uterine and intestinal phlegmasia. Now, with my present experience, I should not hesitate to operate to the fullest extent under chloroform. There yet remains the obscure question as to the class of cystic fibromata, and tumors with a tendency to malignant degeneration, where there is often a fearful and irrepressible hydrorrhœa accompanying. I have recorded three such instances, and in them intra-uterine galvano-cauterization generally proves useless. Something more is demanded, and we must seek in galvano-punctures a means of denutritive action more powerful and more efficacious.

Finally, I may lay down the following proposition: No operator should admit the failure of intra-uterine galvano-cauterization before having had recourse to the galvano-punctures, which he must use either with or without anæsthetics.

We will now turn aside from all theoretical considerations, and look at the facts. I may rely upon them with confidence, as my great support. I desire, however, in the first instance, to prove the comparative safety of intra-uterine medication when my method is adopted.

Both in my clinic and in private consultations, as far as regards gynecological practice, the application of electricity therapeutically assumes two forms. In the one it is exclusively faradic; in the other, galvanic. For the present I pass over faradism, to occupy myself solely with the patients who have been subject to the treatment by continuous currents.

In the five years from July, 1882, to July, 1887, I have made, either privately or at the clinic, as many as 5,201 applications of continuous galvanic currents, for most of the maladies included in the gynecological nosology, and I may enumerate them in the following order: Fibroids of the uterus, polypi, entire or partial hypertrophy of the uterus, subinvolutions, acute and chronic metritis, ulcerations of the neck of the uterus, peri-uterine inflammations (perimetritis, parametritis, cellulitis, phlegmons), ovarialgia, ovaritis and peri-ovaritis, salpingitis, ovarian and tubercular cysts at an early stage, atresia, hæmatocele.

These 5,201 operations were thus classified:

I.—At my clinic, 2,837.

(*a*) Galvano-cauterizations, chemical, positive, intra-uterine, 1,524.

(*b*) Galvano-cauterizations, chemical, intra-uterine, negative, 749.

(*c*) Galvano-punctures, chemical, negative, vaginal, 368.

(*d*) Galvano-cauterizations, chemical, of neck of uterus, 200.

II.—In my private practice, 2,364.

(*a*) Galvano-cauterizations, chemical, positive, intra-uterine, 1,245.

(*b*) Galvano-cauterizations, chemical, negative, intra-uterine, 1,027.

(*c*) Galvano-punctures, chemical, negative, vaginal, 72.

(*d*) Galvano-cauterizations, chemical, of neck of uterus, 20.

These 5,201 operations, which range over a space of five years, were made upon 403 patients, who went through the treatment more or less systematically. I must not omit to mention that I intentionally say nothing about the number, far in excess of the above, who were made the subjects of faradism, as I intend publishing a separate memoir on that method.

Now, in referring to the history of these 403 patients—276 at the clinic, 127 private—I have only to deplore the loss of two. Of these two deaths I take upon myself the entire responsibility. My method was not at fault. I alone was to blame, as may be seen by the full and detailed report.

In one case, I admit candidly, there was a fatal error in my diagnosis. I did not recognize the presence of a suppurating ovarian cyst, which ended in death from peritonitis. In the second case death was due to a puncture made too deeply. The consequence was intra-peritoneal gangrene, for which the abdomen was not opened.

In addition I have to confess to having either excited or aggravated, in the course of five years, ten peri-uter-

ine phlegmonous inflammations. These must be attributed to blunders in carrying out the treatment, as will be shown when the account is published at length.

But errors of practice happened during the early days of my work, and were either negligence of antiseptic measures, which were either altogether omitted or done imperfectly, or the too violent or too intense use of the negative pole in cases of subacute peri-uterine inflammations.

The fact is, the negative pole, having a strong power of producing congestion, is a dangerous weapon, which at the beginning of any treatment must be used with great prudence and reserve, if one would avoid overshooting the mark for which it is intended.

To lay before you the facts of these accidents will serve the double purpose of warning you of what may befall you and preventing you from making similar errors. My caution is, that whenever the negative pole is put to use, and there is any trace of peri-uterine inflammation present, you must not only redouble your antiseptic heedfulness, but your operative proceedings must be carried on with deliberate carefulness. You must feel your way, testing the susceptibility of your patient by two or three preliminary operations, in which you can give doses so feeble that they only serve to enlighten you and habituate the patient so as to lead on safely to the use of higher intensities.

But when I tell you that this operative gynecology, as I have to practise it, is carried on in such exceptional circumstances that no one else has ventured to encounter them, and upon a class of women who are obliged to walk home shortly after they get up from the couch, who seldom take the necessary rest in bed, and whom poverty forces in some fashion to get through with the ordinary duties of life, you will ask of me with curiosity the explanation of this illusive mystery. All that I can say is, it appears to me that the intra-uterine current, as I use it, seems to have in itself some special antiseptic and atrophic property.

I must close these remarks on the failures, which I have no wish to conceal, but expose to you in all their nakedness, though they stand as the evidence of only the usual difficulties which accompany the laborious and misty development of any new method. I do not speak of other dangers which lie in the way, such as the possibility of concealed pregnancy and accidental abortion, and also the risk of opening up a vesico-vaginal fistula. I have already enlarged on this matter elsewhere, and in my next work on gynecological electrical therapeutics I shall devote a chapter to the needful precautions.

I am anxious to-day, as the completion of my paper, to bring forward a simple statistical statement of what has been my treatment of uterine fibroids.

From July, 1882, to July, 1887, I have had under my care 278 patients with fibromata, or hypertrophy of the uterus, in some manifest degree, upon whom I have used 4,246 applications of currents of electricity. The patients and operations may be thus classified:

I.—Clinic, 186 patients, 2,347 operations.
Galvano-cauterizations, positive, intra-uterine, 1,433.
Galvano-cauterizations, negative, intra-uterine, 593.
Galvano-punctures, negative, vaginal, 321.
II.—Private, 92 patients, 1,899 operations.
Galvano-cauterizations, positive, intra-uterine, 1,085.
Galvano cauterizations, negative, intra-uterine, 746.
Galvano-punctures, negative, vaginal, 68.

As I said before, I do not wish to convey the impression that all these patients have been cured. It is not so, for the reason that some of them have not persevered to the end, especially in the clinic, the attendance having been discontinued upon the first feeling of amendment. But I can affirm that where there has been no negligence, ninety-five times out of a hundred permanent benefit has been acknowledged. I may also predict that, if adopted in its integrity and worked out as it should be, the mortality henceforward will be nothing. The following is a report which gives occasion for melancholy comparison. Among the patients who had not the will to let me finish the work begun, and whose impatience led them voluntarily to seek the removal of their tumors by excision, seven put themselves into the hands of our most eminent surgeons, and not one of the seven recovered from the operation. Comment on this would be superfluous.

One word in parting. Men and their labors can in general only find their proper level and value through the esteem of their associates, and the way in which their work is publicly accepted. If my method ever meets with the confidence of the profession (to speak only of England) it will be mainly due to your illustrious countryman, Sir Spencer Wells, who was one of the first to extend to me the benefit of his experience and authority, and to his learned friend, Dr. Woodman Webb, whose name will ever be coupled with its introduction and diffusion. It would be injustice were I not also to refer to the honor such distinguished gynecologists as the Keiths, father and son, Playfair, Savage, Elder, and others, have done me by their visits, and the encouragement given me by their approbation. I cordially thank all who are present, and assure you that the best recompense of the work of my life will be to find many of you becoming my followers.

EXPERIMENTS WITH STENOCARPINE, THE LOCAL ANÆSTHETIC RECENTLY DISCOVERED BY MR. M. GOODMAN, V.S., AND DR. ALLEN M. SEWARD.

By HERMAN KNAPP, M.D.,

NEW YORK.

As soon as I had read the very remarkable communication of Dr. J. Herbert Claiborne, Jr., in The Medical Record of July 30, 1887, I asked him where I could obtain the above alkaloid. He was kind enough to furnish me fifteen grains of a two per cent. solution. With these I made a number of experiments, which I beg briefly to report.

A. Physiological Experiments.—1. *On the eye.*—The solution, instilled into one of my own eyes, and into the healthy eyes of several other persons, produced *anæsthesia* of the conjunctiva and cornea in the same way and fully as energetically as cocaine of equal strength. In five or six minutes the anæsthesia to the touch was complete, and remained so for ten minutes, then began to diminish, and disappeared in twenty to thirty minutes. An unpleasant *feeling of dryness* set in with the anæsthesia, and lasted the whole day. The *palpebral fissure enlarged*, and the *conjunctiva* was moderately *bleached.* The pallor of the conjunctiva disappeared with or soon after the anæsthesia, but the enlargement of the palpebral fissure lasted for hours.

The *pupil began to dilate* in from eight to twelve minutes, reached its maximum, that of an utmost atropine-dilatation, in twenty minutes, remained in this condition the whole day, was somewhat diminished the next day, still marked on the third day, and disappeared, as a rule, on the fourth. The *accommodation began to diminish* in ten minutes, and was completely paralyzed in twenty or twenty-five minutes. In my left eye a hyperopia of $\frac{1}{24}$ manifested itself, whereas the right, not under the influence of the remedy, showed H $\frac{1}{48}$. Corrected with $+\frac{1}{24}$, my sight was perfectly sharp. The paralysis of accommodation continued the whole of the next day, diminished on the third, and had not yet quite disappeared on the fourth day.

The *tension of the eyeball* during the anæsthesia was very slightly diminished. The interior and mobility of the eye were unchanged. The lustre of the cornea was not conspicuously diminished.

2. *On the nose.*—Four drops instilled into the nose and spread over the mucous membrane rendered the latter

insensible in five minutes; also, the *sense of smell* was almost completely suspended, more so than with like doses of cocaine. The nasal passages appeared freer and wider. This condition lasted ten minutes, and returned to the normal in the next ten minutes.

3. *On the throat.*—Four drops were put on the left side of the pillars of the palate and the adjacent part of the tongue. A sensation of dryness and contraction manifested itself in two minutes, increased for ten minutes, then slowly disappeared in ten minutes more. From the fifth to the fifteenth minute the pharynx was *completely anæsthetic*, it seemed more so than with cocaine of equal strength. Some powdered sugar placed with a curette at the part of the tongue touching the pillars of the palate was not perceived in any way, whereas on the corresponding part of the other side it tasted sweet at once.

4. *On the urethra, glans penis, and rectum.* — Two drops were injected into the anterior part of the urethra, and three drops let fall on the glans. A few drops were injected into the rectum. The effect was the same as with cocaine, fully as strong. The meatus was pale; the urethra anæsthetic in five or six minutes. The sensitiveness in the rectum was reduced, not abolished; probably on account of the insufficient quantity injected. In half an hour the glans was sensitive to the touch again, and the meatus became pink, but was still anæsthetic. In forty-five minutes the normal condition was restored.

5. *On the skin.* — A lady and myself had each two minims injected under the skin of the forearm. In five minutes the sensibility in the place was reduced, in ten to fifteen minutes abolished over an area of 12 mm. in diameter, then it gradually returned. A man (Dr. Weeks) had four minims injected under the skin of his forearm. Anæsthesia as above, but in five minutes he felt constitutional symptoms—dryness in his tongue and throat, a general lassitude, a fulness, kind of stupor, in his head. These symptoms lasted almost half an hour.

Five experiments to produce *anæsthesia by external application of the remedy to a healthy skin gave uniformly negative results.* I had the ear of an eight-year-old girl carefully washed with soap and dried. Six drops were instilled in the concha and held for half an hour, until they were almost evaporated. No insensibility. A place at my forearm and that of a young man seventeen years of age were washed with soap for about ten minutes. When dried, absorbent cotton impregnated with the liquid was applied, covered with oil-silk, and held in position for half an hour. No anæsthesia. The moist pads were reapplied and held twenty minutes longer. No anæsthesia in either case. In order to ascertain whether the skin of the eyelids could be rendered anæsthetic for smaller operations, I washed my left eye and that of a man with soap, dried them, applied the cotton pads steeped in the liquid to the skin, covered them with oil-silk, and fastened them with a flannel roller. Repeated trials for more than an hour manifested *no anæsthesia whatever.*

B. Toxicological Experiments.—Five minims injected into the orbit behind the eyeball of a large rabbit caused in half a minute the most violent attacks of tetanoid convulsions, in which opisthotonus was a prominent feature.

The attacks were repeated every ten to forty seconds. In the intervals the animal lay quiet, with excessively rapid respiration and pulse, and fibrillary twitching in different parts of the body. Touching its body was followed at times by spasms, at others not. This condition lasted fifteen minutes, and the animal appeared as if it were going to die, but gradually rallied, and recovered completely in about forty-five minutes. The eyes from the beginning were staring, the pupils *ad maximum* dilated, and the palpebral fissure enlarged. The cornea had not lost its sensibility completely.

Ten minims injected into the orbit of another, smaller rabbit caused the same symptoms, but less violently and less long.

Fifteen minims in another rabbit produced the above picture in a marked degree. When the animal rallied, it dragged the hind part of its body; the hind legs seemed weak, somewhat paralyzed; the forelegs were moved inco-ordinately, and after an exertion rested on the floor like the spread wings of a bird. The head was raised for a few seconds, but then dropped inert to the floor. Pulse of heart from 160 to 200; could not be counted with accuracy. Respiration accelerated. Condition of eyes as above. The animal recovered in an hour.

Twenty-five minims injected under the skin of a middle-sized rabbit produced the same picture, but very much more slowly. The first convulsive attack set in four minutes after the injection. It was violent, of the opisthotonus and tetanic kind. The attacks succeeded one another at intervals of one-half to one minute. The abdomen was somewhat swollen; condition of eyes, respiration, and pulse as in the others. This animal also recovered perfectly in about an hour. No complete anæsthesia of the corneæ; pupils, however, *ad maximum* dilated, and, as in the other animals, one eye like the other.

Ten minims were injected into the largest vein of one ear of another rabbit. As soon as the liquid entered the blood slight fibrillary convulsions or tremors were noticed over the front part of the body, and as soon as the injection was ended, which was not over ten seconds, *the animal lay down dead.* No respiration, no movement of any kind was noticed. It was doubtful whether the heart still beat; if it did, it was most weak and for not one minute. It was the quietest and most sudden death I have ever seen from any cause. The pupils were not dilated.

The picture furnished by these experiments bears the greatest resemblance to that of strychnine-poisoning.

C. Therapeutical Experiments.—1. *On the eye.*—Some cataract patients (one under the care of Dr. Born) had a drop instilled for the sake of *examination.* The pupils dilated *ad maximum*, and remained dilated three or four days.

A few *foreign bodies* were removed after one drop had been instilled. In five minutes the corneæ were anæsthetic and the operation painless. The pupils remained dilated and the accommodation weakened for three days and a half.

In one case of *acute syphilitic iritis* I instilled one or two drops every five minutes for three-quarters of an hour without producing perfect anæsthesia. The pupil dilated irregularly and only moderately. Then I instilled two drops of a three per cent. solution of cocaine three times during the next fifteen minutes. The pupil remained unchanged, and the centre of the cornea when touched was still sensitive and caused the lids to close as before. The circumcorneal injection, diminished by the stenocarpine, was not influenced by cocaine.

In a case of *acute very painful iritis*, with a *corneal pustule*, stenocarpine caused only a very moderate dilatation of the pupil, even when used in combination with sulphate of atropine. It produced only temporary relief, the same as cocaine does.

In a case of *phlyctenular keratitis* stenocarpine instilled into the eye gave temporary comfort, dilated the pupil, and diminished the photophobia.

In a case of *trachomatous pannus*, with excessive photophobia and blepharospasm, it relieved these symptoms and dilated the pupil.

2. *On the ear.*—In a case of *otitis media purulenta chronica*, with swelling of the mucous membrane in the upper part, repeated instillations diminished the sensitiveness only moderately.

In a case of the same disease, with a small polyp (treated by Dr. Weeks), stenocarpine instillations rendered the polyp anæsthetic, but not the surrounding tissue.

In a case of large *destruction of the drum* and moderate discharge the instillations of stenocarpine made the tympanic cavity almost completely anæsthetic.

I will add that before the instillations the ears had been carefully cleansed and wiped dry.

In one case the *instillations caused general symptoms.* A very painful *furuncle*, situated at the posterior wall, was treated for twenty-four hours with instillations of a warmed solution of bicarbonate of soda. When it had perforated, four drops of stenocarpine were instilled into the ear-canal. The pain diminished, but in ten minutes the patient, a young lady, felt dizzy, nauseated, weak, and fainting. She was very pale. Without removing the stenocarpine, I let her lie down five minutes. She felt better. I forcibly pressed the furuncle out with a strong probe and cleansed the canal with absorbent cotton on a dentist's holder. These manipulations were not painless, but the tenderness was greatly reduced.

D. Conclusions.—From the preceding and Dr. Claiborne's observations, it follows that Drs. Goodman and Seward have presented us with a new local anæsthetic that is very similar to cocaine, chiefly differing from it by its more powerful and lasting mydriatic property. This difference determines its range of applicability.

1. Everywhere, when dilatation of the pupil is desirable —*i.e.*, in all conditions that have a tendency to *congestion and inflammation of the iris*—stenocarpine, either alone or in combination with atropine, is beneficial, and preferable to cocaine.

2. Though its mydriatic effect be less persistent than that of sulphate of atropine, stenocarpine may be used with more advantage when in iritis there is increase of eyeball-tension, a *tendency to glaucoma*, and *when there is great pain.* Further observations have to show whether or not stenocarpine, as other mydriatics, leads to granulations of the conjunctiva. If it do not, it will be very valuable in cases of chronic iritis.

3. Stenocarpine is *inferior to cocaine* when we want anæsthesia without mydriasis, as is the case in the majority of operations—removal of foreign bodies, paracentesis and incision of the cornea, iridectomy, extraction of cataract—more especially when in this operation the iris is spared—operations on the conjunctiva, the lachrymal apparatus, and the eyelids. For an ophthalmoscopic examination, homatropine will be preferable.

4. If we want to be certain of a *complete paralysis of accommodation*, for which stenocarpine is as reliable as sulphate of atropia, stenocarpine deserves preference because its action lasts only half as long.

5. Applied *externally* to *an unbroken cutis, it produces no anæsthesia.* Observations to the contrary mentioned by Goodman and Claiborne must be owing to peculiar conditions which further experience has to determine.

6. *Small doses* (four drops) *rapidly absorbed* may produce *transient general symptoms*—pallor of the skin, cold perspiration, dizziness, stupor, fainting, nausea, and weakness. The same symptoms are produced by cocaine.

7. Larger doses cause the most *alarming general symptoms*—violent tetanoid convulsions, opisthotonus, dilatation of the pupils, excessive acceleration of pulse and respiration, and prostration.

8. *Introduced into the veins*, stenocarpine is the *strongest poison*, causing death almost instantly by arrest of respiration and pulsation.

9. It is certainly dangerous to inject even small quantities into vascular tissues, such as the orbit, for instance ; it appears even unsafe to inject it under the skin in quantities exceeding ten minims of a two per cent. solution—*i.e.*, about 0.01 ($\frac{1}{6}$ grain). We should also be on our guard if we apply it to an open wound during the progress of an operation.

10. *The symptoms of poisoning*, as has been seen from the above description, are like *those from strychnine.* The affinity of the two substances should be further investigated. The chemical tests for the detection of strychnine applied to stenocarpine have proved negative. The reflex excitability from stenocarpine is less than from strychnine, also its toxic effect is considerably less. I instilled into the eyes of a rabbit four drops, and into one eye of another two drops of a two per cent. solution of nitrate of strychnine. Both animals died from tetanoid convulsions in ten minutes. Ten and fifteen minims of a two per cent. solution of cocaine injected into the orbits of rabbits had no general effect.

The alkaloid stenocarpine was separated by Dr. Seward from the leaves of a tree growing in Louisiana, called the "Tear Blanket Tree." From its likeness to the Acacia stenocarpo *he dubbed* it stenocarpine.

August 7, 1887.

DIOXIDE OF HYDROGEN.

Its Administration in the Form of Ozonized Vapor in the Treatment of Diphtheria and Diseases of Pharynx, Naso-Pharynx, Larynx, Nose, Pulmonary, and Bronchial Affections. A New Apparatus for the Production and Inhalation of Ozonized Vapor.

By J. MOUNT BLEYER, M.D.,

New York.

My object in this article is to call the attention of the profession to an agent of remarkable power, having peculiar interest by virtue of its varied utility, and which has been too long in the obscurity from which it now seems to be emerging, only hoping that its vast, dimly foreshadowed possibilities may soon be fully realized.

The hydrogen dioxide, or hydrogen peroxide, as it is generally called, has long been known as a chemical compound, yet it has had no rank as a therapeutical agent until lately. It was discovered in 1818 by Thénard, a French chemist.

Dioxide of hydrogen, $H_2O_2 + 74$ Aq., is a solution in distilled water of anhydrous dioxide of hydrogen, a perfectly clear, colorless fluid, having a slightly prickling taste ; its specific gravity is 1.010 to 1.011, and it contains 2.88 per cent. of the gas. According to E. Schönne, it is a constant constituent of rain-drops and of hail. It is in less amount in snow, and, indeed, is often absent. The greater the size of the rain-drop the greater the proportion of the dioxide. Hager found it in the earth, yet always in much smaller quantity than ozone. It appears to be markedly increased under a cloudy sky, and decreased under sunny days. Schönne further found that in July the amount is greatest, and gradually decreases until it finds its lowest, in January. According to Berthelot, peroxide of hydrogen undergoes a spontaneous decomposition into H_2O and free oxygen. He found that the decomposition occurred the more slowly as the solution became lowered in temperature.

Recent investigations, as those carried out by M. Miguel, of the Observatoire de Montsouris, appear to establish its claim as one of the most potent destroyers of bacterial life. He states that the smallest quantity of each substance capable of preventing fermentation in 1 litre (2.1 pints) of bouillon was as follows:

Hydrogen dioxide water	0.05 gramme.
Iodine	0.25 "
Bromine	0.60 "
Zinc chloride	1.90 "
Carbolic acid	3.20 "
Potassium permanganate	3.50 "
Boracic acid	7.50 "
Sodium salicylate	10.00 "
Borax	70.00 "
Absolute alcohol	95.00 "

According to the above list of bactericides and experiments, the dioxide of hydrogen is one of the most potent antiseptics and disinfectants yet discovered. It is as bland as water, when intelligently used.

Careful comparative tests with antiseptics now much in vogue prove it to be sixty times as powerful as carbolic acid, twenty times as strong as salicylic acid, and forty per cent. more potent than the solution of the bichloride of mercury. This is extraordinary, and may seem incredible, but experiments place it beyond a doubt. As a disinfectant it is superior to chlorine-gas or the fumes of sulphur. It oxidizes rapidly the offending matter, destroys it completely, and being decomposed into

water and oxygen, leaves no substituted odor in the place of the one removed.

The pure substance is one hundred per cent. strong, and yields four hundred and seventy-five volumes of gas. A one per cent. solution, then, is equal to a 4.75-volume solution. A fifteen-volume solution contains, therefore, a trifle more than 3.3 per cent. of the anhydrous hydrogen peroxide. A percentage composition of the pure substance reserves 5.88 per cent. of hydrogen and 94.12 per cent. of oxygen.

Dioxide of hydrogen of commerce is a solution of from 20 to 10 volumes, *i.e.*, a solution capable of evolving the quantity indicated of gaseous oxygen when fully decomposed. Thus, a ten-volume solution represents the following: 100 cubic centimetres evolve 1,000 cubic centimetres of oxygen, or, in other words, it contains 2.1 per cent. by weight of H_2O_2, and evolves 1.45 per cent. of oxygen by weight. Chas. Marchand, a French chemist, graduated from the "École Centrale de Paris," has prepared the best dioxide of hydrogen, which preparation I have used in all my experiments for the last two years.

For our knowledge of the physiological and therapeutical action of dioxide of hydrogen, the medical profession is indebted to Dr. W. B. Richardson, of London.

Directions for Making and Using Solutions of Dioxide of Hydrogen.—*Local use.*—Spray: 2 ounces 15-vol. peroxide of hydrogen for 14 ounces water. Gargle: 2 ounces 15-vol. peroxide of hydrogen for 14 ounces water. Irrigation: 3 to 5 ounces peroxide for 13 to 11 ounces water. Local use: 3 to 10 ounces peroxide for 13 to 6 ounces water. Inhalations: Full strength, 15 volumes. (Do not use any metal inhalers.)

Administration of ozonized vapor: Take two ounces of the 15-vol. sol., and add chemically pure glycerine, one ounce.

Internal use.—Dose of dioxide of hydrogen: From one to three teaspoonfuls of the 15-volume solution in one-half glass of water, three times daily, after meals. For diphtheria in children, without reference to age, two hundred parts of a 10-volume solution mixed with three parts of glycerine pure; a teaspoonful of this mixture every two hours, and in severe cases every hour.

MM. Paul Bert and P. Regnard were the first to recommend dioxide of hydrogen as an inhalation in phthisis. There is no doubt that the great field for the dioxide of hydrogen is by inhalation, for then we catch the nascent, just born, life-giving element peculiar to oxygen.[1]

I have constructed a special apparatus for the administration of ozonized vapor inhalations. This mode of treatment, by administration of ozonized vapor resulting from the decomposition of the dioxide of hydrogen, was used by me in eighty cases of diphtheria, for the most part "severe;" forty-two of which I operated on (intubated); of these twenty-seven died, and thirteen recovered. Of the thirty-eight not operated on, thirty-one recovered, and seven died; but of the latter four were already in a moribund state when called upon.

The fact obtained by experiment, that dioxide of hydrogen destroys the infectiousness of certain animal exudations, is of great value in support of the view of its similar action upon the diphtheritic exudation; and these facts have, for the most part, been established clinically.

The occurrence of oxidation can be shown by placing a piece of diphtheritic membrane in the dioxide of hydrogen, when there immediately occurs active effervescence with the liberation of oxygen, which attaches itself in small bubbles to the membrane without solution of the latter. By a longer action of the dioxide on fresh diphtheritic exudation in the living, the membrane takes on a more yellow or gray color, and fissures appear in it, after which its separation takes place. For the most part this occurs between the third and fourth day. Upon the general condition of the patients the effect of the dioxide was good, the appetite was notably increased, even when slight increase of temperature was present.

In diseases like tonsillitis and laryngeal phthisis it affords great relief; in chronic bronchitis with dyspnœa and in phthisis it operates favorably in the early stage by improving digestion and giving increased activity to the chalybeate remedies; while in the advanced stages it affords great relief to the dyspnœa and oppression, acting indeed, in this respect, like opium, without its narcotic effects; relieves the paroxysm of whooping-cough, and cuts short the disease more effectually than any other remedy. The ozonized vapor should be given in this disease every three hours for the first two to three days. Asthmatic paroxysms are relieved at once after four to five inhalations. In croup it will be found a very useful remedy. As a gargle in that terribly offensive condition of the breath that ensues when the secretion of the tonsils becomes cheesy and granular, in diseases of the nose, such as ozæna, nasal diphtheria, hay fever, syphilis, and ulcerated conditions, this remedy is pre-eminently indicated.

Ozonized vapor is produced from the peroxide of hydrogen by mechanical agitation, which produces its decomposition. A spray of peculiar shape is enclosed in an ordinary round bottle, and air passed through the spray-tubes in the same manner as in any ordinary one, with this only difference, that the spray is broken by being allowed to spray against the hard side of the glass bottle, and thereby the peroxide of hydrogen and glycerine become subdivided and decomposed into the minutest particles, and ozonized vapor is the result.

This ozonizer is made entirely of glass, which is one of the most important factors, on account of the powerful oxidizing effect which this agent possesses over metals of all kinds. Directions for using this apparatus are the same as for any ordinary spray. For the office it can be used in connection with condensed air, and for home use with the ordinary bulbs. The delivery tubes are made for up, down, and nasal administration.

The *modus operandi* of the peroxide of hydrogen is by yielding up and setting free one equivalent of oxygen, which, no doubt, is in a nascent and hyperactive state, leaving behind simple water. The difference in the peroxide of hydrogen and oxygen treatment is that the peroxide of hydrogen acts as the most active. I have applied a two-volume solution spray of the peroxide of hydrogen on a post-pharyngeal abscess, and found at once its powerful action; in comparison, I applied on other ulcerations oxygen-gas, and hardly any changes upon the ulcers were seen. The peroxide of hydrogen turns the ulcers perfectly white, and the decomposition of the pus and curative effect could be seen almost immediately. Peroxide of hydrogen should be kept at a temperature below 65° F.

It is not the purpose of this paper to more than call attention to a remedy which must, ere long, occupy an important place in the treatment of diseased conditions which has hitherto been tedious and often unsatisfactory.

New remedies and new applications of old remedies are introduced, which are accepted by the profession with a rush, as it were, and for a time become very popular, and then gravitate to their proper level, which, in some instances, is obscurity.

Hydrogen peroxide is worthy of careful study and investigation, and when accorded its proper place, it will occupy a high position on the list of our therapeutic resources.

91 Second Avenue.

[1] Charles Marchand's dioxide of hydrogen and apparatus for the administration of ozonized vapor, can be had from Ernest Drevet, 10 West Fourth Street, New York.

Professor Friedländer, the discoverer of the pneumococcus, who died two months ago at Meran, had been suffering for some time from pulmonary phthisis.

TOTAL PARALYSIS OF ALL THE MUSCLES OF THE LEFT EYE.

Optic Neuritis; Ptosis of the Lid; Paralysis of Accommodation and of the Iris (Traumatic).

By FRANK W. RING, A.M., M.D.,

ASSISTANT SURGEON MANHATTAN EYE AND EAR HOSPITAL, FELLOW OF THE ACADEMY OF MEDICINE, ETC.

Master C. B——, aged fourteen years, on July 9, 1886, while engaged in picking cherries from a tree, fell to the ground, striking face downward. The right side of the nose was lacerated, forehead cut, and he received a penetrating wound through the left upper eyelid about five millimetres above the inner canthus.

A physician was called, who cleansed and united the wound, closing the laceration over the left lid with sutures. The lad suffered intense pain throughout the night, and next day consulted Dr. Withers, of Paterson, N. J., who treated him up to July 16th. In this interval there was great pain, complete ptosis of the lid, immobility of the eyeball, and vision of the fingers at a few feet. There was also a discharge of pus from the wound. Dr. Johnson, of Paterson, was called in consultation. The wound was opened, an investigation made, with the astonishing result of the removal of a stick three inches in length and one-fourth of an inch in diameter. There was immediate relief of the intense agony the boy had suffered for a week, and slight increase in vision.[1]

July 28th.—There is complete ptosis of the lid; it is swollen, red, and œdematous, capable of no movement whatever. The eyeball is natural in appearance; complete paralysis of all the muscles; absolute loss of movement of the eye. Pupil slightly dilated, not susceptible to light. Vision limited to slight perception of shadows. Ophthalmoscopically, there are no marked changes. Blood-vessels good size, no tortuosity, slight œdema of the disk, with some grayish haziness. Complains of the unpleasant sensation caused by the drooping lid; no pain.

August 9th.—Assured that his vision is improving, as he can distinguish a bright light from darkness. There seems to be a very slight action to the superior and inferior recti. Prescribed a solution of strychnia, arsenic, and iron.

August 11th.—Had a consultation with Dr. C. R. Agnew. The optic nerve (papilla) seems whiter, vessels perceptibly diminished in size, changes in the retina. Lid is less swollen, but no decrease in ptosis. Has now visible increase in upward, downward, and inward movement of the eye. Dr. Agnew's prognosis for vision was grave; thought the muscles might regain their power, that there was an inflammation of the nerve near its exit from the orbit. The paralysis of all the ocular muscles was due to shock. From this date onward applications of the electric current were made to the paralyzed muscles with undoubted benefit.

August 25th.—Vision in right eye $\frac{20}{15}$; left, shadows of fingers in bright light. The ptosis is much less marked; can show the entire cornea by shutting the right eye. Inferior rectus turns the eye well downward and a little inward. Superior oblique not strong enough to control the inward movement of the inferior rectus. Action of superior rectus slight; internus, the same. Inferior oblique and externus, *nil*. The nerve is much whiter, but the vision decidedly improved. Counts fingers readily.

September 13th.—The improvement since last date has been slow, but decided. The ptosis now lacks three millimetres of normal position. The externus has two thirds its normal power; superior rectus, three-quarters. The other muscles, with the exception of the internus, are quite as powerful as ever. Stopped the electricity. Gave biniodide of mercury and general tonic. No improvement in vision. The iris has continued in semi-dilated state, with no response to light.

February 22, 1887.—The vision has not improved to any marked degree during the last three months. From fingers at two feet, he now sees $\frac{6}{200}$. There is slight ptosis. A divergence from insufficiency of the internus, not disagreeably marked. The pupil semi-dilated and fixed. The nerve is bluish-white, blood-vessels of retina decreased in size. Has had no pain and little discomfort from loss of vision. The right eye has $\frac{20}{15}$ + Hm. .75. General condition excellent.

In all the ophthalmic literature on wounds of the orbit and paralysis of the ocular muscles, consulted by me, I have been unable to find a case of equal interest with the above. That a stick three inches long should penetrate the orbit, and remain undetected for a week is not so remarkable. Several instances have occurred where larger foreign bodies than that have remained undiscovered back of the eye, in the cellular tissue, and even penetrating into the brain; but I can find of none occurring where the ultimate result of such an injury was attended with so little calamity.

Injuries to the ocular muscles are quite rare, owing to the manner in which they are protected. The eyeball, resting as it does upon a soft cushion of connective tissue and fat, is in the case of penetrating wounds pushed aside. The recti muscles, being behind and converging to the apex of the orbit, as also the third and sixth nerves entering their substance on the inner surface, are both equally guarded.

The question arises: How can a lad, fourteen years of age, dispose of a stick three inches long and one-quarter inch in diameter, which has entered his orbit at the nasal supra-orbital ridge of the frontal bone, and left no visible trace of its existence? The shape of the cavity being that of a cone, one would suppose it would naturally seek its apex, passing through the sphenoidal fissure into the middle fossa of the base of the skull, and bringing up against the petrous ridge of the temporal bone, disturbing in its course the optic nerve, third, fourth, and sixth cranial, besides the fifth and superior maxillary, also the meningeal and carotid arteries, besides causing a shock and surprise to the middle lobe of the brain.

The symptoms of the injury might contraindicate such a disposition of the foreign body, yet it is the easiest way in, and may very likely have happened.

The nasal and cranial portions of the orbit are formed by bones of extreme thickness. The stick may have passed through the ethmoid into the vault of the pharynx. It may have been deflected through the spheno-maxillary fissure, which would have caused a protrusion of the eyeball and unpleasant mastication, symptoms which did not exist. We might infer that the cherry-twig may have bent in its course, but a piece of wood of such a diameter is not liable to curve in the loose areolar tissue of the orbit.

The antero-posterior diameter of the orbit of an adult skull lying before me is two and one-eighth inches. From the supra-orbital ridge to its apex is a little less. The preceding surmises in regard to the probable course of the stick are based upon measurements of this adult skull. The orbit of a boy fourteen years old would necessarily be less, leaving over one inch of wood unaccounted for.

The optic neuritis and paralysis of all the muscles can be accounted for in various ways. Extravasation of blood into the cavity of the cranium, which would also cause a paralysis of the opposite side of the body. Effusion of blood into the orbit. Shock, as suggested by Dr. Agnew. Direct violence to the nerves, as a passage of the stick through the sphenoidal fissure. Complete paralysis is usually owing to some cerebral lesion. Had there been much of an effusion of blood into the orbit, we should have had considerable exophthalmos, and there was little or none.

Wounds into the cranial cavity are almost always fa-

[1] The preceding history was gathered from the patient and his family. Dr. Johnson has informed me that he will report the case, giving more minute detail of the operation and symptoms up to the time the lad came under my care.

tal. The most remarkable case on record that I have been able to find is that reported by Percy, of a man who received a sword-thrust into the orbit, penetrating *six inches* into the cranium. The piece was extracted, and the man lived—a week. An Englishman ran against the end of an umbrella while walking on a stormy night. He consulted a doctor, who sent him home with the brass ferrule of the umbrella in the orbit undetected. Twelve hours afterward he suddenly died, and two inches of brass was found sticking through the orbital plate of the frontal bone. Caution should be used in the prognosis of a penetrating wound of the orbit.

Sword-thrusts through the orbit are not uncommon, but death almost invariably follows. Dr. Roe reports a case of a pitchfork plunged into the orbit, with no loss of vision, but paralysis of one side. The fact of Paré extracting the end of a broken lance from the orbit of the Duke of Guise is a well-known anecdote.

A laborer struck a co-worker with a lath, driving a piece of wood two and one-half inches long through the inner wall of the orbit. He recovered, with the use of the ocular muscles and perfect vision, which might have happened to Master C. B—— had the cherry-branch gone into the pharynx.

An importunate beggar was unreasonably soliciting alms from an Italian nobleman, whereupon he struck the beggar with a fan. Three months later a piece of the fan, three inches long, not previously detected, was removed through the palate.

Dr. Roswell Park reports, in "Knapp's Archives," a case of severe injury of the orbit, where a piece of wood from a revolving saw flew into the eye, perforating the lower lid, causing diminished tension, cloudy cornea, contracted pupil, etc. Five months after the injury a section of pine-wood, two and one-half inches long and one-half inch square at its base, was removed. It had been driven through the inferior exterior wall of the orbit, lying partly in the cavity and partly in the zygomatic fossa.

Dr. Knapp reports a case of coal-gas poisoning where there was paresis of all the muscles, also of accommodation. Recovery, with a tenotomy of the externus, four and one-half months later. Cases of paresis from diabetes are also reported.

It seems to me from the preceding cases referred to, and other literature on the subject, that the case in question is unique, and one of considerable importance. Inasmuch as the sight has not improved for some months, the probability of any further increase in vision is very doubtful. The strabismus from insufficiency of the internus will become greater in time, as is usually the case with amblyopic eyes. The ptosis, now slightly marked, will improve.

101 Park Avenue.

Sepsis and Antisepsis in Summer Diarrhœa.—Dr. S. A. Potter writes: "Will you allow me to rectify a statement made in my article on 'Sepsis and Antisepsis in Summer Diarrhœa,' published in The Medical Record of July 9th, relating to the time required to sterilize a fluid by boiling. The time mentioned is too brief. Fraenkel states ('Grundriss der Bacterienkunde,' second edition, p. 80) that the exposure of fluids to constantly renewed steam, as in the steam sterilizer of Dr. Koch, for about thirty minutes suffices to thoroughly sterilize them. In his directions for sterilizing bouillon for culture media, however, he recommends that the fluid be exposed in the steam sterilizer for three-quarters of an hour, and that the same process be repeated on two or three consecutive days. Klein, in his 'Micro-organisms and Disease,' third edition, page 19, gives similar instructions for sterilizing bouillon. Evidently, when the practical matter of rendering fluids sterile beyond doubt is concerned, the application of the temperature of boiling water for a very considerable length of time is required."

THE CLIMATE OF ALBUQUERQUE, N. M.

By THOMAS J. CUMMINS, M.D.,

ALBUQUERQUE, N. M.

The object of this paper is to present a few facts concerning the climate of a section of this country which has been, until the last few years, a veritable *terra incognita* to the physician, as well as the public generally through the country. This lack of information can be easily accounted for when the fact is known that until the advent of the railroad, some six years ago, this region was practically inaccessible to travel. To-day this is all changed. The old Spanish régime of the past, with its wealth of interesting legends and traditions, has yielded to the more progressive and practical spirit of modern times. Albuquerque is an excellent illustration of this change. The new town, which has risen into existence within the past few years, contains a large population of enterprising people, enjoying all the benefits of city life, such as churches of all denominations, excellent schools, good society, streets lighted by gas and electricity; a good system of water-works, supplying an abundance of pure water; also, well-conducted hotels and boarding-houses. All this gives the city the appearance of an eastern town, and causing the invalid in search of health to feel that he has come to reside in a community of progressive and intelligent people, and not, as is vaguely hinted at and believed, of the lawless and ignorant.

With these remarks as introductory to the main purpose of this article, I will proceed to state a few facts concerning this region and its climate, which may prove of interest to the medical profession. It may be well to call attention to the vast area comprised within the borders of the territory, covering as many square miles as the whole of New England with the States of New York and Maryland added. Its mountains and valleys furnish almost every variety of climate, from the warm and salubrious to the cold and invigorating, the peculiar character of each being a remarkable freedom from moisture, unequalled probably by any other region of this country or Europe. Albuquerque is situated in the central part of the territory, in the fertile valley of the Rio Grande, and at an altitude of 5,000 feet. It is sheltered on the east by a high range of mountains, towering to an altitude of over ten thousand feet; on the west a low ridge of mountains completes the formation of the valley. The latitude of this region is about the same as that of Santa Barbara, Cal.; Memphis, Tenn.; Algeria in Northern Africa, and the Mediterranean Sea.

The profession already recognize the important therapeutical effect exerted by a suitable climate in many chronic diseases, especially in those suffering with chronic pulmonary phthisis. The natural factors considered by all writers on climatology as being necessary for the successful climatic treatment of phthisis are all present here in rather a remarkable degree, namely, extreme dryness and purity of the atmosphere, abundance of sunshine, and high altitude, combined with the necessities and comforts of life. The absence of this last factor has discouraged many invalids in the past from seeking a residence in this climate. This objection no longer holds good, as will be presently shown.

Many other features are dwelt upon by climatologists as being of more or less importance, such as a dry, porous soil; electric condition of the atmosphere, with its natural product, abundance of *ozone;* also a plentiful supply of pure water. That many, if not all, of these qualities are present here in a greater or lesser degree, I will endeavor to demonstrate from personal observation and the "United States Signal Service Reports."

Dryness and purity of the atmosphere.—The geographical location of this region of the Rocky Mountains is such as to exclude the possibility of the presence of moisture from either ocean, or any other large body of water. This relative dryness is present here to an extent un-

equalled by any region on this continent, with the exception of some stations in Arizona. The air is so pure and clear that our perception of distance seems to be almost annihilated, the mountains, some twenty miles to the east, appearing only two or three miles distant. The most convincing proof of the dryness and purity of the air is its peculiar antiseptic property. Flesh does not decompose when exposed to the air, but is preserved for an indefinite length of time through becoming *desiccated* by water-abstraction. The bodies of animals dying on the plains about here dry up, becoming mummified. May we not have, here, the ideal long sought for by every surgeon—a pure *aseptic* atmosphere, entirely free from germs? The so-called rainy season occurs in August and September. It must be understood that it does not rain continuously during these months, the rain generally coming on in the afternoon, in sharp showers of rather short duration, imparting a refreshing coolness to the air and moistening the dry, parched earth, which quickly absorbs the most copious showers. I failed to observe a single day of continuous rain. Bright, sunny skies, some portion of the day, were the rule even during this season; two or three pleasant days often intervening between the showers. The past winter was extremely mild, and almost free from snow and rain. The severe snow-storms which visited most sections of the country during last November were scarcely felt here. In fact, the ground has not been covered with snow a single day during the past winter.

Dr. Tyndale, in his work on the treatment of consumption,[1] makes the following observations in relation to the important factor of dryness, or absence of excessive humidity: "The degree of moisture which we would like to have as one of our factors is one just sufficient to keep the land from becoming a desert; or, in other words, no moisture brought from large bodies of water, near or far, and only a limited rainfall throughout the year."

After considering the climatic advantages of the different regions throughout the country, this writer observes that "New Mexico and Arizona are only beginning to be sufficiently civilized to furnish, in addition to the ideal factors lavished upon them by nature, the lesser factors relating to comfort and ready communication with the rest of the world. But I want you to remember this section as one of future centres of ideal climate for consumptives."

"The lowest death-rate from diseases of the respiratory system, as shown by the medical statistics of the United States army, is in New Mexico.[2] Hammond's 'Hygiene' testifies to the fact that 'New Mexico is by far the most favorable residence in the United States for those predisposed to, or affected with, phthisis.'"

Abundance of sunshine.—This important element is present here to an extent unequalled by any other inhabitable section of this country. Daily personal observations during the past seven months result in a record of only *four* entirely cloudy days throughout that period, demonstrating conclusively the claim this region possesses of being a land of almost perpetual sunshine.

Its therapeutic value in the treatment of consumption is acknowledged by all writers on the subject—its presence rendering it possible for the invalid to remain out-doors every day, and at almost any hour of the day, allowing abundant time for valuable exercise in walking, riding, or driving; it even being extremely comfortable, throughout the winter months, to sit out-doors many hours of the day and enjoy the luxury of a mid-winter sun-bath. Unfortunately there is no meteorological record of the climate of Albuquerque to present for comparison with other sections of the country, the nearest Signal Service station being located at Sante Fé, some sixty miles north of here, and at an altitude of *two thousand feet* above this valley.

[1] Home and Climatic Treatment of Pulmonary Consumption, by J. Hilgard Tyndale, M.D. 1882.

[2] Smithsonian Institute Report. 1876.

The temperature-record is much lower during the winter months than that of Albuquerque, registering eight degrees *below* zero early in January, while I failed to observe a lower marking than twelve degrees *above* zero the coldest day this winter.

The only other stations of the Signal Service in the territory are over two hundred miles south of here, at Silver City and La Mesilla.

Judging even from the incomplete record furnished of this latter station, it appears that the climate of La Mesilla approaches nearer to that of Albuquerque than the colder and higher altitude of Sante Fé.

In selecting statistics from the "Signal Service Report" I have chosen a representative city of the different sections of the country having a reputation as a "health-resort" for the climatic treatment of phthisis, for comparison with the meagre record at hand for this vast territory.

I also append statistics of a few of the large cities of the East, deeming it advisable to compare the climate in which phthisis is contracted, or developed in those having an hereditary predisposition to the disease, to a region possessing a climate which approaches nearer to the *ideal* for consumptives than any other of which we have record.

	Altitude.	Mean annual temperature, in degrees F., from July, 1880, to June, 1881, inclusive.	Mean annual humidity, in degrees F., July, 1880, to June, 1881, inclusive.	Mean annual precipitation of rain and melted snow, amount in inches, July, 1880, to June, 1881, inclusive.	Number of days with .01 inch or more of water, July, 1880, to June, 1881, inclusive.		Number of days in 1884 which were:			Average hourly velocity of the wind, in miles, for 1884.	Average hourly velocity of the wind, in miles, for March, 1884.
					Rain.	Snow.	Clear.	Fair.	Cloudy		
Santa Fé, N. M....	7,046	45	45	9	48	18	156	169	46	7.1	8.1
La Mesilla, N. M..	4,124	59	41	7	37	3	[1]	..	..	..	..
San Diego, Cal.....	67	58	72	10	48	0	122	157	85	6.0	6.5
Jacksonville, Fla...	43	70	71	65	127	0	124	156	85	6.6	7.9
St. Paul, Minn.....	811	44	69	29	82	50	96	160	110	8.3	8.8
San Antonio, Tex...	676	67	73	41	113	0	[1]	..	..	4.7	4.9
Boston	142	49	66	37	104	15	103	124	128	9.2	11.3
New York City.....	164	52	70	37	123	12	99	153	111	9.4	11.6
Philadelphia.....	52	54	67	33	112	15	109	150	98	9.7	11.8
Chicago	661	50	67	37	112	31	107	124	108	8.4	9.7

Comment on these reports[2] is unnecessary. I would draw especial attention to the small rainfall at San Diego, and the excessively large mean annual humidity, exceeding that of the large Eastern cities and that of Jacksonville, Fla., where the rainfall is six times as great as in San Diego. St. Paul, Minn., has been considered as having a cold, dry climate, with a mean humidity of 69° and 132 days on which rain or snow fell; the important factor of dryness appears sadly deficient, as does that of San Antonio, Tex., when compared with the stations in New Mexico. My statements in relation to abundance of sunshine are substantiated by these reports, La Mesilla having only 40 days on which rain or snow fell, the smallest number of any station I have selected, and the nearest approach to the record of Albuquerque that I have been able to estimate. Jacksonville, Fla., with an annual mean humidity of 71° and rainfall of sixty-five inches, is an excellent example of the warm, moist climate to which consumptives were sent before the study of climatology had received much attention. This brings me to the consideration of the *high-altitude* treatment of pulmonary phthisis. Professor Loomis[3] says, that "altitude is regarded by many at the present time as of more importance than any other natural element," and mentions, "Davos am Platz, in the Swiss Alps, has been most extensively visited. Williams, Albutt, and other English physicians give very favorable reports of it. It is 5,200 feet above the sea, very dry,

[1] No record.

[2] Report of the Chief Signal Officer, War Department, 1881, and Part I., 1885

[3] Practical Medicine, by A. L. Loomis, M.D. 1885.

but not windy and not changeable. Davos possesses, also, the unique climatic characteristic of freedom from high winds (the records showing that from October 1, 1880, to March 31, 1881, there were one hundred and thirty-four days with 'no wind'), while its 'sun temperature rises even in January, as Dr. Franklin notes, as high as 150°, conditions which admit of much invalnable out-door exercise by invalids. Doubtless some high winter resort, combining these vitalizing conditions, can be found in the Southwestern Rocky Mountains of our own country." I quote Professor Loomis at length, believing his description of the winter climate of Davos almost identical in every particular with that of Albuquerque, N. M., excepting the intensity of "sun temperature," which ranged from 85° to 100° many hours of the day during December and January. Regarding the prevalence of high winds, so common at elevated stations, and which so severely try the weakened vitality of the ordinary consumptive, I would say, from my own experience, from October 1, 1886, to March 4, 1887 (at present writing), I have recorded only six days, all in February, on which the wind blew with sufficient velocity to be uncomfortable. By referring to the Signal Service reports it will be seen that the annual hourly velocity is less, by two miles an hour, than in Boston or New York City; while for March, which is the most disagreeable month of the year in Albuquerque, as in many other sections of the country, the velocity of the wind is three miles an hour less than at sea-level.

Owing to the dry, sandy condition of the soil, a moderately high wind will blow particles of sand and dust about in a manner which, to say the least, is disagreeable. These "sand-storms" come on suddenly in the afternoon, and continue on through the day, and even night. My experience of them is rather limited. The natives say they purify the atmosphere. I will not venture an opinion *pro* or *con*, but would state that a warm, dry wind, containing particles of sand and dust is less injurious and more easily borne by a consumptive than a cold, penetrating wind laden with moisture from the ocean or any other large body of water. The disagreeable effects of the former can be readily removed from the surface by repeated ablutions, but the deep-seated effects of the latter yield less kindly, demanding more heroic treatment. The interesting investigations of climatologists detailing the effects of high altitude upon the human economy can only be briefly referred to in this hastily prepared paper. The "line of approximate immunity" in Switzerland was found to be at five thousand feet. I have seen a well-marked case of phthisis in a young Mexican of the poorer class, which ended fatally. Their mode of life is conducive to it, living as they do in low *adobes*, with little or no ventilation, often overcrowded and lacking the proper quality and quantity of food. With these anti-hygienic surroundings no arbitrary "line" is sufficient to fix the bound of immunity.

The barometric pressure is diminished one-fifth at an elevation of six thousand feet, relieving the surface of the human body of a pressure of three pounds to the square inch, and causing an acceleration of the heart's action and rapidity of the function of respiration until the system accommodates itself to the change, which eventually it readily does, as shown by the increased strength of the heart's action and the permanent enlargement of the circumference of the chest.

The diurnal range of temperature in mountain-regions is greater than at sea-level. Equability is too often accompanied by excessive moisture. The dry, rarefied mountain-air permits a great daily range of temperature which, though thermometrically great, is sensationally small. The nights are always cool, even during summer, blankets being necessary for comfort. This leads me to refer briefly to the factor of *necessities* and *comfort* of life.

The markets are well supplied at all seasons with fresh meats of all kinds, and vegetables and fruits in their season. By means of an extensive system of irrigating canals, called *acequias*, the soil yields richly to cultivation. Peaches, plums, apricots, and many other varieties of fruits are raised here.

Grape-culture receives great attention from the natives. An excellent variety, called the "Mission" grape, is extensively cultivated here. A very good quality of "native wine" is made from this grape. The neighboring mountains are much resorted to during the summer months, a few hours' drive bringing you into one of the many cañons found within their limits. Time will not permit me to even mention the many medicinal and hot springs located in the surrounding mountains.

The intention of this paper being merely to call attention to a climate which has only to become known to be better appreciated, I feel that my duty is done. The usually prescribed residence of three or four months will accomplish but little toward a permanent relief or arrest of the phthisical process. A residence of two or three years does and will accomplish great results. Professor Loomis says, in his work on "Diseases of the Respiratory Organs:" "In whatever locality a phthisical patient finds himself improving, it is important that he remain in that locality so long as he continues to improve."

Indications for adopting the high-altitude treatment of phthisis.—The London Lancet,[1] in an article on this subject, prints the following suggestions: "The cases that do best at high altitudes are those of simple phthisis in patients who are free from cardiac, renal, or rheumatic complications, and who exhibit a torpid reaction to the disease. Cases of chronic and stationary phthisis, with slight constitutional disturbances, are likely to react favorably to the stimulating properties of the climate of high altitudes. Also cases of delayed convalescence from pneumonia and fibroid pleurisy. Hemorrhage is rare at high altitudes, even in those who suffer repeatedly from it while resident on the plains."

Contra-indications to high altitude.—"When high temperature, rapid emaciation, and much prostration indicate profound constitutional disturbance, we may conclude that mountain-treatment is inapplicable. Organic nervous diseases, marked functional nervous excitement, especially hysteria, and persistent sleeplessness prove strong contra-indication to high altitudes."

I consider this an excellent summary, from my rather limited period of observation, of the cases of phthisis benefited by the high-altitude treatment. Advanced third-stage cases do badly, not having sufficient vitality to accommodate themselves to the increased demand placed upon the already weakened and overburdened heart and lungs. The system fails to react favorably to the stimulating properties of the climate, death coming to the relief of the patient, whose life might have been prolonged a few weeks, or months, had wise counsel prevailed, and home comforts prescribed instead of change of climate.

Before concluding, I shall take the liberty of quoting Professor Loomis once more concerning the climatic treatment of phthisis: "My most decidedly beneficial and permanent results have been obtained (when the evidences of consolidation were present) in Asheville, N. C.; New Mexico, and the Adirondack region in New York State." That New Mexico is becoming favorably known and recommended, in preference to many other sections of the country, is evident from the indorsement it receives from many prominent physicians in the East. I have been personally advised to reside in this climate for the relief of a slight consolidation of the lung by such recognized authorities as Drs. A. L. Loomis and J. E. Winters, of New York, and Knight, of Boston. I have examined a patient with consolidation of the apex of the lung, sent here by Dr. E. G. Janeway, of New York. Mention is made of these physicians to show what members of the teaching faculty of three of our most prominent medical colleges advise in the important matter of the climatic treatment of pulmonary phthisis.

[1] The Lancet, October 30, 1886, MEDICAL RECORD, December 25, 1886.

Clinical Department.

A CASE OF COMBUSTION.

Dr. George O. Williams, of Greene, Chenango County, N. Y., reports the following post-mortem examination, made twenty hours after death, on a youth, aged eighteen years: "He had had dinner at noon. The body was found at 2 P.M., lying on the dry plank-floor of a stable, feet on the threshold of an open door. The clothing inventoried, pair of cotton pants and overalls; one, possibly two, cotton shirts, shoes and stockings. Estimated weight, minus shoes, four pounds. All the clothing was consumed except fragments on the ankles and one shoulder; these were still burning without flame when discovered. An edge of the plank on which the body lay was charred for six inches, and, at one point, a small flame appeared. The surface of the plank beneath the body was slightly browned for a diameter of twelve inches. The skin, even on the face, was deeply burned—cooked—fully one-half the surface of the body was deeply browned in large detached areas. On these areas were gaping fissures in the skin, four to twelve inches long, exposing roasted fat, and in some places muscular tissue. The fissures in the flexures of the thighs and knees were deep, and the exposed tissues tender. The genitals were charred, the foreskin crumbly. On making a section the tissues felt, under the knife, and looked, like any roasted flesh, even to some extent on the internal thoracic walls. A cartridge ball had traversed the upper and lower lobes of left lung, the right ventricle, and left auricle. Coagula filled the thorax. The lungs were collapsed. The lad had taken whiskey during the forenoon, quantity unknown. His habits were reported to have been somewhat unsteady. The query arose, why should the body have been so extensively and deeply cooked with the limited amount of fuel, and at the same time the dry planking beneath it be so trivially damaged? A theory was suggested that the body was rapidly exsanguined by the wound, and, after ignition by the exploding cartridge, the slowly burning cotton fibre melted and absorbed the subcutaneous fat, which, aided perhaps by alcoholic saturation, furnished additional heat necessary to produce the effect."

COOL BATHING IN INFLAMMATORY BOWEL AFFECTIONS OF CHILDREN.

Dr. E. G. Comegys, of Cincinnati, O., writes: "Ten years ago I published an article in The Medical Record representing the great value, to children suffering with enteric congestion and inflammation, of cool immersion baths, and a colder affusion meanwhile to the head. The prompt and radical change for the better by this treatment is something delightful to behold. I wonder if any of your physicians are trying this method in the wide-spread summer complaints that are now so prevalent in your tenement-house districts. It is very easily applied, but in every case the physician must show how it is done. A tub of hydrant water, at 90° F. (if the fever be very high, 85°), is to be used. The infant should be gradually wetted before the body is fully immersed, for the sudden application of cool water is very distressing. The head is to be held in the left hand, while with the right an abundance of colder water, at, say, 65° (the usual temperature of cistern water), is poured in a steady stream over the forehead and scalp everywhere. Ten to twelve minutes should be employed in the operation, or not so long if the sedation seem sufficient. I generally wait until the lips get bluish, and the jaw quivers. Envelope the child unwiped in a woollen shawl, and lay it on the bed. Reaction will soon come on, with sweating, and a sleep of the sweetest kind will follow, with cessation, commonly, of all fever, vomiting, and diarrhœa; in fact, a convalescence is set up. The patient is usually excessively thirsty, and will drink greedily of the colder water you are applying to the head; let him have it abundantly. Afterward, it is a question of better air and appropriate food. This sudden and healthful change is seen especially in the congestive forms which are hastening on to positive inflammation; as it is, the mucous and serous membranes are suffering, brain as well as the rest; so you have the sero mucous, green, pultaceous stools; the insomnia with headache, contracted pupils, and ataxic state of the motores oculi; the pulse is rapid and weak, and the respiration hurried and superficial; yet the fibrinous effusion has not taken place, but it is just at hand. This very alarming condition is usually thoroughly and speedily overcome by a cold bath. It is a condition of general vaso-motor paresis, which is so readily overcome by the cutaneous treatment. If inflammatory action has taken place, of course so sudden a convalescence cannot be brought about; then more bathing, and further use of appropriate remedies must be used. I make no reference in the above to so deadly a disease as cholera infantum. This is often as suddenly fatal as Asiatic cholera. The vomiting and diarrhœa must be checked by an appropriate hypodermic injection of morphia, with the immediate dosing of calomel, so as to secure a cholagogue action by the time the restraining effect of the morphia passes off."

CARBOLIC-ACID INJECTIONS IN THE TREATMENT OF CARBUNCLE.

Dr. John B. Richardson, of Louisville, Ky., writes: "In the Louisville *Medical News* of June 25, 1881, I published an article under the caption of 'Carbuncle—its Treatment,' contrasting the old, and then generally practised method in cases of carbuncle, and giving in detail my method of treating it with parenchymatous injections of carbolic acid, assigning as reasons therefor its mode of action, its lessening the area of destroyed tissues; by its employment avoiding the use of the knife; its causing immediate mitigation of pain; its preventing the danger of blood-poisoning; and its materially lessening the duration of the affection. Concerning the action of this remedy I use this language: 'The carbolic acid (injection) has the effect of stimulating the circulation of the parts involved in the diseased action with which it is brought in contact, thus enabling them to repel this tendency to sloughing. It acts as a local anæsthetic, together with the external application of belladonna, removes to a great extent the usual necessity for the internal administration of sedatives to obtain sleep and lessen pain. . . . The antiseptic and antiputrefactive qualities of the acid reduces the danger of pyemic symptoms to a minimum.' As to the mode of using these injections I wrote: 'When first seen and recognized to be a carbuncle in its formative stage, make a small opening with a sharp pointed bistoury in the centre of the swollen and inflamed structures just large enough to allow the easy introduction of the nozzle of a hypodermic syringe, which has been previously charged with a fifty per cent. solution of carbolic acid in oil or water, and after passing it a short distance into the central forming slough, press the piston sufficiently to expel a drop or two of the contents of the syringe; retract and deflect the point of the syringe as you reintroduce, and repeat this until you have insinuated the solution into a considerable area of the interior of the commencing carbuncle.' I have noticed lately in several medical journals—The Record, among others—that Dr. Bidder, of Berlin, recommends the treatment of furuncles by the parenchymatous injections of carbolic acid as something novel and generally untried. Since 1879 or 1880, I have not only used carbolic-acid injections to the exclusion of all other methods of treating carbuncles and furuncles—and published my article, above mentioned, in 1881—but have advised many of my professional brothers that this treatment with hypodermic injections

of a solution of carbolic acid within the parenchyma of carbuncles and furuncles was far superior to any other mode of treatment yet suggested. I write this only with the view of keeping the credit which belongs to America on this side of the Atlantic, where it originated and belongs. It is the best manner of treating carbuncles and furuncles yet proposed, doing away with—as I hope, forever—the useless, painful, and unnecessary destruction-of-tissues procedure caused by crucial incisions."

POISONING FROM A SPIDER BITE.

Dr. G. W. Squires, of East Avon, N. Y., reports the following case: "Lula B——, aged twenty, while in the garden, felt something crawling on her neck, and before she could brush it off was stung. The pain was so intense that she nearly fainted. She hastened to the house, and before the cause of her trouble could be found was bitten again on the opposite side of the neck. The mother found a small, white, soft-bodied spider, which when crushed emitted a sickening odor. The girl almost immediately felt dizzy, sick, and prostrated. The pupils were widely dilated, the tongue was thick and swollen, there was constriction of the throat, difficulty of swallowing, with a sense of impending strangulation. She complained of her head feeling large, of flashes of light before the eyes, and of lancinating pains all through her body. In ten minutes the neck was greatly swollen, and the heart labored as from a severe shock. It was with great effort that the patient could keep awake. Strong tincture of iodine was immediately applied to the bites, and stimulants were given internally. The application seemed to stop further absorption of the poison, but only after three hours was the patient able to sit up, and she felt poorly for several days."

SECONDARY HEMORRHAGE FOLLOWING UVULOTOMY.

Dr. G. B. Hope, of this city, reports the following rare case: "T. H——, aged twenty-seven, applied for treatment for chronic catarrh affecting the nose and throat, at the Metropolitan Throat Hospital. The patient was of slender figure and pallid complexion, but had no organic lesion of the heart, and gave no history of a hemorrhagic disposition. An exostosial formation in the left nostril, extending some distance from the triangular cartilage along the vomer-maxillary articulation, impeding both drainage and respiration, was removed with the Goodwillie drill. It was noticed that the bleeding during the operation was more free than usual. The uvula, being considerably elongated as well as hypertrophied, was excised two days later. The redundant portion only was removed with the scissors and forceps, leaving the muscles intact and the organ of a normal length and appearance. The hemorrhage was rather free, but was checked by a few mouthfuls of cold water. Three days later cicatrization seemed to be well advanced. Eight days after the operation the patient called to report that severe hemorrhage had taken place for the first time, at intervals, during the preceding night. The bleeding was controlled temporarily by an astringent gargle, but returned repeatedly. Inspection of the mouth revealed a large clot adhering firmly to the tip of the uvula, and drawing the organ aside provoked a return of the bleeding. The hemorrhage was purely venous, but so abundant as to prevent the effectual employment of the galvano-cautery, and exceeded by measurement a drachm a minute. The uvula was seized between the blades of a pair of long dressing-forceps, and the bleeding vessel was grasped by an artery-forceps and twisted. The cut surface was found to be sloughy throughout, and without any appearance of cicatrization. Four days later the wound had completely closed. The ease with which the hemorrhage was arrested in this case would show that it would not be necessary, in a similar emergency, to resort to any other means than that of astringent applications, or to the galvano-cautery. Hemorrhage after uvulotomy is one of the rarest complications, and at the Throat Hospital, where the operation has been practised upward of nine hundred times, not a single history of troublesome hemorrhage appears. Nevertheless, two unreported cases, which have recently come to my knowledge, go to show that even this minor operation is not to be undertaken without due caution. So far as I am aware, no other instance of a secondary hemorrhage occurring later than the second day has been recorded."

THE CAUSE AND RATIONAL TREATMENT OF CHRONIC BRONCHITIS.

Dr. Alfred W. Perry, of San Francisco, Cal., sends us the following communication: "Bronchitis is most frequent in cool climates in which the humidity of the atmosphere is seventy per cent. or upward. Neither a cold, dry air, nor a moist, warm one, will cause bronchitis. To act powerfully in producing the disease, the atmosphere must have a temperature below 65° F., and its humidity must be seventy per cent. or over. The most damp climates in the United States are those of New York, New Orleans, and San Francisco, which have a relative humidity, respectively, of 76.5, 71, and 73.2 per cent. during the six cooler months, and 76.5, 71, and 78 per cent. during the warmer months; and a mean temperature of 42.5°, 64.4°, and 54.5° in the colder months, and 65 5°, 78.5°, and 57° during the six warmer months. The driest climates are Denver and El Paso, with a relative humidity of 46.6 to 60.5 per cent., and 30.3 to 40.8 per cent., respectively, in the six cooler, and the six warmer, months of the year.

"Chronic bronchitis tends naturally to recovery, as may be evidenced by the remissions which occur in summer. After a first attack of bronchitis in a cool, moist climate, the succeeding attacks last longer, until a chronic condition is reached. It is not the original attack which has gradually increased to this condition, but it is the sum of the many little damages left from each of the subsequent attacks. This fact points to the principal indication, viz., the prevention of subsequent attacks. This is not so difficult as it may seem, provided the details of a treatment, neither expensive nor offensive, are carried out. These subjects get a coryza on the slightest exposure, and this inflammation travels down the respiratory tract to become a bronchitis. Sponging the upper parts of the body with cold water daily on rising will remove this excessive susceptibility. Cold showering of the upper part or the whole of the body is still better, when it can be borne. These patients should rarely take a very warm bath, and then only before retiring. When the weather turns cool suddenly, or is foggy or rainy, and at night, they should, on going out, wear a wire-gauze respirator, which will cause them to breathe a warm air. The English respirator is a covering for the mouth, consisting of fifteen or twenty layers of fine gilt brass wire gauze. By arranging a respirator so that every expired breath passed through it, and the inspired air passed through the respirator and then into a chamber containing a thermometer, I found that air of 60° was raised to 70°, that of 50° to 61°. The temperature of the expired air from the lungs is about 85°, and this heats the wire gauze to nearly the same temperature, and this in turn warms the inspired air. Raising the temperature of air from 60° to 70° decreases the relative humidity forty-three per cent., and raising it from 50° to 60° decreases the relative humidity twenty-eight per cent. It follows, therefore, that, by the use of a respirator in the cold, damp weather found in New York or San Francisco, we can, in effect, cause the patient to breathe an air as dry as that of Denver or El Paso, and of an agreeable warmth. Of equal importance in the treatment of chronic bronchitis is the maintenance of a moderate irritation for months. The preference, in the case of young and middle-aged persons, is a solution of from

five to fifteen per cent. of croton-oil in ether, with a little tincture of iodine to color it. This is known as Corson's paint. One application with a camel's-hair pencil will usually cause a copious eruption of papules or pustules. In the aged this seems to have no effect, and in such cases nothing is so good as small fly-blisters. These applications should be made three or four times a month. I have said nothing about the use of sedative and stimulant expectorants, for they are of slight utility. The only internal medication which I have found of much benefit is the use of bitter mineral tonics, of which the phosphates of iron, quinine, and strychnine (Aitken's formula) is a type. Several different mixtures of phosphates and hypophosphites have given me excellent results in chronic bronchitis."

EFFECTS OF A FRIGHT.

Dr. G. W. Squires, of East Avon, N. Y., reports the following case: "Cora W——, aged twenty one, met with a peculiar accident or fright two years ago, from the effects of which she has never recovered. She was asleep in bed when, about midnight, a large piece of plaster, about one yard square, fell from the ceiling over her bed, striking her on the face and body. She awoke in a terrible fright and fainted away, but at last succeeded in getting down-stairs. She aroused her parents, but was trembling like a leaf, and could not speak to them. Before the fright her pulse was 75 to 80 per minute; the next morning it was found to be 135, and has remained at that rate ever since. Medicine appears to have little effect upon the heart to lower the pulse. The girl before the accident was a quiet, healthy person, but is now quick and nervous, starting at the slightest sound, and constantly in fear of being frightened. The heart is the peculiar feature of the case, changing suddenly to such a high action, and continuing for two years without alteration in quality or velocity, despite the faithful employment of tonics and heart-sedatives."

FRACTURE OF THE CORONOID PROCESS OF THE ULNA, WITH BACKWARD DISLOCATION OF THE RADIUS AND ULNA.

Dr. W. F. Chappell, of this city, reports the following case: "Mr. S——, aged thirty, while walking on Broadway, slipped and fell backward and to the left, the full weight of his body being received on the palm of the left hand, with the arm fully extended. On rising he experienced great pain in front of the elbow, aggravated by flexion, and relieved by extension. He was seen by a physician within ten minutes of the accident, who pronounced it a severe sprain. At this time all the movements of the elbow were complete. Early next morning he was awakened by the pain. I saw him at 9 A.M., and found the elbow and forearm much swollen and ecchymosed. Olecranon prominent, and the trochlear surface of the humerus resting on the anterior surface of the bones of the forearm. Flexion produced great pain and crepitus over the coronoid process; slight extension relieved the pain and removed the deformity. From the history and symptoms I judged that fracture of the coronoid process and rupture of some of the ligaments occurred at the time of the accident, and dislocation during the night. He remained under my care for three days, when, although fully aware of the risk, he started on a Western trip. After five weeks he returned, with the bones still dislocated and anchylosis complete. With the assistance of Dr. N. G. McMaster I broke down the adhesions, reduced the dislocation, and put the arm in plaster of Paris in the flexed position, and on the eighth day began passive motion. It is now nine months since the accident and the patient is able to flex the forearm sufficiently to place the hand on the back of the head, and all the other movements are natural and complete; but the strength is not equal to that of the other arm when in the extended position."

Progress of Medical Science.

Absence of Vagina.—The Paris correspondent of the *Medical Press* writes that M. Pollaillon observed an interesting case of complete absence of the vagina. A young girl, aged eighteen, suffered great pain in the hypogastric region every month. She never menstruated. On examination, M. Pollaillon found that there was no perforation of the vulva. On the other hand, a hard tumor could be felt through the abdomen. By the rectum something like the os of uterus could be felt. A sound being placed in the bladder and a finger in the rectum, the operator discovered that but a very thin layer of tissue separated the respective walls, and that there was absolutely no vagina. The pain during the ordinary menstruating period became so intolerable that the creation of an artificial vagina was decided upon. To that end a transverse incision was made in the perineum, and pushed on as high as the uterus, separating in its track the walls of the bladder and the rectum. When the incision was sufficiently enlarged, a plug of cotton coated with iodoform was thrust in, and the operation finished for that day. At the end of a few days, seeing that the artificial opening was likely to remain permanent, he decided on perforating the uterus. The os was found after a little trouble, but no opening could be discovered. Accordingly, a small lithotome was passed in, and soon an ounce of black liquid flowed out. Antiseptic washing with sublimate and the placing of five drainage-tubes attached in one bundle in the vagina completed the operation. The girl made a good recovery. The pain ceased entirely, but the courses have not yet reappeared. M. Pollaillon considered that sexual connection was possible.

Some Recent Observations on Acetanilide (Antifebrin).—Since the publication by Cahn and Hepp, calling attention to the value of acetanilide, numerous other contributions to the subject have appeared. From a *résumé* of the more important papers we gather the following (*London Medical Record*, May 16, 1887): All observers agree in considering acetanilide to be a valuable, if not the best, antifebrile agent we possess. Small doses unfailingly reduce the temperature sufficiently without the accompaniment of disturbing symptoms, thus conducing greatly to the patient's comfort. Lastly, and by no means least, the cheapness of this drug is greatly in its favor. Failure of effect is recorded in only one case out of many, viz., a patient of Huber in the Zurich Hospital, with pneumonia. Even 65 grains of acetanilide daily had no effect on the fever in this case, neither had antipyrin. In four other cases the maximum amount given was only 8 grains daily. But to have only five negative results out of two hundred cases is a striking fact. The dose at first should be only 4 grains, so as to learn how the patient tolerates this medicine. Smaller doses than this, even if repeated hourly, have no satisfactory result. The best dose in acute fevers is 8 grains. The remission produced is several degrees, and lasts from four to twelve hours. The lowering of the temperature begins between one and two hours after the dose, and the greatest effect is produced in from three to five hours. The amount given in twenty-four hours is stated in Cahn and Hepp's first publication as half a drachm, but this amount may be greatly exceeded without any danger. Huber gave a drachm, Riese as much as one and one-half drachm. In one case 70 grains were given in twenty-four hours, the only untoward symptom afterward being slight cyanosis. In experiments on animals Cahn and Hepp found that a dose of one ounce at once, or doses of half an ounce daily for a long time, were necessary to produce a toxic effect. In the case of a child with scarlatina, Grüneberg gave nearly 20 grains in the twenty-four hours. As to the collateral effects of acetanilide, increased sweating is the most frequent, though not constant, symptom. Rigors during the succeeding rise of temperature are

more important, but are rarely seen. Huber is in opposition to all the rest in reporting as many as twenty cases of rigors in ninety-five days of observation of thirteen different patients, all suffering from typhoid. The frequency of the pulse is lessened, and its tension increased. On this latter point Fränkel differs from the rest. Collapse was observed twice in the whole series of cases—one perfect collapse after a rather large dose in a patient with phthisis, the other an imperfect collapse in an anæmic typhoid patient after a moderate dose of 8 grains. The urine is increased under its use. Lepine is mistaken in saying there is diminution. Vomiting only occurred twice, and in these two cases the remedy was then introduced *per rectum* successfully. The appetite appears to improve under its use. Whether an acetanilide exanthem exists or not is doubtful. It is at any rate extremely rare. Cahn and Hepp only mention miliaria cysts and rubra. More or less deafness and mydriasis occurred once (Heinzelmann), along with the cyanosis of the face which is mentioned by all the observers, who disclaim, nevertheless, any significance in this phenomenon. Given in acute rheumatism, Riese, Eisenhart, and Cahn and Hepp found it to act almost specifically; but Fränkel found it of no effect, "except once." Lepine (*Lyon Medical*) praises it as a "nervine." The neuralgic pains of subjects with tabes were removed "as if by enchantment" half an hour after one or two 8-grain doses. The same author also found it useful in neuralgia. According to some authors, the drug cut short attacks of intermittent fever.

Ablation of the Uterus after Inversion.—At the Société de Chirurgie, M. Lefort read a paper on ablation of the uterus by ligature after inversion, and insisted on the benignity of the operation. It was the case of a woman, aged thirty-five, who was delivered a year ago with a little difficulty, as the forceps were required. After the removal of the afterbirth, it was found that the womb was inverted. Immediate reduction was attempted, but the inversion returned. Another attempt was followed by a similar result, so that, at the end of a few days, the uterus remained impacted in the vagina, and menorrhagia was present almost constantly. Four months subsequently the woman was examined by M. Lefort, who found a large rounded tumor blocking up the vagina. Reduction was tried under chloroform, but without success, and as the hemorrhage became compromising, he determined to throw an elastic ligature around the pedicle, which was done easily, and in ten days the uterus became detached. The woman made a rapid recovery.—*Medical Press.*

Renal Sarcoma in Infancy.—Dr. Angel Money recently made a communication on the subject of renal sarcoma in infancy, and specially discussed the question whether surgery was justifiable. He related four cases that he had observed at the Hospital for Sick Children. Hæmaturia was not observed in any. All the cases were females, and the ages ranged between eighteen months and thirty-four months. The other kidney was unaffected in each case. One tumor probably began in tissues not strictly renal. One was evidently of suprarenal origin, and this case had enlargement of the external genitals, on which an enormous growth of hair had taken place during the last nine months of the life of a female child aged twenty-one months at death. All the tumors were large and abutted against the diaphragm. There were secondary deposits in three cases, and in the fourth the meso-colon was infiltrated as well as the retro-peritoneal glands. The course of the case was always longer the older the child. A study of recorded cases in which nephrectomy had been performed seemed to show that life was not prolonged even in the successful cases, and the statistics proved the danger that attended the operation. Doubtless if the tumor was detected when small, a chance for surgery existed, but, as a rule, the tumor was not discovered till it had reached a great size, and secondary growths were almost inevitable; so that, in his work on the "Treatment of Disease in Children," he summed up the present situation by saying that removal of the tumor was useless.—*British Medical Journal.*

The Treatment of Colds.—Dr. Whelan states that it is recognized generally that catarrhs are excited *de novo* by exposure to wet, colds, and draughts (*London Medical Record*). Most frequently they develop in delicate and in highly neurotic individuals. When once a catarrh is properly established, the affected person's breath is infectious, in the acute stage of the disease at least. The question arises, What is the nature of the affection? 1. Is it a specific poison comparable to that of the infectious fevers? 2. Does the affection start as an idiopathic inflammation and develop a specific poison which is given off by the breath? 3. Is it of nervous reflex origin purely? An epidemic of influenza would be explained by supposing that within large tracts of country all catarrhal micrococci became suddenly virulent, owing to some climatic or telluric fostering cause, or to some law of heredity or evolution of the organisms themselves. The usual coddling treatment of colds in an ordinarily healthy person should be strongly condemned; there is a deal of wisdom in the saying, "Starve a fever, feed a cold." A person with catarrh should take an abundance of light, nutritious food and some light wine, but should avoid spirits and tobacco. In the very old or very young, or in cases where the general health is not good, due care must be taken, and, above all things, depressants should be avoided. The author recommends as a specific, both as a prophylactic and therapeutic remedy, the following prescription: ℞. Quin. sulphatis, gr. xviij.; liquor arsenical., ♏ xij.; liq. atropinæ, ♏ j.; extract. gentian., gr. xx.; pulv. gum acac., q.s. to make twelve pills. One of these pills should be taken every three, four, or six hours, according to circumstances. If these pills are commenced in the early stage of a common cold, when the affection is confined to the nose and pharynx, the affection will be nipped in the bud. At first one pill should be taken every three or four hours; later on, every six hours. The author's experience goes to prove that a cold seldom lasts three days under this treatment, and believes that the remedy acts as a powerful nervine and general tonic, bracing the patient's tissues to resist the multiplication of the organisms which cause the affection.

The Operative Treatment of Empyema of the Antrum of Highmore.—According to Mikulicz, the indications to be fulfilled in the treatment of this condition are clear and simple (*Archiv für klin. Chirur.*). In every case it should be the surgeon's endeavor to make an artificial opening into the cavity, and to maintain this opening until suppuration has been completely arrested. The methods which establish an opening into the antrum by the mouth have two advantages. The cavity is thus perforated at a convenient and accessible spot. The surgeon can readily apply his instruments, and the after-treatment can be conducted under the control of both his eyes and fingers. Moreover, the perforation is well situated for the flow of pus, and corresponds to the most dependent part of the antrum. There are, however, certain disadvantages attending the operation by the mouth. Suppuration in the antrum often persists for a long time, it may be for months or even years, and it is necessary to maintain the opening until the discharge has closed. This is not an easy matter, as there is always a tendency for the opening to contract and close unless a stiff drainage-tube be worn. Free communication between the antrum and the mouth is attended with inconvenience, and portions of food and other foreign material may pass through the opening into the cavity, decompose there, and set up fresh suppuration. In consequence of these objections to the oral operation, attempts have been made to open up the antrum in another direction. An objection might be made, it is pointed out, to the old operation on physio-

logical grounds. The antrum has no normal connection with the mouth, but is to be regarded as a pneumatic appendage of the nasal cavity, with which, in a healthy condition, it has free communication. If this communication be shut off in consequence of any pathological process, that operation would seem to be the most rational that serves to re-establish the normal condition. The author is opposed to any method of attempting to reach the antrum through the middle meatus. It would, he states, be found very difficult in such attempt to open up the antrum and afterward to inject this cavity. Besides, the perforating instrument would be brought into dangerous proximity to the orbit, which cavity is separated from the nose by only a thin plate of bone. Again, an opening in the middle meatus would be most unfavorably situated for the discharge of a large accumulation of pus. The author advocates an opening made from the inferior meatus. The osseous septum between this portion of the nasal cavity and the antrum is very thick and dense near the hard palate, but soon becomes reduced to the thickness of paper, and may be readily perforated by a stout cutting-instrument. For this purpose a short double-edged knife, or rather cutting-stylet, set on a curved shank, has been devised. This is introduced along the inferior meatus until it reaches the inferior turbinated bone, when its point is turned outward and thrust through the septum into the antrum. The opening having been enlarged by to-and-fro movements of the instrument, the elongated and curved nozzle of a specially devised elastic bell-syringe is introduced, and the cavity of the antrum is washed out. This operation, which proved successful in two cases, is not likely to be attended with any difficulty except in cases of abnormal narrowness of the inferior nasal meatus, of extreme hypertrophy of the inferior turbinated bone, or much thickening of the osseous septum between the antrum and the inferior part of the nasal cavity.

Cæsarean Section.—In the *Edinburgh Medical Journal* Dr. Stuart Nairne contributes a paper on the subject of Cæsarean section as a substitute for craniotomy or other child-destroying operations. The author states that ten years ago he performed craniotomy for the first time, and, on reflecting upon the case, he determined on another occasion to perform Cæsarean section rather than subject the mother to the dangers which might arise from bringing away a child in the form of a mangled mass of bones and brains. Soon afterward he was called to a little deformed creature who was in labor, and Cæsarean section was strongly urged, but two medical men who were present determined to deliver with forceps. After great difficulty a very small child, unrecognizable as such about the head, was drawn out: in a few days the mother died. In a third case, where the author advised Cæsarean section, a mauled dead child was eventually born by the aid of forceps, and the mother made a very tedious recovery. This case made Mr. Nairne decide definitely never to destroy a child *in utero* by bringing pressure on the head or body, so that life must be extinct when delivery was accomplished. The following case came under his care, and his determination to perform Cæsarean section was fulfilled: A lady, aged forty, was pregnant for the tenth time. All the previous children had been delivered between the sixth and seventh months, and none lived. When the author saw her she had completed her seventh month; the child lay transversely in the womb and was living. The woman was very anxious to have a living child. Mr. Nairne told her and her husband that he would not perform craniotomy, but advised Cæsarean section. The woman followed this advice, and as soon as labor was commenced Mr. Nairne was sent for. At 3 A.M., January 20th, the operation was commenced, the patient lying on her back, under the influence of chloroform. An incision being made through the abdominal walls, the uterus came into view; no one part seemed more livid than another to suggest the situation of the placenta, so a small incision was made in the middle line and a finger was introduced into the uterus. The incision was then prolonged upward and downward. A little water escaped, and the right shoulder appeared. By dipping his fingers round the chest of the child, and by a movement of rotation, the author delivered a living child almost instantly. The womb contracted in a measure, the wound in its anterior part gaping widely, leaving the whole interior surface of the left upper part covered with the placenta; this was then separated, but the womb remained soft and bleeding. A hypodermic injection of ergotin was given, causing contraction almost immediately. The uterine incision was then carefully stitched up by eight or nine interrupted sutures, and a bougie passed through the wound down through the os; a tube was also introduced from the vagina into the os. The peritoneal cavity was carefully sponged out, the abdominal wound stitched and closed, and the patient put in bed with a good pulse. Everything went on well until the third day, when urgent symptoms set in, and death took place suddenly on the fourth day. The author remarks that this case shows the necessity for careful research and inquiry into the management of every step of this operation, as he is convinced that a death occurring so long after an operation must be due to preventable causes. No post-mortem was obtained, but there was no doubt about peritonitis being the cause of death.

Hysterical Angina Pectoris.—Allied to genuine angina, due to cardiac ischæmia, are quite a number of pseudo-anginal complaints, attributable, some to gastric dyspepsia, others to a well-marked nervous disorganization. The latter class furnished M. le Clerc with a subject for his thesis. The first case of the kind was recorded in 1812 by Millot, but many more have since been observed by Bertrand, Balfour, and others. The affection in this form is met with principally, but not exclusively, in women, generally before middle age. It occurs more rarely at the menopause and in children. The attacks are longer, more frequent, and more severe than in angina of organic origin. They are remarkable by their onset, which is sometimes central, sometimes peripheral. The differential diagnosis is based on the nature and the seat of the pain, and the presence of some sort of aura, by the multiplicity and variability of the irradiations, which are more eccentric and present a greater range. The attacks are often more or less periodical; they occur oftener by night than by day, and are provoked by psychical impressions (emotion, dreams, etc.), seldom or never by a physical effort of any kind. Their termination is marked by phenomena characteristically hysterical in their nature. The past history of the patient is necessarily of importance. The prognosis is favorable, both as regards a fatal termination and as regards a cure.—*London Medical Record.*

Cinchonidin.—Dr. Legenis has made extended observations on the action of cinchonidin and its salts on the various forms of intermittent fever. His conclusions may be briefly summarized as follows: (1) The salts of cinchonidin are as efficacious as those of quinine; (2) they may be employed in all cases in which the latter are generally used; (3) the sulphate of cinchonidin is well tolerated by the stomach in nervous persons or in those intolerant of quinine, and it does not produce either ringing in the ears, nervous agitation, or tremors; (4) they cost about half the price of quinine and its salts.—*Archives Génér. de Méd.*

Gaseous Enemata in the Last Century.—The rectal injection of "fixed air" was recommended long ago by Priestley as of great utility in "putrid diseases," and Percival in 1768, and McBride in 1776, reported marvellous results from this method in pulmonary phthisis.

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SUBCUTANEOUS INJECTIONS OF ANTIPYRIN.

THE results of clinical experience have demonstrated conclusively the analgesic action of antipyrin, and have opened up a much wider field of usefulness for this drug than its antipyretic properties could ever have won for it. It would, indeed, not be surprising if a more extended trial in this direction should succeed in establishing as a fact the belief now held by many, that in antipyrin we have a drug which may be made to answer most of the therapeutical indications of morphine, and which is free from many of the serious drawbacks of the latter.

In some experiments, the results of which were communicated in a paper read before the Academy of Sciences (*La France Médicale*, July 23, 1887), M. Germain Sée has shown that antipyrin can be profitably employed subcutaneously for the relief of pain. The ready solubility of the drug in distilled water renders it peculiarly suitable for this form of administration. The dose employed hypodermatically by the author was eight grains, dissolved in as many minims of distilled water. The injections caused at first a somewhat painful sensation of tension, but this rapidly passed away and was speedily followed by marked relief of the painful symptoms. Among the affections for which this method was used were acute rheumatism and gout, neuralgias, angina pectoris, and asthmatic paroxysms.

Two other conditions in which antipyrin was employed subcutaneously with marked success were hepatic and nephritic colic. Among the inconveniences of morphine in the former affection is that it tends to arrest the biliary and intestinal secretions, and thus to retard the cure, or even to provoke a return of the pain. In nephritic colic opium diminishes the renal secretion and, in so far, is contra-indicated. Antipyrin, M. Sée insists, is entirely free from these objectionable features, while it is equally as potent, in suitable doses, to relieve the paroxysms of pain.

There can be no question that, could antipyrin, in subcutaneous injection, be substituted for opium or its alkaloids, it ought to be, especially in those chronic cases in which the danger of provoking the opium habit is by no means slight. But we are as yet comparatively ignorant of the action of antipyrin. We know that it is not a drug that can be given in every case with impunity, for many instances are on record in which it was found to give rise to alarming symptoms. Opium we know very thoroughly—we know its dangers as well as the good results which can be obtained from its judicious use. And until we are equally well acquainted with antipyrin, it would be the part of wisdom and prudence not to prescribe it haphazard and in every case indiscriminately, whenever pain is a prominent symptom.

HYPNOTISM AND CHILDBIRTH.

A VERY interesting communication was presented to the Paris Academy, at its session of July 12th, by M. Mesnet, concerning a case of labor which progressed to a successful termination while the woman was in a state of induced somnambulism. The patient had previously been under Dr. Mesnet's care, and was known to be a good "subject." She was of a neurotic temperament, and had presented many hysterical symptoms of an aggravated character which had been much benefited by treatment.

Labor began normally, but, possibly on account of the exalted nervous susceptibilities of the woman, the pains were more than usually severe, the patient complaining bitterly. Somnambulism was now induced by M. Léon, the interne, but the woman still felt the pains as before. She was then told that her pains were less severe, that they were gradually disappearing, and that she would suffer no more during the rest of her labor. After this she ceased to complain, and declared that she felt no pain, although the uterus was contracting energetically at intervals of two or three minutes. All went well for two or three hours, until the bag of waters burst, when the sensation of pain apparently returned, and the woman seemed to suffer as much as if she had been in the possession of her normal faculties. At the expiration of two hours more the labor was terminated, the woman still being in the hypnotic state. She inquired the sex of the child and expressed keen disappointment on learning that it was not a girl, as she had hoped that it would be.

After the bed had been changed the woman was awakened, and then remarked on the presence of the doctor at such an unusually early hour, and asked if she had slept long. Soon after, having by chance placed her hand on her abdomen, her surprise at the disappearance of the swelling was extreme. She remembered nothing of all that occurred while she was in the hypnotic state. She inquired again as to the sex of the child, and expressed her disappointment as before on hearing that it was a boy. A few hours later she was again hypnotized, and then related all the circumstances attending her confinement during the previous night.

It is, of course, improbable that the analgesic influence of hypnotism will ever be used, except in very occasional instances, in ordinary labor, and the case just cited possesses more interest to the psychologist than to the obstetrician. It is interesting, however, in the highest degree to the metaphysician, since it demonstrates so clearly the possibility of a dual existence. The memory of the woman while in her normal condition was a blank as far as concerned the knowledge acquired by her in the hypnotic state; yet, upon passing again into this condition, she was able to recall perfectly everything that had occurred previously in her somnambulistic existence. It would appear, however, that the converse of this did not apply, for the woman remembered, while hypnotized, much, if not all, that had happened to her in her normal state.

THE DANGERS OF ETHER.

The death of a man, while undergoing an operation for hemorrhoids under ether narcosis, which was recently reported widely in the daily press, serves to emphasize again the fact, which so many are wont to forget or ignore, that ether is by no means a harmless drug. It is true, the reported deaths from ether, when compared with the number of times that the anæsthetic is administered, are very few. Yet they do occur, and they occur with much greater frequency than one who depended upon published cases alone for his statistics would ever imagine. In the interesting discussion on the relative merits of ether and chloroform, which took place at a meeting of the Academy of Medicine in April last, many instructive facts were presented which are worthy of the most careful consideration. We do not propose to review that discussion here (those who are sufficiently interested in the subject will find a full report of the meeting in The Medical Record of April 23, 1887), but there is one point which we feel cannot be too strongly insisted upon. That is the utterly reckless manner with which ether is administered, as though it were so much pure air, of which too much could not by any possibility be taken into the lungs.

The administration of ether in our hospitals, with few exceptions, is entrusted to the junior assistant, who is usually fresh from the school, well grounded no doubt in theoretical knowledge, but necessarily without practical experience. He has been taught by his instructors and his text-books that chloroform is a very dangerous drug, while ether is comparatively harmless. He has not learned to appreciate the vital significance of the adverb in this sentence, and he leaves the college with the impression strong in his mind that ether is an absolutely safe anæsthetic, and he uses it accordingly. The administration of the anæsthetic is often conducted in a separate room; the senior assistants are in the operating-room, putting things in order for the operation; and the junior has the poor patient all to himself. If he is an observant man and interested in all that pertains to his calling, as he generally is, he soon learns passably well how to administer the ether; but he is a fortunate man if he does not learn also, from disagreeable experience, that ether is not as innocent a fluid as he supposed. But in the meanwhile the patients' lives are in danger.

This is no fancy sketch, but is what actually occurs in nearly every hospital in the country once or twice every year. And the apothecaries' accounts will generally show that the amount of ether consumed is much greater, in proportion to the number of operations performed, immediately after a change in the hospital staff than it is a month or two later. This increase represents the excess of ether inhaled by the patients over what was necessary to produce anæsthesia.

But recklessness in the administration of ether is unfortunately not confined to junior internes, whose sin is one of ignorance, and more than one life has been sacrificed to the contempt for ether, in the mind of the practitioner, which is bred of familiarity. The administration of ether should be conducted with as much caution as is that of chloroform, for though undoubtedly safer than the latter in most cases, it is yet a dangerous drug, and one that demands constant, intelligent, and watchful care on the part of the administrator, who should never for an instant forget the responsibility that rests upon him.

SALOL, SALINAPHTHOL, AND THE DIAGNOSIS OF "MOTOR" DYSPEPSIA.

Salol is a compound body formed of salicylic acid and phenol, which is decomposed into its constituents in the intestine. Professor Lépine (*The Lancet*) advocates the substitution for it of a new compound, obtained by M. Merck, and which has been called naphthol-salol, naphthalol, etc., and for which he proposes the name salinaphthol:

$$C_6H_4.OH.CO_2H + C_{10}H_7.OH = C_6H_4.OH.CO.OC_{10}H_7 + H_2O.$$

Salicylic acid + β-naphthol = salinaphthol + H_2O.

The efficacy of the new drug depends upon its decomposition in the intestine by the pancreatic secretion, and it is therefore inert and unirritating in the stomach. The advantage claimed for it over salol is that when split up into its component parts there remains besides the salicylic acid, which is the therapeutic agent, a by-product, β-naphthol, which is less toxic and less absorbable than the phenol which results from the decomposition of salol.

The objection which may be made to this is that salol and salinaphthol do not surely split up as claimed.

Basing his work, however, on this view, Professor Ewald has lately devised a new method for investigating the motor power of the stomach. "We know," he says (*British Medical Journal*), "pretty well the chemical changes taking place during digestion, but our experiments on the time required by the stomach for transmitting food into the duodenum have hitherto been limited to patients suffering from gastric fistula. Trials made in the normal state of health have always failed. A means has now been found in salol excellently adapted to solve this question. Salol, on reaching the bowels, immediately dissolves, and shows almost instantly in the urine as salicyluric acid. This easily yields a red precipitate with chloride of iron. This reaction will show almost exactly the moment of the entrance of food into the bowel. The urine of seven persons in sound health showed the reaction to take place mostly within three-quarters of an hour, rarely within half an hour. It took two to three hours in seven cases of 'ektasia ventriculi,' this disease being distinguished by loss of motor power in this organ. On applying the electric current to the abdomen, the reaction took place in normal cases a quarter of an hour sooner; in cases of enlargement of the stomach, half an hour sooner. This experiment says much in favor of this method of treatment."

If Professor Ewald's views, based on only fourteen cases, are confirmed, a new and valuable addition to our means of diagnosis has been obtained.

QUACKERY AND MEDICAL LAWS IN GERMANY.

The Dresden Medical Society is leading in a movement to secure the re-enactment of the law against quackery, which for several years has been abolished in Germany. In a debate over the subject before the Berlin Medical Society (*British Medical Journal*), Herr Becher said that quacks had increased in number as well as in authority and dignity. The old law had been abolished

trusting to the common sense of the public. This hope has been disappointed. The Dresden physicians, he added, were not standing alone in making this petition, having been joined already by forty-six medical associations in different parts of Germany—in all 3,000 members. Thirty-four associations more had expressed their sympathy, being prevented from joining in the petition merely by some matters of form. Only nine associations had voted against the petition; these numbers were worthy of consideration. Professor Mendel had maintained that the existing laws were all-sufficient to prevent any great abuse; but Herr Becher was not of that opinion. The quack made an agreement with the patient against which the judge was powerless. If even one of them was caught in the nets of law, all experience showed that they were more leniently treated by the jury than any medical man who happened to have made a mistake. Every barber called himself "assistant-surgeon;" the most outrageous mountebank was marked in the Berlin Directory as "Medical Director." The magistrate of Chemnitz (Saxony) appointed a quack as physician to a public charge, although the law expressly demanded a qualified physician, and the Bundersrath confirmed the appointment. The public required to be enlightened through the law. Herr Becher's motion was carried by 168 votes against 164. The Berlin Medical Association being the most liberal of all, it is most probable that the General Union of German physicians assembling this summer will adopt this petition.

In connection with this movement it would be well for our German brethren to study the results of some of the medical legislation in this country.

The following statistics regarding the working of the registration law in Illinois have recently been published:

	July 1, 1877.	July 1, 1887.
Total number engaged in practice.....	7,400	6,180
Graduates and licentiates.....	3,600	5,704
Non-graduates.....	3,800	476
Percentage of graduates and licentiates.	48.6	92.3
Percentage of non-graduates.....	51.4	7.7

When the law went into effect there were 1,923 physicians in the State who were not qualified, and therefore could not comply with its provisions. Of these by far the greater number left the State, others abandoned practice, while many qualified themselves, and graduated or passed the board.

THE PROPHYLACTIC SIGNIFICANCE OF EPISTAXIS.

In a recent number we referred to the importance, from a diagnostic point of view, of nose-bleed occurring in adults. But the phenomenon is of even greater importance, perhaps, as an element to be considered in estimating the probable outcome of certain affections. We purpose, therefore, to direct our readers' attention briefly to this symptom in its prognostic aspect.

Epistaxis, when in considerable amount and persistent, coming on after a blow or a fall upon the head, is of evil prognostic import, pointing, as it usually does, to fracture of the base of the skull. When occurring at the beginning of an eruptive fever, nose-bleed should cause no alarm; but when it comes on during or after the period of eruption it is of graver import, since it is then usually an indication of malignancy or of a hemorrhagic tendency in the disease. When it occurs frequently in pertussis it is a bad sign, not necessarily portending death, but indicating that convalescence will be slow, by reason, probably, of the anæmia induced by the repeated losses of blood.

In typhoid fever epistaxis occurring at the beginning of the disease is of rather favorable prognostic import—or, at least, it does not forebode evil—but when it appears late in the course of the affection it is a grave sign, indicating profound changes in the blood, and often being only a precursor of dangerous intestinal hemorrhage. In diphtheria nose-bleed is not a favorable symptom, as it is usually an indication that the local disease-process is spreading, and that it has begun to invade the mucous membrane of the nasal cavities.

Repeated attacks of epistaxis in the later stages of Bright's disease are of evil augury. In such cases the hemorrhages may not infrequently be regarded as an evidence that the coats of the arteries have undergone atheromatous changes. In the malarial cachexia, also, the frequent recurrence of nose-bleed is an unfavorable symptom. Epistaxis occurring in the aged suggests the danger of cerebral apoplexy, yet its occurrence in such cases cannot be regarded as an evil, since its effect is undoubtedly to relieve cerebral congestion.

It is said that those who are subject to nose-bleed in childhood are very apt to suffer in later life from rheumatism. And it is also believed by some authorities that such individuals are more liable to hæmoptysis, which seems to follow as a sequel of the epistaxis when the latter has ceased. It is, however, very doubtful whether any relation, other than that of mere coincidence can be traced between the two forms of hemorrhage in such cases.

A New Antipyretic.—Dr. Kobler, of Vienna, has been experimenting with a substance, called acetphenetidin, which is said to be analogous in its action to antifebrin. It is a reddish powder, odorless and tasteless, very slightly soluble in water, but readily soluble in alcohol and glycerine. The temperature in febrile cases falls two or three degrees in the course of about three hours after a dose of eight grains has been administered. The defervescence is said not to be accompanied by cyanosis or sweating, and none of the patients showed any symptoms of collapse. The pulse is diminished in frequency, but its tension is increased.

What Shall We Wear?—The *Epoch* of August 5th contains several short contributions on "How to keep Cool and Well in Summer." Dr. Cyrus Edson says that it "is best to wear dark clothing in the summer. The black absorbs heat when it is in the sun's rays. On the other hand, the heat will pass out through the black textures rapidly, so that the radiation of the heat from the body would be much freer in a person clothed in black than white." On the following page Dr. Willard Parker observes: "The best way to dress is to wear thin woollen material next the skin, as little outside clothing as possible, and that of a light color. Dark colors draw the heat and light ones repel it." This is calculated to confuse the average layman, and he will probably decide to wear the clothes he is now provided with, whatever their color may be.

News of the Week.

The Subscriptions for the International Congress from various State medical societies and individuals, had amounted to about eight thousand dollars on the first of this month.

The International Medical Congress.—The programme for the International Medical Congress, to be held in Washington in September, has been completed, with the exception of a definite arrangement for a reception by President Cleveland. The meeting will be opened on Monday, September 5th, at Albaugh's Opera House, when the Congress will be organized, the report of the secretary-general submitted, and an address of welcome delivered by Secretary Bayard. In the evening a conversazione will be held at the Pension Office. General meetings will be held on each morning of the week, and meetings of special branches of the medical profession will also be held each day of the week, except Saturday. Addresses will be delivered during the session of the Congress by Dr. Austin Flint, of New York, on "Fever, its Causes and Rational Treatment;" by Dr. Mariano Semmola, of Naples, Italy, on "Bacteriology and its Therapeutical Relations;" by Dr. P. G. Unna, of Hamburg, Germany, on "The Relations of Dermatology to General Medicine;" by Dr. G. Fielding Blanford, of London, on "The Treatment of Recent Cases of Insanity in Asylums and in Private Houses;" by Dr. A. Uteaud, of Paris, on "The Influence of Discoveries of American Surgeons on the Development of Gynecology in Europe," and by Dr. Neudorfer, of Vienna, on "The Military Medicine of the Present and that of the Near Future." The social features of the meeting will be a reception by citizens on Wednesday evening, a general reception and buffet banquet at the Pension Office on Thursday evening, and a trip to Mount Vernon Saturday afternoon.

Charges against Health Officer Smith.—Governor Hill, of New York, has, through the Attorney-General, brought a writ of quo-warranto against the Quarantine Commissioners. Proceedings are also being arranged against Health Officer Smith. It is charged that he has made a corrupt agreement by which the profits of his office are divided, and that after he has received a share to pay him for being health officer, the remainder of the receipts are, in pursuance of this agreement, distributed between ex-Senator Thomas C. Platt, ex-Marshal Lew Payn, ex-Governor Cornell, and ex-Lieutenant-Governor Hoskins. The amount alleged to have been divided last year is estimated at $60,000. It is understood that the basis of this charge is the rag disinfection business, concerning which so much has been said of late, and concerning which, from a scientific standpoint at least, so much needs to be explained.

Yellow Fever at Key West, Fla., and Delaware Breakwater.—Nine new cases of fever have been reported by the Board of Health of Key West since August 8th. There have been no deaths. The last one hundred and fifty cases have been nearly all children, with less than two per cent. of mortality. The bark Ada Gray, from Havana, arrived at Delaware Breakwater August 8th, with one case of yellow fever on board.

Another Medical College.—Some weeks ago the Board of Regents of the Oregon State University authorized the formation of a medical college in Portland, as part of the university, and issued a charter therefor. The department has now been organized, a faculty of thirteen members has been elected, and the early appearance of the first annual announcement is anxiously awaited.

A Rival to Christian Science Healing Institutes has made its appearance in St. Louis. It is to be called the Hygienic College of Physicians and Surgeons. The incorporators define disease as an abnormal vital action, which is caused either by an improper use of things normal, or by the presence of things abnormal. The true healing art seeks to regulate the use of the former and to rid the system of the latter. The materia medica embraces such powerful drugs as clothing, temperature, rest, food, sleep, drink, bathing, exercise, air, mechanical appliances, and last, but by no means least in its efficacy, mental and emotional influences. The school proposes, if it is allowed to do so, to confer degrees of doctor of medicine upon its students.

Dr. F. Schultze, of Heidelberg, has been called to the chair of general pathology and therapeutics at the University of Dorpat.

A Death Under Ether.—A case is reported from Philadelphia of death under ether. The patient was undergoing an operation for hemorrhoids, when he was noticed to be breathing irregularly, and despite all that could be done, died without recovering consciousness.

Beri beri in England.—Several cases of beri-beri have recently occurred on the Chinese transport-ship Too Nan, stationed at Newcastle-upon-Tyne. The sailors were from different parts of China, but those from the southern provinces only were attacked. The cases were observed by Drs. Slater and Oliver, who report them in the *Lancet* of July 23, 1887.

Death of a Bone-setter.—Mr. Huttor, who had gained considerable notoriety in England for his skill in "bone-setting," died a short time ago from accidental poisoning.

The Presidency of the International Congress of Hygiene.—Dr. Schneider has resigned the post of President of the International Congress of Hygiene at Vienna. As his successor the Bureau of the Organizing Committee have unanimously elected Professor E. Ludwig.

A New Bacillus of Malaria.—Dr. Schiavuzzi claims to have isolated a bacillus from the air of malarious districts, which, after culture, excited malarial fever when injected into rabbits.

The Cholera is reported to be increasing in Sicily, and to have appeared also in Sardinia.

Deaths of Foreign Medical and Scientific Men.—The following deaths are announced in the *Lancet* of a recent date: Dr. Georg Wiesner, Senior Medical Officer of the Hospital of the Holy Ghost, Frankfort-on-the-Main, and Sanitary Councillor; Dr. Grewingk, Professor of Mineralogy in Dorpat; Dr. Alexander Reumont, Sanitary Privy Councillor of Aix-la-Chapelle, at the age of sixty-nine; Dr. Kempen, Knight of the Order of Leopold, a distinguished Belgian Military Surgeon.

Reviews and Notices of Books.

Surgery of the Kidney. By W. Bruce Clark, Assistant Surgeon, St. Bartholomew's Hospital. 8vo, pp. 176. London: H. K. Lewis. 1886.

This volume treats of the normal anatomy of the kidney, and next in order of the renal deformities which have a surgical importance. Then follows the description of the various lesions amenable to surgical treatment. The pathological memoranda are concise, perhaps in some instances rather superficial. A special chapter is devoted to the consideration of the positive determination of the presence of two kidneys—a matter which bears directly on the possibility of operative measures. The style of the book is most commendable. It is terse and clear. Numerous well-executed plates illustrate the text. A full bibliography is appended. It will afford the reader a full scope of the present status of renal surgery.

Anatomy, Descriptive and Topographical. By Carl Heitzmann, M.D., Vienna. Translated by Louis Heitzmann, M.D. 4to. New York: J. H. Vail & Co. 1887.

This is a work of two parts, having in all over five hundred pages, and over six hundred illustrations. It is a reproduction (though in its second part by no means a literal translation) of "Heitzmann's Anatomischer Atlas," published sixteen years ago. The latter has had in Germany and Austria a sale of over thirty thousand copies, and appears to occupy the sphere filled by the familiar "Gray" in England and America. Too much praise cannot be awarded the author for his excellent plates, particularly those illustrative of sections of the body and limbs made at various levels. The descriptive text is, however, very meagre, and entirely inadequate to meet the wants of a beginner. As a work of reference for an advanced student, or for a teacher of anatomy, it is most excellent. It would be a valuable addition to the library of any surgeon.

Disorders of the Male Sexual Organs. By Samuel W. Gross A.M., M.D., LL.D. Third edition. Revised. 8vo, pp. 168. Philadelphia: Lea Brothers & Co. 1887.

This is undoubtedly one of the very best manuals ever published on male sexual disorders. It has been translated into the Russian language. It is well known that the author regards impotence and spermatorrhœa as due to reflex disturbances of the genito-spinal centre, and not as functional diseases of the testicles. They are due, in his opinion, to lesions of the prostatic urethra. He lays especial stress upon masturbation as a cause of stricture. Every physician is called upon to treat sexual disorders, even though he is a general practitioner. He can find no better collection of clinical facts than in Dr. Gross' work, and no better description of therapeutic measures to be employed.

A Treatise on Diphtheria, Historically and Practically Considered: including Croup, Tracheotomy, and Intubation. By A. Sanné, Docteur en Médecine, Ancien des Hôpitaux de Paris, Membre de la Société Anatomique, etc.; Chevalier de la Légion d'Honneur. Translated, annotated, and the Surgical Anatomy added; illustrated with a full-page Colored Lithograph and many Wood Engravings. By Henry Z. Gill, A.M., M.D., LL.D., late Professor of Operative and Clinical Surgery in the Medical Department of the University of Wooster, at Cleveland, O., etc.

Sanné's "Traite de la Diphthérie" is the largest and one of the fullest of the works on its special subject. It is also one of the most readable, but is not the most concise. Its subject is discussed under so many divisions and subdivisions that, while exhaustiveness of consideration may be thereby promoted, a certain amount of repetition is inevitable. Yet it is none the less true that the work is a storehouse of valuable information which has so long been appreciated and utilized by teachers and writers in this and other countries, that it is surprising that it has had for ten years to await translation into English. In performing this task, and performing it so well, Dr. Gill has rendered to English readers a service which will doubtless be highly appreciated by many.

On the various mooted questions which his subject involves, M. Sanné takes a decided stand. He believes in the identity of membranous croup and diphtheria. He believes, also, that diphtheria is "a disease which is, *totius substantiæ*, primarily general. All its forms, so diverse in appearance, are but different manifestations of a single cause which contaminates the whole economy." On the bacterial question he pronounces that "new observations and solid proofs are needed to establish diphtheria as a parasitic disease."

The translator has prefixed to the work a profusely illustrated chapter on the surgical anatomy of the pretracheal region, with special reference to tracheotomy in children, which operation he pronounces "one of the most unpleasant and dangerous, as met with under the usual circumstances, of all the operations which the surgeon is called upon to perform." The translator also makes some other addenda, among which are a very brief abstract of the bacterial researches of Loeffler, and a too short article on Dr. O'Dwyer's method of intubation. It is difficult to see why a nearly useless eight-page "list of authors referred to" should have been substituted in the translated volume for the valuable marginal references to titles of works in the original.

Hand-book of Materia Medica, Pharmacy, and Therapeutics. By Samuel C. L. Potter, M.A., M.D. Pp. 828. Philadelphia: P. Blakiston, Son & Co. 1887.

This book contains a great variety of useful information. Aside from the Materia Medica, it tells how to write prescriptions, how to give antidotes for poisoning, and how to prescribe for diseases, somewhat after the manner of the "Family Physician" book. It will commend itself to the young physician, because of the minute and practical directions which are here given, and which are wanting in more pretentious works.

Clinical Manual for the Study of Medical Cases. Edited by James Finlayson, M.D. Pp. 683. Philadelphia: Lea Brothers & Co. 1886.

This "Manual" is one of the most complete and perfect of its kind. It goes thoroughly into the question of diagnosis from every possible point, and if diagnosis were not a matter of mature experience and constant practice outside of text-books, this guide to the study of medical cases would be very useful. As it is, it must lead to a thoroughness of observation, an examination in detail of every scientific appliance, and a study of means to the end which cannot fail in laying an excellent foundation for the student for future success as an able diagnostician.

Foods and Food Adulterants. Bulletin No. 13, U. S. Department of Agriculture. Part First: Dairy Products. 1887.

Dr. Wiley, the department chemist, has collected a number of facts regarding butter, milk, and cheese, and their adulterants, and has added some work of his own. The Bulletin is not a scientific document of a high order, but contains considerable interesting information.

Nervous Diseases and their Diagnosis. By H. C. Wood, M.D., LL.D. Published by J. B. Lippincott Company. 1887.

The writer offers an apology for adding to the large list of treatises upon nervous diseases which have already

been published, but he does so because of his long experience and at the earnest solicitation of some of his former pupils, "who insisted that the method of teaching which had been gradually evolved in the weekly clinics of the University Hospital was different from that commonly in vogue, and if followed out would give freshness to an old subject." This method is shown to be a grouping of diseases according to their symptoms, such as paralyses, motor excitements, etc., rather than upon an anatomical division. This, indeed, gives the work a special value, and perhaps its only value, which probably students will appreciate rather than neurologists, to whom the book will not present anything decidedly new. The work is devoted entirely to "diagnostic neurology," a title which heads each leaf. There is a wide-spread belief among those who do not make a specialty of nervous diseases that diagnosis constitutes by far the greater part of a neurologist's task, and that this done, there remains almost no field for successful treatment, in regard to which they have a hopeless despair.

When, therefore, Dr. Wood's twenty-five years' experience blossoms only in diagnosis, and not in the advocacy of successful measures to combat the so often terrible nervous diseases, this book goes to confirm this despondent opinion. Possibly Dr. Wood has in mind to publish in the future a work on the treatment of nervous diseases, which, with his wide opportunities for observation, coupled with his therapeutical knowledge, could hardly fail to be of value not only to students but to the profession at large.

Drug Eruptions. A Clinical Study of the Irritant Effects of Drugs upon the Skin. By Prince A. Morrow, A.M., M.D., Clinical Professor of Venereal Diseases University Medical College, New York. 8vo, pp. 199. New York: William Wood & Co. 1887.

As the author states in his preface, "the abnormal phases of drug action are comparatively an unexplored field." He has collected in this volume our authentic knowledge upon the subject. First come pages on history, definition, classification, general characteristics, etiology, pathogenesis, diagnosis and treatment of drug eruptions. Then follow the clinical memoranda concerning the individual drugs themselves. The alphabetical arrangement of the latter makes reference easy. The drug list is very complete, and includes some of the more modern remedies, as antipyrine. A well-executed colored plate illustrates the skin lesions of iodide of potassium. An exhaustive bibliography is appended. We cannot but congratulate the author on the great service he has done the profession in compiling this volume.

French Neurological Journals. — Neurology in France is well represented by the bi-monthly journal, *L'Encephale*, edited by Ball and Luys, and by the quarterly *Archives de Neurologie*, edited by MM. Charcot and Bourneville.

The National Dispensatory, containing the Natural History, Chemistry, Pharmacy, Actions, and Uses of Medicines, etc., by Alfred Stillé, M.D., LL.D., and John M. Marsh, Phar.D. Fourth edition. Pp. 1781. Philadelphia: Henry C. Lea's Son & Co. 1886.

The fourth edition of this well-known work appears with many additions, and bears evidence of careful revision throughout. It has been the aim of the authors to include a notice of all the new remedies which have won for themselves suitable recognition among reliable therapeutical agents. Among those which are more or less exhaustively treated may be mentioned Antipyrine, Cocaine, Hydrochlorate, Cascara Sagrada Fabiana, Franciscea, Gymnocladus, Hypnone, Iodol, Lanolin, Menthol, Thalline, and Urethane. The work is thoroughly up to the times, and will maintain its reputation as an authority on the subjects of which it treats.

Handbook of Treatment. By J. Milner Fothergill, M.D. Third American, from the Third English Edition. 8vo, pp. 660. Philadelphia: Lea Brothers & Co. 1887.

The ground covered by this well-known treatise is that of "an attempt of original character to explain the *rationale* of our therapeutic measures." No one who has read it has failed to be impressed with its plain common-sense and valuable suggestions, born of a wide professional experience. It is a book which has a wider sale in America even than in England. The present edition covers substantially the same ground as the former ones, except for revisions and the addition of two most interesting and valuable chapters, viz., "The Dietary in Acute Disease and Malassimilation," and "The Management of Convalescence." The motto of the latter is "Festina lente." In regard to the former, probably no practitioner of modern times understands the science of dietetics better than Dr. Fothergill. Every physician should own a copy, read it carefully, and then —read it again.

A Manual of Weights and Measures, including Principles of Metrology; the Weights and Measures now in Use; Weight and Volume, and their Reciprocal Relations; Weighing and Measuring; Balances (Scales) and Weights; Measures of Capacity; Specific Weight and Specific Volume, etc. With Rules and Tables. By Oscar Oldberg, Pharm.D., Professor of Pharmacy and Director of the Pharmaceutical Laboratory in the Illinois College of Pharmacy; the Department of Pharmacy of the Northwestern University. Second edition, revised. Chicago: Chas. J. Johnson. 1887.

This is a book of great value to all physicians at the present day, when every scientific work published abroad, and many of those appearing in this country, make use of the metric system of weights and measures. Very few physicians who learned the old system at the commencement of their studies are able to comprehend at first glance the metric system, but are usually obliged to go through a more or less laborious calculation before they are able to translate the figures which they meet with in their reading. This little work not only explains the differences between the two systems and gives simple rules for the conversion of one into the other, but has numerous tables by means of which the equivalents can be read off at a glance, thus saving much time and mental effort.

The author possesses the happy faculty—which is so necessary for a teacher or a writer—of presenting his facts in a form in which they are readily intelligible to the reader. We would recommend all who are yet unfamiliar with the decimal nomenclature to read this book, and to have it by them, where it may be readily referred to in case of need.

Congenital Club-foot; its Nature and Treatment. With Especial Reference to the Subcutaneous Division of the Tarsal Ligaments. By Robert William Parker, Surgeon to the East London Hospital for Children, and to the Grosvenor Hospital for Women and Children. London: H. K. Lewis. 1887.

In this book Mr. Parker gives us a very clear description of club-foot, its causes, pathology, and mode of treatment. He regards the deformity as due, in the majority of cases, to mechanical causes acting during intra-uterine life, or, in other words, that what is a deformity after birth is a physiological condition during fœtal life. This is practically the same theory that was advanced by Dr. Berg, of this city, several years ago. In the treatment of club-foot, the author regards the subcutaneous division of the tarsal ligaments as an essential feature in the great majority of cases, as it is upon their contraction, he believes, that the persistence of the deformity de-

pends. Mr. Parker states his case very clearly, and adduces strong arguments in support of his views. The work must be considered a valuable addition to the literature of orthopædic surgery.

Ratgeber für Mütter. Eine ergänzung zu Dr. H. Dümlings "Bau, Leben und Pflege des menschlichen Körpers." Von Dr. C. Sihler, praktischem Arzt in Cleveland, O. St. Louis: Louis Lange Publishing Company. 1884.

This little book is a sort of appendix to the work of Dr. Dümling recently noticed in these columns, and contains good advice to mothers during pregnancy and the lying-in period.

L'amputation du Membre Supérieur dans la Contiguite du Tronc (Amputation Interscapulo-Thoracique). Par Paul Berger, Chirurgien de l'hôpital Tenon; Professeur agrégé à la Faculté de Médecine; Membre de la Société de Chirurgie. Avec figures dans le texte, et 2 planches en chromolithographie. Interscapulo-thoracic Amputation of the Arm. By Paul Berger. Paris: G. Masson. 1887.

In this treatise of nearly four hundred pages the author discusses at great length the subject of amputation of the upper extremity with removal of the scapula. The histories of fifty-one cases are given, and the questions of the indications and the method of performing the operation are discussed most completely.

Controlling Sex in Generation. The Physical Law Influencing Sex in the Embryo of Man and Brute. By Samuel Hough Terry. 12mo, pp. 209. New York: Fowler & Wells Co. 1887.

About one year ago, the first edition of this book appeared. It received an extended editorial comment from The Medical Record. This article was widely quoted, and for several weeks there was quite an elaborate discussion upon the topic. The present edition of Mr. Terry's book is the second and contains "an appendix of corroborative proofs." A supplementary chapter contains answers to objectors. The theory put forth is that the sex of the embryo, resulting from a given conception, is the opposite of that of the party having the higher stage of sexual excitement at the time such conception occurred.

This theory is now fairly well established in the scientific world. In the appendix, the experiences of several well-known breeders of blooded cattle bear direct testimony to the truth of this view.

On page 134 occurs this paragraph: "There seems to be good reason for concluding that this mysterious influence, which brings together the two sexes in reproduction, is one of the phenomena of electricity," known in some of its phases 'as animal electricity,' and that it is governed by the somewhat mysterious laws of that fluid." The male is regarded as being positive, and the female negative. Dr. Franz Simon has found that the menstrual fluid is acid, while semen is alkaline. By the phenomena of "induction" and "residual discharge," there "must always be in the male parent an influence tending to induce the negative or female form in the germ he produces." In the female, the opposite prevails. But either party may be so feeble in the sexual desire that the residuary discharge may remain either decidedly positive or negative, that is, either a male or female embryo may result.

Many have objected to this latter aspect of Mr. Terry's theorem, that actual fecundation does not take place till two or three days after insemination. Hence, as there is not actual conception at the moment of contact between the male and female elements, the electric theory cannot hold. Mr. Terry makes a double rejoinder to these objectors.

First. "That admitting this delay, whatever vigor was imparted to the two, male and female, products at insemination would proportionally inhere at their junction with the same result as if their junction had been immediate."

Second. "I . . . claim that there must at once, on insemination, be a connection established between the male and female products. Just what this connection is, with our present knowledge it is not possible to say." An argument is found in the superfœtation of dogs, where the bitch is coupled to two different dogs in the same period of heat, and the subsequent litter shows puppies strongly resembling each father.

The foregoing are but a few of the many interesting facts and views advanced by this most intelligent layman, to whom the profession should feel under deep obligation. His volume is a most readable one.

Report of the Surgeon-General of the Navy (Dr. F. M. Gunnell) for 1886. 8vo, pp. 126. Washington: Government Printing Office.

Government reports are not generally considered interesting reading, but an exception must be taken to this one, which contains much valuable information, including communications from the various naval medical officers on foreign stations, and a full report upon our various naval hospitals. Concerning the medical corps the Surgeon-General speaks as follows: "I have to invite your attention to the condition of the medical corps of the navy. Its vacancies have not been filled for several years, resignations, deaths, and retirements having depleted it more rapidly than candidates have been obtained. The Bureau has not been willing to lower the standard of requirements, and it is impossible, with the present inducements offered, to find young medical men possessing the necessary qualifications, who are disposed to become medical officers of the navy."

The Year Book of Treatment for 1886. 8vo, pp. 304. Philadelphia: Lea Brothers & Co. 1887.

The contributors to this volume are all English physicians, who have summarized the important facts from medical literature in all languages. The book gives a very fair idea of the year's progress. Most of the extracts are made without comment. Interspersed among the pages are valuable bibliographical memoranda.

Phthisis in the United States.—Contrary to the opinion generally entertained, this country, taken as a whole, would seem to be favored above others as regards the liability of its inhabitants to pulmonary phthisis. According to Hirsch, the average number of deaths from phthisis is about three per thousand, and in many of the more populous regions of Europe it runs up to six or seven per thousand. In a paper on the "Geographical Pathology of Consumption," read by Dr. G. W. McCaskey before the Indiana State Medical Society in May, 1885, a number of statistics gathered from the United States Census Reports are presented, showing the mortality rate from the disease in this country. These tables reveal the fact that the mortality from phthisis in the whole country is only 1.8 per thousand, or less than that in Switzerland. Of course, the large centres of population present a much less favorable showing than this. The New England and Middle States and California show the highest percentage of deaths, the Interior and Lake States are very near the average for the whole country, while the South Atlantic and Gulf States, and the States and Territories west of the eighty-fifth meridian (except Texas and California) have a mortality of hardly more than one per thousand. Another fact at variance with the general belief, which is shown from Dr. McCaskey's tables, is that consumption is not, with anything like uniformity, more prevalent on the sea-coast than inland.

Reports of Societies.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, April 13, 1887.

T. Mitchell Prudden, M.D., President, in the Chair.

Dr. G. C. Freeborn presented, in behalf of a candidate, a specimen of *carcinoma of the uterus.*

Dr. Wackerhagen presented

THE UTERUS AND ITS APPENDAGES EXTIRPATED PER VAGINAM FOR CARCINOMA.

Mrs. H——, thirty-five years of age, a native of the United States, a housewife, and the mother of two children, came under his observation in consultation with Dr. J. E. Gregory, of Brooklyn, March 26, 1887. She had been suffering from pains and hemorrhage, with offensive and irritating discharge, since last December. Her general health had become considerably impaired from loss of sleep and appetite, and she was anxious to take the risk of an operation for the extirpation of her diseased uterus.

The patient was anæsthetized with ether, and, after thorough irrigation of the vagina and uterus with sublimate solution 1 to 1,000, the uterus was drawn down well with vulsellum forceps in each cervical lip. Two stout silk ligatures were then passed, by means of metallic spindles, through the left and right vault of the vaginal wall, for the purpose of including the uterine artery. An opening into Douglas' cul-de-sac, which was made with scissors (blunt), permitted the introduction of a finger into the peritoneal cavity, for the proper placing of the succeeding ligatures, but before these were applied the general peritoneal cavity was protected by an antiseptic sponge, and the mucous membrane and peritoneum covering the distal portion of the stump were sewn together by a continuous catgut suture, this last manœuvre effectually controlling hemorrhage. With a sound introduced into the bladder, a similar opening was made anteriorly. Here, also, the peritoneum was everted by a tenaculum and united to the vaginal wall by a continuous suture.

The left index-finger being now carried across and behind the left lateral mass between the two openings penetrating the peritoneum, this tissue was tied off in five sections. Attempting to carry out the same plan on the right side, it was found that the anterior incision had been too short and the finger could not pass so large a mass, to guide the ligating of this right vaginal wall, and consequently the ligation was made from both extremities toward a common point. This accomplished, the whole vaginal vault had been securely ligated and separated from its uterine attachments, and hemorrhage stopped without the loss of more than an ounce of blood.

The fundus uteri was now turned out and the ovaries brought down. There remained attached a portion of both broad ligaments on each side. These were tied off with silk, cut, and the uterus and its appendages laid aside. A portion of one broad ligament, and a small mass of the posterior stump oozed a little blood and demanded a secondary ligation. The stump was then stitched to the vaginal wall in several places to prevent its retracting and becoming inaccessible in the event of secondary hemorrhage. After thorough cleansing internally and externally and removing the sponges, which had very effectually shielded the peritoneal cavity (for their innermost surfaces were scarcely discolored), iodoform dressings were applied and the patient placed in bed. Her pulse was remarkably quiet and natural, and consciousness was restored within a short time. No vomiting occurred, and up to the present writing the temperature had not been above 99⅖° F. Dr. Wackerhagen was under obligations to Dr. Paul F. Mundé, who kindly assisted him in the operation.

The specimen was a multiparous hyperplastic uterus, cut longitudinally through the posterior wall, and with a tributary cut extending into the right cornua. The body was four inches long, with walls showing an excess of fibrous elements. The major portion of the enlargement was in the cervix, and of this particularly the right half of the anterior lip. By reason of this asymmetry the os externum did not form the apex of the irregular excavation in the invaginated portion, but was fully seven-eighths of an inch lower and five-eighths of an inch farther to the left. The mucous membrane was hyperæmic and thickened. The right ovary was cystic.

The Society then went into executive session.

Stated Meeting, May 25, 1887.

T. Mitchell Prudden, M.D., President, in the Chair.

Dr. Joseph W. Howe presented a patient on whom he had

LIGATED THE FEMORAL ARTERY UNDER COCAINE—SECONDARY HEMORRHAGE—TRANSFUSION OF LITTLE'S SOLUTION—RECOVERY.

The history of the case was as follows:

William B——, aged thirty, occupation fish dealer, was admitted to St. Francis Hospital January 18, 1887. He uses stimulants freely, and has had gonorrhœa and syphilis.

Six months ago he noticed a swelling in the popliteal space on the right side, which gradually increased in size and for four months past has been extremely painful. On examination a large pulsating tumor was found to occupy the whole of the popliteal space on the right side, extending upward to Hunter's canal. Over the tumor a loud rasping bruit was audible.

Two large angular sloughs were found in Scarpa's triangle, due to compression with the tourniquet before he entered the hospital.

On January 26th he injected a four per cent. solution of cocaine over the site of incision and ligated the femoral artery in the lower part of Scarpa's space, without pain. During the operation, however, the patient became pale and pulseless, and the operation had to be suspended for a few moments in order to administer stimulants. This collapse, he thought, was due to the cocaine.

When the operation was completed the leg was wrapped in cotton and a dose of opium and quinine given. Knowing that the previous attempt to cure the aneurism by compression had produced much sloughing, and being fearful of secondary hemorrhage, he took the precaution to keep a member of the house staff with him, and to place a tourniquet around the limb, ready to be tightened at a moment's notice.

On February 10th, fifteen days after the operation, there was considerable oozing of blood from the lower part of the wound around the ligature, which was stopped by making pressure with the tourniquet.

On the night of the 11th, the tourniquet being loose, a sudden gush of blood took place, which was stopped with the tourniquet by the house surgeon, Dr. Spence, but not before a large quantity of blood had been lost. On February 12th something went wrong with the tourniquet again, and another severe hemorrhage took place, and although the tourniquet was rapidly tightened, the patient was exsanguinated before the flow of blood ceased. The pulse could scarcely be felt at the wrist, there was great thirst which was not relieved by liquids. There were also great restlessness and sleeplessness. The day following Dr. Howe concluded to perform transfusion, and not being able to get blood to transfuse,

he injected into the cephalic vein ten ounces of Little's solution, prepared by the house physician, Dr. Hodenpyl. There was some relief from the collapse by the operation, but on the day following he seemed to be as low as ever, and he opened the same vein and injected *sixteen* ounces of the same solution. This latter injection was followed by immediate and well-marked relief. The pulse became fuller and the voice stronger. The pain in the lumbar region disappeared, and the patient expressed himself as feeling first-rate. There was no doubt about the efficacy of the injection.

The members of the house staff watched the patient faithfully night and day, keeping the tourniquet applied for a period of three weeks. At the end of that time the instrument was removed and no more hemorrhage occurred.

The patient's condition at this time, March 3d, was not good. The leg was œdematous and purple. The knee-joint was filled with liquid, and he was still very weak. He, however, gradually gained flesh and strength, and was discharged from the hospital in May.

There were two interesting points to consider in connection with this case, viz., the origin of the hemorrhage and the success attending the transfusion of nearly two pints of a saline solution instead of blood. The flow of blood was such as could only come from a very large artery. Query: Did it come from the femoral artery? He thought it did. Dr. Shrady, his colleague, thought otherwise, especially because there was no recorded case of recovery after any such accident. If it did not come from the femoral artery, where else did it come from? The blood started at the site of the ligature on the fifteenth day. The patient was exsanguinated by a few seconds' flow.

Then, with regard to the injection of the saline solution, he must say he had no faith whatever in it. He had never employed it before, and he only used it then because blood could not be had. The second transfusion, he thought, without doubt saved the patient's life.

Some time afterward he injected twelve ounces of the same solution into the veins of a boy in the hospital who had phthisis, Pott's disease, and abscess. It did him no good.

Jennings' Solution.—℞. Sodii chlor., gr. l.; potass. chlor., gr. iij.; sodii sulph., and sodii carb., āā gr. ijss.; sodii phosph., gr. ij.; alcoholis, ʒ ij.; aq. dest., Oj. M. et S.: Inject at 100° F.

Little's Solution.—℞. Sodii chlor., ʒ j.; potass. chlor., gr., vj.; sodii phosph., gr. iij.; sodii carb., gr. xx.; alcoholis, ʒ ij.; aq. dest., ℥ xx. M. et S.: Inject at 100° F.

Dr. Howe also presented a specimen removed from a case of femoral aneurism, in which he

LIGATED THE EXTERNAL ILIAC ARTERY UNDER COCAINE.

It was accompanied by the following history:

John W——, aged twenty-one, single, of Irish birth, and a boilermaker, entered the hospital January 18, 1887, complaining of severe pain in the right leg, and especially along the inner side of the thigh. It had begun five days before this, and was accompanied by numbness of the limb and severe pain on attempting to walk.

In September of the previous year he had suffered from an attack of typhoid fever. He had also had several severe attacks of acute articular rheumatism, and for four years believed his heart to have been affected, although he had never suffered from it further than from slight dyspnœa on exertion.

There were no evidences of venereal disease, and no history of alcoholic excess.

On examination the heart was found to be acting strongly; the pulse-rate was about 90. There was a loud mitral regurgitant murmur, and also an aortic regurgitant. The lungs and the abdominal organs showed nothing abnormal. The urine was examined with negative results. Locally, nothing was found to account for the pain. The patient was in a fair general condition, although somewhat anæmic. There was a slight elevation of temperature daily.

On the 25th, the second and third toes were found to be livid, and the whole extremity was cold and somewhat swollen.

On February 1st, a slight swelling was noticed immediately below Poupart's ligament in the line of the femoral artery, and this rapidly increased in size. By the 15th, there was a swelling the size of a hen's egg, which showed pulsation and presented a well-marked bruit. Pressure could not be applied below Poupart's ligament, and was very badly tolerated above.

The circulation had improved in the leg, and there was less tendency to gangrene. The patient's general condition had grown worse, and morphine had to be freely used to secure relief from the pain. He was then transferred to the surgical side of the hospital for treatment. The aneurism still continued to increase very rapidly in size, and on February 27th, scarcely four weeks from its first appearance, the skin over it was livid and softened, and rupture of the sac seemed imminent. Without hope of permanently benefiting the patient, but simply to do away with the danger of sudden death from rupture of the sac, he ligated the external iliac artery, first, however, injecting into the subcutaneous cellular tissue, over the artery, fifteen minims of a four per cent. solution of cocaine. This quantity of cocaine sufficed to make the operation a painless one, excepting at its termination, when the edges of the wound had to be widely separated to get at the artery.

On the third day after operation there was free oozing from the wound, which was opened and a search made for bleeding points. Slight compression was all that was necessary, however, to control it. On the sixth the temperature rose to 104½, and the abdomen became swollen and painful. The ligature came away on the ninth. He grew weaker rapidly, and on the tenth he died.

The autopsy showed the heart to be hypertrophied, and the aortic and mitral valves roughened and covered with vegetations. The pericardial sac contained a large amount of fluid. The lungs were congested. The intestines were distended. In the right iliac region, near the seat of operation, there were some fibrinous adhesions. There was no effusion. Both extremities of the ligated artery showed firm clots.

The points of interest in this case are first, the rapid development of a femoral aneurism in a young, bed-ridden patient; and second, the successful performance of the operation, without pain, by the use of cocaine as a local anæsthetic.

In this connection he wished to state that he had also amputated the mammary gland for scirrhus, in St. Francis Hospital, using during the whole operation forty minims of a four per cent. solution of cocaine. The operation was completed without pain, but at its termination the patient vomited. Whether this was the result of the cocaine or from shock, he was not prepared to say. These are the first cases of the kind on record where cocaine has been used instead of ether or chloroform.

Dr. Wyeth remarked, with regard to Dr. Howe's first case, that it was very unusual for constitutional effects to be developed by the injection of twenty minims of a four per cent. solution of cocaine, and he made this remark because he was so much in favor of the use of cocaine in surgery that he would dislike to have it discarded through fear to employ it. To be sure, it was not impossible for the effect mentioned by Dr. Howe to occur as a consequence of this moderate quantity, but as he had used the drug very extensively for the purpose of producing local anæsthesia, and had seen its unpleasant constitutional effects produced in only one case, and that where a drachm of this solution became actually forced into the tissues, he believed that the cases in which such effects would be produced were very rare.

With regard to

TRANSFUSION OF A SALINE SOLUTION

in Dr. Howe's first case, Dr. Wyeth said he was glad that Dr. Howe had acknowledged his conversion to the use of saline solutions for this purpose. He had had two cases in which he had practised injection of this solution with very marked benefit. One occurred in the practice of Dr. Sims, and the woman became exsanguinated in labor before the doctor's arrival. In that case, Dr. Wyeth injected twelve ounces of Little's solution into the median cephalic vein ; the improvement was immediate, and the patient recovered. It was Dr. Sims' opinion that she would have died, had she not had the benefit of the transfusion. The second case was one of hemorrhage after ovariotomy, in the practice of Dr. Mundé. In that instance twelve ounces of the saline solution were injected at two different times, and both injections improved the condition of the patient immediately and very markedly ; but, despite the benefit, the case terminated fatally.

Dr. Wyeth thought it was now generally accepted by surgeons that there was no better agent for transfusion than the saline solution.

Dr. Howe was unwilling to go so far as Dr. Wyeth in commending the saline solution, for he still believed that

THERE IS NOTHING BETTER THAN BLOOD FOR TRANSFUSION,

and that the saline solution was next best, and that it answered an admirable purpose where blood could not be obtained. Besides, to use the blood of an excited, nervous relative for transfusion was very unfavorable.

Dr. Wyeth presented

A BULLET

thirty-two calibre (Smith & Wesson's), removed from a man in whom it had lain for three and a half years. It passed through, and was followed by collapse and loss of function of, the right lung. It entered the third intercostal space, and lodged in the scapular region. The operation for its removal was performed under cocaine anæsthesia.

The case was made the text for the report of one of

STAB-WOUND OF THE LUNG,

that came under his care one year ago, in a man twenty-eight years of age. He was stabbed five times, and three times the blade entered the left lung from the middle up to the apex. Profuse hemorrhage followed from the wounds and also from the mouth. Collapse of the lung and empyema followed, for which Dr. Hunter McGuire, of Richmond, operated three times by incision into the thorax and drawing off the pus. The patient gradually failed, however, and finally came to this city, when Dr. Wyeth found a circumscribed empyema six by four inches and two inches deep. After the patient was anæsthetized he found that the incisions made by Dr. McGuire failed to give complete relief, because the ribs closed the opening almost immediately, and prevented drainage. Dr. Wyeth excised two inches of one rib, and then carried in a stiff drainage-tube and drained the cavity from the bottom. The patient improved, and, in the course of six months, recovered. The case was interesting because it showed the

NECESSITY OF SECURING PERFECT DRAINAGE.

The cavity was irrigated by varying strengths of a solution of bichloride of mercury, 1 to 3,000, 1 to 1,000, and even 1 to 500; and at times he felt that he was subjecting the patient to considerable risk, but no unpleasant results followed. He used the strong solution for the purpose of killing the pyogenic property of the lining membrane of the abscess cavity. In the Surgical Society stress had been laid on the absorption of a solution of 1 to 5,000 by the flaps after amputation at the hip-joint, so as to produce toxic effects, which he regarded as impossible, and he brought this case up in comparison.

The President said he had often wondered, in looking at pyogenic membranes, which are so distinctly septic, how either weak or strong solutions could be efficacious, because the colonies of micrococci were often so deep in the tissues.

Dr. Wyeth said that it was with the view to reaching the deep-seated colonies that he curetted the surface with his finger-nail, and practically hyper-distended the cavity.

Dr. Putnam-Jacobi suggested that it was not really the antiseptic, but the irritant, action of the strong solution that was obtained.

Dr. Van Santvoord presented

THE EAR AND TEMPORAL BONE

removed from a child aged eighteen months, that had had middle-ear disease of long standing, and died apparently from exhaustion, with marked emaciation.

On opening the skull a small abscess was found under the arachnoid at the root of the seventh nerve, on the left side. There was a sub-dural abscess over the petrous portion of the temporal bone. On opening the ear it was also found that the bone had been formed under the temporal fascia, and that the whole of the petrous portion was necrotic.

The point of special interest was the situation of the abscess with reference to an incision for its evacuation. The usual rule is to make the incision one-fourth of an inch, or perhaps more, behind the ear, but in this case such an opening would have been of no avail, as it was necessary

TO MAKE THE CUT DIRECTLY IN THE CREASE BEHIND THE EAR AND FORWARD.

He regarded this as an important point in connection with the surgical procedure adopted for giving exit to pus in these cases.

Dr. Garrish thought it was proper to trephine in all these cases, when there was evidence of severe inflammatory action.

Dr. Putnam-Jacobi presented a specimen of

DERMOID CYST BY INCLUSION,

removed after death from the body of a woman forty years of age, and the mother of nine children, who was admitted to the infirmary February 11, 1887. She said that her abdomen had been enlarged eighteen years, but that it had not increased in size during the last three years. She had been able to work until three weeks before admission, when she felt that something had ruptured in her abdomen.

On admission, there was found an immense tumor, reaching up to the epigastrium, that had separated the recti muscles, and allowed an umbilical hernia to form. The posterior wall of the vagina was prolapsed, and the cervix uteri was crowded under the symphysis pubis. The circumference of the abdomen at the umbilicus was 58½ inches ; the distance from the umbilicus to the pubis, 19 inches ; from the umbilicus to the ensiform cartilage, 18 inches ; and from the umbilicus to the anterior superior spinous process of the ilium on either side, 19½ inches. The patient failed rapidly and died.

At the autopsy, the muscular walls of the abdomen were found atrophied, and adherent to the peritoneum. This was greatly thickened, and closely adherent to the tumor, and the cavity contained an amber-colored, gelatinous substance, together with much yellow fluid. The tumor was found on the left side, and below the umbilicus. The sac had a large opening with smooth edges at the upper part. At this point the cyst had evidently ruptured at some time, and allowed the escape of the fluid and gelatinous material which filled the abdomen above it. Four or five masses, about the size of hen's eggs, were found attached to the omentum above the level of the tumor, and

contained sebaceous matter and hair. The question arose, whether or not the rupture occurred so late as six weeks before death, when the patient had suffered from a sudden pain in the abdomen, and sensation of something bursting inside? There was then a distinct cyst within the peritoneal cavity to which the peritoneum had become closely adherent. The left ovary could not be found. At the outer part of the tumor the coils of intestine were so closely adherent, and the adhesions were so numerous, that it seemed remarkable that the woman had not suffered from symptoms of intestinal obstruction. The cavity of the tumor was filled with amber-colored, semi-solid fluid, and masses similar to those found attached to the omentum. At one place spiculæ of bone could be distinctly felt, and a portion of a maxillary bone with one well-formed tooth were found. The masses within the sac also contained hair and sebaceous matter. The tumor seemed due to inclusion of germs from a twin embryo, rather than a degeneration of an ovary; for it was only connected with the pelvic organs by a fold of peritoneum, which passed from its lower surface to the upper or posterior wall of the uterus.

The President presented a specimen of

THROMBOSIS OF THE RIGHT AURICLE WITH CENTRAL DEGENERATION OF THE CLOT.

A German bartender was admitted to hospital April 8th. He answered questions reluctantly, and the previous history was therefore incomplete. He was a heavy drinker, and had been jaundiced for five years. There had been no vomiting. He had been in bed for three weeks, and for two weeks had been short of breath. His right arm was swollen, but he would not say how long it had been so. He was considerably jaundiced on admission, well-nourished, his mouth dry and brown with sordes. Respirations were thirty-two; chest expansion, fair. Marked dulness and tubular breathing at right apex, and voice much increased. No râles. Left apex breathing and voice increased.

Heart-apex fifth space, three inches from median line, regular, fair force, no murmur. There was marked subcutaneous œdema of the right arm and hand from neck downward. Nothing abnormal could be detected in the veins of the arm. There was a little œdema in the under-part of left arm and forearm, but none in shoulder or hand.

Pulse ninety-six, feeble, regular, rather high tension. He was in a state of low delirium, and died on the day following admission.

Autopsy.—Right auricle and ventricles moderately dilated. Valves normal. In the right auricle, just beside the entrance of the descending vena cava, and somewhat encroaching upon it, was a white, smooth-surfaced, globular, projecting thrombus, about one inch by three-fourths inch in diameter, closely adherent to the auricle wall by a broad base which quite filled up the cavity of the auricle.

The wall of the auricle at the seat of adhesion of the thrombus was rough on the inner surface, and the seat of several small areas of necrosis, while the muscle-fibres in this vicinity were in places necrotic, and markedly fatty. The central part of the thrombus was softened and formed a whitish semi-fluid mass which had the gross appearance of pus.

The central softening was so extensive that in places a thin wall only remained, enclosing the detritus. This softened material was found, microscopically, to consist of fragments of red and white blood-cells—the latter mostly fatty—and granular and fatty detritus.

Aside from a large central area of softening, the thrombus showed similar smaller areas in these parts, which were entangled among the projecting muscle-bundles of the auricle.

The subclavian and jugular and the veins of the arm appeared normal, as did the larger vessels of the lungs. The upper half of the right upper lobe of the *lungs* was the seat of excessive congestion and œdema. The posterior half of the lower lobe showed moderate congestion and œdema. The left lung showed moderate congestion and œdema of the posterior part of both lobes. There was general chronic bronchitis. The *liver* showed chronic congestion with chronic interstitial inflammation, both in moderate degree. The gall-ducts were patulous, the gall-bladder empty. *Kidneys* normal.

The thrombosis appears to have been secondary to a localized endo- and myocarditis of the auricle, of a necrotic form. The cause of the apparently primary lesion, he was unable to state.

He presented the specimen chiefly because it was so excellent an example of the lesion which has become classical under the name of the "globular thrombus" of Laënnec, and to show how thin and fragile may be the still firm portion of such a clot, which is all that retards the occurrence of multiple embolisms, and an increased complexity in clinical symptoms already obscure.

Dr. J. Lewis Smith presented, in behalf of Dr. W. P. Northrup, specimens from a case of

MEASLES COMPLICATED BY BRONCHO-PNEUMONIA AND VERY MARKED PARENCHYMATOUS NEPHRITIS,

occurring in a child aged two years and three months.

Dr. Garrish exhibited microscopic sections of

A DISEASED KIDNEY OF THE HORSE.

The Society then went into executive session.

Correspondence.

OUR PARIS LETTER.

(From our Special Correspondent.)

INTERNATIONAL CRIMINALITY—WHY SUICIDES CAN CUT THE THROAT WITHOUT MUCH PAIN.

Paris, July 28, 1887.

In an article by Dr. Lacassagne, a distinguished medico-legist, on "International Criminality," the author asserts that "criminality is submitted to fixed laws which vary according to the period, the physical and social surroundings, food, heredity, race, etc. These oscillations are neither the work of chance nor of spontaneous caprices; experimental method has scientifically disposed of these utopies on which a hundred generations of metaphysicians have fruitlessly cavilled." The author further asserts that crimes against persons are in direct ratio, and crimes against property in an inverse ratio, of the elevation of the temperature and of the length of the day. He also demonstrates, by curious graphical sketches, that crimes against morals always attain their maximum in the months of May, June, July, and August. This observation has given birth to a branch of science termed "criminal sociology," which has for its aim the objective study of the criminal world, and the research of causes which engender crime.

M. Lucet, a literary author, writing on the same subject, furnishes very useful information. It comprises eight States: Italy, France, Belgium, Germany, England, Austria, Hungary, and Spain. He divides international crimes into three principal categories: Homicidal. In this class Italy takes the lead, for in 100,000 inhabitants there are 9.53 condemned; then follows Spain, with 8.25; Hungary, with 6.73; Austria, with 2.44; France, with 1.54; Belgium, with 1.44; Germany, with 1.12; England, with 0.71. In the category of wounds Austria is at the head, having 230.96 condemned for 100,000 inhabitants. Belgium comes next, 175.40; Italy, 155.20; Germany, 126.40; France, 64.41; Spain, 23.18; England, 6.83. As regards immoral assaults, Germany and Belgium, according to the author, dispute rather closely the little enviable priority, for the former shows a proportion of 14.07, and the latter 13.87 condemned. France stands next, with 10.26 for 100,000 inhabitants. Then follows Austria, with 9.33;

Hungary, 6.89; Italy, 4.01; Great Britain, 1.31; Spain, 1.03. For theft Germany and England take the lead. Germany furnishes 226.08 condemned out of 100,000 inhabitants; Great Britain, 166.62. Of this number Ireland furnished 65.82; England, Scotland, and Wales furnishing the remainder. Information had not been received from Austria on this point; Italy gives 165.89; France, 110.96; Belgium, 90.44; Spain, 59.64; Hungary, 58.56 for 100,000 inhabitants.

That these facts should have an absolute value, it would be necessary to know, in the relative statistics of each nation, the proportion of habitual criminals. According to M. Lucet, the increase of the latter proves nothing in favor of the weakness of the general morality in the midst of a given collective number. He states that one must, on the contrary, conclude that the current perversity accumulates in a sort of purulent collection which serves as a derivative, and lodges itself within the limits of a group of people, that of malefactors by profession, whereas, by a phenomenon analogous to the economical phenomenon of division of work, the remainder of the population becomes refined and improved. It may, however, be deduced, concludes the author, from the irrefutable statistics given above, that "our good friends of London and Berlin will be very wrong for the future to load with contempt and malediction the modern Babylon, as it is called."

It has often been a subject of wonderment how it is that individuals, wishing to destroy themselves, can cut their throats to the spine, and sometimes even inflict on that part several deep wounds, without any apparent suffering, which would imply a courage almost superhuman, owing to the excessive pain that is supposed to be caused by the wounds. In a recent communication to the Academy of Sciences, Professor Brown-Séquard endeavored to give an explanation of this fact by experiments on animals, when he ascertained that an incision, even slight, of the skin of the neck, particularly in the neighborhood of the larynx, is sufficient to destroy sensibility in at least two-thirds of the anterior part of the neck, and often still further. These experiments were performed in reference to the triple murder that has been lately committed in Paris, where the victims did not appear to have suffered much pain, although they had their throats cut to the spine, for no cry had been heard. This circumstance would explain how it is that individuals who attempt to commit suicide by cutting the throat are not deterred by pain from the completion of their design. When the larynx is cut, complete anæsthesia, according to the eminent physiologist, is produced. The skin of the neck possesses, as the larynx, though to a less degree, the power of inhibiting sensibility; and the larynx, the trachea, and perhaps the skin that covers them, possess the power of causing death under a sudden mechanical irritation, in the same manner as the spinal bulb, and thus suddenly arrest the great functions of the nervous centres as well as those of respiration and circulation. Several individuals who have committed suicide by hanging have perished, not by asphyxia, as may be supposed, but by syncope determining the arrest of the heart and of the circulation. At the autopsy, instead of finding dark blood in the arteries, as after asphyxia, the blood has been found red; death is produced by nervous shock.

This scientific revelation might be taken advantage of to recall to life people partially asphyxiated by galvanizing the skin of the neck. This proceeding, according to Brown-Séquard, will prove more efficacious than insufflation of air into the lungs. If electricity can render service in the case noticed above, it very often causes death, particularly since electric lighting necessitates the employment of conducting wires at times very long. Electricity, then, kills by direct action, by the destruction of the tissues, or by reflex action, in producing various lesions. For the most part there is an arrest of the respiration, which produces asphyxia. In this case artificial respiration might bring to life an individual struck by lightning.

Army News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from July 31 to August 6, 1887.

SUTHERLAND, CHARLES, Colonel and Surgeon. Leave of absence extended one month. S. O. 174, A. G. O., July 29, 1887.

FRYER, B. E., Major and Surgeon. Relieved from further duty at Fort Lowell, Ariz. S. O. 176, A. G. O., August 1, 1887.

BROWN, HARVEY E., Major and Surgeon. Relieved from duty in Department of Missouri, and ordered to Jackson Barracks, La., for duty at that post. S. O. 174, A. G. O., July 29, 1887.

GARDINER, JOHN DE B. W., Captain and Assistant Surgeon. Granted leave of absence for one year on surgeon's certificate of disability. S. O. 177, A. G. O., August 2, 1887.

Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending August 6, 1887:

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	39	9
Scarlet fever	32	6
Cerebro-spinal meningitis	2	2
Measles	30	4
Diphtheria	82	23
Small-pox	6	1
Yellow fever	0	0

IN THE SURGICAL CLINICS AT STRASSBURG.—Naphtholin, a white powder with a peculiar, disagreeable odor, which was formerly used as the antiseptic in the dressings of all wounds, has been discarded. As far as its antiseptic properties were concerned, Professor Luecke was entirely satisfied with it, but it irritated the skin, and in the majority of cases caused an eczema which was very difficult to cure. Therefore it is no longer used, and now carbolic acid, iodoform, and solutions of corrosive sublimate have taken its place. The starch-bandage, which was at that time always used as the external covering upon all large dressings, is still frequently applied. It gives a stability to the dressing which is very comfortable both to patient and surgeon.—*Cor. Cincinnati Lancet and Clinic.*

INEBRIETY IN AMERICA.—Dr. Crothers traces the origin of the American recognition of inebriety as a disease to Dr. Benjamin Rush, and the first practical application of treatment in a special home to Dr. J. E. Turner, of Maine. There are now fifty different hospitals for inebriates in America, with over one thousand patients, besides about one thousand under treatment in private families and other surroundings.

OSTEOTOMY OF THE PELVIS.—In a letter from Dr. Senn, in the *Journal of the American Medical Association* (May 7, 1887), mention is made of a new operation proposed by Macewen. The latter claims that his experiments have demonstrated that section of the pubic bone, an inch and a half or two inches from the symphysis, and of the ascending ramus of the ischium, would add one and a half inch to the antero-posterior diameter of the pelvis. By such an operation, in cases of difficult labor from contracted pelvis, Macewen proposes to do away with the much more serious operation of abdominal section.

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INTRA-PERITONEAL HÆMATOCELE CONSIDERED AS A CONSEQUENCE OF RUPTURED TUBE-PREGNANCY, WITH REPORT OF A CASE.[1]

BY CHARLES A. L. REED, M.D.,

PROFESSOR OF SURGICAL DISEASES OF WOMEN IN THE CINCINNATI COLLEGE OF MEDICINE AND SURGERY, AND OF CLINICAL GYNECOLOGY IN THE WOMAN'S MEDICAL COLLEGE OF CINCINNATI; FELLOW OF THE BRITISH GYNECOLOGICAL SOCIETY, ETC.

Two years ago, I invited the attention of this Society to the surgical treatment of *extra*-peritoneal hæmatocele. I then urged that, in a vast majority of cases, the extravasation should be left alone, as absorption would take place; but that in certain other cases, such as recurrent hemorrhage and suppuration, of which I gave an illustrative instance, the bleeding-point should be controlled by laparotomy. This year, I beg to call your attention to *intra*-peritoneal hæmatocele, and to urge precisely the same central idea in treatment. If it were necessary to offer any excuse for presenting this subject, other than its inherent surgical importance, it would be that in England the whole question is not only a moot one in scientific circles, but has recently figured as a problem in medical jurisprudence. In this latter relation the question raised was, essentially, should the uterine appendages be removed on the affected side in cases of intra-peritoneal hæmatocele? And if so, why? The answer given was in the affirmative, because, it was alleged, that in the cases operated upon the hæmatoceles resulted from ruptured tubal pregnancies, and that the extravasation was perpetuated by a bleeding-point in the rent in the tube. It is my purpose to devote this paper to a partial discussion of this relatively new postulate in abdominal surgery, rather than to a systematic study of accumulations of blood within the peritoneal cavity.

In examining the early literature of this subject, one is struck with the fact that writers on tubal pregnancy never failed to speak of rupture of the sac as a fruitful cause of hemorrhage into the abdominal cavity; yet, when they began to discuss this latter condition under the head of hæmatocele, they almost invariably failed to speak of tubal pregnancy as an etiological factor. This, indeed, is true of a large number of our modern authors. If, therefore, we desire to get the views of authors, early or modern, on this important question, we have to examine their utterances under the head of tubal pregnancy rather than hæmatocele. This holds true of Duverney's case, recorded as having occurred as early as 1712. It is stated by Mr. Lawson Tait,[2] in the "Ingleby Lecture" for 1886, that Bernutz,[3] in 1848, was the first to recognize the causal relationship existing between tubal pregnancy and hæmatocele, and to indicate the proper line of treatment, viz., laparotomy and ligature. I am disposed to accept this claim for Bernutz, so far as it relates to a suggestion of treatment; but I must insist that all the *essential conditions* of intra-abdominal accumulations of blood from ruptured tubal pregnancy were recognized and described[4] by one of Mr. Tait's own countrymen, Dr. John Burns, of Glasgow, as early as 1814. It is true, Burns does not use the word "hæmatocele," which was coined by Nélaton a quarter of a century later, and which is such a positive misnomer that it had better never have been coined at all.

Burns, however, said that "the sac might burst and the patient die from hemorrhage." He clearly described the subsequent changes when he said that "irritation is produced, inflammatory symptoms supervene, and hectic takes place." He still further indicated his insight into these cases when he said of them that "the most frequent termination is that by inflammation ending in abscess." And I know no better way to round out a description of what is now known as hæmatocele than by employing Burns' observation that the suppurating contents of a burst tubal pregnancy "might be enclosed in a kind of cyst of lymph." Blundell,[1] writing in 1830, recognized the same condition, and said that he did not doubt that "many women die in this way, but, being buried without examination, the real cause of their death is never ascertained." He even went so far as to *mention* the expediency of abdominal incision for the control of the hemorrhage, but doubtless under the pressure of the mediæval conservatism of Guy's Hospital—a conservatism which still exists in that institution—he abandoned the idea, leaving it to be again suggested by Bernutz thirty years later, and finally to be realized by Mr. Lawson Tait after the lapse of a half-dozen decades. Between Blundell and Tait, numerous writers touched upon both topics, but relatively few of them recognized that tubal pregnancy caused intra-peritoneal hæmatocele. As soon as Nélaton, and, subsequently, Bernutz and Goupiel, began to write upon hæmatocele, the profession appeared to drift away from the definite etiology and pathology so clearly outlined by John Burns, until latter-day authors attribute the condition to almost every other than what I believe to be the one most fruitful cause. One of them,[2] while not entirely ignoring tubal pregnancy as a cause, manages to so hide it under glittering generalizations that the obscuration amounts to a negation. Thus we are told that hæmatocele may come from: "1, Reflux of blood from the uterus; 2, direct outflow from the pelvic or lower abdominal blood-vessels; 3, metastasis, or transudation in certain blood diseases." Of these three general conditions the second is, to my mind, the only one not open to the most rational doubt. The valve-like arrangement of the tubal endothelium is sufficient to subject the first proposition to a fatal uncertainty. I entirely agree with Emmet,[3] that the "contents of a distended uterus never pass into the peritoneal cavity unless by rupture of that organ itself or of the uterine portion of the tube, which may have become dilated." The metastatic doctrine, considered in this relation, lacks that confirmation which would justify us in saying that the extravasation is anything else than "a direct outflow from the pelvic blood-vessels." It strikes me that this classification must finally resolve itself under the one head. But why should the lower abdominal or pelvic blood-vessels rupture? I am aware that, as a consequence, generally, of repeated and frequent pregnancies, the intra-pelvic veins sometimes become varicosed; and that, under the pressure of premenstrual congestion, pelvic inflammation, or mental shock, they sometimes rupture, but in that instance the escape of the blood is beneath the fold of the broad ligament and, consequently, extra-peritoneal. And here I want a word about an extra- becoming converted into an

[1] Read before the Ohio State Medical Society, at Toledo, June 16, 1887.
[2] Lancet, October 30, 1886.
[3] Bernutz and Goupiel: Diseases of Women, translated by Meadows. New Sydenham Society, 1866.
[4] Principles of Midwifery, by John Burns, edited by James, vol. i., p. 168. Philadelphia, 1817

[1] Principles and Practice of Obstetrics, p. 442. Washington, 1834.
[2] Harris, Internat. Encyclop. of Surgery, vol. vi., p. 823.
[3] Emmet: Prin. and Prac. Gynecology, p. 242.

intra-peritoneal hæmatocele. It strikes me in view of the ease with which the peritoneum can be peeled off the pelvic and abdominal walls, that it would yield its normal adhesion rather than rupture in its continuity to accommodate the pressure of the increasing clot. As a consequence, I believe that the cases are few and far between in which the peritoneum ruptures from the mere force of the circulation, and permits a clot which had formed outside of it to escape into the abdominal cavity. I have been forced to this view by several cases[1] of extra-peritoneal hæmatocele upon which I have operated, and in some of which the peritoneum was pushed as high up as the umbilicus. In these instances the resistant power of that membrane was put to the test, and not found wanting. In one case, in particular, the rupture and extravasation were the results of mental shock occurring at the menstrual period; but in that case, in which the accumulation was the largest I have ever seen or read of, the peritoneum did not rupture. It is not designed by this evidence, which is far too limited to serve for general conclusions, to deny, much less to disprove, the doctrine that hemorrhage from veins situated outside the peritoneum may cause, primarily, extra-peritoneal hæmatocele and, secondarily, by rupture, intra-peritoneal hæmatocele; but it is designed to prove that these varieties are not so easily convertible as some authors, as, for instance, Emmet, would have us believe, and that when accumulations of blood occur within the peritoneal cavity, the strong probability is that they result from hemorrhage directly into that cavity. If, now, we grant the existence of tubal pregnancy and consider the bursting of the sac, we can understand how, in at least the vast majority of such cases, the resulting hemorrhage would be intra-peritoneal. And, if we go a step further and consider the demonstrated frequency of inflammatory disease of the Fallopian tubes, the resulting destruction of the endothelium, the consequent facility with which the spermatozoa may pass into the ampulla, the fecundation of the ovum and fixation of the products of conception at that point, we can understand why tubal pregnancy is of much more frequent occurrence than was formerly supposed. We can readily understand, too, how the fanciful classifications of the origin of the blood, which we have quoted, come to be reduced to the one head, viz., "rupture of the lower abdominal or pelvic blood-vessels," and how, in the particular of intra-pelvic hæmatocele, such rupture probably depends, in the majority of instances, upon the existence of tubal pregnancy. I have called attention to Harris' classification because he is one of the ablest writers in America, and because it is teachings such as his that have led the profession away from what later experiences are proving to be one of the most fruitful and, until very recently, one of the most fatal causes of pelvic hæmatocele, and that have, as a consequence, diverted attention from what, in the light of modern surgery, is the only rational treatment of the condition.

It is fortunate, however, that the other side of this important pathological question has not been entirely neglected. From the time Blundell, in 1830, and Bernutz, in 1848, guessed at the nature of these cases and suggested the expediency of abdominal section for the control of the progressive hemorrhage, there was no one to put the suggestion into practice until Mr. Lawson Tait,[2] in 1881, at the urgent solicitation of Mr. Hallwright, of Birmingham, did the operation. It was the beginning of a new era in the intelligent understanding and management of these hitherto intractable cases. Prior to that time the mortality was almost one hundred per cent.; since that time I have heard of no one losing a case subjected to Mr. Tait's line of treatment, except in one instance, and that was a case in Mr. Tait's own hands. The pathology upon which the treatment was based, and which has been confirmed by the revelations of the treatment itself, has, however, been more generally accepted than has the practice. Schroeder,[1] J. Veit,[2] and Kirrisch[3] are among the leading Germans who agreed with Fritsch,[4] that "the most frequent source of the hemorrhage is the ruptured ovisacs of a tubal or other extra-uterine pregnancy." Among gynecologists, Tait, Imlach, Berry Hart, Thomas, and Emmet are among the most conspicuous who concur in the doctrine, while among the obstetricians, Lusk, Parvin, Barnes, Galiban, and Playfair may be mentioned; indeed, it appears that among those who are the closest students of this question there is practical unanimity that tubal pregnancy is the most common cause of intra-peritoneal hæmatocele, but, as I have intimated, there is less unanimity on the subject of treatment. Why there should be variance on this question, when there is practical agreement on the more primary and fundamental one, is not apparent, unless we shall find that different constructions are placed upon those pathological changes which take place subsequent to extravasation. To my mind those changes were described with great fidelity to truth, if not to details, by John Burns, already quoted. There are, however, several points of difference between later writers. Thus Fritsch[5] says: "The blood in the peritoneal cavity does not remain fluid, but coagulates very rapidly." Tait[6] says: "When blood flows in quantity into the peritoneal cavity, probably by reason of its dilution by the lymph always present there and easily excited into excessive flow by any abnormal condition, it does not show much tendency to coagulate save in a very fitful and fragmentary way." This is a starting-point of a further divergence culminating in the matter of treatment. Fritsch says: "The operative treatment of hæmatocele has given very bad results." Tait says of his first twenty cases operated upon, "The recovery has been complete and permanent." If we study the pathological changes subsequent to rupture, we have to take into consideration severale lements, viz.: 1, The blood; 2, the fœtal structures; 3, the placental tissue; 4, the lacerated tube; 5, the peritoneum. My own experience accords with that of Imlach and Tait, that the blood remains largely liquid; I am, however, so thoroughly convinced of the absorbent power of the peritoneum that I believe it would take up the extravasated blood were it not for one or both of two conditions, viz., continuous hemorrhage and suppuration. But here are precisely the occurrences which interfere with the spontaneous cure of the vast majority of these cases. Interpreted in the light of well-known pathological laws, the changes which take place are as follows, viz.: Suppuration begins with the fœtus, which, by being deprived of the environment necessary for its growth, dies; the blood is the next to yield, and the placenta last. If we consider the necessary death of the fœtus, I do not see how we can expect to get along for any considerable time in these cases without having pus; although the failure to find remnants of fœtal tissue in certain instances shows that suppuration may either be deferred until after absorption of the embryo has become more or less complete, or that it has the power to completely disintegrate the, as yet, almost protoplasmic products of conception. The behavior of the peritoneum is different at different stages; thus, immediately after rupture of the tube, the blood and fœtus, like any other foreign bodies or irritants, provoke it to increased vascularity, and there is a temporary transudation of serum; if, however, suppuration does not ensue, the vascularity of the membrane accommodates itself to the new conditions, the serous flow ceases, and the absorbent function begins to be exercised. But let tissue-disintegration begin in the fœtal structures, and, as a consequence, suppuration ensue in the exuded blood, the behavior of the peritoneum is changed at once—vascular-

[1] Transactions of the Ohio State Medical Society, 1885.
[2] Lancet, October 25, 1886; also, Diseases of Ovaries, p. 348.

[1] Handbuch der Krankh. der weibl. Geschlechtsorgane, 7 Aufl. Leipsic, 1886.
[2] Zeitschrift für Geburt und Gynäk., 1884.
[3] Quoted by Lusk: Midwifery, p. 289.
[4] Fritsch: Dis. of Women, p. 289. New York, 1883.
[5] Op. cit., p. 290.
[6] Lancet, October 30, 1886.

ity leaps at a bound to inflammatory stasis; a stream of serum is thrown out; cell-proliferation takes place on the surface; plastic lymph is exuded; proximal surfaces become agglutinated, and the suppurative process becomes temporarily limited by a sort of provisional encystment. But we have omitted to speak of the Fallopian tube; what has it been doing? With a rent in its continuity it has been adding to the volume of blood already extravasated, and this addition goes on, because of the lax condition of the tubal walls themselves, because of the non-resistant power of the exuded clot and of the neighboring intestines, and, finally, because of the enlarged condition of the vessel itself. With the volume of blood gradually increasing, with the product of rapid cell-proliferation, and with the increasing volume of exuded serum all added to the temporarily limited mass of suppuration, the pressure is increased, the peritoneal adhesions yield, the pus is brought in contact with a denuded and now absorbent surface, and septicæmia results; or, suppuration aside and the hemorrhage alone progressive, what other result than ultimate exsanguination can be expected? What wonder that, under the old let-alone régime, the mortality in these cases was almost universal?

With this pathology as the guide, the duty of the surgeon with regard to treatment is, to my mind, obvious. It is merely an application of that general law of surgery which, as formulated by Tait and applied to these cases, is as follows:[1] "For surgical hemorrhage, cut down and tie the bleeding-point; if a big branch of the femoral artery were bleeding, my colleagues who deal with such cases would cut down and tie it. Why should Poupart's ligament be a line of demarcation within which this writ will not run?" Bernutz and Goupiel[2] say: "The indication in such cases is plain—we must stop the hemorrhage." No person, I fancy, who properly realizes the situation in these cases will deny the propriety of the proposition; but it occurs to me that there are other indications than hemorrhage for surgical interference—the damaged tube, the fœtal structures, and the placental tissue demand attention. Of the latter two it may be said that, even though they become incapsulated and partially absorbed and the residue remain innocuous, they cannot be considered in a surgical sense other than as foreign bodies, and, as such, constant menaces to the health and life of the patient. The tube of necessity becomes destroyed as an oviduct, and, if left intact, it will only be to figure at a later period as a hæmato-salpinx or a pyo-salpinx, and consequently to ultimately demand extirpation. Not losing sight of the fact that some of these cases do well—*i.e.*, the patients live when left alone—the rule remains, that laparotomy is demanded by four considerations, viz.: (1) To control the hemorrhage; (2) to remove the products of conception; (3) to extirpate the tube and, of course, the ovary; and (4) to remove the elements of sepsis. It would be well in this connection to mention certain conditions under which I would question the expediency of removing the appendages. I allude to those cases in which the tube and ovary have become adherent to the adjacent parts (and they are generally in this condition), and in which suppuration has already taken place (which is relatively less frequent). To tear the tube and ovary away under such circumstances would be to expose the patient to the dangers of septicæmia by bringing purulent material directly in contact with a raw and absorbent surface. In these cases I would control the hemorrhage by passing a deep ligature through both folds of the broad ligament, precisely as I recommended in my former paper should be done in cases of intractable extra-peritoneal hæmatocele.

For the purpose of illustrating the foregoing principles, I beg leave to call your attention to the following case:

Mrs. H——, aged thirty-nine, became pregnant in March last. She missed twice. Not desiring children, she took an abortifacient of some sort. A few days later she called in a physician to control a metrostaxis. She deceived him as to the exact nature of her case, which now took a different turn. The metrostaxis ceased, but she was seized with violent pains low down in and to the right of the pelvis, and she fainted twice during the day. A few days later she called in Dr. H. E. Twitchell, of Hamilton, to whom she gave a history of recent rigors followed by high temperature. He found a tumor occupying Douglas' cul-de-sac, which he took for the fundus of a retro-displaced uterus. Coupling these physical conditions with the history of abortion, he concluded that the conception was dead, but that, owing to the position of the uterus, it had not been discharged, and that the clearly septic symptoms were of intra uterine origin. He sent for me to relieve the uterus of its contents. On my arrival, May 6th, I found, in addition to the foregoing physical conditions, diffuse tumefaction in the pelvis, the cervix well forward under the pubis, a tender and tympanitic belly, and a temperature of 104° F. The condition was so like what I have seen in retroflexion of the gravid uterus that I was disposed to accept Dr. Twitchell's diagnosis. The inflammatory symptoms were so great, however, that I concluded to give the patient some opium and quinine, pack the vagina with a tampon of glycerine and tannin, and wait until the next day.

May 7th.—The tenderness had so far subsided that it was deemed expedient to try to evacuate the uterus. The sound introduced as a guide did not, however, turn backward into the supposed retroflexed fundus, but followed the ordinary course three and one-fourth inches. A curette-forceps was now introduced, and numerous shreds of decidua were removed. Bimanual examination now enabled me to make out the womb and the retro-uterine mass as two separate bodies. Around this central fact the whole history of the case now took shape, and a diagnosis of tubal pregnancy, with resulting hæmatocele and abscess, was pronounced. Laparotomy was done the same afternoon, Drs. Twitchell, Skinner, and Fitton present and assisting.

A two-inch incision was made. The peritoneum was found stained with blood, studded all over with patches of exudation-lymph, while all proximal surfaces were agglutinated. On introducing my finger, and passing it toward the cul-de-sac, I found myself breaking up these adhesions, which were but slightly resistant, until presently it appeared to drop into a sort of cavity. Fetid pus, semiliquid blood, shreds of fœtal tissue, and placental *débris* now came welling up through the incision. Sponges were introduced to limit the diffusion of this septic material; and an attempt was made to pump out the remainder with aspirator-tube, but failed. I now introduced sponge after sponge, throwing each one away as I removed it, until they came back coated with laminated placental tissue rather than blood or pus. Recourse was now had to flushing, and pitcherful after pitcherful of water was thrown into the abdomen. Not satisfied with this, I drew out the intestines, carefully mopped them off, returned them, and again flushed. A sponge now removed showed a fresh blood-stain, and I felt that I yet had a bleeding-point to deal with. The tube was, however, firmly adherent, and I felt that to tear it loose would expose its site to infection from some possibly remaining pus. I consequently satisfied myself with ligating through both folds of the broad ligament, leaving the tube within the silk. I again flushed, introduced a drainage-tube, and closed the abdominal incision. The patient was put to bed; her temperature before the operation was 104.4° F.; she now had a rigor, which I attributed to shock; after this the temperature again went to 104° F., but speedily came down to 99°.

The after-treatment consisted in Bantock's method of irrigating the cavity every two hours with a solution of sulphurous acid, beginning with one part in twenty of water, increasing the strength finally to one in five. In the

[1] Lancet, October 30, 1886.
[2] Diseases of Women, p. 202. New Syden. S c.

early stages of the case I added twenty-five per cent. of glycerine, my object being to favor the exosmotic action of the tissues and thus render absorption the more improbable. Considerable pus was washed out each time for several days. No opium was given. On the fifth or sixth day, however, the temperature ran up to 103°, occasioned, as might have been expected, by the development of an abscess in the primary incision; this, however, was opened by Dr. Twitchell, who obliterated it with a single application of powdered salicylic acid. At the end of the third week drainage was discontinued, the sinus in the abdominal wall being kept open by a pledget of cotton. A few days later the patient had a rigor, and her temperature ran up nearly to 104°. Dr. Twitchell promptly reopened the channel with a bullet-probe, and removed a very perceptible quantity of pus from the original sac. The sinus was now further dilated by slippery-elm tents passed the whole length, when a drainage-tube was reintroduced, and the case treated as before. From this point she made an uninterrupted recovery.

This is but a single contribution to the record of laparotomy for the relief of conditions which, prior to 1881, were almost uniformly fatal. From that time up to the date when Mr. Tait sent the fourth edition of his book to press (1883), he had operated upon twenty cases, with twenty recoveries, while in his "Ingleby Lecture," already quoted, he says: " . . . between January, 1883, and July, 1886, I operated upon twenty-five cases, saving twenty-four of them, a very striking contrast to the old plan of letting them alone to die." Dr. Francis Imlach, whose brilliant record entitles him to recognition as one of the pioneers in this extension of abdominal surgery, told me, when I was with him recently in Liverpool, that he had done sixteen cases, with sixteen recoveries. I have not had time to examine the serial literature for the further record of this operation, although I believe that in England, Bantock, of London; Greig Smith, of Bristol; and Sinclair, of Manchester, have been identified with it. But take the brief record that I happen to have at hand, and that is presented herewith, and we have sixty-two cases operated upon, with only one death. Where, in the annals of extra-uterine fœtation, is a similar record to be found in the let-alone policy?

Let me conclude this paper, which is already too long, with the following summary: (1) Intra-peritoneal hæmatocele is an intra-peritoneal accumulation of blood. (2) Ruptured tubal pregnancy, the most common form of extra-uterine fœtation, gives rise to an accumulation of blood within the peritoneum. (3) In consequence of the fluid condition of the extravasated blood and of the yielding character of the adjacent tissues, the hemorrhage has a tendency to continue. (4) In consequence of the death of the fœtus, there is developed a marked tendency to suppuration. (5) In consequence of becoming a foreign body, the product of conception, even though it become encysted, is a constant source of danger. (6) The damaged tube, if left *in situ*, can serve no other than a pathological purpose. (7) Laparotomy is therefore called for to (*a*) control progressive hemorrhage, (*b*) to remove dangerous *débris*, (*c*) to extirpate worthless appendages, and (*d*) to overcome septic conditions. (8) Extirpation of the appendages should not be practised when adhesions are firm, and free pus exists in the sac. I was taught this lesson some years ago by losing a patient from pyæmia in which the pus, discharged from an infinitesimal cyst which was accidentally ruptured, had been absorbed by the raw surface from which an adherent ovary and tube had been torn. (9) In cases in which the appendages are left, the bleeding, if slight, may be controlled by the styptic influence of the sulphurous-acid irrigations, or, if considerable, by deep ligature of the broad ligament. This is the expedient which I suggested to this Society in a former paper. I had occasion to apply it first for the control of intractable hemorrhage in a case in which I had enucleated a very large intra-ligamentous cyst of the ovary, and I did it last in the case reported in this paper. The observance of these rules will, I believe, result in the highest success of a line of treatment the adoption of which is demanded by the revelations of pathology and the dictates of modern surgery, and the vindication of which is to be found in the brilliant record which it has already scored.

MORBUS BASEDOWII.[1]

(Exophthalmic Goitre; Graves' Disease.)

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It is now over forty years since the acute Dublin observer reported three cases of females afflicted with a disease which, in England and France, bears his name. They had symptoms very much alike, viz., violent and long-continued palpitation of the heart, enlargement of the thyroid gland, and protrusion of the eyeballs. Graves noted that the size of the thyroid was variable, that the pulse was singularly rapid at all times, and that there was great disproportion between the beating of the radials and carotids, that of the latter being much more violent than that of the former vessels. But shortly before him had the Merseburg physician, Von Basedow, described the same disease still more accurately. Hence most of the continental nations call the malady by his name. A common, but hardly a proper, term for it is exophthalmic goitre. During the past forty years the literature of the subject has become very extensive.

This disorder is now generally classed among the nervous diseases, although its precise pathology is still far from being known. Benedikt, for instance, places its seat somewhere in the medulla oblongata, Filehne in the restiform body, Geigel in the sympathetic spinal centres, and Eichhorst somewhere in the sympathetic nerve. Charcot considers it a general neurosis allied to hysteria. Few now believe it to have any particular relation to anæmia and chlorosis, more than one of coincidence. But pathologists have not as yet discovered any constant characteristic lesions in the nerve-paths, although many have examined them carefully. The gross pathological changes are in the thyroid gland, heart, and orbits. In the gland are found aneurismal and varicose dilatations of the arteries and veins, with hyperplasia of the glandular substance and its connective tissue as a result. The heart, as might be expected from its laborious action for long periods of time, becomes more or less hypertrophied, and sometimes dilated. Occasionally other lesions, apparently casual, of an inflammatory, degenerative, or valvular nature, are found. The exophthalmia diminishes post mortem, and seems to depend chiefly upon the distention of retro-bulbar blood vessels, together with some œdema or deposit of fat in the orbital connective tissue.

Twice as many women as men are afflicted with the disease, and usually between the ages of fifteen and thirty; but occasionally even very young children or aged people may suffer from it. As to constitution, blond, hysterical, nervous, blue-eyed people are more particularly subject to it. Climate probably has no influence over it, although Eichhorst and others aver that it has. Heredity, however, plays a rôle here, as in so many other nervous affections. Although but few cases are recorded where more than one member of a family has had Basedow's disease, many have been described where other hereditary neuroses existed in other members of the family. For instance, in the case I shall presently describe of Basedow's disease conjoined with insanity, the father died insane.

The etiology is obscure and manifold. As causes have been mentioned mental shock, such as fright, grief, excitement, and physical strain, injury, or weakening diseases.

[1] Read before the Medical Society of the County of Dutchess, June 8, 1887.

The three cardinal symptoms merit here more particular description, and in the wonted order of their development:

I. The frequency of the heart-contractions is from 110 to 120–150 per minute, sometimes even countless. The palpitation is often very painful and accompanied by dyspnœa. Very exceptional cases have been described where the heart's motions were retarded. Percussion will often reveal hypertrophy or dilatation, and auscultation often a systolic bruit of no grave significance, which is also audible over the large vessels of the neck and thyroid gland, and even the whole aorta, and may give rise to a suspicion of aneurism. Sometimes there is mitral insufficiency due to dilatation, or other serious lesions which may be regarded as accidental. The violent action of the heart may not only make itself visible in the arteries, but even distant veins may exhibit pulsation.

II. The swelling of the thyroid gland may be rapid or slow, to considerable dimensions, or not take place at all. Its increase in size is secondary to the acceleration of the heart-movements, and may not appear for months or years after the cardiac symptoms; for the malady is essentially chronic in its nature. Sudden development is exceptionally rare. The struma is seldom large, and generally the right lobe is larger than the left. That it pulsates at times has already been mentioned.

III. The protrusion of the eyes is the third symptom in the order of evolution. It is sometimes more marked upon the right side. The exophthalmia can exist in various degrees, from a slight separation of the lids when the eyes are closed, to almost complete luxation of the eyeball from its socket. It is rare that ulcerations of the cornea occur on this account. Von Graefe pointed out the lack of co-ordination between the movements of the eyeball and upper lid in this form of exophthalmia. He thought it always present; but it is doubtful if it is pathognomonic. Other disorders of the eye found in a case of Basedow's disease may be considered coincident only.

Charcot has found in some cases another symptom, viz., tremor of the muscles in general, or of groups of muscles. Marie thinks that tachycardia and tremor would be sufficient alone for the diagnosis of the disease. Various other neuroses can be concomitant, such as chorea, neuralgia, and paræsthesia. Sometimes there is a tendency to increased secretion from the skin, kidneys, and salivary glands, while nosebleed is common, and hemorrhages from the lungs and bowels occasional in the disorder. Amenorrhœa is frequent.

Changes in the skin, due to altered tissue-nutrition, have been noticed, such as sclerema, bronzing, urticaria, and vitiligo, and from similar causes even gangrene of the lower extremities.

Increase of temperature, great thirst, and ravenous appetite or distaste for food, have also been remarked.

The disease is usually long-continued and not favorable for treatment, but cases do recover.

So much for the physical symptoms. A singular mental condition is coincident with the disease, which was not observed by Graves, but which Von Basedow and others have described as a desperate cheerfulness out of all proportion to the gravity of the malady. It is an extraordinary emotional state, a certain buoyancy of spirits, a hopefulness, not at all in accord with the physical status of the patient which characterizes almost every case. There is often peevishness, an unusual irascibility, and there may be at times a certain amount of depression; but the chief psychopathic symptom is high spirits. When cases are complicated with hysteria, hypochondria, or epilepsy, other mental phenomena are manifested. There may be even maniacal outbreaks. I have at hand the record of a case which came under care in a condition of dementia, but the earlier history cannot be obtained. The following, however, which has been under my observation for the past year and a half, will serve to illustrate some of the above physical and mental symptoms. I describe it especially because of the interesting psychic condition of the patient. A photograph is also presented herewith showing the degree of exophthalmia, and the size of the goitre.[1]

H. B——, female, aged twenty-one, shop-girl, single, common-school education, blue-eyed and yellow-haired, was brought under my treatment in October, 1885. Her height (5 feet 1 inch) and weight (112½ lbs.) showed the usual normal ratio between the two. She seemed in good physical health and was not anæmic, and her bodily condition is about the same now.

It was two years before this that she first noticed the beginning of the prominence of the eyes and the enlargement of the thyroid. These symptoms manifested themselves shortly after the death of her mother and some serious illness of her own, possibly typhoid fever; but these facts are related by herself, and no reliance whatever can be placed upon her statements. As bearing on the question of neuropathic taint, it may be added that her father died insane in an asylum a few years ago.

The patient's heart is somewhat hypertrophied. The number of beats per minute varies from 110 to 160. There is a loud systolic, blowing murmur heard over the heart, aorta, subclavians, carotids, and whole thyroid gland. The pulsations are visible in the larger arteries and in the epigastrium. It has been stated that the pulse in this disease varies greatly in the carotids and radials; but sphygmographic tracings in this case fail to show greater differences than exist in healthy persons. There is naturally in all persons greater accentuation in the carotids, and the tidal wave arrives there sooner than in the radial; hence the apex of the sphygmograms may often appear bifurcated. Accompanying this are two sphygmograms from the patient's carotid, taken a week apart, and also tracings from the right and left radials at four different dates. The greater accentuation in the katacrotic elevations (especially that of the tidal wave) of the carotid tracings is well marked. In all of the sphygmograms it will be seen that the blood-pressure is high.

The thyroid gland is enlarged chiefly upon the right side, and is soft and pulsating. Both eyes protrude very markedly. The exophthalmia is equal upon both sides. When the eyes are closed in sleep the lids do not cover the globes. The sensibility of the conjunctiva is normal. Accommodation is good. There is slight dilatation of the pupils, for which a little myopia will account. There are no fat-lumps under the lids, such as occasionally described. The color-vision is normal. The inco-ordination of the movements of the superior palpebra and the ocular globe, the symptom pointed out by Von Graefe and others, is entirely absent in this case. The lachrymal secretion is increased, naturally owing to the tendency to dryness of the partly uncovered cornea. The ophthalmoscope reveals vessels slightly dilated in the retina.

The patient has no muscular tremor such as described by Charcot. She has often sensation of heat of the skin. I have had her temperature taken for three weeks three times daily. Although it has varied in that time from 97½° to as high as 103° F., it was generally nearly normal in the morning, rising toward evening to 99½°, or a trifle more.

With the natural exception of the lachrymal, there has been no increase in the secretions—not in perspiration, saliva, or urine. The last-mentioned fluid has a specific gravity of 1.022, is pale, averaging 2½ pints daily in quantity, and contains no sediment, no albumen, and no sugar.

At times she has had hæmoptysis (but the lungs are normal). Nosebleed is frequent with her. She menstruates, however, never more than one day, and has had at times amenorrhœa for months.

She often suffers from thirst. Her appetite has every indication of being normal.

[1] The photograph and sphygmograms presented with the paper are here left out, because they do not differ from similar illustrations in the text-books.

There are no pathological states of the skin, such as sclerema or discoloration.

She has frequent attacks of dyspnœa, when the pulse becomes countless and palpitation extreme.

What I consider further noteworthy in this case are the enormously enlarged tonsils. These have been increased in size since about the time of the thyroid enlargement. Owing to the untruthfulness of the patient, it is impossible to decide definitely whether the hypertrophied tonsils are the result of tonsillitis or a manifestation of the same process as takes place in the thyroid gland and retro-orbital tissues. The tissue of the tonsils is of a kind very susceptible to the influence of change in blood-supply; and the tonsillar artery is part of the dilated carotid system. In the literature of the disease I find no reference made to these organs. Possibly they may never have been examined, or the hypertrophy in this patient be merely a coincidence. In any case the matter merits some investigation.

The fact that the thyroid gland is generally larger upon the right side, and that the right eye sometimes protrudes alone or earlier than the left, has led me to suggest that the cause of this may lie in the anatomical arrangement of the carotids. As the right carotid presents a somewhat more direct route from the left ventricle to the head, the shock and pressure of the column of blood are felt upon this side rather more strongly than upon the left.

The mental peculiarities of this patient had developed at the time I first saw her, and were so marked as to have her pronounced insane by her friends and physicians; and in the year and a half since then there has been no perceptible alteration in her psychic state, which may be briefly described as follows:

Subject as she is to severe attacks of dyspnœa and palpitation, when her pulse mounts to 160 and over, and her temperature rises two or three degrees, she will leave her bed in any of these spells for pleasure of any description, such as dancing, singing, or a theatrical entertainment. Effort in any useful direction wearies her, and she is indisposed to employment of even the lightest kind; whereas the nervous enjoyment she experiences in an hour's waltzing or other amusement seems to render her superior to any sense of pain or fatigue. She is utterly oblivious to the necessity of caring for herself, and will take a rôle in a play, or sing—for both of which she has a small talent—or dance a whole evening, knowing she must pay dearly for it by suffering in bed the next day. She has an unnaturally exalted opinion of herself, exhibiting to a more than usual extent the vanities of her sex as regards fine dress and a pretty appearance. She steals the dresses and finery of other women whenever an opportunity presents itself, and much watching is necessary to oppose this kleptomaniac tendency. She is constantly telling falsehoods on every conceivable subject; says she has travelled in Europe; has had this and that adventure, etc., which have no foundation in fact, and are not delusions, but which are symptoms of a degenerate moral nature. Insolence and irritability are traits which have gradually developed in her character. She will deny having stolen articles which she wears upon her person at the time of accusation.

Though naturally very plain-faced, and now unpleasantly disfigured by her protruding eyes, she believes herself very beautiful and charming. She sings and plays a little, but scarcely enough to justify her studying for the operatic or dramatic stage, for which she considers herself adapted. She manifests a fondness for male society which has been the occasion of considerable care on her account, and it is probable that she masturbates. She is also inclined to fabricate stories of gross immoralities perpetrated by those about her, her sisters, friends, or physicians, and gossip of them among her associates.

However, aside from these more marked manifestations of mental perversion, the buoyancy of spirits or emotional exaltation may be considered as very characteristic in this case.

Eulenburg mentions the frequency of alteration in the emotional state among these cases. Trousseau describes in some of his patients traits similar to many noted above.

Austin Flint, Walshe, Handfield Jones, Fletcher, and J. B. Andrews, have remarked in most of their cases irritability to some extent.

In conclusion, I would like to suggest a rather different theory of the origin of the disease from that commonly described, such as that it is due to vaso-motor paralysis, or vaso dilator irritation in conjunction with stimulation of the cardiac accelerator.

All at least are agreed that the cause is in some lesion of the nervous system. The equilibrium between the accelerating and inhibitory fibres of the heart, which hold that organ in normal rhythm and pulsation, seems in this disease to be in some manner overthrown. But I think the evidence will support rather a theory of diminished action in the cardio-inhibitory nerve than one of stimulation of the nervus accelerans cordis. That there is in most cases lessened vitality in the cardio-inhibitor is shown by the fact that veratrin and digitalis seem no longer to be able to exert much influence over the nerve. The experience of Eulenburg, Von Graefe, Fritz, Geigel, Cerf Lewy, Eichhorst, and others, is that these cardiac depressants have no stimulant effect upon the inhibitor in ordinary doses, and they do not advise the use of them. Even Trousseau, who, on the contrary, speaks highly of the efficacy of digitalis in the treatment, says that it is necessary to push the administration of the drug until toxic effects are produced. Another fact to be borne in mind is that the inhibitory branch of the vagus also regulates the rhythm of the heart, and one of the marked phases of this malady is the violent and frequent palpitation, or interruption of cardiac rhythm.

In my opinion, therefore, an anatomical lesion in the cardio-inhibitory nerve-path, or its medullary centre, which diminishes but does not destroy its functional activity, is the cause of Basedow's disease.

Because of this lesion the heart is not prevented, as it normally should be, from quickening its movements to an extraordinary degree, or from even losing at times the rhythmical character of its pulsations. Owing to the anatomical distribution of the largest arteries, and the greater directness of the route here than elsewhere, the brunt of increased blood-pressure and cardiac force is borne by the blood-vessels going to the head. After a long period of resistance these vessels tend to dilate, especially in any distensible tissue, rich in arteries and veins, that may be met with on the way. The thyroid gland is such a tissue. Indeed, the best physiologists are now inclined to the belief that the function of this organ is to regulate the blood-supply to the head. Is it strange, therefore, that long-continued cardiac acceleration and violence should tend to increase its size? Is any theory of lesion of vaso-motor or vaso-dilator nerves necessary to explain it? But there are two additional grounds for adopting this view:

1. The gland increases or diminishes in size in exophthalmic goitre with the quickening or retardation of the heart's action. The gland may be for weeks at a time only moderately distended, with a pulse at 110. Then some hours of palpitation, or some days of 160 beats per minute, will greatly augment its size.

2. As before mentioned, there is a tendency for it to enlarge first and to a greater degree upon the right side, for which the anatomical arrangement of the carotids affords to me an easy explanation.

Whether the tonsils undergo a similar change, as they might be expected to, in this disease, is uncertain, my own case being the only one recorded that would at all support such a view.

The next tissue that the blood-pressure meets to act upon is the retro-orbital, an easily distensible, elastic, cellular tissue, rich in arteries and veins. Here there is

sometimes, as mentioned before, greater proptosis upon the right side than the left, probably for the reason already given. Brain pathologists state that acute mania, which is a condition of psychic exaltation, is due to active cerebral hyperæmia; and with at least equal justice can I suggest that the mild emotional exaltation, so frequent in Basedow's disease, is probably due to the rapid and increased flow of blood to the brain, the dilatation of cerebral vessels, and pressure.

Finally, a few words as to treatment. The seat and cause of the disorder being obscure, the therapeutical measures recommended vary with the theories adopted by the different writers upon the subject. As in general with medicinal treatment, an almost laughable diversity of opinion exists as to the efficacy of certain remedies. For instance, the latest and best German authorities advise the internal use of iodide of iron, together with galvanization of the cervical sympathetic. But Troussean will tell you that both iodine and iron are very harmful in these cases.

In my patient the iodide of iron has been taken some time and galvanization of the nerves of the neck used, but thus far without benefit. An ice-bag to the cardiac region often alleviates the attacks of dyspnœa and palpitation. This treatment shall be continued until something better, more scientific, is discovered, which can only be when the mystery of the disease is solved.

STATISTICS SHOWING THE RATIO OF PATIENTS OF THE WHITE AND THE BLACK RACE WHO WERE THE SUBJECTS OF HEMORRHOIDS AND OF ANAL FISTULA, THE TWO MOST COMMON SURGICAL DISEASES OF THE RECTUM AND ANUS.

By WILLIAM BODENHAMER, A.M., M.D.,

NEW YORK.

After reading a brief report of an interesting discussion upon the subject of the "Surgical Diseases of the White and Colored Races Compared," I feel disposed to present, as a small contribution to the common stock of data upon this subject, for what they are worth, my own individual observations with regard to the two most common surgical diseases of the rectum and anus—namely, *hemorrhoids* and *anal fistula*—and the percentage in which these two affections were found in the two races according to my own experience in private practice only. It would be idle, however, to attempt to found any exact conclusions upon so small an amount of data. I hope, however, that others, feeling the same degree of interest in this matter that I do, may continue to report additional facts in relation to the surgical as well as the other diseases of the negro race, and thus aid in arriving at correct decisions upon this subject. Indeed, a complete treatise upon the nature, causes, and treatment of the diseases of the negro race in the United States would at present be a desideratum in medical literature.

In the extreme Southern portions of our country, where derangements of the liver and other digestive organs are so common, their natural concomitants, anal and rectal affections, prevail to a great extent, especially the two diseases under consideration; for it is conceded that warm climates greatly dispose to the development of those diseases. They doubtless operate by inducing the bilious constitution.

With regard to my own experience in the treatment of the Southern blacks, it was gained previous to the civil war, when they were slaves. I have but little experience in the treatment of free negroes, although I have resided in New York a number of years. In the study and in the treatment of the Southern negroes, in order to success, it was found to be both important and necessary to divide the race, as it exists, into classes—as, *blacks*, *mulattoes*, *quadroons*, and *octoroons;* for each class has its peculiarities, and differs more or less with respect to disease, to cause, and to effect, all of which had to be recognized and appreciated. In the table below, however, the negroes are classed together, as it was only contemplated in this brief article merely to compare the two races with regard to the ratio in each of the two diseases.

In examining the several volumes of my case-book, in which are recorded the date, name, age, sex, residence, occupation, disease, and the result, as related to each patient, I find that during a practice of twenty-one years in the cities of Paris, Ky., Louisville, Ky., and New Orleans, La., *ante-bellum*, I treated surgically the number of cases of hemorrhoids and of anal fistula as represented in the following statistical table, compiled from my case-book:

	Number of cases.	Whites.	Blacks.	Males.	Females.	White males.	White females.	Black males.	Black females.	Slaves.	Free blacks.
Hemorrhoids.	2,321	2,265	56	1,466	855	1,423	842	43	13	48	8
Anal fistula..	1,541	1,444	97	1,125	416	1,050	389	70	27	88	9

I will now name a few of the other diseases of the rectum and anus which came under my observation in the treatment of the Southern slaves.

I saw and treated but few cases of anal fissure in the negro, and they were principally female mulattoes.

I found prolapsus recti common among the negroes, especially among the out-door laborers or field-hands.

I saw but few cases of anal or rectal stricture in the pure negro; but I treated a number of both forms of the disease in female mulattoes and quadroons. They were mostly of a venereal origin.

I met among the negroes a number of cases of fistula in perinæo, more or less complicated with fistula in ano. They were generally caused by neglected or badly treated gonorrhœa.

I found tubercular disease of the rectum not uncommon among the negroes, especially among the cross-breeds. These cases generally proved fatal.

Cancer of the rectum, so common in the whites, must, in my opinion, be exceedingly rare in the pure negro race. So far, at least, as my own experience goes, I never saw a case of cancer of the rectum in any of its forms in a black slave, but I met with two marked cases, one a mulatto woman, fifty-five years old, and the other a quadroon woman, aged thirty-eight.

As to the congenital malformations of the rectum and anus, they were very uncommon among the Southern slaves. So far as my experience extended, I only met with one case, and that was at New Orleans in the winter of 1848. It was a male mulatto child. The case is reported in my treatise on the congenital defects of the rectum and anus.

The status of the Southern negroes is now completely changed, consequently their habits, their customs, and their diseases must also necessarily have undergone changes with it, so that the treatment of their diseases now, as free, must also differ, more or less, from that consequent upon their former condition as slaves.

In their state of servitude, especially as out-door laborers or field-hands, the slaves were compelled to lead regular lives; they were drilled and disciplined like soldiers, having stated times for meals, for work, for rest, and for sleep, and, as a general rule, they always had plenty of food, plenty of clothing, and plenty of work, all of which was certainly of benefit to them, so far as their health was concerned. When they became sick or injured they were at once sent to the plantation-hospital, where the same physician or surgeon who attended the whites attended them.

It was supposed by those who were unacquainted with the real condition of the Southern slaves that they were necessarily oppressed, but their very appearance was a contradiction of this. Their bodies, instead of being

emaciated or attenuated, were plump, full, and round, and their skin, instead of being dry, husky, and scaly, was soft, oleaginous, and glossy; and as a further evidence, generally, of their sound and their physically good condition, they multiplied like rabbits. They were docile, tractable, cheerful, and happy, and had no cares for the morrow; and at the close of the day, when their work was done, they would lay down "the shovel, the rake, and the hoe," and retire to their cabins "to take up the banjo, the fiddle and bow." Indeed, their station in life in the South as slaves really saved them from many of the habits, customs, callings, and diseases of civilized life, and was to them a real blessing in their then condition. I do not mean by this language, however, to be understood as endorsing the system of slavery, but simply to show the favorable hygienic or sanitary condition of the negroes under that institution; for it must be perceived at once that the question of slavery, either right or wrong, is not involved in this purely medical discussion.

Previous to the abolition of slavery in the South, an impression prevailed generally in the North that, in consequence of the depressing and evil effects, as was supposed, of that institution, the slaves suffered greatly in excess of the whites from diseases generally, and that the mortality was always great. Statistics proved, however, that that impression or belief was by no means warranted; but, on the contrary, there was much less disease among the slaves, according to numbers, than among the white inhabitants.

The diseases of the slaves, as a general rule, were quite amenable to proper treatment, and during illness they were not, generally, fretful or complaining, but manifested much patience and calmness; and it was well known by surgeons that they bore injuries and surgical operations equally as well as the whites, and recovered as rapidly.

249 Madison Avenue, June 22, 1887.

SPECIMEN OF PYO-SALPINX REMOVED DURING THE ACUTE STAGE OF SYPHILIS.[1]

By A. J. BOLDT, M.D.,
NEW YORK.

A. A——, aged twenty-two, married three years; never pregnant. Menstruation began at seventeen years. Four years ago the patient first began to complain of vague pelvic pains, but avers that up to the present time she received no treatment, and that only within the past two months she has been suffering severely. The menses have always been irregular and scanty, the flow occasionally not oftener than once in two or three months, and usually only of one day duration; but she suffers intensely with dysmenorrhœa, the pain beginning one to two days prior to, and continuing during the flow. Now she complains of constant severe pain in the left inguinal region, and of intense backache in the lumbar region, which is also persistent. Some pain in the right inguinal region, but neither so excruciating nor constant as on the opposite side. These pains are so severe that the patient is unable to attend to her domestic duties. Severe cephalalgia, pains radiating down the thighs, and occasional chills are also present. She positively denies having had illegal intercourse with anyone, until three and a half months ago, and also denies any single symptom of gonorrhœa. She informed me recently that she elicited that her companion had a chancre at the time of intercourse with her, but denies more. Her husband denies having had venereal disease at any time. Dr. S. Kohn, who referred her to me, was then treating her for syphilitic pharyn- and laryngitis; she also had a well-marked lenticular papular syphilide, and the characteristic mucous patches of syphilis on the mucous membrane of the mouth and on the tongue.

[1] Remarks made before the Surgical Section of the New York Academy of Medicine, with the presentation of the specimen.

On examination both tubes and ovaries could be felt much enlarged and tender to touch. The right adnexa could be felt much enlarged and movable; not so the left, which seemed to be surrounded by a mass of exudate, and was only distinctly mapped out under anæsthesia. The temperature at this time was 99.2° F. in the axilla, and it may be mentioned that her temperature, under constant observation during the next few days, varied between 99° F. and 100.6° F. in the axilla.

The diagnosis of a probable double pyo-salpingitis of syphilitic origin was made, and, on account of the severe and constant pain from which the patient was suffering, abdominal section for the removal of the diseased uterine appendages *without much delay* was advised by me, because the tubes seemed to me apparently distended to such an extent that the probabilities were that the walls at some point were so much thinned that there was some danger of rupture, and subsequent general peritonitis, which is almost positively fatal in its result when due to such a cause.

The patient having consented to operation, this was done in the usual way, and presented nothing unusual, except on the left side, where the adhesions were quite firm, as was suspected by me. The wound healed by first intention, and there was not the slightest sign of pus, to be seen anywhere. This is the second time that I have opened the abdomen during the acute stage of syphilis, with an equally good result in both instances, so that I believe the only danger attending operations during the acute stage of this constitutional disease is self-infection, therefore the operator need be careful to prevent this on himself by the usual precautions; but so far as the healing of the wound is concerned, I do not believe the constitutional disease makes a particle of difference. Of course the case stands differently if the constitution has become broken down by the chronicity of the ailment, as in tertiary syphilis.

I do not wish to affirm with positiveness that *this* pyo-salpinx is due to syphilis, but it is my opinion that such is the case, and that we have before us a variety of disease called syphilitic pyo-salpingitis, on the basis of its etiological factor, for the following reasons:

First, the patient's condition became worse soon after the time of infection with the syphilitic poison, and we know from clinical observation that an inflammation of the Fallopian tubes, with the formation of pus within them, may result very rapidly after exposure to some suitable cause, especially if there had previously been present a *catarrhal salpingitis*, to which the history of this case points.

Secondly, because an examination of some of the pus did not reveal the gonococci of Neisser, although this in itself would be no proof against the specimen which I exhibit, being of the variety known as *salpingitis gonorrhoica*, for the reason that occasionally the gonococcus cannot be found in the tubal secretion of cases about which there is no doubt as to their gonorrhœal origin from a clinical stand-point. Occasionally we meet cases in which a salpingitis is developed within twenty-four hours, from an injudicious intra-uterine application; that is, the symptoms of an inflammation of the uterus, parametritis, and a localized peritonitis are present; then, after the acute symptoms have passed off, the enlarged Fallopian tube, or tubes, with the usually co-existing oöphoritis, frequently more or less parametritis, etc., can be recognized by the experienced examiner.

To prove this by actual observation on the dead body has been my good fortune within the past few weeks.

I was called to see a patient, in consultation with a gentleman, who gave me the following history: The woman had for some time been suffering from chronic endometritis, for which she had been under my colleague's care. He had been in the habit of using intra-uterine injections of tincture of iodine, full strength, and so far without any serious effect; twelve days previous to the time when I saw her with him, she received the last

treatment of this kind, and at once began to complain of intense cramps in the lower part of the abdomen, so severe that she rolled on the floor in his office. Morphia was used hypodermically, so that in about two hours the pains had abated to such an extent that the patient could go home, or, rather, be taken home. On the next day the symptoms of a localized peritonitis were fully developed, and also of rheumatism, to which she had been subject for several years, and which had left its effects on the heart. The pains in the lower part of the abdomen were constant and severe, which, in addition to the rheumatism from which she was suffering, made it necessary for her attendant to keep her under morphia.

The temperature had been between 102° F. and 104° F. in the vagina; at the time of my visit, however, it was 105.6° F. On examination I found the uterus very sensitive, and to the right side of this organ the pelvis was filled with an exudation; so sensitive, however, were the parts that I desisted from a more careful examination without an anæsthetic, the use of which was not deemed advisable by either of us on account of her very low condition, in connection with the existing acute endocarditis, which had been ingrafted upon the chronic endocardial inflammation. I interpreted the case as follows: The iodine had found its way through the uterine opening of the right Fallopian tube, and into the tube, which caused the severe pain of which she at once began to complain. The fact that she apparently complained of equally intense pain on the other side was not taken into consideration by me—that some iodine had entered both tubes. That the fluid had penetrated into the tube on the right side I concluded from the fact that only on one side the exudation was present. The diagnosis then rested on a chronic endometritis primarily, the treatment of which, by an unfortunate accident, gave rise to a traumatic salpingitis, which rapidly became septic; in other words, it became what is practically known as a pyo-salpinx, which, however, could not be distinctly felt by me, for the reasons already given, but was strongly surmised from the history, and the fact of feeling such exudation on one side, which the doctor said had not been there previously.

The salpingitis also gave rise to the parametritis dextra and the pelveo-peritonitis, etc.

That her endocarditis had a septic element, in all probability an ulceration-endocarditis, from this cause, was no further question in my mind.

The patient died on the following day, and the autopsy confirmed my suspicion. The right Fallopian tube was distended with pus and the corresponding ovary had several minute abscesses on the surface and in the interior, besides being much enlarged; the tube ruptured while attempting to remove it from its bed of adhesions, and it was believed that, on account of its very thin walls, in all probability this accident would have taken place later spontaneously, if the patient had not succumbed to her endocarditis. The left tube showed evidence of *catarrhal salpingitis* only. This case, then, serves as a good illustration of how rapidly a pyo-salpinx will sometimes develop. I could also cite a case which occurred during the earlier part of my own practice, from an exactly similar cause, the actual condition of which only became clear to me later; the patient recovered, but the accident taught me a never-to-be-forgotten lesson, and how to make intra-uterine applications in a more careful manner. I might go on and give examples of three other cases of rapid development of pyo-salpingitis, were it necessary. A factor which I think should be taken in consideration when a *pyo-salpingitis* does develop so rapidly is, that previously a *catarrhal* salpingitis, which in all probability was never recognized, had existed in many, if not in all, instances, which makes the ground, so to say, quite fertile. The term *pyo-salpingitis*, without another adjective, is perhaps quite sufficient for all practical or clinical purposes, but, scientifically, it is exceedingly improper, because it expresses absolutely nothing more than an inflammation of the Fallopian tubes, which, as a result of this inflammation, are filled with pus.

I would urge very strongly, therefore, that all become accustomed, in giving a description of any particular case for scientific purposes, to bear in mind the different etiological factors, and then specify the pyo-salpinx accordingly, if the cause can be ascertained; if in doubt, to avail ourselves of the advances made in bacteriology, which will, if the examinations be made by competent observers, clear up some cases, and undoubtedly in the future give us more advantages. Such accumulated specification and observation of cases with reports will, perhaps, later on lay the foundation for different views regarding this disease.

Any variety of the disease may, I believe, result in death—for instance, I have seen a general peritonitis in a phthisical subject, which was caused by a pelvic abscess, which again was caused by the rupture of a *pyo-salpinx* on the left side. The ovary appeared to me, macroscopically, tuberculous, which a microscopical examination confirmed, and proved the salpingitis to be of that variety properly designated as tubercular salpingitis. It is not at all my intention to go into the different varieties of salpingitis, leaving this for some future occasion; my object merely being to attempt to show that a well-marked *pyo-salpingitis* may be produced by syphilitic infection, and that occasionally, in a comparatively short space of time, as I believe this to be in my case, and also that, on account of existing acute syphilis, we need not hesitate to do even a capital operation for fear of the wound not healing readily; only must we bear in mind the one great secret of successful surgery—*strict asepsis.*

A CASE OF WELLNIGH FATAL HEMORRHAGE FROM THE CONJUNCTIVÆ,

The Result of an Instillation of a Two Per Cent. Solution of Nitrate of Silver in a Day-old Infant as a Prophylactic Measure.

By OREN D. POMEROY, M.D.,

NEW YORK.

B. A——, a male child, from the middle walks of life, was born of healthy parents on April 30, 1887. The physician did not arrive until after the child was born. Mother had excessive uterine hemorrhage, which reduced her to an almost pulseless condition, and the most prompt measures were required to restore her. She, however, made a rapid recovery.

On account of the mother's requiring so much attention the child's eyes were not specially attended to until the next day, at about 12 M., when two drops of a two per cent. solution of arg. nit. in water were placed upon the slightly separated eyelids. The doctor thinks that not more than one drop came in contact with the palpebral conjunctivæ; this was at once neutralized with a solution of salt and water. The drops were applied from a spoon, and no laceration of the conjunctivæ resulted from opening the lids.

At once the most violent pain resulted, which continued for five or six hours, the child crying constantly during this time.

At about 7 or 8 P.M. a serous discharge was then noticed from the eyes, which in two or three hours became tinged with blood.

This continued as a slow oozing during the night, becoming more sanguinolent until about ten o'clock of the next day, when the doctor arrived. He found it to be now almost wholly sanguinolent. He at once used cold applications which, having no effect, were changed to hot. Neither of these succeeding, resort was had to digital compression. This arrested the hemorrhage dur-

ing the contact of the fingers, but as soon as the fingers were removed bleeding recommenced.

I arrived at 1 P.M. Compresses of absorbent cotton, with vaseline to prevent imbibition, were at once applied by means of a firmly applied bandage; this arrested the hemorrhage for an hour, but it again returned, first in one, and after a little in the other, when two more bandages were applied over the first. This controlled the hemorrhage until 6 P.M., when it again commenced. At 8 P.M. I again saw the patient, and found the bandage soaked with nearly or quite pure blood, clots readily forming beneath the eyelids.

Iced applications were now made with temporary success; this failing after an hour or an hour and a half, the upper lids were everted and touched with alum in substance. This did no good; the slow but persistent oozing of blood was startling to observe.

A compress was then applied very firmly, with sheet-rubber applied to the eyelids, knowing that blood *could not* soak into the cotton compresses. The bandage was applied very tightly indeed, the attending obstetrician reminding me that a child's head in the inferior straits was often compressed for hours with great intensity without harm. The bleeding now ceased.

This compress remained thirty-six hours; on removing it, it was found that the left had not bled a particle, but the right had lost about half a drachm.

The bandage was reapplied to the right for one day, when there was found to be no more hemorrhage. Blood-clots were found beneath each eyelid, but it was thought injudicious to remove them, and a bichloride collyrium was used.

On the next day the clots were found to have disappeared, and a saturated solution of boric acid in water was ordered to be used twice a day.

The lids were now carefully inspected, and each upper lid showed that there had been a superficial slough. The retro-tarsal folds were considerably swollen, but the corneæ were perfect. Child opened the eyes readily; no photophobia; continued wash.

At the third day it seemed as though the child might die. The pulse was very feeble; patient extremely quiet; respiration weak; showed inability to nurse, for hours at a time, and when it did so only caught the nipple feebly. It was estimated that four ounces of blood had been lost. Stimulants were used, and in two days the child rallied satisfactorily, so that in a week there was no further trouble. The parents seem fairly healthy and strong; the mother, it is true, had serious post-partum hemorrhage, but there was no tendency toward being hæmaphyllic, nor is there a history of anything of the kind in the family. The child only bled from the conjunctivæ.

I found it difficult for a time to believe that the collyrium could be the cause of the trouble; not more than a single drop touched the palpebral conjunctivæ, not a particle touched the globes on account of somewhat imperfect separation of the eyelids, and the prompt neutralization of the collyria by a solution of sod. chlorid. still further rendered the application apparently safe. Three weeks after the instillation both upper eyelids exhibited a minute cicatrix.

I have made ineffectual efforts to obtain an exact examination of the solution, to determine whether it was properly dispensed. By the chloride-of-sodium solution I thought a more dense precipitate was thrown down than in the case of a solution known to be two per cent. It evidently was not *much* stronger than intended.

MEDICINE AMONG THE BEDOUINS.—The Sultan of Turkey has sent a commission to Tripoli to study the various methods of treatment of disease in vogue among the Bedouins, and the different plants used by them for therapeutic purposes.

NOTES ON TWO CASES OF POTT'S DISEASE, ILLUSTRATING THE DIFFICULTY OF DIAGNOSTICATING BETWEEN UPPER DORSAL AND LOWER CERVICAL CARIES IN VERY YOUNG CHILDREN.[1]

BY JOHN RIDLON, A.M., M.D.,

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I DESIRE to present to you notes on two cases of Pott's disease. They are as follows:

CASE I.—Male, born of healthy parents, and with hereditary history free from tuberculosis, scrofula, or syphilis, so far as can be ascertained. When six months old he began to throw his head backward and show evidence of pain when the head was moved. This condition increased until, after four and a half months, the head rested on the shoulders and could not be bent forward from that position. Lateral bending in either direction was also equally resisted; and there was but slight rotation. The chin looked forward and upward, and the sterno-mastoid muscles were equally prominent. Any attempted movement of the head caused screams of pain, and the mother was constrained to nurse him on her knees by the cradle. There was no evidence of kyphos at any point. The finger was not passed into the throat. He started and cried in his sleep, and had grown thin.

CASE II.—Male, has a good hereditary history so far as can be learned, with the exception that one grandmother had "consumption." The child was healthy up to the ninth month. After that he had a cough and was sickly; when twenty-eight months old he began to throw his head backward and show stiffness in the neck. There was little or no complaint of pain, but there was restlessness in sleep. He was a fat, but flabby, child. At the end of eight months he walked with head thrown well back, almost resting on the shoulders; chin looking forward and upward; sterno-mastoid muscles equally prominent, and no facial evidence of pain. The head can be bent backward to the normal; bent to either side somewhat, but cannot be bent forward; on attempting the latter he cries with pain. There is slight possible rotation. He eats and sleeps well, and shows no evidence of pain when left to himself. There is no evidence of kyphos anywhere.

Now, to what condition did these symptoms point? That there was spinal caries there could be no doubt. The position of the head, thrown far back, its weight supported by the elevated shoulders; the muscular rigidity limiting forward bending, but permitting backward and, to some degree, lateral bending and rotation, and the equally contracted sterno-mastoid muscles pointing the chin directly forward, taken in connection with the absence of pain about the chest and epigastrium; the absence of paraplegia, and of kyphos after, in the first case four, and in the second eight, months without treatment, led me to locate the caries in the lower cervical vertebræ.

The progress, however, showed the error of my conclusions, and this is my excuse for presenting these cases. The treatment in both was the same. They were put in bed, on their backs, and traction was made by means of a sling about the head and pulley and one-pound weight. In the first case, the ten-months-old baby, at the end of three days the pain was greatly relieved; he slept quietly, and the position and motions were greatly improved. After five months the head was in normal position, and could be freely moved when resting on the pillow; but the patient could not sit up and could not move his legs. The tendon reflexes in the lower extremities were increased, and there was found to be a sharp, angular kyphos, involving the first, second, and third dorsal vertebræ. In the second case, after three months the head

[1] Read before the American Orthopædic Association, June 16, 1887.

was in normal position and could be moved freely when resting on the pillow. The patient could sit up and hold the head in normal position for a short time, and there was no evidence of pain except when the head was bent forward with some force. Four months later, the case having progressed favorably as to the neck-symptoms, the tendon reflexes of the lower extremities became exaggerated, and an examination of the dorsal spine revealed a kyphos involving second, third, and fourth dorsal vertebræ.

The lesson taught me by these cases is this: That in *very young* children, caries of the upper three or four dorsal vertebræ may give symptoms referable only to the neck, and should lead us to exercise great caution in diagnosis when the symptoms point to disease in the lower cervical region.

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Progress of Medical Science.

Treatment of Dropsy by Permanent Baths.—In the course of a paper upon the use of permanent baths (at a temperature of about 95° F.), L. Riess, after giving instances of their value in cases of spinal disease and injury, adduces some rather remarkable facts of their efficacy in the treatment of dropsy, whether cardiac or renal. These cases are often complicated with bedsores, erysipelas, and gangrene, for which such treatment would be suitable, but he says that he long withheld it because of the idea that cardiac or pulmonary disease would be a contra-indication to its employment. However, in 1879, in a case of extreme cardiac dropsy (mitral and aortic disease) with considerable erysipelas and cutaneous gangrene of the legs, he determined to try the effect of the permanent bath as a last resort, not without some misgiving lest the immersion should increase the dyspnœa and dropsy. The result proved quite the reverse, for a rapid improvement took place, and when, after having been in the bath a fortnight, the patient returned to bed, the dropsy and other severe symptoms had disappeared. Since then Riess has adopted the procedure in a large number of dropsical cases, and invariably with benefit, the dropsy in most cases (whether renal or cardiac) diminishing within the first forty-eight hours in a striking degree. The quantity of urine is not increased *pari passu*, so that it is suggested that the effect of the permanent bath is to increase the functional activity of the skin, which is contrary to the prevalent notion. The good results obtained in cases of chronic rheumatism so treated are also mentioned, and it is held that the application of the method is practically very simple, it being necessary, of course, to allow the patient to lie comfortably suspended in a hammock, and to place a thick woollen covering over the bath to retain heat as much as possible. At first it is well to allow the patient to leave the bath at night, but as he gets more used to it he may spend days and nights in it with much comfort both to himself and his attendants.—*The Lancet*, July 23, 1887.

Reformation of the Aqueous Humor after Paracentesis.—Deutschmann, experimenting on the dead subject, found that if the aqueous were evacuated, it was replaced by a fluid which was richer in albumen than the aqueous, and more resembled the vitreous; from this he concluded that in the living subject also the aqueous was replaced to a great extent at the expense of the vitreous (*London Medical Record*). The author, however, points out that the conditions in the dead and the living subject are very dissimilar, and that one cannot argue from one to the other. The experiments of Ehrlich, Schöler, Uhthoff, and Schick with fluorescence on the living subject are inconclusive and contradictory. The writer has therefore endeavored to solve the question by further experiments. In these, iodide of potassium was introduced into the circulation in rabbits by subcutaneous injection; this appeared in the aqueous and lachrymal secretion ten minutes later, but not in the vitreous till twenty or thirty minutes; it possessed, moreover, the additional advantage that its presence could be readily detected by means of the reaction with starch. An incision was made in the right anterior chamber, the subcutaneous injection was then made, and the corneal wound repeatedly reopened until the iodine appeared in the aqueous; it was then allowed to close, and the chamber became restored twenty minutes later. The animal was then killed; both eyes were enucleated and placed in a freezing mixture. As soon as they were hardened, a vertical transverse section was made behind the lens, the latter removed; the frozen aqueous was then removed *en masse* and examined. Less iodine was always found in the aqueous of the punctured eye. Had the aqueous been reformed from the vessels of the iris or ciliary processes, the reverse would have been the case, since in the eye not operated on, the newly secreted aqueous would have been diluted with the original non-iodized aqueous. Since, however, the iodine had not had time to reach the vitreous, the result was consistent with this being the source from which the chamber was refilled. In a second series of experiments the aqueous was not evacuated till two hours after the subcutaneous injection of the iodide, so that there was ample time for the vitreous to become impregnated. The result was the converse of that obtained in the former experiments, the anterior chamber of the eye operated on now containing the most iodine. In order to eliminate any effect from the lowering of the intra-ocular tension, an equal quantity of fluid was removed from the vitreous in the other eye, but the result was the same. From these experiments the writer concludes that the reformation of aqueous humor takes place chiefly from the vitreous by filtration through the suspensory ligament, and that the amount secreted by the ciliary processes and iris is comparatively insignificant. These conclusions can only be held to be proved as regards the resecretion of aqueous after its evacuation, and not as to its formation under normal conditions.

Chronic Laryngitis and its Sequelæ.—In the *Edinburgh Medical Journal* Dr. Hunter Mackenzie publishes a lecture on chronic laryngitis and its sequelæ. Simple chronic laryngitis and thickening of the laryngeal structures may occur as a consequence of acute laryngitis, or from repeated attacks of the subacute variety: occasionally its mode of development is protracted and insidious. It may be partial—that is, only one-half of the larynx may be thickened permanently—it may be general, affecting more or less all the intrinsic structures. The question of degree or locality of the inflammation bears an important relation to prognosis. Chronic laryngitis may be primary or consecutive. Primary chronic laryngitis indicates that the laryngeal affection has not been preceded by any local or general affection; the term consecutive may be applied to that variety which precedes or supervenes during or after the course of the zymotic diseases, malignant disease, or pulmonary phthisis, or which is the result of extension from the nares or pharynx. In simple chronic laryngitis there is very seldom any true ulceration or loss of substance, unless there is evidence of struma, tuberculosis, or syphilis. The character of the voice almost entirely depends upon the amount or degree of structural alteration undergone by the vocal cords. Complete aphonia (whispering voice) is, in the absence of nervous or mental causes, indicative of severe laryngeal changes, and shows destruction of the vocal cords, or of the cords and ventricular bands; it is a point to be remembered that a fairly effective voice can be produced by the ventricular bands, should the vocal cords be destroyed. Chronic laryngitis, in addition to the symptoms produced on the voice, respiration, cough, etc., may sometimes be the cause of gastric disorders; when pharyngitis is present, and the saliva is in

excess, or when frequent movements of swallowing are made, owing to the sense of tickling at the back of the throat, an excessive amount of air is swallowed, giving rise to gastric flatulence. The following are some of the sequelæ of chronic laryngitis. In the insidious form, the possibility of tubercular degeneration is always present; in these cases it is only by the examination of the sputum or laryngeal secretion, and the presence of the bacilli of tubercle being detected, that one can be certain the case is one of tubercular disease. Another sequela of chronic laryngitis is the formation of new-growths; these may be papillomatous, mucous, fibrous, or cartilaginous, according to their seat of origin. The more chronic a case is, the more likely is the supervention of the most serious of all sequelæ, the tubercular degeneration. In the case of malignant disease of the larynx no definite conclusion should be arrived at without examining microscopically the sputum or pieces of the growth, as in its early stages, and even in its later stages, malignant disease possesses no distinguishing characters to the naked eye. With regard to the treatment, it must be essentially of a local character to be of any use, by means of inhalations, sprays, powders, or pigments. In well-marked cases recourse should be had at once to pigments, and of these nitrate of silver is the best. Commencing with a solution of thirty grains to the ounce, the strength should be gradually increased every ten to fourteen days, until one hundred and twenty grains to the ounce or even more are used. These pigments ought to be applied locally by means of a laryngeal brush, under the guidance of the laryngoscope, at first three times and afterward twice a week, over a period of several months; this energetic treatment is necessary only in well-marked cases of thickened vocal cords, or of the intra-laryngeal mucous membrane. In the chronic laryngitis dependent upon chronic nasal catarrh, attention should be directed to the nose; the nasal passages ought to be frequently cleansed by means of a solvent spray (one drachm of bicarbonate of soda to a pint of water), and immediately after an astringent solution ought to be applied, such as sulphate of zinc or acetate of lead, one or two grains to the ounce of water. At the same time the pharynx should be occasionally stimulated by the application of a solution of chloride of zinc, twenty or thirty grains to the ounce. In granular pharyngitis the application of London paste, or of the galvano-cautery, to the prominent follicles is usually necessary. When chronic laryngitis has ended in the formation of distinct growths, they must be removed either by intra- or extra-laryngeal surgical measures. Certain of the sequelæ of chronic laryngitis may necessitate the opening of the windpipe, and the operation of tracheotomy is to be preferred to thyrotomy, if the same objects can be obtained by it. The rest and freedom from irritation that is obtained after tracheotomy often cures a chronic laryngitis which may have become serious, and in cases of tubercular disease much comfort can often be given to the patient by the early performance of this operation. The author concludes his lecture by urging on all medical men the importance of treating cases of chronic laryngitis with promptness in the early stages, so many cases being neglected at first, when some active measures might be taken, which become useless if deferred.

Diseases Resulting from Wine-tasting.—Inquiries have been made whether the profession of wine-tasting is habitually followed by symptoms such as affect tea-tasters. In the *Annales Médico-Psychologiques* there are two papers on the effect of this professional intoxication in the cities of Bordeaux and Dijon. The first of these papers is by Dr. Donnet, physician of the asylum at Bordeaux, which is the great emporium for the wines of the Garonne and Dordogne. In this city the trade of wine-taster or *dégustateur* is very common. These men are not infrequently troubled by affections of the head and stomach similar to what is suffered by drunkards. They are not obliged to swallow the wine which they taste; very often they spit it out and sometimes wash the mouth. Dr. Donnet gives instances in which the health became deranged even when they never swallowed the liquor which they tasted. In one observation a young man of thirty-two used to taste from thirty to forty barrels of wine every day, and now and then brandy and rum. He never swallowed any. After two years of this occupation he became very irritable, lost his appetite, slept ill, and had illusions of general sensibility, with pain in the chest, and feelings of faintness and suffocation. On giving up wine-tasting he at once began to improve, and his natural placidity of temper returned, though he was still subject to nervous weakness, as shown by being easily moved to sadness and tears. Dr. Donnet tells us that a great deal of wine is drunk in Bordeaux. Rich people pride themselves on their taste in wines, and men in good positions are frequently met with who drink a litre and a half at every meal. On this account disorders of the circulation, stomach, liver, or kidneys, are common, and statistics prove that there are more deaths from apoplexy in Bordeaux than in any town in the world. Dr. E. Marandon de Montyel, the physician-superintendent of the asylum at Dijon, has studied the symptoms on the wine-tasters of Burgundy. The result of these inquiries tends to show, that unless the wine-tasters swallow some of the liquor, no intoxicating effects are produced. In tasting red wines it is not necessary to swallow, but to appreciate the flavor of white effervescing wines one must swallow a little. He observes that tea-tasters always swallow some of the tea, which explains the nervous symptoms from which they suffer.—*London Medical Record.*

Manipulation of the Kidney as a Means of Dislodging Renal Calculus.—An ingenious method of dislodging an impacted calculus in the kidney has been reported in *The Lancet*, by Dr. W. H. Bennett, of London. The patient, a woman, was quite thin, and the kidney could be felt through the abdominal parietes. Manipulation of the organ was proposed, with a view of bringing about the passage of the calculus down the ureter. To insure complete relaxation the administration of an anæsthetic was proposed, but was rejected by the patient. The patient was then laid upon a couch, the fingers of the operator's left hand were dipped deeply into the abdominal wall over the kidney, while his right hand was pressed forward into the loin. The kidney was easily felt between the two hands, and was kneaded as thoroughly as circumstances would admit. The manipulation caused much aching and tenderness, but the patient was well enough to walk away afterward. Two days after the manipulation the patient reported that she had suffered much discomfort for the rest of the day after the manipulation, and that she was siezed as she was going to bed with a most acute pain in the affected loin and side of the abdomen. The pain lasted for about half an hour, during which she vomited twice. All at once an uncontrollable desire to micturate occurred, and the pain immediately disappeared. No further pain followed. Dr. Bennett is of the opinion that a small calculus was dislodged and made its way down the ureter, although no evidence of its having passed *per urethram* was forthcoming. He suggests that manipulation without incision will prove of utility in certain cases of renal calculus not too far advanced, and offers the above case as corroborative of this opinion.

Pyorrhœa Alveolaris.—Dr. Pedley read a paper at the Odontological Society upon the above subject (*The Lancet*). Pyorrhœa alveolaris is characterized by conditions as follows: The mucous membrane, especially that adjacent to the teeth, is deeply congested, tumid, and thickened, and detached from the necks of the teeth and from the roots. A thick, fetid discharge may often be pressed up between the teeth and mucous membrane, which gives to the breath a very repulsive odor. Later, the alveoli become absorbed, and at times more or less

denuded, while the fangs of the teeth become coated with a layer of thin, hard, green-brown tartar. Ultimately, the disease progressing, the teeth, one after another, drop out. The pathological changes which take place are hypertrophy of the muco-periosteal fold around the teeth, accompanied by dilatation of capillary loops, enlargement of the papillæ, and rapid proliferation of epithelial cells. Later the gum becomes firm and contracted, and displays increase of fibrous tissue. The changes which go on in the socket have not been yet satisfactorily worked out, but the examination of the jaws of some carnivora which were apparently affected with pyorrhœa alveolaris would lead to the supposition that there is ostitis of the alveolar process spreading toward the apex of the socket. There are many differences of opinion as to the causes; some maintaining that it is of parasitic origin aud due to a specific bacillus, but there is no good proof of this; others that it is catarrhal, and an extension of inflammation of the mucous membrane; others that it is due to the irritation of small deposits of hard tartar under the edge of the gum, but this is plainly not the case, for the disease may be far in advance of the deposit, and in some cases there is not any to be found. It is probably due to some constitutional condition, and the fact that it is often symmetrical, and frequently hereditary, gives support to this view. It occurs in the mouths of patients whose health has been undermined by debilitating influences and injudicious habits of living; it is a common sequel of malarial fever in America; young persons recovering from eruptive fevers are sometimes subjects of pyorrhœa alveolaris; and frequent pregnancies are a fruitful source of the disorder. Attention has been lately drawn to the shedding of the teeth in tabes dorsalis, but it does not by any means seem to be a constant symptom. Mr. Bland Sutton has found that premature loss of the teeth is a very common feature in cases of rheumatoid arthritis in animals, and has also met with it in mollities ossium and other wasting diseases. Magitot, who views the alveolar-dental periosteum as a ligament, and not of the same nature as osseous periosteum, calls the disease symptomatic alveolo-arthritis, and mentions especially as causes chronic Bright's disease and glycosuria, in which latter, he says, the phenomenon is absolutely constant.

The Treatment of Lupus by Injections of Corrosive Sublimate.—Dr. Tansini narrates the treatment of a case of lupus of the nose and face by means of repeated injections of corrosive sublimate. He began with a weak solution, corrosive sublimate 1 to 200. This produced no reaction of any kind. A stronger solution, 1 to 100 was then used. This produced some tumefaction and œdema in the neighborhood of the punctures, and slight suppuration in some of them. Some fourteen or fifteen injections of a few drops were practised. Improvement soon became marked, and eventually all traces of the disease disappeared, the only marks left being those of the punctures in which suppuration had taken place. Dr. Tansini was led to try these injections by the following considerations: 1, That lupus is a form of tubercle; 2. that the bacilli are few and have no tendency to diffuse themselves; 3, that corrosive sublimate, has proved certainly destructive to bacilli. He claims advantages for this method on account of lessened pain and disturbance and superior cosmetic results.—*Gaz. degli Osp.*

Carbolate of Mercury in Syphilis.—Dr. Shadek, of Kieff, being anxious to try the effects of carbolate of mercury, which has been strongly recommended in syphilis by Professor Gamberini, requested M. H. Brandt, a pharmacist in Kieff, to prepare some for clinical use. This he did by precipitating a very dilute solution of bichloride of mercury with a concentrated alcoholic solution of carbolate of potassium. A yellowish precipitate was obtained, which, after being frequently agitated with the liquid for twenty-four hours, assumed a whitish appearance. It was filtered and washed with distilled water till the washings showed no traces of chloride. It was then transferred to a fresh filter-paper and dried under a bell-jar. In this way a nearly white tasteless amorphous substance was obtained, which was scarcely acted upon or dissolved by cold, but was readily soluble in boiling, hydrochloric acid. The name given to it by Dr. Shadek is "hydrargyrum carbolicum oxydatum," and he has been using it in his private practice for several months. At first he gave it in the form of pills, one of which, containing about an eighth of a grain, was ordered three, or occasionally four, times a day. It was well borne, and did not interfere with the digestion. In some cases the treatment was continued for six or eight weeks, without producing colic or other disagreeable symptoms. The total number of syphilitic cases in which it was given internally was thirty-five (twenty-six men, six women, and three young children). In five of these there was swelling of the gums and salivation. Mercury was found in the urine after the third dose. Its therapeutic value was especially remarkable in macular and tubercular syphilides and in syphilitic psoriasis of the palm and the sole. Syphilitic rash and slight relapsing forms yielded to the treatment in from two to four weeks; in syphilitic affections of the mucous membrane, and in papular and pustular eruptions, from four to six weeks were required. Multiple enlargements of glands were but little affected by it. In the case of children of from two to four years old, doses of about the fifteenth of a grain were well borne twice daily.—*The Lancet.*

Cancer of the Bronchial Glands and Lung.—From a study of this subject, published in *The Lancet* July 9, 1887, Dr. Boyd concludes: That primary cancer of the thorax is of not unfrequent occurrence, generally appearing in hard drinkers, and the symptoms of it are developed apparently after catching cold. That it is to be found in two situations within the thorax—namely, the bronchial glands and the anterior mediastinum; and is of the mixed variety, scirrhous and encephaloid. That persistent blood-spitting is a very usual symptom in its growth, and indicates infiltration of the lung and pressure on the bronchial veins; and that the so-called characteristic red-currant-jelly expectoration is a rare symptom. That fixed pain in the thorax is not always present, and when it is, it is more usual in the mediastinal form of the disease. That the disease is generally accompanied by aphonia and congestion of the larynx in its early stages, and by paralysis of one or other of the vocal cords in a later stage. That when in the bronchial glands it is invariably accompanied by symptoms of pressure on either one or other of the bronchi, or on the œsophagus, causing symptoms of stricture. That pleural effusion containing blood is very frequent on the side affected, and in its growth forward from the root of the lung it involves the pericardium, and causes pressure on the superior cava or pulmonary veins. That when in the bronchial glands its later stages may simulate advanced phthisis very closely. That it may be occasionally distinguished from phthisis by its pressure symptoms on the bronchi, its dulness being more central and more extensive, with absence of crepitus and more urgent dyspnœa, while no bacilli are found in the expectoration. That malignant intra-thoracic disease is generally fatal in from two months to six, though Dr. Walshe gives the average duration as from three months to thirteen.

Iodol.—Dr. R. N. Wolfenden, of the London Throat Hospital, urges the claims of iodol as a substitute for iodoform, in an article in *The Practitioner*, No. 5, 1887. Its merits are that it is odorless, or nearly so, tasteless, produces no constitutional effects, contains nearly as much iodine as iodoform, and parts with it more readily. It is antiseptic, anæsthetic, a promoter of granulation and healing, and it arrests suppuration and deodorizes foul secretions.

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A NEW MODE OF TREATING BURNS.

PROFESSOR MOSETIG has recently called attention to a method of treating burns and scalds which he has adopted in forty-eight cases during the last five years, with superior results. The treatment of this class of injuries undergoes periodically certain changes in detail, and almost always differs in different hospitals and with different surgeons. Erichsen covers the injured surface thickly with wheaten flour. At Guy's Hospital, carron oil was for a long time chiefly used; and at the London Hospital, zinc ointment spread on lint.

In this country, white lead was recommended by the late Dr. Gross, and in many hospitals solutions of bicarbonate of soda have been largely employed. Mr. Thomas Bryant speaks of his great success, in burns of all degrees, with an ointment of vaseline and boracic acid, spread on lint.

One per cent. solutions of creasote are highly recommended.

All these methods involve the application of two leading principles, viz., the exclusion of air and the changing of dressings as little as possible.

Professor Mosetig does not introduce anything new in these respects. The iodoform has, like the creasote solution, a twofold action, that of an analgesic and antiseptic. The claim is that patients obtain ease a few minutes after the application of iodoform to their burns, and are soon fit to be moved. They recover more rapidly, with only moderate and consequently less exhausting discharges, and with smoother cicatrices, than those differently treated; and if there is no possibility of saving life, its last hours are made less painful. There is no danger from iodoform-poisoning so far as experience shows. This is perhaps because Professor Mosetig uses the agent in small amounts.

According to the description given in the *Wiener Med. Press* (1887) (*Journ. of Cutaneous and Genito-urinary Diseases, London Medical Record*), he either does not employ the powder at all, or when so in rare instances; he sprinkles it by means of an insufflator in very thin layers, only on those places where the integument has been burnt in its whole thickness, and has assumed a parchment-like appearance. As a rule he covers the injured parts directly with compresses of iodoform-gauze, not prepared in the usual way, by thickly dusting the gauze with the powder, but by impregnating with an etheric solution of iodoform, the purified gauze which has previously been freed of grease. He proceeds in the following manner: After opening and excising the vesicles, and cleaning the burns with cotton-wool, which had been steeped in a half per cent. solution of table-salt, and well pressed out, he covers the wounds with dry compresses consisting of several layers of iodoform-gauze, prepared as stated above, of corresponding size, which are exactly and smoothly laid over the whole surface of the injury. Over this an equally large or somewhat smaller piece of gutta-percha tissue is placed, taking care that it does not form folds or creases. The whole is wrapped in a very thick layer of medicated absorbent cotton-wool, which overlaps to a great extent the compresses, or, better, surrounds the whole limb or injured part of the body. This cotton-wool is finally fixed by several turns of bandages, which at the same time exert a gentle pressure. This simple dressing, which, moreover, has the advantage of taking up very little time, is allowed to remain, without being changed, as long as possible, *i.e.*, as long as cleanliness permits, and no rising of the temperature takes place.

The secretions from the wound drain off beneath the gutta-percha tissue, and are taken up by the absorbent cotton-wool. Slight staining of the bandage is no sufficient indication for renewing the dressing, which ought to be permanent; in case of real imbibition and offensive smell only the external dressing has to be removed and changed; the iodoform-gauze, and the gutta-percha covering, however, should not be interfered with.

In case, in the meanwhile, fever should set in, which betrays by its character septic causes, generally the demarcation and separation of the mortified part having commenced, or a retention of the secretion of the wound having taken place, the dressing must be removed, the abscess opened, and free discharge of the pus secured; the mortified shreds and the eschars must be removed by means of forceps and scissors. The new dressing is put on in the same manner as the first one.

The impermeable covering of gutta-percha tissue is very essential, and ought never to be omitted, because the drying on and sticking to the wounds of the gauze, stiffened by the imbibed secretions, is always injurious, and may moreover cause, like a scab, retention of the secretion. The discharges may be allowed to dry in the external portion of the dressing, but never on the wound itself.

By the permanent iodoform-dressing the infection, both by the air and by contact, is prevented, and burns of the second degree, as a rule, heal under a single dressing. In burns of the third degree aseptic separation of the eschar, with but slight secretion, frequently takes place, and even if the latter be not the case, the granulating surfaces heal in a far shorter time, and the cicatrization is smoother, more even, and altogether less disfiguring than in non-aseptic treatment.

In burns and scalds of the face an iodoform vaseline-ointment is used (1 to 20) with a gutta-percha mask.

MAINE AND ITS MEDICAL REGISTRATION LAW.

THE medical men of the State of Maine are in a state of mind over their medical law. This is very natural, for the governor says that no such law exists, while the

Maine doctors themselves are convinced to the contrary.

It seems that the last legislature passed the bill providing for medical registration, by a large majority, and sent it up to the governor for his signature. The governor appended it in due form and sent the bill to the secretary of state, who recorded it as a statute. The governor then met certain friends, who advised him to veto the measure. The vacillating executive sent for the bill, scratched off his signature, and returned it to the legislature with a veto. The record in the secretary's office was also erased. The Board of Censors of the Maine Medical Association investigated the matter, and put in a claim, supported by good legal authority, that the bill, having once been made a law by the governor could not be unmade, and that the law does now, in fact, exist. The question is an interesting one, and it appears to us that the Board of Censors have decidedly the best of the argument.

THE FEE FOR TREATING VENEREAL DISEASE.

Referring to the letter of Dr. J. E. Free which appeared in The Record of July 16th, on the subject of the fee in a case of gonorrhœa, Dr. P. L. Myers, of Fostoria, O., asks if it is not out of keeping with the boasted dignity of our profession "that we charge $20 as retainer in gonorrhœa?

"Why," he says, "take a retainer, or at least more of a retainer, in gonorrhœa or syphilis, than in other diseases?

"Is it a penalty *we* inflict for crime? Are we judge, sheriff, and public school fund?

"If not, by what right, human or divine, do we charge an extra price to a mortal, unfortunate (I use the word none too charitably) enough to contract a disease which is notoriously painful, tedious, and disgusting." After further amplification of this point, he adds: "I know the usual argument in palliation of our custom. This disease comes through crime—the source is dishonesty," etc. But "our plain duty as physicians is to relieve sufferings resulting from disease, to charge therefor in proportion to time or service rendered—regardless of cause—with charity."

Our correspondent's argument is in the main a sound one, and deserving of attention. But with regard to the matter of criminality we must be permitted to say that his ideas are a little mixed. Fornication, from which, as a rule, gonorrhœa and syphilis come, is not a crime in any civilized country, but it is regarded as a sin by the Christian and Hebrew religions, and a vice by all ethical teachers of the higher sort.

The physician has no right to judge or punish by charging a heavier fee for treating venereal than for treating other diseases. Indeed, the laying down of rules for the taking of a retainer in one disease and not in another is wrong, and the custom should be abolished.

The feeling which physicians have, however, that fees for treating venereal diseases should be ample and should be promptly paid is a justifiable one. It is impossible to regard the man sick from an expensive debauch with exactly the same feelings as we do the man who gets ill while working for the support of his family. The sexual passion is normal, but man distinguishes himself from the brute by controlling it.

THE RECREATIONS OF THE PHYSICIAN.

It is not so very long ago that a physician who had any other occupation than that of treating the sick, or who dared to let the public know that he sometimes found other means of passing his spare moments than in the study of his medical books and journals, was regarded as a man with a hobby and a rather dangerous person to whom to intrust the care of one's health. It was said that the practice of medicine was a hard and difficult task, and one that demanded the undivided care and study of a lifetime. And if one was known to spend some of his time in other pursuits, literary or commercial, he was supposed to be wasting time that belonged to his profession. People forgot that recreation is necessary to every man, and the more necessary as the man's avocation is the more fatiguing. And they also forget what is equally true, that recreation is not necessarily idleness, but rather, and far more, a change of occupation.

But physicians did take recreation then as well as they do now, and they often took it in the same way that many do now, although, influenced by public opinion, they did not often dare to publish the results of their recreative occupations. Literature was thereby a loser, and medicine gained nothing. It is a hopeful sign at the present day to see physicians appearing with increasing frequency in the world of general and scientific (non-medical) literature, and we believe that medical science will be by no means a loser by these occasional excursions of its students into other fields.

These random reflections have been caused by the perusal of two entertaining little pieces written by a physician who is already well-known to medical literature.[1] The comedies are very amusing and "summery," are besides very bright, and afford a pleasant half-hour to the reader wearied with microbes and ptomaines, intubation and phthisis, the properties of strophanthus, and the uses of antifebrin. As we have said before, the physician is generally well fitted, by his habits of close observation of men and things, to succeed in descriptive writing, and we are glad that medical men are beginning to give to the world the products of their hours of recreation as well as the results of their more serious studies within the limits of their professed vocation.

POSSIBLY A NEW DISEASE.

In a paper read before the Royal Medical and Chirurgical Society on June 14, 1887, Mr. Jonathan Hutchinson reported several cases of a disease which it was believed had never before been described. The paper was of considerable length, but we can refer here only briefly to the more prominent features of the disease as observed and pictured by the author.

The affection begins by an inflammation and superficial ulceration of the lips and mouth, and this is followed sooner or later by some form of skin-disease. The tendency of the affection, when unmodified by treatment, seems to be toward a fatal issue, though the treatment is simple and apparently very efficacious. The form of skin-disease may vary, but the hands and feet are the parts usually affected, and the nails seem especially

[1] Two Comedies: An Ill Wind; An Abject Apology. By F. Donaldson, Jr. Boston: Cupples, Upham & Company. 1887.

prone to suffer. In some of the observed cases the eruption consisted of bullæ, upon which supervened free papillary outgrowths.

The patients attacked were usually in middle life or in the early senile periods, and all the best-marked cases occurred in men, although some mild cases were observed in women. The cause of the malady seems to be obscure. The disease, at least in its severer forms, appears to be met with only in those residing in the country, but no evidence could be found to justify the suspicion that the affection might be due, perhaps, to contagion from animals. The cases hitherto observed have been only in those in the more comfortable walks of life.

Various drugs and methods had been tried to no purpose, when the author and Mr. Pollock simultaneously, but independently, discovered the utility of opium. Before the opium-treatment was tried, death was very commonly the result, but since that time every patient so treated has recovered.

Mr. Hutchinson did not venture to express any positive opinion as to the nature of the disease, but he thought that it was probably, or possibly, allied to other forms of skin-disease occurring in early senile periods in conditions of disturbed health. At such times it is not uncommon to meet with certain peculiar forms of pemphigus, psoriasis, lichen planus, and pityriasis rubra. In support of this suggestion, the author reported a case of an elderly lady who had a kind of eczema-psoriasis of the hands and scalp. She lost all her nails and hair, and was rapidly failing in health despite various methods of treatment, but finally recovered quickly and completely under opium. Her case did not belong to the group described in the paper, as she had never at any time had an inflammation of the mouth, but in other respects the disease seemed to be similar to the cases described, and the beneficial effects of opium were very clearly manifested.

A Self-retaining Laryngeal Mirror.—Dr. Karl Roser has invented and described in the *Centralblatt für Chirurgie*, July 16, 1887, an apparatus for retaining the laryngeal mirror in position, thus leaving both hands of the operator free to make the necessary manipulations. The mirror is retained by a watch-spring passing over the head, and its position is changed as may be desired by means of a thumb-screw resting against the forehead. Naturally, it can be used only in well-trained patients whose fauces are not over-sensitive.

Warn Your Patients before Raising Your Fees.—A French law journal reports an unsuccessful suit of a physician to recover the amount of his bill for a confinement. The bill was for 200 francs, and the husband acknowledged the services rendered, but refused to pay more than 100 francs, which was the amount that he had paid the physician for attendance on his wife in previous confinements. The court decided that he was indebted to the extent of only 100 francs, as the physician had not notified the patient of the increase in his charges.

Bavarian Quacks.—The number of quacks in Bavaria in 1886, according to the official statistics, was 1,349, or 24.7 per 100,000 inhabitants.

News of the Week.

The International Medical Congress.—We have received several inquiries concerning the coming meeting of the International Congress. We take occasion to answer as many as possible, giving the latest information we are able to obtain. Reduced rates of fare have been made on most of the large railroads to Washington on the certificate plan; one full fare going and one-third fare returning. It will be necessary for these certificates to be procured before starting and have upon them the receipt of the railroad agent for the full fare to Washington. Members intending to attend the Congress should, as soon as possible, make application to J. W. H. Lovejoy, M.D., Chairman Transportation Committee, No. 900 Twelfth Street, Washington, D. C., for blank certificates of the Association over those roads they intend to travel, and the blanks will be forwarded at as early a date as they can be obtained. A separate certificate will be required for each person. (The reduced rates apply not only to members, but to their families. Certificates should be secured as soon as possible—one for each person.)

Form to be filled up by applicant for membership in the Congress:

Name in full .....
Post-office address.....
If in a city, give also street and number .....
If in the country, give also name of the county.....
State .....
Province.....
Country.....
If a delegate, state from what country or society.....
Practice, general or special.....
If special, name the branch.....

This form must be filled out carefully and presented (with $10) to the Chairman of the Committee on Registration, J. M. Toner, M.D., No. 613 Louisiana Avenue, Washington, D.C.

Hotel rates at Washington—At the Arlington, Riggs House, Willard's, Metropolitan, and National the rates are from $3 to $3.50. Other hotels, conducted on the European style, will furnish rooms at $1 and $2 per day. Good lodging-houses will also furnish rooms from $1 to $1.50 a day.

Russification of the University of Dorpat.—The Russian authorities recently ordered that instruction should be given in Russian at the University of Dorpat, whose official language has hitherto been German. The professors all sent in their resignations, and now the government announces that the change will not go into effect until the expiration of three years.

Burial by Machinery.—An Austrian inventor is said to have devised a means of interment by machinery. The coffin, instead of being lowered by the more or less clumsy means now adopted, is placed on a platform (the grave being concealed by black drapery), and, by pressing a spring, the platform and coffin sink slowly into the grave.

Female Medical Students in Paris.—There are now 108 women studying medicine in Paris, of which number 83 are Russians, 11 English, 7 French, 3 Americans, 2 Austrians, 1 Roumanian, and 1 Turk.

Cremation in Brazil.—An imperial decree has recently been promulgated in Brazil, making cremation compulsory in all cases of death from yellow fever The state will provide the crematory furnaces and will pay all the expenses attendant upon this mode of disposal of the bodies.

Photo-micrography.—The third International Photographic Exhibition, which is to take place in October next, will comprise a section open to members of the medical and other learned professions, for clinical studies, micro-photographs, natural history photographs, etc.

A Faster Who did not Fast.—The man Cetti, who has gained considerable notoriety by his alleged feats of fasting, has been detected eating lozenges containing a concentrated nutritive material. When the fraud was exposed by some medical students who were watching him, he gave up the job and started, presumably, for a restaurant.

Human Fat in Medicine.—In answer to a correspondent, the *Medical Press and Circular* refers to Motley's "United Netherlands," vol. iv., page 74, in which he says, when describing the repulse of the Spaniards at Ostend and Antwerp, in 1585, and the terrible slaughter consequent thereon, that "the Dutch surgeons sallied forth in strength after each encounter and brought in great bags filled with *human fat*, which was then esteemed the sovereignest remedy in the world for wounds and diseases."

Theine in Neuralgia.—On account of the low solubility of theine, Dr. Mays advises its use according to the following formula: Thein., sod. benzoat., āā 3 j.; sod. chlorid., gr. x.; aquæ destillat., f ℥ j. M. Sig.: Six drops equal half a grain of theine. Dose, from three to twenty drops.

Chrome Yellow has been extensively used to color buns by the Philadelphia bakers. These enterprising gentlemen may not be able to paint the lily, but they can color the flour. Two of them have been put under arrest.

Pasteurism in Austria.—The Austrian Chamber of Deputies has passed a resolution praying the government to provide facilities, at the Vienna General Hospital, for making preventive inoculations in threatened rabies.

An Hydrological Caravan.—The French Society of Hygiene has voted to organize what it calls an "hydrological caravan." The members propose to visit the numerous spas in Central France, and they are promised a fine time by the authorities in each of the places visited. It will doubtless be very convenient for the travellers, after testing the vintages in the evening, to have ready access to the natural carbonated waters the following morning.

A Missionary Hospital at Teheran.—The American missionaries in Persia have been authorized by the Shah to establish a hospital at Teheran, and the physician of the mission has been named by the Shah, "Grand Officer of the Order of the Lion and of the Sun of Persia." With a medical director bearing such an honorable title, the hospital ought to be a success.

Egg-Albumen for Culture Media.—Drs. Tarjanoff and Kolesnikoff have utilized the white of egg for culture, and have found it very satisfactory. The egg is soaked for from five days to two weeks in a five or ten per cent. solution of caustic soda or potash. At the end of this time the albumen is solidified and transparent. Heat can then be used for the purpose of sterilization without causing any change in the albumen.

Dr. Baratoux has been commissioned by the French government to visit the United States and Canada to study diseases of the larynx, nose, and ears, as taught in America, and especially to gather data concerning hay-fever.

An "M.D." in Nine Months.—Dr. Fisk, writing to the Boston *Medical and Surgical Journal*, states that he knows of an instance in which a young man attended the fall course of lectures for 1886–87 at the Denver University, then came East with his certificate and attended a lecture course in the University of ———, situated "among the hills of New England," and was there graduated in medicine on July 15th, nine months and eight days after he had begun his medical studies. Comment is unnecessary.

A Criminal Surgical Operation in Chicago is the obliterating of birth-marks, when such teratological defects serve to identify a child. The court rules it to be tampering with the evidence. A physician and a woman have been fined and sentenced to thirty days in prison for this novel offence.

A Quack Come to Grief.—A bone-setter in France undertook the treatment of a man with nasal polypus, promising to cure him, and exacting an advance of five hundred francs. He then covered the man almost completely with blisters. After the patient had tired of this energetic treatment he complained of the quack, who was sentenced by the court to three months' imprisonment. The bone-setter's wife, who had assisted him, was sent to prison for two weeks.

King Kalakaua is said to take quite an interest in science. His friends say that the Hawaiian Legislature having made an appropriation for the purpose of ascertaining the genealogy of the Hawaiian chiefs, and this inquiry having terminated, his Majesty Kalakaua has decided to apportion the remainder of the appropriation for the purposes of science.

The Medical Department of Ann Arbor University.—There is some talk of removing the clinical branch of the Michigan University Medical Department from Ann Arbor to Detroit.

Trimethyl Carbinol.—Dr. Shapiroff, of St. Petersburg, has been experimenting with this new drug, and finds that it lowers the blood-pressure. diminishes the excitability of the nervous centres, and causes a profound and calm sleep. He thought it would prove to be of great value in alcoholic insomnia and neurasthenia. He employed it in doses of from five to fifteen drops twice a day. Dr. Shapiroff has also experimented with dimethyl carbinol, and finds that it exerts a more rapid and a more intense action even on the nervous system than does the trimethyl carbinol.

Reports of Societies.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, June 8, 1887,

T. MITCHELL PRUDDEN, M.D., PRESIDENT, IN THE CHAIR.

DR. PUTNAM-JACOBI presented in behalf of a candidate a specimen of *acute atrophy of the stomach, with fatty degeneration of the heart.*

DR. DUDLEY presented

THE UTERINE APPENDAGES

in the case of an unmarried woman, aged twenty-two, with the following history: At the age of six years she had had small-pox, from which she made a good recovery; from six to twelve years of age she had some of the exanthemata and diphtheria; at the age of twelve she showed nervous symptoms, and would occasionally faint, especially if in a crowd; at times she complained of headache; at maturity her headache grew steadily worse, and was most severe at the menstrual period. She was then put under the care of a physician who made the diagnosis of hysteria; another physician treated her for rheumatism; a third for chronic meningitis; a fourth applied electricity, which made her condition worse; a fifth treated her for rheumatism of the brain. Finally she came under the care of Dr. Hammond, who treated her for brain-congestion, together with other symptoms. She had never shown any signs of insanity; she was always of a lively disposition when not in pain; she had never had a true spasm. Dr. Hammond placed her in the care of Dr. Dudley, who found that she was well nourished, that her menses were regular, lasting from two to four days, the flow being moderate. She suffered no pain except in the head, but lately had had pain in the side, one week before, and one week after menstruation. She had taken large quantities of medicine, and had been treated by almost every means for relief of her nervous condition. She had been a masturbator for years, but said she had given up the habit some months past. The vulva was so hyperæsthetic that a physical examination was very difficult. The meatus was surrounded by a large caruncle. From a superficial examination he found the uterus retroverted, and the ovaries and tubes correspondingly low. At a second examination, without ether, he was able only to replace the uterus. Saturday last, he examined her under ether; the left ovary seemed to be small; the right ovary seemed to be somewhat enlarged, and very sensitive. After consultation, and having obtained the previous consent of the patient, and of her brother, who was a physician, it was decided to make an exploratory operation. The right ovary was found somewhat enlarged, and contained a cyst about the size of an English walnut; the tube was tortuous, and the fimbriated extremity was bound down below the ovary; the ovary and tube were removed. The left ovary was found to be small, and contained a small cyst. The tube was tortuous and bound down to the pelvic floor, and quite close to the intestine; beneath it was a large varix; this ovary and tube, together with the varix, were removed. The patient had since done well.

A point of special interest in the case related to the

VARICOSE VEINS.

This was the third case of the kind which he had operated upon during the past year. In all, there had been failure to relieve the reflex symptoms by various ordinary measures, such as repairing a lacerated cervix, curetting for a fungous condition, the administration of drugs, etc. In the first two cases the pain in the side and other reflex symptoms disappeared after removal of the ovaries and varix. The ovaries were not much enlarged. In the third case, the operation had very recently been performed. Dr. Dudley thought that inasmuch as a varicocele in the male might give rise to almost all kinds of reflex symptoms, so also might an analogous condition exist in the female.

DR. PUTNAM-JACOBI thought it would be interesting to make a microscopical examination of the small ovary, and learn whether or not it was the seat of interstitial ovaritis. Two years ago she reported three cases in which the ovaries did not present any very marked lesion when examined macroscopically, but when examined microscopically there were found degeneration of the arteries and the signs of interstitial ovaritis, and she thought this was much more the cause of the severe nervous symptoms which had existed than was any slight cystic degeneration. In fact, a cyst of considerable size might exist and cause no suffering or tenderness when pressure was made over the abdomen. She referred to the case of a young lady who, before coming East, had undergone at least one year's continuous treatment in a Western State for symptoms related, presumably, to an existing enlargement and prolapsus of both ovaries. The treatment by galvanism was continued, and an attempt was made to replace the ovaries, and a boro-glyceride cotton tampon was introduced into the vagina. At first this local treatment seemed to be beneficial. But the relief proved to be only temporary, and the tampon after a time seemed to cause irritation. Local treatment was then discontinued two or three months, during which time the patient received simple massage, to some extent electrical massage, the cold pack with rubbing, and general treatment. Under this plan the pain in the back, and the nervous symptoms generally had entirely disappeared, also the tenderness on pressure over the ovaries, although the organs remained prolapsed and enlarged. Dr. Jacobi had seen at least two or three cases in which the

ENLARGED AND PROLAPSED CONDITION OF THE OVARIES

had continued after relief of all the apparently associated symptoms.

DR. DUDLEY'S specimen was, at his request, referred to the Committee on Microscopy. Referring to the remarks of Dr. Putnam-Jacobi, he expressed the belief that cotton tampons with boro-glyceride produced their beneficial effect by causing contraction of the vessels, and reducing uterine congestion. He did not think that in his case there had been acute ovaritis; the patient had not complained of pain in the region of the ovary until very recently. As to the relief of symptoms by cotton tampons containing glycerine, he had two cases of prolapsus of both ovaries and tubes in which such treatment would cause almost entire disappearance of the symptoms for a month or two, but they would return with each new exposure to cold, overexertion, etc.

DR. PUTNAM JACOBI thought that in the case related by her the uterus was perfectly healthy, and the tampons had produced only slight relief, whereas the general treatment had caused entire cessation of the subjective symptoms.

THE PRESIDENT said it was so seldom one found a normal ovary that it was difficult to obtain a sufficient number for demonstration before students. Interstitial ovaritis was very common even in cases in which there had been no history of symptoms associated with it during life.

DR. W. P. NORTHRUP asked Dr. Dudley whether he had noticed in his cases any of the changes in the features, voice, growth of hair on the face, etc., alleged to take place after removal of the ovaries.

DR. DUDLEY replied that he had kept his cases under observation as long as possible, but in none had he noticed a change in the voice, in the growth of the hair on the face, or in any other respect, excepting that usually there was an increase in flesh, and some complained of flushes in the head after removal of the ovaries.

BONY EXCRESCENCES ON THE INNER SURFACE OF THE CRANIUM.

DR. THACHER presented the skull of a colored woman, about thirty-five years of age, whose clinical history was

meagre. She had complained of severe headaches for three years, which she thought were due to menstrual troubles. There were chronic changes in the kidneys, but no diagnosis of kidney-disease had been made by the physician in charge. The urine had, according to the report, been of fairly high specific gravity, and contained no albumin. There was no history of venereal disease. During the past three months the patient had had occasional attacks of vertigo, with loss of consciousness and falling to the ground. The attacks became more and more frequent toward the end of life. She gradually weakened and died. The diagnosis made was epilepsy. There were found at autopsy bony excrescences on the inner surface of the frontal bone, and some calcified masses in the dura mater. The dura was closely adherent to the skull.

REMOVAL OF RIGHT HALF OF LOWER JAW BY SLOW ENUCLEATION.

Dr. Joseph W. Howe sent a patient with the following history: Thomas R——, twenty-three years of age, was admitted to St. Francis Hospital with the following symptoms. On October 4th he received a severe blow on the under surface of the chin, which exposed the bone. The wound was sewed up at St. Luke's Hospital, but failed to unite. The jaw afterward became very much swollen and painful, and he sought admission to St. Francis Hospital. Dr. Howe made an examination in the early part of November, and found an extensive swelling extending from the symphysis to the posterior part of the ramus of the jaw on the right side, and a small hole running up under the chin behind the jaw, which led to the dead bone. The teeth on the affected side were loosened, and the alveolar process stripped bare and rough and bathed in pus. Pressure on the outside, over the jaw, forced a quantity of pus out, both from between the periosteum and bone and external to the periosteum. The periosteum was separated along the upper line of the jaw back to the ramus, and in some parts had been completely destroyed. The lower teeth were removed from the jaw the following day, and a portion of the periosteum separated. This process of separating the periosteum from the bone was repeated at intervals for several weeks, while the parts were thoroughly cleaned and the patient's general health was kept up by tonics and stimulants. With the stripping of the bone, the periosteum gradually thickened so as to increase the swelling on the affected side. Three weeks previous to the first operation he made a careful examination under ether, and separated the greater portion of the periosteum and other tissues from the bone. Pieces of lint steeped in carbolic acid and glycerine were placed on each side of the dead jaw, and the patient was allowed to return to the ward. More swelling and fever followed the operation. On the following Monday he completed the operation, removing the last attachment at the symphysis and pulling out the diseased jaw, leaving behind a good basis for a new jaw in the ossifying periosteum. The slow enucleation of a diseased jaw is a comparatively simple process; very little force and very little cutting are required to remove it. The patient has now a new jaw, which has grown from the old periosteum.

Dr. W. P. Northrup presented specimens from a

CASE OF INTUSSUSCEPTION,

with the following history: The patient was a boy aged five months, who was cared for in his illness "between" two or three physicians. The child was well nourished, large of his age, without previous disease. Forty-eight hours before death the only record of him is that he had "severe diarrhœa," with vomiting. During the last twelve hours the vomiting increased in severity, and the diarrhœal discharges became bloody mucus. The patient cried shrilly and had "inward convulsions." The head, rolling constantly from side to side, had worn the hair from the occiput.

On autopsy the abdomen was found tensely distended. The contents of the intestines were yellow, grumous material, with castor-oil, which had recently been administered. The distention was found to be wholly of the small intestine. The stomach was empty, and colon and rectum were collapsed. Lying in the axis of the transverse colon was the tumor shown, which was four inches long, an inch and a quarter thick, round, firm, and of a bluish color, and was found to be an invagination of the cæcum into the transverse colon. The latter was in normal condition; the former deeply congested.

From the hepatic extremity protruded the ileum and mesentery, and a half-inch of the two-inch-long appendix vermiformis. The tissues were deeply congested and dusky. The two innermost layers, lying with their peritoneal surfaces together, were adherent, with tender, recent attachments. On inspecting the splenic extremity, the outermost layer, the transverse colon, was found to be normal. On stripping back the outer layer, the everted and invaginated cæcum was seen. It is like stripping back the prepuce and laying bare the glans.

The color of this packed invagination was almost black; the epithelia macerated and easily swept off, and its surface smeared with tenacious blood stained mucus. The gut was believed to be not gangrenous.

The Society then went into executive session.

Stated Meeting, June 22, 1887.

W. P. Northrup, M.D., Vice-President, in the Chair.

Dr. John C. Peters presented *portions of intestine* received from Dr. Middleton Goldsmith, of Rutland, Vt., which were interesting only with regard to the history of the case. [The stopper of the bottle had become loosened and allowed the specimens to get dry during transportation.]

Dr. J. H. K——, of Rutland, was taken ill at 9 A.M., June 4th. Dr. Caverly, was called immediately and found him suffering from great pain in the right iliac region. There was no swelling—no tympanites. The bowels had a natural feel.

He described his case as occurring in this wise. He had occasion, just before, to take an enema, which he gave himself. There was no pain during the injection. The first effort to pass anything from his bowels was attended with some pain; the second with excruciating pain.

At that time Dr. Caverly found him—besides in severe pain—cold to the elbows and knees and pulseless, and his face had the ashen hue of death. He was crying out in severe pain. Dr. Caverly immediately gave him two-thirds grain morphia sulph. hypodermatically, and applied hot-water bags to the extremities, and sent for me.

I found him free from pain, and in answer to my question he said he was in no pain then, and on asking how he had been for several days, he said he had been ailing for some time with indefinite pains through his bowels, with a good deal of pain in the right iliac region for three weeks, and that was all, except that his belly was sore all over.

The first question was, what was the injury? We were not aware *what* it was nor *where* it was. The facts seemed to point to some injury done to the right groin, which looked like a *rupture*, because of the suddenness of its onset, and of the *intestine*, because of the severity of the pain.

We could not help thinking, after witnessing the first shock, that this was a fatal injury—a tear or something of the kind. We did not feel sure, although the symptoms looked that way. We gave opium to narcotism, feeling that that was the only hope of adhesive inflammation and not suppuration. He died at 5.30 A.M., June 8th.

At the post-mortem examination there was found almost universal adhesive inflammation in the right side of

the abdominal cavity. There was nothing in the cavity but about a half-teacupful of pure serum. The adhesions were so complete that the parts had to be torn from each other by force. A profile of the torn gut showed the usual long hairy-like attachments. The gut adhered to the liver, and wherever a knuckle of small intestine came in contact with the cæcum or ascending colon it had adhered. After taking out the gut it was filled with water and then pressed with the hand when it was found that it gave way slightly under the grasp as though there was a small rent. The whole length of the gut was examined—the ducts of the liver, the gall-bladder, kidneys, ureters—and they were all intact. There was no injury from the nozzle of the syringe. Bladder and urethra were sound. The duodenum and jejunum were examined; all were sound.

Dr. H. J. Boldt presented the heart and lungs just taken from the body of a boy eight years of age, which showed

PNEUMONIA AND PERICARDITIS.

that had complicated *traumatic peritonitis*.

On June 12th the patient received a blow upon the belly from the fist of another boy. He went home and went to bed, complaining of intense pain in the abdomen, which began shortly after receiving the injury. His parents, on the next morning, reported that he had had considerable fever during the night and that he complained more or less of pain in the abdomen. On June 13th, Dr. Boldt found him with high temperature, tenderness over the entire abdomen, especially marked in the right iliac region, and he diagnosticated traumatic peritonitis. In the course of two days, however, pneumonia developed, which progressed until the whole of the right lung became involved; later, the left lung gave evidence of some consolidation. The consultant thought that the right pleural cavity contained fluid, and Dr. Boldt aspirated, but obtained only twenty grammes. During the progress of the pneumonia, the peritonitis was lost sight of. The patient died on the morning of June 22d.

The autopsy revealed diffuse peritonitis, pleuro-pneumonia involving the whole of the right lung, a few ounces of fluid in the left pleural cavity, with a small amount of pulmonary consolidation and marked pericarditis.

Dr. Boldt also presented a specimen of

PYO-SALPINX

on which he operated very soon after rupture of the sac. It was from one of *three* cases in which he had operated soon after rupture. In the first two, peritonitis developed and killed the patients. The third case terminated in *recovery*. The patient came under his observation on June 5, 1887. He had previously seen the patient and made his diagnosis, and intended to operate, but suddenly, on the morning of the date mentioned, she was seized with severe pain in the lower part of her abdomen, accompanied by some vomiting, and she was compelled to remain in bed. There was considerable tenderness, but no other evidence of general peritonitis. On palpation it was also found that the tube, which could be felt distinctly on previous occasions, had collapsed and disappeared substantially. Dr. Boldt operated within two hours, and found that the Fallopian tube had ruptured. There was considerable localized redness about the pelvis, but no peritonitis. The abdominal cavity was thoroughly cleansed by irrigation, and the patient made a good recovery.

Dr. W. P. Northrup presented microscopic sections of

PRIMARY EPITHELIOMA OF THE CONJUNCTIVA,

made from a growth that was removed by operation from the eye of a private patient, a girl three years and two months old, whose parents were living, young and healthy, except that the mother had frequently suffered from obstinate eczema.

The child had a light complexion and clear skin, and has always been healthy, well nourished, and vigorous.

October 14, 1887, she was presented for treatment. There was at the nasal margin of the left cornea a nodule the size of a pin's head, smooth, round, and pale red, and leading to it were three or four enlarged vessels. There were slight lachrymations, photophobia, and diffuse redness of the eye. There was no history of traumatism.

The pathological anatomy was judged to be a simple hyperplasia of gland-tissue at the limbus corneæ, a phlyctænula, which would soon part with its superficial epithelium, empty its contents, and speedily repair. A favorable prognosis was given, the child was seen every day, but at the end of a week no progress had been made toward recovery, the tumor, seemingly, remaining unchanged.

Dr. Agnew then saw the case in consultation, and confirmed both the diagnosis and the prognosis.

In his opinion the hyperplasia instead of resolving itself, remained as a simple hyperplasia, and would at length return to its normal condition with possible permanent thickening of trifling amount.

In the second week the tumor enlarged somewhat, being perhaps twice as large as when first seen, and at this time it was about four millimetres in diameter; its base was round, defined, lying partly upon the cornea, partly upon the sclerotic, movable moderately; its surface was nodular and fissured (cauliflower excrescence), and at its summit there was loss of substance

PRIMARY EPITHELIOMA.

At this time the case was seen by Dr. Agnew and Dr. Webster, who agreed on the diagnosis of epithelioma, and advised prompt removal.

November 19th, Dr. Agnew, assisted by Dr. Webster, removed the growth and cauterized the subjacent tissue.

The conjunctiva was brought together by stitches and the eye closed, having upon it a pad of absorbent cotton lightly held beneath a shield. The patient made a prompt and satisfactory recovery. At this time, seven months after the operation, there remains a smooth cicatrix about four millimetres in horizontal length, and less in width, lying partly upon the cornea and partly over the sclerotic. Upon the cornea it has a pearly opacity visible about three feet distant. The enlarged blood-vessels are no longer seen, and there is no evidence that the scar is not free from any suspicion of returning disease.

The eight microscopic sections shown constituted nearly the whole of the tumor. The microscopic examination of the specimen revealed that it was an epithelioma. This was the opinion of Dr. Delafield, who had carefully studied the sections.

Remarks.—Epithelioma in this locality, whether of the cornea or conjunctiva, is commonly secondary to cancer of the lids. In the case here reported it is primary. In its early stage it is easily mistaken for phlyctænula, though it is attended with less irritation and congestion, lachrymation and photophobia. Its growth is slow at first, then rapidly spreading and invading deeper tissues, and may speedily destroy the organ.

The treatment consists in removing it radically as soon as the diagnosis is made.

The prognosis is bad. The growth usually returns, and speedily.

The present case has passed the seventh month without a symptom of returning, and the prognosis is now considered good.

The Society then went into executive session.

"Fortschritte Der Medicin."—The editorial management of this journal has, since the death of Friedländer, passed into the hands of Professors Karl Weigert and Heinrich Unverricht.

Correspondence.

THE MEETING OF THE BRITISH MEDICAL ASSOCIATION AT DUBLIN.

(From our Special Correspondent.)

DUBLIN, August 6, 1887.

THE meeting which concluded yesterday has been an unqualified success. It has been numerously attended, has progressed harmoniously, and much scientific work has been done. The rearrangement of the sectional work has been very beneficial. The sections are now more numerous, each session is longer in duration, and the morning is now devoted to this—the real work of the meeting. The Association has held its annual meeting in Dublin before, but that was twenty years ago. It goes without saying that the Association has been through a period of great growth since then, but its expansion year by year is now a well-worn tale, repeated year by year at successive annual meetings.

The proceedings commenced on Tuesday morning at half-past eleven—another innovation, for heretofore the first move has been made in the afternoon. After the retirement of Dr. Withers Moore from the presidential chair and the installation of the new President (Dr. Banks), the usual formal business followed. The threadbare question of the payment of the expenses of members of the Council again came up. In despair, it would seem, the Council had devised a plan of payment, not of railway-fares, but by a sliding scale of fees varying from one to five guineas, according to the distance. After some stormy discussion this section of the report was thrown out, and the principle of "no pay" again affirmed by a large majority. At the afternoon session, Sir Thomas Crawford, K.C.B., M.D., etc., Director-General of the Army Medical Department, made a lengthy statement as to the question of "relative rank" of army surgeons, as to which much discussion has taken place of late. He deprecated the position taken up by the *British Medical Journal* in the matter, and asserted that no discontent had been brought to his knowledge as existing among army medical officers at its abolition. For his part he did not believe that any change for the worse had been made in the position of army surgeons, but rather the contrary. In fact, what had been done had been done with his own sanction. Army surgeons never had had any other real rank than that assigned to every army medical officer in his commission, viz., "the rank of surgeon." That rank every army surgeon still had. He did not believe that there was any desire among medical officers in the army for military titles. Mr. Ernest Hart defended the report, and several lively passages took place between him and Sir Thomas Crawford. The latter proposed to refer back to the Parliamentary Bills Committee all that portion of their report dealing with this subject. Mr. Hart ultimately said he would not oppose this reference, if by it further inquiry, not censure, was implied. After considerable discussion by various speakers this was accordingly done.

At the evening meeting the chief event was, as usual, the reading of the Presidential Address. This had evidently been prepared with great care, and was well worthy of Dr. Banks' distinguished reputation. It was, however, of a nature not readily lending itself to being epitomized. After some introductory observations, he proceeded to give a sketch of the history of medicine in Dublin. The University of Dublin with its College (Trinity), the College of Physicians, and the Dublin School of Physic were referred to in turn, and their rise and progress sketched. Nor was the younger Royal University of Ireland, although of such recent origin, forgotten. He traced back the University to the days of Queen Elizabeth. Seven years after its foundation it was recorded in the College Register that a *concordatum* of forty pounds a year was granted by the government for a "physitian's pay," and it had been supposed that this was the origin of the Professorship of Physic. Dr. Banks spoke at length of many of the celebrities of bygone days, and gave many interesting particulars concerning several of them. Speaking then of medical education, he urged the desirability of lengthening the medical curriculum to a period of five years, and also urged the importance of a study of mental disease. As to the question of the expediency of women entering the profession, he said he would express no opinion, but observed that there was a large field for them in India. On sitting down, hearty cheers resounded throughout the hall (the Dining Hall of Trinity College). Here an unfortunate hitch occurred. Forgetful, apparently, that it was usual to pass a vote of thanks to the President for his address, the President of the Council rose to give out some notices of other business, but was cut short suddenly by the Rev. Dr. Haughton, who is the Senior Fellow of Trinity College, and combines in his person the position of a physician and a clergyman, and is distinguished for his learning both as a mathematician and a physiologist. In a speech, marked throughout by great humor, he said he rose to move the adjournment of the debate in order to call attention to a matter of urgent public business, and then said that, although he did it that should not, he must move a vote of thanks to Dr. Banks. He agreed with him in everything but one—his admiration of women. Dr. Banks wished them to practise in India. He wished them to practise in Ireland, not "far, far away"—the last phrase being sung out at high pitch, in what a member who sat near me remarked was an imitation of Professor Blackie's manner. The vote of thanks was afterward formally moved and seconded in the usual way, by Sir George Paget and Sir Spencer Wells, respectively.

On Tuesday we had Professor Gairdner's Address in Medicine. After a few introductory remarks, he referred to the question mockingly asked by Sir William Hamilton in a review of Cullen's works: "Has the *practice* of medicine made a single step since Hippocrates?" Dr. Gairdner remarked that he had chosen a less ambitious programme, viz., to inquire whether the art of medicine had advanced during the present century. Adopting Cullen as the starting-point, he referred to his fame. He then went on to speak of Brunonianism, of which Dr. Gairdner said he had once met a disciple. It was in the great hospital at Milan, in 1852. This Italian physician bled about every third or fourth patient, and did not use, or seem to think of using, the stethoscope. Dr. Gairdner said, that at the same hospital, at the date mentioned, he was informed that there was to be seen in the venereal wards a man who had been bled for gonorrhœa. The practice of freely bleeding as practised in the last generation was then graphically described and commented on by Dr. Gairdner. The medical art was unstable in Cullen's time. Had we attained to greater stability now? His answer was that the progress of medicine, since Cullen's time, had been in the direction of *stability* of a kind and degree not possessed by the art of medicine in any previous stage of its progress, not even in those dark ages when it had the prestige of a kind of immutability, or, as a theologian would call it, orthodoxy, founded on the overwhelming authority of Galen. Dr. Gairdner then said, could he make good this assertion? Even for antisepticism, he said he could not claim an advance all along the line. He then referred in succession to antipyretics—cod-liver oil, chloral, digitalis, nitrites, etc.—and their advantages, but said it was vain to expect a concurrence of opinion. There were three points of our progress in which the dissolution or weakening of our orthodoxies had been accompanied by a truly constructive process.

1. Hygienic remedies. Under this heading the progress of preventive medicine was spoken of.

2. Self-healing processes in acute disease. In connec-

tion with this subject, Dr. Gairdner spoke of the abuses of venesection in former years.

3. Epidemic fevers, and the reaction against over-alcoholic stimulation in treating them. Some striking reminiscences of the alcoholic methods of treatment were given. In concluding his remarks on this subject, Dr. Gairdner referred to the fact that milk had almost been forgotten in the era of which he spoke, and alluded to the epigrammatic motto of the University of Dublin, "Lacte, non Vino."

After the usual vote of thanks, a discussion then took place on a resolution moved by Sir Thomas Crawford, respecting the disabilities under which candidates with Scotch or Irish degrees or diplomas suffered when competing for English appointments. After being amended in a direction indicated by Dr. Haughton, the resolution was finally—after a wordy war of some duration—passed by an overwhelming majority.

THE JAUNDICED HUE OF PICRATE OF AMMONIA.

To the Editor of The Medical Record.

Sir: A correspondent, Dr. S. E. Fuller, of Brooklyn, calls attention to this phenomenon in your July 2d number.

I have observed it both in sclerotics and in urine, but not so persistent or marked in my cases as appeared in Dr. Fuller's. All of my cases, having some neurotic trouble and the indications for the ammonia picrate being only incidental, were taking hypophosphites and ammonium bromide, and some iodide and arsenic. In those patients who happened to be taking muriate of ammonia with other treatment, the yellow tinge to urine and sclerotics appeared very slight, and in some not at all; and in all, the subsequent administration of the ammonium muriate and suspension of the ammonium picrate cleared away the jaundiced hue in a few days.

There was no cutaneous icterus in any of my cases.

I attributed the change to the diffusion of the coloring matter of the picrate of ammonium through the tissues, as urinary examination showed nothing abnormal, and made this explanation (and still make it, when I use this salt) of this discoloration-phenomenon.

Yours truly,

C. H. Hughes.

3000 Chestnut Street, St. Louis.

SOLID TUMORS OF THE OVARY.

To the Editor of The Medical Record.

Sir: I notice in The Medical Record of July 9th a note from Mr. Lawson Tait in regard to a report of a quotation made by me from his book. As Mr. Tait suggests, I have not been correctly reported. I quoted from his book (p. 158) the following: "Growth of the fibrous stroma of the ovary so far as to form a large abdominal tumor requiring removal has not yet been described." I then asserted that in this statement Mr. Tait is wrong, and this I still maintain. That Mr. Tait's position on this subject may be fully understood, I quote again from a private communication of July 2d, in which, in speaking of solid ovarian tumors, he says: "A purely fibrous tumor in which the follicular element does not enter has yet to be described. I said so in 1877, and I say so again." In my paper (*Am. Jour. of Obstet.*, vol. xx., May, 1887), from the report of which Mr. Tait quotes, I described a purely fibrous tumor of the ovary in which there was no trace of follicular structure. Many others have done the same.

In a paper by Dr. Coe (*Am. Jour. of Obstet*, vol. xv., p. 561) the whole subject is fully discussed, and reference made to a large number of reported cases. I need only allude to the latest authority, Dr. Greig Smith. In his work on "Abdominal Surgery," after quoting from Mr. Tait the very sentence which I have used, he goes on to describe a tumor of the kind the existence of which Mr. Tait denies. He says: "I have, however, successfully removed a solid ovarian tumor as large as a child's head, in which repeated examinations by a competent histologist failed to show any other histological element than pure fibrous tissue." Certainly this would seem to be conclusive.

Matthew D. Mann, M.D.

Buffalo, July 18, 1887.

A LAYMAN'S OBJECTION TO MEATOTOMY.

To the Editor of The Medical Record.

Sir: Is it scientific for a surgeon to advise a layman to undergo an operation for which there is no published authority and of which the only papers written by physicians are condemnatory? Enlarging the meatus to the calibre of the urethra seems to be such an operation. I am told that it is frequently performed by genito-urinary surgeons; and I have, indeed, read a book, by one of them, wherein mention is made of more than a thousand urethral operations, in each of which the meatus was enlarged, simply to make way for the passage of instruments; but, for aught the text says, with no idea that the enlargement would have in itself any more effect than would be produced by paring the patient's finger-nails. It would be interesting to know whether many of the men whose meati were thus cut find that, in consequence, they are rendered impotent, unable to urinate without wetting themselves, and dribblers for a long time after urinating; because these are the results which the only physicians who have written on the subject say are likely to be produced by *porotomy*. One of these writers even cites a number of instances in which he has removed the difficulties mentioned, by sewing up the meatus so as to bring it to its normal size. Think of it! One member of a medical society takes a fee for cutting a patient, and another member receives a fee for bringing the patient as nearly as possible back to his original condition.

In *my* profession, if a small number of, say, bridge-designers, were to proportion their framed structures in a manner which other well-known engineers say, in published papers, is likely to make the structures insecure, it would be considered that the persons who pay for the structures have a right to expect that the designers will point to some scientific evidence that the criticisms are unmerited. An engineer, indeed, must either defend his practices against criticism from responsible sources or else lose the confidence of the persons who employ him. Not so, it seems, with genito-urinary surgeons. No matter how many papers are written by prominent physicians to show that permanent enlargement of the meatus is an unscientific, injurious operation, the genito-urinary surgeons go on complacently performing the operation, and never answer a word.

I would say to any physician who makes a practice of enlarging the meatus: "The opportunity is afforded you of being the pioneer in disproving the proposition advanced by several prominent practitioners, that the operation is injurious to the patient. It may take some nerve for you to express in print the conviction that the operation is beneficial; because many of the men whose meati have been enlarged may perhaps rise up and bear witness against you. Still, I submit for your consideration that for any surgeon to perform an operation which he is afraid publicly to defend is mean and dishonorable."

A Civil Engineer.

New York, July 29, 1887.

A Plea for More Frequent Phlebotomy.—In an article in the July issue of the *American Journal of the Medical Sciences*, Dr. J. A. Macdougall urges the more frequent employment of bloodletting as a therapeutic measure. He believes that it is too much neglected at the present time, and that its occasional employment in suitable cases is productive of undoubted good.

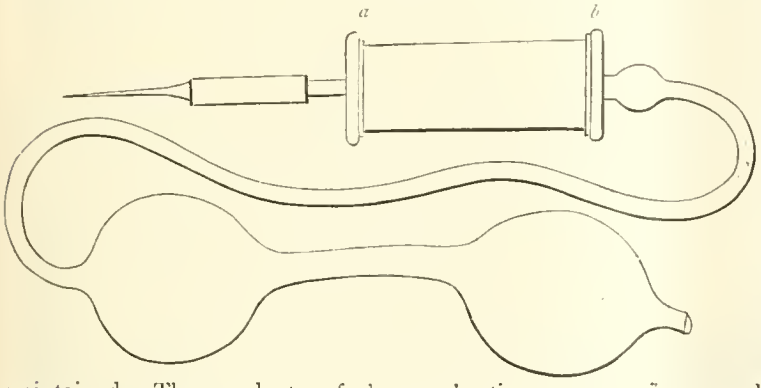
New Instruments.

AN IMPROVED FORM OF PAQUELIN CAUTERY.

By HORACE B. SCOTT, A.M., M.D.,

ASSISTANT SURGEON, UNITED STATES NAVY.

The action of the Paquelin thermo cautery, as commonly used, may be briefly stated as follows: Air is forced into a bottle containing benzole; thence, after becoming saturated with the vapor, it is driven on into the knife until it reaches the platinum tip, which, having been previously heated, is kept at an incandescent temperature by the combustion of the vapor striking against its inner surface, so long as the current of air, charged with the vapor, is



maintained. The products of the combustion escape backward along the delivery tube and out through vents made for the purpose.

A glance at the accompanying illustration will show the modifications suggested, and claimed as improvements. The handle in the ordinary form of the cautery is merely a piece of wood with a tube passing through it. In the modified apparatus the handle is a nickel-plated brass cylinder, filled with sponge confined in a spiral of brass wire. It is both a handle and a chamber, in which the air becomes saturated with the benzole vapor as it passes through on its way to the knife.

The points in favor of this handle are: 1. Efficacy. The air is more easily and thoroughly saturated with the hydro-carbon vapor, so ordinary benzine can be used instead of the more expensive and more volatile benzole. 2. Safety. There is no possibility of the benzine chamber breaking or of the cork blowing out, as obtains sometimes when the bottle is used. 3. Convenience. It does away with a bottle hanging from a button-hole, and with the extra length of tubing for connections which is, at times, in the way. It cannot be upset. A much smaller quantity of benzine will suffice to impregnate the air with vapor than when only the surface of the liquid is exposed to volatilization, as is the case when a bottle is used. Lastly, there are fewer pieces needed.

Mode of using: Unscrew one end of the cylinder and pour a little benzine on the sponge within; replace the end, and the instrument is ready for use. It can be transported any distance, as there is no leakage nor waste, both ends being made tight by little screw-plugs, which fit in where the tubes from the bulbs and to the knife are connected (see figure, *a* and *b*). Once filled, it can be used continuously for at least two hours, and probably longer, as I have used it that length of time, and it was not then exhausted. The above description is that of an instrument made, after plans by the writer, on board the U. S. S. Trenton, then off Yokohama, Japan. The credit of originality is due to Stuart Eldridge, M.D., of Yokohama, who had an instrument differing from the above in only one or two minor details, and made before the one here described.

EMPYEMA STOPCOCK.

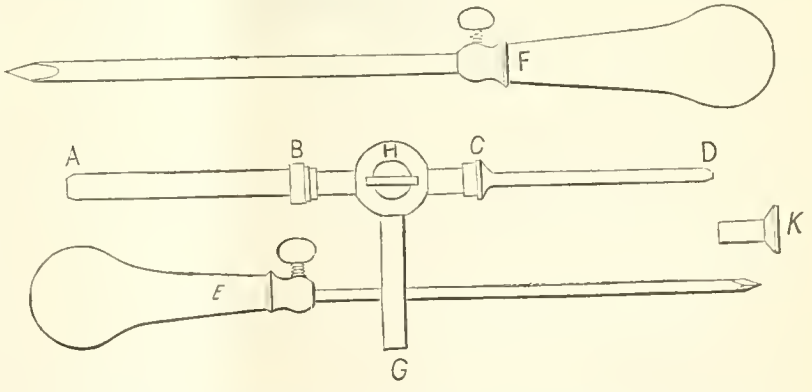
By HORACE B. SCOTT, A.M., M.D.,

ASSISTANT SURGEON, U. S. NAVY.

The combined stopcock, trocar, and cannula here described was designed for a special case, but the writer found it so convenient that he believes it will prove useful in other cases as well. In its simplest form the instrument may be described as a three-way cock, so arranged that fluid will pass from the syringe or reservoir into the chest when the stopcock is horizontal, while by turning it in a vertical direction the fluid flows from the thoracic cavity into a receptacle placed to receive it. When the stopcock is in this latter position further entrance of fluid into the chest is prevented. The accompanying figure represents this instrument adjusted for use with two trocars of different sizes. By unscrewing the cannula, *CD*, the larger trochar, *F*, will pass from *C* to *A* through the stopcock, *H*, and by removing the cannula, *AB*, the smaller trochar, *E*, will pass from *B* through the stopcock to *D*.

Both trocars, *F* and *E*, have a set screw in the handle by which the spear can be set in far enough to use it and its corresponding cannula, *AB* or *CD*, separate from the rest of the instrument—in fact, like an ordinary trocar and cannula—and it is for this purpose that two sizes are adapted in the instrument. *K* is a small plug to fit at *B* after the removal of *AB*; through it is a hole of the same size as the smaller trocar, *E*; it is a guide to be used only when the trocar is used at full length.

Connection is made at either end with the syringe or reservoir by rubber tubing, while from the other end is another tube (catheter) reaching to the bottom of the cavity to be washed out. The surgeon, with his hand on the stopcock, *H*, can check the in-flow and open the out-flow at any instant he may wish.



Though perhaps somewhat complicated in description, the instrument itself is quite simple, easily cleansed, and has been found very convenient by the writer. Empyema only has been mentioned as a disease in which it is useful, but it can be equally well used in all diseases requiring the trocar and cannula, either by using the trocar and cannula alone, or, in the combined instrument, withdrawing the trocar partially, turning the stopcock, and allowing the fluid to run through the outlet-tube, *G*. If desired to leave a drainage-tube in the cavity, it can easily be passed through the cannula before it is withdrawn.

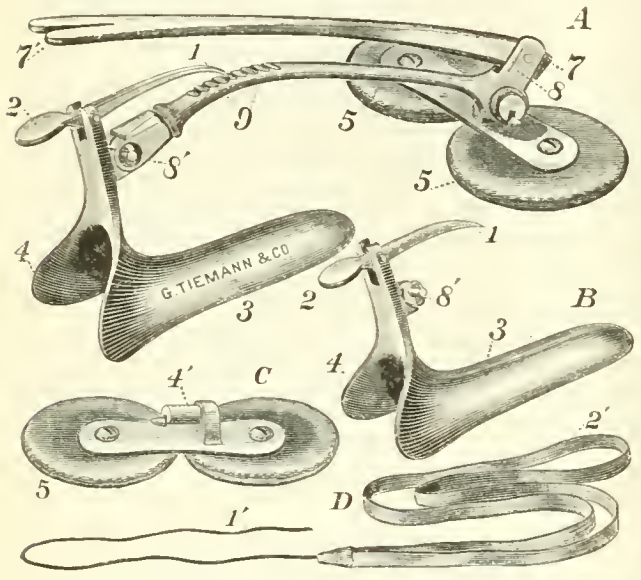
The Medical Societies will resume business next month.

AN IMPROVED EHRICH'S SELF-RETAINING SPECULUM.

By H. T. HANKS, M.D.,

NEW YORK.

Any self-retaining speculum which will do the work of a Sims' speculum, even *fairly* well, is certainly a very desirable instrument, even though its use may be somewhat limited. I have had opportunity and have taken occasion to use nearly every kind of these instruments which are for sale, and I have found none that served me so well as an Ehrich, or some modification of the Ehrich, self-retaining speculum. It is well known that Dr. A. H. Hunter and Dr. B. F. Dawson, of this city, each have made decided improvements in this instrument, and I presume other improvements have been suggested by gynecologists in other parts of the country. I have found, however, that there were some changes which could be made which would in a great measure remedy the defects which have always been present in the original, and in the several improvements which have been from time to time recommended by me and others. And that the general profession may know of a really useful self-retaining instrument I venture to describe the Ehrich speculum as improved and used by me.



1. In Fig. "A" the arm 8–8', which is the short arm of the lever, is one inch shorter than is found in the original instruments, and therefore the perineum is retracted with greater ease, and when it is remembered the patient is to make the traction which is to accomplish this purpose, it is seen to be quite an advantage.

2. The distance of the blade 3, in Fig. "A," from the short arm 8–8' is one-third of an inch more than in the original instrument, and we thus avoid the danger which was always present in the old speculum of puncturing the tissue around the coccyx and perineum.

3. The attachment, in Fig. "A," of the short arm 8–8' to the blade, at 8', is similar to the attachment of disjointing scissors. And thus the blade can be removed instantaneously from the arm 8–8', and washed, without wetting the other parts of the speculum.

4. The ratchet 1–2', in Fig. "A," is easily and quickly manipulated. The end at 2 is arranged to be lifted by the thumb, to retract still more the perineum.

5. The fulcrum pieces 5–5', in Fig. "A," are of metal covered with soft buckskin. They do not easily slide or slip on the integument of the parts around the sacrum, and of course they do not chill the patient.

6. The long arm of the lever 7–7', in Fig. "A," is made strong, and stands. when in use, at nearly a right angle to the short arm 8–8'. At the end 7'; a wedge-shaped slat is made for catching firmly the tape- or leather string which is held by the patient.

7. Two different-sized blades are made and sold with this instrument, and others can easily be made to suit the fancy of the owner.

Army News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from August 7 to August 13, 1887.

McKee, J. C., Major and Surgeon. Ordered for duty at Watertown Arsenal, Mass. S. O. 181, A. G. O., August 6, 1887.

Brown, H. E., Major and Surgeon. Sick-leave extended to August 6, 1887, on account of sickness. S. O. 184, A. G. O., August 10, 1887.

Cleary, P. J. A., Major and Surgeon. Ordered to Fort McDowell, A. T., instead of Fort Assiniboin, Mon. Ter. S. O. 180, A. G. O., August 5, 1887.

Dickson, John M., Captain and Assistant Surgeon. Died, August 8, 1887 (station, Fort Mason, Cal.).

Merrill, J. C., Captain and Assistant Surgeon. Ordered from Fort Klamath, Ore., to Watervliet Arsenal, N. Y. S. O. 181, A. G. O., August 6, 1887.

Macauley, C. N. B., First Lieutenant and Assistant Surgeon. Promoted to be Assistant Surgeon with the rank of Captain by operation of law. August 10, 1887.

Hopkins, William E., First Lieutenant and Assistant Surgeon. Ordered from Angel Island, Cal., to Fort Mason, Cal. S. O. 184, A. G. O., August 10, 1887.

Pilcher, J. E., First Lieutenant and Assistant Surgeon. Ordered from Fort Monroe, Va., to Fort Wood, N. Y. Harbor. S. O. 180, A. G. O., August 5, 1887.

Anderson, C. L. G., First Lieutenant and Assistant Surgeon (station, Whipple Barracks, Ariz. Ter.). Ordered to Fort McDowell, Ariz. Ter. S. O. 81, Department of Arizona, August 3, 1887.

Suter, William N., First Lieutenant and Assistant Surgeon. Ordered to return to Washington Barracks, D. C., on the breaking up of the camp at Creedmoor, N. Y. S. O. 166, Division of the Atlantic, August 10, 1887.

Action of the Liver on Poisons.—Dr. Roger has published the results of his researches on the action of the liver on poisons. Having verified and confirmed the assertions of Heger and Schiff on the modifications which the alkaloids underdo in the hepatic parenchyma (*The Lancet*), Roger shows that the liver transforms also the normal poisons of the organism, including both the products of disassimilation and the toxic principles which arise from intestinal fermentation. The most interesting and novel point is that the action of the liver on organic poisons only takes place in the presence of glycogen. This is established clearly in the different experimental diseases of the liver, particularly in animals in a state of inanition, where the gradual and parallel decrease in the two functions can be followed day by day. On the other hand, when hyperæmia of the liver is artificially induced by the injection of irritants into the vena porta, both functions are exaggerated; more glycogen is present and a larger quantity of poison is transformed. Roger thinks that the glycogen, changed into glycose, combines with the alkaloids, or with ammonia, to form new and less toxic products, such as he has obtained, outside the body, by heating mixtures of glycogen with alkaloids or ammonia in closed tubes. These experiments lead to various clinical deductions, which are reserved for a future memoir.

Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and death from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending August 13, 1887:

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	40	9
Scarlet fever	28	6
Cerebro-spinal meningitis	5	5
Measles	18	2
Diphtheria	81	29
Small-pox	1	2
Yellow fever	0	0
Cholera	0	0

REVOLVER-BULLETS IN THE BRAIN.—Dr. Berra has published a paper on penetrating wound of the brain by a revolver-ball. A man received a shot in the head from a revolver; the bullet entered the brain and blood flowed from the nose. Symptoms of cerebro-meningitis followed and the foreign body could be distinctly felt by the probe through the wound. The man made a perfect recovery. Verneuil said he knew two men who each had a bullet in the brain, and were now in the best of health. Sée mentioned two similar cases. Dentu related the following case: A man received a ball in the forehead; vomiting, difficulty in speaking, and brachial monoplegia were the primary results. At the end of two months symptoms of abscess of the brain were manifested, and the use of the trepan was suggested, but abandoned. The man died and the autopsy revealed an extensive suppuration, but, strange to say, the ball was lodged in a cyst and at a certain distance from the abscess. Peyrol said that active interference was justified in such cases, especially as very little danger resulted. Kirmisson was of opinion that a primitive exploration was not correct practice, and he was struck by the history already related, that certain fractures of the skull provoked suppuration, without injury to the teguments. In such cases he considered that the inlet of the microbe of pus was through the ear, especially in cases of fracture of the petrous portion, and consequently he placed iodoformed cotton in the auditory canal, and since he adopted this practice he never met with such accidents in that kind of fractures.—Paris correspondent of the *Medical Press*.

THE TREATMENT OF PAIN BY ANTIPYRIN.—Professor Germain Sée has made a further communication to the Academy of Sciences on the treatment of pain by antipyrin (*The Lancet*). He now advises that the drug be administered by hypodermic injection in doses of eight grains in the same quantity of water. The injection is followed by a disagreeable feeling of tension which lasts a few seconds; and, when this passes off, the pain, whatever may be its cause, at once remits. It has the great advantage over morphine of giving rise neither to vertigo nor vomiting; nor does it produce either the somnolence or the artificial stimulus which lead to morphinomania. Lastly—and this is the great point—to its sedative effect it adds a curative action, which morphia does not possess. The diseases for which Professor Sée would more especially recommend the substitution of antipyrin for morphine are numerous—acute rheumatism, acute gout, herpes zoster, lumbago, ataxia; also in hepatic and nephritic colic, angina pectoris, and acute asthma. "But there is no morbid condition in which it does not advantageously replace morphia; and as we gather experience we shall see antipyrin used in its stead, and so become the preservative against chronic morphia poisoning."

NASAL VERTIGO.—The thesis might be maintained that irritation of any sensory area may give rise to vertigo; but the difficulty of proving to demonstration that such a proposition holds good would be very great. Hitherto the occurrence of vertigo as the result of a lesion in the nasal passages has not been generally accepted, and we doubt whether there can be any very special or causal connection between a vertigo and a nasal lesion. In a few cases a connection may be traced, but it is very possible that the nervous phenomenon, vertigo, is chiefly caused by the nerve weakness, the nasal lesion playing perhaps only the part of the "last straw." Dr. Joal, the latest writer on nasal vertigo, believing in its positive existence, asserts that the vertigo is a genuine reflex; that it ought to be ranged side by side with gastric, laryngeal, uterine (*sic*) forms; and that irritation of the branches of the trigeminal supplying the mucous membrane of the walls and septum of the nose is its cause. He thinks that the mechanism is one of cerebral anæmia brought about by the transmission of the irritation through the spheno-palatine ganglion to the vaso-motor nerves. The vertigo is especially induced by slight nasal affections such as result from inhalation of irritating vapors, snuff, etc. Acute coryza, hypertrophic chronic catarrh, mucous polypi, and catarrh of the retro-pharynx are other causes. These reflex effects are most marked in arthritic subjects. The vertigo may be the only symptom, or it may be accompanied by visual troubles, hemicrania, nausea, vomiting, great excitement, hypochondria, intellectual weakness, etc. The statement is also made that the vertigo ceases with the cure of the nasal affection which has caused it.—*The Lancet*.

SOME QUERIES CONCERNING BERGEON'S TREATMENT OF PHTHISIS.—Dr. George White, of Chicago, asks the following questions: "1. Does sulphur have, under all circumstances, an elective affinity for the respiratory tract, such as some remedies have for other organs? 2. Does hydric sulphide vary in quantity in the digestive tract during the progress of phthisis, as sodic chloride fluctuates in the urine of patients with pneumonia? 3. During the phthisical processes is there a deficiency or absence of any of the bile constituents, such as the taurocholate of sodium? 4. In consumptive patients does the discharge of gas from the rectum vary in quantity and odor as the disease progresses or retrogrades? 5. Do not the good effects of injections of hydric sulphide per rectum show a want of the sulphur element in the human economy? 6. If these things are true, may we not supply the deficiency by such diet as will be as sulphurous as can be tolerated by all parts of the digestive apparatus; such, for example, as yolks of eggs, ox-bile, beans, or sulphuric-acid lemonade? Queries 1 and 3 I shall hope to see answered by those more competent than myself; queries 2 and 4 I am endeavoring to solve; No. 5 appears to be self-evident; No. 6 remains to be proven. A partial tour of the Cook County and Presbyterian Hospitals, in Chicago, has given me a little foundation for my belief that affirmative replies may be made to queries 2 and 4. There is great difficulty in gaining any satisfactory information from the average patient, but what little information I obtained I here impart. In two cases the testimony was positive that, as the cough and prostration increased, the intestinal odors decreased or ceased, and when there was improvement in the general condition the fecal matters grew more offensive in smell. In one case the testimony was exactly the reverse of this. I intend to investigate this subject further, and trust that some readers of THE MEDICAL RECORD will accurately answer my other questions. This is an immediately practical subject."

LATE DENTITION.—Dr. Dolgopoloff saw a curious case of an elderly but still hale and sound nurse, aged sixty-eight, who had long before lost all her teeth except four lower incisors, and in whom two new upper middle incisors appeared, first the right one (at sixty-seven), and about a year later the left. On both occasions the dentition was accompanied by severe headache, loss of appetite, vomiting, diarrhœa, slight febrile movements with

shiverings, rapid action of the pulse, and aching and dragging sensation in the gum. While her old teeth were dark gray, the new ones had a milky color with a bluish tint; they were competent even for such work as biting sugar. Dr. Dolgopoloff emphatically draws attention to the fact that dentition in his patient was accompanied by a set of symptoms which obviously had a reflex origin, and which are only too well known in cases of teething at a somewhat earlier age, though some sceptic minds attempt to explain away those irritation-phenomena by a simple coincidence of events.

Louis XIV. and His Dose of Cinchona.—Dr. J. H. Straughn, of Lexington, Mo., writes: "Voltaire, in his work entitled 'Le Siècle de Louis XIV,' relates the following interesting anecdote: In the year 1658 the king was seized with a severe illness at Calais, and for several days was in imminent danger of dying, but was cured by an empiric of Abbeyville with 'un vin hémétic,' which the court physician regarded as a poison. This good man (the empiric) sat down on the king's bed and said, 'Here is a young man very ill, but he shall not die.' And the prognosis was verified. May we not reasonably infer that this medicine was a vinous preparation of cinchona bark, which we are told was introduced into Europe in the year 1640?"

Large Doses of Quinine.—Referring to the claim of Dr. Knight, of Dublin, that the largest dose of quinine ever given was by himself, the amount being 131.25 grains in twenty-four hours, a correspondent calls his attention to the statement in "Stille's Therapeutics," vol. i., p. 497, edition of 1860, that a lady took about ten drachms in a few hours, a man took five hundred and ten grains in seventeen hours, and another took four hundred and eighty grains in a single night.

The Treatment of Localized Tuberculosis.—In a recent number of the *Mediz. Presse*, Dr. Kolischer gives details of his new method, and Dr. Freund describes the composition of the solutions used. In the case of tubercular masses which have not yet broken down, the following is the plan adopted: After a sublimate dressing had been applied to the part for twenty-four hours, this was again washed with soap and irrigated with a one per cent. solution of sublimate; after this the injections were made. For this purpose he used a Pravaz syringe, made of vulcanite, with platinum points. The syringe was dipped in a five per cent. solution of carbolic acid. The injection was made slowly at different points of the mass, a portion of the contents of the syringe being injected at each place. When a sufficient quantity of the solution had been injected, the fungous mass felt soft, whereas the parts where no injection had been made were elastic to the touch. The needle was pushed in as far as possible, sometimes even to the softened bone. When healthy tissue was reached, a peculiar quivering sensation was felt, which was absent when the point was in the diseased mass. Moreover, there was no bleeding after puncture of a tubercular mass. The injection itself is so painful that cocaine might advantageously be used at the same time. Very severe pain also comes on some time after the injection, and lasts for some hours; this is best relieved by subcutaneous injection of a somewhat large dose of morphine. After the injection of the lime salts, an antiseptic dressing should be at once applied, and should be left on during the whole period of reaction. The reaction-fever is usually very high, and lasts from twelve to twenty-four hours. When the reaction—which usually lasts for five or six days—subsides, a starch-bandage should be applied to the joint, and this should be changed as often as it becomes loosened by the swelling which supervenes in the joint. Then, after a period of from three to six weeks, the stage of induration, shrinking, and absolute painlessness is attained, massage and passive movements should be had recourse to, in order to restore the mobility of the joint. The subluxations and contractions which may have been produced in the course of the disease should be corrected toward the end of the period of reaction. When the mass into which an injection was made was gradually undergoing caseation, it broke down after about a week, and tubercular granulations, fibrinous clots, and flakes of pus were discharged. The cavities were stuffed with the prepared gauze, and the whole was covered with a sublimate wood-wool dressing. The tampons should be changed at least every second day. The cavities, under this treatment, quickly became covered with healthy granulations; and, when these had reached the surface, the usual treatment of granulating surfaces with nitrate of silver and iodoform was employed. Cold abscesses were opened as freely as possible, and, after emptying out the contents (without using the sharp spoon), they were stuffed with gauze saturated with the phosphate of lime solution. When the ulcerative process was very indolent, gauze prepared with the stronger solution was used. With respect to lymphomata which had not yet broken down, the number of experiments which had hitherto been performed was too small to justify a definite conclusion. The solutions should be prepared according to the following formulæ, suggested by Dr. Freund: 1. Acid solution of phospate of lime of about 6.5 per cent., containing 1 in 1,000 of free phosphoric acid (sterilized for injection).—℞. Calc. phosph. neutr., 5.0; aq. destill., 50.0. Dein sensim adde acid. phosphor. quantum sufficit ad solutionem perfectam; filtra, et adde acid. phosphor. dil., 0.6; aq. destill., q. s. ad 100.0. S.: For injection. 2. Acid solution of phosphate of lime of about 6.5 per cent., containing 1 per cent. (or 2 per cent. when the ulcerative process is particularly indolent) of free phosphoric acid, for impregnation of the gauze.—℞. Calc. phosph. neutr., 50.0; aq. destill., 500.0. Dein sensim adde acid. phosphor. q. s. ad solutionem perfectam, filtra, et adde acid. phosphor., dil., 60.0 (vel 120.0); aq. destill., q. s. ad 1,000.0. S.: For impregnation of the gauze. The solutions were thoroughly sterilized each time before being used.—*Cor. British Medical Journal.*

An Itinerant Dispensary.—Dr. Bejan, of Bucharest, is conducting a travelling hospital and dispensary in Roumania, which seems to be of a very useful character. Physicians are scarce in the country-districts there, and the aim of this expedition is not only to attend to those who may be in need of medical assistance at the time, but also to give such instruction in hygiene and sanitary matters as may be useful to the inhabitants in enabling them to avoid some of the preventable diseases. The expedition is organized on a military basis. During the three summer months of last year the dispensary travelled through the districts of Dorohoi and Botosani, and treated about nine thousand patients. It was proposed to continue the work this summer, visiting other districts that could not be reached last year.

Treatment of Uterine Fibroids.—Dr. Good, of Paris, writes: "In The Medical Record of June 4, 1887, you notice editorially an article on the treatment of fibroid tumors of the uterus, as practised by Dr. Martin, of Chicago, after the method of Dr. Apostoli, of Paris. Allow me to say that the 'conclusions reached by Dr. Martin,' given as his own, are substantially a translation of the conclusions published as far back as 1884 by Dr. Apostoli, in his work 'Du Traitement Électrique des Tumeurs Fibreuses de l'Utérus,' page 246. If it is not asking too much, I beg to have the error corrected."

Needles in the Heart.—At the last German Surgical Congress, Dr. Steltzner related the case of a man who had thrust a needle into his heart, with suicidal intent. A loud murmur could be heard, and the puncture made by the needle in the chest-wall was plainly visible. An incision was made at that point, and the fifth rib was resected, when the needle was seen embedded in the

cardiac wall. In the attempt to extract it the needle slipped away and could not be found. The patient recovered completely. At the same meeting Dr. Hahn showed a piece of a needle which he had removed from the heart of a child in 1882. While the foreign body remained in the heart, a loud systolic murmur was audible. The needle was extracted slowly without accident. After its removal the temperature fell and the pulse, which had before been very rapid, was much reduced in frequency. That the needle was in the heart was evidenced by its rhythmical movements corresponding in time with those of the heart.

Antifungine.—This is the name given to a white, sweetish-tasting powder, consisting of borate of magnesia prepared by a special process, and said to be an energetic disinfectant, being recommended especially in diphtheria, in which an almost specific action is claimed for it. It is employed in a fifteen per cent. solution, of which from five to twenty drops are exhibited every half-hour. In addition, in cases of diphtheria a spray of the solution is diffused through the atmosphere of the room. The solution is also applied directly to the diphtheritic pseudo-membrane by means of a soft brush.

Staining of the Urine by Picrate of Ammonia.—Dr. J. B. Wainright, of Manasquan, N. J., writes: "In answer to the inquiry of Dr. S. E. Fuller as to how long after the discontinuance of picrate of ammonium the urine will remain yellow, I would like to refer him to my article on 'Picrate of Ammonium,' published in The Medical Record for January 22, 1881, vol. xix., No. 4."

Bacteriology.—An elaborate paper on the study of bacteria by means of cultivation, with a full description of the technique, by Mr. Watson Cheyne, appears in the *American Journal of the Medical Sciences* for July, 1887. In addition to the study of culture-experiments, the author describes the technique of the method of study of bacteria in relation to the living body.

Sarcoma following Local Injury.—On May 21, 1886, Dr. Pettit was called to see a girl, aged fourteen, in good health, of German descent, who was suffering from tenderness and swelling on the outer side of the right knee consequent on a fall which had occurred about a fortnight before (*London Medical Record*). The symptoms passed off, but in about ten days returned at seat of injury, and grew worse daily. No history of syphilis could be obtained, but her father had twice been operated upon for epithelioma. As the pain and swelling continued to get worse in spite of local and constitutional treatment, and as there was an obscure sense of fluctuation, on June 12th he punctured the part with a bistoury, but only blood came away. On examination with a probe he detected a small spicula of bone in the cavity, and decided caries of the upper and outer surface of the tibia. The next day there was constitutional disturbance and fever, and all the symptoms seemed aggravated. A consultation was held with Dr. Pratt, and at his suggestion chloroform was given and the cavity was thoroughly explored, extensive caries of the tibia being discovered. A portion of the neighboring tissue was secured and examined microscopically, when it was found to be a large-celled sarcoma. Under the circumstances amputation of the leg above the knee was advised, but this was declined by the parents, and the patient died, after much suffering, about two and a half months after the local injury was sustained.

The Use of Increasing Doses of Drugs.—Dr. Gingeot says that active drugs are often toxic substances, the hurtful qualities of which are modified by suitable dosage. In considering the question of the employment of medicinal agents, it is necessary at once to note that a whole category of drugs never establish tolerance. They belong to the class of drugs the action of which is purely or principally chemical, such as the acids. On the other hand, the toxic dose of drugs which act by modifying the vital properties of tissues or organs, particularly of the nervous system, varies according to whether the dose is given at once or has been gradually reached. This being the case, it is easy to understand that certain drugs, if used for a length of time without any increase in the dose, finish by becoming positively inert. Medicine is of no importance, said Trousseau; medication is everything—an aphorism which he justified by quoting the fact that belladonna, useful in the treatment of epilepsy, is only so on condition of being given in properly increased doses. This rule may be extended to the therapeutics of various morbid conditions. In certain affections, such as neuralgia, for example, the doses should be rapidly augmented, because the malady is one of short duration, while in others the increase should be gradual so as to allow of its being maintained over a long period of time. The principle in both cases is the same. There is a group of diseases in which it would seem, at first sight, that this principle is inapplicable. Take, for instance, the case of a patient who is taking digitalis for functional derangement of the heart, dependent or not upon organic lesions. In such cases not only should the dose not be increased, but the treatment must be suspended from time to time even in the absence of symptoms of intolerance. The contradiction is only apparent, however. The reason for acting thus with digitalis is because digitalis is eminently a cumulative drug, and consequently, by giving every day the same dose, in reality the dose, measured by its effects, is being daily increased.—*Revue génér. de Thérapie.*

Foreign Body in the Face.—Dr. Bérenger-Féraud reports a remarkable case in the *Bulletin Général de Thérapeutique* of June 30, 1887. The patient, a man twenty-six years of age, had received a stab wound in the left temple nine months before being seen. He was sent to the hospital with a diagnosis of a lachrymal tumor of the right side. Examination showed the presence in this region of what was supposed to be a small foreign body. The man was anæsthetized, and a broken knife-blade, two and three-fourths inches long by five-eighths inch wide was extracted. The knife had traversed the left orbit without wounding the eye, the muscles, artery, or nerve, had crossed the nasal fossæ, and entered the right orbit, and had given no sign by which its presence could be suspected.

The Physiology of Fatigue.—Fatigue seems a simple word with a clear meaning, but how dark are the physiology and pathology of the subject is borne witness to by the elaborate researches of which it has been the centre, and the incompleteness of the solution of even its elementary problems (*The Lancet*). A thorough understanding of "fatigue" would include accurate knowledge not only of a physiological, but of a physical, chemical, and even psychological kind. Then, again, its influence as a means of treatment of disease or its effects on the already deranged organism is of interest to every medical practitioner. The most important branch of the question, however, relates to the nervous and muscular systems. In the process of getting fatigued, long before exhaustion sets in, what special parts of the neuro-muscular apparatus first become *hors de combat?* Many observers have endeavored to elucidate this vital element of the question. Some of the latest consider the weakest link to be the peripheral apparatus, and the best researches at least support such an opinion. In his very interesting papers on "Writers' Cramp and Allied Affections," contributed to the "Royal Medical and Chirurgical Transactions," Dr. G. V. Poore has brought forward many facts connected with the living human body tending to support the hypothesis which locates the mischief in such cases to the peripheral apparatus. The experimental evidence adduced by Dr. Augustus Waller is confirmatory of such a view, and, besides, is of a highly suggestive character. It is difficult to assign adequate reasons for the notion, but *a priori* we should expect

that the points of junction of any apparatus would prove the weakest parts thereof. And so it apparently is in the neuro-muscular apparatus. The weakness appears to exist neither in the nerve cell of the motor cortex, nor perhaps even in the motor cell of the spinal cord, nor farther down in the muscle itself, but rather in the junction between the pyramidal fibres and the motor cell of the cord and the similar place (the motor end-plate) in the muscle. An analogy between these two sites has been clearly drawn by Dr. Gowers, who pertinently suggests that some agencies—disease as well as drugs—may paralyze the terminations of the pyramidal tracts in a similar way that curare, and perhaps other agents or agencies, destroy the function of the motor-end plate. Another important point to be decided before we can be fairly considered to have any real knowledge of the nature of fatigue is the causation of the nutrition of these terminal organs—the actual conditions on which they depend for their existence as functional elements. All the information at present at our command would seem to show that the periphery is at the mercy of the centres; that the central motor cells can live and have their being without the aid of the terminal ramifications. And the evidence appears altogether opposed to the belief that any "mutual tension" exists between centre and periphery, though such a belief is entertained by Dr. Broadbent and others. Easy as the matter seems of experimental demonstration, a further consideration clearly shows the vast difficulties in the way of settling even the simplest points in the problem. Dr. Waller thinks there is evidence of a trustworthy character tending to prove that the nerve-trunk lasts longer than the motor end-plate; that repeated stimulation of the latter causes its functional death before the disappearance of the function of excitability of the nerve. In the nature of things, a definite proof of this problem could only be ascertained by the employment of delicate instruments of research, whose indications, though accurate so far as they go, are yet liable to errors of interpretation. A deflection of the needle may be significant of the passage of a genuine impulse along the nerve which forms part of the circuit—the true negative variation; but accidental currents may cause confusion, and the phenomena attending the electro-tonic state are not among the most simple in physiology. If matters are no better advanced in the sphere of neurology, what shall we say when we turn to the process of fatigue in other organs? Nor are the pathological manifestations sufficiently understood, a fact of which we are reminded by the work of Angelo Mosso, of Turin. He states that fatigue carried beyond the moderate stage, at which it is decidedly beneficial, subjects the blood to a decomposing process through the infiltration into it of substances which act as poisons—substances which, when injected into the circulation of healthy animals, induce malaise and all the signs of excessive exhaustion. That the chief cause of fatigue is the production of certain products and their action on the tissues is not a self-evident proposition, because it seems to be clear that any tissue excited unduly in a given space of time must become exhausted. And it is equally possible that fatigue as a sensation may be caused by the negative condition of diminished reconstruction as by the positive one of actual irritation by the products of metabolism. The facts at present ascertained would seem to prove that the negative and the positive states are both operative in the causation of fatigue.

The Action of the Diaphragm.—Dr. Hasse finds that the contraction of the muscular fibres of the diaphragm causes a flattening and descent of the diaphragmatic domes. The tendinous centre also descends, and becomes flattened by the traction exerted upon it from every side by the muscular fibres (*The Lancet*). In deep inspiration the descent of the diaphragmatic domes is always more considerable than that of the tendinous centre. The contraction of the muscular fibres of the diaphragm causes, as was maintained by Duchenne, an expansion of the lower aperture of the chest, owing to elevation of the ribs and of the sternum. When contraction of the muscular fibres of the diaphragm takes place, the muscular plane they form separates from the long walls of the thorax, and consequently cause an enlargement of the complemental space of the pleural sac; and to so much the greater extent the greater the coincident elevation of the thoracic cage. The descent of the diaphragm augments the normal positive intra-abdominal pressure, while its ascent diminishes the pressure, though never to zero. The changes of position which occur in the descent of the diaphragm cause a corresponding change in the position of the viscera lying subjacent to it—as the liver, stomach, and spleen. The liver is consequently by no means a rigid, fixed organ, but varies both in form and position. When the diaphragm contracts, the resistances to the flow of blood through the liver and spleen are overcome, and the passage of blood through them is rendered easier in proportion to the freedom of the respiratory acts. Lastly, the movements of the diaphragm are essential for the discharge of the bile, and further the movement of the contents of the stomach and intestines.

The Administration of Carbonate of Lime as a Means of Arresting the Growth of Cancerous Tumors.—Nearly twenty years ago Dr. Peter Hood published a communication on the value of carbonate of lime in the form of calcined oyster-shells, as a means of arresting the growth of cancerous tumors. In the *Lancet* (May 7, 1887) he publishes a second communication on the same subject, in which he states that although his opportunities for employing it in suitable cases have not been large, the results which he has attained through its use have been very satisfactory. He refers to several cases in which a persevering use of the calcined shell powder arrested the growth and pain in tumors undoubtedly of a cancerous character. Dr. Hood urges the persistent and fair trial of this remedy in cases of cancer, where the nature of the affection is early recognized. It can do no possible harm, it need not interfere with other remedies for the relief of pain, its action can be referred to an intelligible and probable hypothesis, and it has been of utility in a sufficient number of cases for warranting us in reposing some confidence in its use. An advantage of the treatment is that the remedy may be readily prepared at home by baking oyster-shells in an oven, and then scraping off the calcined white lining of the concave shell. The substance thus obtained is to be reduced to a powder, and as much as will lie on a silver quarter taken once or twice a day in a little warm water or tea.

Swallowing Glass.—Dr. J. C. McMillan, of Marion, S.C., reports, in the form of a reprint, the case of a child, ten months old, who had been playing on the floor where a lamp-chimney had been broken, and had swallowed some of the fragments. The mother had been in the habit of giving it pieces of ice frequently, and doubtless the infant took to eating the glass for the ice. The child was seen by the writer the day after the glass had been taken into the stomach. There seemed to be very little physical disturbance, and aside from a slight rise of temperature, 99½°, the little patient seemed to be enjoying its usual health, although it had been for two days constipated. The treatment consisted in rest, castor oil, flaxseed, and slippery elm. A few hours after the first dose of oil, the glass began to pass. A dose of oil was given every day for four days, the glass continuing to pass each day. The mother did not collect the glass on the first day, but on the three days following seventy pieces were collected, varying in size from one-fourth to three-fourths of an inch in length. After this the patient seemed to get along very nicely. Notwithstanding that part of the glass remained in the intestinal canal for six days, no symptoms of inflammation, ulceration, or obstruction occurred.

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SOME POINTS IN LAPAROTOMY FOR VISCERAL INJURIES.

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It is no longer necessary to urge theoretical reasons in justification of laparotomy for concealed wounds of the abdominal viscera. There are already a sufficient number of successful cases on record to establish the operation as one of recognized merit; and that which now remains to do, is to decide upon those technical details, attention to which can alone make the procedure generally successful.

In this paper I shall limit myself strictly to the study of such penetrating wounds of the abdomen as are caused by stabs, punctures, and gunshots, omitting all consideration of contused, lacerated, and incised wounds. I shall have to deal, then, only with such wounds as are distinguished by small external openings, leading into narrow channels, and which are therefore characterized by great and necessary obscurity in diagnosis. Even with these limitations the subject is one of great scope, requiring study from many stand points. The anatomy of the abdomen and its viscera must be studied with an especial view to operations for the repair of injuries. The very shape of the belly, as it changes in repose and action, may have a decided influence in determining certain practical points. The course of a bullet or weapon through the body, and the deviations of missiles from the straight line, have to be carefully studied for purposes both of diagnosis and treatment, and the symptoms caused by the various injuries of various organs demand attention. The relations of the external wound and that through the abdominal wall to the internal injuries, the place and character of the incisions to be made by the surgeon through the abdominal wall, the treatment, operative or otherwise, of the injured viscera, the methods of controlling hemorrhage, and the discrimination of cases which require operations from those in which operations are unjustifiable, are all subjects, new as yet to the profession, which give opportunity for much difference of opinion, and which, therefore, are properly open to discussion. I shall not attempt, however, to do more than to discuss a few of the very many points which would present themselves to the surgeon in relation to this subject.

We may divide the viscera of the abdomen into classes from many different stand-points. They may be divided, first of all, by their relations to the peritoneum, some being completely invested by that membrane, while others are either incompletely invested by it or lie altogether without its folds. Wounds of the one kind are marked by extravasations into the peritoneal cavity, those of the other by extravasations into the cellular tissue. We may further divide them into solid and hollow. Solid organs, when injured, may pour into the surrounding spaces their own peculiar secretions, and blood from their broken vessels. The hollow viscera may, in addition, pour into the peritoneal cavity or cellular interspaces quantities of foreign matter, which may be undergoing the changes of fermentation or decomposition. Injuries of the solid viscera may cause death by shock, by hemorrhage, by traumatic inflammations and abscesses, and by suppression of an essential secretion. The injuries of certain of the hollow organs, and especially of the alimentary canal and urinary bladder, may, in addition, cause danger from the septic organisms, which they sometimes contain in great numbers, and which are, in case of injury, let loose upon defenceless portions of the organism.

While both of these divisions are of certain practical importance, I shall nevertheless discard them in this paper for one which I consider to be of prime importance to the practical surgeon. I shall divide the abdominal viscera according to the degree of mobility which they are permitted to exercise in the abdominal cavity. We find in this respect the greatest differences in the various organs; for while some, like the ileum and jejunum, have a range of motion which permits them to be drawn to almost any point in the abdominal cavity, others, like the extra-peritoneal portions of the duodenum, are bound down to a very limited area. While no one organ can, strictly speaking, be said to be absolutely immovable, nevertheless the motion permitted to certain organs is so small as to be practically of no value. I shall therefore divide the abdominal viscera into the movable and immovable, using these terms relatively and not absolutely, and I shall hope to show, in the course of my argument, that the two classes require to be so differently considered, when made the objects of operative procedures, as to warrant this mode of classification.

The movable viscera are the spleen, pyloric ends of the stomach and duodenum, the transverse colon, the ileum and jejunum, the sigmoid flexure, and the ovaries.

The immovable viscera are the liver and gall-bladder, the kidneys and supra-renal capsules, the cardiac portion of the stomach, the lower three-fourths of the duodenum, the pancreas, the ascending and descending colons and rectum, the uterus and bladder. That even in physiological conditions there are great variations in the mobility of these organs in different people is well known to everybody, while the changes in the length of their ligamentous attachments in conditions of disease are often such as to produce persistent dislocations. Generally speaking, however, and having a special reference to visceral injuries, and not to visceral diseases, the lists as given above would be correct.

If we consider the mobility of these organs separately, we may say that the ligaments of the spleen are usually long enough to permit it to be brought over to the median line without great difficulty. The stomach as a whole is quite an intractable organ. It is held firmly in place by the attachments of its cardiac portion, which is always an inaccessible portion of the viscus. The pyloric portion, on the contrary, and the first parts of the duodenum can be moved freely over a pretty large area. The liver, notwithstanding some notable exceptions, is quite solidly fixed in its place under the ribs by short, unyielding ligaments; and the gall-bladder, though more accessible than the bulk of the liver, is scarcely more mobile. The lower portions of the duodenum are not only solidly fixed in their position by the layers of peritoneum which bind them down, but are also among the most hidden and inaccessible of all the abdominal entrails. This gut has no mesentery, and for the most part lies behind the peritoneum. The liver and colons, meso-colons, and mesenteric vessels obstruct the operator who is obliged

for any reason to get at its anterior surface. The pancreas is immovable. The transverse colon is classed among the movable viscera; its range of motion, however, is confined to one direction; its centre may often be depressed nearly to the pubis and elevated to the ensiform process, but it cannot be moved very far in a lateral direction on account of the immobile condition of the ascending and descending colons, with which it is continuous. When these colons are bound closely to the abdominal wall, the transverse colon has almost no capacity for lateral displacement. When the ascending and descending portions have long meso-colons, the capacity for lateral displacement may be considerable.

The kidneys are of course immovable in their normal condition. The ascending and descending colons lie in some persons behind the peritoneum and have no mobility whatever, while in others they are partially invested by that membrane, and in others still they have short meso-colons. Even in these last-mentioned cases they can be drawn with great difficulty to the median line. The sigmoid flexure and cæcum are usually movable, with a somewhat limited range of motion, while the rectum and uterus, except in pregnancy or diseased conditions, are usually fixed in place. The urinary bladder may be distended until its upper portion reaches nearly to the navel, but its lower part is quite out of reach from an abdominal wound.

The most movable of all the viscera are the jejunum and ileum, which can be drawn at pleasure to almost any part of the abdominal cavity.

That which makes this one quality of mobility or immobility of such importance to the surgeon is, of course, the necessity under which he labors of making his incisions in the abdominal wall, in case of operations on any viscus, in such a way as to make that viscus accessible. It may be regarded as one of the misfortunes of the surgery of intestinal wounds that, thus far, the rules which have been established for the guidance of the surgeon in these cases have been founded on relations which concern only the movable viscera, while those of the immovable have been overlooked or ignored. Of the practical bearing of these anatomical relations I shall presently speak, after a short consideration of the nature of the wounds with which we have to deal.

Stabs and punctures are wounds made by daggers or other long, pointed, thin instruments, and are characterized by small orifices and long, narrow canals. They may be limited to the abdominal walls, or penetrate into the abdominal cavity and injure the abdominal viscera; they vary in depth according to the length of the instrument and the force with which it was impelled. A short weapon may, however, make a very deep wound, if the blow is struck with great force; the abdominal walls, yielding to the impulse, are indented by the weapon, and the resulting wound may be altogether disproportionate in depth to the length of the blade which inflicted it. Stab wounds are usually straight, although the blade before its withdrawal may sweep around the circumference of a circle whose centre is represented by the external wound; the narrow orifice may then lead into a wide and destructive wound. While one orifice means that the blade has entered but once, two orifices may either indicate two stabs or that the one thrust has transfixed the abdomen. If the circumstances are such that the surgeon can know that the two orifices are due to the one thrust, they will then be an invaluable guide to the direction of the wound The wounds inflicted on the viscera by stabs may be either incised or punctured. Only in rare cases, when a dull weapon has been thrust into the abdomen with great force, could such a wound be either contused or lacerated.

Gunshot wounds differ from stabs and punctures in the character of the injury done to the parts, and in the greater uncertainty which pertains to the course of the bullet. The size of the missile makes a vast difference in the gravity of the wound, and for this reason the experience gained in war from the destructive effects of rifle-bullets on the intestines may not be accepted as an absolute guide in the prognosis when we have to deal with the smaller missiles fired from revolvers and pistols. One wound means of course that the ball is still lodged in the body. The rare exception to this rule is the entrance of a spent ball into the body together with a portion of the clothing, and its subsequent withdrawal with the clothing. It might also mean that the surface of the body had been just touched by a glancing ball. Two or more orifices may be made either by one ball passing in and out or by two or more balls, or by one ball of which broken portions have escaped. When it is certain that only one shot has been fired, two orifices usually indicate the apertures of entrance and that of exit. They do not necessarily indicate, however, that the ball has passed in a straight line from one to the other aperture, for the deflection which it may suffer from the numerous obstacles which it meets may make its course more or less tortuous. These wounds have indeed become notorious for their irregularities, and there are many authentic histories of gunshots which have traversed the body in ways so erratic and peculiar as to defy explanation.

The study of these cases has produced a faith in their lawless character which is hardly justified by the actual facts. It has, indeed, so excited the professional imagination as to warp the professional judgment. Putting all fable aside, and studying the cases as they have really occurred, we will find that the course of a gunshot is determined by laws as rigid as any to be found in physical science. The deviations which it can make in its passage through the tissues are neither as many nor as great as is popularly supposed, and many so-called deflections are not deflections at all, but merely a secondary tortuosity of the wound caused by changes in posture. It may be stated as a general rule, which nobody will probably dispute, that the resistance which can deflect a gunshot from its course must be at least commensurate with the force with which the missile strikes the deflecting surface. It will always be deflected at an acute angle, and never at an obtuse or right angle. As regards the size of the angle, the general law will of course prevail, that the angle of incidence and angle of reflection will be equal; but this law will be modified in its action by many circumstances, and especially by the peculiarities of the substances upon which the missile strikes. A hard substance like bone may deflect a ball either at a large or at a small angle, or it may partially break and then deflect it, causing complex conditions. A soft and yielding tissue, however, cannot offer sufficient resistance to a gunshot, even though nearly spent, to deflect it, except when it strikes the surface at a very small angle. When the angle is at all large, the momentum of the ball overcomes the resistance and the tissues are penetrated. For this reason, balls which run around the body in the abdominal wall always strike it at a very acute angle, become deflected even when penetrating the skin, and thenceforth until their exit continue to be deflected by the overlying integument at angles so exceedingly minute that the whole course of the ball comes to represent a circle of large radius. Even then the resistance is finally overcome and the missile escapes. Whether such tissues as form the human intestine, or the softer tissues of the human body, can ever appreciably change the course of a bullet is, with me, a matter of great doubt, for the resistance which they can offer is so very small that they must either slip aside or suffer penetration. I am aware that I have the authorities against me in this matter, but the *à priori* considerations against this hypothesis are so strong, and the facts upon which it is founded are so easily explained by other and more reasonable hypotheses, that I feel compelled to regard it as, at least, an unproved theory. It must be conceded that the mere fact that a ball which has pursued a somewhat tortuous course in the body has bruised an intestinal

coil without breaking it does not prove that that intestine deflected the ball. The apparent deflections of the ball may be explained far more easily by the assumption of a subsequent change in the relative positions of the tissues. I think few men, even though medical men, realize how mobile is the abdominal wall, and how various are the shapes which it may assume. Accustomed to its rounded form, and to the even, rhythmic motion of breathing, we are apt to forget that every muscle is capable of a separate and individual action, which may altogether alter the shape of the whole. If we observe naked men in violent exercise, such as wrestling, it becomes apparent that the shape of the abdomen in action is ever changing. Now it is flat, and again it is round, or one side is flat and the other is round, or one portion is raised and another depressed. The history of phantom tumors, indeed, with their deceptive tumefactions, is sufficient to show of what the abdomen is capable. Now, men are shot often when engaged in violent struggles, and there can be no doubt at all that many a gunshot which has passed through the tissues in an absolutely straight line has been described as deflected on account of subsequent changes in the shape of the body. The only possible way to prove conclusively the power of the human intestines, or other similar tissue, to change the course of a ball would be to establish the facts by experiments instituted outside of the body, where the influence of all modifying forces can be carefully estimated. It is highly important, in any event, to remember that a soft tissue cannot possibly deflect a ball at any but a very acute angle. The human skin is a very tough tissue; but the histories of hundreds of cases in which a ball, striking it at an angle so small that the course of the ball must have been all but parallel to the surface, has nevertheless penetrated it instead of glancing off, will sufficiently show how impossible it would be for that or any softer tissue to escape penetration if the angle of incidence were very appreciable. If this theory is correct, the deflections of living balls from the straight line, measured, as they must be, by very acute angles, can never be very great in the short distance which they have to travel in the body, and in all probability those observations which would seem to prove otherwise should be explained on the hypothesis, not of a glancing ball, but of a subsequent shifting of tissues. Only when the missile strikes a bone can it glance off at an angle of good size. Many of the puzzles which surgeons have encountered are to be explained by the displacements of the dead ball—*i.e.*, of the ball whose momentum has been exhausted. It may then fall to the bottom of the cavity, follow the course of a canal, fall by gravity through the meshes of areolar tissue, or be carried along by muscular contraction. These changes of position do not affect, of course, the nature of the inflicted injury.

A ball entering the abdomen from behind may, immediately after entering the body, strike a bone and glance off at a considerable angle. The aperture of entrance and exit, therefore, of missiles from that direction throw little light on the course of the ball. It is otherwise with those which enter on the front or lateral surfaces of the abdomen. Missiles from the front or the side may deviate, it is true, from their course, and these deviations make it impossible to tell from an examination of the external wounds what organs may have been injured underneath. In this statement I am perfectly agreed with Dr. Parke and other authorities. Unfortunately, however, it has been assumed that because the situation of the aperture and the initial direction of the wounds cannot determine the actual course of the ball through the tissues, that therefore the study of these points is of little value to the surgeon as a guide in his operations. I cannot but regard this as a great practical error.

It is true that the exact course of a bullet in the abdomen cannot be determined prior to the operation, but it is not true that its approximate course may not be laid out with sufficent accuracy to guide the surgeon in his external incisions.

The tissues which can deflect a ball entering the abdomen from the front or side are, first, those of the abdominal wall and, second, those of the abdominal cavity. When once the ball has traversed the cavity and struck the opposite wall, its power to injure the abdominal viscera usually ceases. There are, of course, exceptions to this rule, where a ball, passing obliquely through the abdomen, strikes upon a rib, and glances to enter again into a viscus, but these exceptional cases are rare. Now, the greatest deflection suffered by such a ball before it escapes from the abdominal cavity is that caused by the skin and muscular walls. Should the missile enter these walls at a very acute angle, it may run around the whole abdomen and not once enter the cavity. When once it has passed through the abdominal wall, its further course is through soft and unresisting tissues, from which it can be deflected, if at all, only at a very acute angle. The course of the ball, then, from the point where it enters the cavity to that where it makes its exit from it, must be nearly in a straight line. Now, a careful study of the histories of many gunshot wounds of the abdomen, in which the ball has entered from the front or at the side, has convinced me that the course of a bullet through the cavity and its wall lies almost always in the same plane, so that a plane projected to any three points in its course will have within its limits the whole path of the missile. I do not mean to be understood, in saying this, that the path and the plane would coincide with a mathematical exactness, but that their coincidence would be near enough for all practical purposes.

The especial purpose of these studies is to determine, if possible, how the surgeon can best make his incision through the abdominal wall so as to arrive easily and quickly at the seat of visceral injury. The best men in this department of surgery have already agreed where the incision should be made, and where it should not be made—Parke, Dennis, Bull, Morton, and Nancrede, all lay down the law to the effect that the incision must be made in the linea alba, and that the wound must not be enlarged or disturbed except for purposes of exploration. I have as yet sought in vain for any adequate explanation of this rule, although the unanimity with which it has been adopted is something marvellous, when we consider the independence which surgeons manifest in other departments of surgery.

Parke states positively that "primary abdominal section in the mid line gives the best command over the damage done, and furnishes the most feasible opening through which the proper surgical treatment of such damage can be instituted." "The wounds of entrance and exit of the bullet *should not be disturbed* in any manner, except to control bleeding or to remove any foreign bodies when present. They need only to be covered by the general antiseptic dressing applied to the abdomen." And Dennis says: "The incision should be made in the median line. Any deviation from this rule is objectionable in many respects. The side incision does not permit the free exploration of the cavity, involves also dividing planes of muscles, the hemorrhage from which is troublesome to control and the primary union difficult to secure. The median incision divides no vessels of any importance, passes through the linea alba, which can be securely sutured, and is not likely to give rise to ventral hernia." "The enlargement of the original wound for an examination of the peritoneal cavity will not enable the surgeon to exclude in all cases fecal extravasation, perforation, volvulus, or hemorrhage." And Dr. Nancrede solemnly warns the practitioner never to enlarge the original wound unless it is located in the linea alba.

I confess that I have been unable to recognize in these arguments that decisive logic which solves all doubts, and I find myself in that most depressing of all situations—in a minority of one. *Why* should the wounds of entrance and exit never be disturbed? *Why* should the

incision never take in the original wound, unless that chance to be in the median line? *Why* may not the surgeon explore the abdomen with sufficent thoroughness by a side incision, if he make it long enough? There is no point in the abdomen through which an incision cannot be made as long as the linea alba in a straight line, if the surgeon chooses. Muscular hemorrhage may be troublesome, but it is not usually difficult to stop, and incisions through muscular tissues heal by first intention, as those gentlemen can testify who have had experience in operations upon the stomach in which the incisions have been made parallel to the ribs through muscular planes. I have yet to learn that these operations have been followed by an undue number of ventral herniæ. But while the reasons adduced for forbidding all but the median incisions are not convincing, there are many very cogent reasons for departing from that rule in many cases. Take, for instance, the case of any one of the immovable viscera. It may not in case of injury be possible to reach such a viscus from the median line, except by enormous incision, and it may be possible to reach it by a short cut if made in its neighborhood. Are we prepared to accept the doctrine that a cut of twelve inches in the linea alba is less dangerous than one of four in the muscular wall? I had, myself, last winter, a case of gunshot of the ascending colon and cæcum, which will illustrate.

Maggie McM——, aged twenty-four, was shot in the abdomen at three o'clock on Tuesday morning, December 21, 1886. She was carried to St. Mary's Hospital at half-past eight o'clock, and I saw her at nine o'clock on the same morning. I found her vomiting bile and complaining of great pain. Her pulse was 120 per minute, her respiration 30, and her temperature 102° F. The bowels were moderately bloated and very tender, and two inches above and two inches inside of the right anterior superior spine of the ileum there was a gunshot wound with black edges. There was no tympanitic resonance over the liver, no extravasation of fecal matter, no emphysema, and no general meteorism. The pain was located in the hypogastric, right iliac, and right lumbar regions. The wound was supposed to have been made by a ball from a revolver of 32-calibre, although that point was never fairly settled. At twelve o'clock, noon, I cut through the abdominal wall at the site of the wound, making an incision four inches long in the direction of the fibres of the external oblique muscle, the wound being in the centre of the incision. It was easy to trace the wound into the abdominal cavity by the discoloration of tissues, and it soon became evident that the ball had passed from before backward, and from above downward, into the peritoneal sac. My finger, on entering the cavity, immediately detected a hole on the anterior surface of the ascending colon, which I thereupon drew out onto the abdomen. This wound, from which fecal matter was constantly pouring, was an oval, with its long axis transverse to that of the intestine. It was about half an inch long and a quarter of an inch wide. I sewed it up with a continuous suture of catgut, in a double row, after Czerny's modification of Lembert's method. Searching then for the wound of exit, I found it also vomiting fæces directly behind, at the junction of the meso-colon with the intestine. The meso-colon and meso-cæcum in this case were as long as the peritoneum, completely surrounding the gut. The ileum was united to the intestine on its inner and posterior surface, midway between the two wounds. The second wound had its long axis also transverse to that of the bowel, and was sewed together in the same way as the first. This done, I was able to trace the track of the bullet down into the femoral canal, in front of the external iliac and femoral arteries, by a ragged opening in the muscle, but its course afterward was a matter of great uncertainty. I carefully examined the small intestines without withdrawing them from the cavity, but found no other wound. The abdominal cavity was washed out and closed with wire sutures, and a drainage-tube inserted. The patient began immediately to improve, and her temperature fell a degree on the same day; she vomited less frequently, and the ejecta contained only mucus and swallowed fluid. Her pulse fell to 100, but her temperature rose again, on the second and third days, to 102°. After the third day the improvement was more marked, and after the sixth she ceased altogether to vomit and her temperature fell to 99° and 100°. The drainage-tube was then withdrawn, without having discharged one drop of pus. Subsequently, however, a small superficial abscess formed in the track of the wound, and on the tenth day discharged a teaspoonful of pus. Her convalescence was thenceforth uninterrupted, and she left the hospital, February 2d, suffering only from a lameness consequent upon the passage of the ball into the thigh. There were present at the operation Dr. Perley, U.S.A., Dr. H. O. Walker, Dr. N. W. Webber, Dr. Shurley, Dr. Boise, Dr. Robbins, and others.

Now, in this case I called the attention of the gentlemen present to the difficulty which I should have experienced in reaching the wounds in the gut, and especially that one on its posterior surface, had I made the usual incision in the linea alba. It would have been simply impossible for me to have got at it without cutting the wound from the ensiform cartilage to the pubes and eviscerating her; whereas, with a short incision, I was enabled with ease to perform the necessary manipulations on the bowel and to carefully examine the small intestine. I have since, several times, on occasions of post-mortem examinations, endeavored to bring the ascending colon out through an incision in the linea alba, as it would have to be drawn out for purposes of operation, and have every time found it to require a long incision, and even then to be a matter of great difficulty Here, then, was one case, at least, in which a great error would have been committed by adhering to the arbitrary rule of median incision. But that which was found true of the ascending colon would be found to apply equally to the descending colon, stomach, and liver. There is no way in which an immovable viscus can be made so accessible as by an incision parallel to its long diameter.

Even in operations upon the pylorus, which is quite free and movable, many surgeons have preferred the transverse or oblique incisions to that in the linea alba, because, as Wolfl says, "first, the diseased portion is more readily got at; second, the remaining portions of the stomach can be more easily examined; and third, the existing adhesions to the peritoneum can be more easily excised. And besides these, for the further reason that the intestines are less readily prolapsed than in the median incision" (Dr. E. Kish, *Langenbeck's Archives*, vol. xxvii., part 4).

How much more, then, in excisions of the movable pylorus, is the transverse or oblique incision indicated in those gunshot wounds of the stomach in which both walls are perforated, and in which the posterior wound may lie very near the cardiac orifice? In such cases the incision perpendicular to the long axis of the organ puts the surgeon to a great disadvantage, while a cut transverse or oblique, or even slightly circular, under the ribs, enables him to expose the whole organ and draw it out into view. The perpendicular cut in the linea alba, in case of gunshot wounds of the liver, enables the surgeon to feel the liver's edge and to pass his fingers for a short distance over its surfaces. He can neither examine the organ as a whole nor inspect its lower surface, while a transverse cut just below its edge will bring the whole viscus into the field of operation and enable him to operate even on its under surface. Let us apply these principles to gunshot wounds. The first points to determine are whether the wound is a penetrating wound, and if so, what viscera have been hurt.

Without discussing the question of diagnosis, on which I have nothing new to offer, I will say that it is generally conceded that there is no other way to determine the

question of penetration except by following the track of the ball until it either enters the abdominal cavity or leaves the abdominal wall; or if the track is too long, then by boldly opening the abdomen elsewhere for purposes of exploration. The question of whether to follow the one or the other of these procedures must be left to the judgment of the surgeon. It is evident that one could not follow the track of the ball if it led across the whole width of the abdomen. It is equally clear that one ought not, without due cause, to open the peritoneal cavity. Probably the best rule to follow is for the surgeon, in cases of doubt, always to begin his work by exploring for a short distance the track of the ball. If then it leads him quickly into the abdominal cavity, he learns that fact, and can proceed accordingly. In any event, he learns the initial direction of the missile and can form some judgment as regards its further course. I think that all must admit the practical worth of the knowledge thus acquired. The conviction has been so strong that the ways pursued by gunshots were utterly erratic and unaccountable that surgeons have come to discard all indications as of no service in actual diagnosis. This extreme view is certainly not justified by any larger experience. That no man can say before exploration exactly what organs are wounded is certain, but any surgeon with good judgment, after a careful examination of the course of the ball through the abdominal wall, can say about where the missile is gone and what viscera it may have hit. The course of a ball from the time it enters the abdomen until it strikes the opposite wall *must* be nearly in a straight line, for the reason which I have mentioned; and if it were not for the shifting of tissues and changes in shape which occur subsequent to the shooting, comparatively little difficulty would be experienced in tracking the bullet. As it is, the initial course of the ball reveals much that is of inestimable advantage to the operator. If a bullet enters two inches to the right of the navel, and passes from left to right and downward and backward, the surgeon knows positively that it has not hit the spleen, nor the stomach, nor the liver, if these organs are of normal size and in normal position. He knows absolutely, too, that such a ball could not possibly hit any organ which did not at the time of the shooting occupy a position downward, backward, and to the right of the aperture of entrance. In this hypothetical case it might hit the transverse colon or the small intestine, or the ascending colon or cæcum, or a mesentery or meso-colon, or some blood-vessel. Now, an incision through the abdominal wall, beginning at the wound and carried a sufficient distance downward and outward in the line of its track, would suffice to enable the surgeon to examine every organ injured, and to repair every injury. Every injured viscus could be brought into the wound, and no viscus which could not be brought into the line of the incision could possibly have been injured by the missile.

The rule which seems to have met the general approbation, that every inch of the small intestine must always be examined in a gunshot wound of the abdominal cavity, must surely be reconsidered. How, for instance, in such a wound as I have described, could the duodenum possibly be injured at its pyloric end? How, in a gunshot wound above the navel, in which the course of the wound passed from before and below, backward and upward, could the missile possibly come in contact with the lower part of the ileum? How, in any wound, could any viscus have suffered injury, which could not by gentle traction be brought into view through an incision which, beginning at the aperture of entrance, uncovered the whole course of the ball? Let us take another hypothetical case, that of a gunshot wound of the right hypochondriac region, in which the ball, entering three inches above and two inches to the right of the umbilicus, passes obliquely upward and backward. In this case, while it may not be beyond the bounds of possibility that a coil of the jejunum or ileum might be wounded, yet such an event would be extremely improbable; would it then be good practice for the surgeon to haul out these viscera into the cold in order to satisfy himself that a wound *did* not, which in the nature of things *could* not, exist?

Two cases from the current literature will illustrate this better than any hypothetical cases. In one case a ball entered a little to the left and above the navel. With the accustomed indifference of surgeons nowadays to the course of the wound, the wound does not seem to have been examined in order to find out its direction. From the fact that the ball perforated both walls of the stomach and both walls of the duodenum, it is fair to infer that it passed from below and before, upward and backward, and from left to right. Notwithstanding that it was utterly impossible for such a ball to injure any of the lower parts of the intestines, the whole intestinal tract was examined down almost to the ileo-cæcal valve.

In the second case the ball entered over the ninth (?) rib, three and three-fourths inches to the right of the median line and four and a half inches above the navel (there must surely have been some mistake in these measurements), and was found one and one-half inch above the navel and eight inches to the left of the median line. It grazed the liver, perforated the stomach, wounded the small intestine in the left flank (the jejunum), and lacerated the left kidney. The surgeon subjected the entire bowel, from the stomach to the sigmoid flexure, to a close examination—but why? The lower portions of the duodenum, the greater part of the ileum, the ascending colon and cæcum, and the lower part of the descending colon and sigmoid flexure could not possibly have lain in the course of the ball. Both of these cases died, and it may not be impertinent to ask if the unnecessarily prolonged manipulation and exposure of the intestines had anything to do in causing their deaths? I do not wish, in criticising these cases, to be understood as reflecting in any way upon the practice of the two surgeons, both of whom I greatly esteem. They were perfectly justified in their manner of operation by the prevailing professional public opinion. I wish, however, to express emphatically my opinion as to the utter senselessness of a rule which requires the surgeon to examine and expose viscera and portions of viscera which could not possibly, in the nature of things, have suffered injury. The only explanation, indeed, which I can make for its adoption is the queer belief, prevalent in the profession, that a gunshot has the power to run around the abdominal cavity, regardless of all natural law.

It is curious how the adoption of a theory will influence men's ideas and practice. I believe it is a well-established rule in abdominal surgery that the longer the incision the greater the danger. Lawson Tait's great success has been ascribed by some to his remarkable skill in operating through small incisions, and yet, in the matter of operating for intestinal wounds, surgeons have seemed to persuade themselves that it made no manner of difference whether the abdomen was split in the median line from ensiform cartilage to pubes. Dr. Morton says, indeed, that there is no harm in a long wound if properly treated. I must protest earnestly against this kind of teaching. There *is* harm in a long wound even though properly treated, and when the surgeon makes one longer than is necessary he thereby unnecessarily endangers the patient's life. It is not only that the danger of infection is greater in a long wound, but also the danger of shock, the danger of chill, the danger of prolonged etherization, and the danger of exhaustion. I have had many a patient under my hands, whose life or death seemed to me to depend upon the time in which the operation could be got through with. I do not mean to say that the surgeon should ever allow himself to make an incision too short to accomplish his purpose. On the contrary; but I strongly suspect that hitherto, while the incisions in the linea alba have been in some cases made too long for safety, those which have been made in the track of the wound have been too short to be effectual.

I have tried, by studying the cases already published, to come to some definite conclusion as regards the relations which are borne by the direction of the wounds in the abdominal walls to the wounds of the viscera underneath, but have failed to come to satisfactory conclusions on account of the defective character of the reports. In most of the reports the position of the wound is given, but its direction through the abdominal wall is altogether ignored—a circumstance which indicates forcibly the neglect into which this most valuable indication has fallen. Before we can, however, come to a conclusion as to what wounds demand median incisions and what wounds demand incisions elsewhere, what wounds demand examination of the whole intestinal tract and in what wounds that tedious and dangerous examination can be dispensed with, we must have at our disposal large numbers of accurate records in which the position of the external wound, its course through the abdominal wall, its subsequent course through the cavity of the abdomen, and its termination, together with all other details, are reported so exactly as to permit of critical study. In the meantime, every surgeon who operates must be left unhampered by arbitrary rules, to make incisions and to follow operative methods according as his judgment dictates in any individual case.

When the abdomen is opened and the visceral wounds discovered, they must be repaired. In considering these repairs, we have to distinguish between those of the hollow and those of the solid viscera. Injuries of the intestinal wall must be invariably sutured with the Lembert suture. Many efforts have been made to improve this suture without success, unless Czerny's modification may be so considered. I have myself made very many experiments in this direction, which I will note here for the purpose of pointing out a false way, into which someone else might blunder. I conceived the idea, after reading accounts of cases in which the Lembert suture had failed to hold the wounds together, that the intestine might grow together more rapidly and with a stronger union if the opposing surfaces were made raw by denuding them of their serous coverings. On the thick intestinal wall of the dog this is quite practicable. The serous membrane can be easily dissected with the fingernail from the muscular wall, and there will be left a thickness sufficient to hold a fine suture without having the needle pass through the mucous membrane. I operated on a great number of dogs after this fashion. Opening the abdominal wall, a gut was seized and brought to the surface. A circular cut was then made through the serous coat of the gut. This was dissected up on each side of the cut, and turned back like the cuff of a coat. It was wonderful to note the contractile power of the serous coat when free from its attachments. It would then contract to half its previous dimensions. When the serous coat had been turned back, the intestine was cut through and the remaining walls cut partly away. The resected ends were brought together by sutures passed through the muscular layer alone, and then a second row through the shrunken and sometimes curled-up serous coat made the union secure. In some cases I, at the same time and on the same dog, made two resections, one by this method and the other by Lembert's method, in order to compare the two kinds of stitches. The most of my dogs survived the operation, and, as far as that goes, my operation could be considered a success, but a careful comparison between my own method and Lembert's proved conclusively the superiority of the latter. The serous surfaces not only healed together with less inflammation and suppuration than the raw, but the union could, after the same lapse of time, endure a greater strain.

Besides that, I satisfied myself on the cadaver that my method was quite impracticable on the thin-walled human intestine, and I abandoned it. I do not believe that any other method will ever supplant that of Lembert, and the only question is, Which of the various modifications is most useful? I have adopted a continuous suture which I believe will make the patient nearly absolutely secure against any failure in union or extravasation of fæces. In the case I have just reported I began the suture at a little distance from the end of the wound, by carrying the thread through the serous and muscular coats and then knotting it, leaving the end long. A continuous suture was then carried along the whole course of the wound and a third of an inch beyond it. The suture was then carried back at a higher level, after Czerny's method, until the point of beginning was reached, and then the thread was drawn tight and the two ends tied firmly together. It does not matter what kind of a continuous suture is used, if the insertions of the thread are near enough together. The continuous suture is, in my judgment, better than the interrupted, both on account of its greater security and because it can be applied much more quickly.

There is another question in connection with these intestinal wounds, and that is, What wounds, if any, require resection of the bowel? Madeling has shown conclusively that any considerable destruction of the mesentery will insure gangrene of that portion of the bowel whose afferent blood-vessels are thus destroyed. The case of Dr. Keen's, reported at the last meeting of the American Surgical Association, corroborates Madeling's observations. If I understand his description, he found, on post-mortem examination, opposite the injury to the mesentery, a gangrenous spot as large as a five-cent piece.

Pending further experience on this point, we may say, then, that great injury of the adjacent mesentery may demand excision of that portion of the bowel with which it is in contact. I do not believe that any other form of injury can ever demand excision, or be treated by any other method as safely and successfully as by suturing the wounds. Even such multiple wounds as Parke describes, and for which he counsels excision, will heal perfectly well by simple suture. Some experiments made upon dogs by myself and my assistant, Dr. F. W. Robbins, will illustrate this point. My object in operating was to find out what could be done by suturing multiple wounds near to one another in a gut instead of resecting the gut. I therefore, in each case, drew out the small intestine and cut holes, with a pair of scissors, from one to two centimetres in diameter. In one case they were made six in number, on one and the same side of the gut. This animal recovered, and was afterward operated upon by having two holes cut, each a centimetre in diameter, on opposite sides of the gut and directly opposed. He recovered a second time. In a second animal four holes were cut near one another, but irregularly placed. This animal got well. A third, operated on on a dark day, died, and the sutures were found to have been imperfect. There were in all six operations, followed by one death. In closing the intestine, it was drawn together in such a way that the edge of the wound was transverse to the long diameter of the gut. In this way the lumen of the gut was enlarged instead of narrowed at the seat of injury, whereas if it had been made parallel to the longitudinal axis the lumen of the intestine would have been lessened. If a wound were so located, however, that its edges could be brought together only in a longitudinal line, the surgeon could, nevertheless, close it in this way without fear of obstruction. Mikulicz closed, in one case, the defect in the bowel by a longitudinal suture, which made a considerable narrowing of the gut at that point. The patient nevertheless recovered, and suffered no subsequent symptoms of obstruction. Few people seem to realize the elasticity of the intestinal wall. It will stretch, especially in a longitudinal direction, like india-rubber, and this elasticity enables it to recover its tone and shape after injury and loss of substance. For this reason I must dissent from the practice, which has been recommended, of excising the

intestine for multiple wounds. Where the interval between the two wounds is too small to permit the insertion of stitches, the bridge should be cut away and the two wounds turned into one. But however many the wounds, they should all be sutured without resection, and the operation of resection reserved for those cases in which the vascular connections of the gut have been widely destroyed.

Wounds of the solid viscera have not yet been subjected to sufficient experimental study to enable the surgeon to form an opinion as to the best method of treatment. I have myself operated on three dogs by incising the edge of the liver and closing the gap by deep sutures. The bleeding was not very considerable. I passed sutures of fine silk or catgut deep into the liver-substance and thus closed the wounds. On one of the animals an operation was simultaneously performed on the stomach. This one died after twenty-four hours. The edges of the cut liver had become agglutinated. The other two recovered.

The slight consequences, comparatively speaking, which have followed incisions into the liver for abscess should give rise to good hope in case of a wound of this organ not involving the large veins. The treatment of such a wound should be either by suturing it finely and deeply with catgut, or by stuffing the wound in the organ with iodoform gauze and keeping the wound in the abdominal wall open for drainage. This last course was pursued successfully by Dr. H. Burckhardt, of Stuttgart. This surgeon was called, on March 29, 1886, to see a man who was collapsed from a stab in the mammillary line just below the ribs. As the patient was evidently dying of internal hemorrhage, Burckhardt made a cut in the abdominal wall of twelve to fourteen centimetres in length, beginning at the wound; found the abdomen full of blood, the source of which proved to be a wound three centimetres long in the left lobe of the liver. He stuffed iodoform gauze into the wound and stopped the hemorrhage by compression. The patient recovered.

Whether a gunshot wound of the kidney or spleen should demand excision of the organ is a question which further experience must answer. Wounds of the pancreas should be treated according to the principles laid down by Dr. Senn, in his admirable monograph on that subject.

I shall in this paper discuss only one more question, that, namely, as to the class of penetrating wounds on which the surgeon should refuse to operate. The rule to perform laparotomy for penetrating wounds will surely be found to have many exceptions.

One of these exceptions may, or may not, be the wound of an empty stomach. A case from my own practice will illustrate this point.

Thomas J. H——, a medical student, was the happy possessor of a revolver, which he was accustomed, at night, to keep under his pillow. He arose on the morning of July 17, 1879, and, for some reason, jerked the sheet from off the bed. With the sheet came the revolver, which fell upon the floor and discharged one of its barrels. The ball struck him a little above and to the left of the navel, and its course was from below upward and, presumably, to the left. I was called, and arrived within half an hour. He had then vomited blood, and once again vomited blood. He had eaten a light supper at six o'clock, and had taken nothing into his stomach since. The wound was not probed, but from the position in which he stood at the time of the accident, and which was described on the spot, I judged that its course through the tissues was from right to left, from below upward, and from before backward. He was put to bed, placed under opiates, allowed for several days neither to eat nor to drink, but was fed wholly by enemata, and he recovered, not, however, without suffering from a severe traumatic peritonitis, during which he experienced great pain and his bowels became enormously bloated. In this case there can be little question that the stomach was wounded, and that the time of injury, in the early morning, when the viscus was empty, had everything to do with the subsequent favorable course of the wound.

Dr. Keen's case illustrates, probably, for the condition of the stomach as respects its contents is not noted, the same point. The girl shot herself at 6.30 A.M., and we may presume that she was then fasting. Dr. Keen especially remarks that there was no extravasation of the contents of the stomach and the wounds could hardly be discovered. The stomach is indeed much more tolerant of injury than is usually supposed. A remarkable case was that of Professor Von Mosetig's, published in the Vienna *Medical Wochenschrift* of December 18, 1886. On November 17, 1886, a man, thirty-one years of age, shot himself in the left side, the ball entering the fourth intercostal space a little outside of the nipple. There was no wound of exit, but in the back, between the tenth and twelfth ribs, there was a hard spot. The patient showed no gastric distress, no tenderness of the bowels, and no vomiting. He had hæmato-thorax on the left side, and suffered greatly from dyspnœa. During four days he had no fever, and ate heartily and regardlessly. On November 21st he was seized with erysipelas of the face, from which he had on November 30th recovered. He remained free from fever for the next two days, when on the third day a rise of temperature preceded the discharge through the wound of a large quantity of offensive pus and blood. The hard spot on the back was then opened, and the bullet found and extracted. The finger extended here into a cavity containing a large amount of black, putrid matter. No communication could be established between the two orifices, but when the patient vomited, on awakening from the anæsthesia, he discharged from the stomach some of the permanganate of potash solution which had been injected into the wound. After that, food was from time to time discharged through the posterior wound. The patient remained free from fever, but on December 8th died suddenly, from causes not stated in the narrative. The autopsy revealed a communication of the anterior opening, through the cavum pleuræ, diaphragm, and left lobe of the liver, with the stomach, both of whose walls had been perforated. Here, then, had been a frightful wound of the pleural cavity, stomach, and liver, in which the only symptoms of trouble, during several days, had been those caused by hemorrhage into the pleural cavity. Von Mosetig assumed that the stomach at the time of injury had been empty, and had quickly formed adhesions to the surrounding organs.

I have myself, in connection with Dr. Robbins, made a few experiments on dogs, in order to determine the effect of wounds on the empty stomach. The dogs were all kept fasting for twenty-four hours, and then operated on by drawing the stomach out, stabbing it in one or more places, and then returning it, unsutured, into its place. The wound in the abdominal wall was then securely sutured and the animal kept fasting for forty-eight hours, with sparing allowance of water.

Case I.—February 25, 1887. Medium-sized dog, fasting for twenty-four hours. The stomach was drawn out and both anterior and posterior walls perforated simultaneously by passing a scalpel through them. This double puncture was made twice, with an interval of half an inch. The stomach was then replaced and the abdominal wound sutured. The animal was then kept fasting, but was allowed a little water. After forty-eight hours he was fed on milk. He recovered without a bad symptom. The wounds through the stomach-walls were about half an inch long.

Case II.—Black dog, medium size, fasting, was operated on as above, making, however, but one double wound. Died twenty-four hours after operation. There were found, on post mortem, evidences of great peritoneal congestion. In the abdominal cavity there was about

an ounce of bloody fluid. The stomach was half filled with thin, yellowish fluid. The anterior wound had healed, except at one corner, where there was an opening as large as a pin's head. The opening in the posterior wall, where the knife had been passed, had so thoroughly healed that even its location could not be discovered.

Case III.—February 26, 1887. Dog of medium size, fasting, was operated on as before, by grasping the stomach and transfixing both walls. This dog made a quick and complete recovery. The hole in the stomach was one centimetre long.

Case IV.—February 26, 1887. Dog operated on as above, but the incision in both anterior and posterior walls measured half an inch. This dog recovered.

Case V.—Scotch terrier. I operated on this dog as above, and, besides, cut a gash an inch long in the edge of the liver. He died in twenty-six hours. About three ounces of red fluid was found in the peritoneal cavity. The wound in the liver had become agglutinated outside, but not in the depths of the wound. The wound in the anterior wall of the stomach could not be detected from its peritoneal aspect, but the mucous membrane was marked by a linear slit. On the posterior wall a discolored spot on the peritoneum showed the site of the wound, which, however, was closed, but the mucous surface had not healed.

It was astonishing to note, in the cases of death, how quickly nature had repaired most formidable injuries, for in both cases one of the wounds had healed so thoroughly, by first intention, that its site could be with great difficulty detected.

It cannot be denied, in the face of such evidence, that wounds of the empty stomach, though perforating both anterior and posterior walls, may have a good prognosis, and yet I should hardly venture to say that the penetrating wounds which are located in the region of the stomach and involve that organ should be exempted from the general rule of exploratory laparotomy.

The difficulty of excluding injury of other viscera, and especially of the liver and colon, would seem to make abdominal sections imperative even in those cases.

When, however, from any other cause, the operative procedure should seem to be of doubtful propriety, the facts which I have just related might make the expectant treatment more justifiable.

A condition which would seem to me to more positively forbid abdominal section is that of great obesity. The case reported by Dr. Briddon illustrates one objection to operating on such cases, namely, the difficulty in performing the operation through several inches of fat. The surgeon in such a case is cramped for room in which to work, and is further hindered by the difficulty in distinguishing the various tissues within the abdominal cavity. This is so great in cases of vast intra-abdominal accumulations of fat that physicians are puzzled, even in post-mortems, to distinguish the relations of organs. How much more so must be the case in operations during life, in which the external incision must be limited?

There is, however, an even more weighty objection to these operations, and that is the difficulty of possessing an absolute asepsis where the necessity of the case forces the surgeon to break an incalculable member of fat-cells and to leave in the abdominal cavity an immense quantity of disorganized free fat. With all that, he has to do with the patient who belongs to a class notorious for their slight powers of resistance to traumatism. For these reasons the outlook of operations, especially on persons in whom there are likely to be multiple wounds of the small intestines, is gloomy enough. I do not mean to say that such cases are to be always considered as inoperable, but that the accumulation of fat must be reckoned among the circumstances unfavorable to operative procedure.

The persistence of great shock, if only it could be distinguished from the collapse caused by internal hemorrhage, should contra-indicate the operation for the time; but as the differential diagnosis between the two conditions is often impossible, the surgeon will frequently find himself in a dilemma between the indications caused by a possible hemorrhage or those caused by a possible condition of shock.

The occurrence of peritonitis, although of disastrous import, should not in itself, in my opinion, contra-indicate laparotomy.

In conclusion I wish to urge upon the profession the consideration of the following propositions, not as dogmas for adoption, but as theories and facts for discussion:

1. There are many viscera in the abdomen which are practicably immovable—so immovable as to forbid operations upon them through the median line. When a gunshot wound is so located and so directed as to make the injury of an immovable viscus probable, the external incision should be made with reference to that fact.

2. The course of a gunshot wound is determined, not by chance, but by the operation of immutable laws.

3. When a gunshot is deflected from its course, it is always at an acute angle, and when deflected by a very soft substance, of little resistant power, the angle of deflection must be exceedingly small. When, therefore, a gunshot passes into the abdominal cavity, the deflection of the ball, from the time it leaves the aperture of entrance until it strikes the opposite wall, cannot be sufficient to appreciably alter its course.

4. The initial direction of the ball through the abdominal wall indicates very nearly its subsequent direction through the abdominal cavity. The careful study of the wound of entrance is, therefore, of the greatest importance, and no surgeon should open the abdomen for the repair of visceral wounds without first exploring the wound of entrance sufficiently to make sure of its course through the parietes.

5. The ball, after passing through the abdominal cavity, may be deflected by the bones or soft tissues, but as it in the vast majority of cases pursues the remainder of its course outside of the abdominal cavity, these deflections should have no influence in determining the line of incision.

6. Gunshot wounds of tortuous course frequently owe their apparent deviations from the straight line to a change in the shape of the abdominal wall subsequent to the shooting.

7. In general, the course of the bullet through the abdominal wall, prolonged by a line drawn on the external abdominal surface, will indicate the course of the bullet through the cavity if its velocity is great. If at angles of five, or of not more than ten degrees, with this line two other lines are drawn on either side of it, beginning at the wound of entrance, we will have represented on the abdominal surface the greatest deflections of which a bullet is capable during its passage through the abdominal cavity. An incision, therefore, along the whole length of the first straight line could not fail to uncover every part of the course of the ball, provided that there had been no subsequent displacement of the injured tissues.

8. For this reason an incision beginning at the wound of entrance and prolonged to a sufficient distance in its course is often the very best which the surgeon can make. This is especially true of such wounds as, beginning at a distance from the linea alba, pass in a direction away from that line.

9. The immovable viscera can be best exposed by incisions made parallel to their long diameters.

10. When abdominal section is made for penetrating wounds, every organ and part of an organ which could possibly have lain in the path of the ball or weapon should be thoroughly explored by the surgeon, but to examine an exposed viscera, or portions of viscera, which

could not possibly have been injured would be an error in practice.

11. The prognosis of wounds of the empty stomach is not necessarily bad.

12. Large accumulations of fat in the abdominal wall and cavity may sometimes contra-indicate laparotomy for visceral wounds.

A CASE OF DISSECTING ANEURISM ABOUT THE HIP, DEPENDENT UPON RUPTURE OF THE INTERNAL PUDIC ARTERY.[1]

By V. P. GIBNEY, M.D.,

NEW YORK.

The case presented in this report is certainly interesting, both to the general and to the orthopedic surgeon, and it seems to me unique. At all events, I am quite sure that it is exceedingly rare to find a tumor of this nature in orthopedic practice.

I have made no extended search through the literature of ruptured vessels, but have consulted the "Index Catalogue" without finding any direct reference to this subject.

Without anticipating the points, I will simply present the facts in connection with the case.

On March 24, 1887, I saw, in consultation with Dr. Charles Carroll Lee (to whom I am indebted for the privilege of presenting this case), a lad fifteen years of age, the object of the consultation being a question as to diagnosis. I learned on this date that the boy, a member of a large family whose history was good, had himself always been regarded as wiry and active, yet had been the subject of some anxiety for a year or more. In the early summer of 1886, on account of some indisposition, Dr. Lee gave him a thorough examination, finding a double valvular lesion of the heart. This was confirmed by Dr. Loomis, who was consulted at that time. It was concluded then that the heart lesion was probably congenital.

The boy spent the summer at a watering-place, and early in the fall he fell from a bycicle. Apart from a few bruises, nothing in the way of injury was found; indeed, he was just as active during the rest of the season, and throughout the winter, as he had ever been. There was no lameness whatever. He spent a part of the winter in Havana.

On March 1st, without any provocation, he began to walk a little stiffly, favoring the right limb. He continued to walk lame, and on March 7th, the day before the time appointed for return to his home, a play-fellow gave him a pretty sharp blow with his fist over the right hip, the one he had been favoring for the past week. The report from both the boy and his mother is, that a sharp pain was experienced as an immediate result of this blow, and that the lameness increased. He suffered much the same night. He suffered so much pain that the family determined to reach home as quickly as possible, and came by rail from Florida. There was some swelling about the hip on the day of their departure. Before he reached New York the suffering had become so great that it was with difficulty he could be moved about. Dr. Lee saw him on his arrival in the city, and discovered a little fulness about the hip, but it was not sufficiently circumscribed to attract special attention. The extent of the heart-murmur, and the probability of exposure to cold, especially at night, in the South, naturally suggested rheumatism, and it was thought best to keep him in bed. This was about March 12th.

One week later the swelling had increased so that fluctuation was discovered, and the possibility of an abscess suggested itself. His temperature varied from 100° to 102° in the afternoon. His appetite was capricious, and he began losing flesh. On March 23d, Dr. Lee introduced a hypodermic needle into the tumor, but failed to discover anything by this procedure.

On the occasion of our examination, on March 24th, we found an immense fulness extended from the crest of the ilium on the right side to the middle third of the thigh. The fulness was quite uniform, there was deep fluctuation, but the surface heat was not marked. There was no joint tenderness, no crepitation or grating within the joint, and the arc of motion, although small, was limited only by the amount of swelling about the hip—that is, there was no sign of reflex spasm produced by attempts at motion; the limb below the tumor was not smaller than its fellow. We introduced an aspirating needle in three or four different places, with negative results. The appearance of the tumor, the absence of pulsation or bruit, pain on movement of the hip, and the temperature curve, induced us to regard this as a case of acute subfascial abscess, or what we might term an acute suppurative periarthritis. It was decided to employ a longer needle at the next visit, and if it was found necessary, lay the tumor open and treat antiseptically.

March 25th.—The tumor has increased perceptibly in size; the skin is quite tense. The boy has required morphia to secure rest, and his general condition has not changed for the better. With a long exploring needle an effort is made to discover the contents of the tumor. Several punctures are made on the outer side of the limb, without any result. Finally, the needle is inserted over the sacro-sciatic foramen, and after pushing the point in different directions, the barrel of the syringe finally fills with blood. The color is suggestive of arterial blood; yet, on removing the syringe from the needle, the blood flows with very slight force. The needle is removed, the bleeding soon ceases, and a compress is applied.

On March 30th I saw the patient again with Dr. Lee, and the report was that the boy had suffered considerably since the 25th, and within the past day or two had referred the pain to the inner side of the knee and down toward the foot. His temperature has been a little higher than previously, reaching 103° on one or two occasions. The tumor has increased in size on the outer side of the thigh. About the middle is a small circumscribed tumor lying upon the original tumor. At this point there is distinct fluctuation. On exploration we find the blood darker than previously, and two or three ounces are removed by the syringe. Each of us take a specimen for examination. We are fully convinced now that the tumor is dependent upon hemorrhage.

March 31st.—A microscopic examination reveals very little except blood. The blood-globules are somewhat crenated, but not specially degenerated. This is the report of our two separate examinations.

April 1st.—The question of operative interference has forced itself upon us; indeed, the former diagnosis of abscess has long since been given up.

Dr. E. L. Keyes is called in consultation this afternoon. The tension has increased since yesterday, the acumination is more pronounced, and there is some reddish discoloration over the surface. His temperature last night was 104°, and he is unquestionably losing flesh. Dr. Keyes makes his examination with a needle, finding darkish blood, the flocculency of which disappears after standing a while in the basin. In his opinion it was thought best to wait longer. He prefers not to make a diagnosis. He seems surprised at not finding pus. We all agree that there is nothing malignant about the tumor.

April 3d.—After consultation this afternoon, it is decided to make a small incision into the tumor, the parts being first cocainized. It is regarded as a hazardous procedure to use ether or chloroform, on account of the condition of the heart; but Dr. Lee attends personally to the anæsthetic, while Dr. Keyes makes the incision. The bistoury is thrust into the tumor on the outer side, and immediately thereafter a gush of blood follows. The opening soon fills with clots, and as these are removed

[1] Read before the Orthopedic Section of the Academy of Medicine, May 20, 1887.

the flow of blood continues. It becomes evident that a vessel is bleeding in the deepest portion of the tumor, and, under ether, a free crucial incision is made. The contents, consisting of blood-clots and blood, are quickly turned out, when the internal pudic artery is found bleeding. The work has to be performed so expeditiously that it is considered unsafe to spend much time in trying to pass a ligature about the artery. Two clamps are forthwith applied, and these are tied into position while the wound is packed with absorbent cotton. The whole operation does not last fifteen minutes; the patient rallies well. Morphia is administered to secure rest.

The operation was made at four o'clock. The pulse continued good all the evening; but between one and two o'clock the following morning the patient began to sink, and soon died of heart-failure. The dressings were removed soon after death, and the clamps were found securely in place, no secondary hemorrhage having occurred.

It will be seen, then, that this was no ordinary case The record of the temperature shows a regular curve over which it ranged from 99⅕° to 104°. The etiology is exceedingly obscure. Whether the vessel was injured at the time of the blow on the hip, on *March 7th*, is somewhat doubtful; and yet, if the statement of the family and of the boy himself can be admitted in evidence, this certainly seems to have been the beginning of his tumor. Why he should begin to limp on *March 1st* and continue limping until the 7th, the day of the injury, is difficult to understand. The explanation seems to my mind this: The mere attack of subacute rheumatism would account for the lameness, and the blow of his playfellow might rupture the artery, as it lies very close to the bone at this point. The boy's muscle and adipose were not abundant in this locality.

Dr. Keyes writes me the following, for fear he may not be present this evening: "I can only say that at the time I saw the case it was a peculiar one in its clinical aspect—so manifestly tense, fluctuating, inflammatory, even œdematous at and near its obviously pointing spot. The absence of murmur and thrill, with the patient's pallor and fever and sweats, the negative testimony of the aspiratory punctures made before and after I saw the case, the very pronounced relief from inflammatory symptoms after my last puncture, and the fact that the fluid drawn at this puncture contained heaps and clumps and clusters of leucocytes—I think as many leucocytes as red cells—all this, and much of the circumstantial evidence, was so misleading that, although instructed now by the case, I do not feel that the failure to pronounce the tumor a dissecting aneurism at my or your early visits was at all peculiar. I have treated a traumatic aneurism of the gluteal artery in Bellevue Hospital successfully, cutting down boldly upon it, turning out clots, and with some difficulty ligating the vessel. I am not unfamiliar with dissecting aneurism, but I have not seen one behave as did the one in this case, nor have I before seen dissecting aneurism start from the internal pudic artery. I have many times since our operation thought over this case, and I have on such occasions concluded that the course followed was the proper one. A more prolonged operation would certainly have left the patient dead on the couch—which I think he would have been in any case but for the exhibition of brandy by Dr. Lee, and the careful manner in which the doctor managed the ether. Had the boy rallied for a day, I think, starting with the knowledge furnished by the first operation, that the vessel might have been safely ligated with catgut, but I do not believe that such a course would have saved the boy's life. This is the way I look at the case, surgically speaking. Why the vessel gave way in a young boy in the first place, I find it difficult to understand. The local injury must have had something to do with it, but even this seems peculiar, as the pain went before the injury."

Dr. Shaffer, in some remarks, thought "that the case was one of unusual interest to the orthopedic surgeon, as, apart from its intrinsic interest, it furnished another subject for consideration in the differential diagnosis of hip-disease. He remarked that the high temperature, in connection with the existence of a fluctuating swelling, would ordinarily be almost conclusive of abscess. He agreed with Dr. Lee that the ruptured artery was probably atheromatous."

Dr. L. A. Sayre asked "whether the blood-clots removed at the operation had been carefully examined, as he thought, from a review of the symptoms, that pus would probably have been found. He remarked that, arguing from the standpoint of our present knowledge of the case, as furnished by the results, an earlier exploratory incision might have been justifiable and possibly productive of good. He admired the moral courage of the gentlemen concerned in the management of the case, in going ahead and securing the vessel when there was such a temptation to defer operation and treat the case expectantly, rather than assume the responsibility of doing the only thing that could be done that offered any chance for the child's recovery; although by so doing they incurred the risk of being censured by the family and other ignorant persons for performing, in their judgment, an unnecessary operation."

It was difficult for me, as well as for the other gentlemen in the case, to regard this as anything more than a subfascial abscess, and even after the exploratory puncture it was difficult to reach the conclusion that finally pressed itself upon us. As Dr. Lee states, and as Dr. Keyes' remarks state, the whole course was unlike that of dissecting aneurism. I had no difficulty in excluding ostitis of the hip, or synovitis even, when I first saw the case. The signs, the symptoms, all pointed to a periarticular lesion.

I presented the above report to the Orthopedic Section of the New York Academy of Medicine on May 20, 1887, and I am permitted to make use of the discussion which followed on that occasion. Dr. C. C. Lee has at my suggestion written out his remarks, and they are as follows:

"As general surgeons we are all interested in anomalies that lead to errors in diagnosis, and the difficulties that beset this case from the beginning were numerous and complicated. The diathesis of the patient, his antecedents of cardiac disease, his exposure to cold and chilly air before his attack, and the manner of its inception, all pointed to rheumatism. The rapid variations in temperature, the sweats, and increasing exhaustion that followed, soon compelled the abandonment of this theory, and pointed to suppurative changes as the sequence of a periarthritis; while the entire absence of thrill, murmur, or pulsation in the tumor rendered the suspicion of aneurism (which was entertained and discussed at an early stage of the attendance) entirely doubtful.

"Our failure to obtain pus by the numerous aspirations was attributed to our inability to strike the correct spot with the exploring needle. Thus we remained in the dark, although employing every means within our reach, and no correct diagnosis was made until the exploratory punctures that led to the operation which preceded the patient's death.

"If in this we were culpable, we place the case on record in the hope that others may profit by our mistake.

"The cause of death, as has been correctly stated in the paper, seemed to be purely secondary shock from heart-failure; for the boy rallied from the immediate effects of the operation better than we had expected. His consciousness fully returned, he was rather cheerful, and conversed with some members of the family; he took small quantities of milk with vichy and beef-tea, but when, seven or eight hours after the operation, he began to fail in strength, the heart-failure was extremely rapid.

"On all points narrated by Dr. Gibney, supplemented by Dr. Keyes, I find myself in accord, except one, viz.,

causation of the rupture of the artery. To me this seems very obvious.

"In nearly all such cases of cardiac disease in young subjects—double valvular disease with dilatation of the left heart—(most of which are congenital) there is as distinct a tendency to fatty degeneration or atheroma of the arteries as occurs in cases of apoplexy. Granting that this obtained in our patient—which I suspected more than once from the wiry feeling of his radial artery, the rupture of a vessel which is suddenly forced against the unyielding neck of the femur by a sharp compressing blow would seem to need no elaborate explanation. The clinical history is in exact accord with this assumption."

NOTES ON STERILITY.

By JAMES OLIVER, M.B., F.R.S. Edin.,

ASSISTANT PHYSICIAN TO THE HOSPITAL FOR WOMEN, AND HONORARY PHYSICIAN TO THE FARRINGDON GENERAL DISPENSARY, LONDON.

Every occurrence in nature is the result of some previous occurrence, which we have agreed to call its cause, and which in turn determines some other, which we consider its effect. Nothing is accomplished at any time by a sudden act of transition. Nature, so to speak, never executes her workings by fits and starts. Interdependence is avowedly maintained. In the animal kingdom especially are these facts revealed, whether the end attained be one likely to prove beneficial to or exert a prejudicial influence on the species. In the whole organic world change is wont to be gradual; creation and destruction keep pace with each other, and wherever there is life we witness coetaneously a gradual death. In the process of generation the same phenomenon is manifested. Between that state favoring the production of a numerous offspring and that culminating in complete sterility, there exists no distinct line of demarcation. So gradually in fact do the two states glide into each other that we are wholly unable to say where the one ends and the other begins. In the vegetal as well as the animal kingdom we may therefore encounter every degree of fertility.

The reproductive function, no matter how fulfilled, is wrapt in obscurity and full of the greatest complexity, yet from a scientific point of view teems with questions of the deepest interest. Take, for example, the mysterious influence of a first coitus on the progeny resulting from an immediately succeeding sexual congress. Breeders are most careful to avoid contaminating their stock in this way. If a bitch be covered by a dog of inferior breed, the offspring, although begotten thereafter by a dog of known high quality, may evince some traits or markings derived from the former bad cross. A purely bred Arabian chestnut mare was covered by a quagga, the resulting offspring being a hybrid. Some time afterward this same chestnut mare was covered by an Arabian black horse, yet so potent was the influence of the coitus with the quagga that two colts begotten by this cross with the black horse had the hair of the mane, like that of the quagga, short and stiff. The quagga, after the birth of its own immediate progeny, had never had an opportunity of covering the mare again. Here the first coitus affected, in a marked although inexplicable manner, the offspring of the Arabian black horse. The effect of a single coitus may for long afterward continue to exert its influence, and this in cases beyond all doubt. I merely adduce this evidence in support of the tenet which previously I expressed that the whole question of reproduction is not simple, as many would lead us to believe, but one full of complexity. In order, however, that we may have as clear a conception as possible of the multifarious influences at work tending to induce sterility, we must approach the whole subject and attempt to elucidate revealed facts with a mind free from all bias, for in this way alone shall we serve the end of science by encouraging truth. Be it remembered mistakes more commonly result from a defective observation than from ignorance.

In man and the majority of animals perpetuation of the species is maintained by a process of germo-genesis by a coalition and further segmentation of the germinal elements produced by two sexually distinct individuals. It is, to a certain extent, this participation in the act of generation by two parents which hinders us in our investigations regarding those causes which, constantly at work and liable to the greatest variation, act and react directly or indirectly on the reproductive organs. In the case of the male parent all interest actually ceases with the emission of a sperm element, while the mother, on the other hand, not only produces a germinal element, but must retain and nourish, for a more or less definite length of time, the impregnated mass, until, in fact, it shall have reached that state of developmental perfection enabling it to cope with external surroundings.

An inquiry into the causes of sterility must not treat merely with the glands concerned in the production of the germinal elements and the relative affinity of these elements for each other, but deal also with those constitutional conditions which directly or indirectly interfere with the functions of the whole reproductive tract and the competent fulfilment of its requirements. When we remember that the female plays the all-important part—and for a continued length of time—in the production of offspring, it is not astonishing that we should so frequently find authors disposed to attribute the cause of failure in the sexual congress to become fruitful to some occult influence at work on the part of the mother. This admission does not, however, imply a need for the detection of some structural change in the organs of generation in a female who, because she has legitimately indulged in sexual intercourse for years, has never become pregnant. A tendency in this direction, I need hardly add, is too frequently revealed, and simply as a result of defective observation. The alleged alteration in structure has, as a rule, no other than a mere fanciful existence in the mind of the observer himself. We must not, therefore, be too readily carried away by a semblance of brilliant results obtained by a too meddlesome interference, for careful observation teaches us that the good which accrues is, in the majority of cases, the outcome of an enforced sexual rest. In order that any organ of the body shall continue to perform its functions healthily, time must be allowed for the structure to regain its vigor after each period of activity. If sufficient rest be not allowed the function becomes impaired and the structure itself may eventually undergo change, because of a maintained vascular turgescence. An immoderate indulgence in sexual intercourse, or the adoption of an artificial mode of gratifying the passion, tends to induce a state of the genital glands favoring sterility. Under such circumstances conception is likely to happen after a prolonged sexual rest, followed by a moderate indulgence in the act and its legitimate practise. In the human race there are so many factors forever at work in the social life and habits of the individual which thwart us in our endeavors to elucidate questions bearing on the reproductive process, that our chief and reliable information regarding those causes which tend to induce a sterile state must be obtained from those facts afforded us by the whole organic world, whether it be vegetal or animal. Lately I saw a patient who, at the age of thirty-six, had given birth to her first child, and who, although living a marital life for eight years, had never before been pregnant. In this case I found on interrogation that delay in conception was the result of the adoption on the part of the husband of a simple and well-known mode of protection, and this because of a mutual desire on the part of the husband and wife to be free from the cares of a family.

That certain physical states of the organs of generation hinder conception is apparent to everyone; these, however, are manifestly overrated. Never, for example, do we find the lumen of the cervical canal of the uterus

so narrowed in a female otherwise reproductively healthy as to be a fertile cause of sterility. In order that this may receive some credence it may be well for us to consider cursorily the train of events consequent on impregnation in the bird, as throwing some light on the location at which, in the reproductive tract, the sperm and germ-cell meet and coalesce. The egg, after fertilization, becomes coated with a calcareous product, the shell, which serves simply to protect the contained mass from all extraneous injurious influences to which, during the process of incubation, it may chance to be exposed. The secretion of this calcareous incrustation takes place in the lower and somewhat dilated portion of the oviduct, in a part closely analogous with that which in the human female becomes uterus. Occasionally we find eggs extruded by a female bird which have no calcareous covering, the result of a defective fulfilment of functions on the part of the dilated portion of the oviduct. The impregnated mass under such circumstances, enveloped by a simple membranous covering, is liable to be disturbed by influences acting on it from without, and is wholly unfitted for undergoing a natural evolution and thereby reaching maturity. Failure on the part of the oviduct to furnish this calcareous covering must be viewed as a tendency to sterility. Prior to the deposition of a chalky coating the impregnated mass receives an albuminous covering derived from the upper and tortuous part of the oviduct. This being so, the germinal elements, male and female, meet and coalesce somewhere about the free extremity of the Fallopian tube. In man, and all animals with a reproductive tract resembling that of the bird, the germ and sperm-cell commingle in the upper part of the oviduct. So long, therefore, as the lumen of the cervical canal is not unduly contracted, it cannot *per se* offer any very serious obstacle to conception, for the Fallopian tube itself, which naturally admits with difficulty a fine bristle, allows of the easy passage of the spermatozoa to the germ-cell or cells. In all animals the reproductive organs appear to be most highly sensitive, trifling changes in the habits or surroundings of the organism serving in some occult manner to disturb the generative functions. In the majority of such cases which have been observed and noted the dependency seems to be altogether incredible. Animals, for example, tamed and kept in their native country may prove sterile, and this apart from any negligence in the way of food or attention to the general comfort of the animals on the part of those who keep them. Elephants domesticated in their native home, living to a good old age, and evincing no manifestation of physical deterioration, have never been known to couple, yet the generative organs continue active. The character of the food affects markedly the power of procreation. It has been remarked that mares brought up for a long time on dry food are usually sterile. If, however, such mares be turned out to grass, the mere change in food, inappreciable though it may appear to be, renders them eventually fertile. It has been remarked by a competent observer that lions in small travelling menageries are more prolific than those confined in our zoological gardens. Why this should be is difficult to understand. The animals in travelling shows are not better tended nor better fed than those in our gardens, neither have they more room. Here, doubtless, there is some slight cause at work. It is quite possible that the constant variation in surroundings and the perpetual state of excitement of the animals induced by their movement from place to place may account for greater sexual vigor under such circumstances. In some cases, although not invariably, domestication increases fertility, and this apparently, because of a more easy access to food and an abundant supply of the same, the food at the same time being most highly nutritious. Under confinement the functional activity of the organs of generation is not uniformly disturbed in all animals. The lion breeds readily when confined, and produces a greater number of young at a birth than any other member of the same tribe. Impotence occasionally results from domestication, the sexual appetite at the same time continuing unimpaired. The bears in our zoological gardens indulge in sexual intercourse extensively, yet the congress seldom proves fruitful, for they rarely produce young. Male birds, when confined, often lose their characteristic plumage, and yet this manifestation of constitutional change is unassociated with sexual enfeeblment, the reproductive power remaining unimpaired. Sexual passion even may continue in abeyance without apparent reason and without co-relative change in the physical well-being. Absence of sexual desire or feeling does not necessarily imply sterility, for frequently we see women who, experiencing no pleasure whatever during coition, nevertheless conceive and prove even as fertile as those in whom the passion is readily excited. Multifarious and slight are the changes in the life of the animal and its surroundings which may, in some occult and wholly incredible manner, affect the reproductive power. A man and his wife lived in a little village on the east coast of Scotland for ten years, and during this time the wife, although enjoying full marital rite, never became pregnant. Circumstances compelled them to change their habitance, their future home being chosen in the South of England, the climate of which was much less severe than that of Scotland. In this case the mere change was sufficient to determine fecundity, the woman thereafter giving birth to several children.

Every male and female mated is not fertile, yet separately each may be highly endowed with the power of procreation ; for this same male and same female, mated with another female and another male respectively, may prove eminently fertile and produce a numerous offspring. The germ and sperm-cell may meet and coalesce ; in order, however, that an uninterrupted segmentation may be evolved, they must produce by their union, not a state of equilibration, but a state of molecular disturbance. If true molecular waves, radiating from the two primordial elements, are too closely allied to each other, they tend to induce a state of equilibrium, all vital reaction immediately ceases, and no further evolutional change becomes possible.

By adding light to light we can produce darkness ; in like manner, we can produce silence by adding sound to sound. If two waves, equal in every respect and travelling in opposite directions, impinge against each other in their full extent, the forces counterbalance each other exactly and produce total rest. The fault causal of sterility, under such circumstances, is assignable to neither parent, but to both. The elements produced by each are, in reality, too closely analogous to each other. Placed even under the most favorable circumstances they fail when they commingle to act and react upon each other so as to produce that amount of instability requisite for further segmentation and the production of an independent being. This form of sterility is the result of a sexual incompatibility, the reproductive elements derived from the separate beings lacking that dissimilarity needful for developmental change.

In man we find abundant proof of the existence of this anomalous phenomenon as well as in animals. Lately I saw a patient who, during fifteen years of marital life with a first husband, never became pregnant, yet coition was fully accomplished and completed. At the age of forty this female married a second time, and soon afterward conceived and gave birth to her first child. The same fact has been noted frequently in the case of other animals. A bitch is covered by a dog of known sexual activity several times, under the most advantageous circumstances, yet fails to conceive. If, however, the dog be changed, a future congress proves fertile, and the bitch gives birth to several pups. Every attempt to cover the bitch by the first dog proves equally ineffectual, and this because of a mere sexual incompatibility. A cart mare, in like manner, is covered by a

blood horse, yet no progeny results; if, however, the same mare be covered by a cart stallion the congress proves fruitful, and a fully mature colt or filly is the result. With plants we witness a like parallel, and this even in the case of grafting. Certain plants may be grafted on others readily. The currant, for example, may be grafted on the gooseberry; the gooseberry in turn, however, cannot be grafted on the currant. This mode of reciprocal behavior is strange, for we fail to detect any real structural difference between the nurturer and the nourished, or any reason whatever for this apparent incongruity. Both male and female may be equally fertile, yet because of the existence of some sexual incompatibility when mated together, they are totally sterile.

Frequently we see women who apparently exhaust their full reproductive energy in giving birth to one child, as they never afterward conceive. The individual may note no change in her general health, the sexual functions may be as thoroughly maintained, and the congress may be as completely effected as before, yet the sterile state prevails. Barrenness is wholly independent of change in the general health of the individual, and is frequently remarked as an association of excess of size and great luxuriance. In plants very high nutrition often lessens materially, or may even completely arrest, the reproductive power. Many of our trees which become luxurious, yet bear flowers or fruit seldom, are capable, in some cases, of being made more productive by cutting the roots, and so lessening the amount of nutrition. I have commonly observed that women who tend to lay on fat rapidly are apt to become barren. In the majority of such cases the adipose tendency is a morbid condition, and sterility is a mere concomitant depending on the condition inducing obesity.

As I have already remarked, the energy expended by the male in the process of perpetuating the species is comparatively slight compared with that demanded of the female. We shall, therefore, often find that sterility depends upon a failure on the part of the mother to supply that amount of nourishment requisite for those evolutional changes consequent on impregnation. The young begotten of animals under confinement often die early or are even born dead or badly formed.

As a rule, sterility is a physiological co-association of functional activity of the mammary glands. This depends upon the fact that, at least for a time, these glands continue to withdraw from the mother that amount of nourishment which otherwise would have been devoted to the maintenance of the reproductive activity. In the case of the cow we witness a perversion of this law of nature by habitual interference on the part of man, the mammary glands, through constant use, being made to secrete milk quite independently of the reproductive system.

Women who marry early may for a time give birth to children too rapidly, but eventually the reproductive energy wanes and a state of sterility is induced, the general health of the individual becoming impaired, or evincing, it may be, no sign of deterioration.

Prostitutes, so long as they cohabit with a variety of males, are sterile, yet no special precaution is adopted to prevent conception. Protection doubtless depends upon the fact that the various germinal elements tend to counteract each other. In the case of plants a parallelism has been noted. If the pollen from a flower be placed on the stigma of another flower, and this same stigma be fertilized soon after by pollen obtained from a stamen of its own flower, the influence of the first pollen is completely destroyed by the last applied, and no fertilization results. Bees and ants teach us that to a certain extent a life of ease and idleness is that most favorable for reproduction, while a life of great activity predisposes to barrenness. According to the amount of nourishment the larva receives it develops into a small sterile insect or the large fertile female. It does not, of course, follow that every animal will evince an activity of the reproductive organs commensurate with the pabulum it is capable of using. Other things being equal, plenty of food with a life of idleness are eminently favorable for the process of generation. That race which is idle physically as well as mentally and at the same time is well fed is likely to prove more fertile than a race living under directly opposite circumstances. The servants of races cruelly treated and made to undergo the most severe physical exertion either prove totally barren or at least less prolific than those more advantageously placed, living a life of comparative freedom. Twins and triplets probably indicate a higher state of reproductive activity consequent on a large supply of easily assimilable food. The Kaffir women, who live chiefly upon flesh and milk, are most prolific and give birth almost as frequently to twins as single children. The higher education of women is doubtless detrimental to the race of man, tending, as it must, to engender a state of sterility, or, what is worse, to the production of a race with evidences of great constitutional enfeeblement.

A SMALL POINT WORTH KNOWING.

By LUTE L. VON WEDEKIND, M.D.,

SENIOR OF STAFF, CHAMBERS STREET HOSPITAL.

In presenting this paper to the medical profession, I am, for the present, constrained to disclaim the positive discovery of the *small point* and its use, herewith submitted. If there be another who has applied and published results in reference to this point, I cheerfully allow him the honor to which he is entitled. Until such an one be found this article may simply be regarded as a record of personal observations; interesting, perhaps, to those who may already know and practise what is here stated, but of positive benefit to those who as yet may be unacquainted with it.

Simplicity of application, infallibility with regard to results, and great practical usefulness in forming a correct and prompt diagnosis of a given case, are what I claim to be the important points with reference to this subject.

By simply pressing on the supraorbital notches with a steadily increasing force, you may, with a certainty of success, detect a malingerer; bring an unconscious alcoholic to his senses, and thus differentiate on the spot between alcoholic and other comas; cause cessation of hysterical convulsions, and in many instances quiet violent alcoholic delirium.

The best way of applying this test is: When the patient is in the recumbent position, the physician, standing at the head of the cot, or kneeling when the patient is on the ground, fixes the tips of the thumbs over the supraorbital notches, as above described, never minding the occasional yell or struggle, pressing steadily, gradually increasing the force, and in half a minute or a minute the result is accomplished.

In a varied and extensive ambulance service, extending over eight months' continuance, I have applied this test so frequently and, as my statistics will show, with such marked and remarkable success, that I feel constrained to publish my results.

To the physician in private practice it may be of comparatively little use; but to such as are in the hospital service, especially in the ambulance department, or to those employed in the army and navy, or elsewhere where large bodies of men are at work, and where malingering and alcoholism are common, it will be of great value.

The frequency with which ambulances are summoned to alcoholics and malingerers renders this test doubly serviceable, assisting the physician, first, in the rapidity, and, secondly, in the correctness of his diagnosis. Moreover, it is a remedy always ready, always reliable, and always productive of satisfactory results.

For let it be remembered that if the application of this test *fail* in obtaining the desired result, the physician may *rest assured*, and the subjoined column of cases seals this assurance, there is something more than simple

alcoholism, or those other forms mentioned, in the case. And so, on the other hand, what a comfort it is for him to know that, after the heroic and protracted efforts of the police and other parties have failed, he can step in and in a moment have the patient on his feet. Into what confidence and esteem of the astonished lookers-on it places him at once.

During my ambulance service at this hospital, the following particulars may be mentioned: Out of 1,620 ambulance calls, 213 were to alcoholics; 26 to malingerers; 18 to hysteria cases; and 28 to delirium tremens.

Of the 213 above mentioned, 137 were comatose, the police and friends being utterly unable to arouse them, and this treatment brought 128 of the 137 to consciousness. Of the cases where no result was obtained, 5 were, besides alcoholism, suffering from cerebral concussion, 2 fracture of the base of the skull, 1 uræmic coma, and 1 syncope from valvular heart trouble.

In the cases of hysteria I had absolute success; no one case failed to respond, and the same with malingerers. Nine of the delirium tremens quieted down and spoke rationally; in the remainder I had varying degrees of success; some becoming more quiet, while in others but little change was noticed.

Illustrating this point, I will cite a few of the many interesting cases:

The ambulance was summoned by the police to a case on the North River front, supposed to be dying. Upon arrival I found a man, comatose, having a few lacerated wounds of the scalp and considerable blood on his face. The police had tried hard to arouse him, but failed. After having ascertained that the man suffered no fracture of the skull, I proceeded to arouse him by this method, succeeding in about a minute. His breath smelled strongly of liquor, and he admitted having been drinking hard for the five or six days previous. He sat up, had his head dressed, and walked to the ambulance, which took him to the station-house.

A. G——, aged twenty-four, a native of the United States, was found by the police lying on the sidewalk, claiming to have fallen down the cellar of an unfinished house. Upon the arrival of the ambulance, this man claimed that he could not move either his legs or arms, and that he was gradually losing sensation. With the greatest care he was placed upon the stretcher and slowly driven to the hospital. We found no other indications of spinal concussion or fracture, and became suspicious of a malingerer. Pressure over the supraorbitals was resorted to and kept up for about a minute, when the patient, raising his arms, grasped my hands and removed them. Being satisfied of the diagnosis, we ordered him to get up, which he refused to do, claiming complete disability. He had to be forced out of bed, and then, seeing that the "game was up," became very abusive. His idea was to sue for damages, having previously claimed that it was the builder's fault, he not taking the necessary precautions to insure the safety of passers-by.

A. B——, aged twenty-four, has been brought to this hospital quite frequently for syncope. It was her practice, until discovered, to faint somewhere in our district whenever she was out of funds. The last time I found her in a street-car, and, suspecting her to be a malingerer, I applied this test, which worked like a charm. I told her that she had "played off" too often, and refused to take her. I saw by the papers next day that she continued to ride until in the district of a neighboring hospital, when she again fainted, and was carried away by the ambulance. She has since admitted her deception.

J. G——, aged thirty-nine, printer, has been brought to this hospital at least six times within the past eight months, for epilepsy. During one of his attacks I tried this pressure, to see if there could be any result. In about one minute the man sat up, saying: "Well, Doc., I could not hold out any longer." I had not the remotest idea that he was malingering, as he had the regular convulsions, frothing at the mouth, and biting his tongue or lips, which is usually sufficient for our diagnosis. He claims to have "worked" with great success all the hospitals, usually having his fit when out of funds.

The cases of hysteria have all acted in exactly the same way, answering to the test in from one to two minutes at most, but usually in from fifteen to thirty seconds.

G. E. B——, aged nineteen, was suffering from hysteria in the passage-way to the Brooklyn Bridge. For twenty minutes the police tried to quiet the convulsion, but failed, and then summoned the ambulance. One minute after arrival I had the boy on his feet, perfectly quiet and exceedingly anxious to get away. He went.

In the cases of delirium tremens I have not been so markedly successful; for but few of the cases answered promptly, and many not at all.

C. E——, aged twenty, was brought in by the police, suffering violent delirium. It required three men to hold him down. I applied pressure over the supraorbitals for some forty seconds, when the patient became quiet and submitted to a hypodermic without question. I have had some four or five similar cases, but not enough to claim infallibility for this method in this class of cases. Dr. E. B. Dench, Dr. G. Swinburne, and Dr. P. T. Kimball, of this staff, have tried this in similar cases, with the same degree of success.

I have tried it in forty-seven cases where no result was obtained, and where something more serious than alcoholism or malingering was suspected.

Of these cases 26 were cerebral concussion; 9 fracture of the base of the skull (diagnosis confirmed at autopsy); 4 cerebral hemorrhage; 6 uræmic coma; and 2 simple depressed fracture of the skull. These cases are mentioned as proof of what is above stated. Where no result is obtained, there you may look for some intracranial lesion, or other cause of coma.

Epithelioma of the Umbilicus.—Dr. Barraud describes the case of a patient, forty years of age, who was admitted into the Hôtel Dieu on February 8th for a tumor of the umbilicus. No hereditary antecedent could be discovered. She married when twenty-eight years of age, but never had any children, and had never been ill. Seven months previously, while taking a bath, she noticed a little scab over the umbilicus. On removing this she noticed a small swelling, about the size of a lentil, of a wine-red color, and not ulcerated. She did not pay much attention to it until, in the course of two months, she remarked that the tumor had increased in size. She then consulted a medical man, who applied the actual cautery and dressed it with iodoform. Soon after, the tumor became rapidly bigger, and, three weeks since, it ulcerated and exuded small quantities of blood. The umbilical cicatrix was entirely invaded by a tumor about the size of a penny-piece, circular in outline, and projecting. The bottom of the ulceration was covered with granulations, and exuded a puriform, but not offensive, discharge. The tumor was firm and elastic to the touch, and could not be reduced. It was situated on a zone of induration, extending over a space about the size of the palm of the hand, and it appeared to send ramifications toward the abdominal cavity. The tumor was fixed in a vertical direction, but admitted of some lateral movement. No enlarged glands could be found. The general health of the patient was good. On examination the tumor proved to be a cylindrical epithelioma. The growth was removed by means of two curved incisions, meeting above and below the umbilicus. The mesentery was not involved, and no adhesions had formed. After removal, the lips of the wound were brought together and retained in position by means of deep sutures of silver wire and superficial horsehair sutures. Recovery was rapid and complete, and the patient was soon able to leave the hospital, provided with an abdominal belt as a support to the cicatrix.—*The London Medical Record*, July 15, 1887.

Clinical Department.

COMPLETE DISLOCATION OF THE EYEBALL.

Dr. M. B. Sullivan, of Dover, N. H., reports the following rare case. "On the evening of July 16th I was called to attend Daniel F—— on account of an injury to his eye. I arrived at his boarding-place and found a young man, about twenty-two years of age, recently arrived from Ireland, and the appearance he presented eclipses anything I have ever seen. He was crossing the kitchen floor, slipped on a lemon-seed, and pitched forward toward the stove, in one of the covers of which was left a cast-iron lifter in an upright position; he struck on this just over the eyeball, and as it was driven into the orbital cavity his eye popped out, and when I saw him it was sticking directly out, with both upper and under lids completely inverted behind the eyeball. I applied cocaine solution, six per cent., and finding I could not get reliable assistance in the house, sent for Dr. J. R. Ham. I succeeded in everting the lower lid, but with much difficulty, with a pair of Charrière forceps, locked them, and had them held, and with another pair everted the upper lid, when the eye slipped instantly into place. This was a genuine case of dislocation of the eyeball, but I find the works on surgery say very little about them. The vision is now perfect, and the conjunctivitis which followed has entirely subsided. The strain upon the optic nerve was not over forty-five minutes."

A REMEDY FOR VOMITING IN PHTHISIS.

Dr. A. D. Bundy, of St. Ansgar, Ia., writes: "In advanced cases of phthisis pulmonalis, coughing ending in vomiting, so that the food is often ejected from the stomach and nutrition is greatly interfered with, is a condition I have found difficult to relieve. In a recent case the trouble was promptly controlled by means of the following solution: Cocaine hydrochlo., gr. x.; eucalyptus, gtt. xxx.; alcohol dil., f. ʒ j. A common hand-atomizer was used to spray the throat three times a day, the patient being directed to inspire as the bulb was compressed."

ONE OF THE EMERGENCIES OF COUNTRY PRACTICE.

Dr. Charles Emfield, of Jefferson, Ia., relates the following case as illustrative of the emergencies with which the country doctor has occasionally to deal: "I was called during the winter to a farm-house some fourteen miles from this place, where I found a woman forty-six years of age in an extremely anæmic condition from uterine hemorrhage that had been almost constant for a month. She had been prescribed for without avail. I found the uterus enlarged to correspond with the fourth or fifth month of pregnancy, and the os uteri closed and its tissues quite firm. From the history of the case I diagnosed an enlarging uterus from retained products of conception, and as it was evident that there was no time to lose I proposed emptying the uterus, to which the husband readily consented. I inserted a large sponge-tent on the following day, which by midnight had expanded and softened the uterine neck, but had also induced so much prostration that several hypodermics of ether and brandy were required to keep my patient from sinking before I could attend to the local condition. With the patient under ether we carried her to a table, my assistants being the husband and a neighbor, and as a moral stimulus I had about me, cuddled down on the floor, some eight or nine children. On inserting my hand into the uterus I reached a soft, friable substance. The organ itself had expanded on the admission of air, and I feared that I would have difficulty in exciting contraction for the arrest of commencing hemorrhage. I rapidly removed the contents of the uterus, which I found to consist of uterine hydatids and clots, enough to fill a small wash-basin. Bimanual excitation brought about firm contraction, and after a thorough intra-uterine irrigation the patient was put to bed. She promptly recovered with the aid of daily irrigations of the uterine cavity."

MEASLES—ANURIA—CONVULSIONS—DEATH.

Dr. A. G. Browning, of Maysville, Ky., reports the case of a girl, nine years of age, whom he saw with Dr. J. T. Strode. The child had always been healthy, and lived in healthful surroundings. She was convalescent from measles, and had been about the house for a week or ten days. At a later period than is usual in measles, she had had a sharp attack of diarrhœa, with mild dysenteric symptoms. This yielded readily, and she was again doing well, when there came an attack of catarrhal croup. When she recovered from this, a decrease in the quantity of urine voided was noticed, but there was no other disturbance of moment. The usual routine mild correctives had been given, but without improvement. More energetic measures failed, and when Dr. Browning first saw the case no urine had been passed for three days and nights, the occasional use of the catheter showing the bladder to be empty. There had, however, been no developed constitutional symptoms. The urine had not been examined previously, and the suppression, when it came, was so complete that not a drop could be obtained for examination.

"The pulse was between 100 and 120, small and without force; temperature, only once taken, 99°; respiration, 16; some sighing, but no cyanosis; squinting, with right lateral eversion of both globes; oscillation of pupils; some subsultus; intelligence good. The abdomen was retracted, and there was a shrivelled, old look of all the muscular structure. No heart-trouble. Careful examination developed only slight soreness in lumbar region. There seemed nothing marked but the suppression, and the impending results. Warm baths were ordered, and local fomentations were employed in the intervals between the baths. Pilocarpine was given liberally, and this failing, it was in time replaced by digitalis, spirits of nitre, and acetate of ammonia, alternating with calomel. But nothing did any good, one convulsion succeeded another, despite repeated doses of chloral by the rectum, and the child finally died in convulsions, no coma having occurred at any time. Five minutes before death the patient had feebly, but rationally, replied to a question."

Dr. Browning continues: "Was all this the logical sequence of measles, in the sense that the same too often is of scarlatina? Here was, seemingly, a nephritis, or, if not strictly such, that catarrhal condition of the urinary tubes almost inseparable from it. This sequel was, as regards its severity, obstinacy, and result, certainly so very rare with me as to be phenomenal. Nor do I find that others have encountered it—that there is any allusion, in the literature at my command, to nephritis and its results as a probability after measles. Not that we have no urinary troubles after measles. They are, however, as a rule, void of special significance, and may be safely regarded as indicating only slight functional disturbance.

"Or, the conditions remaining the same, was the dysentery the prime factor in causation? I don't think so; there was not enough of it, for the dysentery present was scarcely worthy the name. True, of all the solid viscera, the kidney is as frequently involved in dysentery as any other. But this occurs to the extent here given only when the affection is protracted, severe, and accompanied by putrid stools, more or less copious (Zimmerman, 'Sydenham Society Reports'). The reverse of all this obtained in the case, as remarked. Measles may have had nothing to do with it; it isn't plain to me that dysentery had more.

"My search for a way out of all this has revealed, or recalled, one fact, at least—how very little those who know have told us in books about suppression of urine. It is only a symptom, of course, but one, as I have just had occasion to know, with something very real behind it, and it is a symptom which parsley and melon-seed tea will not every time relieve."

EPISTAXIS, ASSOCIATED WITH HYPERTROPHY OF THE TONSILS.

Dr R. W. Erwin, of Bay City, Mich., writes that he has found epistaxis to occur frequently in cases of hypertrophy of the tonsils.

"The hemorrhage is due to continuous pressure upon the veins of the neck, producing chronic engorgement above, with, perhaps, alteration in the walls of the blood-vessels. My attention was first called to the subject a few years ago, by a case of frequent and alarming hemorrhages in a child four to six years of age, in whom the tonsils were enlarged so much as to slightly impair the hearing. The child snored at night, and was acquiring a deformity of the chest and shoulders. I was afraid to perform abscission on account of the hemorrhage, though no history of hemorrhagic tendency existed, and I delayed the operation more than a year, doing all I could in the meantime to build up the general health.

"The growth of the child was apparently arrested in a great measure. Finally I removed the greater part of one tonsil, hoping that good would follow. There was immediate relief from the snoring in sleep, with complete and permanent cessation of the nose-bleed. The general health was rapidly restored and has continued good. Within a month a similar case has come under observation. It is possible that the greater tendency to hemorrhage in youth is in part due to the hypertrophy present in this period of life."

Progress of Medical Science.

Dermatitis Gangrenosa Infantum.—At a recent meeting of the Royal Medical and Chirurgical Society (*The Lancet*) Dr. Radcliffe Crocker read a paper on "Dermatitis Gangrenosa Infantum." Four groups of cases were described. In the first there was no evidence of varicella antecedent to the gangrenous or ulcerating eruptions, and in most it was distinctly negatived. In the second group are cases in which varicella has preceded the sloughs or ulcers, which either developed immediately upon the varicella pustule or occurred as a sequela beginning in independent lesions. In the third group vaccination was the immediate antecedent. In the fourth group are placed certain cases of local gangrene resembling cancrum oris; but the individual lesions began in exactly the same way as the independent eruption which followed varicella, and there was a tendency to generalization, or, at all events, to extension beyond the region in which it started in some of the cases. A general account of the disease was drawn up from an analysis of the preceding and other cases, and it was shown that there is a great difference in the severity of the eruption. In some the gangrenous patches were so numerous and extensive as to lead to the death of the patient in a few days, while at the other end of the chain are cases of so mild a character that there were only superficially ulcerating pustules, which came out in crops, thus protracting the disease as a whole for a considerable time, and generally accompanied by intense pruritus; these milder cases appear to correspond with Mr. Hutchinson's varicella prurigo. Between the two extremes are cases of all grades of severity. Comparison was made between the local and general gangrenous eruptions, and, among other things in common, it was shown that they both attack girls more than boys, and occur at about the same ages. The conclusions arrived at were—that the gangrenous eruptions are pathological accidents, so to speak, which in young children, especially when of tubercular constitution, might supervene upon any pustular eruption, although no doubt such a condition is much more common after varicella. Secondly, that the determining factor is probably a micro-organism derived from without, though cultivation and inoculation experiments could alone prove the truth of this theory. Thirdly, that the initial lesions, both of the local and general gangrenous eruptions, present the same characters. Mr. Jonathan Hutchinson said that he never doubted that other eruptions than vaccinia and varicella could be followed by gangrenous changes. The various specific animal poisons had the power of altering the condition of the patient, and rendering him liable to gangrene of the skin and other parts. He had seen many cases of cancrum oris in children who were in excellent health till the measles, or other specific fever, had overtaken them. There were cases also in which no known antecedent cause could be made out—neither syphilis, nor scarlet fever, nor vaccinia or varicella, etc. He distrusted the view that tuberculosis as a constitutional tendency was liable to set up gangrene of the skin. He thought this was very highly improbable. He thought that we must receive with caution the statement that no evidence existed of the previous occurrence of varicella, for it may be easily overlooked, having occurred in a sporadic form. Infection may occur in individual pustules which are not of varicellar origin; these are not extensive and not symmetrical, but irregular in distribution, and resulting from injury are succeeded by the formation of pus and absorption of the same.

Diabetes Mellitus in Early Life.—Dr. McCall Anderson reports two cases of diabetes mellitus occurring in young children. In one case the age was two years and three weeks, when the father consulted the author because for about six weeks the child was noticed to droop; there was loss of appetite, with constant thirst and progressive loss of flesh and strength. The urine contained a large quantity of sugar, its specific gravity being 1.038. Two days after the father's visit the child died. The second case was that of a little girl, aged two and a half years; she had always enjoyed good health, until on January 1, 1884, when she had a fall, alighting upon her hands, but did not seem to hurt herself. The following day, and more or less thereafter, she suffered from the most intense thirst, with a tendency to coldness, lividity, and collapse. When seen by the author, on January 8th, there was evident emaciation, and the temperature was only 95°. The urine was intensely acid, specific gravity 1.037, containing a trace of albumen, and a large quantity of sugar. Granules of morphia (one-one-hundredth of a grain) were given, and ordered to be cautiously pushed. The child gradually sank, and died on the afternoon of January 9th, only nine days from the first commencement of symptoms. An autopsy was made, but nothing was found with the exception of slight anæmia of the brain, and some fatty change in the renal epithelium, such as might be accounted for by the intese diuresis.—*Glasgow Medical Journal.*

Casein as an Emulsive of Castor-oil.—Dr. de Gassicourt calls attention to the facility with which the casein of milk emulsifies castor-oil. For this purpose the casein must be quite pure, and a little bicarbonate of sodium and powdered sugar should be added. He suggests the following formula as having the advantage of masking the taste of the oil without interfering with its effects: Casein (with soda and sugar), q.s.; castor-oil, 15 parts; laurel water, 5 parts; and distilled water, 100 parts.

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A CONTRIBUTION TO THE STUDY OF GRAVES' DISEASE.

IN a classical case of Graves' disease we have presented three principal symptoms—exophthalmos, palpitation of the heart, and enlargement of the thyroid gland. But, as is the case in most diseases, and especially in those of the nervous system, it is comparatively rare to meet with typical cases of the affection, and irregular forms largely predominate. We may, however, distinguish three principal aberrant varieties. In the first we have palpitation and exophthalmos without any appreciable enlargement of the thyroid. In the second form palpitation coexists with enlarged thyroid, but the exophthalmos is absent. And finally, in the third variety we find neither exophthalmos nor protrusion of the thyroid gland, but simply a rapid and irregular action of the heart, combined at times with a trembling which may be of the hands alone or may be generalized.

At the recent Congress of Greek Physicians, held at Athens, in April of this year (ΓΑΛΗΝΟΣ, May 23, 1887), Dr. Katsaras described a case seen by him in consultation, which he regarded as one of Graves' disease, illustrating a fourth irregular form of the affection. The patient was a man, sixty years of age, who had for about a year past noticed a protrusion of the eyeballs. The probable cause of the affection was referred to a mental shock. The exophthalmos increased as time went on, but it was the only symptom of which the patient complained. There was no enlargement of the thyroid gland, the heart was regular in its action, and the pulse-rate was not increased. The other occasional symptoms of the disease, such as diarrhœa, dyspnœa, insomnia, etc., were also absent. Despite the paucity of the clinical signs, however, the author was led to make the diagnosis of Graves' disease by reason of the existence of the dissociation of the movements of the upper lid from those of the eyeball, which, following von Graefe, he regarded as a pathognomonic symptom of this affection.

Apart from its clinical interest, the author thought that the case was important as being opposed to the prevalent theory of the nature of Graves' disease. For it is obvious that there could be neither irritation of the sympathetic nor paralysis of the pneumogastric nerve without the results of such condition being manifested in increased rapidity of the cardiac pulsations.

There would seem, however, to be room for doubt as to the correctness of the diagnosis in the case reported. In the first place, the affection is not common in men, and secondly, it is extremely rare in individuals of such an advanced age. The symptom of von Graefe, moreover, is by many authorities not regarded as at all pathognomonic of exophthalmic goitre, for it has been observed to disappear while the other symptoms of the disease remained unchanged. Nevertheless the case is a suggestive one, and might profitably be studied more in detail than has been done by the author in his paper.

IODIDE OF POTASSIUM IN THE BRONCHO-PNEUMONIA OF CHILDREN.

THE expectant plan, now most commonly employed in the treatment of catarrhal pneumonia, is certainly not the ideal method for the cure of this affection, to judge from the high rate of mortality attendant upon it. Yet it is the one generally recommended by writers upon children's diseases, and, indeed, seems to give about as good results as most of the alleged specific methods proposed from time to time by various therapeutic enthusiasts.

In the *Bulletin Général de Thérapeutique* of June 30, 1887, Dr. Zinis, of Athens, writes concerning the value of potassium iodide in certain cases of this affection. He has found it, in doses of from 8 to 23 grains *per diem*, according to the age, to reduce the temperature 3° or 4°, to soften the cough, to facilitate expectoration, and to reduce the frequency of the respirations very noticeably. He thinks that the course of the disease is materially shortened, and that convalescence, when once established, is more rapid. The best results are obtained when the remedy is given at the very outset of the disease, and when the malady is of an acute sthenic form. In the broncho-pneumonias secondary to measles or whooping-cough, or in those occurring in weak or cachectic children, the remedy has given but indifferent results in the author's experience. Its effects are also more favorable, he states, in children over one year of age. In addition to the internal use of iodide of potassium, the writer employed dry cups and flying blisters in certain of the cases in which these external remedies seemed indicated.

EXHIBITIONISTS.

PROFESSOR KRAFFT-EBING, in his work entitled "Psychopathia Sexualis," divides the sexual psychoses into (1) paradoxical sexual feeling, occurring in children and the aged; (2) anæsthesia sexualis; (3) hyperæsthesia, and (4) paræsthesia sexualis. Under the last head, which includes what are generally known as sexual perversions, he describes "lustmord," active and passive flagellation, statuenschänder, and the exhibitionists. He mentions other forms, but we are concerned only in showing that the "exhibitionisten" are distinctly recognized pathological cases.

In a recent lecture by M. Brouardel (*Gazette des Hôpitaux*, May 14, 1887), exhibitionists are described as forming a peculiar type of sexual paræsthesia, to which Professor Lasègne was the first to call attention.

From the somewhat meagre descriptions by the foregoing writers, it seems that the crime or disease is not much observed in France or Germany.

However this may be, it is an important fact that "exhibitionists" are very numerous in New York City. Few families can have lived here long without learning this. The persons who indulge in the extraordinary and disgusting perversion are generally men of middle age, or at least not young; they are often dressed like gentlemen. In the exposures, as is always the case, there is no erection or apparent sexual excitement of the individual, and the act is done not to solicit favors, but to gratify a morbid sexual feeling. The omnibuses, the streets where much shopping is done and women are congregated, and the parks are the places chosen. Of course, the indulgence is a tolerably safe one, for no woman cares for the publicity entailed by causing an arrest. Yet the horror and disgust which the performances of these human monstrosities cause must be very great, and it would not be impossible to diminish greatly the evil which has reached unpleasant proportions. For while the "exhibitionisten" are diseased creatures, they must be treated as responsible; and, besides, there can be no doubt that a certain proportion of them are really indulging only in a morbid and criminal habit.

We do not ask for a letter from Mayor Hewitt on this matter, but certainly the police of New York might do better than they have done in suppressing the vice.

NEW REMEDIES FOR THE RELIEF OF MORPHIA CRAVING.

Dr. Oscar Jennings (*The Lancet*, June 25, 1887) announces the discovery of certain drugs which, he says, will enable any morphia *habitué* earnestly desirous of leaving off his intemperance to carry the process of weaning to a successful issue. All morphia *habitués* have from time to time a maudlin, hysterical desire to give up the practice, but this vanishes at the first feeling of discomfort. For such cases there can be no suppression without restraint, and a result so obtained is very unsafe for the future. By the help of sparteine and nitro-glycerine, however, we are told that the patient can get relief from his craving until the system has accommodated itself to the absence of morphia. The mode of action of the drugs mentioned is as follows: Professor Ball and Dr. Jennings have shown that the heart in morphinomania is in a very depressed state, and that there is a general ischæmia of the circulation. Morphine relieves this, and with it the morbid craving. But sparteine and nitro-glycerine do the same, as shown by sphygmographic tracings.

"The morphia craving," says Dr. Jennings, "is a complex suffering, at the same time cerebral and peripheral, each factor of which can be relieved by appropriate treatment. The organic distress may be soothed by sparteine, which recovers the heart in the same way as a hypodermic injection of morphia. The cerebral craving (or yearning), often the more painful of the two, corresponds to a want of habitual congestion. This can be arrested by nitro-glycerine, which gives rise to the same kind of sensation in the morphia *habitué* deprived of his stimulant as the hypodermic injection. It acts probably by inhibition *à distance* rather than by essential sedation of the nervous centres."

There have been many remedies for the morphia habit, from cinchona bark and Scotch oats to cocaine. All have been, more or less, cardiac and brain stimulants, and it is not easy to understand why sparteine and glonoin should act with any special efficiency. Certain it is that there is no specific for the opium habit.

THE WARD'S ISLAND INSANE ASYLUM ABUSES.

After a very thorough and impartial examination by the Committee of the State Board of Charities into the abuses of the Ward's Island Insane Asylum, a just verdict of guilty has been rendered. Although the medical superintendent and staff are not implicated in the decision, the other authorities are very properly blamed for the bad and innutritious food furnished and the questionable fitness of the ward attendants. Common humanity and public sentiment call for a speedy and radical reform in the care of the pauper insane at this institution, and it remains to be seen if sufficient influence can be brought to bear upon the Commissioners of Charities and Correction to compel them to heed the straightforward and suggestive recommendations of the Committee. The ventilation which the subject has had in the daily press will probably lead to this desirable result.

In regard to the food furnished the patients the Committee says:

"The testimony is undisputed and cumulative, proving conclusively that the dietary is insufficient in variety and nutritious qualities. The bread is good, but the cooking in other respects is shown to be bad. This condition of things is wrong and shameful."

We wonder if the same cannot be said of similar public and private institutions in this city and elsewhere. If we judge from the reports of patients, Bellevue Hospital is notoriously at fault in this respect. But, of course, sick people have no right to decent cooking, and for charity's sake they should say nothing. If the meat is tough it is the fault of their teeth, if the same food is tainted it may be subjectively due to perverted appetites.

Aside from this, what a sorry state of affairs is evident from the statement of the Committee, that the majority of the male attendants were bartenders before they were thus appointed! One witness testified that many of the applicants for the job of attendant were "apparently drinking men, and half-way tramps, you may say, that would be out of a place, and they would come along and apply for this." During the year 1886 eighty attendants were dismissed for cause, exclusive of those resigned or honorably discharged, and inclusive of twenty-three dismissed for intoxication, three intoxicated while on duty in the ward, and five for striking patients.

The report further says: "The circumstantial evidence removes all doubts that there are numerous and continued injuries and indignities inflicted upon the patients by the attendants in the asylum. Overworked, irritable, and ignorant attendants are placed in positions of absolute and exclusive control of badly crowded and excited patients, without appeal or remedy except on unverified reports to absent medical authorities. Each of the medical officers who were examined testified to several acts of violence, by attendants upon patients, which had been witnessed by himself. According to the records of the asylum there were, between October 16,

1883, and June 27, 1887, thirty-one cases of actual violence committed by attendants upon patients, including kicking, striking, and slapping; one case being for slapping one patient by two attendants at one time, witnessed by an assistant physician; another case being for undue violence in handling a patient, witnessed by two assistant physicians; and another case being for both kicking and striking one patient by three attendants at one time, witnessed by two assistant physicians."

It is very obvious that the trouble all lies in the small pay allowed attendants and the lack of room in the asylum building. The Committee very properly suggests that the Board of Charities should immediately have proper plans prepared, and that the Board of Apportionment should supply the necessary money to make the city farm at Central Islip ready to relieve the crowded asylum, the buildings to be on the cottage farm; that healthy and cheerful rooms for patients and attendants, better food, schools for patients and attendants, better attendants and more of them, be provided on Ward's Island. These are measures of provisional relief. For permanent relief it is recommended either that a board of trustees—men and women—appointed by and responsible to the Mayor, be put in charge of the insane asylums; or, better, that one independent commissioner, similarly appointed, shall have entire charge of them, in which cases the Department of Charities might be split into four single-headed departments, governing (1) insane asylums, (2) institutions for children, (3) hospitals and almshouses, (4) prisons. The State Board is advised to memorialize the Legislature if the city fails to provide the proper provisional and permanent relief.

We shall anxiously watch the effect of this investigation upon the action of the Commissioners. The necessity is urgent and immediate, and there can be no excuse for overlooking it save the old one of political expediency. The people are right on the question. Now it remains to be seen what means to the end their servants, the Commissioners, are going to take.

Dr. Philip Titus Heartt died at Waterford, N. Y., August 8, 1887. Dr. Heartt was born in Middlebury, Vt., in 1811, attended lectures at the University of Pennsylvania, passed his examinations with high honors, and was licensed to practise medicine by the Board of Censors of Albany County in 1832. He settled first in Troy, but having had several pulmonary hemorrhages, he was forced to relinquish the bright prospects that were opening before him in that city and seek the more healthful country. He then settled in Melrose, where he built up a large practice. Subsequently he removed to Waterford, where he succeeded to the practice of Dr. Porter. Dr. Heartt's eminent ability and sagacious counsels were unquestioned to the last, and though for the past five years he was compelled, by failing health, to abandon the active pursuits of his profession, he never refused the aid of his counsel to those who had been accustomed to rely upon it. In general literature and in the knowledge of men and books the doctor was accomplished, and he was, on this account, as well as by reason of his sterling character, a most agreeable companion. In conversation he was always pure of speech and decorous.

News of the Week.

International Medical Congress—Section on Diseases of Children.—The following papers are announced to be read in this Section: *Monday, September 5th:* 1. An Investigation to Determine whether the Absence of Sewage and of Water Pollution Diminishes the Prevalence and Severity of Diphtheria, by Dr. C. W. Earle, Chicago; 2. Rate of Growth in American and British Children, and its Bearing on the Investigation of Disease, by Professor W. Stephenson, Aberdeen, Scotland; 3. The Diseases of Faulty Habit, by Dr. J. F. Goodhart, London, England; 4. Deleterious Results in Children of a Narrow Prepuce and Preputial Adhesions, by Professor Lewis A. Sayre, New York. *Tuesday, Morning Session:* 1. The Milk Supply of the Cities, by Dr. Cyrus Edson, New York; 2. The Nutrition of Infants, by Professor Albert Leeds, Hoboken; 3. The Use of Cows' Milk in the Feeding of Infants, by Professor W. C. Vaughan, Ann Arbor. *Afternoon Session:* 1. Anatomical Characters of Membranous Croup, as Observed in Fatal Cases in the New York Foundling Asylum, by Dr. W. P. Northrup; 2. Remarks on Tubage of the Glottis, and the Manner in which it was Practised in France, by Dr. E. Bouchut, Paris; 3. Intubation of the Larynx, by Drs. Joseph O'Dwyer and Dillon Brown, New York; 4. Intubation *versus* Tracheotomy in the Treatment of Croup, by Professor F. E. Waxham, Chicago. *Wednesday, Morning Session:* 1 The Treatment of Strumous Glandular Enlargements of the Neck, by Dr. Martin Oxley, Liverpool; 2. Infantile Convulsions in Connection with After-Neurotic Tendencies, by Dr. J. A. Coutts, London; 3. A Study of Some of the Bacteria Found in the Dejecta of Infants Affected with Summer Diarrhœa, by Dr. W. D. Booker, Baltimore. *Afternoon Session:* 1. Hallucination in Young Children, by Dr. E. Bouchut, Paris; 2. Cerebral Irritation in Children, by Dr. Jules Simon, Paris; 3. Treatment of Diphtheria by Antiseptic Sprays, by Dr. Grancher, Paris; 4. Treatment of Physiological Derangements in Children Due to Overfeeding, by Dr. Cadet de Gassicourt, Paris; 5. Notes on the Malaria of Children in Brazil, by Dr. Moncorvo, Rio de Janeiro. *Thursday, Morning Session:* 1. Observations Regarding True Pneumonia in Children, by Professor A. D'Espine, Geneva; 2. Paper (title not announced), by Dr. Oscar Wyss, Zürich; 3. Some Observations on Headaches in Children and their Relation to Mental Training, by Dr. W. H. Day, London; 4. Scarlatinal Nephritis from a Clinical and Pathological Standpoint, by Dr. H. Ashby, Manchester; 5. On the Anatomical Characters of Scarlatinal Nephritis, by Dr. Frank Grauer. *Afternoon Session:* 1. The Contagious Principle of Pertussis, by Professor Alfred Vogel, Munich; 2. The Nature of Whooping-Cough and its Antiseptic Treatment, by Dr. Moncorvo, Rio de Janeiro; 3. Acetonuria in Children, by Dr. A. Baginsky, Berlin; 4. Hereditary Syphilis and Rachitis in Brazil, by Dr. Moncorvo, Rio de Janeiro; 5. Marasmus, by Dr. I. N. Love, St. Louis. *Friday, Morning Session:* 1. The Treatment of Lateral Curvature, by Dr. James Knight, New York; 2. Anchylosis of the Knee-Joint in a Straight Position by Excision as a Remedy for the Atrophy and Deformity following

Acute Poliomyelitis of Childhood, by Dr. Stephen Smith, New York; 3. Hip-Disease, Practical Points in its Treatment, by Dr. A. J. Steele, St. Louis. *Afternoon Session:* 1. Forcible Correction of Contracted Knee-Joint, by Dr. E. H. Bradford, Boston; 2. Progress of Orthopædic Surgery, by Dr. Noble Smith, London; 3. Section of Contractured Tissues Essential before Mechanical Treatment can be Effectual, by Professor L. A. Sayre, New York; 4. The Scope and Limitations of Orthopædy, by Dr. C. F. Taylor, New York; 5. The Principles of Treatment of Club-foot, Partly Demonstrated by the Exhibition of Apparatus, by Dr. W. E. Balkwell, London.

Pharmacists Insure Themselves.—The Wisconsin State Pharmaceutical Association, at its meeting in Milwaukee on August 10th, decided to organize a mutual fire insurance company, to escape what they considered extortion on the part of the regular companies.

A Charitable New Yorker.—An account is published in *The Hospital* of a picnic given to the convalescent patients of the Torbay Hospital (England). This picnic and several drives were paid for out of a "thank-offering" given by a gentleman from New York, who was so unostentatious in his charity that even his name was unknown to the hospital authorities.

A Legacy for the Berlin Medical Society.—A Portuguese physician, Dr. Pedro da Costa Alvasenda, died some years ago in Lisbon. He was childless, and left a large share of his fortune to various scientific institutions. The Berlin Medical Society was one of the legatees, and has just received from the estate 3,489,500 reis, about fifteen thousand dollars.

Death of Dr. N. A. Randolph.—A sad accident occurred at Atlantic City on Sunday, August 21st. Dr. N. A. Randolph, of Philadelphia, one of the editors of the *Medical and Surgical Reporter*, was bathing in the surf with his wife, when he was carried off his feet by the undertow, and disappeared beneath the waves. It is believed that heart-failure, rather than drowning, was the cause of his death. His wife was also nearly drowned, being brought to land in an unconscious condition by one of the bathers. Dr. Randolph was Professor of Physiology at the University of Pennsylvania, and was well known among the physicians of Philadelphia as a hard worker and thinker. He was but thirty-eight years of age.

The Doctors and the Jubilee.—The members of the medical profession in Great Britain do no think as much of the Queen's jubilee as they did some months ago. It was hoped that at least some one or more would be raised to the peerage, but this august estate still remains closed to them. Knighthood was offered to some, and accepted by a few in Great Britain, but the Irish were left out in the cold entirely, and never a title did one of them get, despite the fact that the British Medical Association met in Dublin.

No Room for Women.—The Omaha *World* reports that the medical college of that city refuses to matriculate women, and it says that by this action the college shows itself to be far behind the times.

The Cooper Hospital, built by the family whose name it bears, was opened a few weeks ago in Camden, N. J.

The Registration of Births.—The Board of Health has determined to enforce the law relating to the registration of births in this city, and threatens to prosecute all physicians who fail to report births. Clergymen who do not respect the law relating to the registration of marriages will also be proceeded against. It is said that the number of reported births has suddenly increased more than one hundred a week since the contemplated action of the Health Board was made public.

The Cholera is reported to be on the decrease in Sicily, but to be increasing in Malta and in certain parts of Russia.

The Red Cross.—The next international conference of the Red Cross Society will be held at Carlsruhe on September 19th.

The Medical Society of Virginia.—The eighteenth annual meeting of the Virginia State Medical Society will be held in Richmond, beginning on Tuesday, October 18th. The subject for general discussion is the "Choice of Anæsthetics," and the discussion will be opened by Dr. Hunter McGuire, of Richmond.

Dr. Graily Hewitt has been appointed Emeritus Professor of Obstetric Medicine in University College and Consulting Obstetric Physician to the Hospital.

Mad Dogs and Hydrophobia.—In the Department of the Loire, France, during 1886, 53 persons were bitten by mad dogs. Of this number 1 only died of rabies. Twenty-six were treated under Pasteur's directions, and the rest either received no treatment at all or were cared for by quacks. It was among the latter number that the death occurred.

The Injurious Effects of Blisters.—Dr. Wyss, of Geneva, is a strong opponent of the employment of blisters, which he considers an unnecessary cruelty to the patient, and an injury in that they prevent sleep, disturb the function of urinary secretion, and often give occasion to obstinate cutaneous eruptions. This same stand was taken by Dr. Goldmann, now of Galveston, in a letter to The Medical Record from Monterey, Mexico, in January, 1884. In this letter the author gave his reasons for his objections to blistering, and stated his belief that all the good effects of vesication could be obtained by other means which do not possess its drawbacks.

A Case of Quadruplets is reported by Dr. Lowry in Daniels' *Texas Medical Journal*. The children, all girls, were born prematurely at the sixth month. They all showed some signs of life, and one lived some minutes and cried faintly. Each child was enclosed in separate membranes with separate cord and placenta. The mother was a German woman, thirty-five years of age, married about a year to her second husband.

Tests for Color-blindness among Railroad Men.—The employees of the Reading Railroad complain that the color-tests have not been fairly conducted, and threaten to strike if they are tested on colors other than red, white, blue, and green, on boards, flags, and lamps.

Reviews and Notices of Books.

Elements of Botany. By Edson S. Bastin, A.M., F.R.M.S., Professor of Botany, Chicago College of Pharmacy, etc. 8vo, pp. 282. Chicago: G. P. Engelhard & Co. 1887.

The object of the author is stated in the preface to be to produce "a work which is not so technical but that any student of fair intelligence may take it up and pursue it without the aid of a teacher, and obtain a good foundation of the facts and principles of the science." He begs the student to recollect that botany is primarily the study of plants, and not the study of books about plants, and advises that all study be done *plant in hand*. Acting on this plan, he has been very successful in constructing a guide to the study of botany. The various parts treat of organography and vegetable histology, physiology and taxonomy. Gray's Manual is needed, in addition, for the actual analysis of the flora of the student's neighborhood. The cuts are well executed, the pages neat, and the style concise.

Treatment by Massage and Exercise. By Joseph Schreiber, M.D. Translated by Walter Mendelson, M.D., New York. 8vo, pp. 285. Philadelphia: Lea Brothers & Co. 1887.

Dr. Schreiber was formerly docent in the University of Vienna, and is now proprietor of a sanitarium in Styria, Austria. Since he began its preparation, the works of Busch, Reibmeyer, Samuely, and Rossbach have appeared in German, but the author claims to have presented the subject from a somewhat different point of view from many of the above authors. He commences with the history of mechano-therapy and its developments in the various countries of Europe. Then follow chapters on the description of massage, with a scientific explanation of its physiological effects. The various modes of mechanical interference are dealt with in detail, and the effects of gymnastic exercise on the various functions carefully noted. Finally, he enumerates the diseases amenable to mechano-therapy, with records of cases treated. The latter include sciatica-cervico-brachialgia, various neuralgiæ, and, in fact, about half of all the ills flesh is heir to. Diabetes and tonsillitis both find a place. An extensive bibliography is appended. The work of the translator has been admirably done.

A Practical Treatise on Renal Diseases and Urinary Analysis. By William Henry Porter, M.D., Professor of Clinical Medicine and Pathology in the New York Post-Graduate Medical School and Hospital, etc. 8vo, pp. 349. New York: William Wood & Co. 1887.

Dr. Porter's book will be read with interest, even though his conclusions may not be accepted in detail. He has clearly stated his deductions from ten years' study upon the various kidney-lesions in men and animals from both a clinical and pathological standpoint. He first gives elaborate descriptions of the anatomy and physiology of the kidneys, and then enters upon the detailed consideration of the diseases themselves. These latter are respectively acute and chronic parenchymatous metamorphosis of the kidney (under the latter head the kidney of pregnancy and the infiltrated kidney in wasting diseases); acute diffuse nephritis, the various forms of chronic diffuse nephritis; acute and chronic sclerosis; gouty kidney; hyaline, albuminoid, or waxy kidney. Then follow chapters on renal hemorrhage, hæmoglobinuria, anæmia, pyelo-nephritis, calculi, tuberculosis, tumors, parasites, diabetes, etc.

We have given this full table of contents (omitting some headings, however) because we really think that the author has produced a volume which can be read with great profit. It is in the chapters on parenchymatous metamorphosis that the most interest will be felt. Dr. Porter has before expressed his views on this subject, confining the term "inflammation" to its strict signification. He finds it difficult to see what relation the change called "parenchymatous metamorphosis" bears to "inflammation." Accordingly, the term "parenchymatous nephritis" is not accepted. "In treating this lesion," he says, ". . . it should be remembered that it is not of an inflammatory nature, but that it results from too much work being thrown upon the kidneys, which undergo this metamorphosis through their efforts to relieve the system."

Another suggestive observation is made concerning renal complications following surgical operations. "In all major surgical operations, but especially those in connection with abdominal surgery, there is a strong tendency to the development of an acute parenchymatous metamorphosis of the kidneys. The evidence of this lesion usually appears on the second or third day after the operation, when the quantity of water decreases, the color deepens, the specific gravity increases, and albumin and casts become more or less abundant." The causes of this condition are referable to the initiation of the anæsthetic and the shock of the operation, the increase in the amount of the effete material as a natural sequence to the increased nutritive activity necessary for the reparative process, and, finally, the use of opium, so often necessary, which closes up the alimentary and respiratory emunctions and forces more work upon the kidneys. In the operation of these causes he finds reason for the "septic symptoms" which supervene upon an operation where the urine may have been normal. He recommends in these cases copious draughts of simple or medicated water, which will relieve very speedily the threatening renal symptoms.

The second part of the volume is devoted to urinary analysis, and is unusually complete. The author pays special attention to the physiological indications, with their bearings on clinical medicine. This is a point on which works of this kind are apt to be sadly deficient. The drawings of the various urinary deposits are exceptionally fine.

Dr. Porter is certainly to be congratulated upon the general make-up of this volume. Non-assent with some of its conclusions will in nowise diminish the pleasure of its perusal.

Ninth Biennial Report of the State Board of Health of California, for 1886. By G. G. Tyrrell, M.D., Secretary of the Board.

The efficient Secretary is to be congratulated on having compiled so readable a volume. Full reports are given of the topography, botany, and climatology of the various regions of the State.

The mortality reports from the various districts are unusually full and accurate.

Medical and Surgical Memoirs. By Joseph Jones, M.D., Professor of Clinical Medicine, University of Louisiana; Visiting Physician, New Orleans Charity Hospital, etc. 8vo. Vol. I. Pp. 820. 1876. Vol. II. Pp. 1348. 1887. New Orleans.

These large volumes record the various experiences of the author, scattered over a busy life. He has been at work for over thirty years on the chemical and microscopical changes occurring in the blood in malarial fever. Many of the observations noted were made during Dr. Jones' service in the medical corps of the Confederate armies. The vastness of the ground covered forbids an extended review. One interesting case noted is that of the murder of a man named Narcisse Arrieux. A man was arrested on suspicion. Stains on the latter's clothing were proved by Dr. Jones to be blood, and that, too, of a man suffering from malarial fever. The victim had suffered from this disease for some weeks before his death, and examination of blood-stains on his own clothes, made by the murder, revealed the same characteristics as those on the clothing of the

suspected person. On this evidence the jury brought in a verdict of guilty. Dr. Jones claims that this is the first case of its kind on record.

Dose and Price Labels. By C. L. Logeman. Philadelphia: Dunlap & Clarke. 1887.

This is primarily intended for pharmacists and physicians who keep large stocks of medicines on hand. The printing is neatly done, and all the labels for poisonous preparations are distinguished by heavy black lines.

Earth as a Topical Application in Surgery. By Addinell Hewson, M.D. 12mo, pp. 309. Philadelphia: The Medical Register Company. 1887.

This is the second edition of Dr. Hewson's book, the first having been issued several years ago. The first portion is occupied with the history of over ninety surgical cases in which earth was used as an antiseptic dressing. Then follow comments thereon, and a chapter on the mode of action of this therapeutic agent. The ideas expressed, though novel at the time of their first presentation, are now generally accepted by surgeons. The use of peat is, however, more common than that of "earth" proper, by which Dr. Hewson refers to "yellow subsoil, common everywhere in our city (Philadelphia), well dried and sifted through a fine flour-sieve, rich in ferruginous clay, and entirely free from all sand, grit, or foreign matter." The author regards earth as a deodorizing sedative, and with distinct antagonism to putrefaction and inflammation. He considers that the nature of its action is a chemical one. His volume is a most readable one, though we may not accept all his conclusions.

Maternity, Infancy, and Childhood. By John M. Keating, M.D., Visiting Obstetrician, Blockley Hospital, etc., Philadelphia. 12mo, pp. 221. Philadelphia: J. B. Lippincott Co. 1887.

These papers have been compiled from the author's lectures to students and nurses. No especially new ideas are advanced, but common-sense shines through every page. Practical observations are made upon the various infant foods in the market. Dr. Charles S. Turnbull adds a valuable chapter on the care of the eye and ear. Dr. Alexander McCoy also contributes practical information. The book is a proper one to recommend to patients.

Cathartics and Emetics. By Henry M. Field, M.D., Professor of Therapeutics in Dartmouth Medical College. 12mo, pp. 288. Philadelphia: P. Blakiston, Son & Co. New York: J. H. Vail & Co. 1887.

This work must be regarded as a valuable addition to medical literature. Its contents are hardly found in any other English work, or, for that matter, in any familiar language. The author makes constant allusions to Fonssagrives, as "this writer's works have not been given directly to the English-reading public," and because "they are charged throughout with the most valuable suggestions and statements of rational theory and of fact."

In these latter days too little stress is laid upon catharsis and emesis as remedial measures. Our forefathers doubtless erred on the side of rigor in this respect, but we have gone to the other extreme. Dr. Field takes up in detail the various evacuant remedies, speaking of their materia medica, special actions and uses, inconveniences, contra-indications, and toxic action. Many valuable practical points concerning administration are scattered throughout the pages. Finally, there are inserted chapters on the mechanism of catharsis and emesis, with respective indications and contra-indications. To a young practitioner the perusal of this volume cannot fail to be of inestimable benefit. If we should venture to make a single criticism, it would be to condemn the too frequent allusion to the special preparations of one firm of manufacturing druggists.

A Companion to the United States Pharmacopœia (last edition). By Oscar Oldberg, Ph.D., and Otto A. Wall, M.D., Ph.G. Second revised edition. 8vo, pp. 1216. New York: William Wood & Co. 1887.

This is primarily a work for pharmacists, and is designed as "a ready-reference book and a working manual." It contains descriptions of all remedies and preparations in use in the United States, whether officinal or not. Included is a brief statement of medicinal uses and dosage. It is an invaluable work of reference. The almost complete neglect of such works by physicians has been frequently deplored. No better volume than this for supplying the needed information has appeared. The fact that this is its second edition attests its worth and the appreciation in which it is held. Two authors better qualified for such a task could not be found.

The Separate System of Sewerage: its Theory and Construction. By Cady Staley, President Case School Applied Science, Cleveland, and George S. Pierson, C.E. 8vo, pp. 183. New York: D. Van Nostrand. 1886.

This is a manual for all interested in sanitary science. It describes in full the principles and appliances of the "separate" system so clearly that anyone of ordinary intelligence can understand the workings of this method of sewerage. Special attention is paid to sewer-ventilation. Full descriptions are given of the various kinds of pipes, man-holes, flush-tanks, etc.

Analysis of the Urine: With Special Reference to the Diseases of the Genito-Urinary Organs. By K. B. Hofmann and R. Ultzmann. Translated by T. Barton Bruni, A.M., M.D., and H. Holbrook Curtis, Ph.B., M.D. Second edition, revised and enlarged. 8vo, pp. 310, with eight lithographic plates. New York: D. Appleton & Co. 1887.

That this work is a valuable and practical one is attested by its continued popularity. It is not a mere compilation of the work of others, but contains the result of years of careful research. It gives many details that will be found most helpful to students of urinary analysis as well as to general practitioners. The lithographic plates at the end are very accurate. The book ranks among the best of its kind, and we can heartily commend it.

Sphygmography and Cardiography, Physiological and Clinical. By Alonzo T. Keyt, M.D. Edited by Asa B. Isham, M.D., and M. H Keyt, M.D. New York and London: G. P. Putnam's Sons. 1887.

The medical profession of America is to be congratulated on the appearance of this work of the late Dr. Keyt. For it comprises a collection of the many contributions of the author to sphygmography and cardiography—contributions which were conducted with intelligence, conscientiousness, and skill, and which entitle the author to a distinctive place among American physicians who have made original research. Dr. Keyt, we are told, pursued unremittingly his studies of his graphic method, and in this labor was insensible alike to the suggestions of hunger and fatigue. He added much to the extent and definiteness of our knowledge of the physiology and pathology of the circulatory apparatus, and there can be no complete or intelligent account of sphygmography ever written which will not have to employ some of the results of his labors.

The papers in the present volume cover the subject of the history of the sphygmograph, with chapters on the form of the sphygmogram and cardiogram, and on the pulse-wave velocity. There are also ten clinical chapters, dealing with the sphygmography and cardiography of cardiac and aneurismal disease. The book is copiously illustrated.

Physiological Laboratory, Harvard Medical School. Boston. Collected Papers II., 1880–1886. For private circulation.

The volume before us contains many valuable papers. Those on phthysmographic work, the laryngeal muscles, illusions of motion, and on sense of sight and touch, will perhaps attract most attention.

Medical Electricity. A Practical Treatise on the Applications of Electricity to Medicine and Surgery. By Roberts Bartholow, A.M., M.D., LL.D. Third edition, enlarged and improved. With one hundred and ten illustrations. Philadelphia: Lea Brothers & Co.

Dr. Bartholow writes excellent books, and this is not an exception. It is a brief and, on the whole, a lucid description of electro-therapeutics, electro-physiology, and electro-physics. We can only suggest in criticism that his electro-physics is decidedly crude and behind the technical knowledge of the day. Like most writers on this subject, he overestimates the value of his agent, or at least gives that impression. His statements of the physiological effects of static electricity, as given on page 154, are most misleading, not to say inaccurate. These few imperfections do not, however, impair the general high character of the work.

A Treatise on Simple and Compound Ophthalmic Lenses, their Refraction and Dioptric Formulæ, including Tables of Crossed Cylinders and their Sphero-Cylindrical Equivalents. By Charles F. Prentice. Pp. 42. New York: James Prentice & Son.

This is a valuable technical work for opticians and oculists.

Spasm in Chronic Nerve Disease; being the Gulstonian Lectures for 1886. By Seymour J. Sharkey, M.A. and M.B. Oxon, F.R.C.P. London: J. & A. Churchill. 1886.

These lectures have already received extended notice in various journals. They discuss the subject of spasm due to intra-cranial and spinal disease, and functional spasms. The author gives his views of the pathology of spasm, and also much that is interesting in the way of anatomical description and illustrative clinical cases.

Klinik der Verdauungskrankheiten. Von Dr. C. A. Ewald. I. Die Lehre von der Verdauung. Zweite neu bearbeitete Auflage. Berlin: Verlag von August Hirschwald. 1886.—The Disorders of Digestion. By Dr. C. A. Ewald. I. The Physiology of Digestion.

The first edition of Professor Ewald's work has been translated into English, and was at once recognized as a masterly exposition of this branch of physiology. The present edition contains the changes made necessary by the recent rapid advances in gastric physiology. We know of no work extant which gives a better or clearer presentation of the subject with which it deals.

Anæmia. By Frederick P. Henry, M.D., Professor of Clinical Medicine in the Philadelphia Polyclinic, etc. Reprinted from *The Polyclinic*. Philadelphia: P. Blakiston, Son & Co. 1887.

This is a well-written monograph, which is interesting chiefly in its conservative adoption of the more modern views regarding the essential nature of anæmia. The writer sensibly prefers the old word, anæmia. The functional power of the blood is the basis of his argument, and he believes in the superiority of the hæmoglobin-test over the numerical standard of the red blood-corpuscles. In other words, the red corpuscle is not a constant quantity, but the amount of hæmoglobin in two from different persons may vary as much as fifty per cent., so that "the number of corpuscles does not afford an infallible proof of the presence or absence of anæmia." "As a rule, however, when the number of red corpuscles is normal, the amount of hæmoglobin is also normal, or nearly so, but there are numerous exceptions to this rule."

His classification includes (1) primary, (2) secondary, (3) toxanæmias, and (4) parasitic anæmias. He speaks of chlorosis as the anæmia of puberty, but the term chlorosis is too convenient to be readily abandoned.

La Thérapeutique Médico-chirurgicale en 1886. Revue des travaux français et étrangers. Publiée sous la direction du Dr. Paul Rodet. Pp. 418. Paris: Librairie, J. B. Baillière. 1887.

Dr. Rodet's annual review of therapeutical progress seems to be very complete, and as it covers the practical side of medical work, it ought to be popular.

Practitioner's Handbook of Diseases of the Ear and Naso-pharynx (third edition of the "Aural Surgery"). By H. Macnaughton Jones, M.D., M.Ch., M.A. Oxon (Hon.). London: J. & A. Churchill. 1887.

The author states that the present work is practically a new book. It is systematic in arrangement, clear and, for the most part, concise in statement. The articles on the naso-pharynx are chiefly contributed by Dr. Morell Mackenzie. The colored plates form an interesting and instructive feature of the work. On the whole, we believe that Dr. Jones' work will prove to be a useful handbook to the practitioner.

Hystérie et Traumatisme: Paralysies, Contractures, Arthralgies, Hystéro-traumatiques. Par le Dr. Paul Berbez. Paris: Aux Bureaux du *Progrès Médical;* A. Delahaye et Lecrosnier, Éditeurs. 1887.

This work has an especial interest in its connection with railroad injuries, for the author shows that, indubitably, traumatisms may cause hysterical phenomena of the most pronounced character. The author has done good service, therefore, in collecting facts bearing on this subject. His historical introduction is incomplete. He even makes no mention of Erichsen's work.

Sur un Nouveau Traitement de la Métrite Chronique, et en particulier de l'Endométrite par la Galvano-caustique chimique intra-utérine. Par le Dr. G. Apostoli. Paris: Octave Dion. 1887.

This book contains an account of Dr. Apostoli's method of treating chronic uterine inflammation by the galvano-cautery.

Manuel pratique de la Garde-malade et de l'Infirmière. Publié par le Dr. Bourneville. Tome I. Anatomie et Physiologie. Tome II. Pansements. Tome III. Femmes en Couches.—Médicaments. Petit Dictionnaire. 3e edition, revue et augmentée. Paris: Aux Bureaux du *Progrès Médical.* 1887.

Dr. Bourneville's work is one written by a number of collaborators, and necessarily varies a little in the value of its contents. Rather too much space proportionately is given to surgical nursing. The book is, on the whole, a fairly good manual for trained nurses, a class of works much in demand at the present time.

A System of Practical Medicine, by American Authors. Edited by William Pepper, M.D., LL.D. Assisted by Louis Starr, M.D. Volume V. Diseases of the Nervous System. Philadelphia: Lea Brothers & Co. 1886.

Pepper's system concludes with the present very large and interesting volume, in which one can find further evidences of thorough and careful work. Dr. Seguin opens with a chapter on general symptomatology and diagnosis, and one on the localization of lesions in the nervous system. In the latter chapter the diagrams of the spinal cord are hardly complete, not showing the anterior ascending columns, the columns of Lissauer, or

indicating the probable central position of the vaso-motor and secretory fibres. The columns of Clark, also, one would suppose, should be found in the cervical enlargement. The cuts illustrating cranio-cerebral topography might now be amplified so as to show other than motor centres. At the time the chapter was written, however, the author would perhaps have hardly been safe in going into more detail than he does.

The chapter on mental diseases, by Dr. Folsom, is a good presentation of the subject of insanity, and one which the practitioner can read with both interest and profit. We can only speak with praise of the articles by Dr. Mills on hysteria, hystero-epilepsy, and catalepsy. An almost undue amount of space is given to hystero-epilepsy, which, in its typical form, seems mostly confined to La Salpétrière.

Dr. Sinkler's article on athetosis is practical, but not so complete in its study of the pathology as could be wished. The placing of Thomsen's disease, along with eclampsia, among local convulsive disorders is, to say the least, a curious arrangement.

The chapter on epilepsy, by Dr. Hamilton, is hardly up to the reputation of its author. One of the most valuable pieces of work in this book is that on the "Neural Disorders of Writers and Artisans," by Dr. Morris J. Lewis. This embraces some very important original work on the subject of telegraphers' cramp. Dr. Lewis has done well, also, in drawing attention to the subject of professional muscular atrophy.

Dr. Wilson's articles on alcoholism, the opium-habit, and chronic lead-poisoning, furnish the reader with the latest views upon these topics. We may except, perhaps, his paragraph upon the morbid anatomy of plumbism, since recent investigation has shown beyond doubt that lead does produce disease of the nerves, as well as at times of the spinal gray matter.

Dr. Spitzka, in his articles on cerebral hyperæmia and anæmia, treats a difficult subject with skill and good judgment. His descriptions of the chronic inflammatory and degenerative affections of the spinal cord show a thorough mastery of the subject, but lack somewhat in perspicacity and a systematic evolution of some of the subjects discussed.

One of the valuable features of the present work is that it treats of a number of the rarer nervous disorders, such as narcolepsy, myxœdema, erythromelalgia, etc. The various articles are illustrated, though not profusely.

The volume, as a whole, forms a contribution to neurology of which American medicine can be proud.

Two Comedies: An Ill Wind; An Abject Apology. By F. Donaldson, Jr. Boston: Cupples, Upham & Co. 1887.

Medicine and Medicine-men. Anniversary Address, delivered at the banquet of the Louisville Medical Society, May 26, 1887. By John Godfrey, Surgeon, M.H.S. Louisville, Ky.: John P. Morton & Co. 1887.

Dr. Godfrey's poem shows some humor and metrical ingenuity. Dr. Donaldson's comedies have a good deal of cleverness about them, and show decidedly the possession of literary talent. They both make interesting reading, despite some conventionality of sentiments and a rather excessive use of quotations. The book is daintily printed and bound.

The Climatic Treatment of Consumption: A Contribution to Medical Climatology. By James Alexander Lindsay, M.A., M.D. 8vo, pp. 228. London and New York: Macmillan & Co. 1887.

The present interest in climatology makes the work before us a very timely one. Dr. Lindsay is fully equipped, by a most extensive personal experience, for writing about the different health-resorts. He has visited Australia, California, Algeria, and nearly all the chief resorts in Europe. This, combined with a practical experience as physician to the Consumptive Hospital near Belfast, and other institutions, ought certainly to give value to his opinions. He begins his book with a chapter on the causes of consumption, and follows this with chapters on the general principles of climatic treatment. The various health-resorts are then described in detail. American readers will be disappointed in finding no reference to Colorado, perhaps the best climate for consumptives in the world; or to Florida, which deserves the reputation it has got. The book is written also mainly from the standpoint of the consumptive, very little being said definitely regarding suitable climates for the rheumatic, nervous, etc. Still, we can heartily commend the book both to physicians and the laity. It will be a help to all who contemplate a voyage for health.

The Vest-pocket Anatomist. By C. Henri Leonard, A.M., M.D. Thirteenth revised edition. Detroit: Illustrated Medical Journal Co.

The worst we can say about this popular work is that it is founded upon Gray. We wish it were founded upon a treatise of better standing in the eyes of good anatomists and teachers.

Wear and Tear; or, Hints for the Overworked. By S. Weir Mitchell, M.D., LL.D. Harv. Fifth edition, thoroughly revised. Philadelphia: J. B. Lippincott Co. 1887.

It is not necessary to commend this most interesting and already widely known brochure. We shall only venture the criticism that Dr. Mitchell's views of making girls study only three or four hours until they are seventeen years old are most pernicious and liable to mislead. Girls are not made to study enough as it is. The present methods are wrong enough, but the trouble is not excessive quantity—it is poor educational methods.

L'Année Médicale (Neuvième année) 1886. Résumé des progrès réalisés dans les sciences médicales. Publié sous la direction du Dr. Bourneville. 8vo, pp. 402. Paris: E. Plon, Nourrit & Cie. 1887.

This is one of the best of the annual reviews of medical progress.

Sketches and Impressions, Musical, Theatrical, and Social (1799–1885), Including a Sketch of the Philharmonic Society of New York. From the after-dinner talk of Thomas Goodwin, Music Librarian. By R. Osgood Mason, A.M., M.D. Pp. 294. New York and London: G. P. Putnam's Sons. 1887.

Dr. Mason has made an entertaining volume, and one that will be especially appreciated by old New Yorkers. The reminiscences are mainly musical and theatrical, and the book is entirely from the "shop." The typography and press work are admirable.

Bibliothèque Diabolique (Collection Bourneville). Sœur Jeanne des Anges, Supérieure des Ursulines de Loudun (XVII^e Siècle). Autobiographie d'une hystérique possédée, d'après le manuscrit inédit de la Bibliothèque de Tours. Annoté et Publié par les Docteurs Gabriel Legué et Gilles de la Tourette. Préface de M. le Professeur Charcot. Pp. 321. A. Delahaye & Lecrosnier, G. Charpentier & Cie., Éditeurs. Paris: Aux Bureaux du *Progrès Médical*. 1886.

This work consists mainly of the autobiography of a nun who believed herself possessed and described her sensations with graphicness of detail. A study of her story shows now that she was a hystero-epileptic and must have passed through all the phases that have of late been so carefully described by Charcot and his pupils. Her work is, therefore, a contribution to hysteria in history, and also to psychology, for her confessions bear comparison with those of St. Theresa.

OXYGEN IN THERAPEUTICS. A Treatise explaining the Apparatus, the Material, and the Processes used in the Preparation of Oxygen and other Gases with which it may be Combined; also, Its Administration and Effects, Illustrated by Clinical Experience of the Author and Others. By C. E. EHINGER, M.D. 8vo, pp. 157. Chicago: W. A. Chatterton & Co.

By the enterprise of quacks, oxygen and compound oxygen have been long prominently before the public. Considerable scientific work has also been done in testing the therapeutic value of oxygen-gas. Dr. Ehinger has put together many of the facts recorded and added the results of his own experience. His book is really a useful contribution, therefore. We do not rate oxygen very high as a remedial agent, but it certainly has value, and possibly more than it is as yet believed by most physicians to possess.

THE CURABILITY OF INSANITY AND THE INDIVIDUALIZED TREATMENT OF THE INSANE. By JOHN S. BUTLER, M.D. New York and London: G. P. Putnam's Sons. 1887.

THIS is an interesting little brochure advocating the need of individualized treatment for the insane.

ELEMENTARY MICROSCOPICAL TECHNOLOGY. A Manual for Students of Microscopy. In Three Parts. Part I. The Technical History of a Slide, from the Crude Materials to the Finished Mount. By FRANK L. JAMES, Ph.D., M.D. Pp. 107. St. Louis, Mo.: St. Louis Medical and Surgical Journal Co. 1887.

WE should expect a thorough, intelligent, and practical treatise from Dr. James, and that is just what the present work promises to be. The details are carefully given; the illustrations and typographical appearance are superior.

SERIES OF PRACTICAL LESSONS IN NURSING. OUTLINES FOR THE MANAGEMENT OF DIET, OR THE REGULATION OF FOOD TO THE REQUIREMENTS OF HEALTH AND THE TREATMENT OF DISEASE. By EDWARD TUNIS BRUEN. Pp. 138. Philadelphia: J. B. Lippincott Co.

THE present work covers, in a very condensed way, nearly all the subject of diet, from the physiology of digestion to the special dietetics. The principles laid down are correct, and we can find no fault with the author except that he has not had the space to give more details. On the debatable questions of diet in gout and rheumatism the author is both judicious and cautious, and one will correctly infer that there is no specific diet or hard and fast rule for those diseases.

PHYSOSTIGMINE IN CHOREA.—Riess has recently warmly recommended hypodermic injections of physostigmine in chorea, and claims that the duration of the disease is thereby shortened to only fifteen days on an average, reckoning from the beginning of treatment. In a few cases the choreic symptoms ceased in five or six days. One-sixty-fourth of a grain of eserine sulphate was injected twice a day, and a strengthening treatment generally was adopted. The injections were found useless in very severe forms of chorea with a fatal tendency, also in cases of habitual chorea in adults. Among Riess' forty cases four belonged to the very severe forms: the rest were cured by physostigmine. This success induced Riess to try the influence of this drug in other hyperkineses, and partial success was obtained in tetanus, tremors, paralysis agitans, multiple sclerosis of brain and spinal cord, Charcot's post-hemiplegic chorea, and, finally, in one case of hysteria in the male with extreme emotional excitability and remarkable increase of all reflex movements. The preparation used was supplied by Merck, of Darmstadt.

Reports of Societies.

THE MEETING OF THE BRITISH MEDICAL ASSOCIATION IN DUBLIN.

(SPECIAL REPORT FOR THE MEDICAL RECORD.)

ADDRESS IN SURGERY.

ON Thursday Aug. 4th, Professor Edward Hamilton delivered his address in Surgery. A large part of the address was devoted to the discussion on antisepticism and its value. No honest or impartial observer, he said, could fail to recognize the deep debt of gratitude we owed to the Listerian system. It might be wrong in practice, and founded on an erroneous theory, but wonderful results had followed its introduction. Yet, with this triumphant record, we now found some of its most devoted adherents relaxing its stringency, and abandoning parts of the system which were long regarded as essential, and that, too, without any diminution of successful results. It was proved that the atmosphere was infested with myriads of minute organisms possessed of vitality. These organisms were subject to constant changes, and these changes were largely influenced by the surroundings among which the organisms were situated. In their turn, also, the organisms reciprocated and produced disturbance in the material surrounding them. It had also been established beyond controversy that some of these organisms were incapable of development or growth in the tissue or fluids of the living body, and could only undergo their life-changes when surrounded by material which was dead and, therefore, amenable to the physico-chemical laws. Others, again, were capable of maintaining their independent vitality in living tissues, where they increased and multiplied, disarranging the whole organism into which they had found their way. In the first variety the effect produced was in direct proportion to the actual amount of the ferment introduced. In the second, the effect was out of all proportion to the minute quantity of the noxa producing it. These latter bodies were potent causes of suppuration and infective inflammation. Experiments had proved beyond doubt that injury might be inflicted on the deep tissues of the living body, either by mechanical, chemical, or physical noxa, and if due cleanliness of the instruments were observed, and air excluded, no effect whatever was produced beyond the injured spot. These observations proved conclusively that these aerial entities were capable of producing suppuration and infective inflammation, but it had not been established that they were the sole and only origin of such phenomenon. But the facts determined by Ogston, Kocher, and others, that they might enter the interstitial tissues through the respiratory or digestive tract, were gradually narrowing the ground uncovered by their influence, and explained away the apparent spontaneity of such diseases as ulcerative endocarditis and infective periostitis, where these atoms were found crowding the deepest organs without any wound or breach of surface to account for their entrance. It must, therefore, commend itself to the ordinary understanding that it was our duty to destroy and exclude these aerial bodies from the body with all the care we could. The difficulty was to find the most suitable germicide—one which would act efficiently without being poisonous to the tissues or to the system at large; carbolic acid, corrosive sublimate, iodoform, thymol, had each for a time enjoyed the crown for a few months, only in their turn to be deposed. It was even now proposed to attack one set of atoms by an opposing army of a different species of atoms, and thus effect their annihilation—thus reminding us of the couplet:

> Little fleas have other fleas and smaller fleas to bite 'em;
> These lesser fleas have smaller fleas, and so *ad infinitum*.

This warned us that there was another side of antisepticism which had been almost entirely neglected. It

would appear that up to the present the attention had been exclusively fixed on infective germs. Sufficient regard not being had to the important influence of environment, every effort had been strained to discover the most effective and deadly germicide. We knew, however, that these atoms, no matter how virulent they might be, could not undergo their life-changes, could not produce these infective results, unless the environment were capable of developing and sustaining these changes. Deposited on clean metal, glass, or porcelain, they died of inanition; they exercised no influence whatever, and were amenable to none. In contact with dead organic matter, or living matter in certain conditions of altered or reduced vitality, they became a teeming source of infection, decomposition, and decay. If pathological surfaces could be brought into such a condition that they would not afford a suitable cultivation-ground, did we not accomplish almost as much as when we destroyed them? As examples of the influence of environment, Professor Hamilton quoted the protection afforded by vaccination against the germ of small-pox, the protection of the blood by the previous action of exanthemata. The bacilli of splenic fever, so destructive to the herbivora, took little effect on carnivora, and none at all on the pachydermata. The bacilli which would cause septicæmia in the mouse were powerless against the field-mouse. Comparative pathology would enlarge our views of human pathology. The influence of environment on the ripening of fruit was mentioned, it being possible, said Dr. Hamilton, to hasten the ripening of fruit for prize competitions by interposing between the prize specimens fruit of the same species which were already ripe. The treatment of chronic abscess was then dwelt upon at some length. He himself employed a weak solution of chloride of zinc (1 in 200), and employed it as follows: A long curved trocar and cannula was pushed through the abscess and made to transfix it some four or five inches. A piece of rubber tubing (with a single hole in the centre) was then drawn through the opening. Through this tube the antiseptic solution was allowed to flow continuously at a slow rate. The contained fluid and the abscess-wall were thus rendered perfectly aseptic. After about a week the openings enlarged and were no longer water-tight. This had at first caused considerable trouble, but more extended experience proved that, after the first week, continuous irrigation was not necessary, but that an occasional syringing was quite sufficient for the healing of the cavity.

ADDRESS IN PUBLIC MEDICINE.

The address in Public Medicine was delivered by the Rev. Samuel Haughton, M.D., the Senior Fellow of Trinity College, and one of the few men who combine in themselves the functions of a clergyman and a doctor. To some persons this address is often looked upon as rather dull, but Dr. Haughton infused into it so much life, such great interest, and even amusement, that this year it was the most successful of all—the one *pièce de résistance* of the Dublin meeting.

Dr. Haughton is a great personality in Dublin. Those who only know him as the distinguished mathematician, like those who think of him as the representative of Trinity College and, it may be added, of Irish learning, would have been amazed, if they had been present, to hear him extract, from columns of statistics and abstruse calculations, reflections of such moral significance and gems of genuine Irish humor, evoking at one time the most hearty applause, at another the loudest laughter, of his audience. It is impossible to give a summary that will convey to the reader a taste of what was the life in his address, and when published, it will be found to have lost most of its significance in the absence of the author's delivery.

REFLECTIONS ON THE DEATH-RATE.

The title of Dr. Haughton's address was "Reflections on Death-rate, with Special Reference to Dublin and its Suburbs," and he started with the statement that every human being is born with these natural rights—liberty, air, water, food, heat, and light. The three most important are air, water, and food. Without air we can only live about three minutes; without water, about three days; without food, about three weeks. These we seek by instinct stronger than reason and claim by force, if needs be, but how slow has been our progress to recognize that all others have equal claims to them. For eighteen hundred years the Christian world accepted slavery, and even the aged Paul sent back a runaway slave, apparently unconscious of his equal rights to freedom. For one hundred and fifty years, ending 1851, a window-tax deprived millions of their fair share of sunlight and air, a tax as monstrous as that of Vespasian on urine. The supply of water to the poor has also been just as much restricted. In the last fifty years London has increased its supply five-fold, but the inhabitants have in the same period increased four-fold. At present the supply was described by the orator, from the point of view of an Irishman, as "good enough for Londoners," though not equal in quality to that of Dublin or Glasgow. But Ireland is not generally well off, and a water was named as once drunk when it contained as much ammonia as sewage.

The relation of the death-rate to density of population was then lucidly stated, with an apology for the necessary mathematical formulæ, which, though agreeable to the speaker, were, he well knew, hateful to a public assembly. Dr. Haughton explained Farr's formula, pointed out its error, and furnished the necessary correction. He then presented a table which he had prepared, showing the death-rate calculated from the densities, from which it is easy to see at once the proper average death-rate, and how far it deviates from that of health. He found that in certain sparsely populated districts, some million of country people had ten thousand less funerals to attend in a year, and then he described them as a dull race, who did not live but vegetated, ignorant of Greek, Latin, Shakespeare, Newton—and he ought to have added, mathematics. He would prefer, he said, to live among livelier people, and take his chance of a share among the ten thousand extra funeral feasts.

He then showed the effect of sanitary measures in London, Edinburgh, and Dublin, showing that in the two former these effects were four times as powerful as in Dublin, although the last had excellent water. As to Dublin and its suburbs, he summed up another table in the statement that, for every thousand persons living in the overcrowded liberties and slums of Dublin, five more must die each year than in the suburbs; and then solemnly warned the latter, in a quotation they dared not dispute, that "the voice of their brothers' blood cries from the ground." This, he said, is the old story—the saddened lives and early deaths of the poor cry continually from earth to heaven, and at times the silent cry is answered. Then, when pestilence leaves its congenial haunts and carries terror into the homes of the rich, increased offerings come to the hospitals; but they are of no more value than the large sums poured into the temple-treasury of Jerusalem, because they are but sacrificed to the fetich of pestilence, wrung from the rich by terror as abject as their former selfishness was mean.

As to the quarrel between city and suburb, Dr. Haughton ventured on three lines of Horace, and when some of his audience looked bewildered, and others thought it a good time to vent their applause, he interjected a condensed translation—both are in the wrong.

Another interesting table showed the relation of death-rate to absence of heat. From this it appeared that a fall of temperature from 40° to 32° F. means an increase in the death-rate of 5.6 for London, but of 8.9 for Dublin. The real cause of the high Dublin rate was attributed to the poverty of a large proportion of the inhabitants. It is, therefore, beyond the control of sanitary authorities.

It is always there, whatever the cause, and it calls for continual alms to relieve the suffering. The orator, who had enchained his audience throughout, closed with an effective appeal not to despair, but to bear in mind Peter's answer to the divine Lord, "Master, we have toiled all night and taken nothing; nevertheless, at thy word, I will let down the net."

SECTION OF SURGERY.

Wednesday, August 3d.

The President of the Section, Sir George Porter, delivered a few introductory remarks but said he would not give any formal address, as it would only take up the time and prevent papers from being read.

Mr. Mitchell Banks, of Liverpool, then opened a discussion

ON THE RADICAL CURE OF HERNIA.

He described his own method of operating and presented a table containing particulars of 106 cases, 68 of which were cases of non-strangulated hernia, 52 being moderate in size, and the remaining 16 very large and incapable of support by trusses; 38 were cases of strangulated hernia. Of the 52 herniæ of moderate size, 1 death was distinctly due to the operation. Of the 16 herniæ of very large size, 4 cases proved fatal—2 of these deaths being from septicæmia. Of the 38 cases of strangulated hernia, 3 proved fatal. Of the 90 cases of moderate-sized unstrangulated hernia and strangulated hernia combined, 24 died, or could not be traced, leaving 60 whose cases had been followed up; 44 of these were "quite sound." The rupture had not come down since the operation, there was nothing in the way of a lump to be felt or seen, and no impulse on coughing. Some patients wore trusses for the sake of protection, and some did not, but all were encouraged to do so. Seven cases were partially successful, in so far that, although there was distinct evidence of a hernia after the operation, a truss could be comfortably worn. He had operated on children in very few cases. He believed that there were very few cases in children that were not curable by a truss worn for a sufficiently long time. Mr. Mitchell Banks said there was a danger in a patient leaving off his truss after operation, as such a patient had a weak place in his inguinal canal.

Dr. Macewen (Glasgow) then spoke, and explained on a model the various steps of the operation he himself performed.

Dr. Keetley (London) then spoke of the treatment of hernia for radical cure by injection, and gave the subsequent history of a case he had detailed at the Cardiff meeting in 1885. Of his own cases, four patients (representing five herniæ) were cured. Three patients (representing four herniæ) derived no benefit so far as he could make out, but described themselves as better. He had only operated on one patient by subcutaneous injection, and failed. He had used for the injecting fluid first absolute alcohol and then glycerine of tannic acid. He believed failures were due (1) to not using enough fluid; (2) to the fluid not getting into the canal; and (3) to the fluid gravitating. The treatment by injection was somewhat uncertain in results, but it was eminently safe. But some cases of congenital hernia were unfit for any form of radical cure whatever. Referring to large umbilical herniæ, Mr. Keetley advised the wearing of a bandage for such cases. He pointed out that the fact of Mr. Banks having only operated on one case of umbilical hernia showed, either that surgeons must be very unwilling to operate on these cases, or else that the patients were very unwilling to be operated on, as such cases were to be met with by the dozen.

Dr. Ball (Dublin) spoke of the method of operating by performing torsion of the sac. The sac was first isolated as far as possible from the surrounding tissues—and this was often difficult, but it must be done thoroughly. A short pair of blunt-pointed scissors was very useful to separate it from the surrounding tissues. Having ascertained the sac to be empty (and if necessary opening it for the purpose), it was first twisted and then ligatured as high as possible. Two aseptic silk sutures were passed through the skin in front of the sutures, and then passed through the sutured sac. The deep sutures were passed out at the back of the scrotum over lead plates. Dry dressings were applied and silicated potash over all. The immediate effects of this operation were best studied on the dead subject. He had been able to do this in four cases. The peritoneum was found to be thrown into spiral folds radiating for several inches, and in one case extending over to the opposite side. The canal was filled by the sac. He had had personal experience of twenty-two cases, all of which had recovered, though in four cases scrotal abscesses had occurred. He had seen many cases, also, in the hands of others, but had never seen a death. In only three of his cases was it needful for the patient to wear a truss afterward, on account of slight bulging. One patient on whom he had operated had been the captain of his football team during the past winter, and wore no truss. Dr. Ball deprecated the wearing of a truss unless there was distinct bulging, as its pressure tended to produce absorption of the tissues. He believed that the only case in which operation for umbilical hernia was contra-indicated was where the abdomen was so contracted that the hernia could not be replaced within it.

Mr. Barker (London) said he had used silk in all but two cases to close the opening. Catgut was absorbable.

Dr. Kendal Franks (Dublin) said the two questions were, "Was the operation safe?" and "Was it followed by radical cure?" In his opinion it was safe when reasonable precautions were taken. A patient was not cured, though, if he had to wear a truss when making exertion. What we should aim at was to dispense with the wearing of a truss altogether. Of his own cases he had only been able to trace four in which a return of the hernia took place. He had in one case repeated the operation twelve months later. He found the inguinal canal obliterated, but a small hernia had forced itself through the abdominal wall at a higher level. It had been said that the operation should be done where the hernia could not be controlled by a truss, but he could not limit it to these, but used it in cases of small hernia. A patient who wore a truss was at the mercy of it. If such a patient were young, with the greater part of life before him, he would operate. But in an elderly man, who had worn a truss for years and been able to control his hernia with it, he would not. It was not always wise to dissect the sac off. The most important part of the operation was the way of closing the canal and rings. He had early used Wood's method, but disapproved of it.

Dr. Murphy (Sunderland) described a case in which a patient, aged fifty-six, who had suffered from hernia for sixteen years, cut it across with a razor and removed omentum, etc. The gut escaped. He was called in and completed the operation according to approved surgical methods. The patient did well.

Mr. Mayo Robson (Leeds) said he had operated in twenty-six cases. In half of these he had operated for strangulation, and in the other thirteen because the hernia could not be kept reduced by trusses. In all but two cases the sac was ligatured at its neck. Most of the patients were permanently cured, and it seemed quite unnecessary to recommend a truss. He thought the only satisfactory operation was excision of the sac after ligaturing it at the highest possible point, and if the sac were previously separated as high as possible from surrounding parts the operation was easy. He thought Macewen's plan of preserving the sac and making it act as a pad offered distinct advantages.

Professor Thornley Stoker (Dublin) remarked how practically safe the operation for radical cure of

hernia had now become. He objected to the passing of silver sutures and leaving them there as permanent sources of irritation. The plan of twisting the sac was first introduced by Dr. C. B. Ball. Two sutures—of silk or catgut—were passed between the walls of the canal and transfixed the twisted sac and maintained its twist. He preferred not to separate the sac from the deep parts of the canal. In the greater number of cases the peritoneum was not opened. He remarked that sutures were chiefly useful to provoke a certain amount of exudation. Too great an amount of tension was to be avoided.

Mr. Walsham (London) had had experience of twenty cases. Three of these were umbilical, eight femoral, and the rest inguinal hernia. In all cases he had dissected out the sac. He had only performed the operation once where the hernia was of very large size. In every case he had used catgut sutures. In early cases he had afterward used a truss, but in later cases he had not done so, and he had seen no occasion to regret not having done so.

Dr. Ward Cousins (Southsea) said the progress which had been made was largely due to antiseptics. He would operate on patients early in life. Young children bore operation wonderfully well. His plan was to expose and separate the sac and pass two sutures—one close to the external ring and the other half an inch below it. As regards trusses, he believed that a great future lay before us in seeing that they were properly applied.

Dr. Heuston (Dublin) remarked on the additional security derived from attaching the twisted neck of the sac to Poupart's ligament.

Mr. Thomson (Dublin) said that while extremely good results were got in some cases, in others the results were disappointing. In one case the hernia returned after two operations. A lax condition of peritoneum was an initial trouble.

Professor Kocher (Berne) had operated on seventy cases. He ligatured the sac, having drawn it down and cut it away.

Mr. Wheeler (Dublin) said he never used silver wire. He preferred silk, or, in children, catgut, because there was less strain on it and it was sufficient. With children antisepsis was difficult.

Sir George Porter remarked that it was an interesting fact that there were so few deaths.

Mr. Mitchell Banks replied that minor details were not of much importance. Probably the simplest operation would be the most extensively adopted.

Congenital Displacement of the Bowel.—Dr. Eustace Smith reports in the *Archives of Pediatrics* for July, 1887, the case of an infant two months old who suffered from very frequent attacks of abdominal pain followed by great prostration and dyspnœa. The bowels were relieved regularly. The pains returned with increasing frequency and violence, and the child finally died exhausted. An examination of the body after death showed all the organs to be healthy, but there was a congenital deficiency in the ligamentum arcuatum externum on the left side of the diaphragm. In consequence of this there was left a rounded opening, about one inch in diameter, through which the whole of the large bowel had passed into the left side of the thorax. The displaced portion of intestine was of perfectly normal color and appearance. The left pleura also was quite smooth, and showed no trace of inflammation. The left lung had evidently never been expanded from birth, for it lay flattened against the spine. The heart lay underneath the anterior border of the right lung, considerably to the right of its normal position. On the left side the diaphragm was quite flat, so that the spleen was pressed downward from under cover of the ribs.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from August 14 to August 20, 1887.

Baily, Joseph C., Lieutenant-Colonel and Assistant Medical Purveyor. Granted leave of absence for one month. Par. 10, S. O. 191, A. G. O., August 18, 1887.

Baxter, J. H., Colonel and Chief Medical Purveyor. Ordered to proceed from Washington, D. C., to New York City on public business, and on completion thereof to return to Washington. Par. 5, S. O. 187, A. G. O., August 13, 1887.

Byrne, Charles B., Captain and Assistant Surgeon, Washington Barracks, D. C. Granted leave of absence for one month, with permission to apply for an extension of one month. Par. 4, S. O. 171, Division of the Atlantic, August 16, 1887.

Dietz, William D., First Lieutenant and Assistant Surgeon. Granted leave of absence for two months, with permission to apply for an extension of one month. Par. 7, S. O. 189, Headquarters of the Army, A. G. O., August 16, 1887.

Johnson, Henry, Captain and Medical Storekeeper. Ordered, in addition to his present duties, to take charge of the office and perform the duties of acting assistant medical purveyor in New York City during the temporary absence on leave of Lieutenant-Colonel Joseph C. Baily, Assistant Medical Purveyor. Par. 11, S. O. 191, A. G. O., August 18, 1887.

McCaw, W. D., First Lieutenant and Assistant Surgeon. Relieved from temporary duty at Fort Riley, Kan., and ordered to his proper station, Fort Leavenworth, Kan. Par. 3, S. O. 84, Department of the Missouri, August 15, 1887.

Wilson, George F., Captain and Assistant Surgeon. Granted leave of absence for fifteen days. S. O. 78, Department of Dakota, August 8, 1887.

Wolverton, W. D., Major and Surgeon, Washington Barracks, D. C. Granted leave of absence for twenty days. Par. 3, S. O. 171, Division of the Atlantic, August 16, 1887.

Official List of Changes in the Medical Corps of the United States Navy for the week ending August 20, 1887.

Gardner, J. E., Passed Assistant Surgeon. Detached from Naval Hospital, Norfolk, Va., and ordered to the Fish Commission steamer Albatross.

Martin, William, Assistant Surgeon. Ordered to Naval Hospital, Norfolk, Va.

Robinson, S., Medical Inspector. Placed on retired list.

Simons, M. H., Passed Assistant Surgeon. Appointed Surgeon from August 16, 1887.

Van Reypen, W. K., Surgeon Appointed Medical Inspector from August 16, 1887.

Acetonuria in Children.—Dr. Baginsky has published a communication on acetonuria in children. Acetone is found in the urine of some children in health, but in infinitesimal quantities. It appears in greater amount when the temperature rises in the course of febrile disease. It originates in albumen in process of decomposition. Some have affirmed that acetone causes paroxysms of eclampsia in children. It is true that an enormous quantity of acetone is found in the urine of children suffering from convulsions. It is doubtful, however, whether acetone is the cause or the effect of the eclampsia. Dr. Baginsky believes that it is the effect, for he has proved that acetone is quite harmless, if introduced into the system of a dog, either by the mouth or subcutaneously.

The Medical Record

A Weekly Journal of Medicine and Surgery

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Original Articles.

SUCCESSFUL REMOVAL OF TWO OSTEOMATA OF THE ORBIT: ONE ORIGINATING IN THE FRONTAL, THE OTHER IN THE ETHMOIDAL CELLS.

WITH A HISTORY OF OSTEOMATA OF THE NEIGHBORING PNEUMATIC CAVITIES OF THE ORBIT.[1]

BY JOSEPH A. ANDREWS, M.D.,

OPHTHALMIC SURGEON TO CHARITY HOSPITAL, NEW YORK.

THE exostoses which intrude into the orbit from the neighboring cavities are very rare. In 290,579 cases of eye-disease observed at the New York Eye and Ear Infirmary since 1821, orbital exostosis occurred three times; at the Manhattan Eye and Ear Hospital, New York, two cases were observed in 73,804 cases of eye-disease; at the New York Ophthalmic and Aural Institute, it was observed three times in 65,608 cases of eye-disease; therefore, eight cases of orbital exostosis were observed in 429,989 cases of eye-disease. Many surgeons in large ophthalmic practice have never met with this disease. The number of cases of orbital exostosis recorded by foreign surgeons is small, and the results of operative treatment have been most discouraging.

I have collected all the cases of osteoma of the frontal, ethmoidal, and sphenoidal sinuses which have been recorded; and I have cited briefly those cases which have been carefully observed, because some of them furnish valuable information from a practical stand-point. They show us what we are to expect after the removal of the growths in question by a surgical operation, and some of the fatal cases suggest to us a way by which we may possibly avert the disastrous issue. The records of these cases may be tiresome reading, yet they are the only thorough basis for arguments and rules.

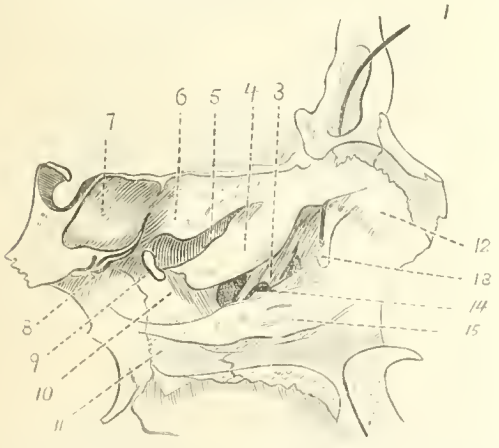

FIG. 1.—View of the Three "Meatus" of the Nose. (Holden.) 1, Probe passed through frontal sinus into middle meatus; 2, nasal bone; 3, unciform process of ethmoid bone; 4, middle spongy bone; 5, superior meatus; 6, superior spongy bone; 7, sphenoidal sinus; 8, pterygo-palatine canal; 9, spheno-palatine foramen; 10, middle meatus; 11, inferior meatus; 12, nasal process of superior maxillary bone; 13, lachrymal bone; 14, orifice of antrum; 15, inferior spongy bone.

Anatomy.—The *ethmoidal cells* contained in the "lateral masses" of the ethmoid bone consist of pneumatic spaces of variable size and number. They are divided into three sets—anterior, middle, and posterior cells—which intercommunicate. The cells on the upper surface of either "lateral mass" are roofed in by corresponding cells in the orbital plate of the frontal bone; those behind are closed by the body of the sphenoid and the orbital process of the palate-bone; those in front are walled in by the lachrymal bone; those below, by the superior maxillary bone. On the outer side of each "lateral mass" the cells are closed by a smooth, thin, square plate of bone, called the "os planum" or lamina papyracea, which belongs entirely to the ethmoid, and forms a large share of the inner wall of the orbit. The ethmoidal labyrinth (or cells) sends a pneumatic process (called, by Zuckerkandl, bulla ethmoidalis) into the middle turbinated bone, which may attain the length of twenty-six millimetres, and is capable of displacing the septum of the nose laterally.

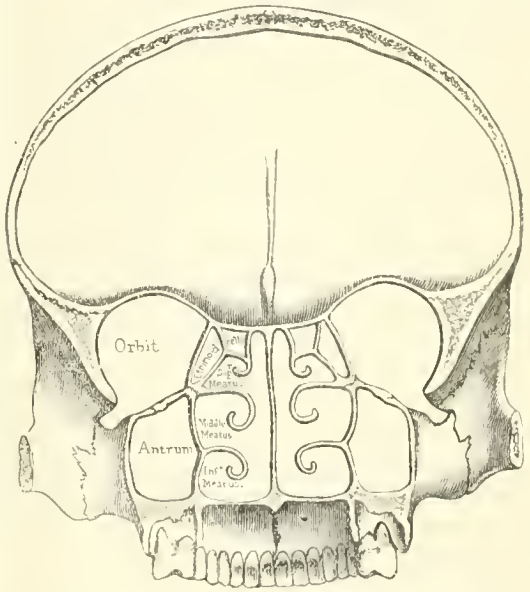

FIG. 2.—Section showing the Meatus of the Nose. (Holden.)

Two thin plates of bone stand out from the surface of the "lateral mass" which looks toward the septum of the nose, known as the "turbinated" or "spongy" bones of the ethmoid—*i.e.*, the "superior," "middle," and the "inferior" spongy bone—not belonging to the ethmoid. The spaces left between these spongy bones and the "lateral masses" are called the superior and middle "meatus" of the nose. The superior meatus, being farther back than the middle one, leads into the "sphenoidal sinus," and also into the "posterior ethmoidal cells;" the middle meatus leading into the "anterior ethmoidal cells" (distinct from the posterior) and also to the frontal sinus, along a funnel-shaped canal (the "infundibulum") which passes through the foremost of the ethmoidal cells. The ethmoid has, therefore, an important relation to the nasal fossæ. It is likewise in intimate relation to the cranial cavity, as its "horizontal plate" forms a part of the bone of the skull. The ethmoidal cells sometimes send large prolongations into the frontal bone. One of the maxillary cells of Haller, which lie in the frontal process of the superior maxilla and communicate with the ethmoidal cells, may have a very pro-

[1] Read before the Section in Surgery, New York Academy of Medicine, May 9, 1887.

nounced development, in which case the antrum of Highmore has been found to be divided into two *étages*, the upper one communicating with the ethmoidal cells (Zuckerkandl). The lateral ethmoidal cells are not infrequently so greatly developed that they appear as prominences at the inner wall of the orbit. Dehiscences occur in the os planum, orbital wall of the frontal sinus, and the antrum of Highmore. In brachycephalæ the ethmoidal cells are likely to be greatly developed (Berger and Tyrmann).

As the greater number of the orbital osteomata are found in young people, and may have developed in the first year of life, it has been assumed that they had some relation to the development of the bones.

FIG. 3.—Side View of Fig. 4. *a*, Portion in nasal fossa; *b*, orbital portion; *c*, anterior portion; *d*, posterior portion.

Development of the frontal and ethmoidal sinuses.—At birth there are no traces of the frontal sinuses. The foundation of the frontal sinuses is furnished by the cartilaginous ethmoidal cells. Dursy (*Entwickelungs Geschichte d. Kopfes*) states that the frontal sinuses develop from independent cartilaginous layers by liquefaction of the cartilage; while Steiner's (*Archiv f. klin. Chirurgie*, vol. xiii.) view is that their development is intimately connected with the cellular spaces of the anterior ethmoidal cells.

The foundation of the nose is derived from the medial, soft, later on, cartilaginous frontal process, and the two lateral processes of the superior maxilla. Two lateral curved processes start from the frontal process, from which, in turn, crooked protuberances (the future "turbinated bones" of the nose) branch off; from this frontal process also start outward and upward processes, which are the foundation of the ethmoid cells and the ethmoidal plate, and finally form the rudiments of the antrum of Highmore below. The pneumatic spaces result from the liquefaction of the cartilage, into which the mucous membrane of the nasal cavity is invaginated. The liquefaction of the cartilage begins in the posterior ethmoidal cells and in the sphenoid, already, in the fifth month of fœtal life. In the fœtus of six months, small cartilaginous processes pass from the rudiment of the ethmoidal cells into the pars nasalis of the frontal bone, which later form the frontal sinuses. Ossification begins in the ethmoid bone in the fourth month after birth. The frontal sinuses are developed in the eleventh to thirteenth year. The development of the frontal sinuses begins with development of the pneumatic spaces of the anterior ethmoidal cells; for the frontal sinuses represent only the expansion of the anterior ethmoidal cells from above (Steiner).

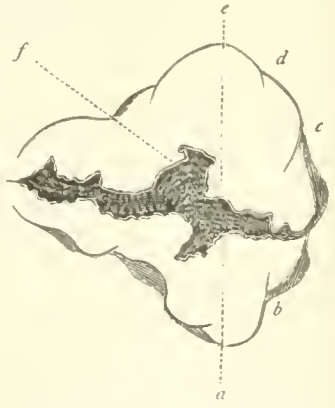

FIG. 4. — Section of Osteoma of the Ethmoid. Actual size. *a*, Sixteen mm.; *b*, portion which intruded into nasal fossa; *c*, orbital portion; *d*, compact bone; *e*, thirty-four mm.; *f*, cancellous bone.

The sphenoidal sinuses are developed before the frontal sinuses, *i.e.*, second to third year of life (Steiner). In the adult they gradually become large enough to excavate the whole body of the bone, and in old skulls the sinus often extends into part of the basilar process of the occipital bone (Holden). The anterior wall of the sphenoidal body may be entirely wanting, in which case the sphenoidal sinus would open into the ethmoidal cells. Small dehiscences have been found in the lateral wall of the sphenoid, which lead into the middle cranial fossa (Zuckerkandl). When this latter condition obtains, an inflammation in the sphenoidal sinus may readily be propagated to the dura mater.

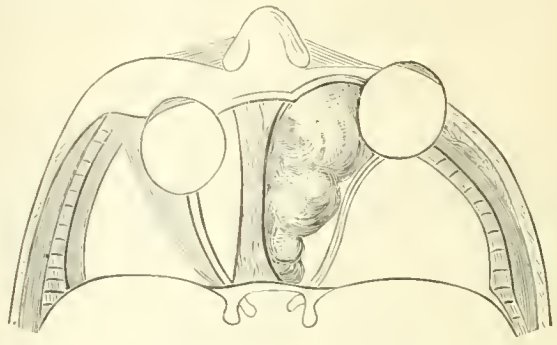

FIG. 5.—Showing Tumor in Orbit.

Bornhaupt found the anterior portion of the frontal bone solid in the third year, without the slightest trace of frontal sinuses. The adult skull which I show you is otherwise well developed, but it has no frontal sinuses; there is nothing but the diploë where the sinuses should be. In the other adult skull which I hold in my hand the frontal sinuses are enormous, but not from disease. There is a very considerable space between the two plates of bone which form the roof of the orbit, and this condition extends over the entire roof of the orbit from angle to angle.

The sphenoidal sinuses are also sometimes completely absent. In cases of extreme development of the sphenoidal sinuses, the latter may send processes into the great and small wing, the pterygoid process, the anterior and posterior, and the pars basilaris of the occipital bone (Zuckerkandl).

Then the sphenoidal sinuses may communicate with a cavity abnormally developed in the vomer (P. Langer).

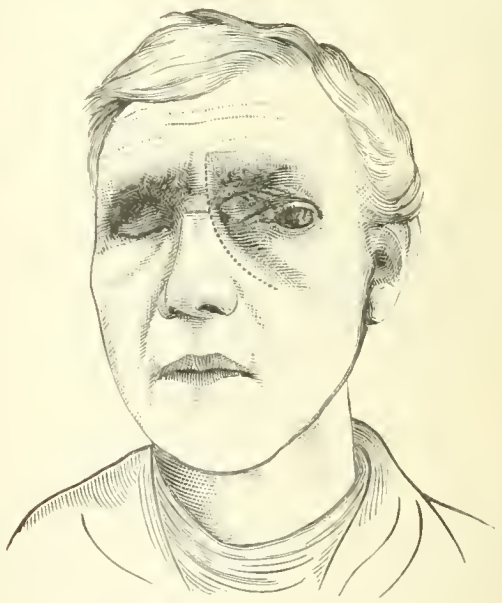

FIG. 6.—Showing Displacement of Eyeball and Line of Incision.

Virchow has directed attention to the bearing of premature synostosis of the bones of the base of the skull, especially the basal portion of the sphenoid and occipital bones, on the further development of the skull; showing that the bones of the base of the skull are thereby restricted in their development, the sella turcica being nar-

row and short, the ethmoid flat, and the pneumatic cavities narrow.

The ethmoidal cells may also be absent.[1]

Case I.—*Osteomata of ethmoidal cells.*—J. A. Andrews. L C——, aged forty-eight, mason. In September, 1886, patient was struck on his right eye with a chip of stone. Cornea sloughed. Eye became staphylomatous, and was enucleated at the New York Eye and Ear Infirmary. Left eye was injured with a chip of stone in 1883, the result being a dense leucoma of cornea. An iridectomy was performed on this eye at the New York Eye and Ear Infirmary in August, 1886, with the hope of improving the vision.[2] On examination a hard, unyielding, crescentic-shaped growth, irregular in outline, was found at the inner lower angle of the left orbit (see Figs. 6 and 7). Eyeball was displaced outward and forward and

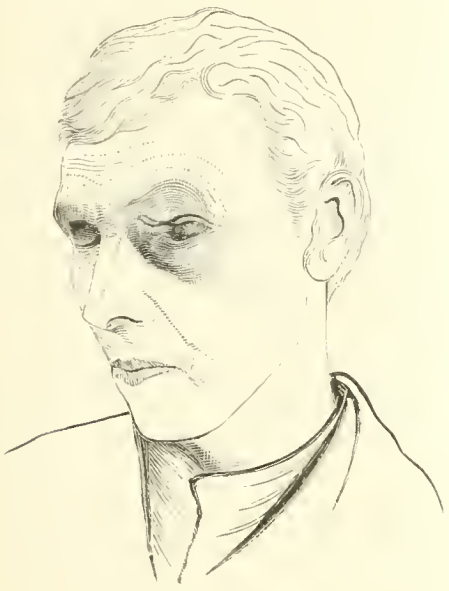

Fig. 7.

was restricted in all its movements. There was no pain in or about the growth. Patient counted fingers at two feet. Voice nasal. Was very deaf (both ears) from chronic adhesive catarrh of middle ear. There was no history or evidence of syphilis. So far as could be ascertained, the growth had existed for five or six years. Diagnosis: Osteoma of orbit; probably of ethmoid.

February 28, 1887.—Under strict antiseptic precautions the operation for the removal of the growth was performed as follows: A crescentic incision was made, from the middle of root of nose to a point just below the tumor, terminating at middle of lower border of orbit (see Fig. 6). The tumor was covered with a thin, slightly vascular membrane, which was so tense that on being incised over whole extent of growth it at once parted from the latter and exposed a nodular bony growth, which overhung the inner lower margin of orbit and passed inward to the bottom of the orbit. Having made out that the base of the tumor was composed of cancellous bone, and extended downward into the nasal fossa, the bones of the orbit, in which it was locked, were cautiously chiselled away sufficiently to loosen the growth, with the hope of then shelling it out; but the tumor extended so far into the orbit that the orbital portion was first chiselled away at its base and the remaining portions, which intruded into the nasal fossa, were removed in pieces with bone-forceps. There was considerable bleeding during the operation, but this was stopped before closing the wound. The periosteum was united with catgut sutures over the gap left in the orbit after the removal of the tumor, and the external wound with silk sutures; a small opening being allowed at the lower extremity of the wound for drainage, a piece of catgut being inserted there. The whole was covered with bichloride dressing and compression made with a bandage.

Dressing removed on March 4th, for first time. Wound had healed by first intention. Vision = $\frac{20}{200}$. Patient could now move the eye in all directions, there being no displacement of the ball. Complained of slight feeling of numbness of forehead, otherwise he feels "unusually well." In a few days patient was up and about the ward.

July 6, 1887.—Patient continues to do well.

The tumor was composed (see Figs. 3, 4, 5) of a thick shell of dense, ivory-like bone; its base being broad and made up of cancellous bone. The apex of the tumor passed back into the orbit to the sphenoidal fissure. Measurements: Antero-posterior, 50 mm.; and 50 mm. through the thickest portion.

Case II.—Bowman ("Pathological Transactions," 1859, vol. xi., p. 265) removed an ivory exostosis springing from the lamina papyracea, in a man thirty years of age. The tumor had developed during eight years, and displaced the eyeball outward and slightly forward. Ophthalmoscopic examination showed the optic disk to be as red as the rest of the fundus, and could only be recognized by the passage over it of the retinal vessels. The tumor (shown in drawing) was a nodulated, tuberous growth of solid bone. On section it was found slightly porous near pedicle, but not cancellated, and generally exceedingly dense. There was a deep groove in the tumor above, made by the superior oblique muscle. On the supposition that the tumor might possibly be an abscess or a cyst, an attempt was made to puncture it, but without success, as the tumor was evidently of a bony nature. The tumor was broken away from the inner wall of orbit by an elevator, the pedicle (by which it was afterward proved to be attached) being snapped off short. The lids became greatly swollen after the operation, but this soon subsided. In fourteen days the wound was closed and sight perfect. Two months after the operation the optic nerve was normal in appearance and eyeball natural in position and function. (See, also, specimens, "Philosophical Transactions," 1799, vol. lxxxix., p. 239.)

Case III.—Brassant (spontaneous exfoliation). The patient was a woman, sixty-five years of age. Fifteen years before, a lachrymal fistula had been unsuccessfully operated on. A bony growth, the size of a hen's egg, developed at *inner angle* of orbit, which displaced the globe entirely forward. Caustics were applied, which, in course of three to four months, gave rise to spontaneous exfoliation.

Spöring ("Abhandlungen der Königlich-Schwedischen Akademie der Wissenchaften," 1778, iv., 206; translated by Kästner). The bony tumor developed at *inner angle of orbit* in a patient twenty-one years of age, forcing the globe out of the socket. A surgeon had made an unsuccessful attempt at extraction. A peasant applied a caustic, which gave rise to intolerable pain and fainting during twelve days. The caustic was again applied, and in the following spring the tumor, the size of a hen's egg, and present for fourteen years, fell off spontaneously.

Case IV.—Lucas (*Edinburgh Medical and Surgical Journal*, 1805, vol. i., p. 405). A girl, twenty-eight years of age, received a blow from a cow's horn on the upper and inner angle of the orbit of left eye (only a contusion). At this spot a bony tumor developed, displacing the globe outward. Lucas made an incision, but no attempt to remove the growth. Nine months subsequently the tumor had become so loose that it was readily extracted. It weighed 24 Gm. The tumor was noticed a few days after the injury, and had been present for some time previous to the accident, but the connection between the traumatism and the development of the tumor was undoubtedly a coincidence.

[1] A recent publication by Berger and Tyrmann, Die Krankheiten der Keil-Höhle u. des Siebein-Labyrinthes und ihre Beziehungen zu Erkrankungen des Sehorganes, contains a very instructive chapter on the anomalies of the ethmoidal and sphenoidal sinuses.

[2] Patient was admitted to Charity Hospital, January 28, 1887.

Case V.—Maisonneuve (*Gazette des Hôpitaux*, 1863, p. 458, three illustrations). The subject of this famous case was a male, seventeen years of age. An ivory exostosis grew from the inner medial wall of the orbit; in the course of one year it filled the whole orbit, pushing the eyeball completely out of its socket. An incision was made along the inner margin of the orbit, and the growth was detached from its periosteal covering with the fingers and blunt instruments. With the same instruments the tumor was lifted from its base and removed. The eye was replaced, and gained perfect mobility and sight. Wound healed by first intention, and without fever. The tumor weighed 90 Gm.; its antero-posterior dimension was 60 mm.; its transverse diameter, 40 mm.; its vertical diameter, 70 mm.; its greatest circumference was 170 mm.; its smallest, 140 mm.

Case VI.—Maisonneuve (*Gazette des Hôpitaux*, 1853, p. 383). The growth appeared without assignable cause, at inner angle of orbit, in a man twenty-two years of age, in four months filling the medial two-thirds of the orbit and forcing the eyeball out of its socket. Maisonneuve removed the growth with hammer and chisel. Tumor weighed 28 Gm. Measurements: Sagittal diameter, 5 ctm.; transverse and vertical diameter, 4 ctm. Healing per *primam*. Function of eye completely restored (see Fig. 8, *a*, *b*).

a *b*

Fig. 8.—Maisonneuve's Case of Osteoma of Ethmoid Cells.

Case VII.—Letenneur (*Gazette des Hôpitaux*, 1871, p. 462). Woman, aged forty-nine. Tumor appeared at *inne rangle* of left orbit; filled left medial half of orbit in eighteen months. Tumor was the size of a walnut. Greatest diameter, 5.4 ctm.; consisted externally of a thin layer of compact substance; internally, of a somewhat spongy substance. Recovery, with good sight, after removal of the tumor with drills and chisel.

Case VIII.—Burow (cited by Bornhaupt, *loc. cit.*, p. 619). A bony nob, size of a pea, appeared at *inner angle of right orbit*, in a woman at the age of twenty-eight, and forced the eyeball completely out of its socket. Patient carried this growth for twenty-six years, the increase in size of which was very gradual. Four years before the operation for the removal of the growth, patient was gored in right eye by a cow; panophthalmitis and a chronic suppuration followed, gradually loosening the growth, which was readily removed. Tumor weighed 55 Gm.; was throughout ivory-like. The bony substance was rich in bone-corpuscles and Haversian canals. Measurements: Vertical, 5 ctm.; from right to left, 5 ctm.; 3 ctm. thick.

Case IX.—Tweedy ("Ophthalmic Hosp. Reports," 1882, vol. x., p. 303). The patient was a man twenty-five years of age. Left eyeball had been prominent for two years before patient consulted Tweedy. No pain in eyeball itself or in the parts around it; the globe was pushed downward and outward. The tumor was of bony hardness, occupying the *inner* part of the orbit from mid-orbital ridge to the situation of the lachrymal sac. Movements of the globe not much restricted. Vision of left eye = $\frac{20}{20}$, notwithstanding the presence in this eye of a well-marked optic neuritis, characterized by great œdema of the disk and enlargement of the veins. Vision of right eye, normal. An incision, one and a half inch long, was made through the skin and orbicular muscle, along the superciliary ridge and opposite the base of the tumor. The tumor was semiglobular in shape, and filled the upper and inner part of the orbit in front, and extended backward as far as the finger could reach. The periosteum was incised close to the orbital margin, and stripped off the tumor from before backward by means of a raspatory. Several ineffectual attempts were made to penetrate the base of the growth, but the bone was so hard that no impression could be made on it; the edges of the chisels were soon spoiled; Tweedy then used drills. Thus the orbital portion was removed; the remaining portion of the tumor was not removed because of the length of time the operation had lasted (two hours). Patient did well, and, a week after the operation, got out of bed and seemed to be in perfect health. Three weeks after the operation there was scarcely any discharge from the wound, and no pain or discomfort. Exophthalmos remained unaltered. Patient continued to do well until the morning of September 2d, just four weeks after the operation, when he complained of pain on the top of the head. Temperature suddenly rose to 102° F., and pulse went up to 80°. These symptoms increased rapidly, unconsciousness set in, and the patient died on the following day, September 3d.

The necropsy showed general basilar meningitis, with lymph in the fissure of Sylvius and at anterior part of pons Varolii. The brain in immediate contact with the tumor was in a state of red softening, being semifluid, with some puro lymph on its surface at the summit of the bony mass. Left optic nerve was stretched across a groove in the tumor at the posterior part. The greater part of the tumor was in the left anterior cranial fossa. It originally sprang from the frontal sinus and had grown chiefly upward. The roof of the sinus in part extended over the tumor, and had been in part absorbed by it. There were a few semitransparent polypoid growths in the frontal sinus. The tumor reached one inch above the orbital plate of the frontal bone, and extended for that distance into the left anterior lobe of the brain. The tumor measured, from before backward, two inches; it also sent processes, half an inch long, downward into the left nasal cavity; backward it had forced its way into the inner end of the great sphenoidal fissure.

Case X.—Busch ("Chirurgisch Beobachtungen," 1854, s. 22). Woman, thirty years of age; at age of eleven a hard growth had appeared at inner angle of right orbit. In nineteen years the growth had increased so much that it filled the entire orbit, displacing the eyeball *upward* and *forward*. Busch sawed a groove around the base of the tumor, into which he passed a chisel, and easily detached the growth. *Upward* and inward a portion of the tumor remained, which Busch treated with the actual cautery. Tumor was externally ivory-like; internally, spongy. Healing by granulation.

Case XI.—Knapp (*Archives of Otology*, 1884, vol. xiii., p. 51). A woman, forty-seven years of age, consulted Knapp for nasal polypi and orbital tumor (on nasal side of orbit), as large as a cherry, of bony hardness, and immovably connected with the os planum. Eyeball was slightly displaced, but otherwise not affected. The amount of polypi removed by snare was sufficient to fill a three-ounce bottle. A curved incision was made from the junction of the middle and inner thirds of the brow along the orbital margin, toward the nose, down to the inner lower corner of orbit, which exposed an ivory tumor piercing the os planum. The tumor was removed with chisel and mallet. Frontal sinus was very considerably enlarged, and contained a mucous polypus. Death occurred on the fourth day after operation from acute purulent septo-meningitis. *Ethmoid cells*, on both sides, were filled with polypi in all their numerous recesses. Tumor measured 15 mm. at its base, 27 mm. vertically at its orbital end, and from 12 to 15 mm. antero-posteriorly.

Case I.—*Osteomata of the frontal sinus.*—Andrews, J. A. Mary L. H——, aged nineteen, consulted me in the spring of 1883. She had felt a small hard swelling, about the size of a pea, at the inner angle of her left orbit about one year before. There never had been any pain in this region; she had simply felt the slight swelling in the region indicated, and as there was nothing like it on the other side, she "thought she would consult a doctor about it." The movements of the left eyeball were normal. Vision was likewise normal. At the inner upper angle of the orbit could be felt a small hard prominence, about half the size of a Lima-bean. It occasioned no deformity and was painless. The diagnosis of orbital exostosis was made, and, from the situation of the growth, it was suspected to spring from the frontal sinus. Based on the knowledge that exostosis of the frontal sinus may be of large size, even where the orbital portion is still quite small, the patient was advised to undergo an operation for the removal of the growth at once. Six weeks subsequently the operation was performed in the following manner:

Fig. 9.—Author's Case of Osteoma of Frontal Sinus. Actual size.

The parts about the eye were washed with plain water. A curved incision was made from the inner third of the superciliary arch, along the margin of the orbit below the eyebrow, to a point just opposite the insertion of the internal canthal ligament. On reaching the tumor it was seen to be covered with a thin, slightly vascular membrane, which parted from the bone immediately upon being incised over the full length of the growth. The tumor was very hard, the size of half a Lima-bean, and seemed to spring directly from the wall of the orbit; but on stripping the periosteum from the base of the tumor, a flat probe could be inserted between the tumor and the wall of the orbit, giving the impression of a constriction at this point. I drilled (Archimedean drill) into the neck of the growth, and determined that this portion was not made up of cancellous bone-tissue, but was compact bone. I next made out that this orbital growth was only a portion of a growth which seemed to occupy the frontal sinus, this being determined by means of a fine probe passed between the neck of the growth and the wall of the orbit, through a small hole which I made in the latter for this purpose. I next proceeded to expose the tumor by cautiously chiselling away the bone surrounding the anterior superior portion of the tumor, just below the pulley of the superior oblique muscle, carefully avoiding that important part, and made sure that I was entering the frontal sinus. This having been done, a probe showed that the tumor extended upward and backward. I freed the growth from the lachrymal bone and os planum by attacking those bones with the chisel and mallet. I next raised the tumor from its bed with bone-forceps, and carefully detached it from the soft parts with blunt-pointed scissors.

The whole mass was then removed without any further difficulty. In rotating the tumor in the frontal sinus, I must have severed its connection with the frontal bone, for there was a fresh rough spot on the tumor, and also on the septum of the sinus, evidently the seat of attachment of the growth.

I found that I had destroyed a large portion of the os planum. The periosteum was stitched over the gap in the bone with catgut sutures, and thread sutures were applied to the wound in the skin. Healing took place by first intention, and patient has continued to do well ever since.

The tumor was oblong and nodular, and composed throughout of ivory-like bone. Measurements: Longest diameter, 42 mm.; through centre, 30 mm. (see Fig. 9).

Case II.—Hilton ("Guy's Hospital Reports," 1836, vol. i., p. 493, illustration) describes the case of a woman, aged thirty, in whom a large bony growth had developed between the nasal and orbital cavity, on the left side, which had destroyed the eyeball. The growth made its appearance when the patient was thirteen years old; seventeen years later, the tumor *became loose through suppuration and fell off.* The turbinated and cellular apparatus on the left side of the nose was destroyed; the septum nasi was pushed toward the right side, obliterating the right nostril; the left orbit was forced outward. The inner wall of the orbit was next displaced and pressed upon the eyeball, which yielded to the pressure and burst. The tumor did not extend backward toward the pharynx. The whole mass sloughed away, neither pain nor bleeding attending the separation; but a large chasm was left, which opened posteriorly into the pharynx, being bounded below by the nasal surface of the hard palate and floor of the left antrum Highmori, above by the left frontal sinus and left half of cribriform plate of the ethmoid bone, internally by the septum nasi, which presented a concave surface with a small opening through it, a lower part communicating with the left nostril, and externally by the left orbit. There remained an opening in the face, previously occupied by the tumor, exposing the pharynx and hard and soft palate. The tumor weighed $14\frac{3}{4}$ ounces. Its greatest circumference measured more than eleven inches, and its least, nine inches.

Case III.—Middlemore (cited by Demarquay, "Traité des Tumeurs de l'Orbite," p. 63) attempted to remove from a woman of twenty-eight a bony tumor, situated at the superior inner angle of orbit, almost filling entire orbit, displacing eyeball completely outward, but without disturbing its vision. Tumor was covered with periosteum. Did not succeed in extracting tumor; the wound suppurated, and nine months later the tumor was loose and removed without difficulty. Dimensions of tumor: Length, $1\frac{1}{2}$ inch; circumference, $2\frac{5}{8}$ inches; weight, $1\frac{1}{4}$ ounce. Recovered.

Case IV.—Hutchinson ("Illustrations of Clinical Surgery," 1875, fasciculus i., pl. i., p. 9). The patient was a woman, aged fifty, under the care of Mr. Borlase Childs in 1859. The history showed that the tumor began to grow in early life, and had projected first from the nasal side of the orbit. The eye had been destroyed by the large nodular mass of ivory-like bone, which filled the orbit and projected over the cheek; the tumor was quite bare of soft tissues; it had undergone necrosis and become loose (see Fig. 10). At the operation the tumor was found

Fig. 10.—Hutchinson's Case.

to be movable, having no bony connections, being simply embedded in the distended orbit. The walls of the orbit had been destroyed by absorption, and nothing but fibrous structures (dura mater) separated the mass from the brain. The orbit was greatly enlarged, and would have contained a fist. The frontal sinus on the right side appeared to have been destroyed, and two fistulæ passed above it and

opened near the middle of the forehead. At the operation, Mr. Childs did not succeed in getting at the base of the tumor, but sawed off all that projected. Its structure was so hard that several saws were broken. Hutchinson thought that it was the violence done to the growth at this operation which led to its subsequent necrosis and separation. After removal the patient did well, and the cavity underwent considerable diminution.

Case V.—(*Ibid.*, p. 10).—Patient was a young man. The tumor in the frontal sinus intruded into the orbit, displacing the eye downward and outward. Hutchinson trephined frontal sinus and cut away its walls, exposing a large white ivory-like growth, much nodulated on its surface. The pedicle was broken through without much trouble, and the mass was taken away. Good recovery ensued; but two years later the man again applied to Hutchinson on account of a similar growth on the opposite side; and in removing this the dura mater behind the mass sustained slight injury, and death followed. Absorption of the posterior wall of the frontal sinus had been induced, leaving nothing but dura mater.

Case VI.—Paget ("Surgical Pathology," p. 535; specimen in the Museum of St. Bartholomew's Hospital, Series B, No. 316). Patient was a girl, aged twenty. Showed exophthalmos, due to a bony growth projecting at the anterior *upper and inner angle of orbit.* It had been observed protruding from the eye for three years, regularly increasing, and producing severe pain in the eyeball and about corresponding side of the head and face. A portion of the growth was sawed off with great difficulty. The partial removal of the tumor was undertaken, with the hope that the disturbance of its growth might lead to its necrosis and separation. The patient died from suppuration in the membranes of the anterior part of the cerebrum.

Case VII.—Turner (Preparation 546, Anatomical Museum of University of Edinburgh). The bony growth found scarcely any external projection above the orbit, although it projected into the inner wall of this cavity. The frontal sinus was much expanded, and opened by a large aperture into the roof of the orbit. Appears to have sprung from the inner table of the orbital plate of the left frontal bone, and caused a considerable indentation in the anterior end of left frontal lobe of the cerebrum.

Case VIII.—Arnold (*Virchow's Archiv*, 1873, Bd. lvii., p. 148). Case of a man, aged twenty-four. The tumor had grown steadily for five years, and first made its appearance on the forehead above the nose. At the time of the operation the tumor was hard and nodular, occupying the middle of the forehead from the hair to the root of the nose, and filled the greater part of the left orbit. The base was as large as the palm of the hand, and was surrounded by a bony ridge. There were soft places on the upper periphery of the tumor. At the places which, on palpation, seemed soft were translucent, very vascular gelatinous bodies (cysts) the size of a pea—especially numerous at periphery of growth.

The anterior wall of the frontal sinus was first disturbed, so that the tumor, the size of a hen's egg, projected above the plane of the middle of the frontal bone; on the left side it had also broken through the roof of the orbit, lachrymal bone, and the os planum of ethmoid bone, and passed into the orbit at these parts. The greater part of the bony septum of the nose on the right side, and on the left side the upper middle turbinated bone, were destroyed by the pressure of the growing tumor. The anterior portion of the lamina cribrosa, the perpendicular plate of the sinus of ethmoid, were also disturbed by the growth of the tumor, which here projected through several openings into the posterior, *i.e.*, upper wall of the frontal sinus, into the cranial cavity. There was no visual disturbance. Professor Simon removed the prominent part of the tumor on a level with the anterior surface of the frontal bone with the saw and chisel, and some of its processes were removed with bone-forceps. Patient had high fever during first three days after the operation; felt easy for next week. On the twelfth day after the operation brain symptoms set in—delirium, paralysis of some cerebral nerves, deep coma, and death. The autopsy showed that a portion of the tumor had been left projecting from the posterior face of the frontal bone into the cranial cavity. Both frontal sinuses were immensely distended. There was purulent meningitis and abscess in the left frontal lobe, which had perforated into the left lateral ventricle. The tumor was composed wholly of bone-tissue, and in its peripheric parts it was very compact and ivory-like; in the deeper parts more spongy, and quite rich in diploëtic substance. The tumor was covered with a delicate membrane. The dimensions were: Vertical, 90 mm.; transverse, 75 mm.

Case IX.—Badal ("Bulletins et Mémoires de la Soc. de Chir. de Paris," 1884, tome x., p. 603; reported by M. Chauvel). The patient was a man aged twenty-four. A hard tumor appeared in 1880 at supero-internal angle of right orbit; had progressed slowly during two years, and resisted all medication. In 1882 there was an enormous exophthalmos, with epiphora and intense conjunctivitis. Vision reduced one-third; diplopia; discoloration of optic disk. The tumor wholly filled right orbit. No history of syphilis; no pain. Removed tumor with chain-saw, elevator, and bone-forceps. Tumor measured 35 mm. in height, 40 mm. in depth, 60 mm. in breadth. It presented numerous prolongations toward ethmoidal cells, sphenoidal fissure and spheno-maxillary fissure, and superior portion of orbit. The surface was irregular, mammillated, and its numerous projections lodged in the neighboring cavities, perforating or destroying the bony walls of the orbit. The brain was exposed at one point, and a portion of the cerebellar matter followed the ablation of the tumor.

The operation lasted an hour and a half; one hundred and fifty grammes of chloroform were used; and a good deal of blood was lost at the operation. Operation was followed by congestion of lungs. No local reaction. Healing assured on the fifteenth day, when the eye had recovered a part of its movements, but there was still an absolute paralysis of accommodation, and the acuity of vision was not restored. At the end of one year diplopia had disappeared.

Case X.—Knapp (*Graefe's Archives*, 1861, vol. viii., p. 230). The patient was a boy aged fourteen. The exostosis extended from the roof of the orbit toward both the orbital and cranial cavity. It had steadily and perceptibly grown for two years, producing exophthalmos, and, ultimately, repeated attacks of an irritative cerebral affection, which lasted six weeks. Knapp succeeded in removing, with Heine's saw, only a part of the orbital portion of the tumor. Moderate suppuration set in. The patient died eleven weeks after the operation, *from purulent meningitis.* The entire tumor was a round, nodular, ivory-like exostosis the size of a goose-egg, which filled part of the ethmoid cells, the left frontal sinus completely, the right partially, in two small places perforated the anterior table of the frontal bone, and very extensively the upper posterior table, occupying the whole left and a part of the right anterior cerebral fossa, and nearly one-third of the left middle fossa.

Its diameters were 59 mm., 56 mm., and 54 mm., respectively. It was covered everywhere with a thickened capsule of periosteum, in which, he states, he was able to follow the direct formation of bone from connective tissue.

Case XI.—Knapp ("Tr. Inter. Ophthal. Congress," 1876, p. 52). The patient was a man aged thirty-six. Nineteen years before seen by Knapp patient first noticed a hard swelling at the root of his nose, which slowly but steadily increased until it attained the size of a small apple, situated on the root of the nose, and sending a prolongation the size of a walnut into the inner wall of each orbit, crowding the eyes toward the outer walls of their sockets. There had never been pain, disturbances of sight, nor other inconvenience connected with the tumor. The tumor was removed piecemeal with the chisel and

mallet, the body of the growth being thus attacked with these instruments. There was some suppuration in the right corner of the wound, but it gradually ceased, and the patient was discharged, cured, four weeks after the operation.

Case XII.—Roux ("Mémoires de l'Académie Royale de Médecine," 1871, I., iii., p. 4) attempted to remove an exostosis of the right frontal sinus, but could not complete the operation, and the young man died. The specimen was removed by Nélaton and deposited in the museum of the Val-de-Grâce Hospital.[1]

Case XIII.—Jobert (*ibid.*, p. 18, and Pl. ii., Figs. 1 and 2) made an unsuccessful attempt to remove an exostosis of the frontal sinus with the trephine. In spite of its great dimensions, the tumor did not adhere at any point to the cranium, but it was firmly wedged in the region which it occupied. Jobert thought that the extreme development of the growth made its successful removal almost impossible. At one point (very limited) the tumor seemed to blend with the frontal face of the sinus. Dimensions: Height, 50 mm.; length, 40 mm.; antero-posterior measurement, 30 mm. Irregular surface. Tumor occupied anterior cerebral fossa. Fatal.

Case XIV.—Dolbeau (*ibid.*, p. 12). The patient was a man aged twenty-one. No syphilis. For three years deformity in right fronto-orbital region. Tumor presented at *inner upper angle of orbit*, and pushed the *eye outward* and *downward*. At the end of three years he became subject to pain in right side of head; noticed at same time augmentation of volume of frontal region (slow but progressive). No convulsions nor paralysis. The *orbit was invaded only ten months before the operation.* An incision was made near to and parallel with the median line, then a horizontal one along the upper orbital margin. The opening in the frontal bone through which the tumor had intruded into the orbit was enlarged, and the tumor, which was loose in the frontal sinus, was seized with bone-forceps, a piece of it being broken off; it was then seen that the tumor was composed of a bony shell of ivory hardness, with cancellous vascular tissue in the interior. The remainder of the growth was removed piecemeal with bone-forceps. The last portion removed seemed to indicate that the tumor was implanted into the septum of the frontal sinus. On smoothing this small rough surface with the rongeur, an artery (A. nutritiva) spouted and had to be obliterated with a globule of wax. A pledget of lint was placed in the cavity of the sinus, the flap of skin put in place, and covered with a wet compress. The operation was followed by ecchymotic swelling of the lid of right eye and headache. On second day headache increased, and there was some delirium; pain in the region of the *left* frontal sinus, and œdema of the eyelids on this side. Suppuration commenced on third day; on fourth day cephalalgia was very intense, chiefly in occipital region, and patient was slightly somnolent. No vomiting. Patient did not begin to improve until ninth day. Got up on nineteenth day, and was discharged, cured, thirty-one days after the operation. The movements of the right eyeball were normal, vision intact, but the globe had not completely returned to its normal position, as it was situated on a lower plane than that of left eye. The operation was completely successful. The tumor was formed of a shell of compact bone-tissue, its interior filled with spongy bone-tissue. No trace of a capsule of cartilage.

Case XV.—Banga (*Deutsch. Zeitschr. f. Chirurgie*, 1874, iv., p. 486). A youth, aged eighteen, had received a blow on the left eye with the handle of a whip, six years previous to his consulting Professor Socin, in Basle. Three years later he first noticed that his left eye was *swelled*, and was more prominent than the right, which continued without pain until his visit to Professor Socin's clinic, at which time the left eye was pushed forward, downward, and outward by a hard tumor at the upper orbital margin. Left upper eyelid was greatly swelled and discolored from distended veins, and covered the tumor entirely. The tumor was hard as stone, immovable, and painless, with a horizontal diameter of 5.0 ctm.; vertical, 4.5 ctm.; conjunctiva, bulbi, and palpebrarum only slightly injected; cornea slightly cloudy hence a good ophthalmoscopic examination was not obtainable. Vision, L. E. = $\frac{1}{20}$. Excursion of the eyeball restricted to slight elevation, rotation, and downward motion. Eyelids almost immovable. Vision of R. E., normal. The conjunctiva became slightly injected as soon as right eye was uncovered; however, the right eye became more injected, and watered. No cerebral symptoms; also no signs of growth of tumor into nasal cavities. At the operation, Professor Socin found that the superior oblique muscle had made a groove into the tumor. The tumor was readily loosened with mallet and chisel and lifted out with bone-forceps. Roof of orbit was intact. Exophthalmos was reduced to about one-third of its previous amount. Ice-bladder applied over the wound. In first week there was little reaction; secretion moderate. On eighth day, intense headache, chilliness set in, with subsequent high temperature, debility, violent and persistent vomiting, great anxiety, convulsions, sopor, and two days later, on tenth day after operation, death. Autopsy showed diffuse purulent meningitis, particularly in anterior part of left hemisphere. In centre of base of left frontal lobe was an abscess in the brain the size of a pigeon's egg, surrounded by punctate hemorrhages. Dura thickened, covered with discolored pus. The extirpated tumor was very hard, and the size of a hen's egg; weight, eighteen grammes. The surface of the tumor was in part smooth, in part finely porous on the surface, like pumice-stone, and covered on all sides with periosteum. Tumor consisted externally of ivory-like substance, internally of cancellous tissue filled with a vascular, fatty pulp. Anteriorly, the floor of the frontal sinus is absent on left side. Microscopically: The ivory part of the tumor consisted of symmetrical bony tissue, with few Haversian canals, interlamellar substance, and a few bone-corpuscles. Inward and upward, close to the infundibulum, was a rough place on the frontal bone corresponding to a similar one on the tumor, where the tumor with a narrow pedicle was believed to have originated.

Case XVI.—Arnold (*Virchow's Archives*, vol. lvii., p. 146). The growth showed itself by a small prominence at the inner angle of the left orbit, where there was a short fistulous ulcer secreting at times some thin pus. Left frontal sinus was completely filled with a tumor which had destroyed a part of its anterior wall and the anterior half of the roof of the orbit. The tumor was fixed on the posterior plate of the frontal sinus. It was nodular and slightly movable, measuring, laterally, 4 ctm.; antero-posteriorly, 3.5 ctm.; vertically, 2.5 ctm. It was covered with a delicate connective-tissue membrane. The edges of the bones perforated by the tumor were sharp and jagged, the result of the destruction from pressure by the growth. The cause of death is not given. The history is defective.

Caspar Hoppe (quoted by Bornhaupt, *loc. cit.*, p. 601). Busch operated on a female, aged twenty-two, in whom, seven years before, a bony tumor had developed immediately above the root of the nose under ordinary symptoms of osteoma of frontal sinus. The tumor was removed, but death ensued thirteen days after the operation from abscess of the brain. The tumor filled both frontal sinuses and the ethmoidal cells, and a portion the size of a pigeon's egg projected through the anterior cranial fossa into the cranial cavity.

Case XVII.—Bryant (*British Medical Journal*, 1872, vol. ii., p. 631). The patient, a man, aged twenty-four, first observed a slight protrusion of the right eyeball five years before, which had slowly but surely increased. Bryant first removed the growth from the orbit by turning down the eyeball and its appendages, and then chisel-

[1] See Pl. II., Figs. 3 and 4, Dolbeau, Mémoires de l'Académie Royale de Médecine, 1871.

ling and sawing it away piecemeal. Its aggregate size in the orbit was that of a small orange. He then removed the exostoses from the frontal sinus in the same way. The growth appeared to arise by a pedicle from the anterior plate of the frontal bone. The result of the operation is not given.

Case XVIII.—Adelmann ("Beiträge zur med. und chirurg. Heilkunde," Bd. ii., s. 172, quoted by Bornhaupt, p. 601). Patient was a woman, aged twenty-three. Tumor partially removed. Meningitis on fifth day after the operation, from which she recovered, and left the hospital six weeks later, with a fistula.

Case XIX.—Birkett ("Guy's Hosp. Reports," 1871, p. 505, plates i., ii., iii.). Patient was a girl, aged fifteen. When thirteen years old, patient had scarlet fever six weeks, after which her friends noticed a swelling on the forehead, but the girl herself stated that an altered position of the left eyeball first attracted her attention and that the frontal swelling appeared subsequently. The displacement of the eyeball had existed only about nine months prior to the operation.

The left upper eyelid was depressed and could not be perfectly raised, and the fissure between the lids inclined obliquely downward and outward. The left eyeball was on a lower plane than the right; it was also everted. The veins on the surface of the upper eyelid were dilated and the cutaneous surface congested. The tumor spread into the angle of the orbits, on both sides of the root of the nose, but projected most into the left. In the centre of the frontal swelling fluctuation could be felt. On exposing the tumor, Birkett found a defect in the frontal bone. The tumor sprang from the posterior wall of the sinus. The operation was not completed for fear of opening the cranial cavity. Patient died thirty-eight days after the operation, of purulent meningitis. The tumor extended transversely and antero-posteriorly into the middle of the anterior fossæ of the cranium, hiding the crista galli. Dura mater was united very firmly to one portion of the growth, and on the right side, the brain also. There was an abscess (chronic) in the anterior lobe of the left hemisphere. The left orbital plate of ethmoid bone was destroyed; the right orbital plate of the ethmoid bone was entirely gone, and so the right frontal sinus was laid open and a piece of the bony growth exposed to view in the right orbit. The growth was composed entirely of the finest and most delicate cancellous bone-tissue.

Case XX.—Öttingen ("Mittheilungen aus der chirurg. Abtheilung der Universitätsklinik zu Dorpat, 1858," in den Beiträgen zur Heilkunde, herausgegeben von der Gesellschaft prakt. Aerzte zu Riga, 1860, Bd. iv., Tfl. 5). A man, aged twenty-four. When twenty-one years old a bony tumor appeared at upper medial angle of right orbit, by which the eyeball was displaced forward, downward, and outward. Öttingen removed a portion of the tumor, and succeeded in replacing the eyeball, but the patient died in twenty-nine days after the operation, of purulent meningitis.

Case XXI.—Hewitt ("St. George's Hospital Reports," 1867, vol. ii., p. 14). Case of Lawrence. The tumor appeared to be limited to the inner part of the orbit, but after death dissection proved that the frontal sinus was filled with the growth, which had, moreover, made its way into the cranial cavity.

Case XXII.—Hewitt (*ibid.*, p. 17). A woman, aged twenty-four, had had exostosis of frontal sinus for several years, situated at the lower part of the forehead and accompanied by head-symptoms. Removal attempted by Professor Regnoli, of Pisa. At the operation, the anterior table of the frontal bone and corresponding parts of the nasal bone and of the ascending process of the superior maxillary, also affected by the exostosis, were removed at the same time. The actual cautery was then applied, necrosis followed, and the dura mater was laid bare. Nineteen months afterward the patient was completely cured.

Case XXIII.—H. A. Lediard (*British Med. Jour.*, 1882, ii., p. 1252). A sailor, aged thirty-three; tumor said to have been the size of a pea at birth, and was situated between the upper eyelid and eyebrow. Tumor gradually enlarged, inducing destruction of the globe at the age of nine years. The tumor ceased to enlarge at the age of twenty-five, and two years later the skin which had hitherto covered it suddenly gave way. When admitted to the hospital, at the age of thirty three, the tumor was 4.5 by 5 inches, weighed 2.25 ounces; was pediculated; tumor was movable, and an offensive discharge issued from its base; a month later the whole mass became suddenly detached without associated pain or hemorrhage. (Frontal sinus?)

Case XXIV.—Panas (*Arch. d'Ophth.*, tom. iv., p. 289). A girl, aged eighteen; the exostosis of the right orbit made its first appearance when she was thirteen. It had already been subjected to two operations. The tumor, the size of a hen's egg, occupied the region of the right eyebrow, and extended to the left eyebrow and to the bridge of the nose. The eye was pushed very much forward, downward, and outward, and possessed merely quantitative perception of light. The optic papilla was atrophic. The sense of smell on the right side was blunted. No cerebral symptoms. Panas made a broad opening in the frontal sinuses, but had to be satisfied with resection of the orbital part of the tumor, since the entire frontal sinus was filled with compact bony tissue. Death followed six days later from meningitis, caused by purulent phlebitis. The neoplasm originated in the orbital wall of the frontal sinus, and extended into the orbit, the ethmoid bone, and the frontal sinuses of the opposite side, and then into the cranial cavity.

Case XXV.—Knapp (*Archives of Oph.*, 1880, p. 464). The patient was aged forty-eight. Inner part of upper lid slightly prominent and pushed down; conjunctiva and eyeball normal; mobility unimpeded; vision and ophthalmoscopic condition normal. In inner upper corner of orbit there was a tumor nearly as large as a flattened hazel-nut, slightly uneven, abruptly rising from orbital wall and immovable. Curved incision was made from middle of superciliary arch along the lower margin of the brow, down to insertion of inner canthal ligament. The stretched periosteum of tumor parted on being divided, and exhibited the yellowish, shining surface of the tumor, which was of uniform hardness. The tumor showed a slight constriction at its base. Knapp cut a furrow along the supposed cancellous base of tumor with chisel and hammer, and as it did not become loose or movable, Knapp chiselled a regular groove into it ten millimetres deep and twenty-five millimetres in length along the wall of the orbit. Persistent chiselling for three-quarters of an hour showed that he was not reaching the supposed cancellous base, but was carving a furrow into the uniformly compact mass of the tumor itself. It was then evident that the tumor extended beyond the limits of the orbit into the nasal fossæ, the frontal sinus, and, perhaps, the cranial cavity. Being all around in connection with the bony wall of the orbit, and supposing the tumor to have originated in the diploë, Knapp broke down its osseous surroundings with the chisel, the edge of which was held perpendicularly to the wall of the orbit, enclosing the tumor. This was begun at the upper edge of the tumor and close behind the supra-orbital notch, avoiding interference with the pulley of the superior oblique muscle; then along the circumference of the tumor, breaking down the bony plate of the orbit as far as it encased the growth. Having done this from the superciliary notch along the upper inner corner of the orbit down to middle of anterior part of os planum, the tumor became loose. Knapp next carefully detached all the soft parts from the tumor. Having done this on all the surfaces of tumor, the latter lay completely loose in its periosteal envelope, and was drawn out with bone-forceps.

On examining the wound with the finger, the upper

half of the os planum and the whole anterior upper inner half of the roof of the orbit were absent; the upper part of the nasal cavity and the whole right frontal sinus lay open, and in the outer part of the roof of the orbit a triangular piece of bone was fractured and freely movable, but was kept in its natural position by the periosteum and dura mater. The fractured bone was not disturbed. The dilated frontal sinus and the opened nasal cavity were found free from other growths. The wound was united by silk sutures, the threads being passed through the skin and periosteum on both sides. At the lower end of the wound, immediately above the internal canthal ligament, a silver drainage-tube was inserted and a charpie bandage applied. The wound healed by first intention. There was no diplopia, and the movements of the eye were natural. The tumor was oval, the size of a large English walnut. Vertical diameter measured 36 mm.; its greatest antero-posterior diameter, 29 mm.; its greatest lateral diameter, 24 mm. Surface uneven, with several nodular projections.

Case XXVI.—Kundrat (*Wiener med. Blätter*, 1883, No. xlviii.). The tumor extended far into the cranial cavity, therefore it could not be removed. The necropsy showed that the tumor had originated from the region of the lamina cribrosa and the superior inner angle of the roof of the orbit.

Case XXVII.—Demarquay ("Annales de la chirurgie française et étrangère," t. iii., p. 242). An ivory exostosis, adherent to the anterior plate of the frontal bone, on right and left side. The frontal sinuses had been opened by suppuration. The tumors were complicated with suppurations and polypi. Successfully removed.

Case XXVIII.—Heister ("St. George's Hosp. Rep.," 1867, vol. ii., p. 14). A soldier, aged thirty-three, had on his forehead an enormous exostosis, which was increasing in size. Heister attacked it with hammer and gouge, and brought it away, extensively laying bare the dura mater, notwithstanding which the patient ultimately *recovered*.

Case XXIX.—Massey (*ibid.*, p. 18). An ivory exostosis, three inches long and one and one-half inch broad, was removed by Massey from the middle of the lower part of the frontal bone. The tumor was laid bare and a groove made around its base with Hay's saw, after which, by means of a chisel and gentle blows with the mallet, the whole growth was removed bodily. Wound healed perfectly within eight days.

Case XXX.—Paget ("Surgical Path.," p. 534, specimen in Museum of College of Surgeons, London, No. 795, pictured in Baillie's Morbid Anatomy, fasc. x., pl. i., fig. 2). Tumor was two and one-half inches in diameter, deeply lobed and knotted; filled frontal sinuses and upper part of left orbit, encroaching upon the right orbit, and projecting for nearly one inch on both the surfaces of the skull. In its growth it displaced and destroyed by pressure the adjacent parts of the tables of the skull and the wall of the orbit. The tumor was for the most part hard as ivory, but in its central posterior portion it was composed of very close cancellous tissue.

Case XXXI.—Bornhaupt ("Archiv f. klin. Chirurgie," 1881, Bd. 26, p. 595, Figs. 1, 2; pl. xi.). Girl, aged eighteen. Two years before seen by Bornhaupt, simultaneously with beginning of menses, the left eye began to lachrymate, and, unattended by pain, to be protruded from the orbit, and diplopia set in. A few days before consulting Bornhaupt a phlegmonous process developed in the orbit. The upper eyelid and the region of the inner angle of the orbit were especially swollen, and there was fluctuation in the depth of the orbit. An incision four centimetres long was made at the inner angle of the orbit, and parallel to the orbital margin, by which muco-purulent material was evacuated; the bone was laid bare, and nodular masses of bone thereby exposed, showing that there was unquestionably a bony tumor. On June 19th the left upper eyelid was very red and œdematous, and left eyeball displaced forward, downward, and outward. Vision, L. E., $\frac{1}{4}-\frac{1}{3}$ of normal. No defect in visual field. Ophthalmoscope showed congestion of retinal circulation, inflammatory opacification of papilla and para-papillary tissue of retina. The movements of the eyeball were restricted in all directions; the superior rectus seemed most affected. Under treatment with lead-water applications and washing out with a solution of carbolic acid, the swelling of the upper lid subsided, so that firm, nodular bony masses could be felt in the medial half of the orbit, making the diagnosis of an orbital osteoma certain. July 2d, the phlegmonous process exacerbated, so that near the former fistulous opening a puncture had to be made, giving exit to a bloody, muco-purulent fluid. The wound was drained just so soon as the inflammatory phenomena had subsided. Volkmann operated, July 16, 1880, for the removal of the growth. He made a curved incision along the orbital margin, and at the medial border of the orbit a second incision perpendicular to the first, extending about one inch or more. The flap was raised with the raspatory, and the entire upper and medial portions of the orbit, orbital border, and the neighboring parts of the frontal bone were laid bare. The tumor was then exposed, it being in general spherical, with a few flat nodules, which filled the medial half of the orbit, and passing upward and inward to the orbital margin. At the summit of the tumor there was a mass of ivory-like bone, which was sharply defined from the red, spongy, softer surrounding bone, and showing that the tumor was a *hard osteoma incapsuled* by a softer bony shell. Accordingly, this shell was removed piecemeal with the chisel. The shell was in close apposition to the tumor, but it was removed, because it was separated from the tumor by a very thin layer of connective tissue.

The frontal sinus contained considerable pus. The tumor was exposed on its medial border, and a strong iron elevator applied behind it, at the site of the spontaneous perforation. By this means the tumor was forced out of its bed, exposing a prolongation of the tumor, which projected into the nasal fossa. The frontal sinus was found to be very much enlarged, and its lining membrane swelled and congested.

In freeing the tumor a good deal of the enlarged frontal bone, *i.e.*, superior orbital border, was chiselled away, so that under normal conditions the cranial cavity would have been freely laid bare. The wound was carefully disinfected, drained, and an antiseptic dressing applied. Healing without reaction. Ten days after operation the patient was dismissed, with wound closed. During this time the disturbance in circulation of retina disappeared. Movements of eyeball normal, but there was still diplopia. Tumor measured, from above downward, 5.8 ctm.; in greatest diameter from right to left, 3.3 ctm.; in greatest diameter from before backward, 3 ctm.; weight, dried, 50 Gm.

Case XXXII.—Kundrat (*Wiener med. Blätter*, 1883, No. xlviii.) observed an exostosis of the orbit which extended very far into the cranial cavity, therefore it could not (?) be removed. The post-mortem examination showed that the tumor originated from the region of the lamina cribrosa and superior angle of the orbital roof (frontal sinus?). There had been no symptoms of disease of the brain.

Osteoma of the sphenoid.—The only case of osteoma of the sphenoidal sinus in which an attempt was made at removal by an operation, which I have been able to find in literature, is that described by Spencer Watson ("Transactions of the Pathological Society of London," 1868, p. 310, illustration). The patient was a man, aged twenty-one, in whom an osteoma the size of a fist filled the left orbit, displacing the eyeball upward and laterally, but its movements were tolerably perfect, and the sight was very little impaired. Patient had first noticed a swelling at the inner side of the eye, twelve years before, which gradually increased in bulk for six or seven years. Sir William Fergusson removed the tumor, and found that the principal attachment of the deep part of it was to the body of the sphenoid, above the

pterygoid process; there was also a very firm attachment to the upper and inner walls of the orbit. On the third day after the operation the patient became suddenly faint, and rapidly sank.

At the post-mortem examination the brain, with its membranes, was found healthy. Two bony tumors were found lying in the middle and anterior cranial fossæ, the larger of which sprang from the left side of the body of the sphenoid, and was of about the size and shape of a walnut; the other, smaller one was situated at the inner end of the lesser wing of the sphenoid, and immediately above the optic nerve. The optic nerve, although considerably elongated, did not present any other abnormal appearance. The tumor weighed 5,040 grains. Tumor consisted of a superficial ivory-like shell, from one-half to one and a half or two inches thick, and a spongy, vascular nucleus.

Dr. Trimer examined the tumor microscopically, and declared that there was, between the two portions of the tumor, a loose cartilaginous tissue similar to that seen between the epiphyses and shafts of growing bones; but the Committee on Morbid Growths did not confirm this statement respecting the finding of cartilage, and they were of the opinion that the tumor had sprung from the periosteum.

Descriptions of osteomata of the sphenoid have been given by Römhild, J. P. Frank, Pech, and in the *Musée Dupuytren*, No. cccvii., p. 437.

Case I.—*Osteomata of the antrum of Highmore.*—John Howship ("Observations in Surgery and Morbid Anatomy," p. 26, pl. ii., fig. 1). No operation.

Case II.—Manz (Case I., *Archives of Ophthal.*, 1873, vol. viii., p. 321).

Case III.—Hilton ("Guy's Hospital Reports," vol. i., p. 403). In this case the osteoma, originating in the antrum of Highmore, extended into the ethmoidal sinuses. When the patient was a boy, aged thirteen, a swelling showed itself between the orbit and the nasal cavity. After seventeen years the growth became movable; and after it had existed for twenty-three years the skin covering the tumor suppurated, and the latter was spontaneously exfoliated. The cavity which remained was bounded above by the frontal and ethmoidal sinuses, below by the walls of the antrum of Highmore, and inward by the septum of the nose, which was displaced toward the right. Tumor weighed 440 grs.; the greatest diameter was 11 mm.; the smallest, 9 mm.

Case IV.—Duka ("Transactions of Pathological Society of London," 1866, vol. xvii., p. 256, fig. 21, p. 258) removed part of the superior maxillary bone on account of an ivory exostosis of the antrum of Highmore, which had become loose by suppuration. Duka extracted the first bicuspid teeth, and prolonged the incision downward through the upper lip, detached the mucous membrane along the alveolar process, and made a flap. He next removed a triangular piece of bone from the palatine process of the superior maxilla. The tumor was then extracted. The cavity left behind was of great dimensions, the vomer was absorbed, and the right antrum of Highmore had lost its nasal plate. The wound healed by first intention, and the patient left the hospital on the tenth day. The upper part of the tumor lay in contact with the cribriform plate of the ethmoid; at the lower surface of the tumor was a large nipple-like process, which lay in contact with the palatine process. The anterior part of the body of the tumor presented in the nostril. At the base of this process was a large hole, piercing it quite through. In this *lacuna* was a polypoid mass which contained a nucleus of cartilage, round and flat, like a small-sized lentil. The whole bony mass was composed of eburnous structure, weighing 1,060 grains; its long diameter was nearly three inches; the short, one inch and two lines; and the longest circumference, seven inches.

Case V.—Michon ("Mémoires de la Société de Chirurgie de Paris," 1851, tome ii., p. 615). The tumor was so intimately blended with the vomer and maxilla that the whole of the former, and a great part of the latter, came away with it. There was no thin pedicle. The tumor occurred in a man, twenty years of age. The tumor had begun to grow when the patient was sixteen years of age. The growth had developed after a blow, right under the right eye. Eye was displaced upward, outward, and forward, the nose being completely displaced toward left side, and the zygoma laterally. Weight, 122 Gm.; circumference, 15.5 ctm.; height, 6 ctm. It was covered (with the exception of the medial surface) with a soft membrane, the mucous membrane of the antrum. Recovery.

Case VI.—Boyes ("Traité des Maladies Chirurgicales," tome vi., p. 168, Paris, 1818). Exostosis of left maxillary sinus for ten years, which had appeared soon after a venereal infection, which had been followed by secondary symptoms. After having taken one hundred and twenty-eight grains of corrosive sublimate, in less than three months, patient was wholly freed of the exostosis.

Case I.—*Exostoses of the orbit which originate external to the frontal and other pneumatic cavities.*—Stephenson ("Annales d'Oculistique," 1860, p. 21) removed an exostosis from upper border of orbit in a girl aged eighteen. Tumor had developed in three years.

Case II.—Windsor ("Annales d'Oculistique," t. xii., p. 211) removed (with chisel) a bony tumor from the upper and lateral orbital wall, in a woman twenty-four years of age. The tumor projected from the upper border of the orbit and pushed the eyeball downward and forward. It consisted partly of bone and partly of cartilage (?). Had grown in fifteen months. Recovery.

Case III.—Haynes Walton ("Operative Ophthal. Surgery," p. 319, fig. 100). When a child, patient fell downstairs, injuring the *upper orbital border*, at which place a hard, bony tumor formed. When patient was forty years of age the growth occupied the upper edge of the orbit; had a very broad base, its greatest point of projection being two inches. The upper part of the tumor was covered by the eyebrow, which was considerably displaced upward; the lower part touched the eyeball, displacing it downward and outward, the eyeball protruding about one inch beyond its fellow, thereby nearly destroying vision. Tumor was nodular, hard as stone; the skin over it was movable and traversed by a few blood vessels. Walton sawed off the tumor. Recovery ensued, and the sight was completely restored.

Case IV.—Salzer (London *Lancet*, 1831, vol. i., p. 671). A girl, seventeen years of age, received a blow with a rake, whereby the handle entered the right orbit. About eighteen months after injury, when the wound had been healed for a long time, there appeared a hard, immovable tumor at the upper margin of the orbit, displacing the globe downward and inward, so as to almost touch the left nostril. Sight was not completely destroyed. Four years after the accident, Salzer, after several attempts with the hammer and chisel, then with the trephine, which he applied six times, finally removed the tumor piecemeal. Tumor was attached by a broad base. Dried, the pieces of the tumor weighed two ounces. Recovery. Sight restored.

Case V.—Canton, E. (*Medical Times and Gazette*, 1851, vol. xxiii., p. 494). A bony tumor had grown in the orbit of a woman, between twenty and thirty years of age, to the size of a walnut, in seven months, pushing the eyeball forward and outward. No pain was felt; vision was perfect. The orbital ridge on the right side was increased in thickness, and the tumor, continuous with it, passed downward and deeply backward into the orbit. The tumor was detached from the orbital plate with the chisel. Water dressings were applied, and the patient recovered in a week. The tumor was formed, toward the periphery, of compact bone; within, the bone was spongy.

Case VI.—Törnroth et Ilmoni ("Analecta clinica," t. i., fasc. i., Helsingf., 1851, cited by Bornhaupt: *Archiv f. klin. Chirurgie*, Bd. xxvi., p. 613). Patient, aged fifty, had

suffered for five years with gout, when the upper orbit-border became so much swollen that it projected under the upper lid as an oval tumor, which filled the upper lateral portion of the orbit so completely that it was difficult to introduce a sound between the tumor and the swollen lid. The eye was destroyed. Törnroth removed (with Heine's osteotome) the prominent portion of the tumor, which was covered with a firm, callous periosteum, and consisted externally of compact, internally of a spongy substance. Healing took place three months subsequently, after the remaining portion of the tumor had been thrown off by suppuration.

Case VII.—Weinlechner (*Wiener med. Blätter*, 1883, Nos. xlvi.–xlviii.) operated upon an osteoma of the orbit in a man, fifty-one years of age. The tumor had developed at twenty-six. Eye displaced outward; pronounced exophthalmos; amaurosis. The growth extended into the nasal fossa. In operating, the nasal process of the superior maxilla was removed, and the frontal sinus opened.

Later, polyps and remnants of the osteoma were removed from the nasal fossa. Patient died of erysipelas. Tumor originated in diploë of the orbital roof, measured 24 ctm. in circumference, and weighed 281 grs.

Case VIII.—*Ibid.* Removed with good results an ivory tumor of the orbit, in a girl aged sixteen. Had existed for one year. Twelve centimetres in periphery.

Case IX.—Hulke (*Lancet*, 1882, vol. i., p. 910, from floor of orbit). Patient was a girl, aged four. Considerable exophthalmos, first noticed fourteen months previously. The eyeball was displaced downward. The bony mass was attached to roof of orbit. An exploratory incision showed the mass to consist of very vascular spongy bone connected with the external angular process and orbital plate of the frontal bone. It extended almost to the apex of the orbit, and had not any definite boundary. "As its removal was proved not to be feasible, the wound was closed. Immediate union occurred, and the child was taken home." The further progress of the case is unknown.

Case X.—Birnbacher (*Archives of Ophthal.*, 1883, vol. xiii., p. 404). This was a case of ectopia of the eyeball by osteophytis from roof of orbit, with consecutive pneumatosis of supra-orbital region. Eyeball protruded. Difference in apices of corneæ amounted to about five millimetres. Increase in refraction of diseased eye from $H = \frac{1}{24}$ to $M = \frac{1}{30}$, produced by elongation of optic axis caused by pressure on the globe from above downward by bony ridges. An incision was made under and along the lower border of the brow, commencing at the outer angle of the orbit and reaching nearly over the upper border of the lachrymal sac. Having reached the periosteum in the region of the upper orbital border, it was found to stretch over a pneumatic cavity, forming its floor, and containing two larger ridges and one smaller one, of reddish-gray-colored spongy bone, projecting downward against the eyeball. These ridges had their origin in the mass of fine spongy bone which formed the roof of the orbit. They extended two millimetres into depth of orbit, and formed therein a comb which was covered with the periosteum of the roof of the orbit. The periosteum of the floor of the cavity mentioned contained hard plates of bone. Birnbacher believed that the site of irritation which caused the growth of the osteophytes was an inflammatory, non-suppurative affection of the frontal sinus, affecting sympathetically the periosteum of the frontal bone and the roof of the orbit.

Case XI.—Sands (*Archives of Ophthal.*, 1880, vol. ix., p. 471). Patient was a man aged twenty-two. Three years before the operation he noticed a slight protrusion of the right eye, accompanied with deep-seated orbital pain, headache, and vertigo. The exophthalmos had gradually increased since then, and the right nasal passage had become obstructed with a firm mucous polypus, having no connection with the orbital tumor, but the latter had caused some narrowing of the nasal passage, the sides of which were closely approximated. No positive diagnosis was made, although the coincidence of exophthalmos with nasal obstruction led to the suspicion that the tumor was connected with the antrum. A triangular flap, having its apex near the inner canthus, was reflected so as to expose the interior wall of the antrum. This was cut away sufficiently to admit the finger, when it was ascertained that the cavity was empty. The inferior edge of the orbit was gradually removed until the index-finger could penetrate the orbit deeply enough to feel the morbid growth. The tumor was a hard round body, a little larger than a hazel-nut, attached to the superior maxillary bone, far back in the orbit, close to the spheno-maxillary fissure. It was removed with chisel and elevator. A horse-hair drain was introduced into the wound, which was closed with sutures. Patient did well after the operation, and left the hospital at the end of a fortnight, at which time the wound was healed, except along a narrow fistulous track leading to its deepest part. The exophthalmos had almost entirely disappeared. The tumor consisted of a shell of compact bony tissue, containing a large nucleus of cartilage (?).

[I have had an opportunity of examining the specimen of the tumor in the museum of the New York Hospital, and it is made up of cancellous tissue (not cartilage) with a thin shell of compact tissue covering one side of it.—Author.]

It was formerly customary to designate every bony formation in the orbit which showed itself above the plane of the bone an *exostosis*. Cruveilhier was the first observer to direct attention to the differences between the bony tumors of the orbit. He showed that these growths developed in the interior of the bone in such a manner as to push the peripheric layer of bone before them like a capsule; he therefore called them "*incapsuled* bony growths" (corps osseux enkystés) ("Anatomie Pathologique," J. Cruveilhier, tome iii., p. 871). Subsequently Virchow studied the nature of these tumors, and he showed that the orbital osteomata in general may develop in various ways; a great number of them, he believed, originated in the diploë, and in their further development distended the shell of bone enclosing them, which they gradually broke through. These tumors Virchow called *enostoses*, thus separating this form of osteoma from the class of exostoses.

The situation of these growths in the frontal and ethmoidal sinuses, etc., is readily determined, but the question of the actual starting-point is not so easily answered. Rokitansky has suggested that these osteomata of pneumatic cavities were developed from *enchondromata;* but we shall see by reference to the cases of this disease which I have here collected (representing all the cases which have been carefully recorded in literature), that there is no foundation for this opinion.

Professor Arnold, of Heidelberg (*Virchow's Archiv*, 1873, vol. lvii., p. 159), has suggested that the tumors in question were developed from remnants of fœtal cartilage, giving as the only support for this opinion the manner of development of enchondromata from remains of cartilage in other parts of the body. He assumes that at least a part of the osteomata were originally enchondromata, and adduces the fact that a superficial layer of cartilage has been found covering some of these tumors (Case of John Windsor, *Annales d'Oculistique*, 1884, t. xii., p. 211). Then there is the type of development which refers the origin of these tumors to the *endosteum* (?) by direct production of bone-tissue.

By referring to the cases of *osteoma of the frontal sinuses* which I have collected, it will be seen that in those cases in which a careful history has been preserved, and there are data of the time when the growth was first noticed, the latter was noted to have occurred about the period of puberty; therefore, just about the time when these cavities, which are absent at birth, develop with the greatest energy. But the cases of Demarquay

and Solger and others show that osteomata may, in exceptional cases, form in fully developed frontal sinuses.

In consequence of abnormal development in the segment of the frontal bone bordering on the ethmoid, Arnold states, remnants of cartilage may be the starting-point of the new formation, which is first seen as an enchondroma, and later is changed into an osteoma by total ossification (*Virchow's Archiv*, vol. lvii., p. 161).

Pathological anatomy.—Osteomata of the *frontal sinuses* are, as a rule, hard like ivory and irregular in form, with a partly nodular or mammillated surface, sending out conical processes, with which they fasten themselves in the different cavities into which they grow; a fact of great importance to remember in connection with the operation for their removal. Shallow furrows and holes are frequently found in the surface for the reception of blood-vessels and invaginations of the periosteum; or, as noted in two of the cases which we have cited, the grooves in the surface have resulted from the tumor having, while growing, met with resistance from normal osseous projections, ledges, tendons, etc.

The external form of osteomata of the frontal sinuses seems to be essentially influenced by the resisting bodies against which they impinge in growing; and as these are pretty much the same in all cases, it is not curious that these tumors should bear a striking resemblance to one another. We generally find the *largest portion* of the growth in the *frontal sinus*, and a small projection from it in the orbit.

On close inspection, it will be seen that the osteomata of the frontal sinuses consist of two different substances —a thick, ivory-like shell, which generally preponderates, and a spongy portion; the consistence of the former exceeding, in point of hardness, normal compact bone. The spongy portion consists of a system of delicate bony plates, with soft, vascularized tissue between them. When the tumor is cut open, its cut surface displays concentric and radial lines in the ivory substance. The tumor adheres to the frontal bone either by a small pedicle or a broad base of spongy bone.

FIG. 11.—Dolbeau's Case of Osteoma of Frontal Sinus.

Dolbeau maintained, on the basis of pathologico-anatomical investigations and on observations, that the osteomata (exostoses) of the frontal sinus always sprang from the mucous membrane and never from the osseous substance of the wall of the frontal sinus, and that, consequently, by a free opening of the frontal sinus they might be extirpated, just as a stone is removed from the bladder in lithotomy (see Fig. 11). This statement is certainly *incorrect*, as is shown by my own case, and those of others which have been accurately described.

The published cases of osteomata of the frontal sinuses show that the consistence of these growths differs according to preponderance of the spongy or the ivory substance. Generally the ivory-like shell preponderates, and there may be only a trace of spongy bone; then, again, in rare cases, the tumor may consist chiefly of a spongy mass, on which ivory-bone plates are scattered, making the entire growth softer than normal bone. In the majority of the cases which were carefully observed, the entire surface was covered with a delicate connective-tissue envelope; in some instances, parts of this envelope were the seat of polypous excrescences, which sprang out of remains of mucous membrane which had atrophied under the pressure to which it had been subjected by the tumor.

All osteomata of the frontal sinuses not alone distend, but perforate, the walls of the sinuses; but they do not show a tendency to coalesce with the walls of bone which they pierce—a fact of great practical importance in connection with the operation for their removal.

The *perforations* take place, most frequently, *outward* through the anterior plate of the frontal bone, and through the roof of the orbit into the orbital cavity. They rarely project into the nasal cavity. The os planum of the ethmoid bone and the lachrymal bone are destroyed in exceptional cases, where the tumor has such a broad base projecting into the ethmoidal cells that the point of origin of the tumor cannot be made out. Perforation through the inner plate of the frontal bone into the cranial cavity is not uncommon, and this may take place, as is shown by Arnold's case, at an early period, when the tumor was not quite as large as a walnut. The cases recorded show that osteomata of the frontal sinuses may be *unilateral* or *bilateral*; but, in the latter case, there may be only one tumor, perforation taking place through the septum, which seems to be the more common. Then there may be several partly pediculated osteomata in one sinus. But that all osteomata do not, as Arnold asserts, originate in the posterior wall of the frontal sinus, is shown by the cases of Banga, Jobert, and Demarquay, in which the growth was implanted into the anterior plate of the frontal bone.

The osteomata of the ethmoidal cells are, as a rule, spherical in shape, with an irregular nodular surface of the same anatomical structure as the osteomata of the frontal sinuses.

Antrum of Highmore and ethmoidal.—The histological relations in the maxillary cavity are analogous to those in the frontal sinuses, and all the hypotheses relating to the development of these tumors can be applied to tumors of the antrum of Highmore. Arnold's embryological investigations might here likewise come into consideration, since also in this locality preformed cartilaginous parts of the primordial skeleton are found.

The osteomata of antrum Highmori develop in the interior of the antrum of the superior maxilla, from one of the walls of this cavity, and they are generally incapsuled. These tumors also show a tendency to become spontaneously detached by suppuration, a peculiarity which seems to be common to incapsuled osteomata. From the few carefully observed cases of osteomata of the antrum Highmori, it appears that they spring from the medial wall, and show a tendency to grow laterally. They are covered with mucous membrane.

The osteomata of the sphenoidal sinus, as a rule, first extend into the cranial cavity.

All orbital osteomata, external or incapsuled, always show the same structure; *i.e.*, they are composed of an ivory-like portion and a spongy portion; and it seems probable that they all spring directly from the periosteum, and as they grow, the spongy portion is formed by resorption of the ivory mass.

Symptoms.—All orbital osteomata grow very slowly, and, when uncomplicated, are generally painless and without inflammatory symptoms.

Frontal sinus.—In osteoma of the frontal sinus, the patient's attention is first attracted to his disease by the presence of a tumor at the *upper inner angle* of the *orbit*. When the disease is *bilateral*, the prominence takes place in the *middle of the forehead*, directly above the *root of the nose*. Sometimes a collection of pus and mucus in the frontal sinuses complicates these tumors. But the formation of polypi and suppuration in the frontal sinuses, which sometimes complicate these tumors, does not, as has been supposed, give rise to the development of the osteoma; but these conditions are, on the contrary, the result of the presence of the tumor, which, by

closing the channel leading to the nasal cavity, gives rise to retention of mucus in the frontal sinuses, and also the mechanical irritation to which the mucous membrane is subjected during the growth of the tumor. An acute suppurative process may be set up in the cavity, and perforation take place through the walls of the sinus; the external plate of frontal bone being, by preference, the seat of perforation, the pus then making its way, generally, at the inner angle of the orbit, or, as has been observed in an exceptional case, at the upper outer angle, and leading in either case to a fistula in the bone. The *eye is displaced forward* and *downward* and a *little outward*. On account of the slow growth of these tumors the *vision* may long remain unimpaired. Conjunctivitis, ciliary neurosis, disturbance of circulation and inflammatory changes in the retina, and ulceration of the cornea, may result from mechanical disturbance of the eyeball; but they grow so slowly that the eye tolerates their presence for a long time, without having its vision materially disturbed thereby. The *inner plate* of the *frontal bone* may be perforated by the tumor, and the latter attain to considerable dimensions without giving rise to any brain-symptoms. Osteomata of the frontal sinus have, after projecting into the ethmoidal cells, extended to the lamina cribrosa, and through it into the cranial cavity, in which case the osteoma appears to arise from the ethmoidal sinus. But it is more common for tumors in this region to perforate the inner wall of the sinus and invade the cranial cavity.

Ethmoidal sinuses.—The osteomata of the ethmoidal are, as a rule, first observed as a hard tumor at the *inner angle of the orbit*, increasing in its growth from within outward, whereby the eyeball is displaced laterally; the upper margin of the orbit is also sometimes forced upward, and the lower margin downward. But this takes place only in those cases in which the orbital portion of the growth has been very large.

Osteomata of the ethmoidal sinuses may intrude into the nasal cavity. Vision may be normal or greatly impaired. Choked disk has been observed in such cases, and ulceration of the cornea may result where the exophthalmos is so pronounced as to interfere with the closing of the eyelids.

External exostoses.—In the ten cases of *external exostosis* cited above, traumatism was the assignable cause of the exostosis in two cases only. The youngest patient was eighteen years of age and the oldest fifty-one years of age. These exostoses spring from the periosteum. They are generally of the same anatomical structure as those of the frontal and ethmoidal sinuses, consisting of an ivory-like shell with a nucleus of spongy bone. These external exostoses grow much more slowly than the osteomata of the frontal and ethmoidal sinuses, nor do they attain to the same enormous dimensions as do the latter.

The external exostoses of the orbit are generally found at the *upper border of the orbit*, although they may occur at any portion of the orbital border, so that it is not always possible to distinguish between these exostoses and those springing from the frontal and ethmoidal sinuses before the operation.

Antrum of Highmore.—The osteomata in this region spring, as we have seen, from the medial wall of the cavity and show a tendency to grow laterally. The tumor therefore first shows itself, as a rule, behind the lower eyelid, and the eyeball is displaced first upward, then forward and outward. The osteomata in this region break through the thin floor of the orbit, and project into the nasal cavity sooner than the osteomata of the frontal or ethmoidal sinuses; so that the nasal passages are disturbed early in the disease. Perforation into the cranial cavity is rare; I find it mentioned only once, in a case in which the tumor had grown to an enormous size. They are rarely bilateral.

Sphenoidal sinuses.—Osteomata in this region affect the sight, by compression of the optic nerve in the canalis opticus, earlier than the osteomata of the other cavities alluded to. This is readily anticipated on account of the proximity of the growths to the optic nerve. Osseous growths in this region show a disposition to intrude into the cranial cavity at an early stage of the disease.

It has been held that the persistent dropping of fluid (cerebro-spinal fluid) from the nostril, associated with atrophy of the optic nerves and other brain-symptoms observed by Priestley Smith, Baxter, Nettleship, Leber, and others, had an intimate connection with polypoid excrescences and the associated inflammatory affection of the ethmoidal and sphenoidal sinuses. Leber, as is well known, refers these symptoms to hydrocephalus internus, which, in complete ossification of the skull, would give rise to symptoms of brain-pressure.

This circumstance is incidentally referred to here because, since the anatomical investigations of Axel Key and Retzius, the presence of one of these symptoms—dropping of cerebro-spinal fluid—in osteoma of the ethmoidal and sphenoidal, or even frontal, sinuses would have a practical and important bearing on the prognosis of the case. Axel Key and Retzius found that the nervi olfactorii are surrounded by lymph-sheaths which communicate with the subdural spaces, and empty freely on the surface of the mucous membrane of the nose—that the subdural and subarachnoidal fluid of the brain may run off by the lymph-channels of the nose. Therefore, the escape of cerebro-spinal fluid (as demonstrated by chemical analysis by Robin and Mehu), in the case recorded by Tillaux, after evulsion of nasal polypi, would be accounted for by assuming an injury to the lamina cribrosa, but which, like those cases of trauma (in which this symptom was present) recorded by Sir James Paget and Bidloo, was not associated with disease of the optic nerve and those symptoms of cerebral pressure, anosmia, motor weakness, and convulsions which Leber has explained to be due to hydrocephalus internus, giving rise, by pressure, to a small dehiscence in the wall of the ethmoidal or sphenoidal sinuses, and thus to the escape of cerebro-spinal fluid. So long as the tumor is within the limits of the sphenoidal sinus, there may be no subjective symptoms. As the growth increases in size, it enlarges the sinus, and occasions atrophy of its walls, and compresses the optic nerve and the neighboring parts. One or both optic nerves may be affected, and amaurosis result. When the tumor breaks through the walls of the sphenoidal sinus, it extends into the nasal fossa, ethmoidal sinus, and into the orbit, or cranial cavity; and the latter may take place without giving rise to any subjective symptoms. In a later stage, epileptiform seizures may take place. Death generally results from meningitis or brain-abscess.

Diagnosis.—The condition with which osteoma of the frontal and ethmoidal sinuses is most likely to be confounded is a sarcoma with bony spicula or a collection of fluid in these cavities, in consequence of which the sinuses become distended and give rise to a prominence at the place in the orbit at which osteomata of the sinuses in question first show themselves. These retention-tumors are not stone hard like the incapsuled osteomata, but yield to pressure. It is, however, not always possible to make the distinction before exposing the growth by an operation. The drill is of value in making the differential diagnosis in such cases. But when we have these inflammatory conditions as complications of the osteoma, it is not possible to make a distinction. It is, however, of great practical importance to distinguish between the exostoses originating within the orbit and the osteomata of the frontal and ethmoidal sinuses. The exostoses of the orbit, as we have said, may occur at any part of the orbital border, but they have been observed most frequently at the upper margin of the orbit, and they grow much more slowly than the osteomata in either the frontal or ethmoidal cavities. But, after all, a positive diagnosis is only generally made at the operation.

Multiple hyperostoses and diffuse bony prominences

occur in the orbit, which are distributed over a considerable extent of the bone, in connection with some of which constitutional syphilis plays a significant part.

Prognosis.—Spontaneous exfoliation of osteomata of the *ethmoidal sinuses* has been observed in several cases, but the resultant deformity has been frightful. This spontaneous exfoliation has been the result of trauma in most of the cases recorded. Spontaneous exfoliation of osteomata of the frontal sinuses has also been observed in four cases; but this is rare, and the danger to life is far greater in osteomata of the frontal sinuses than in those of the ethmoidal sinuses, on account of the proximity of the latter to the brain and their tendency to perforate the walls of the sinus and extend into the cranial cavity. We can only hope to successfully remove these osteomata by surgical operation. Berger and Tyrmann show that of nine cases collected by them of osteomata of the frontal sinus, which projected into the ethmoidal cells, and in which an operation for their removal was performed, six (66⅔ per cent.) died from meningitis. When an osteoma of the frontal sinus has invaded the ethmoidal sinuses, it has, probably, also perforated the cranial cavity. The operations which I have seen performed on the cranium by general surgeons have convinced me that the prognosis need not be so unfavorable in the latter class of cases, when the operation is performed with care and under antiseptic precautions.

Sphenoidal sinus.—Osteomata in this region generally first extend into the cranial cavity. No case of successful removal of an osteoma from this sinus has been recorded.

Antrum Highmori.—The prognosis after removal of osteomata from this cavity is good, the operative removal of osteomata from this cavity having been favorable in nearly all of the cases recorded.

Berlin states that thirty-eight per cent. of the cases collected by him of osteoma of the orbit which had been operated upon were fatal. This statement applied to osteomata of the orbit in general; but I believe that we should distinguish in such statistics between the regions involved by the osteoma. For instance, Bornhaupt collected 11 operated cases of osteomata of frontal sinus, of which number 7 died of meningitis (sixty-three per cent.), 2 recovered, and of 2 cases the result was unknown.

But the majority of the cases from which these statistics were collected were examples of osteomata which had grown to large dimensions, and had already produced great destruction of the walls of the cavities into which they intruded—in some instances projecting into the cranial cavity—and, as in Tweedy's case, giving rise to degenerative changes in the brain itself. It is unfair to make such cases represent the actual danger of orbital osteomata.

Treatment.—You will observe, by referring to the cases which I have collected, that in osteomata of the frontal and ethmoidal sinuses, etc., we have to deal with a disease which offers the best chances for successful removal when the operation is undertaken at an early period of its existence, before a diseased condition of the tissues (especially suppurative) surrounding the growth has set in; and the latter condition must always constitute an element of great danger in connection with the operation.

There is another reason for operating just so soon as a diagnosis can be made, especially in the case of osteoma of the frontal sinus; *i.e.*, no matter how small the orbital portion of the tumor may be, it is impossible by the orbital portion alone to judge of the real size and extent of an exostosis springing from the frontal sinus. This fact is strikingly shown by Tweedy's case ("Oph. Hosp. Reports," 1882, vol. x., p. 303). The orbital portion of the tumor may be the size of a pea, and yet the entire sinus be filled with the body of the growth.

In our efforts to remove an osteoma from the frontal sinus, it is, I believe, *always better to break down the wall of the cavity through which it has made its passage into the orbit than to make an attempt to remove the growth from the cavity by attacking the body of the growth itself*, since the latter is so hard that a chisel can be forced into it only by employing an unnecessary and harmful amount of violence. It is always reprehensible practice to attempt the removal of an osteoma by attacking it at its apex. The mallet and chisel are, I believe, the best instruments to employ in the removal of these growths.

In every instance the operation should be performed under antiseptic precautions, and after the removal of the osteoma the sinus should be thoroughly searched for polypi which may spring from the lining membrane of the cavity, and when found they should be carefully removed, and the cavity washed with an antiseptic fluid and the wound covered with an antiseptic dressing.

40 WEST TWENTY-FOURTH STREET.

COCAINE AND ITS FASCINATIONS, FROM A PERSONAL EXPERIENCE.

BY FRANK W. RING, A.M., M.D.,

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"To some persons nothing is more fascinating than indulgence in cocaine. It relieves the sense of exhaustion, dispels mental depression, and produces a delicious sense of exhilaration and well-being. The after-effects are at first slight, almost imperceptible, but continual indulgence finally creates a craving which must be satisfied; the individual then becomes nervous, tremulous, sleepless, without appetite, and he is at last reduced to a condition of pitiable neurasthenia."—Editorial in THE MEDICAL RECORD, November 28, 1885.

"Once a man flies to cocaine for relief from 'cares that annoy,' he generally continues with such rapid strides toward such complete subjugation to its bewitching thraldom as but few will ever be rescued from by any power of will which they may be able to bring to their aid."—DR. A. B. SHAW, St. Louis.

"It is not only an antidote to opium poisoning—or, more properly speaking, the organic demand for such drug effects as have been acquired by use—but is itself a fascinating and dangerous intoxicant, the effects of which may be more difficult to counteract and renounce than are those of opium or its derivatives."—DR. ORPHEUS EVERTS, Cincinnati.

"It is a remedy to be used with extreme caution and prudence internally, and the large doses reported as having been given are not ordinarily safe. It will bear watching. It crazes and kills quicker than opium. The possibilities for immediate harm are not only great, but the likelihood of remote damage when tolerance is established is not small. The cocaine habit, more pernicious than the morphine neurosis, is the certain entailment of its frequent administration, and its thraldom is far more tyrannical than the slavery of opium."—DR. CHARLES H. HUGHES, St. Louis.

"I think it for many—notably the large and enlarging number of opium and alcohol *habitués*—the most fascinating and seductive, dangerous and destructive drug extant; and, while admitting its great value in various disordered conditions, earnestly warn all against its careless giving in these cases, and especially insist on the great danger of self-injecting, a course almost certain to entail added ill. And the need of caution against free and frequent using obtains in other cases, for there may come a demand for continued taking that will not be denied."—DR. J. B. MATTISON, Brooklyn.

"I regard the cocaine habit as similar to the tea or coffee habit, and unlike the opium habit. I do not believe there is a single instance of well-pronounced cocaine habit, the patient being unable to stop it at any time if he chose to do so."—DR. W. A. HAMMOND, New York Neurological Society, November 2, 1886 (MEDICAL RECORD Report).

One would judge, from reading the above quotations, that there was quite a difference of opinion in the minds of the medical fraternity in regard to the continued use of cocaine. Such is undoubtedly the fact. It is on account of this widespread discrepancy of belief that I am led to give my personal experience of the drug.

The remarks made by Dr. W. A. Hammond at a meeting of the New York Neurological Society, and a paper published by Dr. J. B. Mattison, "Cocaine Dosage and Cocaine Addiction," subsequently, caused considerable controversy and argument as to whether cocaine was a harmless or a dangerous drug—harmless in large doses, harmless from constant addiction; dangerous in large doses, dangerous from constant addiction—some maintaining that a great and useful drug was being maligned, others giving due credit to its usefulness, and insisting that it should be used with extreme caution.

There are certainly enough well-authenticated cases to satisfy any unbiassed mind as to its danger in large doses. It has killed. It has produced alarming symptoms in numerous instances. The question as to its ability to create a *cocaine habit*, pernicious *per se*, is open to discussion.

I propose to narrate, in as plain and concise a manner as possible, a ten months' constant use of the hydrochlorate of cocaine, taken entirely from an atomizer, and always through the nasal passages.

I have suffered for the past four winters with a chronic follicular pharyngitis, having an hypertrophy of the turbinated bones. Constant closure at night of the nasal passages; I would awaken several times with a dry, parched throat and mouth. Having used the cocaine spray on several patients with marked temporary relief for the same affliction, it occurred to me that an application of it would be beneficial to myself.

About September 1, 1886, I began to use every night, previous to retiring, a spray of a four per cent. solution of cocaine, forcing it into my nostrils by means of a small ball atomizer. For a month, each night, I used about a drachm (two grains).

After the first few applications the relief experienced was well marked. I would go immediately to sleep, and breathe quietly all night long. It was a soporific; a dilator of the nasal passages; in fact, a vehicle to "nature's sweet restorer."

At the end of about four weeks' use I experienced a change gradually coming on. My constant evening spray began to lose one of its principal virtues. Instead of going to sleep immediately, a sense of wakefulness possessed me, and it would be half an hour or more before slumber and rest came on. However, as it had not lost the virtue for which I began its use, I did not mind an hour's fanciful and visionary wakefulness.

During the months of November and December nothing of note occurred. Thinking a less quantity would suffice for the purpose for which I used it, I reduced the dose to about one and a half grains. The period of wakefulness increased, but my sleep was quiet and undisturbed during the night. In January I began to rather enjoy its effects, and to take a spray in the early evening, increasing it to two and three applications, until a member of the family suggested that I would better be careful and not resort to the drug too often. Up to this time I had deceived no one in regard to my use of it. I had informed all my friends, especially of the medical profession, how much relief I got from cocaine, and how often I took it, and how long I had taken it.

It did not occur to me up to within four weeks of its discontinuance that I was becoming dangerously attached to the drug, and in February I stopped it entirely for ten days, just to convince my family that there was absolutely no danger of my becoming a cocaine *habitué*. But I found my breathing was less agreeable and I renewed the employment of it. Through the months of March and April I experienced no ill-effects, unless one may consider two or three hours' inability to sleep as deleterious; but I began to notice a diminution of appetite, which did not disturb me, as that had often happened during the past few years.

On May 1st an incident occurred which saddened my existence to a great extent. I became very much depressed, despondent, and filled with grief. Everything was done mechanically, with lack of interest. Here is where the charms of the cocaine give relief. Temporary relief, but relief. I used it every night four or five times before retiring, each time followed by one or two cigarettes. My nights were passed in a dreamy restlessness, my mind set at ease, and spirits exhilarated. The appetite still decreased, the nerves became unsteady, and I was advised to stop cigarette smoking, which I did entirely for three weeks. About this time I very unwisely began to indulge in an occasional spray at the office during the daytime, something which had never occurred before, and June 27th the climax began. During the fortnight following I had one or two patients "go wrong," suffered from anxiety, worry, and overwork, made four or five visits a day for a week to a person afflicted with a purulent ophthalmia, and after each visit I would turn on forty or fifty pounds pressure, and reduce the liquid in the tube half an inch. Then seeking an easy-chair, with a cigarette in my mouth, I would dwell on the trials and tribulations of this life with a calmness and complacency hardly imaginable. My mind was at rest in less than five minutes, a sensation of exquisite *numbness* would steal over my body, creeping up from the feet to the head, everything looked bright and happy, my grief and anxiety were gone, my troubles were ended. After about a week of this state of things I became somewhat alarmed. My friends could not account for my listlessness, loss of interest in themselves and their pursuits. I assured them it was the result of a little too much cocaine; and after making a feeble effort at facetiousness, would relapse into a condition of silence again.

I did my work mechanically and well; my mind was as level as ever half an hour after these inspirations. At the end of fifteen minutes I would have an inordinate desire to go to the bath-room, and upon rising would find myself staggering a little. I had no desire to talk, but thought I might write a few articles to the medical journals, and I did write, and afterward found that my productions were creditable to a man of ordinary talent. During these *séances* I noted a slight increase in temperature, acceleration of the heart's action, no nausea, no perspiration, mind seemingly clear and active. The numbness only lasted two or three minutes. Thirty minutes after a spray of a solution containing four grains I would be entirely myself again, with the exception of a slight headache, which soon passed away upon using a little bromo-caffeine. I had no appetite during this fortnight of partial bliss, did not sleep well, and lost five pounds of flesh. Probably, during this time I averaged ten grains a day. This is certainly not excessive and would not have caused as much disturbance had I not been under its influence for so long a time. I am sure the second week was more fascinating than the first, and yet I took less cocaine, plainly showing that its effects were cumulative.

July 9th I came to the conclusion that the medicine was getting to be a necessity, that it might become a source of injury to my well-being, and I calmly decided to stop it, which I did. The inclination for it often seizes me, but I crush it with a perfect confidence that I shall never again indulge in its enchantments.

I have computed, from my account with the druggists and recollections of the amount taken, that the cocaine consumed during the ten months will aggregate more than six hundred grains. After the first few months I found a two per cent. solution answered my purpose just as well, and reduced the spray accordingly. Another conclusion arrived at from my experience, not heretofore mentioned, is the fact that cocaine must be ranked among the anaphrodisiacs.

I would not like to have my narration considered as a *confession*, nor as the relation of a series of experimental observations. I used the drug simply as a remedy. Whether it became a pernicious habit I leave others to judge. I would not be willing to take the responsibility of a like continuance with any patient; neither would I put it in the hands of one to be used at his discretion. Several times have I been asked, after spraying the nose, what that medicine was which produced such a marked relief in breathing. The answer is always: a solution of the erythroxylon plant. The words coca and cocaine are not in my vocabulary when addressing patients.

Dr. W. A. Hammond took thirty-eight grains hypodermatically within ten days, the last being a solution of eighteen grains. He got to bed, but how he got there he did not know. His office was in more or less disorder. His head ached for two days, his heart-beats were greatly increased. He experienced no disposition to murder, or to do violent acts. And yet he could not recall what he did during the time that he was under the influence of the drug. Dr. Hammond incurred the danger of six, eight, and eighteen grain-doses for the purpose of ascertaining if there was any truth in the statements in the newspapers regarding the injurious effects of cocaine addiction. He did not acquire the habit. I should have been very much surprised if he had. It is remarkable that he did not acquire a disgust for it. I have saturated my system with crude opium for four or five days, until the formication, loss of sleep, and constipation nearly drove me frantic, and yet I acquired no opium habit. Pernicious habits are not acquired in ten days. Time does the business. Neither are they formed in men of strong and determined wills—men like Dr. Hammond, who have not the time to devote to such fanciful and illusory moments. But, take a man who is ill, downhearted, unable to work, and subject him to my experience, and what would become of him? Would he not be in imminent danger of becoming a cocaine *habitué?*

At the time I began the use of cocaine I was occasionally treated by Dr. W. A. Dayton, Assistant Surgeon to the Manhattan Eye and Ear Hospital. It may be interesting to laryngologists to know the condition of the parts before and after the treatment. Dr. Dayton has kindly handed me the following:

"September, 1886.—The septum naris, unevenly hollowed on the left, with a corresponding bulging on the right side, was eroded at several points from acrid secretion. The mucous membrane of the left turbinated bone was hypertrophic, while that of the right nostril maintained a close approximation to the septum. The posterior extremity of both bodies were enlarged.

"The vault of the pharynx was the seat of considerable thickening, sufficient to partially occlude the mouths of the Eustachian tubes, as manifested by a decrease in the hearing power and the advent of tinnitus aurium. The back wall of the pharynx showed the usual extension of inflammation from the parts above.

"July 28, 1887—Rhinoscopic examination at this time shows: (1) That the breathing space in both nostrils is greatly increased; (2) that the mucous lining of both nostrils is in a comparatively healthy condition, and that the secretion is diminished; (3) that the face of the pharynx from the vault to the base of the tongue is still thickened and swollen, and (4) that the atresia naris formerly existing is certain to recur unless the applications of cocaine are continued or other suitable means be presently adopted to forestall the event."

101 Park Avenue.

Treatment of a Stye.—M. Abadil recommends a three per cent. solution of boracic acid for styes. With a wetted piece of wadding some of this solution is to be dropped on the stye several times a day. It is said not only to effect a cure, but to prevent a return of the annoyance.—*Canada Medical Record.*

Progress of Medical Science.

Pilocarpine in Puerperal Eclampsia.—At a recent meeting of an Australian medical society (*The British Medical Journal*, July 16, 1887), Dr. Finniss related a case of puerperal eclampsia in a woman, aged twenty-four, treated by hypodermic injections of nitrate of pilocarpine. The first seizure occurred twenty-one hours after delivery; the fit was preceded by severe headache. Resort was at first had to chloral and bromide of potassium, combined with the administration of ether during the epileptiform fits, but without much benefit. The first dose of nitrate of pilocarpine (one-fifth of a grain) was administered hypodermatically at 7 A.M., thirty-seven hours after delivery. Within a minute or two profuse perspiration came on, and saliva poured out of her mouth; the pupils contracted a little. She had five more convulsions, with stertorous breathing in the intervals, up to 8 A.M., when the dose was repeated. She had had three more convulsions up to 9 P.M., but these were milder and shorter. During each fit ether was administered to assist in lessening arterial tension. She had no other fit until 2 P.M.; she had another at 2.30 P.M., and a very severe one soon after 3 P.M. Nitrate of pilocarpine, one-third of a grain, was injected; it produced the same physiological action as in the morning. At 8 P.M. she had slept for three hours; the temperature was 104.2°; she was still unconscious; she passed urine and her motions in bed, but had had no more convulsions since the third injection. At 7 A.M. the next morning her temperature was 103°; she had had no return of the convulsions, and had slept at intervals through the night, but was still unconscious. At 8 P.M. of the same day the temperature was 98.2°; she had had a good calm sleep for three hours in the afternoon. She subsequently progressed favorably. There was a trace of albumen in the urine when it was examined on the second day. Mr. Giles stated that he had seen nitrate of pilocarpine used in the Edinburgh Maternity Hospital by Dr. Halliday Croom, in a case of puerperal eclampsia. The convulsions had commenced soon after the birth of the child, the patient being perfectly unconscious, and the breathing stertorous. On the morning of the third day injections, hypodermatically, of one-sixth of a grain of nitrate of pilocarpine were employed, with rapid and very satisfactory effect. In one case he had treated, the convulsion which came on after labor yielded rapidly to injections of nitrate of pilocarpine (one-sixth of a grain) used every two hours for one day. In this case the patient was unconscious about forty-eight hours, and the injections were commenced on the second day. The physiological action of the drug was rapidly produced. Within a minute after the injection drops of perspiration were running off her forehead, which previously was quite dry. After the first injection the frequency of the convulsions diminished, and by evening consciousness returned.

Hypersecretion of Luschka's Tonsil.—Dr. Luc has been led to the following conclusions regarding the hypersecretion of Luschka's tonsil: 1. Whenever chronic pharyngitis, characterized by dryness of the pharyngeal mucous membrane and by scabs and mucous patches on its surface, is present, catarrh of Luschka's tonsil may be diagnosed. 2. Thorough cauterization of the pharyngeal follicles checks catarrh in this cavity, and subsequently cures the secondary pharyngitis. 3. Concomitant symptoms of true ozæna do not contra-indicate direct treatment of Luschka's tonsil. If the complete destruction of this gland does not modify the faulty conformation of the nasal cavities, it often checks the pharyngeal and nasal catarrh, and diminishes the secretion which tends to accumulate in the two cavities. 4. Except in peculiar cases, posterior rhinoscopy, with the help of Voltolini's hook, is preferable to the old method, in cases where the examination of the pharynx and of the pharyngeal vault is required.

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THE BLUE COLOR OF THE VAGINA AS A DIAGNOSTIC SIGN OF PREGNANCY.

It is a satisfaction to chronicle observations which settle definitely some mooted point in medicine. Certain recent contributions to the *Boston Medical and Surgical Journal* by Dr. John W. Farlow and Dr. J. R. Chadwick belong to this class. Dr. Farlow gives an analysis of 141 cases of pregnancy, with reference to the blue color of the vagina. He tabulates his observations as follows:

Table of 141 *Cases of Pregnancy.*

How long pregnant.	No blue color.	Suggestive.	Characteristic.	Total.
weeks	1	1	..	2
months	11	10	1	22
½ "	5	3	..	8
"	12	5	11	28
½ "	1	1	1	3
"	1	8	10	19
½ "	3	4	7	14
"	..	1	15	16
½ "	..	1	4	5
"	1	..	11	12
½ "	..	..	1	1
"	1	..	3	4
"	..	1	6	7
Total	36	35	70	141

Dr. J. R. Chadwick's tables include observations on 281 cases of pregnant, and 56 of non-pregnant women.

Of the 281 pregnant women, the color was practically absent:

At the end of 2 months in 51 per cent. of the cases.
" " 2½ " 31 " "
" " 3 " 17 " "
" " 3½ " 8 " "
" " 4 " 8 " "
" " 4½ " 9 " "
" " 5 " 4 " "

The color was *suggestive* of pregnancy:

At the end of 2 months in 34 per cent. of the cases.
" " 2½ " 41 " "
" " 3 " 27 " "
" " 3½ " 45 " "
" " 4 " 30 " "
" " 4½ " 4 " "
" " 5 " 20 " "
" " 5½ " 30 " "

The color was *diagnostic*:

At the end of 2 months in 13 per cent. of the cases.
" " 2½ " 28 " "
" " 3 " 46 " "
" " 3½ " 38 " "
" " 4 " 63 " "
" " 4½ " 86 " "
" " 5 " 72 " "
" " 5½ " 70 " "

After (and including) the end of the sixth month, the color was *diagnostic* in all but one case, in which it was *suggestive*, and one in which it was *doubtful*.

This coloration of the vaginal wall, though spoken of as blue, is more nearly a wine-color or violet, and is noted especially upon the anterior wall of the vagina.

With regard to non-pregnant women Dr. Farlow states that among 2,000 gynecological cases he found the blue color quite characteristic in one, and almost characteristic in three, non-pregnant women. Dr. Chadwick gives the following tabulated observations of 56 women who believed themselves pregnant, but were not so:

Table of 56 *Women who proved not to be Pregnant.*

Period after menstruation.	Valueless.		Diagnostic.			Total.
	No color.	Doubtful color.	Suggestive color.	Characteristic color.	General deep color.	
1 week	1	..	1	..	..	2
2 weeks	2	..	..	..	..	2
3 "	2	..	..	..	..	2
4 "	5	3	..	..	1	9
5 "	3	2	1	..	..	6
6 "	12	1	..	..	..	13
7 "	1	..	..	..	..	1
2 months	6	..	..	..	..	6
2½ "	2	1	..	..	..	3
3 "	4	..	..	..	..	4
4 "	1	2	.	..	..	3
5 "	3	..	1	..	..	4
6 "	1	..	..	..	..	1
Total	43	9	3	..	1	56

From this it will be seen that the color was suggestive in three cases and somewhat characteristic in one. The reader can draw his own conclusions from the above data. It is evident that the blue color is not an infallible sign of pregnancy, nor does its absence always exclude pregnancy. Dr. Chadwick, however, seems justified in his opinion that from and including the second month the color is generally present, and often of such a character as to be diagnostic.

From the tables it appears that the color is present at the end of two months in just one-half the cases, at the end of three months in about two-thirds of the cases. After this date the question of its presence or absence is of no very great practical importance, although Dr. Chadwick claims to have found it of assistance in cases of retroversion of the pregnant uterus; extra-uterine pregnancy; in pregnancy complicated with fibroid tumors of the uterus or with ovarian tumors; in pregnancy occurring in women with very fat or tense abdominal walls; when the existence of pregnancy was unknown or concealed; when menstruation persisted after conception; and when conception has occurred during lactation without the intervention of menstruation.

ALCOHOL MORTALITY.

SOME ten years ago a brief report was made to the American Public Health Association regarding the relative mortality of alcohol drinkers and of abstainers. The records of an English life insurance company were taken as the basis of the article. This company began its work with insuring the lives of total abstainers only. But they could not find enough of this class to support the organization, therefore they added to their list moderate drinkers. Separate records were kept of the two classes, and it was found that the average duration of life of the two did not differ except in a very small fraction of a per cent. As these records were kept for some thirty years, they would seem to establish the fact that in England moderate drinking does not shorten life.

On the other hand, another assurance company of London which deals with total abstainers as one class, and all others whose lives are worth insuring as another class, publishes statistics which are decidedly favorable to the total abstainers. Thus, in its last report it states that expected claims in the temperance section are 271; actual claims, 171. In the general section 354 claims were expected, while the actual claims were 331. This would seem to show that about one-sixth more die in the general section than among the total abstainers. There are, we believe, more sources of error in these statistics than in those of the company to which we first referred. Still it can hardly be doubted that a hundred total abstainers of average health have a better chance of life than a hundred moderate drinkers of equally good physique. All that can be said is that a large per cent. of persons can drink moderately without thereby shortening their lives.

THE GAIT OF A CRIMINAL.

A CURIOUS study has been made by Dr. Peracchia of the differences between criminals and law-abiding citizens as exhibited by their walk (*La Riforma Medica*, No. 147, 1887). The author first made a number of observations to determine the conditions of normal progression, and found that in good people the right pace is longer than the left, the lateral separation of the right foot from the median line is less than that of the left, and the angle of deviation of the axis of the foot from a straight line is greater on the right side than on the left.

Comparing these results with those obtained from the study of forty criminals, he found that in the latter the pace was shorter than the normal, a fact which did not seem to coincide with the greater robustness or "toughness" of these individuals. The left pace was longer than the right, the lateral deviation of the right foot was greater than that of the left, and the angle formed by the axis of the foot with the straight line was greater on the left side than on the right. It would thus seem that, in general, the gait of a criminal betrays a marked preponderance of power of the left foot over the right—a true sinistrality. This also agrees with the discovery of Marro that criminals are often left-handed. The moral is, of course, to beware of a left-handed individual, for there is a possibility that he may not be of good moral character.

But this is not all. Dr. Peracchia has not only shown us how we may distinguish criminals in general, but has laid the beginnings of the differential diagnosis between various sorts of evil-doers. The following are the distinguishing characteristics which his observations have enabled him to formulate:

1. *Thieves.*—In those who are predisposed to appropriate the property of others there is a pronounced widening of the base of support, together with a very long step.

2. *Assassins.*—In those who have murder in their hearts the base of support is not as wide as it is in thieves, since the angle formed by the axis of the foot with the median straight line is less obtuse, but the sinistrality betrayed by their foot-prints is very marked.

3. *Ravishers.*—Those whose tendencies are in the direction of rape may possibly be detected by a skilled diagnostician by the fact that they take short steps and have no sinistrality to speak of.

These discoveries are of a very interesting character, and if the criminal could be induced to walk before the honest man, instead of following him as he usually does, they might also be put to a practical use, for then good citizens could diagnose the rogue by his tracks, and might thus be enabled to escape robbery, assassination, or rape, as the case might be.

REQUIRING PRELIMINARY EXAMINATION.

WE are glad to find that the College of Physicians and Surgeons of this city proposes next year to require preliminary education of its matriculants. Applicants who do not bring evidence, in the shape of degrees or certificates, of a satisfactory general education, will have to be examined in English composition, Latin, arithmetic, algebra, and geometry. The amount of knowledge required on these subjects is very elementary and need deter no one. Experience in other institutions of humbler pretensions, but with less fear perhaps of frightening away pupils, has shown that a knowledge of modern languages can be safely accepted as a substitute for geometry or algebra.

MIXED HOSPITAL BOARDS AND THE MORTALITY-RATE.

THE annual reports of the Cook County Hospital reveal some facts in which the profession should feel some interest. On the opening pages we find a list of the members of the "regular medical board," and below of the "homœopathic medical board." Such juxta-position seems a little at variance with conventional ethics, but in this we may be mistaken.

The point that is of real importance is, that both in its totals and in the medical and surgical departments, the mortality of patients treated by the homœopathic medical board is less than that of the regular board. And this is true not for one year, but apparently for a series of years. For example, in 1884 the mortality on the regular medical side was about $\frac{1}{11}$ of the total treated (406 to 4,692), that on the homœopathic side about $\frac{1}{12}$ (103 to 1,242).

In 1885–86 the figures were for the regular school $\frac{1}{13}$ (448 to 5,909) to $\frac{1}{15}$ (105 to 1,532), and a similar excess of mortality-rate is carried through the medical and surgical departments.

It is possible that the cases sent to the homœopathic side are of the less severe and acute character. Unless some such explanation as this exists, the reproach upon the skill of the regular medical staff is a severe one. Hospital statistics are extremely fallacious things, to be sure, and no inferences should be drawn from them without careful examination. But in the Cook County Hospital such examination seems demanded.

MEDICAL LAWS AND ETHICAL DECADENCE.

THE question whether the enactment of laws for the regulation of medical practice may not tend to lower the ethical tone of the profession has been raised, and it is no doubt a serious one. Some physicians seem to feel that, so long as they are legal doctors and can collect

their bills, they can stay in the ranks with their reputable brethren, no matter how lax they grow in matters of professional dignity and honesty. The editor of the *Pacific Medical and Surgical Journal* says: "Since it has been attempted to regulate the practice of medicine in this State by means of legal enactments, the members of the profession seem to imagine that they are no longer individually responsible for the enforcement of the lines of conduct prescribed in the Code of Medical Ethics; we would, however, seek to remind them that, since everything which is medically legal is not medically ethical, the duty of maintaining the dignity of the profession still remains with them."

It is to be remembered, however, in connection with the above, that the medical laws of California are far from satisfactory. Stricter requirements will exclude a considerable proportion of those who now indulge in the practices referred to.

THE SUPREMACY OF DIGITALIS.

Professor R. Kobert, in an article on the influence of pharmacological agents on peripheral vessels (*Therapeutic Gazette, June*, 1887), discusses the action of digitalis as compared with that of other substances of the same group, viz., convallaria, strophanthus, apocynum, adonine, helleboreine, soillaine, erythrophleine, and barium chloride.

He states that in digitalis there are three active principles—digitalin of Schmiedeberg, digitoxin, and digitalein. Now digitalin has the power, like all the other substances of the digitalis group, of contracting the blood-vessels of the body, but, in marked contrast to all the others, digitoxin and digitalein in ordinary doses do not contract, but dilate, the vessels of the kidney. Hence, we have in digitalis alone a drug which increases the force of the heart-beat and narrows the peripheral circulation, except that of the kidneys. We have, therefore, the ideal diuretic so far as the vascular apparatus goes, for it not only increases the rapidity of the renal circulation, but augments its volume. Dr. Fraser claims this same peculiarity for strophanthine, but Professor Kobert is not yet ready to admit it, and says that "the leaves of digitalis purpurea are an agent which can be supplanted by *none* of the many other vaso-motor remedies, for we are as yet ignorant of other remedies which act like digitoxin and digitalein. The importance," he adds, "of my statement, that digitalis medication has no substitute, every practitioner will admit. The substitution for digitalis of adonis, convallaria, etc., is not because digitalis does not affect the heart properly, but because digitalis often causes vomiting and purging in certain patients in whom the other drugs, adonis, convallaria, strophanthus, etc., do not produce such results."

As to the best preparation, we infer that Professor Kobert recommends the leaves, the tincture, and the alcoholic extract, since alcohol dissolves the three important active principles. In fluid extracts the digitoxin is precipitated as an insoluble powder. When the leaves are imperfectly dried a decomposition sets in which not only destroys the active principles, but may produce new and poisonous compounds. Similar decomposition may occur when the tincture is mixed with watery or syrupy solutions. The practice, said to be prevalent in this country, of not preparing the drug from the leaves when desired, but from a concentrated infusion, is a bad one.

The conclusion is that digitalis still holds and deserves its supremacy as a diuretic and cardiac tonic, but great care is needed in prescribing it. Well-dried, powdered leaves, the extract or the tincture, are the surest preparations. The practitioner should not forget that, although digitalis improves the cardiac rhythm, strengthens the pulse, and lessens dropsy, its general effect upon striped muscle is to lessen the contractive power. In cases in which this muscular weakness and languor are pronounced, barium chloride may be tried, since this drug, though not a heart-tonic directly, yet contracts the blood-vessels and may produce sufficient diuresis, while it does not depress but increases muscular contractility.

Professor Kobert's studies furnish a striking illustration of the practical value of pharmacological study.

News of the Week.

A New Theory of Ice-cream Poisoning.—Dr. George S. Hull, of Chambersburg, Pa., writing in the *Medical Times*, says that electricity is generated by the revolving zinc paddles in ice-cream freezers, the zinc is dissolved, and thus the ice-cream becomes poisonous.

The Death under Ether Anæsthesia of a patient of Dr. Agnew, of Philadelphia, would seem to have been due to shock or apprehension rather than to the toxic effects of ether. The post-mortem examination, made by Dr. Formad, showed evidences of old inflammatory and degenerative lesions in the brain and cord. The lungs were collapsed and not congested.

Prizes for Essays on Hygiene.—The Spanish Society of Hygiene advertises prizes for the best essays on "The Hygiene of Work in Childhood," and "Means of Preventing the Evil Effects on the Eyesight by Faulty Conditions of Schools and of Methods of Instruction." The prizes, of $50 each, are open to universal competition, but the essays must be written in Latin, French, Spanish, Italian, or Portuguese.

The Health of London.—There has been a large increase recently in the number of fever patients treated by the Metropolitan Asylums Board of London, the figures being but little below the highest number reached in fourteen years.

An Ovariotomy Record.—On August 2d, Dr. von Nussbaum performed his five hundredth ovariotomy in Munich, and this was made the occasion of an ovation to the professor by his students, who presented him with a bouquet in which the number 500, probably in flowers of of a bright red hue, stood prominently forth.

Dr. Arányi Hunyadvár, professor of pathological anatomy in the University of Budapest, died recently, in his seventy-ninth year.

American Academy of Medicine.—The annual meeting of the American Academy of Medicine will be held at Columbian College, Washington, Saturday, September 3, at 12 M. The annual dinner will be given at the Arlington Hotel in the evening of the same day.

A Court Physician Beheaded.—The Ameer of Afghanistan suffered not long ago from a boil on his neck and sought relief at the hands of his court physician. The latter ordered some sort of a salve to bring the boil to a head. Unfortunately the application caused the august patient considerable pain, and after a night of torture he sent for his physician and had him decapitated. Evidently the physician to the Ameer does not hold a sinecure.

Paracentesis Extraordinary.—Dr. A. Miceli reports in the *Rivista Clinica e Terapeutica* a case of ascites a frigore, in which paracentesis was performed thirty-four times, at first at intervals of a few days, and then of weeks and months. Finally the fluid ceased to reaccumulate and the patient, a young woman, made a good recovery, married, and became the mother of children.

Feeding by the Rectum for a Long Period.—Dr. A. Longhi reports in the *Gazzetta degli Ospitali* the case of a youth, aged fifteen, who was unable to swallow by reason of some trouble in the œsophagus. He was fed by the rectum for three months, not a particle of food or drink entering his stomach in that time. He suffered neither from hunger nor from thirst, and gained steadily in flesh and strength.

Hebrews in the Russian Universities.—The Russian journals are discussing the question of restricting the number of Jewish students in the universities. In some of the departments their number is insignificant, but in the medical faculties there are 224 Hebrews in every 1,000 students. In the medical department of the University of Kharkoff 41.5 per cent. of the students are of this race. The authorities seem to be alarmed at these figures, and, according to *Vratch*, the Minister of Instruction has ordered that hereafter the number of Jews at this university shall not exceed five per cent. of the whole number of students.

A New Medical Society has been formed in an Illinois town, according to the *Western Medical Reporter*, the only requisite for membership in which is that the applicant shall possess a certificate to practise medicine from the Illinois State Board of Health. Regular physicians and practitioners of all the different "pathies" meet together in seeming concord, and it is even proposed to establish a dispensary to be run by the members of the society.

Delegates to the International Congress.—The foreign delegates to the Congress are beginning to arrive. About forty came on the steamers arriving in New York on Sunday, and others during the week. It is stated that about three hundred and forty physicians from abroad have sent in their names for registration.

A Scientific Exhibition will be connected with the sixtieth congress of German Naturalists and Physicians, to be held in Wiesbaden from September 15 to 24, 1887. Its purpose will be to show at a glance the latest and most perfected instruments and apparatus which have been placed at the disposal of science and medicine in the last few years, and anything that cannot lay claim to be ranked in this category will be rigorously excluded. No charge will be made for space or insertion in the catalogue, and the instruments, while there, will be covered against risk by fire at the expense of the committee. Applications are to be addressed to the Ausstellungs-Committee, Versammlung Deutscher Naturforscher und Aerzte, 44 Frankfurterstrasse, Wiesbaden.

The Library of the Surgeon-General's Office.—The work of transferring the books in the office of the surgeon-general's office from the old quarters in Ford's Theatre, where President Lincoln was assassinated, to the new building on the corner of Seventh and B Streets, is being rapidly carried forward. The new building occupies the space in the southeast corner of the Smithsonian grounds. The front on B Street is 232 feet, the central portion having a frontage of 112 feet. The wings on the east and west side are each 60 feet front, with a depth of 131 feet. The building is of brick, three stories in height, and is fire-proof. The library occupies the west wing, and the army medical museum the east wing. It is hoped that the books will be all arranged on the shelves in the early part of this month.

A Prize Competition.—The *Lancet* states that the Medical Institute of Valencia offers gold medals for the best works on the following topics: 1, Chorea; 2, Ovarian Tumors; 3, The Medicinal Plants of Valencia; 4, any scientific subject, at the option of the author. The essays, which may be written in English, are to be sent to the *Secretario de Gobierno, calle del Triador*, No. 11, by December 1, 1887. The announcement of the results will take place on March 31, 1888. The competition is open to medical men and pharmacists of all nationalities.

Professor Sayre's Danish Disciples.—Dr. Levy, of Copenhagen, has written a letter to Dr. Sayre, in which he states that he has employed the plaster-jacket treatment, which he considers constitutes one of the greatest advances ever made in orthopedic surgery, in thousands of cases, and that it is now generally adopted by his colleagues in Denmark. He also states that they likewise adhere to Dr. Sayre's maxims with regard to the treatment of club-foot in all essential points, and that Danish orthopedics now rests to a large extent on the "conceptions and proposals emanating from Dr. Sayre and his school."—*Gaillard's Medical Journal.*

The Late Dr. Rudolph Mautner.—A special meeting of the Richmond County Medical Society was held at the S. R. Smith Infirmary, Wednesday, August 24, 1887, to take action in regard to the death of the late Dr. Mautner. The committee, Drs. Van Rensselaer, William C. Walser, and O. Dea, offered the following:

Whereas, It has pleased the Almighty, in his infinite wisdom, to remove our co-laborer, Dr. Rudolph Mautner, from his worldly sphere of usefulness; therefore

Resolved, That we hereby record our deep appreciation of the high personal character and professional attainments of our said deceased friend;

Resolved, That we tender our heartfelt sympathy to his bereaved widow and family in their grievous loss and affliction;

Resolved, That a copy of the above preamble and resolutions, be sent to the family of the deceased.

J. Walter Wood, M.D.,
Secretary Richmond County Medical Society.

Reports of Societies.

THE MEETING OF THE BRITISH MEDICAL ASSOCIATION IN DUBLIN.

(Special Report to The Medical Record.)

MEDICAL SECTION.

First Day, August 3d.

The Medical Section held its first sitting on August 3d. The President, Dr. William Moore, occupied the Chair, and delivered the inaugural address. He adverted to the advance made in the important question of fevers, as regarded their specific characters, their diagnosis and treatment. In his student days no branch of medicine was more unsatisfactory than the diagnosis and treatment of fevers; and hence we did not know what the future had in store for the medical art in regard to the treatment and prevention of these fatal diseases. We must admit, he said, that many practitioners without scientific pretensions had proved more successful in the treatment of these diseases—a treatment derived from their common sense and experience alone—than many persons of greater scientific attainments. We must as much as possible, he continued, elevate the profession from the condition of a simple art and make it a scientific art. In the meantime experience had revealed many remedies, which we must not discard.

Dr. Charlton Bastian, of London, opened a discussion on

APHASIA.

After referring to the various theories as to the part of the brain affected in aphasia, Dr. Bastian said that he accepted all the facts which related to the phenomena of aphasia, but interpreted them differently from several authors. In his opinion, there were four brain-centres connected with this disease, the visual and auditory centres on the one hand, and two centres of motion, the cheiro-kinetic and the glosso-kinetic. The third left frontal convolution was the situation of the glosso-kinetic centre, while the cheiro-kinetic was situated above this, in the superior frontal convolutions. The auditory and visual centres, again, were situated posterior to these kinetic centres, and probably in time it would become possible to localize their centres. It was not necessary to use the word centre, for probably the activity of the brain was diffused over large areas. In all probability it would be found that there were definite portions of the brain connected with blindness and deafness. A patient might be word-blind, although not blind in other respects, and others might be word-deaf, although not deaf to ordinary sounds. The auditory and visual centres were, he thought, situated at the posterior part of the upper frontal convolution. In ordinary silent thought there was a revival of words in the auditory centres. When speech took place a stimulus must pass along to Broca's convolution. He should call those fibres which connected motor and sensory centres internuncial. All the different forms of defect of speech were, he maintained, explicable by this hypothesis. If there were damage to any of these fibres, some form or other of loss of speech might ensue. His opinion was that there were no motor centres in the cortex. He differed in his hypothesis from Dr. Hughlings Jackson, who thought that words are revived in the glosso-kinetic centre, for there was no proof that this could occur. And that author's view, that there were motor-centres in the cortex, was, he thought, erroneous. Lesions of the bulb are not associated with either loss of memory or paralysis. When *aphemia*, as distinguished from aphasia, occurred, the mind remained unaffected, and the aphemic patient can express his ideas quite well in writing, and his intelligence remain excellent. One patient of his, of this kind, could not speak a word, but could write all he needed to express very clearly, and Dr. Bastian thought that in such a case the internuncial fibres for speech had been affected, leaving the visual and auditory centres intact. Dr. Hughlings Jackson would not grant that such cases existed. In some cases the power of writing alone had been destroyed, and the patient had loss of muscular sense. In the early days of the controversy about aphasia, observers had brought forward cases where Broca's convolution had remained untouched while aphasia occurred. This might be explained by his hypothesis that in such cases the internodial fibres might be affected, and thus the localization hypothesis would not be destroyed in any way. Thus many cases of aphasia had been reported where the Island of Reil had been found to be affected, which could, he contended, be explained by his hypothesis. When the auditory centre was affected then aphasia coincided with word-deafness, and the same held with word-blindness. He had a patient, in 1878, who, if he heard a word pronounced, could say it, and could read and understand the paper, but could not speak a word. He could also copy a word, but if told to do this he could not comply, and could not write from dictation.

In the discussion which ensued on Dr. Bastian's paper, Sir George Paget, of Cambridge, observed that of course it was well known that aphasia usually accompanied right hemiplegia. In left-handed persons, however, this was found not always to be the case, for then the centre of speech was transferred to the right hemisphere. A patient and friend of his, a left-handed man, of very great eloquence, was seized with a slight attack of right hemiplegia and aphasia, and was seen a few hours after the seizure. By that time he could only say the words yes and no. His right side showed paresis of the arm, and ataxia of the leg. The next day the patient could speak, and then got pretty well again. Two years and a half after this, he had another attack, at the same time in the morning as the former, and his wife found him lying insensible on the floor. He was then ataxic and had palsy of the left arm, and loss of sensation in that arm, but he could speak quite well. Three years subsequently he had a tremendous attack of right hemiplegia, and recovered to a certain extent, living for three years after, but remaining speechless till he died. He uttered sounds, but, although he seemed to be talking, the sounds were quite unintelligible. This gentleman had been a most accurate speaker, and used his words with the greatest precision. His only recreation was chess, and he used his left hand for moving the men, but could write well with the right hand as he had been taught to write with that hand. In this case the left hemisphere being used for writing, the same hemisphere was used for speech as usual.

Dr. Gairdner, of Glasgow, thought that when an infant began to speak it gradually made ruts in its brain, which were made use of in future life. This hypothesis was not at all subversive of that of Dr. Bastian, with whose views he was disposed to agree. When the child began to write, it opened out a new rut in the cheiro-kinetic portion of the brain. The case of the late Lord Denman had been mentioned before by himself in the discussion on aphasia which took place at the Worcester meeting. That gentleman was suddenly paralyzed, but as far as his daughter could judge, his intellect remained unaffected. Thus he went on reading works daily in various languages, and was so bent on communicating his ideas to others, that he registered his opinions by making his daughters copy out portions of various books and send them off to his friends, to let them know what he was thinking about. There was, said Dr. Gairdner, a certain amount of aphasia in all persons after a certain period of life. Relatively speaking, all were aphasic. In his own case, there was a certain preparation of digitalis which he could never remember the name of. At last, after numerous attempts to fix it in his mind, he did so by artificial memory. And, in the

same way, there was a gentleman with whom he was acquainted and occasionally visited, and yet, although he had seen him for years, he could not remember the name of his house without an artifice of that kind. All individuals might throw light on this subject if they pleased. A patient of his could not remember any word, and though he was a good player at dominoes, could not remember any of the numbers on the dominoes. Yet he could work with numbers by his hand, although he could not pick up a number if asked to do so. One day this man came to tell him that the number forty-three on his card was wrong, and that it should be thirty-three, and he thus discovered that he could write the Arabic figures quite well, although he could not use verbal signs.

Dr. Nixon, of Dublin, found some difficulty in adopting Dr. Bastian's hypothesis. He mentioned a case of a patient recently seen with right hemiplegia. This patient said he was a Roman Catholic, he was sorry to say, and when remonstrated with by his sister for this remark, he said: "Not at all." The man was nearly speechless, and died in four days, when the post-mortem examination revealed the almost complete occlusion of the Sylvian artery. He held that there were three forms of the disease, (1) aphemia, (2) ataxic aphasia, (3) agraphia. Dr. Jackson's views were that the words must be revived in Broca's convolution, and he thought, after all, that the question came to be one of definition rather than of notable change of opinion between Drs. Jackson and Bastian.

Dr. Banks, president of the meeting, was struck with what Dr. Gairdner had said about Lord Denman. He himself had seen patients with aphasia where the intellect had been quite intact. In one curious case a gentleman with aphasia looked about everywhere for his will, and when he found it, tore it in pieces with his left hand and his teeth. He died shortly afterward, and his will was considered to stand, and the pieces of it were put together and approved of by the judge of the Probate Court. Another very singular case had occurred in a "grinder" of Trinity College, Dublin, who prepared students for examination. He became aphasic, and after being so for some time, he recovered the powers of speech as far as English went, while he entirely forgot Greek and Latin, in which he had been such a proficient. Upon this he began again to study these two languages carefully, and learnt them very rapidly. A lady patient recovered completely from right hemiplegia and aphasia. While she was in the aphasic condition, she could write admirably well. He was strongly of opinion that in many cases of aphasia, the mental condition was quite intact, and he considered this as a very important point in medico-legal cases connected with this symptom.

Dr. Bastian, in reply, said he had listened with great interest to Dr. G. Paget's case, and also to the remarkable case of Lord Denman; that case he considered to be one where there was lesion of the internuncial fibres. With regard to Dr. Gairdner's point, he also was himself getting into the state of partial forgetfulness of certain names. For ordinary cases the auditory centre might be lost, and in such cases the patient would not be able to recall the names of things. In the same way volitional speech will occasionally be lost. Briefly, there were afferent, internuncial, and kinetic fibres, any of which might be interfered with and give a certain series of symptoms of aphasia.

Dr. Murphy read some notes of a case of recurring aphasia in a child, with certain complications, ending in recovery, and this terminated the debate on the general question of aphasia.

A paper was read on

SYPHILITIC APHASIA

by Dr. C. R. Drysdale, of London. The author said he had seen a case of syphilitic aphasia as early as 1861 in Dr. Gubler's ward at the Hôpital Beaujon at Paris. That year Dr. Broca wrote his work on aphemia, a term altered to aphasia by Professor Trousseau. At that time it was not, as now, known that syphilis could cause aphasia by narrowing the calibre of the vessels of the brain, or by the formation of gummy tumors. In all cases of syphilitic aphasia which he had treated there had been right hemiplegia. The first of these he had under his care was that of a gentleman who, in 1851, contracted syphilis. He was a most intellectual man and a celebrated professional. This gentleman had suffered for many years with fits of vertigo, which yielded well to iodide of potassium, and suddenly, in 1871, or twenty years after the initial lesion, he had an attack of right hemiplegia and aphasia. His general health continued pretty good, but the symptoms of complete aphasia and hemiplegia remained quite unaffected by treatment. He died in 1886 after being aphasic for fifteen years. Another distinguished literary man contracted syphilis in 1870, and had symptoms resembling locomotor ataxia three years subsequently, with mental disturbances. In 1876 he was attacked with right hemiplegia and was speechless for a time. Remedies were of great service to him at that date. However, in 1887, being in Ireland on a visit, he was carried off by a cerebral attack. In 1869 a patient was brought to the Metropolitan Free Hospital of London with complete aphasia and right hemiplegia. He was covered with an eruption of syphilitic roseola. Remedies, such as large doses of the iodide of potassium and mercurial inunction, did a little good, but not much, and he left the hospital only to enter one of the workhouse infirmaries of London, apparently in an incurable state. In some cases, doubtless, said Dr. Drysdale, when the brain affection is slight, it may be cured and no relapses take place, but prognosis must be very guarded, for at any moment another cerebral attack may ensue and carry off the patient. In passing he thought a statue should be erected to Dr. Wallace, of Dublin, who was the discoverer of the virtues of iodide of potassium in syphilis. Before his day syphilis was a terrible disease, indeed, but since then, although still formidable, it had been disarmed of many of its most hideous and distressing phenomena.

Dr. Ringwood, County Meath, mentioned the case of a blind man who contracted syphilis, and, after two years, became aphasic. He was a most sad case, since, being blind and dumb, he could not communicate his wants in any way. The word No was all he could utter. The attack of right hemiplegia was transient, and the power of speech returned. When aphasic, the only way he could sign to others persons was by the nurse placing his finger on the raised letters, and when he did not want the letter, he said No. A case was mentioned where the patient had destruction of a great portion of the left frontal convolutions, following on encephalitis of the gray matter.

Dr. Grainger Stewart, of Edinburgh, delivered an address on

ALBUMINURIA,

wherein he showed, from a large number of cases of albuminuria occurring in all sorts of people, that this symptom was compatible with perfect health. He had made a large number of experiments to ascertain under what circumstances albuminuria might be expected to be found in health. In 407 healthy soldiers he found, after breakfast in the forenoon, that 66 gave reactions for albumen with cold nitric acid, and that 63 more, who did not show the albumen with nitric acid, showed it with the picric acid test, *i.e.*, 129 altogether out of the 407, or 31.7 per cent., showed traces of albumen. In passing, he would say that the results of these tests went to show that picric acid was a more delicate test than nitric acid. For instance, when urine diluted fifty times would still show albumen with nitric acid, it would do this with picric acid when diluted one thousand times. In another experiment, he took 205 soldiers, and found traces of albumen in the urine in 37.56 per

cent., whereas in 74 cases of persons in civil life of similar ages to those of the soldiers, the percentage was only 10.8. With regard to the effect of age, he took 40 children, and found the urine of 17.5 of these to contain albumen; whereas that of 40 old persons showed it in 67.5 per cent. In another experiment with various classes, he took patients before and after breakfast, and found that in soldiers there were 15.6 per cent. who had traces of albumen in the urine before breakfast, and 40.6 per cent. after breakfast. In old men the figures were 37.5 before and 67.5 after breakfast; in children, they were 12.5 before and 17.5 after breakfast. Finally, in 46 children in an orphan asylum, 14.6 exhibited traces of albumen before, and 20.03 after breakfast. In another experiment, some soldiers showed 29 per cent. of traces of albumen before a march of eight miles, and 19 per cent after it. But, after fatigue work of coaling in Edinburgh Castle, there were 44 per cent. with albumen in urine before, and 64 after the hard work. This showed that gentle exercise was of service in getting rid of albuminuria, while violent exercise was the reverse. As to cold bathing, the experiment was made on the urine of 21 boys in an orphanage, and 19 per cent. of them exhibited albuminuria before, against 23.8 after cold bathing, which did not show much difference.

In the discussion which followed, Sir A. Clark said he was able to fill up one of the points which Dr. G. Stewart had not been able to do. The Indian Civil Service forced all competitors on its posts to be examined very carefully on this point. He had need to examine a great many of such candidates, and the result was that of those persons who came up in health for examination about 30 per cent. had albumen in their urine, which lasted for two or three months after the examination. His plan of examination was to put a little of a diluted solution of nitric acid on a test-tube, and float over it some urine.

Dr. Drysdale, of London, was quite aware of the frequency with which albumen occurred in the healthy; but there was rather a danger lest many practitioners might begin to give too favorable a prognosis in albuminuria, just as was the case in morbus cordis, because many cases of these diseases were compatible with longevity. Each case must be carefully studied, and the symptoms closely watched, for as yet it was not clearly ascertained what cases would soon carry off the patient by some complication, and what might be disregarded.

Dr. Charles Ralfe, of London, read a paper on

CERTAIN NEPHRALGIAS SIMULATING RENAL CALCULUS.

Many states might simulate all the symptoms of renal calculus. For instance, in one case, a man who was supposed to have calculus in the kidney of the left side, died suddenly one night. It was then found that he died of aneurism of the abdominal aorta. On the other hand, in a case mentioned in a Chicago journal, neuralgia had been diagnosed, but in a short time the man passed an oxalate of lime calculus, and his urine became thick and bloody. True neuralgia of the kidney was very rare. Delicate women might show some symptoms of it, and renal neuralgia might occur in malaria. In another case, a patient died, in 1880, in the London Hospital, who had pain in the region of the kidney. After death no stone was found; but there was hypertrophy of the left ventricle of the heart. Many morbid conditions of the duodenum might simulate calculus in the kidney. In one case where a calculus was suspected, a purge was given, and a round-worm was expelled. Gall-stones had been mistaken for calculus in the kidney of the right side, and caries of the vertebral column had excited symptoms which had been mistaken for it. So, also, had psoas abscess. Prout had described cases of hæmaturia and nephralgia due to functional disease of the urinary organs. In such cases there was constant desire for micturition, colicky pains, etc. Dyspeptic patients had often symptoms which simulated calculus in the kidney.

Dr. Martin, of Portland, mentioned a case where a man who had a cavity in the lung, had also an immense quantity of albumen in his urine. Notwithstanding these grave symptoms, he did a good deal of hard, manual labor. On Monday he would go to his work quite fresh and well, but on Saturday he was entirely exhausted. He continued in this state for a long time, and then was carried off.

Dr. Drysdale, of London, said that Dr. Ralfe's paper showed how careful practitioners should be not to perform nephrectomy unless they were very certain of the existence of a stone. He had seen the operation performed on more than one occasion, and no stone found, and it was too dangerous an operation to trifle with.

Dr. Grainger Stewart observed that the amount of albumen in the urine did not rank highly with him in prognosis. When a patient came with albuminuria, it might sometimes be said, "You may disregard the symptom entirely." The question was a very delicate one in many cases, and required the greatest attention on the part of the adviser. One case had struck him greatly. He was attending a gentleman with albuminuria, when his wife one day said to him, "I have far more albumen in my urine than my husband." Yet she did not trouble to do anything for it. It turned out that this lady had had scarlatina at the age of eight years, and albuminuria, which had continued the whole of her life. Her age was forty-four years at that time. Shortly afterward she died of uræmia. He had stood by when a patient with supposed stone in the kidney had been operated on. When the incision in the kidney was made, and it was injected and no calculus found, he had had a strange feeling. This patient had had bloody urine, with oxalate of lime in it, and retraction of the testes.

Dr. Drummond, of Newcastle-on-Tyne, said that alcoholic excesses might cause albuminuria. In fifteen cases of floating kidney which he had detailed, he had heard from the patient that there was a sensation of heat in the organ. Otherwise it was impossible to localize disease of the kidney in most cases.

The Section then adjourned.

SECOND DAY, AUGUST 4TH.

The first paper of the day was read by Dr. Drummond, of Newcastle-on-Tyne, entitled:

SYMPTOMS SUGGESTIVE OF GENERAL PARALYSIS OF THE INSANE, DEPENDING UPON THE CIRCULATION IN THE BLOOD OF DIGESTIVE IMPURITIES, IN AN INSIDIOUS CASE OF NON-ALCOHOLIC CIRRHOSIS.

A man for eighteen years had been exposed to malarial influences. In 1886 he complained of dyspepsia, and began to walk about the streets aimlessly. He was a sailor. In 1866 he was admitted to the Middlesboro hospital; he had nervous symptoms, was easily moved to tears, and when he left the hospital became cruel to his wife and children. He came to Newcastle Infirmary, and on admission was sallow and looked much older than his age, with weakened memory and yellow sclerotics. His gait was unsteady. He had hyperæsthesia of the skin. He had a great flow of urine—fifty ounces—but there was neither albumen nor sugar in it. On analysis a large quantity of iron was found in the urine. His muscular power was greatly diminished, and there was incoördination. He had systolic murmur, and, five months after admission, universal jaundice. He died on March 16th. The lungs were found to be healthy. The liver was cirrhotic. The spleen was large, and weighed thirty-nine ounces. The brain was soft and œdematous. The portal blood entered the brain without passing through the liver. The symptoms rather resembled those of general paralysis of the insane.

Dr. Ralfe, of London, mentioned a somewhat similar case which he had treated in the Dreadnaught hospital of London.

Dr. Oliver mentioned similar cases, which resembled pernicious anæmia

Dr. Gairdner observed that, as yet, there was no clear proof that the products of digestion when impaired could cause the symptoms mentioned in this case.

Dr. C. R. Drysdale was inclined to ask whether this was not one of the cases with which he was pretty familiar, of syphilis of the liver and brain.

Dr. Drummond said that the occurence of syphilis had been denied by the man.

Dr. Thomas Oliver, of Newcastle-on-Tyne, read a paper on

A CASE OF TRAUMATIC EPILEPSY TREATED SUCCESSFULLY BY TREPHINING.

A boy, after a boisterous game, in which he had received a blow on the head, began to suffer from epileptic fits, and to complain of pain on the right temporal bone. Before and after each fit there was pain in this point, but the skin was quite healthy there. An aura was felt before the fits, which were extremely numerous. In many of the severer fits the left arm and leg were affected with paresis. When the fits were extremely bad, he was left stupid and dull, and on getting well he would write instead of speaking. Bromide and iodide of potassium were extensively tried, but were of no use. He was trephined by one of his surgical colleagues at the painful spot, and a piece of bone the size of a shilling was removed. The dura mater was apparently healthy, but by degrees it was noticed that it bulged out of the wound. A crucial incision was therefore made, and some serum exuded and drained away for a day. The patient had one or two minor fits, and then the wound healed up, and he had no fit at all for six months. He was then admitted again into the infirmary and remained there for some time, taking bromide of potassium, which cured the fits, from which he had now been free for some six months. Trephining was only indicated in traumatic epilepsy. Dr. Gowers had mentioned sixty cases of traumatic epilepsy.

Dr. Charlton Bastian said that the cases in which operations might be tried were those in which there were unilateral seizures, and in a few of these cases, doubtless, relief was obtained. In a case under his care, operated on recently by Mr. V. Horsley, in a child aged ten, there had been as many as thirty fits per diem, and bromides had done little or no good. There was a history of traumatism some five years previously. There was not much risk in these operations. In this case a square piece of bone was removed, and when this was done the dura mater looked healthy. An incision was made by Mr. Horsley, but nothing was found of importance. At first the boy was very much benefited by the operation, and his parents were much gratified. He had warned the father that the fits would probably return, and it appeared that they were now as bad as they had been.

Dr. Drummond said he had seen some cases which had been trephined by an enterprising surgeon, and observed that it was necessary to be most guarded in the prognosis of such cases. Many cases treated by large doses of bromides did not progress in any way.

Dr. Gairdner asked the question, "How long could bromide of potassium be exhibited without danger to the general health?" In one case he had been consulted by the parents of a young lady, aged eighteen. This patient had taken bromide of potassium for epileptic fits ever since she was of the age of three, and he had advised leaving off the drug, because the young lady had retardation of the menstrual flow, and he thought it a greater evil to have this retardation than to give doses for the epilepsy.

The President mentioned a successful case of trephining for epilepsy, carried out by Mr. Butcher, in Dublin.

Dr. Magee Finny, of Dublin, spoke of a case of epileptic coma treated by large doses of bromide of potassium fruitlessly. An incision was made in the right temporal region where the man had been struck, and the inner table of the skull was found to be depressed. This was raised and the man lost his epileptic fits. This resembled Sir T. Watson's famous case, mentioned in his lectures.

Dr. Nixon said that it was very important to delay the return of epileptic seizures as long as possible, and therefore, if any irritation was suspected, it should be removed at once. In one case he had recently had there was a marked history of syphilis, and the man rapidly recovered under doses of calomel, bromide and iodide of potassium.

Dr. Norman Kerr read a paper on the

RELATION OF ALCOHOLISM TO INEBRIETY.

The author said that the term alcoholism had been somewhat loosely employed. Some at random applied it to all moderate and immoderate drinking, or any kind of intoxication; others restricted it to the mental and moral, exclusive of the physical, phases of drunkenness. This probably arose through ignorance. Only of recent years had the existence of the disease inebriety been recognized. Alcohol was an irritant narcotic poison and the term alcoholism should be limited to the toxic phenomena directly or indirectly arising from the action of alcohol on body and brain. This included acute alcohol poisoning (fatal and non-fatal) and chronic alcohol poisoning, all the functional disturbances and tissue degenerations of various kinds, the vitiation of the blood, the circulatory tumult, the nervous perturbation, the vaso-motor paralysis (with or without unconsciousness) of transient alcoholic excitement, as well as the tremors of delirium tremens, the madness of "mania-a-potu," the depraved digestion, the cerebro-spinal paralysis, delusions, and insanity of more permanent and graver lesions. Under alcoholism would also be ranged the mental and moral depravities induced by alcoholic intoxicants, as well as the inherited proclivities to excess, brain irritability, and feeble will begotten of alcohol. Fatty and other degenerations of the liver, heart, kidneys, and other organs were also included. Inebriety, on the other hand, was a disease of the higher nerve-centres, allied to insanity, which might or might not be of alcoholic origin. This disease consisted in a morbid impulse to, or craze for, intoxication. The intoxicant consumed might be any narcotic. It was the immediate, the evanescent relief which was sought, the inebriates often hating the inebriating substances. Inebriety was, therefore, a true intoxication mania, or, as Dr. Kerr preferred to call it, narcomania, *i.e.*, a mania for narcotism. Inebriety, or narcomania, assumed various forms. There was alcohol, opium, chloral, chloroform, chlorodyne, ether, or cocaine inebriety. The disease might be constant or periodic, solitary or social, with periodicities of function, nerve energy, time, occupation, climate, season, etc. There were the inebrieties of insanity, of syphilis, and of other diseases, of convalescence from fevers, of heart apoplexy, of operations, of head or other injuries (traumatic inebriety), and of nerve-damage generally. The etiology and pathology of inebriety were of great importance to afford knowledge on which to base judicious treatment. Alcoholic trance, for example, was an obscure and extraordinary phenomenon, in which inebriates had awoke sometimes to full consciousness only to find themselves in a foreign country, though they had been able automatically to eat and talk and act like others around them. The alcoholic, therefore, was but one form of inebriety, which might be inherited or acquired. All drunkards were not diseased, though even these often became so in the long run. There was sometimes alcoholic inebriety without the graver symptoms of alcoholism, with no liver, heart stomach, or other bodily disturbance, the nervous disorder being the only ill health. There was thus alcoholic drunkenness with no true inebriety, and inebriety, or narcomania, with no actual intoxication by alcohol.

Dr. Isambard Owen read a paper on the

RESULTS OF THE COLLECTIVE INVESTIGATION COMMITTEE OF THE BRITISH MEDICAL ASSOCIATION'S INQUIRY INTO THE CONNECTION OF DISEASE WITH HABITS OF INTEMPERANCE.

The author read the memorandum which the Committee had addressed to the members of the Association, which was to the effect that few subjects among those which engage the attention of the profession at the present day are of greater importance than the question of the share taken by alcoholic drinks in the production of visceral disease, and of their influence on the causes and results of maladies in general. It is to be regretted that up to the present the stock of recorded facts open to the inquirer is far from being adequate to the gravity of the subject, our existing ideas being largely based on inferences from physiological experiment, or deductions from a limited number of cases, or on the general impressions of individual physicians. The Collective Investigation Committee believe that no work can more justly claim the attention of the members of the Association than an attempt to collect and combine, in as definite a manner as the nature of the subject admits of, the personal experience of the profession at large with reference to this very difficult question.

Those practitioners who were anxious to assist in this inquiry were invited to enter the deaths of their patients under one or other of the following five heads: Total Abstainers, Habitually Temperate Persons, Careless Drinkers, Free Drinkers, and Decidedly Intemperate Persons. These were numbered A, B, C, D, and E. The results in tabular form were that in Class A there were mentioned 122 deaths; in Class B, 1,529; in C, 977; in D, 547; in E, 603 deaths. With the spirit of compromise, distinctive of the day, 54 cases were included in a class called AB; 178, in BC; 112, in CD; 100, in DE, and 12 were unclassified. There were 4,234 cases of deaths returned. Among the deaths in Column E, while the average rate was 14.2 per cent., among professional men it was 9.5; among independent persons, 20.4; among clergymen it was 7.3; among mercantile, 13.8; among tradesmen, 16.9; among licensed victuallers, 40.2; artisans, 13.1; lumbermen, 10.9; drivers, 22.8; farmers, 10.2; soldiers, 25.5; sailors, 8.1; domestic servants, 20.8; and miscellaneous, 19.9. The average age at death for each class was, in Class A, 51 years 80 days; in B, 62 years 50 days; in C, 59 years 240 days; in D, 57 years 216 days; and in E, 52 years 14 days. The average age at death was thus, 58.92 years. With regard to the diseases in the various groups, there was a table showing the ratio between the cases falling in the lower and those in the higher half of the alcoholic scale, for the same forms of disease. This showed that between the ages of twenty-five and forty that ratio was, for phthisis, 1 to .7; for typhoid fever, as 1 to .7; for valvular disease of the heart, as 1 to .8; for chronic renal diseases, as 1 to 1.8; and for bronchitis, as 1 to 1.8. Between the ages of forty to sixty-five the similar ratios were, for malignant diseases, as 1 to .5; for phthisis, as 1 to 1; for valvular diseases, as 1 to 1.04; for pleurisy, as 1 to 1.09; for pneumonia, as 1 to 1.1; for bronchitis, as 1 to 1.1; for typhoid, as 1 to 1.1; for diseases of heart-wall, as 1 to 1.1; for apoplexy, as 1 to 1.2; for diabetes, as 1 to 1.3; for old age, as 1 to 1.5; for chronic renal disease, as 1 to 2.06; for cirrhosis, as 1 to 15.7. In the ages over sixty-five years of age, the ratios become for old age, as 1 to .36; for cystitis, as 1 to .39; for diarrhœa, as 1 to .4; for prostatic diseases, as 1 to .4; for bronchitis, as 1 to .4; for apoplexy, as 1 to .5; for malignant diseases, as 1 to .5; pneumonia, as 1 to .5; intestinal obstruction, as 1 to .5; disease of the heart-wall, as 1 to .6; disease of valves, as 1 to .7; chronic renal disease, as 1 to .7; nerve decay, as 1 to .7; phthisis, as 1 to .8; arterial degeneration, 1 to 1.1.

In the discussion which followed, Dr. Drummond, Dr. Cumming, Dr. Gairdner, and Dr. Kerr took part. It was admitted that the statistics were far too complicated to admit of any clear conclusion being drawn. Dr. Cumming said there was very little gout in Ireland. Dr. Gairdner remarked that some contended that phthisis was caused by alcohol, while others said it was cured by taking alcohol. This showed that the point was not by any means clearly made out.

Dr. Laffan then read a paper on

PLEURAL EFFUSION.

The author held that many cases of pleural effusions proved fatal early in the disease. One of the first difficulties arose from diagnosis, which was often very obscure. In some cases it was, as Dr. Allbutt had contended, impossible, unless by passing a needle. It was said by some that this plan might convert a serous into a purulent effusion. Failure to find the effusion was by no means unusual. If there were rigors and club-fingers this was an excellent diagnostic point. Effusions would persist indefinitely in some cases. He had, for instance, recently removed three gallons of effusion from a man in whom it had existed for five years. The indications for thoracentesis were (1) danger of asphyxia when the effusion was double; (2) abundance of the effusion; (3) purulence. He preferred a moderate size of aspirating needle, and operated usually in the back, in the lower scapular angle, not lower than the eighth interspace. The fluid should not be removed too rapidly, but gradually drain away by means of a stop-cock. Counter-openings were rarely required. In empyema four openings should be made. Death was sometimes caused by injections. Coma and pyæmia were sometimes the results of the operation. Operation should be early, before twenty-one days. It was not necessary to excise the rib. Anæsthesia was useful in many cases, but occasionally dangerous. Some persons objected to anæsthesia, but some patients suffered a good deal from the operation. There was, of course, danger of syncope. Cocaine and ether spray might possibly be useful in a few cases in place of ether or chloroform.

Dr. Drysdale, of London, had formerly been more a believer in the advantage of early thoracentesis than he now was. He thought it as well in adults to wait for five weeks before performing the operation, in order to give time for absorption to take place. In this remark he did not refer to children, since in these the disease was so frequently purulent.

Dr. Churchill preferred to open the eighth interspace in the back. It was often dangerous to puncture low, especially on the right side. Mr. Marshall taps as high as the fifth interspace in the axillary line. Nature sometimes in empyema opened in front as high as the fifth interspace; but he thought it was sometimes possible to improve on nature. He thought that thoracentesis should not be long delayed.

Mr. Boyd, of Dublin, said that sometimes physicians were rather too timid about drawing off the fluid in effusions into the pleura. He had operated one hundred and fifty times, without any bad results. His view was that, as soon as a large quantity of fluid was known to exist, it should be removed at once. The longer that fluid pressed on the lungs and thoracic viscera, the more dangerous it was to the general health. As to why the effusion in some cases became purulent, and not in others, he believed there was no real and accurate knowledge; all we knew was that about three-fourths of cases of effusion in children turned to empyema. In the adult, perhaps, bronchitis might help the formation of pus, but this was really not known. The best kind of aspirator was Potain's, which he used much at the Mater Misericordia Hospital. With regard to the resection of a piece of rib, which had been for a time advocated in London, he could only say he had done so twice, and in both cases the patient died, so that he considered this very bad practice. Cocaine, in his experience, was not

of any service locally. Freezing the part might occasionally succeed. A long drainage-tube was bad. A short one should be preferred. The situation of the incision was immaterial, provided it was not too low, for in that case the liver might be wounded.

The Section then adjourned.

THIRD DAY, AUGUST 5TH.

MR. ALFRED S. GUBB exhibited an "Apparatus for the Estimation of Urea," devised by Mr. Gerrard, Lecturer on Pharmacy at University College, London. This consisted of a **U**-tube, graduated in such a way as to show the quantity of nitrogen gas given off by a definite quantity of urine contained in a small bottle enclosed in a larger bottle containing the bromide solution. In the experiment shown, the urine contained half a per cent. of urea, so that it would contain about two and one-half grains per ounce of urine passed. The determination of the urea was extremely simple, and very rapidly performed.

DR. J. F. KNOTT, of Dublin, read a paper on "The Use of Certain Organic Acids in Rheumatic Gout and the Allied Diatheses."

DR. J. B. BOYD read a paper entitled "Remarks on Typhoid Fever, and on the Treatment by Liq. Sodæ Chloratæ, Bismuth, and other Drugs."

DR. RINGWOOD, of Kells, read a paper on "An Outbreak of Relapsing Fever."

DR. F. J. B. QUINLAN read a paper on the

TREATMENT OF ACUTE RHEUMATISM.

He said he had no long array of cases to bring before the Section, but would mention that blistering had been a common way of treating acute rheumatism. A large blister was sometimes put on the abdomen, partly covering the precordial region. When a blister had once been applied to a joint, that joint was not again affected. He had been accustomed to pay very great attention to the state of the heart in cardiac disease, because the patient did not feel pain there. With regard to the use of salicylate of soda, he had found it very depressing to the heart in many cases in which he had used it, and therefore he had quite recently used salicin in place of the soda salt, with very excellent results. Salicin, he remarked, is very cheap, and therefore of great service in hospital practice. It is so cheap that it has been used very extensively to adulterate quinine. He was aware that in London practice the evils of salicylate of soda were not seen; and he supposed this depended on a difference of race, just as the Scandinavian people could take so much more whiskey than the English or French races, or than the Italians or natives of Algiers.

DR. GILBERT SMITH, of London, had seen the evil effects of the salicylate mentioned by Dr. Quinlan in one case.

DR. GAIRDNER, of Glasgow, said he very rarely had had any bad effects from the salicylate of soda. He would match the Scottish Highlander even with the Norwegians in their endurance of the effects of alcohol.

DR. BASTIAN, of London, said he had treated all cases of acute rheumatism by salicylate of soda, and had found cases of endo- or peri-carditis rarely occurring. But patients may have relapses. As a general rule, the patients improved greatly from the use of the salicylate in from thirty-six to forty hours, and he gave from fifteen to twenty grains of the salt for a dose.

DR. CUMMING, of Belfast, mentioned two cases of hyperpyrexia occurring in his practice while the salicylate was being given, and which were not relieved by it. He tried twenty-grain doses of salicin, but this did not succeed, and finally had recourse to cold water applications, which did good. Opium was contraindicated. As to the influence of treatment on the prevention of heart disease he had noticed that under all forms of treatment the heart might become affected. The experience of all was that sodæ salicylate did not prevent relapses; and one of the great difficulties in treatment was that the patient removed himself away from the physician's care, and was seen no longer.

DR. DRYSDALE, of London, said he had not noticed any bad symptoms which he could put down to the use of sodæ salicylate. For a time he had tried salicylic acid; but it was not so satisfactory as the sodium salt. Occasionally cases of high temperature persisted in spite of the salicylate, and then the cold water plan was useful, and blistering was also sometimes of use in pericarditis.

DR. OLIVER said that in many cases the treatment by sodæ salicylate was not efficacious.

DR. NIXON, of Dublin, said he had always used sodæ salicylate with good results and had never had to give it up. He had not seen bad effects of opium in acute rheumatism. In very high temperature cases drugs would often fail, and in such cases the cold bath would prove serviceable. Quinine did not lower the pyrexia in such cases.

DR. ERNEST SANSOM read a paper on

METHODS OF PERCUSSION IN CARDIAC DISEASE.

A gentleman in active practice desires to have as little of his valuable time as possible occupied by each case; but he, Dr. Sansom, would plead for the possession of an accurate delineation of the heart in all cases of disease of that organ. In order to do this he had devised a vulcanite plexometer, by means of which he always mapped out the outline of the heart, and then by means of a brush he covered the points over with a pigment, and then put some tissue-paper over the cardiac region and took a copy of this percussion-map for preservation in his notebook. He had confirmed by many autopsies the accuracy of such maps. Again, as to the application of the sphygmograph and the cardiograph. The great value of the former is to show what effect pressure has on the pulse. Dr. B. W. Richardson's modification of Dudgeon's sphygmograph was an excellent sphygmograph. The cardiograph was not always so useful; but Pond's was the best. Anyone that pleased could adopt the graphic method to disease of the heart, and he greatly recommended them to do so.

DR. GAIRDNER, of Glasgow, wished to take the opportunity of congratulating Dr. Sansom on his accuracy in delineating the heart. He had gone to London to judge of his work and had found it quite excellent. Personally he had not carried out the method, but still used the finger as the plexometer.

DR. GILBERT SMITH, of London, said he also preferred the finger as a plexometer, and his finger was well suited to the purpose, as it was rather rheumatic and very sensitive to percussion, which made it a delicate plexometer.

DR. OLIVER, of Newcastle, said he agreed in Dr. Sansom's recommendations. He much approved of Dr. Richardson's instrument.

DR. DRYSDALE, of London, had tried Piorry's plexometer for many years, but much preferred the finger. As to mapping out the heart, that was a very hard matter in many cases.

DR. NIXON, of Dublin, much approved of the graphic methods described by Dr. Sansom.

NOVELISTS' MEDICINE.—Lady writers of fiction, as a rule, limit their literary eccentricities to excursions among amorphous elements of novelists' French and un-English grammar. They sometimes dose freely with poison and the dagger, but rarely venture on strictly anatomical details. The most unfortunate *lapsus calami*, however, which has come under our observation, is the following: The hero, with great difficulty, has succeeded in saving the heroine from falling over a precipice. The lady has fainted and is apparently lifeless, but the hero finds, to his intense relief, "by the pulse in her *femoral* artery," that her heart still beats.—*Bristol Medico-Chirurgical Journal.*

Army News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from August 21 to August 27, 1887.

TREMAINE, W. S., Major and Surgeon. Found incapacitated for active service by an army retiring board, and extension of leave of absence on account of sickness still further extended until further orders. Par. 9, S. O. 192, A. G. O., August 19, 1887.

BARTHOLF, JOHN H., Major and Surgeon. Leave of absence extended one month. Par. 7, S. O. 196, A. G. O., August 24, 1887.

PATZKI, JULIUS H., Captain and Assistant Surgeon. Granted leave of absence for one month. Par. 15, S. O. 195, A. G. O., August 23, 1887.

MATTHEWS, WASHINGTON, Captain and Assistant Surgeon. Ordered to proceed to Phœnix, Ariz. Ter., on public business, and on completion thereof to return to his proper station. S. G. O., Par. 21, S. O. 195, A. G. O., August 23, 1887.

TAYLOR, BLAIR D., Captain and Assistant Surgeon. Granted leave of absence for twenty days, to take effect on or about August 31, 1887. Par. 7, S. O. 193, A. G. O., August 20, 1887.

SWIFT, E. L., First Lieutenant and Assistant Surgeon. Ordered to report in person to Commanding General, Division of the Pacific, for duty with troops at Round Valley, Indian Reservation. Par. 20, S. O. 195, A. G. O., August 23, 1887.

Medical Items.

DRY HOT-AIR BATHS FOR SYPHILITIC PATIENTS.—Dr. Stepanoff, of Moscow, has contrived a plan of treating patients suffering from syphilis which has resisted mercurial and iodine treatment. He has had a box or bath constructed with an iron bottom lined with thick felt, in which the patient is placed. The bath is heated to about 170° to 190° F. by means of two Bunsen lamps, each consisting of five burners. After the patient has been "baked," he is put to bed and covered with blankets, so as to prolong the sweating process commenced in the bath for an extra half-hour. After this he is allowed to dress and go into the ward to his dinner. By means of these baths the mercury is rapidly eliminated from the system, and the patient's condition greatly improves, and after a course mercury is found to act quickly and energetically.

EXTIRPATION OF RUPTURED UTERUS.—Dr. Andrews writes as follows in the *Lancet*: "On September 12th, at 5.30 P.M., one of the externe midwifery attendants was called in to attend the fifth labor of Mrs. S——, who was said to have had pains for twenty-four hours. She was a delicate woman of short stature and her previous confinements had all been normal. Vaginal examination showed the os fairly dilated, membranes unruptured, and the vertex presenting resting on the pubes. The pains were of medium frequency, and apparently those of the first stage of labor. At 6.30 P.M., the pulse being then about 120, the membranes ruptured and the pains increased in force and frequency, culminating about 8 P.M. in exceedingly strong expulsive efforts, which affected the progress of the head but little, if at all. Immediately after these the patient complained of intense pain in the stomach, there was marked collapse, and all labor pains ceased. I was now summoned to the case, and found the patient nearly pulseless, pale, and exhausted, but quite conscious, and the head on the brim of the pelvis and rather movable. Recognizing the urgent necessity for immediate delivery, I directed the abdomen to be well supported by the externe, introduced the long forceps, and proceeded to deliver the child. No difficulty was experienced in the introduction of the blades, and but very gentle traction was required. Fearing that the perineum might rupture, I withdrew the forceps as soon as the head was well down upon it, but instead of expulsion taking place, the head receded into the vagina. I again applied the forceps and delivered without further difficulty. The child was a large one, weighing nine and one-half pounds, was still-born, and the delivery was followed by a gush of blood, though the uterus appeared firmly contracted. After waiting a few minutes, finding that the placenta did not come away, I introduced my hand and found that it passed through a rent in the uterine wall into the abdominal cavity. Following up the cord with my fingers, I discovered the placenta in the abdominal cavity above the uterus, and removed it without difficulty. An injection of two-thirds of a grain of ergotine was now administered. The pulse was quite imperceptible and the patient apparently dying. An hour later the patient had rallied considerably; the pulse was 140, of fair force, and there had been no further hemorrhage from the vagina. About 10.30 P.M., however, the pulse was much feebler, and coils of intestine had come down through the rent into the vagina. On consultation it was agreed that the patient's only chance lay in the immediate performance of abdominal section. Ether was accordingly administered, and I proceeded to open the abdomen by an incision in the median line extending from a quarter of an inch below the umbilicus to a quarter of an inch above the pubes. I found a large, ragged tear in the left and front of the organ, while the abdominal cavity contained a very large quantity of blood. The position and extent of the rent, together with the extreme laceration and thinning of its edges, determined me to remove the entire uterus and appendages rather than attempt to unite the tear with sutures. I accordingly lifted the uterus out through the abdominal wound, placed a double ligature round both broad ligaments, and divided them. Then carefully clamping the cervix below the rent, I transfixed the pedicle with a needle and tied each half with a double ligature, afterward carrying one of the ends round the whole stump. Cutting through the pedicle above the clamp, I now removed the uterus. The peritoneal cavity was sponged out as completely as possible, and the pedicle brought forward and fixed with harelip pins to the lower end of the abdominal wound. I then closed the upper part of the incision with wire sutures and applied the usual gauze dressings. During the whole operation, which lasted three-quarters of an hour, there was but very little hemorrhage, and during the earlier stages the patient's condition was all that could be desired. Toward the end, however, she gradually sank, and died soon after the operation was completed. Subsequent examination of the uterus showed the organ to be of the normal size after parturition, and weighing roughly twenty-four ounces. The rent extended from the attachment of the upper part of the left broad ligament vertically downward to the lower third of the cervix, and then passed transversely across the anterior cervical wall to the right side, its total length being nearly six inches and a half. The edges were much lacerated and very thin, and in the surrounding tissue there was a good deal of blood extravasated. The placental site was on the fundus and posterior wall, and the muscular tissue was firm and well contracted, showing a healthy structure on microscopic examination."

THE INFLUENCE OF TEA, COFFEE, AND COCOA ON DIGESTION.—Dr. Fraser has recorded the results of an interesting series of experiments on the action of our common beverages on stomachic and intestinal digestion. The experiments have been most carefully arranged from a physical standpoint, and give us some valuable hints on the digestion of the chief alimentary principles, but

they have no bearing, it should be mentioned, on individual variations of human digestion, or on the influence of the various glands in preparing the gastric or intestinal juices (*The Lancet*). They are, however, of much value in showing how standard preparations of the peptic and pancreatic ferments are modified in action when our ordinary daily beverages are allowed their free action on the digestion of various articles of food. The digestive processes were carefully investigated, and absorption was imitated by a proper dialyzing arrangement. An artificial peptic juice, and afterward an artificial pancreatic juice, were employed, and the amount of nitrogenous matter dialyzed was most carefully estimated. The food-stuffs experimented on were raw and cooked serum and egg albumens, raw and cooked myosin, syntonin, alkali albumen, casein, gluten, starch, and oleine. The results obtained from an exhaustive series of experiments and analyses show that all the three typical infused beverages—tea, coffee, and cocoa—retard the digestion and absorption of all the nitrogenized proximate principles of dietetic substances when peptic and pancreatic digestion are taken together, and that they uniformly retard peptic digestion, although tea may assist the diffusion of peptones from the stomach. Pancreatic digestion is also uniformly retarded, and diffusion thereafter is but rarely assisted, so that neither of them compare advantageously with water as a standard beverage for experimental investigations. A summary of dietetic advice is added to Dr. Fraser's observations, which will, in the main, agree with that which is now given by our best authorities in cases of dyspepsia; and we are glad that experimental inquiries afford so strong a basis of support to empirical clinical observations: "1. That it is better not to eat most albuminoid food-stuffs at the same time as infused beverages are taken, for it has been shown that their digestion will in most cases be retarded, though there are possibly exceptions. Absorption may be rendered more rapid, but there is a loss of nutritive substance. On the other hand, the digestion of starchy food appears to be assisted by tea and coffee; and gluten, the albuminoid of flour, has been seen to be the principle least retarded in digestion by tea, and it only comes third with cocoa, while coffee has apparently a much greater retarding action on it. From this it appears that bread is the natural accompaniment of tea and cocoa when used as the beverages at a meal. Perhaps the action of coffee is the reason why, in this country, it is usually drunk alone or at breakfast, a meal which consists much of meat, and of meats (eggs and salt meats) which are not much retarded in digestion by coffee. 2. That eggs are the best form of animal food to be taken along with infused beverages, and that apparently they are best lightly boiled if tea, hard boiled if coffee or cocoa, is the beverage. 3. That the casein of the milk and cream taken with the beverages is probably absorbed in a large degree from the stomach. 4. That the butter used with bread undergoes digestion more slowly in presence of tea, but more quickly in presence of coffee or cocoa; that is, if the fats of butter are influenced in a similar way to oleine. 5. That the use of coffee or cocoa as excipients for cod-liver oil, etc., appears not only to depend on their pronounced tastes, but also on their action in assisting the digestion of fats."

Scars Following Skin Diseases.—In an article in the *Polyclinic*, Dr. Van Haslingen thus concludes a discussion of the various forms of skin disease which are followed by more or less disfiguring scars: Cysts, wens, the deeper forms of dermatitis, furuncle, anthrax, herpes zoster, acne, ecthyma, and tinea favosa may at times and under certain circumstances give rise to the formation of scars. Scrofuloderma and syphiloderma in some forms, the various forms of lupus, carcinoma, and sarcoma almost inevitably lead to scarring. Another class of diseases which may indirectly, though not directly, give rise to scars through scratching are the pruriginous affections *par excellence*, *i.e.*, pruritus and eczema. These may be followed by cicatrices and other results of scratching, when the lesions themselves might not leave anything which could be called a cicatrix. With these facts in mind, the physician can often soothe the fears of anxious patients their parents, and friends by assuring them that threatening lesions, with profuse discharge and piled-up crusts, will not eventuate in scarring. One point may be remembered in this connection, and that is, that when we have crusts of dried serum and serous discharge only, we rarely have scars following, while lesions resulting in the exudation of pus are not unfrequently followed by cicatricial reparation.

Persistent Yawning and Sneezing after the Extraction of a Tooth.—A case of a somewhat remarkable character is at the present time in the London Temperance Hospital, under the care of Dr. R. J. Lee. A girl, aged fifteen, had the last molar tooth in the lower jaw on the right side removed about six weeks ago. No anæsthetic was administered. She was in perfect health at the time. Half an hour after the operation she began to yawn, and has continued to do so constantly since. One yawn succeeds another without interruption, and with an interval of two or three seconds. Galvanism had been tried without effect, and other remedies previous to admission into the hospital. Three days afterward the yawning changed to sneezing, and recently she has suffered from constant and rapidly succeeding fits of sneezing, each of which paroxysms appears to begin with a yawn. She seems to have no power of controlling herself, or only to a very slight extent; and if she attempts to do so, the next sneeze is more violent.—*The Lancet*, July 23, 1887.

Abnormality of the Neck.—Dr. J. B. Muirhead reports, in the *British Medical Journal*, July 23, 1887, the following curious condition in a child, aged five weeks, healthy and otherwise well-formed: Extending from below the left ear to the left upper corner of the sternum is a firm, broad strip of cartilage, probably already ossified in part, resembling in shape and size the sternomastoid muscle, but presenting a forward projection in the middle of the neck, as if bent at an obtuse angle. It may be caught between the finger and thumb, and moved freely from right to left. The cartilage is perfectly separate from the jaw above and from the clavicle below it, and seems to have no other connections except those described. Its origin from the temporal bone is immediately below and within the left auricle, about half an inch in front of the normal origin of the sternomastoid muscle. The probability is thus suggested that its upper attachment is connected with the styloid process. Its connection with the sternum occupies the position of the insertion of the sternal portion of the sternomastoid muscle.

Unusual Symptoms from Quinine.—Dr. Tsoukales reports in *Galenos* of June 20, 1887, the case of a man of healthy antecedents, to whom he gave twenty grains of sulphate of quinine in divided doses for a fever accompanying a severe attack of laryngitis. A short time after taking the first dose the man began to complain of a feeling of formication and numbness of the scrotum and penis. This passed off in a few minutes, and was followed by an intense itching, which persisted for about three days. The dartos of the scrotum was strongly contracted, the skin being drawn into tight folds. When the itching subsided, it was succeeded in some parts by a branny desquamation, but chiefly by fissures running parallel with the median raphé from the root of the penis to the perineum. These fissures also formed on the glans from the meatus to the corona. There was at first some bleeding from the cracks and then a purulent secretion. After the itching ceased the patient complained of pretty severe pains in the testicles. The fissures were healed, after the application of drying powders, in about a week. A week later another dose of quinine was given, and was followed by the same phenomena.

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Reports of Societies.

International Medical Congress.

NINTH SESSION.

Held in Washington, D. C., September 5, 6, 7, 8, 9, *and* 10, 1887.

(Special Report to THE MEDICAL RECORD.)

MONDAY, SEPTEMBER 5TH—FIRST DAY.

THE Congress assembled in Albaugh's Opera House, and was formally opened at 11 A.M. by His Excellency GROVER CLEVELAND, President of the United States, who said: "I feel that the country should be congratulated to-day upon the presence at our capital of so many of our own citizens, and those representing foreign countries who have distinguished themselves in the science of medicine, and are devoted to its further progress. My duty in this connection is a very pleasant and a very brief one. It is simply to declare that the Ninth International Medical Congress is now open for organization and for the transaction of business."

DR. HENRY H. SMITH, of Philadelphia, Chairmain of the Executive Committee, next named the following

OFFICERS OF THE CONGRESS.

PRESIDENT—Nathan Smith Davis, M.D., LL.D., of Chicago, Ill.

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Section XVII. Psychological Medicine and Nervous Diseases—Judson B. Andrews, M.D., Buffalo, N. Y.

Section XVIII. Dental and Oral Surgery—Jonathan Taft, M.D., Cincinnati, O.

REPORT OF THE SECRETARY-GENERAL.

Mr. President: According to the precedent set at former sessions of this body, the Secretary-General must make a report of the work performed since the session last preceding, but I will only occupy the time of the Congress for the briefest possible space.

It is now a matter of history that in May, 1884, the American Medical Association met in this capital, and passed a resolution inviting the Congress to honor America by holding its next session in the United States.

At the meeting in Copenhagen, in August, 1884, when the question came up for disposition, Washington was selected. The committee, having borne the invitation and secured its acceptance, returned home, and immediately began the work of organization, and shortly before the meeting of the American Medical Association in New Orleans, in May, 1885, they completed the preliminary organization. But it transpired that this committee were unable to frame an organization satisfactory to the majority of the members of the Association, and, after some discussion, a resolution was adopted which authorized the appointment of additional members of the committee, and, in accordance with our American system of representation, the committee consisted of one member from each State and Territory of the Union, to which was added one representative from each of the three public medical services, and these new members were elected by the State and Territorial delegations. The enlarged committee met in Chicago a few weeks after the New Orleans meeting of the American Medical Association, and several of the members of the first committee were present and acted harmoniously with the committee. In a short time, however, each of the original committee had withdrawn, and the management was thus deprived of their experienced and valued services. The committee have, therefore, had to contend against more than the ordinary difficulties attending so great an undertaking, and its present success is due entirely to the zeal and energy of its chairman, Professor H. H. Smith, of Philadelphia, and the unflagging interest and industry of the remaining members of the committee.

Dr. A. Y. P. Garnett, of Washington, D. C., Chairman of the Local Committee of Arrangements, then announced

THE ARRANGEMENTS FOR THE SOCIAL ENTERTAINMENT OF THE MEMBERS OF THE CONGRESS AND THEIR FAMILIES.

THE ADDRESS OF WELCOME

was delivered by Hon. Thomas F. Bayard, Secretary of State. In the name of his fellow-countrymen he expressed gratification at the visit of the delegates to Washington. The world is becoming acquainted and international intimacy is growing; a spirit of common brotherhood is increasing so that the word "stranger" will soon be obliterated from the vocabulary of civilization. If letters constitute a republic, science is a democracy. In the United States individual enterprise has produced great scientific institutions without the aid or interference of government. The proceedings of the Congress will be watched with interest by the sixty million people of this country.

RESPONSES

were made by the following gentlemen:

Dr. William H. Lloyd, of the Royal Navy; Dr. Léon Le Fort, of France; Professor Unna, of Germany; Professor Semmola, of Italy; Dr. Charles Reyher, of Russia.

Dr. Lewis A. Sayre, of New York, occupied the chair during the delivery of

THE ADDRESS OF THE PRESIDENT OF THE CONGRESS.

Dr. Davis began by paying an eloquent tribute to the memory of Austin Flint, M.D., LL.D., and continued as follows:

With a full consciousness of my own deficiencies, and still with a heart overflowing with gratitude, I thank you for the honor you have bestowed in selecting me to preside over the deliberations of this great and learned assembly. It is an honor that I appreciate as second to no other of a temporal nature because it has been bestowed, neither by conquest nor hereditary influence, nor yet by partisan strife, but by the free expression of your own choice.

The living human body, the chief object of your solicitude, not only combines in itself the greatest number of elementary substances and the most numerous organs and varied functions, so attuned to harmonious action as to illustrate the operation of every law of physics, every known force in nature, and every step in the development of living matter, from the simple aggregation of protoplasm constituting the germinal cell to the full-grown man, but it is placed in appreciable and important relations with the material objects and immaterial forces existing in the world in which he lives.

Hence a complete study of the living man, in health and disease, involves a thorough study, not only of his structure and functions, but more or less of every element and force entering into the earth, the air, and the water, with which he stands in constant relation.

The medical science of to-day, therefore, embraces not only a knowledge of the living man, but also of such facts, principles, and materials gathered from every other department of human knowledge as may increase your resources for preventing or alleviating his suffering and of prolonging his life.

The time has been when medical studies embraced little less than the fanciful theories and arbitrary dogmas of a few leading minds, each of which became for the time the founder of a sect or so-called school of medicine, with his disciples more or less numerous. But with the development of general and analytical chemistry, of the several departments of natural science, of a more practical knowledge of physics, and the adoption of inductive processes of reasoning, the age of theoretical dogmas and of medical sects blindly following some

more plausible leader passed away, leaving but an *infinitesimal* shadow yet visible on the medical horizon.

The address closed with an appeal for the collective investigation of the phenomena of disease.

The Congress then adjourned.

SECTION IN ANATOMY.

WILLIAM H. PANCOAST, M.D., PHILADELPHIA, PA., PRESIDENT.

Secretaries—Dr. John J. Berry, Portsmouth, N. H.; Dr. William C. Wile, Danbury, Conn.; Dr. C. Remy, Paris, France.

MONDAY, SEPTEMBER 5TH—FIRST DAY—AFTERNOON SESSION.

The President's Address was postponed to the second day.

The first paper read was by J. M. MATTHEWS, M.D., of Louisville, Ky., on

THE ANATOMY OF THE RECTUM AND ITS RELATION TO REFLEXES.

He began by reviewing the anatomical bearings of these parts, which he thought had been much neglected. He thought that the reflexes had not been sufficiently considered, and spoke of the difficulty with which these parts were brought under the influence of an anæsthetic on account of their extensive nerve supply. He spoke of the many causes of constipation causing congestion of the mucous membrane and reflex spasm of the sphincter muscle. He related cases showing the large number and variety of symptoms rectal irritation could produce, and particularly a case of obstinate constipation simulating locomotor ataxia. He also dwelt upon the importance of examining the rectum in certain cases of constipation, and of exploring it high up.

DR. GERVAIS, of Belgium, said he had seen many cases of reflex irritation from the rectum. He asked if injections of carbolic acid were practised both for external and internal hæmorrhoids.

DR. F. C. SCHAEFER, of Chicago, Ill., reported having seen cases in which most excruciating pain through the perineum had been removed by simply relieving the constipation, showing the reflex character of the pain.

DR. WILLIAM C. WILE, of Danbury, Conn., related a case of hæmorrhoids from which the patient had become insane. The insanity was cured shortly after removing the hæmorrhoids.

DR. ALBERT B. STRONG, of Chicago, Ill., mentioned a very severe case of gonorrhœa in his practice which was only cured after some existing piles had been removed.

DR. GALLET, of Belgium, had witnessed cases similar to those related by Dr. Matthews.

DR. J. M. MATTHEWS, of Louisville, Ky., further stated that he did not spare the knife in operations for the removal of hæmorrhoids, but preferred it to all other means in its proper place. He spoke of the dangers attending the injection of carbolic acid. He laid great stress upon the point that pruritus ani should not be treated as a disease, but as a symptom, the cause of which must first be removed to effect a cure.

THE PRESIDENT mentioned an instrument which he had used for some time for the treatment of rectal stricture. This instrument, which he had not yet exhibited before any society, consisted of a rectal sound formed on anatomical principles to conform to the curved direction of the rectum. He dwelt upon the importance of the proper curves in this instrument.

DR. AMBROSE L. RANNEY, of New York, then read a paper entitled,

DOES A RELATIONSHIP EXIST BETWEEN ANOMALIES OF THE VISUAL APPARATUS AND THE SO-CALLED NEUROPATHIC TENDENCY?

He thought that the neuropathic tendency was an important factor as a cause of the largest mortality. He was of the opinion that many neuroses were caused by an eye defect. He quoted from the statistics collected by Dr. George Stevens, of New York, and from his own carefully studied one hundred cases. His deductions were as follows:

1. No one has yet shown in what this predisposition lies; hence it can be shown that eye defect is an important element in these conditions.

2. There is no recognized pathology in functional nervous diseases. The view that they are constitutional diseases is by no means established by pathological research.

3. Heredity is very common in these affections. It is one of the most marked features in this class of nervous diseases.

4. My records go to show that eye defects are found in a very large proportion of such subjects.

5. Many of the eye defects found can be shown to be congenital, being inherited like other peculiarities.

6. The manifestations of the neuropathic predisposition vary with each case. They are called forth often by extremely trivial causes. These accidental circumstances or simple coincidences are too frequently recorded as of great clinical interest.

Dr. Ranney tested all eyes with a four per cent. solution of atropine. He quoted many cases, principally of epilepsy and melancholia, which had been under the care of the best neurologists, and which had been cured by correcting errors of vision. He believed that there was absolutely no cases of migraine without eye defect. He said he could cure seventy-five per cent. of such cases.

DR. PIERCE, of Ohio, cited cases of chorea caused by fright, and cases in which the chorea had been cured and in which squint continued.

DR. WILLIAM C. WILE, of Danbury, Conn., then read a paper entitled

WHICH SHALL BE THE SITE OF A URINARY FISTULA?

in which he appealed to the Section to decide the question. He cited a case in which a very hypertrophied prostate gland made the operation of entering the bladder exceedingly difficult.

THE PRESIDENT said he was not at all afraid of the prostate gland, but treated it as a foreign body when operating.

The Section then adjourned.

SECTION IN DERMATOLOGY AND SYPHILOGRAPHY.

A. R. ROBINSON, M. D., NEW YORK, PRESIDENT.

Secretary—Dr. William S. Gottheil, New York.

MONDAY, SEPTEMBER 5TH—FIRST DAY—AFTERNOON SESSION.

THE PRESIDENT opened the Section with a few general remarks, and then read his opening address. He called attention to the inadequacy of the course of study in our American medical schools, necessitating a trip to Europe to perfect one's self in dermatology and other specialties. He regarded it as an error to combine in our medical schools the study of dermatology with genito-urinary diseases, rather than with general internal pathology, which holds such a close etiological relationship to many cutaneous diseases. The knowledge of dermatology obtained in other languages is apt to influence the student in his future course of study and in his practice. That there are no American views of dermatology and no American school is to be greatly regretted. It is not possible to learn dermatology in this country except under great disadvantages. He called attention to the serious evil of indiscriminate medical writing and compilation to the neglect of original work, the proportion of papers representing original research being noticeably low.

Dr. William Welch, of Philadelphia, Pa., read a paper on

VACCINATION DURING THE INCUBATION PERIOD OF VARIOLA.

The author endeavored to show that vaccination during the incubation period of variola has, at least in his own hands, given gratifying results, preventing or modifying the small-pox eruption. The contrary view he believes to be unsupported by facts and not tenable.

Vaccination during the initial stage is valueless. If it be performed very early in the incubation stage it exerts a modifying influence and may prevent the attack altogether.

Vaccinia does not begin to exert its effect until the formation of the areola about the vesicles.

It must not be long delayed after the contagion has been received in the system if favorable results are expected. The character of the vesicle has much to do with the protection secured. When the vesicles are imperfectly formed or retarded the efficacy is to be feared. Animal lymph is too unreliable. Fresh, eighth-day lymph, from a typical vaccine vesicle, is to be preferred.

By numerous insertions of the virus we are more sure of good results. He had no doubt the process of vaccinia is hastened by multiple insertions.

He has made observations upon 144 cases, from which he has been led to believe that vaccination in the incubation period gives a certain immunity from variola.

Dr. Cundell Juler, of Cincinnati, O., said, he believed that the lymph from the vesicle itself gave an immunity which the crust did not, and when used he did not consider revaccination necessary, but with the crust it was. The lancet should be kept scrupulously clean.

Dr. Rogers Parker, of Liverpool, England, a public vaccinator for the city of Liverpool, said that in the large cities of England human lymph was usually employed. Large vaccination stations were established, to which the parents were required to bring the children at certain times, and the children vaccinated one week returned upon the same day the next week, so that there was always an abundance of vesicles from which to choose in vaccinating the others. Revaccination is not compulsory, but was usually done in schools and public bodies at about the age of fourteen.

Dr. Gottheil, of New York, said that he had frequently noticed a fungating sore about two weeks after vaccination, which he had regarded as a weak ulcer. With some sets of lymph it always appeared, and with others never.

Dr. Keller, of Hot Springs, Ark., related an incident of war times. He was in charge of a hospital on the Southern side. An epidemic of variola broke out. A supply of lymph was received, with instructions that it came from the North, and was suspected of being poisoned. Such stories were then current. He decided to use it, and, to avoid error, divided each point, vaccinating a citizen with one part and a soldier with the other. Nine-tenths of the soldiers had unhealthy sores following the operation, but none of the citizens, showing that they were due to the scorbutic condition of the soldiers, and not to impure virus.

Dr. Yeamans, of Detroit, Mich., said his belief in the protective power of vaccination, after exposure had occurred, grew yearly less and less. He had had considerable experience in the matter, and thought we lost sight of the many other influences brought to bear, which may modify the case under observation.

Dr. Lathrop, of Dover, N. H., believed that he had seen vaccinia take the place of small-pox.

Dr. Robinson, the President, asked why, if vaccinia depended on micro-organisms, which multiply so rapidly, more than one point of inoculation was necessary?

Dr. Welch, in closing, said he had been sceptical in regard to the necessity for multiple inoculations, and believed one typical cicatrix gave as good protection as many. Animal virus, or virus of recent humanization, gives a more durable protection. That of long humanization produces a more superficial scar, and deaths were more frequent in those showing superficial scars. He does not believe in life-long protection of vaccination. The ulcers mentioned by Dr. Gottheil he thought were only found after animal lymph had been used. It is not true vaccination, and it gives no protection.

RECTAL ALIMENTATION IN DISEASES OF THE SKIN.

Dr. J. V. Shoemaker, of Philadelphia, Pa.: All substances in solution are speedily absorbed by the rectum. Medicines in the form of suppositories and powders are taken up more slowly, but are cleanly and easy of administration.

In lupus of the mouth and lips, after scraping, the rectal method of alimentation and medication is recommended.

Pemphigus and impetigo in children of all ages are often due to alimentary disturbance, in which this method has advantages over the administration of food and medicines by the mouth.

Acne due to stomachic irritability, with vomiting, nausea, etc., can be cured in from two to four weeks by giving milk and other nutritious enemata per rectum, care being taken to insure retention. They should be lukewarm, and given only once every four hours.

Rectal medication is of value in those to whom medicines by the mouth are distasteful.

In many cases of syphiloderm the eruption disappears after suppositories of five grains of calomel or a fraction of a grain of the protiodide.

Scrofuloderma can be cured by rectal enemata of cod-liver-oil, when it cannot be taken by the mouth.

Urticaria can at times be best relieved by an enema of an ounce each of castor-oil and glycerine.

Pruritus ani treated by suppository of powdered geranium in ten-grain doses acts well.

Arsenic and antimony are of great benefit in some cases of psoriasis, but they may disorder the stomach. They can then be given with care by suppository.

Iodide of potassium in small doses, in the form of suppository, prevent many disagreeable symptoms produced by this drug.

Dr. H. G. Unna, of Hamburg, Germany, agreed with the reader of the paper in the good effects obtained by rectal medication in many affections. He asked concerning the experience of the author in regard to the administration of mercury. Whether diarrhœas and other unfortunate effects were not likely to occur.

Dr. Klotz would be afraid that the absorbent power of the rectum would be lowered in certain cases. For example, in pemphigus in children he would be afraid that the method would fail, as in other febrile diseases.

In closing, Dr. Shoemaker replied to Dr. Unna's question that when the mercurial was given first in small doses and gradually increased, the good effects were secured and the ill effects obviated.

Dr. H. Klotz, of New York, read a paper

ON THE OCCURRENCE OF ULCERS RESULTING FROM SPONTANEOUS GANGRENE OF THE SKIN, DURING THE LATER STAGES OF SYPHILIS, AND THEIR RELATIONS TO SYPHILIS.

Whenever we find a round-shaped, punched-out ulcer, with thickened, abrupt edges involving the entire thickness of the skin, with uneven floor, and a dark-green color, in a person with syphilis in its later stages, we generally consider it a syphilitic ulcer, and most frequently due to the breaking down of gummatous infiltration. The author's observations have led him to believe that similar ulcers in syphilitics may result directly from circumscribed spontaneous gangrene of the skin. The cases have occurred mostly in dispensary practice, and the histories have not been as accurate as might be desired. In one case in private practice such ulcerations

developed upon the leg, along with well-marked ulcers from the breaking down of gummata, and were carefully watched and studied. After the removal of the dry slough, such ulcers exhibit peculiarities which render it possible to recognize their origin. They bear a resemblance to the round ulcer of the stomach. Malignant precocious syphilides may give rise to similar ulcers, and the tuberculo-gangrenous syphilide of Bazin seems to be closely related to them. Syphilis may furnish adequate cause for direct spontaneous gangrene. It has been satisfactorily shown that in every stage of syphilis the virus exerts its action most constantly on and around the blood-vessels, and we must look particularly to endarteritis if we can exclude other causes of gangrene. As to cerebral arteritis, its great importance has been sufficiently proved, and is none the less so because it is really not a specifically syphilitic process. That it owes its origin to syphilis in a great many cases is generally conceded. Lang, who has paid particular attention to the influence of syphilis on the vascular system, cites a number of instances. There is really no reason why the skin should be exempt from this process, and particularly if arteritis exists in smaller and terminal arteries. Proof will be furnished only when changes in an artery leading to the gangrenous portion of the skin can be shown to exist. This proof the author has not been able to furnish.

The author concludes :

1. Ulcers resembling the so-called gummatous syphilitic ulcer may occasionally result from circumscribed spontaneous gangrene of the skin, without the formation of a previous syphilitic neoplasm.

2. Such ulcers may be distinguished by several peculiarities of formation of floor and shape.

3. They are but little affected, if at all, by antisyphilitic treatment.

4. Spontaneous gangrene in such cases is probably due to endarteritis obliterans.

In the discussion, Dr. Unna, of Hamburg, said that endarteritis obliterans of the smaller vessels in syphilis is now a well-established fact. It is astonishing that in the primary lesions of syphilis we do not have more sloughing than is generally seen.

SECTION IN GENERAL MEDICINE.

Abram B. Arnold, M.D., Baltimore, Md., President.

Secretaries—J. W. Chambers, M.D., Baltimore, Md.; William F. Waugh, M.D., Philadelphia, Pa.

Monday, September 5th—First Day—Afternoon Session.

After calling the meeting to order The President read a paper entitled

AN ADDRESS IN MEDICINE.

He thought it especially appropriate upon such an occasion to review therapeutics and diagnosis.

In reviewing the therapeutic nihilism at one time prevalent, he contrasted it with that over-confidence placed in drugs, which, although similarly irrational, had not been fairly tested.

The treatment of acute febrile diseases were particularly worthy of our study and attention. At present, instead of a uniform there is an English, French, German, and American treatment for fevers. It was interesting to note that within the last three or four decades the rate of mortality in fevers had decreased. As an illustration, it was well to consider the therapeutic treatment of typhoid fever, especially in reducing the fever. All drugs which have been used have had the unfortunate action of overwhelming the system in a manner especially worthy of our attention. The evidence of the value of these remedies has not been established. Hyperpyrexia itself is truly a source of great danger. There is no remedy equal to the judicious abstraction of heat from the body. Those who advocate active treatment ought to review the history of the treatment of pneumonia. The superiority of non-interference over active measures allowed this disease to make the fortune of homœopathy.

Inconsiderate medication is due to an erroneous conception of the true nature of the disease. The general principles formulated by the older physicians were on the whole excellent, so far as the general management of their cases was concerned. They treated expectantly, and were ever on the alert for complications. One part absolutely remedial is good nursing and sound hygienic rules. There is a conservative medicine as well as a conservative surgery.

Preventive medicine, which has been fairly organized, constitutes a new epoch in the history of medicine. Bacteriology and vital statistics teach us valuable lessons. The increased attention to hygiene by the people, the amelioration of the poorer classes by removing young children from the factories, and the diminution of the hours of labor, contribute largely to the increase in the longevity of the race.

Pathology has been advancing, yet therapy not equally so. The practitioner classes his diseases in sclerosis, cirrhosis, etc., with far greater ease than he applies his remedies to them. The text-books have dropped the subjects dropsy, paralysis, etc., and are changing clinical into anatomical diseases. Physicians once thought they had specifics, such as calomel and various alteratives. Perhaps we have too completely thrown them aside.

Symptomatic treatment, however, may not be neglected ; it is often curative. Structural changes also may be modified by remedies which affect the functions of organs.

The criticisms of experimental therapy are untenable, as by this method we arrive directly to a knowledge of the sphere of action of the remedies. Virchow said, "therapy alone tolerates rubbish," a statement not so true now as when he said it. We ought, therefore, not only to know better the therapeutic action of our remedies, but also to increase the number of these agents by experimentation. The numerical method is imperfect, yet is still the best way to compare different methods.

In closing he referred to the difficulties of medical practice, and the necessity of earnestness and a keen insight into physicological medicine.

On motion of Dr. Thomas Hay, of Philadelphia, this paper was referred to the Committee for Publication.

Dr. Ignacio Alvara, of Mexico, read a paper entitled

SOME SUGGESTIONS UPON THE PATHOGENESIS OF YELLOW FEVER.

Although previous pathology ascribes the etiology of yellow fever to a certain microbe, the large experience with the disease in Vera Cruz, Mexico, has led him into the theory that yellow fever is an auto blood-poisoning, either by the acid phosphate of soda of the same blood having been burned from the basic into acid, or by the phospho-glyceric acid set free from the lecythina by the reactions in both cases that have been produced by the living of the microbes upon the constituents of the sanguine fluid.

The idea of yellow fever being a case of poisoning by phosphorus is not a new one. Owing to similarity of the symptoms they were referred to phosphuretted hydrogen. The two etiological factors in yellow fever are, first, fermentation—the one to which the name yellow fever is fitted, and second, the lesions resulting therefrom. Division of this disease is of course artificial, because many of the stages are at times absent. Having taken the abnormal temperature as the basis for the study of the malady, having noted the symptoms that accompany each one of the three stages of the abnormal heat ascent, fastigium, and descent, and by the facts observed, he had arrived at the conclusion that all the cases of yellow fever

must be embraced in two classes: those ending at the fastigium of the abnormal heat, convalescence setting in at once; again, those going on through the descent. The first class includes all cases. Yellow fever has two phases of evolution. The first stage is recovered from, excepting, of course, those cases where the stages are indistinct and run together. The theory was advanced that the first stage of symptoms was caused by an excess of lactic acid in the blood, since poisoning by lactic acid causes aching in the body, dizziness, somnolence, and gastro-intestinal disturbances.

Again, it is inferred that the excess of lactic acid, reacting on the remaining constituents of the blood, produces the acid phosphate (or phosphorus-element), which in turn gives symptoms identical with those of the second stage of yellow fever.

He found eighty-eight per cent. of his cases had characteristic pains in the muscles of the eyes when they were turned upward. Lumbago was present in ninety-five per cent.

In yellow fever there are two conditions, abnormal heat and excessive pathological changes in the blood. This latter condition needs to be investigated by men competent in that department.

Among methods attempted to cure this disease, the doctor mentioned intravenous injection of ether, yet without especially favorable results.

Refused for publication.

Dr. Walter P. Geike, of Ontario, Canada, read a paper entitled

PNEUMONIA AS MET WITH IN VARIOUS PARTS OF THE DOMINION OF CANADA.

Pneumonia he had found to be far more frequently secondary than primary; the former was probably most frequently seen as a complication of typhoid fever. In preparing this paper he had corresponded with physicians practising in newly and sparsely settled countries, and he had found that in these localities, both East and West, it was a rare disease. It never occurred in epidemics. He asks this question, Is it because there are so few inhabitants that there never occurs an epidemic?

As sanitary methods increase low and asthenic forms and epidemics decrease.

In the recent epidemic in Toronto, the disease seemed to affect both the weak and strong alike. Investigation showed that the disease is more acute in rural, and less so in populated districts. There had been cases in the recent epidemic in which it seemed to be contagious. The specific character of the fever would naturally support such a view. Realizing fully the predisposition to the disease which arises from the abuse of alcoholic stimulants, yet improper drainage and water were the great cause.

There was no uniform treatment.

Dr. J. A. Ouchterlony, of Louisville, Ky., reviewed some of the different theories now and formerly held in regard to the local or specific origin of this disease.

Dr. W. J. Scott, of Cleveland, O., said that he found it difficult to reconcile the anatomical changes with any of the advanced hypotheses. He believed it to be infectious.

Dr. J. B. Lester, of Kansas City, Mo., thought pneumonia an infectious disease, sometimes influenced by malaria, by insanitary influences, and at other times by septic conditions. He had cases which did well by immediately instituting the tartar-emetic treatment with a blister. Apparently similar cases this treatment had little effect upon, owing to malarial complications, which rapidly disappear on administration of quinine. Again, the cases of septic origin he treated very successfully with whiskey and milk.

Dr. H. D. Didama, of Syracuse, N. Y., said that the microscope has demonstrated the micrococcus. What has it to do with pneumonia? Is it accidental? Experiments have shown that by inoculation it will produce the disease. In typhoid fever we have many types, yet they all are caused by the same kind of poison. Why could not this be also the case with the different forms of pneumonia? We ought to bear in mind that the latter disease has a regular course. Blisters he approved of in cases complicated with pleurisy.

Dr. James Stewart, of Montreal, Canada, inquired whether pneumonia was more frequent and also more fatal in malarious districts.

Dr. William F. Waugh, of Philadelphia, Pa., thought it difficult for the disease to be infectious in solitudes.

Dr. Theodore H. Boysen, of Egg Harbor, N. J., practised in a district where there was no malaria. Pneumonia in his section was a great rarity.

Dr. Geike replied that pneumonia was not more frequent, but more tedious and of a lower form, when complicated by malaria. It was also more fatal, in so far as it was of a lower form.

The Section then adjourned.

SECTION IN GENERAL SURGERY.

William T. Briggs, M.D., Nashville, Tenn., President.

Secretaries—Dr. Dudley P. Allen, Cleveland, O.; Dr. Karl Mayde, Vienna, Austria; Dr. J. R. Weist, Richmond, Ind.; Dr. Arthur H. Wilson, Boston, Mass.

Monday, September 5th—First Day—Afternoon Session.

The Section was called to order at 3 P.M. by The President, who first welcomed the foreign representatives. He then said that this might be called the age of surgical activity. The whole field is undergoing a complete supervision, and this afternoon session would be devoted to the consideration of

ABDOMINAL SURGERY.

The first paper on this subject was read by Dr. Charles T. Parkes, of Chicago, Ill.

Dr. Parkes stated that the subject of gun-shot wounds of the abdomen had of recent years been more generally understood; that he wished to place in review cases of other gentlemen and those coming under his own experience, so that deductions could be made. Up to 1885 the profession had not looked it in the face; but a few years ago surgeons were opposed to any interference. In 1884 the speaker read a paper upon this subject before the American Medical Association, since which time 36 cases have been reported, recovery taking place in 9 of them, and since coming here he had heard of two more, making 38 reported cases and 11 recoveries. The operation in these cases has been performed under all sorts of surroundings and the cases were not chosen ones. The writer considered that every case should be reported, whether resulting in recovery or death, in order to secure correct statistics.

The diagnosis with the abdomen unopened was at best uncertain, but when to open the future must decide. The writer referred to the cases of Drs. Bull, McEwen, Senn, Hamilton, Dennis, and others already reported. He considered that a gun-shot wound with but one opening would give us hope that the ball might not have passed into the abdominal cavity; the location of the point of entrance and the direction the ball passed, together with weight and distance from which the ball was fired, materially increased the difficulty of diagnosis. The symptoms of shock and hemorrhage were also important factors; also the natural temperament of the patient when in normal health. The writer considered that after an operation had been decided upon the incision should be made in the mesian line, as giving greater access to all parts of the abdominal cavity. If the ball passes up through the diaphragm he considered there was but little to be done. Shock he considered was no

certain indication of perforation having taken place, and that it was a very difficult matter to know when to decline to operate, as many cases that have died have revealed at the post-mortem that the patient could have been saved had an operation been performed. The writer quoted two instances:

Case I.—J. S—— was shot in two places with a thirty-two-calibre ball; he was seen three hours after. One ball went through his body, coming out at his back; he had eaten a hearty dinner just before the shooting. Considerable blood was found in the abdominal cavity, and five perforations were found, one being in the kidney. He seemed to do well for twenty-four hours, but then he died. It was found that death resulted from hemorrhage of the kidney. The speaker considered the kidney should have been removed at the time of the operation.

Case II.—P. J——, aged forty-five, was shot on July 4th. He was seen fourteen hours later, when a large wound was found in the iliac region. Respiration was thoracic, and the abdomen hard and tense. On opening the abdomen, fecal matter was discharged and six inches of gut brought out; the wound was discovered to be very large. After the operation abdominal breathing was resumed. The patient died sixteen hours after the operation; had he been seen earlier the writer thought he would have recovered. He drew attention to the method of treating these wounds, where the mesentery was involved being much more difficult to treat. In these cases he was in the custom of uniting the wound diagonally, commencing the stitches at the mesenteric edge. He had never as yet found it necessary to put in more than one line of stitches, care being taken to draw the peritoneum together. Wounds of the liver should be sewn together with deep sutures. The spleen bleeds freely and is difficult to suture, being so brittle. He thought it might be best to remove it, and this might also be necessary in wounds of the kidney.

The next paper was by Dr. Nicholas Senn, of Milwaukee, Wis., and entitled

AN EXPERIMENTAL CONTRIBUTION TO INTESTINAL SURGERY, WITH SPECIAL REFERENCE TO THE TREATMENT OF INTESTINAL OBSTRUCTION.

Artificial Intestinal Obstruction.—Stenosis.—(*a*) *Partial enterectomy and longitudinal suturing of wound.* Traumatic stenosis from this cause becomes a source of danger from obstruction or perforation in all cases where the lumen of the bowel is reduced more than one-half in size. Longitudinal suturing of wounds on the mesenteric side of the intestine should never be practised, as such a procedure is invariably followed by gangrene and perforation by intercepting the vascular supply to the portion of bowel which corresponds to the mesenteric defect.

(*b*) *Circular constriction of intestine.* The immediate cause of gangrene in circular constriction of a loop of intestine is due to obstruction of the venous circulation, and takes place first at a point most remote from the cause of the obstruction.

2. Flexion.—(*a*) *Flexion produced by partial enterectomy and transverse suturing of wound.* On the convex surface of the bowel a defect an inch in width can be closed by transverse suturing without causing obstruction by flexion. In such cases the stenosis is subsequently corrected by a compensating bulging, or dilatation, of the mesenteric side of the bowel. Closing a wound of such dimensions on the mesenteric side of the bowel by transverse suturing may give rise to intestinal obstruction by flexion, and to gangrene and perforation by seriously impairing the arterial supply to, and venous return from, the portion of bowel corresponding with the mesenteric defect.

(*b*) *Flexion caused by inflammatory and other extrinsic causes* gives rise to intestinal obstruction only in case the functional capacity of the flexed portion of the bowel has been diminished or suspended by the causes which have produced the flexion, or by subsequent causes independently of the flexion.

3. Volvulus.—As in flexion a volvulus gives rise to symptoms of obstruction when the causes which have given rise to a rotation upon its axis of a loop of bowel have at the same time produced an impairment or suspension of peristalsis in the portion of bowel which constitutes the volvulus, or when a diminution or suspension of peristalsis follows in consequence of the rotation.

4. Invagination.—Accumulation of intestinal contents above the seat of invagination is one of the most important factors which prevents spontaneous disinvagination, and which determines gangrene of the intussuscipiens.

Spontaneous reduction is not more frequent in ascending than descending invagination.

The immediate cause of gangrene of the intussuscipiens is obstruction to the return of venous blood by constriction at the neck of the intussuscipiens. Ileo-cæcal invagination, when recent, can frequently be reduced by distentions of the colon and rectum with water, but this method of reduction must be practised with great care and gentleness, as over-distention of the colon and rectum is productive of multiple longitudinal lacerations of the peritoneal coat, an accident which is followed by the gravest consequences.

The competency of the ileo-cæcal valve can only be overcome by over-distention of the cæcum, and is effected by a mechanical separation of the margins of the valve; consequently it is imprudent to attempt treatment of intestinal obstruction beyond the ileo-cæcal valve by injections per rectum.

Enterectomy.—Resection of more than six feet of the small intestine in dogs is uniformly fatal. The cause of death in such cases is always attributable to the immediate effects of the trauma. Resection of more than four feet of the small intestine in dogs is incompatible with normal digestion, absorption, and nutrition, and often results in death from marasmus.

In cases of extensive intestinal resection the remaining portion of the intestinal tract undergoes compensatory hypertrophy, which, macrospically, is shown by thickening of the intestinal coats and increased vascularization.

Physiological Exclusion.—Physiological exclusion of an extensive portion of the intestinal tract does not impair digestion, absorption, and nutrition as seriously as the removal of a similar portion by resection.

Fecal accumulation does not take place in the excluded portion of the intestinal canal.

The excluded portion of the bowel undergoes progressive atrophy.

Circular Enterorrhaphy.—A modification of Jobert's invagination-suture by lining the intussusceptum with a thin, flexible, rubber ring, and the substitution of catgut for silk sutures is preferable to Czerny-Lembert sutures.

The line of suturing on neck of intussuscipiens should be covered by a flap or graft of omentum in all cases of circular resection, as this procedure furnishes an additional protection against perforation.

In circular enterorrhaphy, continuity of the peritoneal surface should be secured where the mesentery is detached by uniting the peritoneum with a fine catgut suture before the bowel is united, as this modification of the ordinary method furnishes better security against perforation on the mesenteric side.

INTESTINAL ANASTOMOSIS

The formation of a fistulous communication between the bowel above and below the seat of obstruction should take the place of resection and circular enterorrhaphy in all cases where it is impossible or impracticable to remove the cause of obstruction, or where the pathological conditions which have given rise to the obstruction do not constitute an intrinsic source of danger. Gastro-enterostomy and jejuno-ileostomy should always be made

by approximation with partially or completely decalcified perforated bone-plates.

In making an intestinal anastomosis for obstructions in the cæcum or colon, the communication above and below the seat of obstruction can be established by apposition with decalcified perforated bone-plates, or by lateral implantation of the ileum into the colon or rectum. An ileo-colostomy, or ileo-rectostomy, by approximation with decalcified perforated bone-plates or lateral implantation, should be done in all cases of irreducible ileo-cæcal invaginations where the local signs do not indicate the existence, or occurrence, of gangrene and perforation. In all cases of threatened gangrene and perforation the invaginated portion should be excised, both ends of the bowel closed, and the continuity of the intestinal canal restored by making an ileo-colostomy by approximation with perforated decalcified bone-plates or by lateral implantation. The restoration of the continuity of the intestinal canal by perforated approximation-plates, or lateral implantation, should be resorted to in all cases where circular enterorrhaphy is impossible on account of the difference in the size of the lumina of the two ends of the bowel.

In cases of multiple gunshot wounds of the intestines involving the lateral, or convex, side of the bowel, the formation of intestinal anastomosis by perforated decalcified bone-plates should be preferred to suturing, as this procedure is equally, if not more, safe and requires less time.

Adhesion Experiments.—Definitive healing of an intestinal wound is only completed after the formation of a network of new vessels in the product of tissue-proliferation from the approximated serous surfaces. Under favorable circumstances quite firm adhesions are formed between the peritoneal surfaces within six to twelve hours which effectually resist the pressure from within outward. Scarification of the peritoneum at the seat of approximation hastens the formation of adhesions and the definitive healing of intestinal wounds.

Omental grafts, from one to two inches in width, and sufficiently long to completely encircle the bowel, retain their vitality, become firmly adherent in from twelve to eighteen hours, and are freely supplied with blood-vessels in from twenty-four to forty-eight hours. Omental transplantation, or omental grafting, should be done in every circular resection, or suturing of large intestinal wounds, as this procedure favors the healing of the visceral wound and furnishes an additional protection against perforation.

The speaker presented some valuable specimens in which the operation had been performed on dogs; these specimens fully illustrated the value of the method advocated, and its entire feasibility, the union in some of these specimens being most remarkable. He called attention to its use in stenosis of the pyloric orifice. The duodenum or the first convenient coil of intestine being connected with the stomach by the method advocated, adhesions would form in from fourteen to twenty-four hours.

The adhesions in the specimens shown were wonderfully firm and strong.

SECTION IN GYNECOLOGY.

Henry O. Marcy, M.D., LL.D., Boston, Mass., President.

Secretaries—Dr. Georges Apostoli, Paris, France; Dr. Ernest W. Cushing, Boston, Mass.; Dr. Horatio R. Bigelow, Washington, D. C.; Dr. Carl Pawleck, Vienna, Austria.

Monday, September 5th—First Day—Afternoon Session.

The President omitted the formal address, and reserved the privilege of a more scientific contribution at a later date. He welcomed the foreign guests in the name of the profession of the entire country, and said that the Executive Committee had spared no effort to make their coming together one of marked pleasure and profit.

It seems, said Dr. Marcy, not invidious to mention the name of Marion Sims, honored by the world, but doubly dear to America, with both pride and sorrow. With pride, because he conferred on our country the honor of being recognized as the birthplace of gynecology; with sorrow, since in the fulness of a ripe manhood he was all too soon taken from us, when we might have hoped his noble presence and eloquent speech would have welcomed you here instead of poor words of mine. May the memory of his gentle presence abide with us, and the earnest spirit with which he sought to know the truth find imitation in our councils.

Dr. Nathan Bozeman, of New York, read a paper, entitled

ARTIFICIAL AND COMBINED DRAINAGE OF THE BLADDER, KIDNEYS, AND UTERUS THROUGH THE VAGINA, WITH AND WITHOUT GRADUATED PRESSURE.

In this paper the author described an instrument which he had devised recently. This draws the uterine away from the mucous membrane, and in the most perfect manner. He has also been able to combine in the same instrument drainage with the dilatation of the cicatricial tissue of the vagina. The form of the instruments which concerns us here is intended for drainage alone, and I have called them intra-vaginal and vulvo-vaginal drainage-supports. The intra-vaginal instrument is applicable in most cases to all positions of the body. The vulvo-vaginal form is suited to the recumbent position, and to cases where the perineum is lacerated. These can be introduced and removed by the patient when necessary. They are small and simple, free from angles and sharp bodies, are readily kept clean, and excite no discomfort or irritation of the vagina. They do not press on the rectum or vagina, nor do they interfere with locomotion.

The author closed his paper with

THE FOLLOWING CONCLUSIONS:

1. The importance of completion of the operation for fistula has not been duly appreciated. This forms, in many cases, the principal difficulty in the successful performance of the operation for the closure of the fistular opening. In other cases, when the fistula is cured, but the complications left without treatment, they lead sooner or later to the death or suffering of the patient. The greatest care should therefore be taken to discover and remove them.

2. Kolpokleisis, occlusion of the os uteri, and incision of the cervix in the bladder or rectum, are unjustifiable operations. They destroy the functions of the generative organs, lead to cystitis, then form venereal and vesicular calculi, pyelitis, and other diseases. Moreover, they are unnecessary. By means of the preparatory treatment of the complication by the aid of my button-suture and my dilating speculum, I have been able to overcome all the difficulties which have been described as indications for operation.

3. The association of combined drainage in the dilatation of the vagina is a great improvement. The inconvenience and evil effects of incontinence of urine are thereby lessened, and the duration of the treatment shortened by the more rapid healing of the incisions and the formation of less cicatricial material in the reparative process.

4. We now propose a means of palliating the suffering due to incontinence of urine in a small proportion of cases of fistula which are incurable by this method—even the dangerous one of kolpokleisis. I believe that some form of drainage may be instituted in every case, and the patient may be thus restored to enjoy life and the performance of its duties.

5. The possession of a system of combined drainage will widen the scope of the operation of kolpo-cystotomy,

done for cystitis, by removing the evils of incontinence of urine, now the chief objection to its performance.

6. Finally, I think the operation which I call kolpo-urethro-cystotomy, followed by the exploration and treatment of the disease of the ureters and pelvis of the kidney, has a brilliant future before it. In the treatment of pyelitis, renal calculi, and obstruction of the ureters, it will restrict within narrow limits the operation of nephrotomy and nephrectomy.

Dr. Grailey Hewett, of London, was called on to open the discussion. He said it gave him great pleasure to take this occasion to visit America and meet those gentlemen whose efforts in the advancement of gynecology had elicited his admiration. The paper just read had shown decided advance in this line of thought. Conservative surgery, in this our day, seems to be running a race with operative surgery. He closed by endorsing the views of the essayist thoroughly.

Dr. Hueston, of Philadelphia, had considerable experience in these cases, which he proceeded to relate.

Dr. Horatio R. Bigelow, of Washington, D. C., read a paper on

CONSERVATIVE GYNECOLOGY.

The paper was divided into the following heads:

1. Plan and purpose of this communication.
2. The conservation of energy in its relation to conservative medicine.
3. What is meant by conservative gynecology?
4. General medicine and its relation to specialism.
5. The tendency to operative measures a dangerous one. Experience gained at a great cost of life. Operations often performed unnecessarily.
6. Conservatism as applied to the treatment of uterine tumors. Recent results from the use of ergot and from the electric current. Exceptionally only do myoma call for laparotomies. The constitutional treatment.
7. Conservatism applied to tubal diseases and inflammations of the ovary. The psychic element. The subjective and objective symptoms. Rest treatment, electricity, Swedish movement, and bathing.
8. The relation of gynecology to the general environment of the patient. Minor disorders magnified into undue prominence by social factors in the every-day life of women. The treatment of such cases.
9. A consideration of oöphorectomy for hysteria, nervousness, and kindred disorders. Seldom warranted.
10. The restriction of abdominal surgery to men competent to practise it.
11. Closing remarks.

Dr W. W. Potter, of Buffalo, N. Y., read a paper on

THE USE OF THE VAGINAL TAMPON IN PELVIC INFLAMMATION.

A married woman, twenty-two years of age, came under the author's care about a year ago, with a previous history of abortion, which happened eight months before, from which time her invalidism dated. Upon his first examination, early in June, he found great tenderness of the intra-pelvic organs and tissues, with partial fixation of the womb. The left tube was enlarged, and presented a banana-shaped mass to the touch, while the surrounding cellular tissue was more or less hard and tense. This finally grew soft, and late in August pus was discharged through the uterus, after which the tube diminished in size. There was relief from pain, and the general health improved. The improvement continued until November, when the tube again grew tender and swollen; but another discharge of pus soon brought relief again. From this time onward the gain was uninterrupted, and she was dismissed cured on April 1, 1887.

The treatment consisted in the regular and systematic tamponnement of the vagina twice a week, copious vaginal lavements of hot water, frequently administered, and constitutional measures, principally of iron and arsenic. The vagina was insufflated just prior to each packing with iodoform, bismuth, mineral earth, or other powder, and then small pledgets of cotton, wool, or jute were introduced in sufficient numbers to make gentle, firm, and even pressure, as well as afford comfortable support. Though there was much more of detail, he said these were the essentials of the management, and their continuous employment for a period of nine months brought recovery.

Reference was made to the advancement gained of late in the differentiation of pelvic diseases of women, whereby the domain of gynecological therapeutics had been so enlarged that it was no longer possible to group all the ailments of woman under the

INEXACT AND MISLEADING HEADS, "ULCERATION," "PROLAPSUS," AND "INFLAMMATION."

One of the important consequences of this more accurate classification of pelvic disease had been to invite surgical aid and interference in regions previously considered unsafe for the knife, and for maladies hitherto regarded incurable. The road to fame was so direct through the open gate-way of a brilliant abdominal section, that it was just possible that some ambitious men had removed an innocent ovary or unoffending tube, now and then, to obtain a "record" as spayers of women. He would not disparage the work of Battey, Tait, Hegar, Goodell, and others in this field, for he believed it of inestimable worth, nor would he deny that excision was often necessary; but, on the other hand, he thought the appendages might often be saved by timely and judicious management. The case reported, one of a number he had seen of a similar nature, was sufficiently typical to illustrate his purpose, and from which the following deductions might fairly be drawn:

1. That many cases of disease of the uterine appendages might be arrested in their progress and diverted to successful issue without operation by appropriate treatment resorted to in their earliest stages.
2. That the early employment of regular, prolonged, and systematic vaginal tamponnement afforded one of the safest, surest, and simplest ways of preventing the ravages, in whole or in part, of the maladies in question, and of averting that mutilating of the sexuality of women consequent upon excision.

VAGINAL TAMPONNEMENT.

This occasion gave him the opportunity of offering some remarks upon the employment of vaginal tamponnement in the treatment of vaginal disease in general, a subject which was again creeping into medical literature through society discussions and papers.

In order to obtain the full benefits of this treatment, it was of the first importance that the packing be well done; that it be so placed as to afford ample support, give secure rest to the parts, make firm pressure, and not become dislodged during its wearing; while, at the same time, it must not produce discomfort, interfere with the functions of the pelvic organs, nor cause irritation in the least degree.

In giving instructions as to its use, he states the tampon must be multiple, and not made up of a single wad or mass, as was too often done.

For the past ten years he has made systematic use of the

KNEE-CHEST POSTURE

in the reduction of pelvic visceral displacements and of the multiple tampon in that connection, while latterly he had also employed them in the treatment of pelvic inflammations, the whole comprising many hundred cases. As a result of this experience he had reached the following conclusions:

1. In retro-deviations of the uterus the reposition of the organ should be made in the genu-pectoral posture without the aid of any other repositor than the finger; it should then be shoved up and held in place by the multiple tampon. This treatment should always precede

the employment of a pessary for a longer or shorter period according to the peculiarities of the case.

2. The foregoing applies with equally cogent force to prolapses and inflammations of the ovaries whenever these principles can be suitably adjusted to such cases.

3. In abrasions, erosions, and ulcerations of the os, in the hyperplastic womb, in subinvolution, in cystocele, in rectocele, and in all conditions of disturbed or impaired nutrition of the pelvic organs, it affords a most efficient form of preparatory or curative treatment, tending to give the organs rest, restore their tone, deplete engorgement, remove blood-stasis, improve locomotive power, and arrest retrograde tendencies in general.

4. In pelvic inflammations, whether of cellular, peritoneal, tubal, or other origin or involvement, it will often change their current or arrest progress, prevent suppuration or abridge its ravages, and thus often guide to a successful issue without a final appeal to a formidable, and perhaps dangerous, operation.

Dr. J. E. Burten, LL.D., of Liverpool, England, read a paper on the subject

WHEN SHALL WE OPERATE IN TUBAL PREGNANCY?

The author considered these operations dangerous to life, more so, perhaps, than ovariotomies, while the diseases for which they are recommended and performed are, as a rule, not so.

The operation is by no means a striking success therapeutically; many of the cases operated on are no better for it, some are even worse, while in good cases it takes at least twelve months for the patient to completely recover from its effects. We hear of "brilliant" cases that have taken two and three years before the "brilliant" results became manifest. It may be fairly assumed most of these would have recovered in that length of time without operation.

When the results are the best possible the woman is mutilated for life, an offence against conservative surgery as well as the first canon of medicine, *non nocere*. The mutilation entailed by the operation is particularly offensive to the sentiments of all civilized nations, and reduces a woman to the position of a female eunuch. Her loss and degradation (?) will certainly be remembered when the recollection of her sufferings has faded.

The objections to the operation being so grave, it ought to be performed only in justifiable cases—after (1) prolonged treatment by less heroic and radical measures; (2) consultation with colleagues; (3) full explanation of the nature of the operation and its results to the patient herself and her nearest friend.

As regards the

OPERATION ITSELF IT IS JUSTIFIABLE

in:

1. Rapidly growing or bleeding myomata after other treatment, patiently carried out, has failed.

2. Pyosalpinx, if life is threatened by repeated attacks of peritonitis.

3. Chronic ovaritis (especially inflammation of the albuginea when Graafian vesicles burst through), when the pain is fixed and constant and months have been spent in unavailing treatment.

4. Parametritis, which, though it may not be dangerous to life at the time, may render the patient a permanent invalid.

5. Cystic degeneration of the ovaries, under the same condition as to pain as No. 4.

6. Neuroses distinctly of ovarian origin that have withstood years of treatment.

The operation is not justifiable in:

1. Myomata, except as noted.

2. Pyosalpinx, if the disease has become quiescent, if pain and fever have subsided and the pus has become inspissated.

3. Hydrosalpinx at any time, unless an associated perimetritis demand removal of the parts. A less radical operation will usually suffice.

4. Perimetritis, unless the disease promises to render the patient a permanent invalid.

5. Ovaritis, except under conditions noted.

6. Cystic degeneration of ovaries, except under conditions noted.

7. Hæmatocele and hæmatosalpinx under any conditions. Laparotomy and drainage may be called for, but removal of the organs, never. The same applies to ectopic gestation.

SECTION IN MEDICAL CLIMATOLOGY AND DEMOGRAPHY.

ALBERT L. GIHON, M.D., U. S. NAVY, PRESIDENT.

Secretaries—Dr. E. Bertheraud, Algiers, Algeria; Dr. Charles Denison, Denver, Col.; Dr. Edmund Owen, London, England; Dr. A. Wernich, Cöslin, Germany.

MONDAY, SEPTEMBER 5TH—FIRST DAY—AFTERNOON SESSION.

The opening address of The President was entitled

ON THE DOMAIN OF CLIMATOLOGY AND DEMOGRAPHY AS DEPENDENCIES OF MEDICINE.

A place was claimed for climatology as one of the sisterhood of medical sciences. The science must be taught in a manner befitting the importance of the subject. Preventive medicine, to which climatology and demography are contributory sciences, is more important than curative medicine. The views of the late Professors Austin Flint and Samuel D. Gross were quoted in support of this assertion.

The climatological study of the future must be based upon more rational methods of investigation. The mere recording of meteorological factors is not sufficient. Determinate climatic characters are not easy to formulate. Malaria is not a climatic disease, because the cause of malaria is a removable one and within the control of man, as proved by the experience in the marshes of Savannah, the lowlands of Holland, the Maremma of Tuscany, and the Roman Campagna, whose poisonous exhalations have been converted into innocuous vapors. The drainage of the Roman marshes has reduced the death-rate of the Italian army to one-third of its former magnitude. There are few specific climatic diseases. Local conditions of insanitation are more responsible for the production of diseases than the general influences of climate. By appropriate regulation of habits, clothing, and diet, the morbific effects of climate may be modified or averted, or its sanitary or therapeutic influence heightened.

The data for future generalizations must be furnished by accurate and laborious collective investigation. Vital statistics must in future be something more than mere records of so many deaths, births, or marriages. Morbility records must form the principal data for the vital statistics of the future. To have these records accurate, voluntary effort cannot be depended upon; they must be made under governmental authority. A rational nomenclature is a necessity, if our vital statistics shall serve as the basis of trustworthy generalizations.

Dr. George H. Rohé, of Baltimore, read a paper upon the

METEOROLOGICAL ELEMENTS OF CLIMATE AND THEIR EFFECTS UPON THE HUMAN ORGANISM.

The writer stated that medical climatology presented a much more complex problem than physical climatology. While the recorded observations of meteorological phenomena must form the basis, other conditions, such as those of the soil, must be taken into account. In studying the most characteristic climatic diseases, such as cholera, yellow fever, and epidemic dysentery, an intermediate factor—namely, the special virus of the disease—must be considered. A hot climate alone will not produce the diseases mentioned.

Sanatory or morbific effects are, however, produced by varying meteorological conditions. The effects of greatly diminished pressure upon the human organism are well known. Paul Bert and others have shown that these effects are not merely due to the physical condition of diminished pressure, but that the relative diminution of oxygen in rarefied air is an important factor in their production. While cases of phthisis usually do well in a moderately rarefied atmosphere, the effects of diminished pressure are not always beneficial, as has been pointed out by Dr. Loomis, who warns against the danger of sending patients with heart disease to high altitudes. It is not probable that diurnal or accidental variations of pressure have any appreciable influence upon health. Investigations conducted by the writer have failed to yield any positive results.

The primary classification of climates into tropical, temperate, and polar indicates the influence ascribed to temperature as a climatic factor. Although recent writers have attributed a determinate climatic influence to humidity, it is probable that this is of far less importance than some have supposed. The temperature must still be regarded as our best index of climate, but too much dependence must not be placed upon it. Many of the unfavorable effects attributed to moisture in the atmosphere ought to be ascribed to coincident insanitary conditions. The sanitary or morbific effects of air-currents have not been sufficiently considered as a climatological factor heretofore.

The tendency among climatologists at present is to deny to ozone any sanitary or disease-producing influence. Hydrogen peroxide is believed to be an antiseptic agent of importance in the atmosphere by some clinicians, who also ascribe therapeutic effects to the aromatic exhalations of certain plants. Very little of a definite character is known of the effects of these conditions. Further investigation is needed. The climatology of the future must be studied upon a broader basis, and ethnological, geographical, and epidemiological data must be taken into account before drawing conclusions.

Dr. W. T. Parker, of Newport, R. I., read a paper on

THE IMPORTANCE OF THE STUDY OF CLIMATOLOGY IN CONNECTION WITH THE SCIENCE OF MEDICINE.

He animadverted upon the prevailing want of knowledge upon climatology among physicians. The science should be more widely studied. A number of health-resorts were mentioned as combining the requisite climatic with the appropriate sanitary conditions to qualify them as resorts for the sick. A wagon-trip across the plains was recommended as one of the best means to obtain the advantages of a climatic health-resort.

SECTION IN MILITARY AND NAVAL SURGERY AND MEDICINE.

Henry Hollingsworth Smith, M.D., LL.D., Philadelphia, Pa., President.

Secretaries—William Browning, M.D., Brooklyn, N. Y.; J. McF. Gaston, M.D., Atlanta, Ga.; Eli A. Wood, M.D., Pittsburg, Pa.

Monday, September 5th—First Day—Afternoon Session.

The President in his inaugural address referred to the greatness of our country, the climatic differences met with over its immense territory, its great extremes of temperature, its geographical characteristics, the large yearly immigration, and the peculiarities, social and physical, which would largely result from these conditions. He drew a graphic picture of the desolation of the alkaline plains of the West, with their inhospitable soil, in comparison with the more favored sections of our country, the fertility of the prairies, and their bountiful flora and fauna.

Referring to the social characteristics of the race, these were largely due, he said, to the struggles and trials of the early settlers, who had a hard time of it in defending the soil reclaimed by great hardships and privations from its aboriginal inhabitants, who were constantly on the war-path against them. The speaker also adverted to the great opportunities that even a man born in the humblest of conditions has of attaining the highest round of the social ladder by energy and perseverance, and gave as examples the lives of some of our presidents. The soldier, he said, also had greater opportunities than in other countries in rising from a simple private to the highest rank, as was so well exemplified by scores of instances during the late war. The wonderful resources of the country in time of emergencies were alluded to, and comparison was drawn between the small regular army of the United States in 1861 to the enormous number of men enlisted up to 1865.

A large majority of these, he said, had returned to peaceful pursuits. The speaker adverted to the remarkable growth of the medical corps of the army, and of the enormous sum of over $47,000,000 having been expended for medical supplies during the late war. He feelingly alluded to the inestimable services of the late Dr. Frank N. Hamilton, of New York, whose recent death was mourned by the nation.

The services rendered by American surgeons in the Crimean, Franco-Prussian, and other European wars were alluded to. The great value of the "Medical and Surgical History of the War of the Rebellion" is admitted, he said, by all Europeans. The speaker then alluded to the great improvements made in the disposition of field hospitals, and to the desirability, which was being recognized, of treating the wounded under canvas, as their chances for recovery and freedom from complications were far greater under these conditions. The importance of selecting the proper site for such hospitals, sheltered from cold winds and naturally drained, was also touched upon.

At the conclusion of the President's address, it was moved that the President be tendered a vote of thanks for his able and interesting address, which was carried unanimously.

The first paper was read by title, and was by Surgeon-Major Francis Patrick Staples, M.K.Q.C.P., Ireland, of the medical staff of Aldershot, England, entitled

A SHORT SCHEME FOR WATER ANALYSIS IN THE FIELD, IN CONNECTION WITH WHICH WILL BE SHOWN A SMALL PORTABLE CASE FOR REAGENTS AND APPARATUS.

Dr. Staples was absent, on account of a death in his family. A few extracts, however, were read in explanation by Dr. Marston, of England.

The second paper of the day, was entitled

ON THE NECESSITY FOR A MORE CAREFUL EXAMINATION OF THE WATER-SUPPLY OF MILITARY POSTS, WHERE AN UNUSUAL AMOUNT OF SICKNESS PREVAILS, AND EXAMINATION OF HYGIENIC SURROUNDINGS,

by Morse K. Taylor, M.D., Major and Surgeon United States Army, of San Antonio, Texas.

The author briefly reviewed the history of army sanitation in this country, and spoke of the alarming death-rate at some of the military posts, due mainly to enteric and malarial fevers; an improvement at these military posts could only be had by giving proper attention to the water-supply and general sanitation of such military posts. The author showed that very little attention had been given to these subjects, and that there had resulted a vast amount of sickness in the army. This sickness is remediable, as typhoid and malarial fevers are preventable; for it is shown that where they exist in excess, it is because of inattention or neglect to seek

their cause and apply the proper remedies. Wherever efforts have been made to supply those military posts and camps with an abundant supply of pure water, there has resulted great improvement in the health of the soldiers and a consequent reduction in the mortality. Many cases were related, reinforced with copious figures, in proof of the author's assertions.

In the brief discussion which followed, Dr. William H. Lloyd, Inspector-General of the British Navy, spoke of the very great importance of an abundant supply of pure water at military posts. He had noticed a certain relation between the rain-fall of a region and the prevalence therein of malarial fevers, and that an increase in the development of these fevers was generally the immediate result of a great fall of rain in the region where these diseases prevail; the speaker was unable to explain the mysterious influence which is here at work. He also, in closing, alluded to the fact that analyses of water for the use of the British Navy are regularly made, and that an improvement in the general health has been directly traceable to the pure water in use therein.

Dr. Joseph R. Smith, U. S. Army, thought it was not an easy thing to decide as to the innocuity and harmfulness of a given water, for it was a well-known fact that many waters, even when containing a large amount of organic substances, could at times be used with impunity, while at others their use was attended with baneful results. It was impracticable, he said, to make use of the microscope in the field; the eyes, nose, and tongue of a soldier were his best guides, he thought, in the selection of water for drinking purposes, but there were times, while in the field, when the soldier could not exercise his judgment in such selection, and must drink any water that can be found, irrespective of its color, smell, or taste, and his drinking such water was not to be prevented. As to the water-supply of military posts, he thought the surgeon was powerless in preventing the pollution of the water, particularly at posts situated within populous districts; but that, in such cases, in public sentiment and appropriate legislation of the several States lay the only remedy.

Dr. Marston, of England, briefly reviewed certain epidemics which he had observed among soldiers, which were undoubtedly caused by the use of impure water; the latter was not the only cause assignable, however, in the development of malarial fevers; the influence of freshly disturbed soil was apt to be overlooked. In certain malarial districts of China this influence was so commonly recognized that it is a popular belief, and one which would seem to be warranted by observation, that even so slight a disturbance as the scratching of the soil by domestic fowls in quest of food is sometimes followed by the occurrence of cases of malarial fever in the neighborhood.

In conclusion, the doctor called attention to the undoubted influence of water containing the salts of lime in solution in the causation of goitre, and gave an illustration of an epidemic observed by him, when the disease was directly traceable to the use of such water.

SECTION IN OBSTETRICS.

. DeLaskie Miller, M.D., Ph.D., Chicago, Ill., President.

Secretaries—W. W. Jaggard, M.D., Chicago, Ill.; Joseph Kucher, M.D., New York, N. Y.; J. Williams, M.D., London, England.

Monday, September 5th—First Day—Afternoon Session.

PRESIDENT'S ADDRESS.

Dr. Miller, in a graceful inaugural address, extended cordial greeting and fraternal welcome to the distinguished guests present, and spoke of his appreciation of the labors of those connected with the Section. The physician's labor was for the good of humanity, and all his achievements and inventions of utility, being generously added to the stock of general knowledge, would be ever preserved, for they became the property of the world. New rules and new applications were constantly arising; yet what rules, new to us, had been ages ago applied. We sought truth along ways beset with difficulties. A symptom might be accepted for a fact in pathology, while nothing was more variable—hence our deductions were liable to prove faulty. Yet no cavity should be too deep to deter us from direct investigation. We should not expect too much, and be not disappointed to find certain questions no nearer solution than they were one hundred years ago.

Sixty thousand obstetricians in the United States were anxiously awaiting true teachings, and our object should be to lead them through their numerous difficulties.

In speaking of certain obstetric difficulties, Dr. Miller hoped that craniotomy in contracted pelves would be but rarely adopted and only in exceptional cases. It was too frequently assumed to be without danger to the mother. The inference from his researches was that the maternal mortality exceeds that reported. Under the new régime the interests of the child became more important. The requisite skill for other operative interference could now be found nearly everywhere.

In ectopic gestation diverse views on treatment prevailed. We have need of more concise rules. He considered early diagnosis of the greatest importance, and then *electricity* to arrest vitality.

While endeavoring to render the puerperal state aseptic, we should not fail to remember the danger from the ordinary agents used, especially where the kidneys were impaired, and he would not employ them in ordinary cases. Cleanliness was a most valuable means of asepsis.

In medicine we tolerated innovation and welcomed progress. We accept that which is fortified by experience and justified by results. The speaker then sketched the history of American obstetrics and obstetricians, beginning at the time of Samuel Guard, the family physician of George Washington, and ending on the verge of our own time.

The address concluded with the mention of those distinguished in the specialty who had died within the past year—Alfred H. McClintock, who in his last address had said, "My thoughts are with the dead;" the genial Alfred Meadows, and Carl Schroeder, one to be emulated, and whose memory should be cherished by all.

A paper sent by J. Braxton Hicks, M.D., F.R.S., of London, England,

ON THE CONTRACTIONS OF THE UTERUS THROUGHOUT PREGNANCY, AND THEIR VALUE IN THE DIAGNOSIS OF PREGNANCY, BOTH NORMAL AND COMPLICATED,

was then read.

Fifteen years ago the author had first directed attention to the fact that the uterus contracted throughout pregnancy at intervals of from five to twenty minutes; since then he had added much to his previous knowledge.

Before the fourth month bimanual palpation was necessary, later external examination was sufficient for its detection. The pregnant uterus was very soft, and offered no appreciable resistance to palpation except during contraction. In a young girl suspected of pregnancy abdominal palpation was often all-sufficient, though internal examination might be necessary. It was of great advantage to obtain decisive proof before making any allusion to pregnancy. A soft condition of the uterus, with a localized lump, often pointed toward the death of the fœtus or to ectopic gestation. The uterus might contract about fibroids. A knowledge of the contractions often rendered easy a diagnosis otherwise difficult, as in ovarian tumor, ovarian tumor and pregnancy, ectopic gestation, and normal gestation, twin

pregnancy, and hydramnios (palpation and the stethoscope as aids). With a dead fœtus the walls might be rigidly contracted. We should always look for corroborative signs.

Several cases were then cited in which the diagnosis was rendered certain only by this sign. The conclusions were:

1. That the uterus contracted at intervals of from five to twenty minutes during the whole of pregnancy, remaining contracted for from three to five minutes.

2. The uterus is firm when contracted, and the fœtus cannot be distinctly felt, though when the uterus is soft the fœtus is easily mapped out.

3. By noticing the contractions we are often enabled to diagnose normal pregnancy from other conditions.

4. The contractions have the physiological use of emptying the uterine veins of the carbonized blood.

5. The carbonized blood probably excites the contractions.

Professor Alexander Simpson, of Edinburgh, Scotland, thought the phenomenon of uterine contraction during pregnancy was now a widely recognized fact. We often met cases requiring all our diagnostic skill, and should employ all known means.

The sign mentioned was especially valuable before the fœtal heart-sounds could be distinguished, and in the third month when it could be employed in addition to Hegar's sign. One important result of these contractions was that when the uterus contracted forcibly, its contained blood was suddenly emptied into the surrounding parts, distending them, and thus favoring the dilatation of the parturient canal.

Dr. A. F. A. King, of Washington, D. C., said there was sometimes difficulty in recognizing the contractions of the uterus, as they might be excited by polypi, by the retention of menstrual fluid, or by fibroids. They were principally of value after the third month. During the first and second months we had no positive means of diagnosis. In single women the diagnosis of pregnancy could not be certainly made by uterine contractions alone. An important point in searching for this sign was to irritate the uterus slightly to make it contract.

Professor Charpentier, of Paris, France, appreciated thoroughly the value of Dr. Hicks' sign, and related a case of hydramnios where its presence made the diagnosis possible.

Duncan C. MacCallum, M.D., M.R.C.S. Eng., of Montreal, Canada, read a paper on

VICARIOUS MENSTRUATION.

After a *résumé* of the literature of the subject and the diverse opinions of modern authorities, the reader cited four cases:

1st. Mrs. W——, aged thirty-eight; six children. Never nursed. Good health. Two months after birth of child had molimina and vomited blood. Treated by rest, ice, and gallic acid. No unpleasant after-effects and no further hemorrhage for four weeks, when she again had molimina, followed by hæmatemesis. At next period the menses reappeared and have been normal since. Continued good health.

2d. Healthy woman; single. On the first day of a menstrual period was exposed to cold, and menses stopped; next day vomited blood; no vaginal discharge; regular since and healthy.

3d. Patient, aged thirty-three; healthy. First menstruation at fourteen years of age. Soon after had scarlatina, followed by amenorrhœa until eighteen. At twenty-three menstruation became very scanty and was accompanied by epistaxis for six periods, when it became regular again. Recently has again become scant and is accompanied by the epistaxis as before.

4th. Healthy woman. Pregnant three months. Six weeks before had received a severe fright. Had a profuse hæmoptysis on two successive mornings, and three days later aborted. Four weeks later molimina and hæmoptysis, but since normal menstruation. Chest perfectly sound; good health. In this case the ovum was killed six weeks before ovulation became established, and obstruction being offered to the usual flow, hemorrhage took place from the weakest point.

To constitute vicarious menstruation there must be (*a*) absence of menstrual blood-flow, (*b*) blood from some other organ than the uterus, and (*c*) no other assignable cause for the hemorrhage than the increased premenstrual blood-tension.

A hemorrhage under these conditions is truly supplementary and clearly vicarious.

Dr. Charles T. Parks, of Chicago, Ill., mentioned a case occurring in a single woman, twenty-three years of age, sick eighteen months. For four months defecation had been at intervals of from one to seven weeks, and during this time only one ounce of urine had been passed daily. Severe fæcal vomiting. No normal menstruation for two months, but at the time for the periods molimina and vomiting of pure blood. Patient was a physical and mental wreck. Exploratory abdominal incision showed intestines filled with scybalæ. The ovaries, much enlarged, were removed. Urine at once increased to a pint daily, many scybalæ were passed, and general health rapidly improved. For two periods the patient had molimina and spat blood. Heart and lungs normal.

Dr. Opie, of Baltimore, Md., thought cases of vicarious menstruation rare and illy defined. He believed that when the menstrual flow was impeded the vascular tension would seek relief at the weakest point.

Dr. Nelson, of Chicago, Ill., recalled a case where bleeding from rectal hemorrhoids occurred at menstrual periods, there being no uterine flow. The piles being cured and the cervix dilated, the menses appeared and gradually became normal.

Dr. Rodney Glissan, of Portland, Ore., in thirty-nine years had seen three cases: in one, menstruation had been regular, but after a serious illness hæmoptysis appeared every month and no vaginal flow for a year, when menstruation again became regular and the cough ceased. Now healthy.

Professor T. Lazarewitch, M.D., of St. Petersburg, Russia, presented a paper on

THE MECHANISM OF LABOR AND THE NORMAL FORCEPS.

After calling attention to the factors concerned in the mechanism of labor, and the necessity of an accurate knowledge of the mechanics of the process, he described a forceps which he had devised, having straight parallel blades, and locking with a simple tenon and screw.

His conclusions were: 1. That forceps be considered as a continuation of the hand as feelers.

2. That the less the dimensions of the blades the better they could be guided.

3. That detrimental action increases with the size of the blades.

4. Convex margins should not be so thin as to cut, or so thick as to obstruct.

5. That the instrument should lock easily, but allow slight longitudinal rotation of the blades.

6. Blades should be parallel.

7. Handles designed for convenience in guiding and the avoidance of injurious pressure.

8. Should be of smooth metal, so as to be easily made aseptic.

9. That the pelvic curve was injudicious, detrimental, and difficult to employ.

10. That his parallel normal forceps filled all these conditions.

W. S. Stewart, M.D., of Philadelphia, Pa., exhibited an

IMPROVED FORCEPS WITH PARALLEL BRANCHES.

The advantages claimed are: 1. That either blade may be applied first. 2. The impossibility of its slipping

when properly applied. 3. Moderate and even compression, the degree of compression being regulated by the amount of resistance. 4. Great facility for making traction.

Dr. Opie thought that most forceps had merit in proportion to the skill and familiarity in their use by the individual operator. It was not so much the instrument as the man. We should not try to do by mechanism what the skilful hand may execute. A properly educated touch and hand were the best means of warding off dangers incident to the use of the forceps. He believed in the use of a moderate pelvic curve.

SECTION IN OTOLOGY.

S. J. Jones, M.D., LL.D., Chicago, Ill., President.

Secretary—S. O. Richey, M.D., Washington, D. C.

Monday, September 5th—First Day—Afternoon Session.

The President gave a brief history of the progress of otology during the last twenty-five years, its present state, and its relations to general medicine.

Dr. S. S. Bishop, of Chicago, Ill., read a paper entitled

REPORT ON 5,700 CASES OF EAR DISEASE, CLASSIFIED BY AGE, SEX, OCCUPATION, AND DISEASE; CAUSATION.

His conclusions were:

1. Youth is a predisposing cause; more than one-fourth of the whole number of cases were under fifteen years of age.

2. Sex does not figure in the etiology of ear diseases.

3. About eighty per cent. were chronic diseases, and about ninety per cent. were diseases of the middle ear.

4. The causes of naso-pharyngeal catarrh are the proximate causes of middle-ear disease.

5. The nervous temperament was predominant.

Dr. B. Loewenberg, of Paris, France, read a paper on

THE TREATMENT AND THE BACTERIOLOGY OF AURAL FURUNCLES.

In 1880 and 1881 I published the results of my researches on the practical nature of aural furuncles, together with the theoretical and practical applications, the substance of which can be given as follows:

1. Boils are caused by an affection from outward, viz., through the ducts of the cutaneous follicles.

2. The successive outbreak of furuncles on the same individual takes place by auto-contagion, that is, through transport of the cocci upon the skin.

3. Infection from one person to others is possible, and originates from the same process as in No. 2.

These fundamental points have led me to a plan of treatment for boils and for furunculosis in general. I shall now expose this method with regard to the furuncles of the external ear, together with the results hitherto obtained.

My course of treatment is about the same as the one formerly proposed by me for otorrhœa, that is, the use of an over-saturated solution of one part of extremely fine powder of boracic acid to five parts of strong, even absolute, alcohol. This compound I use in instillations into the meatus, to be repeated three to four times a day.

As long as the boil is not yet opened a simple saturated alcoholic solution of boracic acid is sufficient, but when pus is already discharging I prefer the over-saturated solution, as it deposes a certain amount of boracic powder, dissolving gradually in the pus and thus exercising a continual anti-bacterial action.

Alcohol, besides its efficaciousness against micro-organisms, is, moreover, destined to facilitate the penetration of the compound into the ducts of the follicles, the seat of the disease. The fatty lining and contents of these capillary canals oppose, according to physico-chemical laws, a resistance to the entering of watery liquids, while alcohol, according to its affinity to fats, easily penetrates.

Incision of boils certainly sometimes facilitates this course of treatment, but it is often very difficult to practise it just so as to divide the follicle-ducts, which seems to me the desideratum.

Cocaine, though applied upon the epidermis, often procures passing relief.

RESULTS.

An early application of the saturated solution of boracic acid in strong alcohol often arrests the boils; even in the cases where this abortive treatment should fail, the perseverant use of the over-saturated solution always stops the otherwise nearly unavoidable succession of boils, originated by auto-contagion, as I have called it (*loc. cit.*). These results seem to me of great importance, firstly, because aural furuncles are known to be extremely painful; secondly, because, according to my experience, the longer this local furunculosis lasts the greater is the tendency of the boils to form in parts situated nearer and nearer the drum, and consequently to prove more and more painful. These results, to the best of my knowledge, have not been obtained before my researches.

Many female patients suffer, often for years, from aural boils arising before or during each menstrual period, a fact an explanative theory of which will be found in my paper. In such cases my treatment arrests these boils, or, at least, prevents their return. Nay, their formation may even be successfully prevented by a prophylatic use of this treatment begun before the catamenial epoch.

The same results can be obtained with persons who are regularly attacked by this affection in spring or fall.

BACTERIA IN EAR-FURUNCLES.

I have undertaken bacteriological researches in a certain number of cases of still unopened boils of the meatus. In each case I first syringed this canal and then filled it for ten minutes with a lukewarm solution of bichloride of mercury ($\frac{1}{2000}$). A small parcel of the pus was inoculated into agar-agar or nutrient gelatine and plate cultivations were made of the whole.

I obtained the following results: The micro-organism most frequently found was staphylococcus albus, which was absent in only one case, then came staphylococcus aureus and sometimes staphylococcus citreus. Only in one case all these three staphylococci were traced together.

These results differ from those obtained by my friend N. Kirchner, from Würzburg, who only found staphylococcus albus.

Dr. L. Turnbull, of Philadelphia, Pa., followed with a paper on

THE CAUSE AND TREATMENT OF AURAL FURUNCLES.

These papers were fully discussed by both foreign and home representatives.

SECTION IN PATHOLOGY.

Alonzo B. Palmer, M.D., LL.D., Ann Arbor, Mich., President.

Secretaries—Dr. H. M. Biggs, New York; Dr. Isaac N. Hines, Cleveland, O.

Monday, September 5th—First Day—Afternoon Session.

The President, in his inaugural address, discussed the progress of medicine toward exact science. Remarks on the address were made by Dr. Isaac N. Quimby, of Jersey City, N. J., and Dr. E. P. Allen, of Pennsylvania.

Dr. George R. Elliott, of New York, N. Y., read a paper with the title,

PRESSURE PARALYSIS OF POTT'S DISEASE,

in which he reported a case and presented the specimen showing pressure of the cauda equina, accompanied by secondary ascending degeneration of the posterior columns of the spinal cord.

The author's conclusions were based upon (1) experimental physiology; (2) pathological findings; and (3) clinical manifestations. They demonstrated that the lesion is a mechanical one in the majority of cases, and not a true myelitis, as ordinarily described—the latter being the lesion in only a small number of cases. They further demonstrated how circulation is interfered with and how such interference leads to the production of many forms of the paralysis recognized clinically. The specimen was interesting in showing the compression lesion of the cauda equina, and as probably being the first case reported where the pressure of the cauda equina, leading to secondary degeneration, was due to spinal caries.

Diagrams were used to illustrate the points made.

SECTION IN PSYCHOLOGICAL MEDICINE AND NERVOUS DISEASES.

Judson B. Andrews, M.D., Buffalo, N. Y., President.

Secretaries—G. A. Blumer, M.D., Utica, N. Y.; M. le Dr. A. Bouchereau, Paris, France; E. D. Ferguson, M.D., Troy, N. Y.

Monday, September 5th—First Day—Afternoon Session.

The Section was called to order by Dr. Andrews, Superintendent of the Buffalo Insane Asylum. After the reading of the list of Vice-Presidents and Secretaries, the President delivered his address, entitled,

THE DISTRIBUTION AND CARE OF THE INSANE IN THE UNITED STATES.

After delivering an eloquent eulogy on Dr. John P. Gray, who was the first President of this Section, he said: The amount of insanity bears a close relation to the duration of the social and governmental life of the people. Dividing the country into two great belts of North and South, there is an almost regular proportionate decrease of lunacy as we leave the older settled parts of the country along the Atlantic coast, till we reach the extreme Western slope.

The New England States lead with one insane person to every 359 inhabitants. This decreases until we reach the newer States and Territories with one insane person to every 1,263 inhabitants. In the seaboard States of the Southern belt we have one to every 610 inhabitants, and the extreme Southern States with but one to every 935 of the population. This emphasizes the statement that the pioneers of our newer settlements are the more hardy and vigorous citizens, and that the feeble and dependent are left in their former homes to enjoy the comforts of the hospitals and asylums, which are the special growth of the older civilization.

New York is the first Irish city in the world, and Berlin and Hamburg are the only cities which contain as many Germans as our own metropolis. We have among the negroes in the United States 1 insane person to every 1,097. In the negro race the proportionate increase of insanity is far greater than in any other division of the population. From 1870 to 1880 there was an increase in the census of the colored race of 34.85 per cent., while for the same period there was an increase of 25.8 per cent. of the insane. This large multiplication has occurred since emancipation from slavery, and through the consequent change in condition and life. The causes are briefly told—enlarged freedom, too often ending in license; excessive use of stimulants; excitement of the emotions, already unduly developed; the unaccustomed strife for means of subsistence, educational strain, and poverty. Among the Chinese and aborigines there has been but a small increase of insanity. There is among them less of the refinements of civilization, less competition and struggle for place, power, or wealth, and, as a consequence, less tendency to mental deterioration.

Dr. Andrews presented a list of State institutions in the United States, number of patients in each, and also the number of medical officers attached to each institution. One hundred and twenty-one asylums were represented, fifteen of these having been built since 1880. In 1880 there were 39,093 patients in these asylums. In 1886 the number had increased to 61,411, an annual increase of nine per cent. At the present rate of increase, before the end of the decennial period we shall have 75,000 in our asylums.

Dr. Andrews next referred to the diversity in lunacy laws in the various States of the Union, comparing them with the general governmental laws of Great Britain. Special accommodation for the criminal class, a highly desirable innovation, has been entered upon by two States only—New York and Illinois.

With the exception of Delaware and Vermont, every State in the Union has adopted the State system of caring for the insane, and New York was the first State to erect separate asylums for the chronic insane. Asylum architecture has undergone material changes during the past twenty years, the plan now most generally adopted being that of building detached blocks of structures in different parts of the asylum grounds, within easy reach of the administration building, these to accommodate the feeble and helpless, the epileptics and acutely maniacal patients. In many portions of the country, buildings separate and complete are joined by connecting fireproof corridors.

The President next outlined some of the important changes occurring in the interior management of asylums at the present time. Among them, the introduction of electricity for lighting purposes, of direct radiation for heating purposes, and of natural ventilation as taking the place of the blower-fans much in vogue in former years.

A higher medical standard is to be noted in the asylums of the United States. The medical officers are in very few cases appointed through political favoritism, and in the State of New York the Civil Service requirements insure the sound medical equipment of assistant physicians. Oöphorectomy is now recognized as a legitimate mode of treatment, and castration in appropriate cases has, at present, some able advocates; electricity is now being used with more intelligent knowledge of its power. Its handmaid massage, less powerful and less mysterious, but not less practical, has gained a position of prominence in the treatment of insanity in many institutions. The experiments in mesmerism, mind-reading, and the faith-cure have led to a closer investigation into the relation between mind and body, with a result of finding in expectant attention a valuable and legitimate help in the treatment of mental diseases.

D. Hack Tuke, M.D., F.R.C.P., London, Eng., sent a paper, which in his absence was read by Dr. G. F. Blandford.

THE VARIOUS MODES OF PROVIDING FOR THE INSANE AND IDIOTS IN THE UNITED STATES AND GREAT BRITAIN, AND ON THE "RAPPROCHEMENT" BETWEEN AMERICAN AND BRITISH ALIENISTS IN REGARD TO THE EMPLOYMENT OF MECHANICAL RESTRAINT.

It was largely a comparison of the systems pursued in both countries. At the last official census there were 80,000 idiots and insane in England and Wales, 72,000 of them being paupers and 8,000 belonging to the private class. In the workhouses of England fourteen per cent. of the paupers were cared for, and Dr. Tuke believed well cared for. In some of the workhouses there

are very good lunacy wards, and these, in his opinion, provided far better for this class than do American almshouses. The doctor thought well of the increasing tendency in this country to segregate the insane as shown at Willard and Kankakee. He deplored the fact that so many patients were still retained in the almshouses of the United States, and instanced the abuses in the Cook County Asylum at Chicago. The doctor thought the plan now being adopted in Massachusetts of boarding the chronic insane in private families was attended with considerable danger to the families, and might also result in overcrowding of patients, but, as a whole, commended the new departure.

Dr. Tuke concluded with remarks upon the little difference at present existing in the practice of British and American alienists, as regards non-restraint. He said that the system of Conollyism or strict non-restraint was not a feasible one in either country, and was glad to know that in the United States judgment had been used in the use or non-use of restraint, instead of blindly clinging to an ideal.

Dr. Tuke's paper was discussed by Drs. Savage and Andrews.

Dr. Savage, of London, Eng., said that he was glad to know that enlightened American superintendents had not tried to carry out the principles of strict Conollyism. There could be no absolute non-restraint so long as asylums existed, because life in an asylum in itself meant restraint. It was a mere matter of degree. The humane treatment of insane patients was in direct relationship to the civilization of a country. Let the principles of non-restraint be preached at all times, and let your attendants know this; otherwise you will have trouble. Youthful alienists might preach the doctrine of Conollyism pure and simple, but so high an ideal could not be attained so long as the preservation of society and the preservation of the patient's life are to be considered.

Dr. Andrews said the practice of American alienists was for the minimum of restraint in all cases. In former years there had been in the minds of Americans a misconception of the real practice of their English brethren. A study of the Blue Books, however, had served to show that strict non-restraint—Conollyism—had not been carried out in Great Britain. There had been considerable feeling manifested in the past between English and American mental specialists upon this topic, and Dr. Andrews was glad to say that as a more perfect understanding had come in regard to English practice, there was found to be little actual cause for dispute or disagreement.

The last paper of the day was read by Dr. Henry M. Hurd, of Pontiac, Mich., on

THE RELIGIOUS DELUSIONS OF THE INSANE.

He first treated of the religious delusions which accompany the mental development of over-stimulated and injudiciously educated children. These delusions are apt to take the form of morbid fear. When the child fails to derive pleasure and an emotional glow from prayer or praise, he fancies that some duty has been neglected or improperly performed, and is tormented by doubts and overwhelmed by remorse. An interesting case was then given by Dr. Hurd. The next class treated of by the author of this paper were patients suffering from the religious delusions of the insanity of masturbation. In the beginning morbid fear is predominant, and a study of the Bible and a habit of introspection is present. The patient is scrupulous in all religious observances, and there is a silly vanity in religious matters. Hallucinations are present. The patient becomes egotistical in his religious ideas. Dr. Hurd gave an illustrative case of this form of mental disorder. The patient had striking hallucinations of hearing and constantly communicated with invisible persons. The doctor next passed to the religious delusions of paranoia. In the congenitally abnormal class referred to there is, as early as puberty, a precocious sexual excitability which gives rise to an unnatural religious susceptibility. The patients have a strong religious bias and are apt to embrace peculiar views, or to be attracted by the latest novelty in religion. The immediate cause of the development of religious delusions is generally some physical ailment or shock. One patient, after praying for several nights in a corn-field, in great agony of mind, felt the burden of sin fall from his aching shoulders and saw it glide away in the darkness, dark, sinister, and, to use his own expression, "like a small woodchuck." Dr. Hurd cited many interesting cases, taken from the records of his asylum, as illustrative of this form of mental disease.

The doctor said the connection between sexual impulses and the development of religious delusions was not from any association of ideas, but rather from the close association and inherent unity of emotional states. The religious delusions of over-stimulated children are generally relieved by rest, freedom from study, and a judicious correction of the educational errors which produced them.

SECTION IN THERAPEUTICS AND MATERIA MEDICA.

Traill Green, M.D., Easton, Pa., President.

Secretaries—Dr. Frank Woodbury, Philadelphia, Pa.; Dr. Alfred S. Gubb, London, England; Dr. L. Lewin, Berlin, Germany; Dr. F. Dronke, Berlin, Germany.

Monday, September 5th—First Day—Afternoon Session.

Among those in attendance at the opening of the Section were Drs. Edmonston Charles, Middlesex, England; J. G. S. Coghill, Isle of Wight, England; William Murrell, London, England; Charles D. F. Phillips, London, England; Ralph Stockman, Edinburgh, Scotland; T. Gnezda, Berlin; Albert Fricke, Philadelphia, Pa.; F. E. Stewart, Wilmington, Del.; Alfred D. Gubb, London, England (French Secretary of Section); and J. M. Carter, Waukegan, Ill.

The President delivered a brief address at the opening of the session, which dealt chiefly with the history of the development of the study of therapeutics and materia medica, especially referring to the labors of Dr. John Morgan, of Philadelphia, who delivered the first lectures upon the subject in this country. The instruction which he gave was based upon the teachings of the University of Edinburgh, and its traditions have largely influenced medical education in this country.

Dr. Phillips, of Ventnor, Isle of Wight, Vice-President of the Section, occupied the chair during the opening address, and at its conclusion returned thanks for the interesting remarks, and said that English therapeutists felt under great obligations to Wood, Dunglison, Stillé, and other American workers in this field. He referred to his recent labors upon the subject of the action of diuretics, the results of which he had embodied in a paper which he is shortly to read before this Section.

Dr. J. M. Carter, of Waukegan, Ill., presented a

SYNOPSIS OF THE MEDICAL BOTANY OF THE UNITED STATES,

in which 140 orders, 620 genera, and over 1,300 species are described. The study of these is much simplified by the knowledge that the different species of the same plant resemble each other in therapeutic effect, differing principally in degree. There are similar differences in the same species, according to the conditions under which the plants are grown. Vogel has pointed out that *conine* does not appear in conium plants grown in Scotland; cinchona plants grown in hot-houses do not produce quinine. The mistletoe and the black haw he considered the most valuable additions recently made to our therapeutics, the former in urethral, the latter for uterine, irritation.

Dr. Coghill had been much impressed by the value of some American indigenous drugs, but he pointed out

the necessity of better appreciation of their physiological effects in order to ascertain their real value in therapeutics.

Dr. Phillips said that with reference to one drug mentioned, grindelia, he had obtained excellent results, and had a long series of notes of its successful use in asthma and emphysema with dilated heart.

Dr. William Murrell, of London, had noticed a great variation in the strength of drug preparations; as the rule, the samples sent for trial were made with more care than the ordinary article supplied on prescription.

Dr. Frank Woodbury, of Philadelphia, mentioned the employment of mistletoe in weak heart, and in post-partum hemorrhage, owing to its effect upon unstriped muscular tissue. Rhamnus Purshiana he considered a useful substitute for rhubarb, and equally efficient as a cholagogue.

Dr. F. E. Steward, of Wilmington, Del., read a paper entitled,

A PROPOSED INVESTIGATION OF THE MATERIA MEDICA OF THE WORLD BY THE GOVERNMENT OF THE UNITED STATES,

in which he advocated governmental supervision over novel therapeutic agents, and the placing of some restraint over the commercial enterprise of drug manufacturers, who introduced new drugs at extortionate prices. He also denounced the proprietary medicine business as an abuse of the copyright privilege. He suggested the establishment of a bureau for the examination of proposed new remedies, proprietary or otherwise, by the government, and to include a supervision over the entire drug-supply of the country.

Dr. H. H. Rusby, by invitation, opened the discussion. He considered the present a very opportune moment for agitating such a measure as the paper advocated. By a combined effort of the physicians and pharmacists, a committee might be appointed to improve the botanical work done under the direction of the United States Government. Hitherto, the amount appropriated had been lamentably inefficient, and had been carried on under the Department of Geology; it should be transferred to the Department of Agriculture. If the International Medical Congress were to pass a resolution, calling upon Congress to give adequate means and energy to the botanical work, its value would be greatly enhanced, and its importance in a medical point of view would be very great.

Some remarks were made by different members, denouncing the patent medicine abuse in this country.

Dr. Steward, on closing the discussion, said that a patent was never intended to secure unlimited secrecy, but on the contrary, to insure publication of an invention after a period of time. Moreover, the so called patent medicines are not patented, and cannot be patented; they are sold under a misapplication of the copyright law.

SECTION IN LARYNGOLOGY.

William H. Daly, M.D., Pittsburg, Pa., President.

Secretaries—William Porter, M.D., St. Louis, Mo.; D. N. Rankin, M.D., Alleghany, Pa.; Dr. Ottakar Chiari, Vienna; Dr. Hermann Krause, Berlin, Germany; Dr. E. G. Moure, Bordeaux, France.

Monday, September 5th—First Day—Afternoon Session.

The Section was formally opened at 3 P.M. with

THE INAUGURAL ADDRESS OF THE PRESIDENT.

It was most gratifying, he said, to see so many gathered together from all parts of the Union to welcome our guests who have come from afar, and to redeem the pledge made for them at Copenhagen in 1884. It was moreover a source of the highest pleasure to meet so many of those from foreign lands, whose names are far too familiar to admit of their being regarded as new acquaintances. We appreciate the honor of entertaining such representative men, and extend to them our heartfelt greeting, and cordial welcome to all.

The President then called attention to the status of laryngology in 1876, compared with its present advancement. In rhinology much has been done for the successful treatment of hay fever since the appearance of a paper by the President, in 1881, upon the predisposing intra-nasal causes of this disease. Now a large percentage of those who formerly fled to the mountain-tops in search of relief may be cured at home by proper and rational surgical treatment. The lamented Hack and other able workers claimed more from this plan of treatment than he then advised; but seven years of observation strengthen his belief that a large proportion depend upon a chronic intra-nasal disease, without the presence of which pollen, dust, and other agents are innocuous. A hope for the future is that more perfect local treatment may cure a still larger percentage.

The laryngologist of the future must give more attention to the nasal passages, and the rhinologist must be more of a surgeon than a physician. Who has not noted the rapid improvement of puny children following the treatment of enlarged tonsils and hypertrophied turbinated tissues, so as to give free breathing space? Many have with him verified by years of experience that a large proportion of inflammatory diseases of the larynx are secondary to intra-nasal diseases of a like character. The aid that modern rhinology extends toward the treatment of diseases of the internal and middle ear is appreciated by every aurist.

The President called attention to our indebtedness to the persevering work and ability of the now silent members, such as the late Elsberg, Krishaber, Foulis, Bruns, Waldenburg, Burow, Böcker, and Hack. In closing his address the President made the announcement that Dr. Morell Mackenzie was about to receive knighthood from the Queen. A motion was carried that suitable congratulations should be forwarded.

The first paper was read by Dr. Richard H. Thomas, of Baltimore, entitled

A CONTRIBUTION TO THE CAUSES OF SO-CALLED HAY FEVER, NASAL ASTHMA, AND ALLIED AFFECTIONS; CONSIDERED FROM A CLINICAL STANDPOINT.

The term hay fever he uses, not because scientifically correct, but because it is well understood and convenient. The factors that appear to enter into the causation of hay-fever and other nasal neuroses are:

1. The general nervous system. Although a neurasthenic condition is so often present with a nasal neurosis, the frequency of its occurrence, without reflex phenomena associated with the upper air-passages, shows it inadequate to explain the phenomena.

2. The theory that the condition of the nervous system is similar to epilepsy has not been proved.

3. The intra-nasal condition is usually that of hypertrophy, or such disease as polypi, deflected septum, etc., tending to more or less nasal obstruction.

The author has noted, however (*a*) that nasal obstruction in most cases is not associated with reflex phenomena, and even in neurasthenic individuals, as Dr. Bosworth, of New York, claims, only the "proper pollen" is needed to produce hay fever. One unique case improved as occlusion advanced. (*b*) Obstruction is not the first symptom in asthmatic manifestations, nor is it always present. (*c*) Cases have been reported of reflex phenomena associated with atrophic rhinitis. Morell Mackenzie has seen cases where there was nothing abnormal beyond hyperæmia, and author corroborates as far as nasal asthma is concerned. (*d*) Temporary attacks are brought on by touching sensitive areas, independent of nasal obstruction.

4. The author has seen cases where hay asthma followed chronic nasal trouble, and other cases where it

apparently preceded structural change. Special sensitive areas are claimed to exist in the upper air-passages. Irritation, disease, hypertrophy, polyp, etc., give rise to reflex phenomena. They are variously located by different authors, on the septum and turbinated bodies. When all are considered, there is very little mucous membrane that is not included.

5. After experimenting, Dr. Thomas concluded that the sensitive areas varied greatly with different individuals. Examinations were made between the attacks. Sensitive areas on one side at times bear no relation to those on the other. He could not decide which portion of the nasal tract was most sensitive, unless it was the septum. The favorite location is that part supplied by the olfactory. Phenomena noted were paroxysmal sneezing, or cough, and temporary asthmatic dyspnœa, headache, etc. ; none where the mucosa was healthy.

Reflex sensitive areas are found in hay fever but not in the normal nose.

6. Modern research shows that the nervous element enters to a large extent. A peculiar condition either of nerve-centres or endings gives perverted action under certain forms of irritation. He agrees with Lublinski that the olfactory, trigeminus, and sympathetic are involved in producing a paroyxsm. No such disturbance is caused by pathological conditions until an exciting cause is present.

Exciting causes.—(1) Inert substances floating in air, dust, pollen, etc. ; (2) psychical impressions ; (3) meteorological changes, sunlight, wind, etc. ; (4) morbid changes or growths ; (5) irritation reflected from distant parts of the body.

Any of these may give rise to a paroxysm when idiosyncrasy exists, not otherwise.

Pollen of Indian-corn, ragweed, luxuriant vegetation, smell of flowers, flour, meal, dust, odors of close room, where oysters have been opened, dissecting-room, dust of tobacco, smoke, etc.

Mental impression and often sympathy with another who is afflicted will cause an attack.

Hereditary tendency is often noted. What affects one may have no effect on another.

Treatment.—Remove patient from irritant or irritant from patient if internal, as when polyp, etc. Irritation of distant organs should be treated. It is often difficult to account for the curative effect of change of locality.

Use of cocaine gives temporary relief, but there is danger to tissues from protracted use. Powders are of doubtful benefit. Flannels give some relief. Radical treatment is called for. If nervous tissues are at fault treat accordingly. Iron, quinine, arsenic, hydrobromic acid (Gardiner's syrup), valerianate of zinc, etc., build up health. We are indebted to Dr. Daly for the introduction of local treatment of hay fever. Cure co-existing nasal disease and cauterize sensitive areas. The galvanocautery is preferable to acetic or chromic acid. Avoid destroying too much tissue. Prevent pain by cocaine and follow up with Dobell's solution. Carry on treatment between attacks and leave no sensitive areas untreated. Each patient requires separate study.

SECTION ON PHYSIOLOGY.

JOHN H. CALLENDER, M.D., NASHVILLE, TENN., PRESIDENT.

Secretaries—R. W. Bishop, M.D., Chicago, Ill. ; Bernard Fraenkel, M.D., Berlin, Germany ; Randolph Barksdale, M.D., Petersburg, Va.

MONDAY, SEPTEMBER 5TH—FIRST DAY—AFTERNOON SESSION.

In his inaugural address THE PRESIDENT directed special attention to the influence exerted by the cell on the processes of development and decay.

DR. DANIEL G. CLARK, of Toronto, Canada, read a paper on

THE BASAL GANGLIA OF THE BRAIN AS CENTRES OF PSYCHIC AND FUNCTIONAL POWER.

The author of the paper maintained that these ganglia are psychical centres : (1) Because of their greater activity physiologically ; (2) because they are the focal centres to the hemispheres ; (3) they are vital points of greater significance than any other part of the brain, and (4) experiments point to their directing and controlling power.

The paper gave rise to discussion which was participated in by Drs. Love, Wythe ; Stockman, of Edinburgh ; Kleinschmidt, of Washington ; Halliburton ; Professor Madden, and Dr. Boenning, of Philadelphia.

DR. RICHARD CATON, of Liverpool, England, then read a paper entitled

RESEARCHES ON ELECTRICAL PHENOMENA OF CEREBRAL GRAY MATTER.

These were the chief results obtained. Owing to the great difficulty of the investigation, more than half of the experiments were valueless.

1. Electrical currents are present in the gray matter of the convolutions.

2. These currents are increased during the arrest of functional activity caused by anæsthetics or death. After death the current diminishes and disappears.

3. In regions of the brain related to a special function, negative variation appears to take place during functional activity.

4. The occurrence of negative variation in an area of the brain assumed to be related to a special act at the movement of the performance of the act affords further evidence of localization.

5. These experiments afford some evidence that areas of brain related to movements of special muscles are also related to some form of sensibility in the skin adjacent to those muscles.

SECTION IN DISEASES OF CHILDREN.

J. LEWIS SMITH, M.D., NEW YORK, PRESIDENT.

Secretaries—I. N. Love, M.D., St. Louis, Mo. ; Henry Coggeshall, M.D., Mount Vernon, N. Y. ; Dillon Brown, M.D., New York ; Lucien Danransville, M.D., New York.

MONDAY, SEPTEMBER 5TH—FIRST DAY—AFTERNOON SESSION.

THE PRESIDENT, in his opening address, referred to the practical value of the papers about to be presented, and congratulated the Section on the large number of papers which had been contributed by prominent men in active practice in England, Scotland, France, Germany, and South America. The subject of intubation of the larynx would be considered in several papers. Important contributions in this connection would be read from M. Bouchut and Dr. O'Dwyer. The name of the former will always be honorably mentioned for his experiments in this direction, and Dr. O'Dwyer would be remembered by posterity as one of the benefactors of mankind.

The first paper read before the Section was by JULES SIMON, of Paris, who called attention to

A FORM OF CEREBRAL IRRITATION IN CHILDREN,

independent of organic lesion, and not the result of heredity or syphilis, but due to the deplorable tuition of young infants, even those at the breast, who are, in many cases, constantly harassed by the nurse with loud singing and sudden lights, and are liable to be excited by tea, coffee, or spirits, either directly or through the milk of the nurse. Add to these causes the feverish excitement which spreads around the cradle of the infant in modern society, and the result is a condition of cere-

bral irritation in which the child is unduly agitated by the most trivial causes. Sleep is light and frequently interrupted ; exaggerated reflexes produce vomiting, subsultus, and convulsions. The signs of precocity become more painfully evident when the child reaches the age of two or three years. He is in constant motion. The eye is restless and the expression vacant. The mind is alert, but incapable of application.

The cerebral irritation thus manifested may appear in the first months of life or it may gradually unfold itself at a later period. It terminates toward the age of five years, either by cure or by cerebral sclerosis, epilepsy, or meningitis.

It is the duty of the physician to secure a strict hygiene, with special view to prevent nervous excitement caused by unusual noises, or sights, or stimulating food and ill-advised friendly and social attentions. The open air and residence at the sea-shore or in the country are desirable, and medication, when required, should be by the bromides.

Dr. S. H. Charlton, of Seymour, Ind., had recognized the condition described by Dr. Simon, and had traced the cause in some cases to malaria and prolonged hot and dry weather. He emphasized the influence of heredity in this class of patients.

The brief communication of M. de Saint-Germain was as follows ;

" Not being able to attend the Congress, I send a note from my surgical experience. What I bring is not a stone for the edifice, not even a pebble, only a grain of sand. But each must do the best he can. Please accept the will for the deed.

" He who invents a surgical operation receives great credit. Recognition, at least, should be given him who substitutes for two operations two simple procedures, less dangerous, quite as effective, and more easy to perform. I propose ignipuncture of the tonsils and preputial dilatation in place of tonsillotomy and circumcision.

" IGNIPUNCTURE OF THE TONSILS.

" Tonsillotomy is not free from the possibility of fatal accidents. To mention uncontrollable hemorrhage and invasion of the wound by diphtheria is to make it clear that the operation is not so harmless as has been supposed.

" Krishaber tried the thermo-cautery, but his application was so superficial that treatment was indefinitely prolonged.

" I operate with the aid of a modified Smith's gag, thrusting the thermo-cautery into the tonsil to the depth of three-eighths of an inch. Two to four applications, at weekly intervals, reduces the tonsil to a shrivelled and insignificant stump.

"As to

PREPUTIAL DILATATION,

it may well take the place of circumcision, which is sometimes followed by serious hemorrhage, diphtheritic invasion of the wound, or partial gangrene.

" I reserve circumcision for those cases alone (about one in three hundred) in which dilatation is impracticable. I use a two-bladed dilator instead of the three blades of Nélaton, introducing it and slowly expanding the orifice. The operation is finished by separating the adhesions with a grooved director and is followed by daily massage, in which the glans is alternately exposed and covered.

" With both of these simple procedures I have always secured excellent and durable results, and have met with no untoward complications. In view of the great frequency of these two classes of cases, am I not right in presenting these simple and effective procedures as a surgical advance ? "

Dr. Lewis A. Sayre, of New York, then read a paper on

THE DELETERIOUS RESULTS OF NARROW PREPUCE AND PREPUTIAL ADHESIONS.

His first paper on this subject was published in the " Transactions of the American Medical Association." He was the first to draw the attention of the public to this important subject. It is now generally admitted that paralysis, and various other nervous symptoms, including a want of co-ordinating power, are in some cases induced by the pressure of the prepuce on the glans. The remedy is removal of the constriction and of the retained and concrete smegma, and such an arrangement of the parts that the prepuce shall glide *easily* to and fro over the glans, without restriction, permitting cleanliness, and thus removing one great source of danger.

For this proper arrangement of the prepuce it is necessary in some cases to perform circumcision, or an actual removal of a small portion of the prepuce, and sometimes to dissect it from *actual adhesion*, which is a very different thing from ordinary normal agglutination. But there is no occasion for removing any tissue, unless there is great redundancy *with constriction*. And in the great majority of cases the object sought can be easily accomplished by pushing a grooved director as far back as possible, and then dividing with the curved bistoury enough tissue to allow of tearing back the prepuce and uncovering the glans. The next step is to make a slight nick with the scissors, or bistoury, through the thickened fold of the edge of the frænum. Having done this, it is easy with the thumbs and forefingers to tear down the frænum and other adhesions, expose the glans, and remove from the sulcus behind the corona the hardened smegma, sometimes containing chalky concretions. In this procedure there is little loss of blood, and no loss of tissue whatever. A stitch on either side of the incision, between the skin and the mucous membrane, may or may not be required. Thus the glans is left partially covered, and it may, as well, be *freely* and *easily* uncovered. Having been responsible for bringing the subject before the profession, the writer wished to raise his voice against the mutilation and disfigurement of the organ which is often seen, which by too free removal of the prepuce leaves the glans entirely unprotected, as well as against the indiscriminate performance of the operation in cases where it can be of no avail.

The object of the paper was to harmonize two views—that of those who would operate in cases of infantile paralysis, and that of those who deny the existence of a paralyzed or even muscular inco-ordination from reflex genital irritation—by showing that there are cases of anomalous and extraordinary nervous manifestations certainly dependent on some irritation of the genital organs, in which an operation is not only justifiable, but absolutely demanded, and that in many instances the relief from all the strange symptoms has not only been immediate, but permanent after the operation, without any other medical or surgical treatment. It is also equally certain that any attempt to relieve a nervous disturbance dependent on some central lesion of the brain or spinal cord would result in no benefit whatever. The views of the writer were sustained by a large number of cases occurring in the practice of physicians in different parts of the country.

Dr. De F. Willard expressed his belief in the existence of reflex symptoms from genital irritation, and that many cases can be relieved by uncovering the glans. He advocated exposing the glans by manipulation with the thumbs and forefingers, without incision of the prepuce or frænum, continued and repeated until the prepuce is no longer tight.

Dr. I. N. Love, of St. Louis, Mo., had for many years practised circumcision. He believed in the Mosaic law from the stand-point of sanitation, morality, and the general well-being of the child. He had not succeeded in inducing mothers and nurses to secure absolute cleanliness when the sulcus is habitually covered by the prepuce.

Dr. S. C. Gordon, of Portland, Me., also advocated circumcision and believed that it should be more radically performed than it usually is.

Dr. P. R. Furbeck, of Gloversville, N.Y., recognized

the importance of uncovering the glans and securing easy motion of the prepuce, but believed in the value and importance of dilatation, because many parents refuse to accept the use of the knife. He recalled a case in which a child of six years was relieved from choreic symptoms by dilatation after circumcision had been strongly opposed.

Dr. Charles Warrington Earle, of Chicago, Ill., read a paper entitled

AN INVESTIGATION TO DETERMINE WHETHER THE ABSENCE OF SEWERAGE- AND OF WATER-POLLUTION DIMINISH THE PREVALENCE AND SEVERITY OF DIPHTHERIA.

He presented the results of a study of the causes of diphtheria in localities remote from sewer-gas influence in the less thickly populated Western States and Territories. He had received communications from a large number of physicians widely scattered over this great region.

His conclusions are briefly summarized as follows:

1. Diphtheria occurs in the mountains and prairies of the great Northwest with the same malignancy as in the East.

2. And with equal virulence in vicinities remote from sewers.

3. When once introduced, the residents of damp sod houses suffer with marked severity.

4. The infection is transported thousands of miles in some unrecognized vehicle.

5. There is abundant testimony that it follows the lines of railroads and steamers, making it imperative to increase the watchfulness and improve the methods of disinfection by railroad and steam-boat companies.

6. The desirability of legal enactments obliging people of all classes to recognize their responsibility in regard to the control of contagious diseases.

Dr. W. Foster, of Putnam, Conn., reported the apparent connection between diphtheria and exposure to filth in two cases occurring in a town of 7,000 inhabitants, otherwise entirely free from the disease. The boys affected had been playing almost constantly for several days in and about a barn, the cemented cellar of which received sink-water and house-refuse as well as manure. Isolation and thorough disinfection prevented the spread of the disease.

Dr. F. E. Waxham, of Chicago, Ill., believed that diphtheria is due rather to the absence of sewers than to their presence. An impure atmosphere and the presence of filth and decomposing vegetable matter are important factors. Absolute cleanliness, which, of course, includes disinfection, is our best resort.

SECTION ON DENTAL AND ORAL SURGERY.

Jonathan Taft, M.D., of Cincinnati, O., President.

Secretaries—A. M. Dudley, M.D., of Salem, Mass.; F. H. Rehwinkel, M.D., of Chillicothe, O.

Monday, September 5th—First Day—Afternoon Session.

The President welcomed those present.

Drs. I. V. Metnitz, of Austria; B. McLeod, of Scotland; and Greverts, of Holland, replied in behalf of the countries they represent.

The President then delivered his address, in which he reviewed the progress of dentistry in the last fifty years, and concluded by saying that although the past record was an excellent one, still the goal is not yet reached. He urged the profession, through those present, to work in all earnest for a yet higher standard.

Dr. R. J. Porre, of Cincinnati, O., read a paper on

CHRONIC PYÆMIA OF DENTAL ORIGIN.

The history of the case is as follows: The patient, male, good constitution and habits, suffered for the last thirty years from neuralgia, besides having constantly recurring furuncles and eruptions in various parts of the body, which would often for months become running abscesses. He experienced burning and itching eruptions of hands and feet, which would finally change to stubborn ulcerations. His bowels were either stubbornly constipated or exhaustingly loose. He suffered from frequent rigors and febrile attacks of varying intensity, profuse night-sweats, retention of urine, serious constriction of the bowels and urethra. Lancinating pains darted from the maxilla of right side to bowels, bladder, limbs, hands and feet, or to whatever part was locally affected at the time. This latter peculiarity, together with the discovery of a little pus exuding from the locality of the wisdom-tooth, led to a final correct diagnosis of his case.

The tooth referred to was extracted, and a speedy and complete recovery followed. As other sources leading to pyæmia and having their starting-point in the oral cavity may be mentioned pyorrhœa alveolaris, alveolar abscess, abscess of the antrum, and dental caries.

The doctor related ten other cases similar to the above, which all yielded to the simple remedy of removing the offending tooth.

Dr. J. Frank Lydston, of Chicago, Ill., said that both physicians and dentists should appreciate the important relation which morbid conditions of the mouth and jaws, and especially those which may be produced by septic absorption, bear to different general conditions. Septic matter is quite generally found about the roots of teeth, and may, under favoring circumstances, be absorbed into the blood, and there produce disturbances of greater or less degree.

The paper was further discussed by Drs. Walker, of London, England; Barrett, of Buffalo, N. Y.; W. J. Younger, of San Francisco, Cal.; and Chance, of Oregon.

SECTION IN OPHTHALMOLOGY.

Dr. J. J. Chisholm, of Baltimore, Md., President.

Secretaries—Drs. A. Alt, of St. Louis, Mo.; J. A. White, of Richmond, Va.; and R. L. Randolph, of Baltimore, Md.

Monday, September 5th—First Day—Afternoon Session.

The President, on taking the chair, expressed his high appreciation of the honor conferred upon him, and referred in feeling terms to the regret felt at the absence of Dr. E. Williams, of Cincinnati, the unanimous choice for the position. He referred to Dr. Williams as the pioneer in ophthalmology, the first of the specialties to branch out as a separate department of medical science, and the difficulties he had met with when devoting himself to diseases of the eye and ear exclusively. To-day it is acknowledged that progress in general medicine is attained only through studies and researches in special departments, and every organ has its investigator. The assembly of this International Medical Congress is, to a large extent, an assemblage of eminent specialists from great distances, at personal expense, to interchange their thoughts and conclusions upon various subjects. He referred to the vastness of the subject of the human eye alone, and that there is no disease of the eye so thoroughly mastered that further information is not desired. Operations are still far from perfect, and the origin and nature of glaucoma are not clearly defined.

The microbic element in eye-affections was also mentioned, and the intimate relation of eye-diseases to distant reflexes.

In concluding, he repeated his welcome to the members of the Section as friends and co-workers in the department of ophthalmology.

The first paper of the session was on

EYE-TROUBLES IN THEIR RELATION TO OCCIPITAL DISEASE,"

by Dr. A. Mooren, of Düsseldorf, Germany.

Dr. Mooren introduced his subject by a recital of the initial observations of Huguenin and the experimental researches of Munk, who removed the visual spheres in the occipital lobe of the dog and found that it rendered the animal blind, but left intact all the functions and movements not dependent on vision. Then, after referring to the clinical observations of Hirschberg, Pooley, Pflüger, Hughlings-Jackson, Gowers, and others, he entered into an analysis of 42 different cases of his own in which hemianopsia was present, 14 of which were on the right side, 19 on the left side, 4 temporal and 5 nasal restriction. The causes were various.

He found that hemianopsia dependent on occipital lobe-disease is not complicated with mydriasis or capillary apoplexies on the insertion of the optic nerve. It is the merit of Willbrand to have collected the different observations made in this sense. He formulates as follows:

The color-sense is to be placed on the most exterior cortex of the occipital lobe; beneath this is another layer, the centre for acuteness of vision. In a third layer beneath this again there exists, next to Gratiolet's visual radiations, the light-centre, *i.e.*, the centre for visual field. Destruction of the upper or color-perception layer may take place without affecting the underlying layers, as is demonstrated by the observations of Bjernum and Samelsohn, and Dr. Mooren's observations of the loss of color-perception in his cases without necessary impairment of vision are in accordance with those of previous observers.

He referred to the determination by Nothnagel of the occipital limits of pathological changes, by means of the method of the smaller focus. After the observations of Haab, Huguenin, Feré, and Seguin, this neurologist places the centre of optic perception in the cortex of the cuneus and first occipital convolution. This is confirmed by sections made by Curschmann.

Dr. Gradle, of Chicago, mentioned a case which appeared to him to have a bearing on the subject under discussion. A child, during an attack of what was supposed to be scarlet fever, had pain in the back of the head, which was drawn backward. Some time afterward, when seen by the narrator, it appeared to be blind, but the pupils were both quite active to light. Treatment by potassium iodide appeared to produce a beneficial result, and when last seen vision seemed to be completely restored.

The President presented in this connection a case of blindness with occipital disease. Some years ago pain began to be felt behind the left ear, shortly followed by swelling in the same region. The swelling gradually increased, and now a softish tumor of considerable size can be seen and felt, over which the bone has been absorbed. In the later period of its growth the hearing in the left ear became dull, and the right eye became blind. Patient could still read with the left eye. At that time both optic nerves appeared white and atrophic, one not more than the other. The pain has now almost disappeared, but he has only perception of light in the left eye.

The discussion was also participated in by Dr. Dickinson, of Missouri, Dr. Beerman, and others.

Dr. Ole Bull, of Christiania, Sweden, read a paper entitled

PATHOLOGICAL CHANGES IN THE RETINAL VESSELS.

He had seen eighteen cases of disease of the retinal vessels in six thousand five hundred cases of eye-disease. In some there were emboli, in others what appeared to be constriction or narrowing of the retinal vessels. He noted in some of the cases occasional spasmodic constriction of the arteries, with resulting anæmia and loss of vision, with some recoveries of vision, as distinguished from true emboli. Thrombus and gumma were referred to as causes of pathological changes in the vessels; in some cases distention, in others constriction, resulting. In all cases of organic change, serious impairment of vision or total blindness resulted.

Dr. P. D. Keyser, of Philadelphia, questioned as to whether in many of the cases it was a true embolism or a contraction of the arteries. A case which came to him blind from what appeared to be embolism, recovered good central vision, but had a field only two inches square. The treatment was galvanism. He had questioned whether, if the treatment had been commenced earlier, the vision and field might not have been entirely restored.

Dr. A. Heyl, of Philadelphia, questioned as to whether it was embolism or a loss of blood-tension, as in a case of blindness after post-partum hemorrhage, where the blood-amount is much lessened and tension much diminished. He also believed that one element in the blood-tension is the contractile force of the endothelium of the blood-vessel. When the tension is diminished this force comes into play, especially in the retinal artery as a terminal vessel without anastomosis. He cited a case of sudden loss of vision in a young lady with no heart or kidney disease, not especially anæmic, but of a somewhat waxy cast of complexion. It looked like embolism. Treatment was by palpation or percussion over the frontal and temporal adjacent region, by means of a rubber ball on a stick, and had seemed to be beneficial. He also thought that acute glaucoma might be a congestion caused by a sudden disturbance of the same nature in the circulatory system.

Dr. Bull closed the discussion by expressing his belief that many of these troubles are due to trophic affections, with no disease or affection of any organ elsewhere.

The paper by Dr. E. Smith, of Detroit, Mich., on *Treatment of Abscesses and Ulcerations of the Cornea by Jequirity*, was postponed till a later session by unanimous consent.

Dr. Leartus Connor, of Detroit, Mich., read a paper entitled

HOT WATER IN THE TREATMENT OF EYE-DISEASES.

Dr. Connor stated that that remedy was sought after which would most certainly induce, first, good feeding of the tissue; second, removal of morbid products and morbific agents; and third, the promotion of speedy repair. Such an agent is hot water in a great variety of eye-affections, such as mild catarrhal and phlyctenular conjunctivitis, corneitis, affections of the sclera and iris, and even, in some cases, retinal hyperæmia. In iritis, where the pupil refuses to respond to mydriatics, hot water will exert a marked effect in assisting dilatation of the pupil. Similar beneficial results in reducing inflammatory action had been noticed by him in catarrhal and purulent ophthalmia, in relieving the pain in glaucoma and acute dacryocystitis.

There is no morbid state of the eye on which it may not exert beneficial influence. The results reported by divers observers vary with the different modes of using it. The water should be as hot as the end of the forefinger will bear without discomfort. The method preferred by the essayist was to take a common tumbler, fill it to the brim with hot water, and, inclining the head slightly forward, apply the rim of the tumbler to the side of the nose and to the brow and cheek about the eye, which brings the eye itself actually into the water. The amount of water loses its heat slowly, and does not require frequent changing, and the eye may be kept in hot water with very little trouble for hours at a time. Antiseptics may be added, and the remedy is easily attainable with means for application. It is safe without the watchful care of the physician, while moist heat by any solid substance, as poultices, should never be used except under the direct supervision of the attendant.

Poultices are unsafe and unreliable means of applying heat to the eye; also dirty, especially on denuded surfaces. Compresses are less objectionable, and may be used as a substitute for hot water.

Local effects: 1. Contraction of blood-vessels in and about the eye. Controls hemorrhages better than cold water, and blanches the tissues in conjunctivitis, blepharitis, phlyctenulæ; and after the use of hot water the ophthalmoscope shows the retinal vessels to be reduced in size. In one case where drawings were made of the vessels before and after, the difference was very marked, and the relief of retinal congestion and improvement of vision very noticeable.

The temperature of the water must vary with the sensation of the patient. The tissues should not be exhausted.

2. Hot water will wash away or destroy all morbific secretions or excretions. At a temperature of 132° F. it destroys the bacillus of anthrax and many others, and many eyes can bear a somewhat higher temperature.

3. It promotes the healthful activity of reparative tissue or protoplasm.

4. It exerts direct power in relieving muscular fatigue and spasm.

Dr. Dudley S. Reynolds, of Louisville, Ky., asked whether the reader of the paper used hot water, as he had stated, immediately after a strabismus-operation, to increase the effect by causing contraction of the cut muscle.

In reply it was stated that contraction was stimulated in the muscle antagonistic to the cut muscle, and the effect increased in that way.

Dr. Thompson, of Indianapolis, Ind., defended the poultice as used in affections of the anterior part of the uveal tract and sclera. He had had excoriations produced by hot water, and then had to use poultices. Camomile or slippery elm, in cheese-cloth, was with him the preferable form.

Dr. P. D. Keyser, of Philadelphia, Pa., spoke of Dr. Wecker's use of hot water a long time ago in conjunctivitis diphtheritica, as he said, to soften the tissues and hasten absorption. The speaker had found diphtheritic conjunctivitis rare in this country, but membrane on the conjunctiva not so uncommon. He had used hot compresses over the eyes, and kept them hot by spraying with steam directed on the compresses from an ordinary kettle by a forked tube. The compresses should be applied over the eyes alone, and not over the frontal sinus between the eyes.

Dr. H. Power, of London, was in favor of dry poultices rather than moist ones. He has chamomile flowers or hops heated in a dry kettle, stirred till hot through, then applied in a bag or pillow to the part affected. He objects to the use of the steam from the kettle.

Dr. Eugene Smith, of Detroit, Mich., fully agreed with Dr. Power. He thinks moist heat not advisable in ulcerative keratitis.

Dr. P. T. Huckins, of Los Angeles, Cal., believes in the use of heat in these affections, but finds that the length of time during which the heat should be applied has not been spoken of.

Dr. A. Blitz, of Minneapolis, Minn., has never seen bad results in any case of conjunctival or uveal inflammations, from the use of hot water.

Dr. Abadie, of Paris, thinks that not so much stress is now laid upon the employment of hot water in many eye troubles. It has gone out of use in phlyctenular conjunctivitis, and purulent and croupous ophthalmia. In corneal affections, internal medication and proper antiseptic applications are far superior. In infectious corneal ulcers he uses iodoform powder and antiseptic washings. On the other hand, in iritis with much pain hot applications are good, but morphia, leeches, and internal administration of quinia sulphate, salicylate of soda, etc., are often all that is necessary.

Dr. Herbert, of Philadelphia, wished to call attention to a mode of applying heat that had not been mentioned, that by means of irrigation; the hot water flowing over the inflamed surface was thus kept at a constant temperature.

Dr. Calhoun, of Atlanta, Ga., spoke of an apparatus which he had sometimes used, a thin rubber bag of proper size filled with hot water and applied to the eye. It could have an inlet-pipe to supply fresh hot water, and an outlet to carry away the cooler portions.

Dr. Hotz, of Chicago, remarked that the diversity of modes of application of heat, with such uniformly good results, tends to show that there must be a principle underlying the mere material, or the manner in which it is applied. He should lay down the principle, therefore, to apply heat where there is a stagnation of blood to be broken, and it will reduce pain and promote recovery. The feeling of comfort that the patient experiences is the best gauge by which to tell the proper temperature in each particular case.

SECTION IN PUBLIC AND INTERNATIONAL HYGIENE.

Joseph Jones, M.D., New Orleans, La., President.

Secretaries—Dr. Castellanos, Dr. Felix Formento, and Dr. J. R. Le Monnier, of New Orleans, La.; Dr. B. D. Taylor, of Columbus, O.; and Dr. Walter Wyman, U.S.M.H.S., of New York.

Monday, September 5th—First Day—Afternoon Session.

The President delivered an address on the general subject of hygiene, which was the only subject considered, other than reports of committees.

He considered the question under three heads—domestic, national, and international hygiene. The first related to families and households; the second included the organization of boards of health and sanitary administration; the third, vital statistics and race distinctions.

SECTION IN MILITARY AND NAVAL SURGERY AND MEDICINE.

Monday, September 5th—First Day—Afternoon Session, Continued.

Dr. Joseph R. Smith, United States Army, read an able paper on the question of

THE BEST RATION FOR THE SOLDIER.

The author endeavored to show the difficulties in the way of ascertaining the exact amount of food that will suffice for the soldier in service, and compared the rations of different European armies, and the diets devised by various observers and experimenters. He showed that in general they err on the side of too great abundance, and briefly alluded to the proportion of carbon and nitrogen which the ration of the soldier should contain. He suggested two rations for armies, whose mean proportions of carbon and nitrogen would be about five thousand grains of the former and about three hundred grains of the latter. The paper was illustrated by numerous tables, showing the composition of the rations designed by Moleschott, Playfair, Pettenkofer, and Parkes.

In the absence of the author, Dr. John Denis Macdonald, of the British Army, his paper was read by Dr. Lloyd, of the Royal Navy. It described

A NEW FORM OF STRETCHER AND STRETCHER-SLING,

for use in the field, which displayed great ingenuity. The stretcher-sling exhibited possesses the advantage of generally distributing the weight, and of combining the support of the shoulders, loins, and hips.

The next paper in order, by Dr. Valery Havard, United States Army, was read by title.

Dr. Jeffrey A. Marston, of the British War Office, then read an instructive paper on

HUTS AND HUT HOSPITALS,

as used by the British Army in Egypt and India. He described the construction of these in detail, and offered general remarks upon the subject of camp sanitation. A hut designed by Major Marsh, Royal Engineers, illustrated with plans and sketches, was especially recommended for its portability, durability, facility of erection and removal, and low cost. These huts are constructed with projecting eaves, and a constant change of air is effected by means of ridge ventilation.

The next paper, entitled

THE CONSTRUCTION OF FIELD HOSPITALS, AS ILLUSTRATED IN THE DEPOT FIELD HOSPITAL OF THE ARMY OF THE POTOMAC AT CITY POINT, VA., IN 1864–65,

was read by Dr. James Collins, of Philadelphia.

Beginning with some general remarks on the great advantages of tents for field hospitals, he described at length the construction and general disposition of the field hospital established in 1864–65 upon the shore of the Appomattox River, one mile from City Point, Va. The hospital occupied an area of two hundred acres, and had a capacity of 10,000 men, and there was treated therein the enormous number of 71,223 men. He alluded to the excellent sanitary condition of the camp, of the means adopted for sheltering the tents from the cold winds by the transplantation of small pine-trees, the various attempts made to heat the tents by ingenious devices, with more or less success, and to the organization of the hospital. In conclusion, the speaker feelingly adverted to a visit of the late President Lincoln to the camp, on April 12, 1865.

Dr. W. Varian, of Titusville, Pa., agreed with the writer in recommending tents for hospital use, dwelling upon the fact that by their use the liabilities to the development of enteric fever and other camp diseases was greatly lessened, and that wounds of all kinds, as a rule, do well under canvas. He emphasized the importance of allowing free circulation of air between the tents, and of making the streets of a width of fifty feet, at least. The various methods of heating the camps, spoken of by Dr. Smith, he had also tried, and found that open fires made in front of the tents was the most satisfactory.

GENERAL MEETING.

Tuesday, September 6th—Second Day.

The Congress was called to order at 10 A.M. by The President.

Dr. Austin Flint, LL.D., of New York, delivered a general address on

FEVER, ITS CAUSES, MECHANISM, AND RATIONAL TREATMENT.

After discussing the subject of animal heat, the following conclusions were reached by the author:

1. Fevers, especially those belonging to the class of acute diseases, are self-limited in their duration, and are due each one to a special cause, a micro-organism, the operation of which ceases after the lapse of a certain time.

2. We are as yet unable to destroy directly the morbific organisms which give rise to continued fevers; and we must be content, for the present, to moderate their action and to sustain the powers of resistance of patients.

3. The production of animal heat involves oxidation of parts of the organism or of articles of food, represented in the formation and discharge of nitrogenized excrementitious matters, carbonic acid and water.

4. As regards its relations to general nutrition and the production of animal heat, water formed in the body by a process of oxidation is to be counted as an excrementitious principle.

5. Fever, as observed in the so-called essential fevers, may be defined as a condition of excessive production of heat, involving defective nutrition or inanition, an excessive production and discharge of nitrogenized excrementitious matters and carbonic acid, with waste and degeneration of the tissues, and partial or complete suppression of the production and discharge of water.

6. Aside from the influence of complications and accidents, the ataxic symptoms in fevers, the intensity and persistence of which endanger life, are secondary to the fever, and are usually proportionate to the elevation of temperature. These symptoms are ameliorated by measures of treatment directed to a reduction of the general temperature of the body.

7. The abstraction of heat by external cold and the reduction of temperature by antipyretics administered internally, without affecting the special cause of the fever, improve the symptoms which are secondary to the pyrexia.

8. In health, during a period of inanition, the consumption of the tissues in the production of animal heat is in a measure saved by an increased production and excretion of water.

9. In fever, the effects of inanition, manifested by destruction and degeneration of tissues, are intensified by a deficient formation and excretion of water.

10. Alimentation in fever, the object of which is to retard and repair the destruction and degeneration of tissues and organs, is difficult mainly on account of derangements of the digestive organs; and this difficulty is to be met by the administration of articles of food easily digested, or of articles in which the processes of digestion have been begun or are partly accomplished.

11. In the introduction of hydrocarbons, which are important factors in the production of animal heat, alcohol presents a form of hydrocarbon which is promptly oxidized, and in which absorption can take place without preparation by digestion.

12. Precisely in so far as it is oxidized in the body, alcohol furnishes matter which is consumed in the excessive production of heat in fever, and saves destruction and degeneration of tissue.

13. The introduction of matters consumed in the production of heat in fever diminishes, rather than increases, the intensity of the pyrexia.

14. As the oxidation of alcohol necessarily involves the formation of water and limits the destruction of tissue, its action in fever tends to restore the normal processes of heat-production, in which the formation of water plays an important part.

15. The great objects in the treatment of fever itself are to limit and reduce the pyrexia by direct and indirect means; to limit and repair destruction and degeneration of tissues and organs by alimentation; to provide matters for consumption in the abnormal production of heat, and thus to place the system in the most favorable condition for recuperation after the disease shall have run its course.

SECTION IN ANATOMY.

Tuesday, September 6th—Second Day—Morning Session.

The first paper read was on

THE ANATOMY AND SURGICAL IMPORTANCE OF THE PERI-RENAL CELLULO-ADIPOSE TISSUE AND RENAL CAPSULE,

by L. H. Dunning, M.D., South Bend, Ind. After outlining the position of the kidney and its anatomical relations, he then called attention to a double form of the peri-renal cellulo-adipose tissue, which, he thought, was a wise provision of nature and of great surgical importance. He explained the anatomy of the renal capsule, the arrangement of the fat, and the position of the cellular tissue, thus preventing the stretching of the nerves and the accompanying pain. In speaking of the cap-

sule, he thought it acted as a barrier to prevent inflammation to and from the kidney, and also furnished a surface for the attachment of the peri-renal cellulo adipose tissue. The surgical importance of this peri-renal cellulo-adipose tissue and of the renal capsule lay in the fact that one or both were often subject to inflammation and morbid changes, and that they were often invaded by the surgeon. Tumors often occurred within or upon the fibrous cellulo-adipose tissue of the kidney. The question was now if there were real danger attendant upon these invasions into the renal territory. In the three most frequent operations upon the kidney—nephrorrhaphy, nephro-lithotomy, and nephrectomy—the peri-renal cellulo-adipose tissue was cut through. The adipose and fibrous tissue, which was very vascular in this region, was very liable to inflammations. In operating, all loose portions of fat should be removed and the fibrous capsule, or even a small portion of the cortical portion of the kidney, might be left. The author asked also what should be done with the cellulo-adipose structure and the fibrous capsule left behind. His supposition, from the careful observation of several cases and a second operation on one, that after removal of the kidney the cavity was partially collapsed and filled with granulations, and this scar-tissue took the place of the kidney. These fibrous bands continued to contract, displacing the surrounding tissue. His final opinion was to remove all tissue when it was not too vascular.

The President spoke of the important point mentioned by Dr. Dunning, in regard to the close connection between the movements of the diaphragm and of the abdominal organs. He was of the opinion that the whole kidney could be destroyed and the capsule be left.

Dr. W. T. Oppenheimer, of Richmond, Va., then exhibited several photographs of

AN APPARATUS FOR THE TREATMENT OF FRACTURES OF THE SURGICAL AND ANATOMICAL NECK OF THE HUMERUS.

He spoke of the great difficulty in keeping the fractured extremities of the bone in apposition, and thought that his apparatus covered the three necessities of extension, counter-extension, and fixation. The apparatus consisted of strong iron bands, which were fastened around the thorax by means of plaster of Paris, and which extended to the fractured arm, holding it firmly at the shoulder, upper arm, and forearm. He had used it in several severe cases of fracture of the neck of the humerus, and suggested using it in fracture of the clavicle and in excision of the elbow-joint.

The President asked when passive motion was commenced.

Dr. Thomas, of Pittsburg, Pa., thought it did not matter what apparatus was used, so long as the arm was held out from the body. He admitted, however, that he had never treated a case in that way, but thought it formed the principle of Dr. Oppenheimer's apparatus.

Dr. Oppenheimer replied that in about five weeks passive motion was commenced. He said when the plaster jacket was put on well, and the bands were strong, that no movement of the body could cause crepitation.

The President asked if a corset of leather or of other material could not be used instead of the plaster of Paris, which, in his opinion, seemed a little clumsy for such treatment. He also thought that in using crepitus there was danger of tearing the periosteum, and thus cutting off the blood-supply of the fractured ends.

Afternoon Session.

PRESIDENT'S ADDRESS.

Dr. Pancoast, after greeting the members of the Section, began by saying that anatomy was sometimes called a dead study, but he thought it was a live subject. He thought that many advances had been made since the last meeting of the Congress, and especially in the anatomy of the brain. Great progress had also been made in microscopical anatomy. The study of the electrical sensibility of the brain and the operations for the cure of epilepsy by Hughlings-Jackson, Ferrier, and others had proved itself to be very successful. The ability to localize brain-troubles by the part paralyzed was evidence of great practical advances in the study of brain-surgery. He then related a very interesting case of his own of a gun-shot wound of the brain which he had successfully treated by aid of a careful study of the symptoms and the use of the induction balance. He did not think that anatomy made it sufficiently distinct that all muscles from one bone to the bone below were articular muscles. This was shown in a paralysis of the deltoid muscle making a simulated dislocation. He defined a joint at that division of the skeleton made to deaden shock and cause motion. He spoke of the low vitality of the joint-cartilage and the snowy-white membrane observed on the articular cartilage in white swelling. He did not altogether approve of extension and counter-extension in diseased joint, and thought that rest was important and that it was sufficient to prevent the rubbing together of the diseased surfaces. He believed that there were only four metacarpal bones in each hand and referred to the development of the hand and foot as a proof. He mentioned several anomalies of muscles which had come under his observation, such as two heads to the latissimus dorsi, and particularly of an unequal development of the soleus and gastrocnemius, wherein the latter muscle was too long. In certain forms of talipes with this muscular condition, a cutting of the tendo Achillis failed to effect a cure. The tense soleus had to be alone divided by slipping the knife between the two muscles and cutting the soleus. He thought that the deep fasciæ were not only for protection but acted as ligaments. He mentioned fractures of the coronoid process of the ulna and their causes, and was of the opinion that muscular contraction of the brachialis anticus could not break the coronoid process because the latter was covered by the anterior ligament of the joint. He thought the word anastomosis as applied to nerves and tissue incorrect, and should only be used when speaking of vessels. He explained the direction of the nutrient arteries in the long bones of the extremities and the peculiar position of the fœtus in utero causing their direction, and the importance of understanding the entrance of these nutrient vessels into the bones in some fractures. He thought many names might be simplified and spoke of the recent study of the skull and spinal column. He concluded by quoting the authorities on the advances made in the study of anatomy in different parts of the world.

Dr. Albert B. Strong, of Chicago, Ill., then read a paper entitled

FROZEN SECTIONS OF THE MALE PELVIS, SHOWING RELATIONS OF PERITONEUM TO RECTUM, BLADDER, AND THE MEDIAN LINE OF ABDOMINAL WALL, WITH SPECIAL REFERENCE TO SUPRAPUBIC CYSTOTOMY.

He exhibited some very well-executed reproductions of photographs of elaborately prepared specimens. He found air better than water to lift the bladder and its peritoneal reflection out of the pelvis. He found that distending the rectum first and the bladder afterward, and moderately distending both, met the indications the best.

Dr. Gervais, of Belgium, always punctured the bladder when the patient was standing and the bladder filled.

Dr. F. C. Schaefer, of Chicago, Ill., then read a paper entitled

ANATOMICAL POINTS INVOLVED IN THE LOSS OF COMPLETE SCALP, INCLUDING ONE EAR AND THE GREATER PORTION OF THE EYELIDS.

This paper was founded upon a case in which a girl in a factory was caught by the hair and scalped. He had

not been able to find many such cases on record, but was of the opinion that the results heretofore obtained had not been very successful. He at first attempted, against his own judgment, to replace the scalp, but was unsuccessful; he then began skin-grafting, with which he had obtained very satisfactory results, which his excellent photographs of the case proved. He was of the opinion that small grafts, placed close together, were better than large ones; that grafts with the subcutaneous tissue were the best kind; that auto-dermal grafts were better than dermal grafts; that grafts from a person near the same age as the patient were more successful. He thought that the grafts so placed were probably nourished by osmosis. He found that grafts in a new wound grew much faster than those in an old one.

Dr. Murphy, of Chicago, Ill., emphasized the importance of taking dermal grafts with plenty of subcutaneous tissue.

The President thought that grafts taken from the scalp itself might have grown successfully.

Dr. F. C. Schaefer, in closing, said that in his case the machinery had so mangled the scalp that it was entirely bloodless when examined. He also drew the distinction between skin-grafting and a plastic operation, which was, of course, an entirely different thing.

SECTION ON DENTAL AND ORAL SURGERY.

Tuesday, September 6th—Second Day—Morning Session.

Dr. William Carr, New York, N. Y., gave a *clinic* on the

TREATMENT OF FRACTURES OF THE MAXILLÆ WITH MODIFIED INTERDENTAL SPLINT.

The majority of fractures of the inferior maxilla occur in the body rarely at the symphysis menti, but usually directly anterior or posterior to the mental foramen. A noticeable fact in connection with these fractures is that the victim rarely applies for treatment for several days succeeding the injury. He realizes that some of his teeth are loosened and also that he is painfully bruised, but does not seek surgical aid until he becomes alarmed by the increased inflammatory condition of the parts. There is but little difficulty in establishing a correct diagnosis, as usually the following symptoms are present—great pain in the effort to open and close the mouth, swelling, crepitus, inflammation, inability to masticate, and marked irregularity of the teeth.

Treatment.—It is identical with that of other fractures, namely, to bring the parts into apposition and retain them firmly until ossification is completed. For treatment of fractures of the maxillæ there is nothing superior to the interdental splint. When properly adjusted, speedy union may be secured without deformity of the jaw or irregularity of the teeth. Before taking the impression a careful examination of the parts should be made. Loose teeth and spiculæ of bone should be removed, and the parts should then be brought as nearly as possible to their normal position. An accurate impression should be made with impression-compound or wax. The material used should be as warm as the patient can bear it, in order to prevent unnecessary pain and also to prevent further displacement of the parts. The splint is made of vulcanite and covers all the teeth of the lower jaw, and all the teeth posterior to the canine in the upper jaw—leaving a space of about three or four lines through which the patient may receive nourishment. Small holes are drilled in the splint over the grinding surface of each molar for the purpose of ascertaining whether its adjustment is proper.

The splint should first be adjusted to the sound jaw, then gently bring the fractured jaw into position until it has passed about two-thirds of the length of the teeth—then with a quick, firm motion bring the parts into position. Next apply a four-tail bandage, which should be retained from three to five days; after this time, in the majority of cases, it may with safety be removed during the day but should be replaced at night until the removal of the splint. The patient should be furnished with an ordinary rubber syringe, and instructed to keep the mouth thoroughly cleansed. For disinfectants I use peroxide of hydrogen, three per cent. solution, or a solution of bisulphate of soda in the proportion of ʒj. to ʒj. of water.

In ordinary cases the splint should be retained for three or four weeks, according to the physical condition of the patient—unless unforeseen complications should arise. The application of the splint, combined with thorough cleanliness, will usually be all the treatment required.

The advantages, besides those previously stated, are that the patient experiences but little pain and inconvenience, and can, as a rule, attend to his business almost immediately after the splint is applied.

It is not necessary that all the teeth, nor, indeed, that any should be present in the mouth in order to make this splint serve its purpose. In the first case the rubber can be made to take the place of the missing teeth, and in the latter case a perfect adaptation of the splint to the alveolar ridges can be secured, and will be found to keep the parts in perfect apposition.

Should it be deemed advisable to place a splint in position within an hour or two after seeing the case, one can be constructed entirely of ordinary gutta-percha, with just enough wire inside to stiffen it. Dr. Carr demonstrated this last method; it is very simple and can be made by any surgeon.

A number of gentlemen examined the principle and pronounced it very satisfactory in every way, the main points being its simplicity of construction, its effectiveness, and the ease with which it is adjusted and worn by the patient.

Dr. E. Brasseur, of Paris, France, read a paper on

THE USE OF AIR IN DENTAL THERAPEUTICS.

The reader urged that the ordinary means, such as bichloride and biniodide of mercury and carbolic-acid crystals, for destroying microbes in the oral cavity and, especially, in carious cavities of teeth, should be supplemented by the use of hot air.

Dr. C. A. Brackett, of Newport, R. I., discussed the paper at some length, laying considerable stress on the efficacy of crystallized carbolic acid as a germicide in carious cavities in teeth.

Other remarks followed by Drs. James Truman and W. H. Morgan.

Afternoon Session.

Dr. Junius E. Gravens, of Indianapolis, Ind., read a paper on

THE MANAGEMENT OF PULPLESS TEETH.

This system is based on the proposition that a pulpless tooth is not necessarily dead. The pulp being devitalized, the tooth still retains life through its pericementum. The usual course of treating pulpless teeth with escharotics and irritants causes irritation and final destruction of the pericementum, and the result is that the tooth, instead of being preserved, will act as a foreign body, and will be thrown off by nature through abscesses; or, worse still, will lead to no end of nervous derangements.

The treatment suggested by the reader is to thoroughly cleanse the pulp-canal, and at once hermetically seal it with tin-foil.

The paper was discussed by Dr. Thomas Fillebrown, of Portand, Me. He did not agree with the essayist in the method outlined in the paper. The doctor gave a short synopsis of the method he employs in treating pulpless teeth, which, by the manner in which it was

received by the Section, seemed to be the one generally pursued.

Dr. A. W. Harlan, of Chicago, Ill., followed, and likewise objected to the views expressed by the essayist. A dead pulp produces no irritation in the canal; the disease which it causes is beyond. If you could mechanically displace an odor—which the speaker denied—and should then fill the root-canal without any disinfection, disaster would inevitably follow unless there should be a fistulous outlet.

Dr. W. C. Barrett, of Buffalo, N. Y., in discussing the paper, stated, whether viewed from the stand-point of pathology or etymology the paper was alike remarkable. That such a mass of absurdities could be presented at a meeting of the world's representatives in dentistry was to him astounding, and he protested against its acceptance as the standard by which to judge the intelligence of American dentists. Why the exploded dogmas of twenty-five years since should be gravely and in all sincerity presented at such a meeting as that, was, he must confess, something for which he was not prepared. The assertion that a closed chamber in which exist the septic débris and the products of decomposition of a tooth-pulp should not be opened and evacuated, he could scarcely believe was made in calm earnest. The essayist had exhibited his complete ignorance of the progress of the past century.

Modern antiseptic pathology has taught us certain facts, and among these is the knowledge that the first step in the treatment of aseptic cavities is complete drainage; second, disinfection and the removal of all the products of disorganization; third, destruction of septic organisms; and finally, the complete sealing of the cavity against further infection. These comprise the essential steps in the treatment of septic root-canals. He would not insult the intelligence of those present by presuming to enlarge upon this and by going into the details of treatment, for that was not a body of tyros. But he did object to a consideration of the subject from the low stand-point of this extraordinary paper.

Dr. T. E. Weeks, of Minneapolis, Minn., read a paper on

MATRICES AS ADJUNCTS IN FILLING TEETH.

The essayist reviewed the different appliances for simplifying what would otherwise be very laborious operations. A perfect matrix should be simple in construction, cheap, easily adapted, and not too stiff, so that when applied it will yield just enough to allow sufficient gold to pass beyond the walls of the cavity for a good finish.

Dr. F. H. Guilford, of Philadelphia, Pa., in a few brief remarks, indorsed the sentiment expressed in the paper.

SECTION ON CLIMATOLOGY AND DEMOGRAPHY.

Tuesday, September 6th—Second Day.

The Section met at 11 A.M. The following resolutions, submitted by The President of the Section, were discussed and, after verbal amendments, unanimously adopted:

Resolved, That in the opinion of the Section on Medical Climatology and Demography of the Ninth International Medical Congress, assembled in the city of Washington, September 5–10, 1887, it is important there should be established in every country a national department, bureau, or commission for the record of vital statistics upon a uniform basis, to include not only accurate returns of births and deaths, but the results of collective investigation by government officials of facts bearing upon the natural history of disease as manifested among men, women, and children separately, especially with regard to climatic and other discoverable causes of the several forms of disease—race, occupation, and residence being included—that necessary preventive measures may be determined and enforced for the preservation of the public health.

Resolved, That the Secretary-General be requested to have the expression of opinion communicated to the several governments.

Dr. Charles Denison, of Denver, Col., read a paper on

THE PREFERABLE CLIMATE FOR PHTHISIS.

The paper was elaborately illustrated by maps, diagrams, and tables. Dr. Denison believes that the climate to be preferred for the great majority of consumptives in the United States varies from between fifteen hundred feet elevation in the North in winter to ten thousand feet in the Southern portion in summer. Certain contraindications exist against sending consumptive patients to high altitudes. The most prominent of these are advanced age of the individual; an excitable, nervous temperament; valvular lesions, with rapid action of the heart; marked and extensive emphysema; pneumothorax and hydro-pneumothorax; active pneumonia or hæmoptysis; high bodily temperature; extensive involvement of lung-tissue, and similar conditions.

He takes the affirmative side of the following five divisions named in the order of their relative importance: (1) Dryness as opposed to moisture; (2) coolness or cold preferable to warmth or heat; (3) rarefaction as opposed to sea-level pressure; (4) sunshine as opposed to cloudiness; (5) variability of temperature as opposed to equability.

Dr. John William Moore, of Dublin, Ireland, then read a paper on

THE SEASONAL PREVALENCE OF PNEUMONIA.

The conclusions—pneumonia has claims to consideration as a specific fever on the following grounds:

1. Its not infrequent epidemic prevalence, which is beyond dispute.
2. Its proved infectiveness.
3. Its occasional pathogenic origin in many cases.
4. Its mode of onset or "invasion," which exactly resembles that of the recognized specific fevers.
5. The appearance of constitutional symptoms before the development of local signs or symptoms.
6. The critical termination of the febrile movement in uncomplicated cases.
7. The presence of local epiphenomena in connection with the skin, as herpes, taches bleuâtres, and desquamation.
8. The development of sequelæ in some cases, such as nephritis, followed by renal dropsy and other conditions.
9. The discovery of a probable pathogenic bacillus, to which analogy points as pathognomonic.

Dr. Moore concludes his paper in these words: "The day is seemingly not far distant when we shall speak of pneumonic fever in precisely the same way as we use the term enteric fever at present; that is, to signify a zymotic or specific blood-disease, manifesting itself after the lapse of a certain time—the period of incubation—by physical phenomena, objective and subjective, connected in this instance with the lungs."

THE RELATIONS OF CERTAIN METEOROLOGICAL CONDITIONS TO ACUTE DISEASES OF THE LUNGS AND AIR-PASSAGES.

Dr. Henry B. Baker, of Lansing, Mich., read a paper on the above subject, which was illustrated with diagrams that showed curves for influenza, tonsillitis, croup, bronchitis, and pneumonia, which follow the curve for atmospheric temperature with surprising closeness.

He suggests that the explanation of the causation of these diseases has not been grasped before because one of the principal facts has not been apprehended, namely, the fact that cold air is always dry air; on the contrary,

it has been generally stated that when these diseases occur the air is cold and damp. He explains that while the cold air is damp relatively, it is always absolutely dry, and he thinks that its bad effects on the air-passages are mainly through its drying effects, which can best be appreciated by reflecting that each cubic foot of air inhaled at the temperature of zero Fahr. can contain only one-half grain of vapor, while when exhaled it is nearly saturated at a temperature of about 98° F., and therefore contains about eighteen and one-half grains of vapor, about eighteen grains of which have been abstracted from the air-passages. Thus cold air, falling upon susceptible surfaces, tends to produce an abnormal dryness, which may be followed by irritation and suppuration. He claims that coryza is sometimes so caused. Under some conditions the nasal surfaces are not susceptible to drying, the fluids being supplied in increased quantity to meet the increased demand made by the inhalation of cold air. In that case an unusual evaporation of the fluid leaves behind an unusual quantity of non-volatile salts of the blood, such as sodium chloride, and an unusual irritation results; he thinks influenza is the name commonly given to this condition.

The effects which the inhalation of cold air have on the bronchial surfaces depend greatly upon how the upper air-passages have responded to the increased demand for fluids; because, if they do not supply the moisture, it must be supplied by the bronchial surfaces, in which case bronchitis results. Finally, if the demands for moisture made by cold air are not met until the air-cells are reached, pneumonia is produced.

He refers to statistics which he has published, showing that even the rise and fall of such contagious diseases as scarlet fever, diphtheria, and small-pox follow the same laws shown to control in the acute diseases of the air-passages, and he offers the explanation that the irritations and exudations in the air-passages caused by the inhalation of cold dry air supply a nidus for the contagia, and are thus the predisposing causes of those diseases. As to whether or not pneumonia is a contagious disease he offers no evidence except that nearly all of the phenomena seem to be accounted for without the necessity of supposing a special contagium. For the abnormal accumulation of the non-volatile salts of the blood through evaporation of the fluids in the air-cells, so as to cause inflammation and exudation, time is required; therefore, he does not believe that a sudden and short exposure to cold can ordinarily produce pneumonia, except the short exposure follow or precede somewhat prolonged inhalation of cold dry air; although he thinks that lobar pneumonia may have just that causation, the reason for the chill and for the limitation of the area of the exudation being the disturbance of the nervous equilibrium associated with the more or less complete paralysis of the small blood-vessels in that part of the lungs supplied by one particular nerve, some or all the endings of reflexions of which have been suddenly exposed to the enervating influence of warmth following the exposure to cold.

SECTION IN THERAPEUTICS.

Tuesday, September 6th—Second Day.

Dr. Hugh Hamilton, of Harrisburg, Pa., read a paper on

THE CHEMICAL PHILOSOPHY OF REMEDY.

Activity in bacteriology and advances in chemistry suggested that there is a chemical philosophy in remedy. Doubtless germs are active in altering, by fermentation, the normal organic constituents of the blood into noxious ones not infrequently fatal (Jaksch, 1887): "To assist in clearing the system of this life-activity or aid in rapidly removing these effete bodies constitutes the aim of remedy; so that *remedy* might be defined as the use of means to restore the body to healthy condition by prophylaxis—repair of injury and the correction of nutrition."

The success of antiseptic surgery shows the effects of the application of this principle to diseased conditions. Germs contain albumen; so if subjected to the physical effects of vacuum, freezing, boiling, or incineration, suffer or perish. Chemically, they succumb to the use of mineral acids, alkalies, certain salts, and organic radicals: In a word, the deprivation of oxygen, either directly by oxidation of another substance capable of attracting and retaining it, by the loss of hydrogen, by the subtraction or substitution of elemental or approximate radicals. Consequently we can *exclude*, *arrest development*, or totally *destroy* the bacteria. The ptomaïnes engendered by bacteria are divided into several classes, and upon subsequent elemental analysis show that they contain certain homologues of organic radicals (Cornil and Babes). The application of disinfectants suggested antiseptics, and leads us to anticipate their modified use in internal medicine.

Clinical experience shows that remedies, although often empirically selected, are those containing efficient oxidizers, active appropriators of hydrogen, or by substitution of radicals succeed in destroying the pernicious products of germs, their spores, or the consequences of their mere existence in the vital fluid.

The paper was illustrated by diagrams and charts.

Dr. William Murrell, of London, England, said that the subject was one of very great interest. The philosophy of remedy was very generally passed over by the workers in therapeutics. The only men who appeared to have done much in this field were Professor Wormley, of Philadelphia, and Dr. Stockman, of Edinburgh, who had been doing very valuable work in this branch.

Dr. Ralph Stockman said that the work referred to had been carried on in connection with a friend, he having assisted in matters of technique and experimentation. He had been struck with the paucity of information contained in text-books, especially with regard to the causation of fever and emaciation. Most writers attribute these to the breaking up of the tissues under the effect of the disease. Dr. Philip, of Edinburgh, has recently made a very interesting investigation into this condition. He found that by taking the sputum of a phthisical subject, protecting it with great care from contamination by external agents, and maintaining it for a short time at the temperature of the body, that an alkaloid was obtainable by Stas' process, which was evidently an alkaloid, a ptomaïne. This substance was also detected in the cavities of phthisical lungs. When this substance was injected into mammals it produced fever and progressive emaciation, which proceeded to a fatal termination, even where the injections were discontinued. In frogs the same results were obtained, except that recovery sometimes followed. It was also found that if belladonna and atropine were administered after the new alkaloid had been injected, that the pulse regained its strength, emaciation and fever were checked, and the animal recovered. This is a corroboration of the clinical value of atropine in the treatment of phthisis, to which Bartholow called attention some years ago.

Dr. Coghill was impressed with the value of this work. In confirmation of the remarks of the last speaker, he said that the dose of atropine which could be well borne in phthisis was very much larger than in health. This seemed to warrant the opinion that there was some counteracting agent present in the economy in phthisis which was not present in health.

Dr. J. S. Sinclair Coghill, of Ventnor, Isle of Wight, England, read a paper on

CHLORATE OF POTASH.

After a historical résumé of the introduction of this agent into modern therapeutics, he discussed the various theories which have been advanced as to its action, and rejected the idea that it was decomposed and yielded its

oxygen to the blood. A number of experiments was detailed upon the human subject, from whom nearly all the salt given was afterward obtained from the urine. "As a salt exceptionally rich in oxygen, it has, without decomposition, the valuable property *per se* by its mere presence, apparently by oxygenating or aërating the blood, and so, by restoring or exalting this vital character of the circulating fluid, influencing to a corresponding degree the nutrition and functional activity by the various tissues and organs of the body. Beyond this it does not appear to have any specific action in any disease." The beneficial effect of this agent upon inflammations of the throat and other mucous membranes has been established by experience. The ordinary lozenges are too strong and are liable to exert a caustic action upon the mouth; he uses only two and a half grains in each troche, with white sugar. This, in combination with arsenic internally, is almost a specific in clergyman's sore-throat. It is a valuable tonic and stimulant in cases of cardiac debility and impoverished blood, as in anæmia and chlorosis. It is remarkable what effect this has upon the development of the fœtus, when given during the whole course of pregnancy. Several very interesting cases were cited.

Dr. H. A. Hare, of Philadelphia, said that potassium chlorate does not yield oxygen to the blood, and cited a case of poisoning in which bacteria was found in the kidneys.

Dr. J. Solis-Cohen, of Philadelphia, said that he was much pleased with the paper, and was in the habit of using chlorate of potash in diphtheria. He believed that all the chlorides were useful in this disease.

Dr. Traill Green, the President, advocated the use of sodium chlorate as a less depressing agent, all potassium salts being depressing. He asked if this salt is used in England.

Dr. Murrell said that since the publication in the *Lancet* of Dr. Sainsbury's paper, some years ago, the sodium salt was used very largely in preference to the potassium chlorate.

Dr. G. L. Magruder recommended potassium chlorate in catarrhal affections of the bowels in infants in combination with chalk mixture.

Dr. Frank Woodbury, of Philadelphia, Pa., said that a therapeutic agent need not be decomposed in the body in order to influence nutrition (*i.e.*, sodium chloride). He believed that the potassium chlorate has a limited range of therapeutic usefulness, within which it cannot be substituted by any other salt. In some cases it is very depressing, and its indiscriminate use should be condemned, as collapse may be caused in an ordinary catarrhal pharyngitis, and thus lead to the idea that the case is really diphtheria. It is important to watch the renal secretion, since the salt is not very soluble, and where there is a deficiency of water, crystals of the salt may be deposited in the tubules and give rise to irritation and congestion of the kidneys.

Dr. F. E. Steward, of Wilmington, Del., had found it useful in correcting foul breath.

Dr. Charles D. F. Phillips, of London, read a paper entitled

THE ACTION OF CERTAIN DRUGS ON THE CIRCULATION AND SECRETION OF THE KIDNEY.

This contained a number of very interesting experiments, made with Roy's onkometer, with caffein, spartein, strophanthin, digitalin and ulexin.[1] He concluded that the flow of urine is not so much dependent on the blood-pressure as on the rate of flow of the blood in the renal vessels. With regard to this point, it is necessary to remember that, although such drugs as strophanthin produce a great increase in the *force* of the cardiac beats, yet these are very much slowed, so that it is quite possible that although the heart's action is stronger, yet the total amount of blood sent through any given organ, such as the kidney, in a given time, may remain the same. Whereas such a drug as digitalis, producing as it does a rise of blood-pressure and a contraction of the kidney-vessels, may cause an increased quantity of blood to pass through the renal vessels. On this view one could find the explanation of digitalin being a diuretic, and strophanthin not being one.

Inasmuch, however, as spartein has not so marked diuretic action, we must also assume that digitalin must have some peripheral action on the secretory apparatus of the kidney.

His results were tabulated briefly as follows, in three divisions:

(A) DRUGS THAT FIRST CONTRACT, AND AFTERWARD DILATE THE KIDNEY.

(1) *Caffein*—in small doses—induces in the stage of contraction a fall of blood-pressure—in that of expansion, a slight rise. During the former, the flow of urine *may* be arrested; during the latter it is always increased, such increase depending on dilatation of renal vessels.

(The possible *arrest* of secretion during the first stage is special to caffein, and may be induced by large or repeated doses.)

(2) *Ulexin*—gr. $\frac{1}{6}$—greatly raises blood-pressure during the first stage (that of contraction); in the second, expansion is much greater in degree but shorter in duration than under caffein, and is accompanied by brief but marked increase in urinary flow; the effective dose is limited by its toxic action on respiratory centres. Practically, *excess* of caffein induces only the first stage—*excess* of ulexin only the second.

(B) SUBSTANCES THAT DILATE THE KIDNEY, BUT TO LESS EXTENT AND MORE SLOWLY THAN CAFFEIN AND ULEXIN,

are dextrose, urea, sodium chloride, and acetate, and probably all constituents of the urine.

(C) DRUGS THAT CONTRACT THE KIDNEY WITHOUT SUBSEQUENT EXPANSION.

(1) Digitalin, with *increased* secretion of urine (probably resulting from general heightened blood-pressure).

(2) Spartein, with *diminished* secretion (in health at least).

(3) Strophanthin causes slight temporary contraction, with no marked increase of secretion.

(4) Apocynëin, similar temporary contraction, and no definite increase of secretion.

(5) Turpentine; (6) adonidin; and (7) barium chloride give similar results.

In conclusion, it seemed to him that the plethysmographic method of experimentation is a valuable one for determining the exact action of drugs on the circulation, and one that deserves more attention than it has hitherto attracted.

Dr. Murrell referred to the importance of this study of diuretics, since so little is known, comparatively, of their effects. Diaphoretics are well understood, but the action of diuretics remains to be worked out. He could not understand the points of superiority of the instrument used over Marey's tympanum.

Dr. Phillips said that Roy's onkometer was simpler, easier to work, and more accurate in its results.

Dr. Woodbury inquired if any estimation had been made of the solid ingredients of the urine excreted during the experiments. He regarded water as merely incidental. The urine of snakes is solid. It is of primary importance, in determining the value of a diuretic agent, that its effect upon the excretion of the urinary salts (urea, urates, creatin, creatinin, and allied bodies) shall be ascertained.

Dr. Phillips said that these experiments were yet in their infancy and incomplete, but at a future time the

[1] Ulexin is an alkaloid from the gorse, *Ulex europæus*.

chemical composition of the urine will be communicated.

Dr. Samuel S. Wallian, of New York, read a paper on

THE NEGLECT OF NON-MEDICINAL THERAPEUTICS,

in which he urged the abandonment of drugs, and a resort to baths, massage, electricity, and hygiene.

SECTION IN DISEASES OF CHILDREN.

TUESDAY, SEPTEMBER 6TH—SECOND DAY—MORNING SESSION.

Dr. Moncorvo read a paper on

HEREDITARY SYPHILIS AND RICKETS IN BRAZIL.

In an extensive practice in Rio de Janeiro and the province of that name, he believed that hereditary syphilis furnishes sixty per cent. of the cases of infantile disease. It is the most important factor of infant mortality, either directly or by the severity which it imparts to the diseases of children, and rickets makes its appearance in forty-five per cent. of the children that come under his observation. This does not accord with the opinion of Dr. Charles West, who stated in the Congress of 1881 that while syphilis was common in Brazil, rickets was unknown.

More than two-thirds of the rickety children in his practice show signs of syphilis, and it is rare to find an hereditary syphilitic child whose bones are not deformed by rickets.

Although not prepared to demonstrate the etiology of rickets on these grounds, he believed that hereditary syphilis is an important factor.

A paper was read by Dr. William Stephenson, of Aberdeen, Scotland, on

THE RATE OF GROWTH IN CHILDREN.

But little had heretofore been known in regard to the rate of growth in children, and nothing whatever of its clinical bearings. Many important questions arise in this connection. For instance, if a boy in a given year adds to his weight double or treble the number of pounds which he does in another year, is he on account of this increase of cell-activity the more or the less able to bear a strain, such as school pressure or physical labor?

By combining the tables of Dr. Bowditch and those of the Anthropological Committee of the British Medical Association, Dr. Stephenson had tried to construct a standard of the rate of growth from the fifth to the eighteenth year, for all the English-speaking races.

In the charts exhibited, the graphic line representing the annual increase in weight presents a curve of similar type in girls as in boys, but differing in the times of maxima and minima. The most striking difference is seen in the fact that the maximum rate of growth occurs in girls from the eleventh to the thirteenth year, and in boys from the fourteenth to the sixteenth year.

From his study of the tables and charts the author is of the opinion that the critical and trying character of the period known as puberty is due to the fact that the great activity of growth which occurs then makes a serious demand on the system, rather than to the fact that the reproductive organs are about to reach complete development. Reference was made to important results to be obtained from comparisons in rate of growth between children of the poor and rich, and of the professional, commercial, and artisan classes.

A paper was then read by Professor Victor C. Vaughan, of the University of Michigan, on

THE USE OF COW'S MILK IN THE ARTIFICIAL FEEDING OF INFANTS.

Three years ago a writer had isolated the active principle from poisonous cheese. He had named it tyrotoxicon. Later he found the same principle in milk, ice-cream, and other articles of food. In experimenting with this poison it was found that its action on the lower animals produced the phenomena of cholera infantum. The symptoms and the post-mortem appearances were identical. From this it is easy to understand the prevalence of cholera infantum among the very poor, where fresh, wholesome milk is almost unknown.

Not a few medical teachers advise the prohibition of milk during the progress of cholera infantum, basing their opinions on clinical experience. The same view had been reached by the author of the paper through a long series of laboratory experiments, which show that normal milk inoculated with a small portion of poisoned milk and kept a few hours at the temperature of the body becomes itself poisonous.

Dr. Lewis P. Bush, of Wilmington, Del., advocated the use of a young and healthy cow, isolated from others, as in a herd there was a possibility of the contraction of some disease which might injure the milk.

Dr. R. B. White, of Ennis, presented the following rules which his experience had suggested:

1. Test with litmus, and add lime water, if required, before every meal.
2. Limit the amount given in twenty-four hours.
3. Allow only bottles large enough for a single meal, four to six in number; those not in use to be washed in boiling water and kept in an alkaline solution or suspended in the sunlight.
4. The best nursing-bottle is a two- to six-ounce flask, with a rubber nipple drawn over its mouth.
5. Bring the milk to the boiling-point, and then keep it on ice.

Dr. A. E. Goodwin, of Rockford, Ill., was in the habit of insisting on the milk of one healthy cow well fed and stabled, on boiling the milk and keeping it in a sealed glass vessel at a temperature not higher than 60° F., and diluting it with from one-third to one-half of water with, perhaps, the addition of a little malt.

Dr. W. D. Booker, of Johns Hopkins University, stated that there can be little doubt of the injurious effects of micro-organisms upon milk, and the best way to prevent this is not to trust to keeping the milk cool, but to first boil the milk in a flask supplied with a sterilized cotton stopper or a suitable sterilizer. It can thus be set aside and kept for a considerable time in a pure condition.

He believed it was important, in considering the injurious effects of decomposing milk upon children, not to overlook the danger of other injurious articles of food, which we know to be indigestible by children, and which are probably more often the first cause of the indigestion.

The President, Dr. J. Lewis Smith, of New York, asked the writer of the paper in regard to the post-mortem appearances in the animals who had died from the effects of tyrotoxicon, and especially in regard to the mucous membrane, which, in patients dying from cholera infantum, is pallid after an illness of twelve or twenty-four hours, and injected if the disease had lasted three or four days.

Dr. Vaughan replied that the mucous membrane of the stomach and intestines had been, as a rule, pale, and even almost white. In cases where the animal had survived a longer time, the membrane had been congested, but never in a very marked degree.

The President added that, contrary to the opinion of some good observers, he entertained the conviction that the disease is inflammatory in its nature.

Afternoon Session.

Dr. William P. Northrup, of New York, read a paper on

THE PATHOLOGICAL ANATOMY OF LARYNGEAL DIPHTHERIA AS RELATED TO INTUBATION.

In autopsies of children who died after having worn the O'Dwyer tube from three to seven days, there was found merely an abrasion of the superficial epithelium.

This was the invariable rule until the occurrence of an epidemic of measles, in which there were many deaths from complications of pneumonia, scarlet fever, diphtheria, and nephritis. In these children, debilitated by complications, the lower end of the tube thrown against the anterior wall of the trachea, produced instead of the slight abrasions noticed in the other cases, ulcerations, which, in five cases out of twenty-six, exposed the cartilage.

Dr. Northrup summarized his paper as follows:

1. The cases here studied are 116 in number, 90 of which were sporadic, 26 epidemic. They all occurred in the New York Foundling Asylum, an institution which has the constant care of eighteen hundred children from the ages of a few weeks to five or seven years.

2. In the sporadic cases the laryngeal tube of Dr. O'Dwyer caused no ulceration worthy of consideration.

3. In the epidemic cases, numbering twenty-six, there were five serious ulcers.

4. The causes of death have been mostly extension of pseudo-membrane to the bronchi, and pneumonia.

5. I have been able to find *no* evidence that milk or other foreign material has found its way into the lungs. The pneumonia is broncho-pneumonia, and not schluck pneumonia.

A paper by Dr. E. Bouchut, of Paris, France,

ON TUBAGE OF THE LARYNX IN STRICTURE AND IN THE ASPHYXIA OF CROUP,

was read. He reported that in the year 1858, he had tried the effect of tubage of the larynx in a number of children. He had three recoveries in ten cases. He relates one case in detail. The child was eighteen months of age. The symptoms were very serious. The face was livid, and the diminution of sensibility indicated approaching dissolution. A silver cannula was introduced on the end of a sound, with a silk thread attached for extraction. It was coughed up and replaced, and on the sixth day was finally removed, and the child made a complete recovery.

Dr. Joseph O'Dwyer, of New York, read a paper on

INTUBATION OF THE LARYNX.

He began experiments in 1880, at the New York Foundling Asylum. At that time tracheotomy was in disfavor at the Asylum, because for some time its usefulness had not been demonstrated by a single recovery. The difficulty and danger of tracheotomy deter many physicians from the operation, and not a few even of the laity fail to understand how a child's suffering can be relieved by cutting its throat

He first used a prostatic catheter introduced by the nostril. It was found impracticable, partly because the patient would remove it with the hands. The long tube suggested a short one, and its practicability was almost at once demonstrated by the construction of a tube one end of which extended into the trachea, while the other occupied the vestibule of the larynx, permitting the epiglottis to close over it in the act of swallowing. But what was to hold it down in place against the expulsive effort of a cough? First a bivalve form was given to its lower extremity, permitting of its expansion after introduction. But the tube was thus made a trap for fragments of pseudo-membrane. Longer tubes reaching nearly to the bifurcation of the trachea were kept in place better, but after a cough the long tube would be found thrown partially out of place, and had to be pushed back with the finger. A second shoulder was then added to the tube, below the expansion or head at its upper extremity. This shoulder kept the tube from being repelled, but the abruptness of its upper border made extraction very difficult.

The abrupt shoulder then gave way to a gradually tapering enlargement, which was found to accomplish all that could be desired. A tube constructed in this way, when projected upward by coughing, will slip back into position by the pressure of the vocal bands on the sloping sides, aided by its weight. This retaining swell is only made thick enough to hold the tubes loosely in the larynx, in order to permit of their easy expulsion in case of sudden occlusion by masses of pseudo-membrane too large to pass through. Owing partly to this and partly to the difference in the size of the larynx in different children of the same age, they will sometimes be expelled even when unoccupied by false membrane, and before the laryngeal stenosis is fully relieved. If it were not for this, such a tube could be indefinitely worn. A larger and shorter tube would not be expelled, but it would make serious pressure on the lining membrane of the larynx. Such a tube may be temporarily applied with advantage as a laryngeal dilator, not in ordinary severe croup, but in slow cases where little help is required.

Intubation is apparently, but not really, a simple operation. With more than the usual dexterity and coolness, and an easy case, it will be called by the physician who tries for the first time, a very simple thing. With less dexterity and a difficult case to manage, it will be called a difficult operation.

When established, and perfected, and in common use, intubation can never be considered a satisfactory remedy, in view of the complications and the very nature of membranous croup. The first results, if good, will create enthusiasm; if bad, distrust.

In comparing tracheotomy and intubation, the question is not which will save most life in a given number of cases submitted to treatment, but which operation can be performed or will be permitted in the greater number of cases.

A paper was then read on

INTUBATION OF THE LARYNX, ITS ADVANTAGES AND DISADVANTAGES, WITH STATISTICS OF THE OPERATION,

by Dr. F. E. Waxham, of Chicago, Ill. While strongly advocating intubation, the writer would not overlook its disadvantages. The operation is a difficult one in its performance. The soft tissues may be wounded, or the trachea perforated. It is more difficult to extract than to insert the tube. A serious trouble may ensue from the difficulty of swallowing when the tube is in place. These are the dangers. None are so grave that they cannot be overcome.

On the other hand, it has many advantages over tracheotomy. It can be done almost instantly. There is no loss of blood, no pain, no shock, no open wound with the possibility of septicæmia or erysipelas. There is no drying of mucus in the tube, and no necessity for cleansing the tube. Less attention is required in the after-treatment. Finally, we can save as large a number of adults as, and a much larger number of children than, by tracheotomy.

After presenting a series of statistics, the writer closed with the statement that intubation has been performed one thousand times within two years, and that two hundred and sixty-nine lives have been saved from certain death.

Dr. Charles G. Jennings, of Detroit, Mich., expressed high appreciation of the labors of Dr. O'Dwyer and Dr. Waxham, and believed this method to be of great value. His own experience, however, had led him to prefer tracheotomy. His 36 tracheotomies had been followed by 17 recoveries, while he had applied the tube in 12 cases without a recovery. Dr. Waxham's statistics contain about one thousand cases, with twenty-six per cent. of recoveries. He believed that certain operators in both operations have records far above the average, and that the successful tracheotomists have a larger proportion of recoveries than the physicians performing intubation who rank as the most successful. He believed that the personal equation is an important element in considering the comparative value of the two procedures.

Although intubation possesses the advantages alleged

in the papers read before the Section, it remains true that tracheotomy has advantages which should not be forgotten. After an incision the trachea is accessible for the removal of membrane and dried mucus, and direct medication by instillations and powders. Adequate nourishment after intubation is almost impossible, while there is no such difficulty after tracheotomy.

An obvious advantage of intubation is that it can be performed by many physicians who would not undertake a tracheotomy and in this way relief, impossible otherwise, will be afforded in a great many cases. His own experience, however, leads him to urge tracheotomy in all cases offering reasonable chance of success, and to reserve intubation for the cases in which operative interference will give nothing more than euthanasia, and for those patients whose parents refuse consent to tracheotomy.

Dr. T. J. Pitner, of Jacksonville, Ill., questioned the correctness of Dr. Waxham's closing statement that the 249 cases of recovery following intubation were so many lives saved by the operation. This assumes that all cases of stenosis from croup or diphtheria are, without operative procedures, necessarily fatal. He did not, however, question the utility and great importance of this operation, which appears to him to be preferable to tracheotomy.

Dr. Northrup stated, in answer to questions, that in 33 cases he had never met the slightest difficulty in inserting the tube, and had not failed in a single case to fully and promptly relieve the dyspnœa. He had met with no accident, and probably gentlemen present had in the aggregate used the tube several hundred times and had never met with untoward accidents. He thought the only real drawback to the success of intubation lay in its interference with feeding. It is sometimes difficult to keep up full nutrition when swallowing is so impeded.

In one of his cases the physician in charge had retired hopeless, without doing tracheotomy, and being ignorant of intubation. The child was exhausted and comatose. The tube was inserted. The child returned to consciousness. At the end of forty hours he coughed out the tube. It was not reapplied, and the child made a perfect recovery.

Dr. O'Dwyer, in answer to questions, said that, in his opinion, statistics will be of very little value in settling the question between tracheotomy and intubation until a very large number have been obtained. Aside from the question of saving life, intubation will be resorted to in the most hopeless cases, those in which tracheotomy would not be thought of, for the sake of securing euthanasia.

SECTION IN MILITARY AND NAVAL SURGERY AND MEDICINE.

Tuesday, September 6th—Second Day—Morning Session.

The first paper was read by Dr. Robert Reyburn, of Washington, D. C., entitled

Are wounds from explosive balls of such a character as to justify international laws against their use?

The proper discussion of the subject, the speaker said, was largely influenced by the changed conditions of modern, as compared with ancient, warfare. The chief endeavor in the battles of ancient times was to kill as many of the enemy as possible in a given time. The same end is attained in modern warfare; but it has been found that an enemy wounded sufficiently to be *hors de combat* is practically a much greater source of weakness to his comrade than if he were slain in battle. Every wounded man requires the services of at least two able-bodied men for his care and sustenance until he again becomes fit for military duty. The speaker graphically described the characteristic wounds produced by explosive projectiles, which are generally followed by extensive sloughing, which reduces the chances of recovery. Such projectiles were in use during the War of the Rebellion, but were soon abandoned; some thirty-three thousand of Gardner's explosive bullets were distributed during the early part of the war, but were soon withdrawn. During the year 1868, by an agreement made between the principal nations of Europe, at the International Military Conference held at St. Petersburg in October of that year, all the great powers resolved to abstain from the use of explosive projectiles in war under the weight of four hundred grammes. The author concluded by saying that common humanity demanded that the use of such projectiles be prohibited by international law.

A paper on the same subject, by Dr. Charles W. Voorhees, of New Brunswick, N. J., was read by the author, whose opinions were, in the main, those of the preceding speaker. He thought that the wounds produced by explosive projectiles, aside from the great destruction of tissues attending them, were doubtless aggravated by the chemicals to which the explosive properties were due. He did not wish to be understood as advocating child's play in war, but so long as war was a necessary evil, it should be as humane in its methods as possible.

The discussion of the papers was opened by Dr. Marston, of the British War Office, who said that he was not aware that explosive bullets were in use by any civilized nation at the present day; they were in use in India and Africa for the killing of large game, but he had not known of their use since the Crimean War.

The President, Dr. H.N. Smith, of Philadelphia, stated that it was not generally known that the late President Lincoln, early in the year 1863, had issued a notice, or perhaps only a suggestion, that the use of explosive projectiles be discontinued. He was glad to see this question brought before the consideration of the Congress, and as the United States had not been represented at the International Military Congress at St. Petersburg, he advised that the powers be notified through their representatives of the entire acquiescence of the present Congress with the views and agreements then enunciated.

Dr. Jeffrey A. Marston, of England, then read a very able and interesting paper on

Age and acclimatization of soldiers in reference to service.

With regard to age, the author said that a man was best fitted for service, at least in India, between the age of twenty-seven and thirty years. He alluded to the well-known fact that the younger men, although capable of enduring great hardships and privations for a short period, are inferior to adults in their powers of endurance in long-continued efforts.

The influence of climate upon the soldier was discussed at length, the speaker more particularly describing the effects of Indian climate upon the newly arrived soldier. He presented tables showing the mortality among soldiers in Indian service, stating that the prevailing disease among the soldiers is enteric or typhoid fever. This disease may be said to have no geography, extending, as it does, from the Rocky Mountains to the Himalayas. It prevails among Europeans, and is also more frequently fatal during the hot than the cold seasons; according to the experience of Indian surgeons, the greatest period of susceptibility lies between the age of eighteen and thirty years. The liability of death during his first year of Indian service by this disease is greater than by all other diseases.

The British troops suffered greatly in Egypt during the campaign of 1882; in the Soudan campaign of 1884 the troops suffered less from this cause, being daily supplied with condensed water; but in 1885, in spite of this same precaution and of great attention to sanitary details,

for some reason still unaccounted for, the sickness from this disease was excessive.

During the first year of the young soldier's sojourn in India he is likely to be attacked by a fatal form of pneumonia. But of the prevailing affections, next to enteric fever, hepatitis heads the list, this disease being very commonly met with. Cardiac disorders come next in the order of prevalence.

In the discussion which followed, Dr. Morse K. Taylor, United States Army, stated that his experience agreed with that of Dr. Marston in regard to the prevalence of heart affections among soldiers; this fact he thought was not sufficiently recognized by our own surgeons.

Surgeon-General G. T. Langridge, of the British Army, fully endorsed the view of Dr. Marston with regard to the greater power of endurance of the adult men over the younger; these latter, he said, were constantly breaking down while marching, particularly when exposed to the heat. During the Afghan campaign the troops suffered more from enteric fever than from any other disease.

In the absence of their authors, the next three papers were read by title. The first of these, by Sir Thomas Longmore, of Netley, England, Professor of Military Surgery at the Army Medical School, entitled: was "Is it desirable that each Soldier in Time of War, should personally carry a first Field-Dressing for a Wound? If so, is it advisable that a preliminary Wound-Dressing should form part of the Equipment of every Soldier on taking the Field? Of what shall it consist, and in what part of the Soldier's Equipment should it be carried?" The paper was accompanied by a dressing devised by the author for this purpose.

The second paper was by Professor Von Esmarch, of Kiel, Germany, entitled "On the First Provisional Dressing on the Battle-Field," and was also accompanied by a simple antiseptic dressing devised for this use.

The third, entitled "On the Antiseptic Treatment of Wounds in War," was by Dr. M. W. C. Gori, of Amsterdam, Holland.

Dr. John Anderson, of London, read a very able paper

ON HEAT STROKE IN INDIA.

After adverting to the labors of Dr. H. C. Wood, of Philadelphia, upon this subject, he proceeded to a definition of the term heat-stroke, and divided his subject, according to the degree of severity of the disease, into ardent fever, heat, apoplexy, and sunstroke. The first is characterized by a high fever of short duration, and by great exhaustion; the second, by all the signs of apoplexy, and causing death by asphyxia; the third, by great cardial debility and nervous manifestations.

These are all pathologically allied, of course. The speaker briefly alluded to the influence of alcohol in the causation of the disease, which is generally supposed to be due to the direct action of heat upon the meninges of the brain, but the condition of the glandular organs, of that regulator of the heat, the skin, were factors which should not be overlooked.

With regard to the prophylaxis of the disease, protective measures, of course, were all-important, moderate eating, the wearing of thin clothing, and the importance of free ventilation of houses and camps. The author inveighed against the use of alcohol, and stated that the best drink which could be devised for soldiers, while on the march, was cold tea flavored with lime-juice. Regarding the medicinal treatment of cases of heat-stroke, the first indication is to relieve the excessive heat, and for this purpose he had had great experience with the use of a neutral salt of quinine, the hydrobromate, administered hypodermatically in doses of two, three, or four grains, repeated according to indications. The speaker emphasized the necessity of using a thoroughly clear solution, filtered if necessary; when this precaution was taken any untoward symptoms from the use of the needle, other than slight local irritation in some rare instances, were exceedingly uncommon in his experience. As for the occurrence of tetanus as a result of these punctures, he himself had never seen a case of it. The speaker was at a loss to explain the manner in which the quinine reduced the temperature so rapidly in such cases, but thought it probably due to its action upon the cardiac ganglia. After the administration of quinine, the portal congestion usually existing should be relieved by mercurials, and the nervous condition combated by means of the bromides of potassium and ammonium.

Afternoon Session.

Dr. Marston, of England, opened the discussion of the paper by indorsing the view of his compatriot with regard to the efficacy of quinine in the disease, and reiterated the author's cautions in using a perfectly clear solution.

There had been a number of cases of tetanus published in the report of the army in India as due to the use of the needle; such a complication could be avoided by the use of a pure solution and clean instruments. In conclusion, he alluded to the fact that persons who had had sunstroke were thereafter liable to pyrexiæ, without apparent cause. Strong men become nervous and timid, and suffer from insomnia and dreams; they are occasionally subject to neuralgias and excruciating headache after exposure to the sun; he had even noticed, in some cases, paroxysmal attacks of mania. To such sufferers he always advised removal to cooler climates.

Dr. Henry Ernest Goodman, of Philadelphia, had noticed, during the late war, many cases of so-called heat-stroke, in which he almost invariably found some cardiac trouble, sometimes accompanied by a *bruit* at the apex or base; he thought that in these cases the cardiac affection accounted for the heat-stroke, so-called. In his experience during the war, cases of true heat-stroke were exceedingly uncommon.

Dr. Moses K. Taylor, U. S. Army, fully concurred with the preceding speaker in his views, which were in accord with his own observations during the late war.

Dr. Sherwood, of the U. S. Pension Office, spoke of the results of sunstroke as shown by the records of the Pension Office. Many claims have been, and are still received, alleging nervous diseases, such as epilepsy, paralysis agitans, and even locomotor ataxia as the result of sunstroke. He was unable to trace the connection between these diseases. The literature of this subject is exceedingly meagre, and in order to determine the exact relation between sunstroke and nervous affections, if any there be, he enjoined physicians, both civil and military, to keep a record of such cases, and to follow them in their complications as far as possible.

Dr. James Collins, of Philadelphia, expressed the opinion that occipital headache was frequently attributable to sunstroke. For the treatment of the disease he had used quinine, hypodermatically, in a solution of the bimuriate rendered neutral by the addition of a small quantity of urea.

Dr. George T. Langridge, of England, had found the solution of quinine recommended by Dr. Anderson very useful in similar cases—in the Afghan and Boer campaigns, as well as in India. In the latter country, when the disease resisted all ordinary forms of treatment, quinine was almost a specific.

Dr. Eli A. Wood, of Pittsburg, Pa., had found that after removing the clothing the application of ice externally, and even in the rectum, had proved of greater service at his hand than any medicinal treatment.

Dr. Max J. Stein, of Philadelphia, believed that manipulation and rubbing the body with ice produced good results. He believed that a temperature of 111° F., mentioned by Dr. Anderson as necessarily fatal, did not, according to Dr. Austin Flint, always so result.

Dr. W. H. Lloyd, of England, agreed with Dr. Anderson regarding the influence of alcohol in the causation of this disease. His experience in the navy had been that most of the cases of heat-stroke—those occurring on shipboard in the Red Sea at least—were among the cooks, stokers, bakers, etc., who were men of intemperate habits.

Dr. Anderson, of England, author of the paper, thought that no surgeon would neglect the usual means of treatment, but that he had desired to lay special stress upon the hypodermatic use of quinine as the readiest and best means at our command of reducing the high temperature.

SECTION IN LARYNGOLOGY.

Tuesday, September 6th—Second Day—Morning Session.

J. P. Klingensmith, M.D., of Blairsville, Pa., read a paper on

HAY-ASTHMA.

In few diseases does he find so diverse opinions, or so many methods of treatment, as in hay-fever. Dr. W. H. Daly's paper, in 1881, first demonstrated the underlying naso-pharyngeal causes. The exciting cause does not work where nasal mucous membrane is healthy. Must remove the pathological cause before cure can be effected. Dr. Hock, of Freiburg, Germany, had placed much importance upon the pathological condition of the nasal mucous membrane as the fundamental cause. From personal experience, Dr. Klingensmith would place local irritation, hypertrophies, deflected septum, etc., as the starting-point, and dust, pollen, light, heat, etc., as the exciting cause. There must be an abnormal condition before local irritants have power. Always make careful examination of anterior and posterior nares. Radical treatment is called for, especially where there is more or less occlusion. The cautery and Allen or Jarvis' snare will bring about the best results under these circumstances. Sensitive areas he treats by the continued use of acetic acid or cautery. Use cautery at a cherry-red heat; for if too hot one will have hemorrhage follow, and if too cool it will produce greater pain. Once in a week gives time to allay irritation by use of Dobell's solution, etc., before another sitting. Begin treatment at least two weeks before expected attack, and even treat or operate when the disease is at its height. Out of thirteen cases, he cured nine and greatly benefited four.

Dr. Lennox Browne, of London, said that he had heard no new ideas on the subject since the President's paper of six years ago. He does not think that sexual irritation can cause or in any way interfere with hay-asthma, but may do so in nasal troubles. Believes in local treatment and electricity. Dull red heat he likes best.

Dr. E. F. Ingals, of Chicago, Ill., says that it makes no difference whether the electrode is at a white or a red heat as far as hemorrhage is concerned, provided that one does not break the circuit before the wire is removed from the tissues.

Dr. W. E. Casselberry, of Chicago, Ill., agrees that it makes no difference whether red or white heat is used. Cause of disease located in diseased mucous membrane or sensitive areas; must treat several months, till all are removed or destroyed.

Dr. J. MacKenzie, of Baltimore, stated the case of a woman who had been under his care, who always had an attack of hay-fever whenever exposed to the pollen of rose, and even the sight of it would cause a violent attack. He caused a very perfect artificial rose to be made, and one morning when the patient came to the office, entirely free from hay-fever, he placed the rose near by, and in less than a minute her nostrils were occluded, eyes reddened and suffused, and she was in the midst of a bad attack. Air was pure, and there was no dust on the flower.

After having been informed of the trick, fresh pollen put on the flower had no effect, and since then she can use roses without trouble. Sensitive areas are most common on septum; sympathetic and vaso-motor nerves are those involved. Rose- and hay-fever and cough, autumnal fever, and asthma are all the same nasal neurosis.

Dr. J. Solis-Cohen, of Philadelphia: There are too many specialists and not enough practitioners. Lack of equal nerve-tension and action of vaso-motor system upon blood-supply to vessels irritates and predisposes to hay-fever. Treat constitution, and especially nervous system, through interval till next attack.

Dr. Ridge, of Camden, N. J., said he was a victim, and in his case it was hereditary for several generations. Any dust or pollen will cause an attack, and cocaine gives best results in relieving, especially when used in saturated solution of boracic acid (gr. xv. to ℥ j.).

Quite a large portion of the Section acknowledged themselves victims of hay-fever. Inhaling a mixture of the following, acid. carbol., chloroform, camphor, gave the greatest relief in one case. Imagination plays an important part as well.

Dr. Stockton, of Chicago, Ill., gave as causes, (1) highly nervous temperament; (2) diseased air-passages; (3) peculiar external irritants (varies with person). Cold to his head and neck, the doctor said, would cause sneezing for half an hour and other symptoms resembling hay-fever. Could cure for the time, but paroxysms would return.

Dr. Thomas closed the discussion: It is not simply hyperæsthesia, though the nervous factor greatly increases the severity of the attack, and treatment must be constitutional, and especially directed to nervous system.

Afternoon Session.

Dr. D. N. Rankin, of Alleghany, Pa., read a paper entitled

SOME REMARKS ON THE HISTORY OF RHINOLOGY.

Since the nasal cavities play so important a part in respiration, it is surprising that rhinology should have been so neglected in the past. As organs of smell they are to protect lungs from deleterious gases and assist organs of taste, stimulating appetite and even digestion. The reader compared the perfect instruments of to-day with those of thirty years ago, when a tongue-depressor and clumsy polypus-forceps worthy of the village smith had to suffice for many. The art is old; even the Egyptians had some idea of treatment. Professor Czermak, of Pesth, conceived the rhinoscope, after which much was learned of what was before neglected and obscure. Now compare our snares, tonsillotomes, electro-trephines, atomizers, and insufflators. Now local applications can be made to the posterior nares with more ease than formerly to the pharynx. Naso-therapeutics has kept pace, with its list of iodoform, cocaine, rhigolene, resorcin, etc. More advance has been made in the last twenty-five years than in the thousand preceding. It is to be hoped that it will continue. Each country comes in for its own share of the honor due to scientific work, and America is not behindhand by any means. The writer paid tribute to the memory of the late Dr. Louis Elsberg as the father of rhinology and laryngology in America. He also spoke of the successful researches of Dr. Daly, and congratulated the profession on the encouraging outlook for the future.

A special discussion was opened by Dr. E. F. Ingals, of Chicago, on the subject of

EPISTAXIS.

He opened the discussion, he said, for the purpose of bringing out new ideas on the subject, if possible, from others.

Ordinary cases are of no moment, and alarming only in young children and where the system is run down. Severe cases may demand constitutional treatment of ergot, gallic acid, etc., in addition to local applications. Most cases are readily checked by cocaine or tannin. Persulphate of iron is irritating; it causes hard, coagulated masses, beneath which the bleeding continues and which interfere with the use of more effective remedies. Always try and locate the bleeding-point, and cauterize with galvano-cautery, nitrate of silver, iodine, or pure carbolic acid.

In the discussion that followed various methods were suggested for mechanically controlling the hemorrhage, among others packing the nostril with a long, narrow strip of lint soaked in alum, and replacing the same with one moistened with witch-hazel to allay irritation.

Dr. Coomes, of Louisville, does not approve of passing in pledget after pledget of cotton, as he has seen cases where one has been forgotten and caused trouble for years. Counter-irritation over the liver, with mustard-plaster, ammonia, or blister, is very efficacious. The placing of hands or feet, or both, in very hot water is often tried with success.

The successful results from the use of full doses of digitalis in severe cases was quoted to the Section, as was also the employment of a sponge-tent and the domestic remedy of plugging the nasal cavity with a long piece of fat pork passed through to the vault of the pharynx.

SECTION IN PSYCHOLOGICAL MEDICINE.

Tuesday, September 6th—Second Day—Morning Session.

Dr. E. C. Spitzka, of New York, read a paper on

miliary aneurism.

He reported a case which came under his observation in 1886, that of a girl twenty-four years of age, who suffered from insomnia and anorexia and great motor weakness, being scarcely able to cross the room unaided. She had suffered from what appeared to be hallucinations at night for seven years, and during this period it was noticed that from time to time she dropped articles she was carrying. She would often totter and sway from side to side. From March, 1886, she became poorly nourished. Her menses ceased in July, and remained absent until her death. Her brother had also died of a cerebro-spinal disorder, and her father had died at an advanced age with many of the same symptoms. On post-mortem there was found no evidence of softening processes having occurred at any time, although there was found slight grayish discoloration in parts of the substance of the cord.

Dr. Spitzka next reported a case of

deformity of the brain,

with specimen of the cerebellum, in a child aged five. The doctor gave some very interesting details of the anatomical peculiarities, and stated that there was scarcely an organ in the abdominal or thoracic cavities which was normal.

Dr. Savage, of London, England, discussed Dr. Spitzka's first case and cited a somewhat similar one, though without the direct inheritance spoken of in the doctor's. It was that of a lad who developed all the symptoms of disseminated sclerosis—in fact was for many years the stock case in the hospital just as soon as the lecturing season commenced. This case was sent to an asylum. Was excited and maniacal. After six or eight months he lost control over his sphincters, and presented other symptoms that were typical of the disease referred to; and this was diagnosed after his movements and peculiarities had been carefully noted. He finally died, and upon post-mortem examination no insular sclerosis was anywhere visible, neither were there allied changes; there was absolutely nothing present that would indicate insular sclerosis. The doctor said it was now admitted that in cases of nervous disease it is rather the order of the disease than the quality that is worthy of consideration; that a widely spread disease affecting the motor or the general tract, especially the motor tract, will give incoordination, and would give rise to symptoms which in former years would have been attributed to the cerebellum.

Dr. Daniel Clark, of Toronto, read the next paper, with the title

remissions and intermissions in insanity.

He said there can be no vital and psychic energy without its presence and co-operation. It is an indispensable condition. When rigor mortis sets in it takes its flight, hence the evidence of its intimacy with, and necessity to, vitality. It has, in normal physiological operations, seasons of remissions and intermissions, and it determines their intensity and duration in organic life. In chronic pathological conditions the same law exists, but it necessarily, by virtue of low vitality attended with excessive energy, makes the intervals more extended and the symptoms more pronounced in the ever-recurring periodicity and alternations. Dr. Clark treated of a trinity of forces—chemical, psychic, and vital forces—and believed the lower forms embraced the greater.

Dr. Blandford, of London, England, asked Dr. Clark to explain his theory and principle more fully. He differed with Dr. Clark on many points of his paper. He had seen many patients have intermissions of exactly the same form of mental disorder, and who were not subject, as Dr. Clark had claimed, to different forms of mental disease at each remission; and instanced one case familiar to him, of a patient who had been sent to one of the English asylums on thirty-five different occasions, suffering with precisely the same form of mental disorder, mania, upon each commitment.

Dr. Clark stated that his experience had been different from that of Dr. Blandford. He had never seen a patient suffering from *folie circulaire* who enjoyed during intermissions normal mental health. Patients had said as much to him; they had been able to transact business during intermissions, but had lost their former grip on affairs.

Dr. Savage differed quite widely from the sentiments expressed by Dr. Clark, particularly as related to animal magnetism, which, he said, was not at present well defined. The question of the correlation of forces was an important one, and should receive much attention. Dr. Savage cited several cases in which the remissions in *folie circulaire* were complete. He also cited the case of a patient whose disease was diagnosed as general paresis, and who appeared to be steadily going down-hill, but who, after the development of a large carbuncle upon his shoulders, quite recovered, and lived outside transacting business for seven or eight years, when he died of some nervous disease.

Dr. Ferguson next discussed Dr. Clark's paper. He did not believe it possible to explain the rhythmical phenomena of intermissions and remissions of mental disease by Dr. Clark's theory.

Dr. Hughes, of St. Louis, Mo., thought the obstacles which enter into the consideration of Dr. Clark's paper consisted in the barrier which physiology has placed in the way of allying physical organism to chemical organism, and which consists in the basil-motor mechanism and the part which it plays in neuro-pathology and neuro-physiology.

Dr. Clark was glad that his paper had succeeded in evoking discussions upon the subject of the phenomena of remissions and intermissions. He had not assumed that the key presented by him would open the lock. On the other hand, he did not see that the gentlemen who followed him offered any solution of the mystery at all. He believed that when a man suffered from an attack of

insanity a post-mortem examination would, in every case, reveal changes in the brain, no matter whether it was claimed the man had recovered or not. Recovery is only a relative term.

The next paper of the session was by Dr. Horace Wardner, of Anna, Ill., on

OCCUPATION FOR THE INSANE.

The doctor presented some interesting cases from his asylum, upon whom the effect of judicious occupation was nearly marvellous.

Dr. Bower, of Bedford, England, followed with a paper on

OCCUPATION FOR THE INSANE IN ASYLUMS FOR THE PRIVATE CLASS IN ENGLAND.

There had been a change in these asylums since the time Dr. Bucknill had written that they were "castles of indolence," and in his own asylum Dr. Bower had succeeded so well in his plan of insisting upon his patients occupying themselves that he had lost only two patients, who thought honest work derogatory.

The patients have attended to the cows, rabbits, and pigs, and in wet weather have done sawing, some painting, carpentry, chaff-cutting, pumping, and other work not of a menial character. The most suitable work has been copying legal writing. The women sew, knit, do fancy-work, china-painting, etc.; some help the housekeeper to prepare fruit-preserves and puddings. Seventy-five to eighty-five per cent. of Dr. Bower's patients were occupied from two to three hours daily.

Dr. Andrews, of Buffalo, N. Y., said there had been an enormous increase in the amount of occupation by patients in American asylums within ten years. The importance of the subject was now everywhere admitted. Seventy-five per cent. of the patients in the Buffalo asylum are employed, and he believed a like percentage in other asylums. We use moral measures only in inducing our patients to work. We tell them it is for their good, that they are the happier for it, and we rarely have any trouble in the matter.

Afternoon Session.

The first paper was read by Dr. Theo. W. Fisher, of Boston, Mass., on

MONOMANIA AND ITS MODERN EQUIVALENTS.

The doctor gave the nomenclature adopted by various writers and alienists in this country and abroad, and in the course of his paper cited some interesting cases of paranoia which had come under his observation. In Dr. Fisher's opinion there is: First, a common form of primary insanity, with systematical delusions; second, there are many cases secondary to inebriety; third, cases are reported secondary to mania and melancholia; fourth, they occur when no heredity can be proved; fifth, hallucinations of hearing occur in three-fourths of all cases; sixth, episodical excitement is very common; seventh, monomania is the best English term for them; eighth, such cases should be separately classified and reported.

Dr. Walter Channing, of Boston, Mass., next read a paper by Dr. Bannister of Kankakee, Ill., entitled

NOTE ON THE CLASSIFICATION OF INSANITY.

In Dr. Bannister's opinion all the classifications of insanity are necessarily more or less defective. A perfectly scientific or satisfactory one is an impossibility in the present state of our knowledge. The best one, in his judgment, was the clinical or, perhaps more correctly, the symptomatological one. The doctor then outlined in detail such a classification as in his judgment would best serve the purpose.

Dr. Channing then read his own paper on

THE INTERNATIONAL CLASSIFICATION OF MENTAL DISEASES,

which he illustrated with a chart. He said the plan he had brought forward was that sanctioned by the Association of Asylum Superintendents at Saratoga, in May, 1886, and that, in the opinion of foreign as well as American alienists, there should be a classification upon which all could unite. He did not claim perfection for the classification here outlined, but thought it one which would answer the purpose very satisfactorily.

Dr. Yellowlees thought that the classification would not be sufficiently clear. He deplored the fact that, owing to the incomplete knowledge of the subject of mental disease, alienists were still compelled to classify forms of insanity by their outward manifestations. Mania, melancholia, and dementia are simply labels for symptoms. Chronic mania often mixes itself up with dementia. We know what we mean when speaking of mania, melancholia, and dementia, but beyond this the classification is valueless. Primary delusional insanity is not sufficiently truthful, as it often comes after melancholia. One cannot tell oftentimes between primary dementia and the acute stupor of melancholia.

Dr. Duquet did not understand why puerperal mania should be a distinct form in the classification any more than gouty or rheumatic insanity.

Dr. C. H. Hughes, of St. Louis, said that alienists should go forward in their efforts to secure a clear and descriptive classification. Mania, melancholia, and dementia sufficed for courts of law, for jurymen, but science should not be kept down to such a classification from such considerations. The work of inaugurating reforms in classification was a thankless one. Every alienist has peculiar ideas of his own upon this subject, and does not readily incline to those of others.

Dr. Hughes read the next paper, entitled

THE TRUE NATURE AND DEFINITION OF INSANITY,

which was discussed by Dr. Yellowlees and Dr. Channing. A short abstract could give but a faint idea of Dr. Hughes' elaborate and exhaustive essay, which commanded the closest attention. At its close the Section adjourned until 11 A.M., Wednesday.

SECTION IN SURGERY.

Tuesday, September 6th—Second Day—Morning Session.

Dr. John Homans, of Boston, read a paper entitled

THREE HUNDRED AND EIGHTY-FOUR LAPAROTOMIES FOR VARIOUS DISEASES,

a *résumé* of the writer's experience. In these cases he was in the habit of using drainage-tubes, cleaning them once in about four hours; but he did not consider that they drained the abdominal cavity, although Keith, of Edinburgh, has in his possession about two gallons of fluid secured in this manner from one patient. In his own practice, he had had one case of tetanus after laparotomy, the patient dying at the end of six days; one case of stone in the bladder, from hair falling in, forming a nucleus. The greatest number of consecutive recoveries he had had was thirty-eight. He considered that suppurative cysts of the ovary were very rare, only one having come under his notice, and he believed that they did not exist unless exposed to the air or a mucous surface. The removal of sessile tumors was quite a knack, which was only acquired after long experience. The preference of procedure by the writer was the extra-peritoneal, using the wire écraseur, and if the bladder were injured during the operation a soft catheter was retained in the urethra. In five cases of bleeding fibroids, one he had cured, the second relieved in part, and the third received no benefit. Another case, in which the uterus was removed, the patient died. In one case of abscess of the ovary, the patient recovered. The writer called attention to that condition in which fæces exude from the umbilicus through a tube called the "omphalo-mesenteric remains," one case coming under his care. The patient afterward died from marasmus.

One case of tubercular peritonitis he had cured. He had had five cases of artificial anus, with three cures; one case of cystic tumor in which, during the operation and opening of the sac the woman gave a violent cough, and the cyst was forced clean out by the effort. In one case of laparotomy, performed January 27, 1886, the patient was confined in December of the same year. A case of fibroid tumor of the uterus was gradually expelled through the wound in the abdominal wall. The speaker saw no reason why contractions should not occur in this manner as with any other foreign body in the uterus; the removal of uterine appendages in his own practice for nervous diseases had not given good results, only one case being cured; a woman who was very violent during her menstrual period, and who had commenced sexual intercourse at seven years of age, was relieved of her mania, but her mind was weak. He had had two cases of myxo-lipoma, one in a man and the other in a woman; the man died eight hours after the operation. The speaker had performed laparotomy upon him once before, but refused to remove the tumor; the second time the man begged to be relieved of it, and the attempt was made, fifty-two pounds being removed, and other portions were left. He had performed laparotomy once for perityphlitic abscess, and the patient recovered.

Dr. Addinell Hewson, of Philadelphia, presented a paper (which was read by the Secretary) purporting to claim that the main point in laparotomy was the closing of the abdominal wound without sutures. This was done by means of binders' paste and a certain prepared gauze, called

DONNA MARIA'S GAUZE,

and which was first made some forty years ago; this gauze, however, cost $5 per yard. The writer was not partial to wet dressings, and the present paper was reserved to dry dressings.

Dr. I. M. Matthews, of Louisville, Ky., read a paper entitled

WHEN IS COLOTOMY JUSTIFIABLE?

The writer had had twenty years' experience in rectal surgery, and he did not consider colotomy justifiable in cancerous disease of the rectum when located three inches from the anus; again, not in stricture beyond the reach of the finger, nor in aneurism, nor in cases of specific origin. In most of these operations life was not prolonged; he had seen as many live as long without it as with it. The speaker considered the pain in cancer to be inherent. In the division of stricture, he did not consider there was any danger, as the hemorrhage could be controlled. In small ulcers of the gut, he did not believe in operating, antiseptic and internal treatment being preferable, using proper nourishment in such cases. In congenital occlusion of the rectum he did not think it should be recommended, but that the perineal operation should be done. When the sigmoid flexure is blocked the speaker thought it justifiable. The question then arises, What is to be done in the majority of cases for stricture? Linear rectotomy, not colotomy.

The paper was discussed by Professor Dawson, of Cincinnati, O., who quoted a case of cancer of the rectum within reach of the finger; patient suffering fearfully, and upon whom he intended to operate. He agreed generally with Dr. Matthews. He had really never performed colotomy which gave him satisfaction. In syphilitic cases of stricture he had found they could be treated constitutionally.

Dr. Quimby, of Jersey City, asked how nearly the gut was occluded.

Dr. Dawson replied to about the size of the little finger, the edges hard as wood.

Dr. Quimby agreed with Dr. Matthews on this point, and thought there would not be much gained.

Dr. Samuel Benton, of London, England, remarked that if he could get beyond the cancer he performed the operation, but if the growth was high up he performed colotomy. It had not been his experience that colotomy should not be performed in cancer of the rectum; his last case lived sixteen months after; he considered pain was relieved by colotomy. Cases of benign stricture he treated with electrolysis.

Dr. Hamilton, of Columbus, O., gave most rigid cautions against the use of carbolic acid in the rectum, the use of which he could not condemn too strongly.

SECTION IN GYNECOLOGY.

Tuesday, September 6th—Second Day—Morning Session.

Thomas More-Madden, M.D., F.R.C.S. Ed., Dublin, Ireland, read a paper on

THE CAUSES AND TREATMENT OF BARRENNESS.

Few gynecological questions come so constantly before us, and none probably are of greater practical importance, than those connected with sterility, involving, as they do, not merely the physical health of the patient but also in many instances affecting the happiness and welfare of married life. For, at least in the country where his practice lies, child-bearing is still generally, and he believed rightly, held to be one of the chief functions of a woman's conjugal life; while to be sterile is commonly regarded as the protean source of marital troubles.

In this paper will be found, in tabular form, a statement of the causes of sterility in five hundred and twenty-eight of the cases of infecundity which, occurring in married women within the child-bearing period, have come under observation in the gynecological department of his hospital. The cases may be roughly divided into two classes: (1) Those in which barrenness was occasioned by sexual impotency or some physical impediment from the vulvar orifice to the ovaria. (2) Cases of true sterility, or conceptive incapacity from deficiency congenital or acquired, structural disease, arrested developments, supra-involution, etc., of the uterus, or from analogous morbid conditions of its appendages. (3) Cases of barrenness from constitutional causes. (4) Cases in which the causes of infecundity were apparently moral rather than physical, such as sexual incongruity, etc.

According to this table the most frequent cause of sterility is stenosis of the cervical canal. And as he believed the operative treatment of such cases, simple as it is deemed by some, requires more consideration than it generally receives, and frequently proves worse than useless from the disregard of certain details and precautions which he considered essential, he ventured to recommend the use of a method of procedure and the adoption of instruments which he had found advantageous in the curative treatment of stenosis in 380 cases of obstructive dysmenorrhea and sterility traceable to this cause. During the present session 70 cases have been treated in his hospital, and in most he had had the able assistance of his friend Dr. Duke, Obstetric Physician to Stevens Hospital, Dublin.

The essential features of the method of treatment are the separation by cutting and simultaneous forcible expansion of the affected parts, followed by dilatation during the period of cicatrization, so as to prevent their subsequent contraction, and thus to secure the permanent patency of the erst occluded passage. To obtain this result he used three instruments, viz., a special form of uterine director which can, generally speaking, be introduced into any cervical canal, however narrow, and along which a serrated, triangular-guarded knife is made to travel up through the os internum; and, thirdly, a uterine dilator of great power, by which any required degree of cervical expansion may be effectually secured and accurately gauged.

The influence of uterine flexions in the prevention of

pregnancy and the treatment adopted in cases of sterility dependent thereon are next described. So also is the management of aphoria when it results, as is frequently the case, from chronic endometritis. The methods found most serviceable in infecundity due to vaginal, uterine, and ovarian causes are briefly reviewed. More fully dwelt on is the subject of conceptive incapacity from morbid conditions of the Fallopian tubes, as he regarded stenosis, as well as occlusion of those ducts by vaginitis and its results, such as hydro- and pyo-salpinx, far more common causes of sterility than usually thought. He also held that such tubal diseases may often be removed without resort to the serious operative procedures, as removal of the uterine appendages, by some surgeons considered invariably necessary, and by them freely employed in such cases. Therefore he had referred at some length to those less heroic measures, such as aspiration and catheterization of the Fallopian tubes, the feasibility and successful results of which he had clinically demonstrated.

Finally, the question of sterility arising, as it not infrequently does, from constitutional disorders, and instances apparently irrespective of any physical cause, and the method of dealing with such cases, is treated of in his paper.

Dr. S. C. Gordon, of Portland, Me., said he did not believe that cases existed where there was not enough canal for the semen to pass up. He believed with Dr. Madden that vaginismus had very much to do therewith. We must remember that we cannot raise large crops on barren soil. No one has done more for the relief of these conditions than Graily Hewitt, who is now with us. The uterus is in an abnormal position, and you must return it to its normal position, as is his custom to do so effectually with his pessary. Above and beyond this comes the Fallopian tubes and ovaries. The points concerned are, first, vaginismus; second, uterine or pelvic congestion. He was convinced that the Fallopian tubes and ovaries had more to do with sterility than the stenosis of the cervical canal.

Dr. Graily Hewitt, of London, described his method of treatment carefully, and expressed his conviction that the good done was through the straightening of the uterus, not the dilatation. He believed it acted by straightening.

Dr. Lapthorn Smith, of Montreal, thought that in many cases the difficulty did not lie in the vagina, cervix, uterus, Fallopian tubes, or ovaries, but in the testicle.

Dr. Daniel T. Nelson, of Chicago, thought with Dr. Smith that in many cases the male was at fault. If the mucous membrane of the female is pale, anæmic, contracted, cicatricial, containing little blood, the sperm is not nourished, or if so, only for a few days. Sea-bathing often does good, but only when the husband remains at home.

A. Reeves Jackson, A.M., M.D., of Chicago, Ill., read a paper on

THE MODERN TREATMENT OF UTERINE CANCER.

Correct views of pathology and accurate diagnosis form the only rational grounds for proper treatment of disease. The modern treatment of cancer is based on the theory of its local origin, and implies the possibility of its complete removal. If this theory be true, failure to cure depends upon the essential inadequacy of the means used, or their untimely or inefficient employment. All remedial means are inadequate which have not the power to remove the diseased structures. The object of the treatment may be palliative or radical, the determination depending upon the location and extent of the disease and the general condition of the patient. Palliative measures are always available, while radical measures are not always safely applicable. Medical agents taken internally may be beneficial as palliatives, but are useless, so far as we know, in removing or modifying the progress of disease.

Conclusions: 1. Any operation for cancer which does not completely remove the disease will be followed by recurrence.

2. During life the limit of cancerous disease originating in any part of the uterus cannot be known; hence no operative procedure can guarantee complete removal.

3. In view of this fact, no operation is justifiable which greatly endangers life, provided other and safer methods are available.

4. Vaginal hysterectomy is more dangerous, in a certain sense, than the disease against which it is used; that is, a given number of patients afflicted with uterine cancer will live longer without than with the operation.

5. Other methods of treatment, attended by not more than one-sixth to one-fourth the mortality of vaginal hysterectomy, are equally efficient in ameliorating the symptoms and retarding the progress of the trouble, and they have been followed by as seemingly good results as regards recurrence. Hence they should be preferred.

6. Vaginal hysterectomy does not avert or lessen suffering; it destroys and does not save life. It is, therefore, not an useful but an injurious operation, and as such is unjustifiable.

Professor Graily Hewitt, of London, England, read a paper on

THE RELATIONS BETWEEN CHANGES IN THE TISSUES AND CHANGES IN THE SHAPE OF THE UTERUS.

In order to determine more precisely the true relation existing between changes in the tissues of the uterus and changes in its form and shape, concerning which wide differences of opinion prevail, it is evident that the initial stage of these changes offer the widest field for inquiry.

In describing uterine tissue-changes, the term "chronic metritis" is generally employed. It is desired to call attention to a tissue-change sometimes observed on or soon after the arrival of puberty, especially in young women who have been inadequately nourished, consisting in undue softness of the uterine tissues, and associated with them in the beginning of uterine suffering. This undue softness is not "inflammatory" in its nature. It is associated with great flexibility of the uterus, and generally with marked flexion. The author first described it ten years ago, and has repeatedly remarked it since. It has recently been noticed by Dr. Charles D. Scudder, under the term "mollities uteri."

The recognition of the liability to occurrences of this initial change in the uterine tissues is to be regarded as very important in the explanation of the origin and increase in degree of flexions of the uterus. In such cases the uterus being abnormally flexible, the flexion may be easily and gradually intensified by any ordinary exertion, but will be more likely to be much exaggerated and perpetuated by any severe and suddenly acting mechanical disturbance. The process by which the uterus becomes permanently flexed may thus be slow or rapid.

Hardening of the uterus occurs sooner or later. After hardening, the flexion is persistent.

In some few cases the flexion may be persistence of a congenital condition, or due to absence of developmental growth at the time of puberty, without undue softness being present.

In multiparæ a somewhat analogous condition is present, in what is known as "defective uterine involution," the uterine tissues being soft and wanting in resistance. As is generally admitted, slow flexions frequently originate at such times and under such circumstances.

The author contends that the interference with circulation present with uterine congestion is, in most cases, due to association of a weak blood-current and mechanical compression of uterine tissue, due to flexions present in such cases. The uterus being unduly soft, plastic, and mouldable, it takes a flexed shape, which often becomes perpetuated by the hardening process described by Jacobi as the result of chronic metritis. One consequence

of the latter is the presence of sclerosis of the uterine parenchyma. It is to be remarked that the incidents of some of the cases related by Putnam-Jacobi favor the view that the flexion and displacement were operative in producing the menstrual subinvolution, rather than the cervical catarrh, which Jacobi assigns as the principal cause.

As regards endometritis, he considers the condition so described as more generally due to congestive hypertrophy of the uterine lining, and to retained irritating secretion, and that, excluding gonorrhœal and syphilitic cases, the endometritis is secondary rather than primary.

Afternoon Session.

Dr. W. H. Wathen, of Louisville, Ky., read an interesting paper on the subject,

rapid dilatation of the cervix uteri.

The author had learned in the field of experience and observation of the bad results obtained in efforts to dilate the cervical canal by tents, or to enlarge or straighten it by incisions to cure dysmenorrhœa and sterility. He begged to call attention to the more satisfactory means of rapid dilatation with the bivalve or double-bladed dilators now in use, and especially to the substitution of an instrument of his device for Goodell's modification of Ellinger's dilator. If tents were used, he preferred the tupello to any other variety, it being less apt to cause septic inflammation than the sponge, and dilated more rapidly, regularly, and better than the tangle. He referred to endometritis, pelvic hæmatocele, pelvic cellular or peritoneal inflammation, septicæmia, pyæmia, and tetanus, as complications accompanying or following the use of tents, and did not believe that any good results, apparently, were permanently obtained. He claimed the two-bladed dilators are relatively aseptic and are easily used, complete the operation at one sitting, and that the dilatation is comparatively free of immediate or subsequent dangers. It nearly always cures the dysmenorrhœa, and often removes the causes of sterility.

He thought the results of the incision of the cervix up to the vaginal junction, or through the internal os, anteriorly, posteriorly, or bi-laterally, even more unsatisfactory than those following the use of tents. He dilates the cervix in his office, without a local or general anæsthetic, to the extent of half an inch, and allows the woman to walk or ride home a few minutes after. In dilatations of from three-fourths to one inch, he gives a hypodermic of morphia and atropia, then brings the patient under the influence of chloroform before operating. He urges great cleanliness, and all means to prevent septic infection. He uses three sizes of dilators, the largest the one he devised. He explained the points of superiority over Goodell's.

In conclusion, he urged that the operation should not be performed if there is any pelvic inflammation or trouble in the tubes or ovaries; and never, in any case, until we are reasonably positive that the cause of the trouble is in the cervical canal.

Dr. A. Martin, of Berlin, said that the dilatation of the uterus as an operation had undergone remarkable changes since its origination. The instruments shown by Dr. Wathen are an improvement. The great object is to open up the internal os. The degree of dilatation may be required to be less in some cases of small cervix. It is a question whether we have not been dilating in too many cases. He would not recommend that we go back to laminaria- and sponge-tents.

Dr. S. H. Weeks, of Portland, Me., claimed that every case of dysmenorrhœa was not due to mechanical obstruction of the cervix. The ovaries and tubes have much to do with it, and in his experience have been oftener at fault than the cervical canal. He was surprised at the freedom from danger reported in this operation. Professor Goodell has reported one hundred cases with no bad result. These instruments are not devoid of danger, and bad results may come.

Dr. C. R. Reed, of Middleport, O., thought it quite puzzling to the young gynecologist to tell what to do, the testimony being so conflicting. Some authors reported that there never had been any bad results in the few hundred cases that they had operated on; others had frequent fatalities. He had more hesitancy in operating now than formerly. We cannot predict what the result will be in a given case.

Dr. Goelet, of New York, thought that the term rapid dilatation given to the operation was a misnomer. It had come into use to distinguish it from the dilatation by sponge or laminaria-tents.

Dr. Steason, of North Carolina, had performed dilatation fifty or seventy-five times a year, for the past ten years, and keeps his patients in bed but two days. He has never had any fever, and has not used any antiseptic expect soap and water. He uses a glass rod to keep the canal open much the same as does Dr. Goelet, leaving it there sometimes as long as a week. He did not believe in the superfluous use of so much antiseptic.

Dr. A. Reeves Jackson, of Chicago, objected to the operation, because it did not do any good, at least permanent good.

Dr. Hadley, of Australia, never uses sponges and laminaria in dilatation, which he reviewed *in extenso*. He was in favor of the old treatment.

Dr. Harff, of Ohio, recommended an original plan of his own, viz., the use of cornstalk pith. He entered his protest against rapid and extensive dilatation.

Dr. Lawrence, of Bristol, England, had used sounds constantly for years. His patients are constantly coming back. In the unimpregnated uterus, with proper precautions. this treatment can be used but the sound must not be left in too long. He used gelatin-coated sponge-tents, previously saturated with carbolic acid.

Dr. Wathen, in conclusion, as to the question concerning his operating at his office, said he did it without any concern, and no anæsthetic. As to Emmett's opinion, we will concede a great deal to him in gynecology, but he did not see how he could be taken as an authority in this subject, seeing that he has not performed the operation, condemns it *in toto*, and will have nothing to do with it. The happy medium in this, as in other cases, is the thing to follow. No one would dilate for dysmenorrhœa caused by cellulitis or inflammation. The operation can be performed to straighten the neck of the uterus, and we can shorten the neck of the uterus by dilating the cervix and without amputation.

Section in Ophthalmology.

Tuesday, September 6th—Second Day—Morning Session.

Mr. Henry Power, of London, England, presented a paper entitled

microbes in the development of eye-diseases.

After a historical sketch of the earlier researches of Pasteur and those who followed immediately after him, in the discovery of the nature and modes of propagation of microbes, and the demonstration of Huxley and others that diseases were developed by these organisms, and that they would grow and form colonies in especial situations, the reader went over the discovery of the micrococcus of syphilis and the gonococcus of ophthalmia. Chalazion, pterygium, blepharitis ciliaris, purulent conjunctivitis, kerato-iritis, optic neuritis, cerebral meningitis, may be considered to be the result of microbic development. The factors in the production of these effects may be as follows:

1. They may first penetrate into the tissues and use up the pabulum necessary for their growth.

2. They may use up the whole of the oxygen, and so deprive the tissue of a necessary element; or

3. They may throw out what we may call ptomaines, poisonous products.

The essayist related a case of a gentleman who, after a fatiguing walk of some hours, had a sudden accession of pain in the eye and developed an acute conjunctivitis. His opinion was that, though the tissues in a state of health were able to resist the attack of the ordinary microbes, as found in the air of cities and dense populations, when this power of resistance was diminished by fatigue they were able to effect a lodgment and cause disease. He spoke of the experiment with a long tube, coated inside with agar-agar or gelatine, and through which microbic air was passed, showing that different varieties of microbe settled and formed colonies at different parts of the inclined tube, illustrating the fact that microbes were heavy enough to settle, and in different degrees.

The lessons which the author of the paper proposed to draw from this were, to avoid all conditions which may lower the condition of the system, remove the patient from the densely populated parts, and in this connection remember that it has been shown that at sea, at a certain distance from land, the air contains absolutely no microbes. Of course, in crowded ships this condition does not obtain.

Dr. Abadie made a few remarks on the absolute necessity of clean instruments, and cleanliness in regard to all accessories, in eye operations, and was followed by Dr. N. Manolescu, of Bucharest, in the same strain.

Dr. Heyl, of Philadelphia, said that it is evident that two general errors in regard to the subject have been developed. One is, that if a remedy will arrest the progress of the microbe in a gelatine solution, it will be applicable to the diseased conditions produced by that microbe, and also that any antiseptic may be used one for another. The microbe attacks the older and feebler cells in purulent conjunctivitis, and nitrate of silver is of use in destroying these old cells and leaving only the young and vigorous, that are able to resist the microbic attacks. The exacerbations occur as these young cells become older and feebler, and are again cut short by the silver application. Diphtheritic follows closely the purulent form in course and causation in this connection.

Dr. Heyl found the reason for destructive changes in the cornea in these affections in the different application of the epithelial layer to the subjacent tissue. This was also a factor in hemeralopia, the disease being considered as an epithelial mycosis, the palpebral epithelium being lubricating, while the sclero-corneal is intimately connected with the function of vision.

Hypopyon keratitis is an affection of the lymph itself. There has been a solution of continuity and the infection gets into the eye. Thus, also, in cataract extraction the wound lays the eye open to the approach of the microbe. In kerato-hypopyon and abscess a good result was obtained by the use of a salve of agnine having incorporated oleo-resin of cubebs. The application seemed to be quite painful, the patient being kept awake all night by it. A good application is a salve of red cinchona applied on the conjunctiva, right inside of the eye. A great remedy in kerato-hypopyon is the local application of iodoform to the ulcer.

Dr. B. Baldwin, of Montgomery, Ala., hoped that Dr. Power would also present the surgical side of microbe infection, which is now the liveliest question in eye surgery. He wished to present the other side of the case. In cataract operations he used no protection against the invasion of microbes, except to wash the patient's eye and face. In old hospitals it may be as well to wash and use all these precautions, but in new ones simple attention to cleanliness only is necessary. He referred to remarks by Dr. Lister, in a letter to Dr. Knapp, that he thought antisepsis not so urgent in eye surgery, the wound being so small. Dr. Baldwin was doubtful whether any better results were obtained now than before the introduction of antisepsis in eye surgery.

Dr. Landolt, of Paris, France, was astonished to see how little attention is paid to antisepsis in eye operations, and said that we know too little of bacteria in eye affections. His experience was in favor of 1 to 5,000 solution of sublimate in extractions. He saw no objection to the solution. It did not prevent union or damage anything.

Dr. Reynolds remarked that he had not for a number of years had suppuration of the cornea after cataract extractions. He insisted on absolute cleanliness, and where that could not be secured he declined to operate.

Dr. Keyser remarked that the main argument in favor of antisepsis is its success in operations on all parts of the body all over the world. His predilection was for a saturated solution of boracic acid, and he believed that irritation was caused by the mercuric solution.

Dr. Galezowski, of Paris, thought antisepsis necessary in all eye operations, even in chalazion. He had seen in some cases very dangerous results from neglect of this precaution, suppuration of the eyelids, and destruction of part of the cornea.

Dr. E. Smith, of Detroit, wished to speak on both sides of the question. He thought much was due to cleanliness in operations. He dipped his instruments in alcohol, used saturated solution of boracic acid, and 1 to 5,000 bichloride. He believed that he had a short time ago saved an eye by antisepsis when it had been exposed several hours the day after operation in the immediate neighborhood of panophthalmitis.

Dr. Power, in closing the discussion, said that the remarks of some of the speakers had been somewhat away from the subject of the paper as he had intended it. He drew attention to the propagation of pure cultures from kerato-iritis, and the production of the disease in rabbits.

The practice of dipping instruments, etc., in solution of boracic acid was followed by him in St. Bartholomew's Hospital invariably. He was inclined to think that sublimate in the proportion mentioned is painful. Dr. Baldwin's washing he considered to be really antisepsis. He thought Dr. Galezowski's case of suppuration after chalazion operation was exceptional. He very rarely uses a cataract-knife twice, but prefers to get a new and sharp one from the maker for each extraction. Sharpness and cleanness of cut are essential to a good result.

Dr. P. D. Keyser, of Philadelphia, Pa.. read a paper on

OPERATIVE TREATMENT OF SYNECHIÆ POSTERIOR.

He stated that synechiæ were dangerous to the eye, as a rule, in proportion to the firmness of the adhesion. The danger consisted in the recurrent attacks of iritis, caused by the dragging and stretching of the part, resulting in new adhesions, cyclitis, and perhaps atrophy, or sympathetic trouble in the other eye. Of operative procedures, he considered removal of part of the iris not advisable where the centre of the capsule is transparent. After reviewing the various methods in use for breaking up the offending attachments, of which he believed Streatfield's method to be the most successful with a careful and skilful operator, he spoke of their dangers. He objects to Weber's hook, as being too large to manipulate easily and requiring a large opening in the cornea, as well as the other methods with loss of aqueous, which prevents contraction of the iris. He exhibited a delicate modified hook, which he had used with success for a number of years. The method employed is that recommended by Streatfield, and a small opening is made with any cutting needle, affording opportunity of using the hook with as little loss of aqueous as possible. The adhesion having been broken up, atropia is instilled, and a simple Liebreich bandage applied.

Dr. Galezowski remarked the operation was a very

beautiful one, and in many cases afforded good results. He had in five cases of anterior synechia done an operation similar to this, but with a greater hook. The trouble that occurs after is that fresh adhesions are formed, and as well after iridectomy, which may go on to the production of cataract or irido-choroiditis. He had seen in many cases, after iridectomy, lymph exuded and vision destroyed. If the inflammatory action continues, he advised acupuncture and antiphlogistic measures, and when it has subsided, then do the iridectomy, after two or three weeks.

SECTION IN PUBLIC AND INTERNATIONAL HYGIENE.

TUESDAY, SEPTEMBER 6TH—SECOND DAY.

DR. J. A. S. GRANT (Bey), of Cairo, read a paper with the title,

THE HISTORY OF HYGIENE IN MODERN EGYPT,

in which he discussed the methods of hygiene as practised by the Egyptians under the Viceroy Mohammed Ali and under the Khedive Tewfik Pasha, and as influenced by English dominion to this he added some critical remarks and practical suggestions.

Dr. Grant also read a paper,

DENGUE IN SYRIA,

written by Dr. John Montabet, in which, and also from the discussion, it appeared that there was no essential difference as it occurs in that country and in Texas.

THE RELATION OF STATE MEDICINE TO MEDICAL JURISPRUDENCE

was the title of a paper read by Dr. W. L. Schenck, of Boise City, Kan.

DR. RICHARD H. DAY, of Baton Rouge, La., read a paper in which he made

A REPORT OF AN INQUIRY INTO THE FACTS RELATING TO THE EFFECTS OF OVERFLOW OF THE MISSISSIPPI RIVER.

The paper contains facts and deductions obtained by addressing letters of inquiry to five hundred physicians residing in Southern localities. It shows (1) that overflows, as a general rule, are injurious to the public health; (2) that they are more or less injurious according as the inundations are late or early in the season, and whether of long or short duration; (3) that their evil effects upon health are lessened or entirely antagonized by good natural or artificial drainage, and by copious showers of rain occurring during the period of subsidence of the waters; (4) that rice culture is inimical to health only by reason of the improper and insanitary manner of its cultivation; (5) that, as a rule, it is perhaps true that the colored race is less susceptible to the injurious effects of overflows, and of marshy and malarial soils, than the white race. The writer then advises:

First.—The use of rain-water, stored in large cisterns, both for drinking and cooking purposes.

Second.—That all swamp and soils subject to overflows, before being cultivated or settled upon, be cleaned of trees, underbrush, etc., to admit freely the sun's rays and the free circulation of the winds, and that a thorough drainage be effected, so that rapid drying of the soil be not impeded.

Third.—That in the culture of rice, the common plan of keeping the fields covered for long intervals with stagnant water should be avoided, and that, in lieu thereof, frequent irrigation with fresher and purer water should be adopted, the growing crop being supplied thus as often as needed, ditches being so constructed as to let off the superincumbent water rapidly.

Fourth.—That to promote the health of laborers and residents in the river-deltas and lowlands the dwellings should be not less than four feet from the ground, the floors laid tight, and the doors and windows arranged to afford free ventilation, with galleries on all sides wide enough to prevent beating rains from wetting the rooms; that the houses should be erected on elevated ridges, so that water will not settle under or around them; that only a few shade-trees be allowed to grow to break the force of the direct rays of the sun, and all brush and undergrowth be removed, so as to facilitate the free movement of currents of atmosphere.

Finally, the writer advises the importance of rigid cleanliness of person and surroundings, and strict observance of general sanitary rules. The paper further showed that under improved methods of rice culture and management of lands subject to overflows, the frequency and virulence of disease incident to these localities had been notably diminished.

SECTION IN DERMATOLOGY AND SYPHILOGRAPHY.

TUESDAY, SEPTEMBER 6TH—SECOND DAY.

STUDIES IN HIRSUTIES.

DR. G. H. ROHÉ, of Baltimore, Md., read a paper on this subject, in which he directed attention to the theory of natural selection to account for an occurrence of an abnormal development of hair—a reversion of the system to the natural ancestral type. He referred to the work in this field of Dr. Unna, who had shown that the antenatal type of hair, that which falls out soon after birth, is replaced by a stronger, firmer growth, and accounted for the excessive development by the non-occurrence of this natural order. Excessive hairyness in one race may not be considered hypertricosis, when it would be in another. The principal interest for the dermatologist centres in the excessive development of hair upon the face, for which we have a sovereign remedy in electrolysis. The reader went over the histories of the noted hairy persons, giving many interesting facts regarding them. A remarkable feature in these cases is an abnormality in the development of the teeth. Usually only few teeth exist, and Darwin has noted the same feature in abnormally hairy dogs. The suggestion was made that the hairy growth in excess might be a compensation for the lack of dental development. Unna's theory of an arrest of development, though attractive, the author does not regard as proven.

Heredity, usually from the male line, is found in almost all cases in universal hirsuties, and many cases of hypertricosis can be explained in the same way.

He related instances in his own practice where the children of hairy-faced parents also showed beards.

That the appearance of the growth is first noticed about the time of puberty is not singular, for other hereditary traits are developed at this time as well.

DR. UNNA, of Hamburg, regarded the paper as prudent, so far as the pathological portion was concerned. He stated that he upheld his theory, which he had put forth as a more scientific one than other theories which had up to that time been advanced.

He had not been able to study the skin histologically. This is the only way in which advances can be made, and he urged those who have an opportunity to make such studies.

The direction of hair-development changes after birth, and it would be interesting to secure portions of skin to examine for these changes in the different layers of the skin.

It is certainly an hereditary disease, but scientifically this is not a sufficient explanation.

DR. THIN, of London, England, said he had looked upon the disease as due to a deficient physiological development.

There seems to exist a necessary proportion between the length and breadth of the body and the length and breadth of the hair, and any deviation from this proportion constituted an abnormality. The perfect man de-

velops hair in some parts and little in other parts. That hairy persons are strong is a fallacy.

Excessive hair upon the limbs indicates weakness and debility.

An imperfectly developed sexual being will produce an imperfect being.

A hairy lip indicates a woman who will not well carry out the process of childbirth, and he looked upon it as a flag of warning, and thought the removal of the hairs might not be such a great boon to humanity on that account. In bearded females there is a want of sexual differentiation.

Dr. Gottheil asked how the reader would explain the development of hair late in life, relating a case of excessive development of hair at the age of twenty-eight coincident with cessation of menstruation.

Dr. Ravogli, of Cincinnati, O., said that the human race could be divided into classes by the nature of their hair. He had noticed that men have a greater development of hair upon the face and about the ears and nostrils at about the age of forty-five than in earlier life, and he believed that up to this time, or until the skeleton was perfectly formed, the calcareous salts were taken up by the bones, and after this period were appropriated by the hairy growth. If hair be burned we find salts of lime in the ash, and he thinks there is a relation between the quantity of calcareous salts and abnormal growth of hair.

Dr. Reynolds said that the question was an intricate one. He thought it an established fact that there are two forms of hirsuties, one hereditary and one produced by other causes. The deficiency of the teeth was not present in all cases. He had examined one of the hairy men on exhibition in this country and had found the teeth fully formed. He had observed sexual derangement in bearded females, and regarded it as bearing such a causative relation to the deformity as the same condition bears to acne.

Dr. Rohé, in closing, said there were some cases not explicable on the theory of heredity, and he could not explain such cases as that mentioned by Dr. Gottheil. The statement made by Dr. Thin, that excessive hair upon the body should be regarded as a sign of weakness, was new to him, and he was inclined to believe in the popular idea, that the man with plenty of hair upon the body was usually a strong man.

A NEW METHOD OF TREATING DISEASES OF THE SKIN LOCALLY.

Dr. Valentine Knaggs, of London, England, proposed as a substitute for ointments the employment of emulsions which upon drying on the skin form protective films. He had employed these dressings for the past two years with gratifying results in eczemas and other non-specific exudations. The inunction of the body with fixed oils has been found of immense service, but they are not adhesive, and exuding fluids readily escape from the surface. There are two methods of rendering oily substances adhesive: 1. By adding to them resinous, gummy, or alkaline substances. 2. In making use of gums to combine or emulsify a fat with water.

Adhesive preparations, unlike oils, tend to arrest skin-action. Thus tar, varnish, or collodion form an impervious covering. Ointments to which adhesive substances are added diminish skin-action, but do not abolish it.

Well-made emulsions resemble milk or cream, are soluble in watery fluids, and are markedly adhesive, and are made by combining an ointment-basis with water, a vegetable gum, and a suitable antiseptic.

Thus the formula preferred would read:

℞. Paraffine molle	℥ j.
Pulv. gum acac.	gr. 160
Boracic acid	gr. 16
Aquæ	ad ℥ ij.

Stir until emulsified.

Bismuth, zinc, sulphur, or other medicament may be added as desired. Smeared over the skin, a film is formed, which is flexible and protective, and the antiseptics and medicaments have the best opportunity of exercising a beneficial influence.

The author called especial attention to the fact that all lint and textile dressings could be dispensed with. He did not expect these gum emulsions to displace older methods, but that they would serve a useful purpose.

In discussing the paper, Dr. Unna said that we were now in the period of transition, making our annual change of treatment. It was very well for us as specialists to discuss new treatments, but we should not give them to the general practitioner until we were quite sure that they were good, and especially should not confuse him with new treatments until we were quite sure that they were new. He had worked much with fixed dressings and varnishes, and some years ago had described such a varnish as had the reader of the paper. He was glad to confirm the reader's claim regarding the utility of the emulsion-dressing, but could not concede to him that it was new, as there are many other varnishes made with gums and fats. He did not believe that any varnish which is soluble in water can prevent a great amount of evaporation from the skin.

A NEW METHOD OF TREATING THE VEGETABLE PARASITIC DISEASES OF THE SKIN,

by Dr. H. J. Reynolds, of Chicago, Ill. First, the parasiticide must be applied so as to reach the bottom of the hair-follicles in favus, ringworm of the scalp, and barber's itch. The reader proposed to apply the medicament to the diseased part and place over it the positive pole of an electric battery, and the negative upon some other part of the body, and induce the penetration of the solution to the deeper parts by a well-known law of elected physics. He uses a battery composed of a large number of small cells, such as is used for the removal of hairs. The strength of the current must vary with the sensitiveness of the parts—five to fifteen cells, according to the feelings of the patient. Where there is much hyperæmia the current must be weakened. Cocaine, applied in this way, produces anæsthesia of the whole scalp. The surface is first to be thoroughly cleansed. Then saturate the sponge of the positive electrode with the parasiticide solution and place over the diseased patch, and the moist negative sponge over the skin of some other part of the body. A one per cent. solution of the bichloride was the parasiticide employed in the cases reported. He had only had an opportunity to thus treat three cases, but all have been so successful as to give him great confidence in its usefulness.

Dr. Thin said he had been impressed with the great variety of remedies found in literature reputed to cure tinea tonsurans quickly. He regarded the strong solution of bichloride of mercury as dangerous to life, and also likely to cause permanent baldness, although it was the most likely remedy to cure the disease.

Dr. Juler, of Cincinnati, said in cases of favus we usually expect to find a change in the condition of the patient's general health. He regarded it as an extremely obstinate affection, and was inclined to look upon hasty cures as errors in diagnosis.

Dr. Davis, of London, thought that in America skin diseases were more easily cured than in England, from the reports of rapid cures, especially of ringworm and the like.

Dr. Rohé thought perhaps the differences in results were due to the differences in application. He thought the bichloride, in solution of 1 to 1,000, sufficient if applied often enough, before the new spores had an opportunity to be produced. Fully developed organisms resist much less than the spores. So long as one spore remains undestroyed, so long will the danger last. The hyposulphite of soda will destroy, in a short time, the organism of tinea versicolor.

Dr. MacGuire, of Louisville, Ky., said chrysarobin

in gutta percha had succeeded well in sixteen cases of tinea tricophyton recently treated by him.

Dr. Ravogli said if epilation was practised, the parasiticide would reach the spores and the case could be sooner cured.

Dr. Yeamans said the whole matter turned upon whether we can or cannot reach the spores. He believed that it was unnecessary for any case of favus to exist under proper scientific treatment for over four weeks, epilation being practised daily.

In closing, Dr. Reynolds said it was an established fact that cocaine could be applied to the scalp so as to thoroughly anæsthetize the entire thickness of the scalp. Now the question is, whether a parasiticide applied in this way will not act equally well. He thought the electricity might have some influence in destroying the spores.

SECTION IN GENERAL MEDICINE.

Tuesday, September 6th—Second Day—Afternoon Session.

Dr. Josef Körösi, Director of the Communal Statistics of Budapesth, Hungary, read a paper on

THE PREVENTIVE POWER OF VACCINATION,

with a critical review of the vaccinational statistics. After gathering all the different modes of argumentation used up to the present time to attack or to defend the protective power of vaccination, he arrived at the result that the statistical base of these proofs is much weaker than is generally supposed by men of science who could not enter into an examination of the value of the different statistical methods. Even when the direct proof could be furnished, and even when we would find in this way that the morbidity or mortality of the non-vaccinated is the greater one, the anti-vaccinators reply that the whole of the non-vaccinated represents a weaker totality, consisting of the poorer elements, the sick and weaker children; and that this totality is naturally more disposed to get any sickness, but not in consequence of the lack of vaccination, but of the lack of vital powers—an argument which threatens to subvert all vaccinational statistics.

Dr. Körösi shows us that this difficulty can be settled. If we knew what is, for instance, the general lethality (Dr. Körösi distinguishes between mortality and lethality. Mortality is the chance for each living person to die; lethality is the chance for those who are already sick to die. The two notions are widely different but, notwithstanding, often confounded. The mortality of small-pox, for instance, rose to one per cent., the lethality might rise to sixty or seventy per cent.) of the non-vaccinated, we could learn whether their special small-pox lethality is greater; this difference ought to be attributed exclusively to the lack of vaccination. But to ascertain the general lethality of the vaccinated and non-vaccinated people, it would be necessary that the hospitals should state, not only for the small-pox patients, but also for each case of sickness—even the surgical cases not excluded—whether they were vaccinated or not. This innovation was introduced in 1886, at the proposition of Dr. Körösi, in nineteen hospitals of Budapesth and of provincial cities in Hungary. Here the results of the first year's observation, embracing more than twenty thousand cases, showed the general lethality of the vaccinated patients to be eight per cent., and that of the non-vaccinated thirteen per cent.

Thus the assertion of the anti-vaccinators, that among the non-vaccinated the lethality is probably a greater one, is found to be true. But among the small-pox patients the lethality of the non-vaccinated rose to 6.66 per cent; the lethality of the non-vaccinated should thus represent about ten per cent., but in fact that lethality is not less than 49.68 per cent. No doubt it was wrong to regard the whole of this increase (nearly eight hundred per cent.) as the consequence of the non-vaccination. The result is a product of two factors; at one hand of the weaker constitution of the non-vaccinated, and on the other hand of the lack of vaccination. Knowing now the value of one factor, we can calculate what has to be attributed to the other. So we can state that for the non-vaccinated small-pox patients the chance of dying is raised *exclusively by the lack of vaccination* to five hundred per cent.

The same observation made it possible to state also in what degree the morbidity of the non-vaccinated is raised. The result is that the lack of vaccination causes three and a half times more cases of small-pox.

To apply the new method on the mortality, it would be required that at each case of death—and not, as is usual, only at the deaths caused by small-pox—it should be stated whether the person was vaccinated or not. This new regulation has been introduced at Budapesth since 1886; the coroners have to inquire the fact regarding vaccination in each case of death. As also nine other Hungarian cities agree to introduce this new regulation, the observations of Dr. Körösi embrace a population of 717,195 persons. The results of the first year show that the chance to die by small-pox is raised by six hundred per cent. for each non-vaccinated person exclusively in consequence of the lack of vaccination. This new and fruitful method of investigation has finally been applied also to the very important problems of inoculation of syphilis, erysipelas, tuberculosis, etc. In the ordinary way of vaccinational statistics, it is nearly impossible to answer this question. If a man who has been vaccinated in his childhood later gets tuberculosis, how could we know whether his sickness had been caused by vaccination or any other cause? But the new method furnishes the answer. If tuberculosis, syphilis, etc., have been caused by inoculation we ought to find among the vaccinated people more cases than among the non-vaccinated. It is now found that—at least in this first year of observation—there was no influence of vaccination upon syphilis or tuberculosis. But he found that for the children the number of the cutaneous diseases is raised by vaccination, but only by thirteen per cent. Making up now the balance of vaccination and counting its benefits on the credit, its damages on the debit side, it is found that among a population like that of the United States the vaccination would save annually 120,000 lives, while the number of children dying from cutaneous diseases, etc, caused by vaccination, might make 300, so that the balance is an extremely favorable one. The vaccination is an operation, but who would prohibit a life-saving operation where the chances of danger are so extremely few as above mentioned?

Dr. Körösi finished his paper with the remark that after having now furnished direct answers on the protective power of vaccination, we might safely extinguish doubts about the blessings of Jenner's important discovery, which, after the ingenious generalizations of Pasteur, has lost the character of an inconceivable and quite extraordinary appearance, and which must be regarded as one of the most beneficial results of happy empiricism and science.

Dr. C. A. Leale, of New York, expressed himself as greatly interested in the paper, especially for the valuable statistics, evidently the result of so much patient labor. He referred to a commission which had been appointed under his supervision to inquire after the health of the sick children in New York, with the result that there was not a case reported which had had small-pox. This he attributes to the good virus and enforcement of vaccination among all classes.

Twenty years ago he was called to investigate two cases of death alleged to be the result of small-pox, but these were evidently due to erysipelas due to a scratch; this was rendered more positive, as others were vaccinated with the same virus without harm. He once

saw, at the College of Physicians and Surgeons, a child where it was certified that it was suffering from the secondary stages of syphilis due to vaccination.

Dr. W. M. Whitmarsh, of England, inquired what virus was used, humanized or bovine.

Dr. Körösi said it depended upon the physician.

Dr. John Lynch, of Baltimore, said that it was only cranks who will contend that vaccination does not prevent and modify small-pox. Animal virus will always be safe and ought always to be used.

Dr. William Waugh, of Philadelphia, said that statistics ought to be read in the light of personal experience. In a few cases abscesses would occur. He knew of one case of destruction of the eye from the child transferring the matter into it from the arm.

A vote of thanks was extended to Dr. Körösi, and a committee appointed to consider his paper.

Dr. Körösi said that statistics reported against vaccination were greatly falsified.

Dr. W. M. Whitmarsh, London, England, read papers on

VACCINATION AND PASTEUR'S TREATMENT.

He first considered the subject of vaccination, giving a *résumé* of its history from the time of Jenner. He was not in a position, even from a very large experience, to state that vaccination is a preventive against variola, although many believe it to be so. Vaccination does, however, lessen the liability, even though it may not give a complete immunity from disease. Forty years ago sixty per cent. of the people in England were to be seen pitted by small-pox, while at the present day there is hardly one per cent.

In England it is compulsory that all children over three months old shall be vaccinated. Such a law being in vogue, it is the duty of the State to use special care in the selecting of good lymph. This they evidently have not done, the authorities at present depending upon humanized virus, which they dealt out gratuitously to the poor.

That vaccination may transmit disease is conclusively proven in the case of Dr. Cary, who syphilized himself in endeavoring to prove that such a transmission was impossible. Again, there were the instances of the large number of children in Sweden, and the body of soldiers in Algiers, who were similarly infected.

Educate people up to the fact that vaccination, when properly performed, is a good measure, and then their common sense will make them adopt it. During the year ending September, 1885, there were in England 2,806 persons prosecuted for refusing to comply with the law and be vaccinated.

As to how many punctures should be made, and the frequency with which the vaccination should be repeated, there is a variety of opinions. It seems probable that seven years is the longest time allowable before revaccinating.

PASTEUR'S METHOD.

In the paper entitled "Pasteur's Treatment," he reviewed very elaborately the method and principle involved in the preparation of the virus for inoculation. The various instruments used were presented, and their use explained; also a solution, hermetically sealed, containing the prepared virus. Sterilized beef-tea is the vehicle used to contain the virus.

As to Pasteur, he is undoubtedly a first-class scientific chemist, but doubtless he knows little of the art of surgery or the science of medicine. So far as his operations are directed he is constantly changing his methods, thereby showing that he is somewhat doubtful of his stand-points.

It is proved without doubt that dogs shut up in a room and given but a small quantity of water will go mad. In the cases presented and operated upon in Pasteur's laboratory it is extremely doubtful as to whether the patients have had hydrophobia, and consequently it is difficult to determine the curative efficacy of his inoculations. Pasteur originated a disease in rabbits, which he called rabies. It is important, since some of his cases have been fatal, that the disease be not originated by this process of treatment in a person supposed to be, though not actually, suffering from the disease.

There were cases in which Pasteur's treatment had failed, even in a case in which there had been no delay in coming under the treatment.

The only way to settle the question is by the means employed fifty years ago in reference to small-pox, and that was upon convicts, allowing them their choice between their sentence and becoming the subject of experimentation.

It is also necessary to enforce more stringent laws in reference to dogs. They ought to be registered, muzzled, and more carefully looked after by examining veterinary surgeons.

Great credit is due to Pasteur for his earnest labors, and it is to be hoped that, if he has not already, he may eventually make a new discovery.

Dr. C. A. Leale, of New York, expressed his great interest in the papers, and spoke on the latter. As medical officer for several large benevolent institutions for sick children he had coming under his observation from 18,000 to 20,000 sick children annually. These children were sent from all parts of the city, and all were carefully examined by competent medical men. As these children are only the sick ones of the families, they represent the number taken from at least 100,000 children in the city and surrounding places. He had never seen, or had reported to him, a single case of hydrophobia, although hundreds of these children had at different times been bitten by dogs. He had had similar experience in dispensary practice.

He was convinced that much harm had been done by unnecessarily exciting those bitten. It is to be sincerely hoped that the profession will not, with our present knowledge, resort to Pasteur's method of inoculation.

Dr. Wm. Welch, of Philadelphia, Pa., said: I believe vaccination possesses the power of absolutely preventing small-pox. To be entirely free from danger it must be recently and properly done, and under such circumstances he had never seen any bad result. In his hospital experience he had had 5,000 cases come under his observation, and after vaccination he allowed attendants to wait upon the sick patients without their contracting the disease. Humanized virus is preferable, especially such as has been long humanized through several innoculations. It is well, with long humanized virus, to make several innoculations, as virus thus attenuated does not make so profound an impression.

As to durability, it does run out. It was noticeable that among the cases admitted there were no, or very few, children brought in with the disease who had been vaccinated. One of these died.

The dangers of vaccination are two: syphilis and erysipelas—the latter often caused by carelessness on the part of the physician.

SECTION IN OBSTETRICS.

TUESDAY, SEPTEMBER 6TH—SECOND DAY—AFTERNOON SESSION.

Dr. James C. Cameron, of Montreal, Canada, read a paper entitled

THE INFLUENCE OF LEUKÆMIA ON PREGNANCY.

In this he showed, by a *résumé* of the literature, how incomplete our knowledge of the subject still was. We knew that cases were most frequent in women, especially during pregnancy or at the climacteric. Its effect upon the reproductive organs was but little known, and barely mentioned in any work. The disease was apt to begin during the latter part of pregnancy, and indeed, in many of those who became sallow and anæmic during

pregnancy, though only temporarily so, the ratio of white to red blood-corpuscles was much increased.

The case which he reported was unique, in that pregnancy recurred successively during the progress of the disease, and was also interesting in showing a marked hereditary tendency—the parents of the patient and her six children being all leukæmic. The splenic tumor was first noticed during a pregnancy, and increased markedly in size during each successive gestation, the disease running a remarkably chronic course. A fact worthy of note was, that the red blood-corpuscles of a child born when the disease was well marked were in the normal proportion in the vessels of the child, even above the normal in the placental artery, but much diminished in the placental vein, showing that the blood actually lost red corpuscles while passing through the placenta. In the placental sinuses the red globules were fewer than in the general circulation of the mother.

Dr. Charles Warrington Earle, of Chicago, Ill., recalled two cases of extreme anæmia, together with great emaciation, occurring during pregnancy, and which at the autopsies were found to be caused by chronic inflammation of the pancreas, all other organs being normal. The pancreas was white and hard, the microscope showing a great increase in the connective tissue. He thought that this condition might explain some cases of pernicious anæmia, and proposed for it the name of pancreatic anæmia.

Professor A. Charpentier, of Paris, France, read a paper entitled

L'URÉMIE EXPÉRIMENTALE.

In this he detailed the results of certain experiments made by him on the artificial production of uræmia in gravid animals, by the injecting into the blood, at intervals, of urea until it was present in excess. In these cases the death of the fœtus preceded that of the mother, and the quantity of urea in its veins was in excess of that in the mother's. The death of the fœtus was caused by this excess of urea in its circulation.

Dr. William T. Lusk, of New York, thought the paper illustrated a most important point. The explanation of the manner of death of the fœtus was certainly ingenious. He had supposed that its death was due to the presence of carbonic dioxide in the blood of the mother.

Dr. Duncan C. MacCallum, of Montreal, Canada, said that in marked albuminuria, with severe symptoms, we were justified in inducing premature labor, and if the death of the child was apt to occur, as had been shown, it was another strong reason why we should not delay too long.

Dr. Alexander R. Simpson, of Edinburgh, Scotland, read a paper giving the results of his efforts to secure

UNIFORMITY IN OBSTETRICAL NOMENCLATURE,

presenting a schedule showing the proposed changes, and detailing some of the opinions he had received from eminent obstetricians. The subject had been opened at the Eighth International Congress, and he hoped this one would take some definite action in the matter.

After animated discussion a committee, consisting of Drs. Miller, Simpson, Lusk, and King, was appointed to consider the matter, and report on Friday, the 9th inst.

Dr. William T. Lusk, of New York, presented a most scholarly paper on

THE PROGNOSIS OF THE CÆSAREAN SECTION.

If it were proposed to beat out the brains of a living child, the suggestion would be received with horror, no matter how great the surgical emergency might be, and yet, with the child unborn, craniotomy was often done for insignificant reasons. A careful *résumé* of the statistics showed very favorable results, even with the old method, when the surroundings were favorable and the operation was performed with proper surgical skill and accessories. Death was most often the result of an avoidable cause. The reader compared the brilliant results obtained abroad with the mortality attending recent American operations, and thought that a more favorable prognosis could not be expected until we had learned to recognize the conditions requiring the operation before the time when it should be done.

Defective diagnosis was the great bar to progress in this country, and all practitioners should qualify themselves to recognize the various degrees of pelvic deformity. An operator should possess at least a theoretical knowledge of the technique of the procedure, and while it was not desirable that anyone should attempt to perform the section, men capable of doing the operation could usually be found, even out of the larger cities.

The paper closed with a plea for Cæsarean section as opposed to craniotomy, even in pelves with a conjugate of three inches.

Dr. M. Sänger, of Leipsic, Germany, presented a paper on

THE CÆSAREAN OPERATION,

which was read in abstract.

Sänger's operation was to be preferred to the Porro when the child was living and could not be delivered by any other operation, or when the child was dead and could not be delivered by craniotomy or embryotomy, or could be so delivered only with the greatest danger to the mother. Good results could be obtained by the Cæsarean section only under certain conditions and when the operation was performed according to certain approved technical principles. These conditions are: 1. The maintenance of an aseptic condition in the uterine cavity, and, 2, early performance of the operation.

Sänger thinks that the cause of the greater American mortality is delay, and only trying the section when other operations have been unsuccessful. He lays stress on the following:

1. Antiseptic precautions as in other laparotomies.

2. The abdominal incision should be made through the linea alba over the middle of the fundus, about sixteen centimetres long.

3. It is not advisable to evert the unopened uterus, as it requires a large incision, except where the fœtus is dead or there are not sufficient assistants.

4. The elastic ligature is not to be used before the uterus is opened, as it endangers the life of the child, or may incarcerate parts of the child, so that it may have to be loosened at a time when the operator requires his hands for more important matters.

5. Open the uterus in situ, by a frontal median incision; cut through placenta, or push it to one side; extract child by the legs; if head is caught, extend incision upward, to prevent any downward laceration of the uterus. At same time, assistant is to press abdominal walls toward uterus to prevent prolapse of intestines or flow of fluid into the the abdominal cavity.

6. The danger from hemorrhage is not so great as is commonly supposed. By pressure on the inferior segment, and by slight torsion or flexion of the uterus and broad ligaments, the bleeding can be much lessened. Do without elastic ligature if possible.

7. Care must be taken in regard to three points in suturing: 1. Accurate union of the incised surface of the uterus by numerous sutures, whereby a broad and close union is obtained. 2. Avoidance of suture-canals in the uterine cavity. 3. Especially careful union of the serous surfaces. Silk is preferred to silver-wire, because silk can be absorbed. Excellent results can be obtained with catgut prepared in oil of juniper, chromic acid, or mercuric bichloride.

Sänger's indications for the Porro operation are: When the flow of secretion from the uterus is impeded by stenosis of the cervix or vagina, or, in some cases, of tumors of the corpus uteri, myomata, etc. He prefers Cæsarean section where the myomata are retro-cervical

or retro-vaginal, because the removal of the whole mass is then impossible or dangerous and the removal of the uterus does no good. In osteomalacia he prefers the Cæsarean section with removal of the ovaries to the Porro operation. He takes exception to Martin's recommendation to do the Porro operation in cases in which the puerperium becomes dangerous to the patient, as in far-advanced affections of the heart or lungs. He thinks such a case has as good a chance of recovery after Cæsarean section as after Porro's operation.

Dr. W. H. Wathen, of Louisville, Ky., read a paper on

ABDOMINAL SECTION FOR REMOVAL OF THE FŒTUS.

He urged that abdominal section should be done in all cases, instead of craniotomy, where the child was living. Craniotomy was often unnecessarily done. The maternal mortality was not greater in selected cases of Cæsarean section than after craniotomy. In moderate degrees of pelvic contraction we should induce premature labor, if the condition was discovered early. Abdominal section should become an operation of election and not a last resort. The uterine sero-serous suture and careful toilet of the peritoneum were indispensable.

SECTION IN OTOLOGY.

Tuesday, September 6th—Second Day—Afternoon Session.

Dr. T. E. Murrell, of Little Rock, Ark., read a paper on the

PECULIARITIES IN STRUCTURE AND DISEASES OF THE EAR OF THE NEGRO.

By negro was meant the typical African, and not the mixed races. The negro has fewer aural affections than the white man, and for this reason deafness is much less common in this race. His immunity from aural diseases is due to other than accidental causes alone. Peculiarities in anatomy are met with sufficiently striking to explain some of his exemptions. The following peculiarities in the anatomy of the ear and adnexa are more or less conspicuous: The pinna is small, with lack of development above the concha, and is set closely to the side of the head. The external auditory canal is large, quite straight, and of less average depth than the standard. The membrana tympani is large in its diameters, and forms a less oblique angle with the axis of the canal than that usually given. The mastoid process is very slightly developed, and inconspicuous. The pharynx is large and capacious, with great breadth between the fauces. The nares are broad and flared, giving immense breadth to the choanæ. Deflection of the septum is seldom an obstruction to nasal respiration. Diseases of the external auditory canal are mostly accidental and traumatic. Impacted cerumen is less common than in the white races. Otitis parasitica is rare. Otitis media suppurativa acuta is rather frequent in children, but less so than in whites. Rhinitis purulenta is common in strumous children, and in these the suppuration in the middle ear mostly occurs. Recovery generally takes place with little loss to hearing. Otitis media suppurativa chronica is still less common. Mastoiditis is extremely rare. Otitis media catarrhalis chronica is very infrequent.

Deaf-mutism is of much smaller percentage than in the white races. Among the accidental causes of aural affections may be mentioned: The Southern negro lives in open houses, and is therefore less liable to head-colds than otherwise. His colds are mostly pectoral.

The paper gave rise to discussion, and, as the subject was a new one, to diversity of opinions, expressed by Drs. C. M. Hobby, of Iowa City; Robert Tilley, of Chicago; L. Turnbull, of Philadelphia; S. O. Richey, of Washington, D. C.; and George E. Frothingham, of Ann Arbor, Mich.

Dr. John F. Fulton, of St. Paul, Minn., followed with a paper on

PRIMARY INFLAMMATORY DISEASE OF THE MASTOID ANTRUM.

Primary disease of the mastoid cells and antrum is sufficiently common to merit much careful study and classification. Although much of the disease that attacks this region is secondary to inflammation extending from the tympanic cavity or external canal, there can be no doubt that the reverse of this is also true. Acute primary inflammation, either suppurative or non-suppurative, of the pneumatic spaces is extremely difficult to diagnose. The symptoms are obscure and are often referred to parts remote from the seat of disease; therefore a careful clinical history is most important.

The author has known this trouble to be diagnosed as neuralgia, and the patients allowed to suffer for weeks and months, until the trouble has been developed and relieved by spontaneous opening of the cavity's wall. Some of the suppurative cases result in a sub-periosteal abscess behind the auricle. In the present state of our knowledge a positive diagnosis of primary disease of the mastoid cells cannot always be made, as neither the symptoms nor etiology have been sufficiently studied. Pain is the symptom most relied on, but this is sometimes very deceptive, as it frequently is referred to regions of the skull quite distant from the seat of the trouble; it is, however, apt to be constant, "stinging," throbbing, and tearing. The patient gets no rest, the discomfort being much increased at night. A diagnosis is best arrived at by a process of exclusion.

There is no trouble with any other portion of the ear; no dulness of hearing, no tinnitus. The diagnosis is rendered almost certain if a swelling develops itself behind the ear *late* in the attack. Disease of the mastoid cells runs rather a slow course. Those of strumous or syphilitic origin are very slow. As soon as the diagnosis is made the mastoid should be opened, when relief will be almost instantaneous.

Dr. George E. Frothingham, of Ann Arbor, Mich., then read an elaborate paper entitled

INDICATIONS FOR ARTIFICIAL OPENING OF THE MASTOID PROCESS, AND BEST METHODS FOR CLOSING THE SAME.

The two papers were extensively discussed.

Dr. Robert Tilley, of Chicago, Ill., read a paper entitled

INHERITED SYPHILIS AS A FACTOR IN SUPPURATIVE INFLAMMATION OF THE MIDDLE EAR.

He first reviewed the literature of the subject, and then spoke of the acknowledged influence of inherited syphilis in its relation to the middle ear and the membrana tympani. He then spoke of the similarities in development and differentiation between the cornea and the membrana tympani, and asked the question, Why should one be frequently the victim of inherited syphilis and the other exempt from its influence?

Dr. C. M. Hobby, of Iowa City, read a paper on

CEREBRO-SPINAL FEVER AS A CAUSE OF DEAFNESS.

Cerebro-spinal fever occurs very early in life, fourteen per centum of the cases of deaf-mutism thus caused having originated under one year of age among those personally examined, fifty-seven per centum originating under two years of age, one case noted at two months, and five at three months. What would be the percentage if the proper value were given to the record "born deaf?"

Investigation has heretofore been mainly directed to consanguinity and prenatal influences as causes for deaf-mutism, and based upon the startlingly apparent proportion of congenital cases. Reports of from thirty to sixty per centum of cases "born deaf" are acknowledged by many superintendents to be valueless; probably ten per centum will more than cover the congenital cases.

The nasal diseases of infancy are not so operative as has been supposed, a large proportion of so-called congenital cases being due to early intercranial disease.

Diagnosis of cerebro-spinal fever in infancy presents many difficulties. Cases of deafness attributed to scarlet fever have been found without tympanic lesions and without ability to perceive sound either aërially or by bone-conduction.

In eighty-four deaf-mutes, where the deafness was caused by cerebro-spinal fever, sixty-three per centum had absolute loss of hearing in both ears; in about the same percentage no lesion was found in the tympanum by inspection of the membrane.

Blindness after cerebro-spinal fever is usually caused by suppurative choroiditis, but atrophy of the optic nerve, without ocular lesion, occurs (two cases reported). Deafness is probably due in the vast majority of cases to disease of the labyrinth, but occasional lesion of the auditory nerve is probable; coincident paralysis of the facial is at least very rare; sense of taste is sometimes lost or affected. Blindness resulting at the same time with deafness is not very uncommon.

SECTION IN PATHOLOGY.

TUESDAY, SEPTEMBER 6TH—SECOND DAY—MORNING SESSION.

THE PRESIDENT read a paper on

THE PATHOLOGY OF REYNAUD'S DISEASE,

and reported an unusual case.

DR. E. O. SHAKESPEARE, of Philadelphia, Pa., followed with a paper entitled

EXPERIMENTAL RESEARCHES CONCERNING THE INFECTIOUS NATURE OF TRAUMATIC TETANUS.

PROFESSOR HENRY SEWELL presented a paper on

EXPERIMENTS ON THE PREVENTIVE INOCULATION OF RATTLESNAKE VENOM,

which was read by Professor Vaughn, of Ann Arbor, Mich.

DR. DE SOLOMON, of Michigan, read a paper on

THE PRODUCTION OF IMMUNITY BY THE HYPODERMIC INJECTION OF STERILIZED CULTURES.

SECTION IN PHYSIOLOGY.

TUESDAY, SEPTEMBER 6TH—SECOND DAY—MORNING SESSION.

DR. W. D. HALLIBURTON, B.Sc., of London, England, read a paper entitled,

COMPARISON OF THE COAGULATION OF THE BLOOD WITH RIGOR MORTIS.

The coagulation of the blood can be prevented either by cold or by the admixture of certain neutral salts. Kühne was the first to show that cold prevents the coagulation of the muscle plasma of frogs. By means of methods very similar to those employed by that observer, the muscle plasma of warm-blooded animals can also be prevented from coagulating by the same agency. Mixture of the muscle plasma with solutions of certain neutral salts will also prevent its coagulation; and, as in the case of salted blood plasma, dilution of such salted muscle plasma brings about the formation of a clot of myosin; this occurs most readily at the temperature of the body, and is entirely prevented by a temperature of 0° C. It is hastened by the addition of a ferment prepared from muscle in the same way as Schmidt's fibrin ferment is prepared from blood. Rigor mortis is thus the result of a ferment action similar to that which converts fibrinogen into fibrin; but the myosin ferment is not identical with fibrin ferment, as it does not hasten the coagulation of salted blood plasma, nor does the fibrin ferment hasten the coagulation of muscle plasma.

The myosin ferment is either identical with, or closely allied to, one of the proteids of the muscle plasma, which has the properties of an albuminose.

Though it is thus seen there are very striking resemblances between the formation of fibrin and that of myosin, there are also certain differences, of which the most important are the three following:

1. Myosin can be easily redissolved by solutions of neutral salts, and this solution can be made to undergo recoagulation by dilution and addition of myosin ferment. The passing off of rigor mortis seems to be due to a similar reconversion of myosin into myosinogen. Fibrin, on the other hand, cannot be made to undergo such a recoagulation.

2. The formation of myosin is accompanied by the formation of lactic acid. The same acid is formed when the recoagulation of pure myosin occurs, and its source is thus shown to be a proteid one, not a carbohydrate, as some have supposed. Fibrin formation is not accompanied by the development of any acid, so far as we are aware.

3. The conversion of myosinogen into myosin is not accompanied by the formation of another globulin, as is the case in the conversion of fibrinogen into fibrin.

DR. THOMAS W. POOLE, of Lindsay, Ontario, read a paper entitled

THE NECESSITY FOR A MODIFICATION OF CERTAIN PHYSIOLOGICAL DOCTRINES REGARDING THE INTER-RELATIONS OF NERVE AND MUSCLE.

1. He hoped to show, on the highest physiological authority, that muscles of the involuntary class pass into a state of spasm or contraction, not when their motor nerves are stimulated, but when these nerves are cut, or are paralyzed, or dead.

2. That the same is true of the muscular bands of the arterial coats.

3. That the statements given in our physiological works as to the excited condition of the nervous centres in such states as asphyxia, and the theories of Traube and others in explanation of the Cheyne-Stokes' respiration, in which impure, venous blood, loaded with carbonic acid and deficient in oxygen, is assumed to stimulate and excite the nervous centres, are absurd, and have been put forward solely to meet the exigency of an erroneous theory.

4. His thesis entered into what he deemed conclusive evidence that electricity, as employed for physiological and therapeutical purposes, is not a stimulant but a paralyzing agent to nerve-activity, and that the undoubted beneficial effects of this agent may all be satisfactorily accounted for in strict accord with its rôle as a paralyzer.

5. The same applies also to strychnia.

6. The action of the vascular sedatives, aconite, ergot, etc., and the rigidity and subsequent relaxation of the muscles during anæsthesia are amply accounted for on the view presented in this paper.

7. This theory is not an extension of the inhibitory hypothesis of recent physiology.

8. Ample proof is produced that "irritation" and "inflammation" are not attended by excitation of nervous activity, but the reverse; also, that what is called "morbid" nerve-force, as something different from proper nerve-function, does not exist.

9. Even the voluntary muscles pass into a state of spasm or contraction under conditions which may properly be regarded as attended by a deprivation of nerve-force, oftener, perhaps, than is generally supposed, as in cases depending on "irritation," which is a paretic condition rather than one of exalted nervous activity.

10. It is not necessary to his thesis that he hold, or prove, rigor mortis to be a condition of muscular contraction. But this state has not yet been otherwise satisfactorily explained, the myosin hypothesis proving unsatisfactory in that respect.

SECTION IN OPHTHALMOLOGY.

TUESDAY, SEPTEMBER 6TH—SECOND DAY—AFTERNOON SESSION.

The first paper read was by DR. A. MOOREN, of Düsseldorf, Germany, on

THE SIMPLEST METHOD OF CATARACT-EXTRACTION.

He had had an experience of 5,019 extractions since the beginning of his ophthalmological practice in 1855. He had not invented any new instrument. With the progress of antisepsis and anæsthesia, there was less need than formerly of dexterity of manipulation. He regarded cleanliness and disinfection as clearly identical. He avoided the use of carbolic acid on account of its irritant effect. Preparatory to the operation, he washes the whole face of the patient, then instils a few drops of cocaine. Immediately before operating, he washes the everted eyelids with a three per cent. solution of boracic acid. The operation may be done without a speculum. The only instruments necessary are a Graefe knife, and simple forceps to fix the eyeball. The cut is made downward, and the same knife is used to lacerate the capsule through the intact pupil. Fixation should be abandoned when the patient is restless. Deliver the lens by gentle stroking, then remove the speculum, and rub the closed eyelids over the cornea, and wash again with the same solution of boracic acid. Then a light compress is put on, and retained by means of a strip of adhesive plaster, passing from temple to temple. The plaster should not be allowed to remain longer than four days, on account of its irritant effect upon the skin. In high degrees of atheroma it is better to do an iridectomy, as there may be a resulting leucoma. In such cases Dr. Mooren does the combined operation, making the iridectomy upward. In another form of corneal extraction he uses a lance-shaped knife to make the incision and open the capsule. Here he fixes the eye at the lower margin of the cornea. The iris seldom protrudes, and if it does, cut it off. In this form of extraction, if traumatic cases be eliminated, there is scarcely any bad result. He spoke of modifications in procedure, where the cataract has a hard, large nucleus, and of the necessity for an iridectomy where a foreign body was in the lens, to guard against its being brushed off by the iris during extraction and left in the eye.

Förster's method of ripening cataracts for a few years back has been practised by Dr. Mooren. It consists in puncture of the anterior chamber and sufficient rubbing of the cornea through the closed eyelid. The introduction of instruments into the eye is not necessary. These cases, when complicated with choroiditis, require to be treated with great caution. One case required a year to mature, and a second had an extraction of a half clear lens fifteen months after the puncture, while a third failed entirely to ripen. The after-treatment is complete physical and intellectual rest.

In cases complicated with constitutional diseases, of course, general appropriate treatment is necessary.

DR. GALEZOWSKI, of Paris, prefers extraction through a dilated pupil without iridectomy by corneal section. He makes a sclero-corneal puncture and counter-puncture, bringing out the knife so as to form an ellipsoid incision. With the same knife he makes a vertical incision in the capsule from top to bottom. Pressure below without the blepharostat extrudes the lens. The incision is made in the upper half of the cornea. The accidents are (1) hernia of iris after operation; (2) suppuration of the cornea; (3) iritis; (4) secondary cataract. To prevent hernia iridis do not bring the incision too far out toward the sclero-corneal margin. Then do not open the eye too frequently. If opened every day after operation it makes the patient contract the lids and press out the iris. Do not open the eye for perhaps five or six days; only remove dressing to note swelling and condition. To meet the second indication a disk of antiseptic gelatine is introduced into the eye under the eyelids, the lids closed over it, and left so. These disks are permeated with sublimate and cocaine. In three hundred cases only two have had suppuration.

The astigmatism existing after cataract-extraction he accounts for in this way: In almost all eyes astigmatism exists both in cornea and lens, that of the lens correcting or neutralizing the corneal aberration. When the lens is removed this correcting element is lost, so that astigmatism is found where it did not appear before operation. If the capsule is hard or tough it is seized with a pair of forceps, drawn within reach, and cut off with scissors.

DR. N. MANOLESCU, of Bucharest, read a paper on

CATARACT-EXTRACTION WITHOUT, AS COMPARED WITH EXTRACTION WITH, IRIDECTOMY.

In his simple operations he had trouble from prolapse of iris and other complications due to the difficulty of cleaning out the chamber, and he believes the combined operation to be the more reliable, as it lowers the danger from retained matters and iritic complications. He uses corrosive sublimate as a wash, the toothed forceps for removing the anterior capsule, and closes the wound with a rubber spatula. The eye is dressed with a firm close bandage, and he changes it early.

DR. LANDOLT, of Paris, France, remarked that there never will come a time when only one operation will be the best for all cases of cataract. He himself was greatly in favor of the combined operation, and thought it was better rather to seek a fair degree of useful vision than a symmetrical pupil.

DR. ABADIE, of Paris, finds that extraction without iridectomy may sometimes complicate the reparative process, and it may be difficult to remove cortical substance. He reserves the operation for cases that are healthy, fully ripe, and which promise ease of extraction and good recovery.

DR. MARMION, of Washington, said that his faith in iridectomy in cataract-extraction had not been shaken by the arguments that had been advanced.

MR. POWER, of London, acknowledged himself a convert to the operation without iridectomy. Three years ago he had thought he should never change his opinion or method. But cocaine had rendered accidents less likely and given the patient more confidence. He made his incision nearer the sclero-corneal junction than Dr. Galezowski, but agreed with him that the less the eye is looked at the better. A very light compress is to be applied over the eye after operation. If suppuration occur, attend to the general health. In regard to iritis, he did not think that iridectomy was any protection against it. In regard to secondary cataract, he had it occur just as many times without as with iridectomy. If prolapse of iris occurs during the operation, cut it off.

DR. REYNOLDS, of Louisville, Ky., thought that in cocaine and without general anæsthesia we had eliminated the chief sources of failure in cataract-extractions. In carefully selected cases simple extraction might be preferable. In such cases he uses Graefe's knife, and allows the aqueous humor to escape before completing the section, which he makes as nearly as possible in the plane of the anterior face of the iris. In the combined operation he uses Beer's knife. He attaches importance to the way in which the capsule is divided. He makes a flap opening upward, and it frequently tears in other directions. As to eserine after extractions, if the pupil remains large, use it; if small, do not. He never uses fixation-forceps, but steadies the eye with his fingers. He has no use for an assistant in a cataract-extraction. The dressing is a minute film of absorbent cotton, held in place by a strip of adhesive plaster from lower lid to brow, about an inch wide and one inch and a half long, and renewed daily.

DR. KEYSER, of Philadelphia, objected to one operation for all classes of cases. Before the introduction of

cocaine he made the downward section; now he makes the cut upward. He tries to remove a piece of the capsule. He never operates without examining the urine for albumen. If there is albumen he looks out for iritis. He uses a solution of boracic acid, as sublimate seems to irritate the eye.

Dr. J. L. Thompson, of Indianapolis, found that malaria might cause iritis after extractions.

Dr. Baker, of Cleveland, O., concluded that he could not do without an iridectomy. He follows Mr. Wolf's (of Scotland) suggestion, and makes a small iridectomy, leaving a small pupil, delivers the lens slowly and avoids touching the cornea, saving the patient pain after the operation.

Dr. Landolt prefers to make a large iridectomy if he has a large corneal section, and excise as much iris as he can. A small iridectomy is more dangerous than a large one. It allows one to control the field of operation better. He had not had any irritating effect from sublimate solutions in his cases.

Dr. S. M. Burnett, of Washington, has extracted twenty to twenty-five cases without iridectomy, one of black cataract. He thinks there is no form of cataract that cannot be operated on by this method, and there are no more complications than where iridectomy is made. The removal of cortical substance is more difficult without than with iridectomy. He washes out the cortex.

Dr. E. Smith, of Detroit, thought there was no certain operation that could be laid down for all cases. He found that it was not always convenient to do a preliminary iridectomy some weeks ahead, as the patients objected to more than one operation.

Dr. Beaver, of Reading, Pa., asked whether the simple extraction was applicable in weak and flabby corneæ that fell down in wrinkles when the section was made.

Dr. Valk, of New York, has had made an instrument which combines both methods to some extent. He makes a section, then introduces his retracting forceps, which he exhibited, and tucks the iris back out of the way, delivering the lens over the arms of the forceps. The iris is then allowed to fall back to its place, no violence being done it, and giving a perfectly round pupil with no iritis.

The President, Dr. Chisholm, wished that more had been said on the subject of the introduction of antiseptic fluids and eserine into the eye. He submerges the eye in sublimate solution, or one of biniodide of mercury, makes an iridectomy not as large as the corneal section, and simply closes the eyelids and fastens them together with a strip of diaphanous adhesive plaster clear enough to count the eyelashes through, and if no discharge appears leaves it undisturbed.

Dr. Galezowski, in closing, said that he recognized the two classes of cases, in one of which the simple operation was all that was necessary, while in the other the combined operation was the better adapted.

Mr. Power said in regard to antisepsis that he always uses a new knife, and a sharp one, rarely using the same knife for an extraction more than once. He believes the introduction of fluids into the anterior chamber might be dangerous, and he has not seen benefit from the instillation of eserine.

SECTION IN SURGERY.

Tuesday, September 6th—Second Day—Afternoon Session.

The discussion of abdominal surgery was first taken up.

Dr. W. N. Hingston, of Montreal, thought that when any doubt existed as to the course of the bullet, operative procedures were necessary. The speaker considered the paper by Dr. Senn the most able he had ever heard.

Regarding Dr. Homan's paper, he had mentioned that ventral hernia occurred in ten per cent. of his cases; this the speaker considered rather large. Dr. Homan had stated that he had operated for nervous affections in five cases; one was relieved, the other four were not; other professional men had given the opposite result. The speaker remarked that he believed Dr. Homan, but did not believe the others.

Dr. J. B. Murphy, of Chicago, remarked that in regard to the incision being made in the median line, he was in one case compelled to deviate from this rule in order to reach the gut. If the operation is not dangerous to life, he considered it compulsory, and if the bowel is not injured it does no harm.

Dr. W. T. Peck, of Davenport, Ia., remarked that as regards foreign substances in the peritoneal cavity, he had put forty-seven sutures in an ovarian cyst.

Dr. S. C. Gordon, of Portland, Me., stated that out of 80 cases he had seen 3 of ventral hernia; he had operated in 33 hysterical cases, and 25 would say to-day they were cured, which differed from other statements made.

Dr. Cowden stated that he himself suffered from invagination of the gut (referring to Dr. Senn's paper), but the finger inserted into the bowels could just reach it; after days of suffering a long rubber tube was inserted into the rectum, and a large bottle of water secured at the other end and gradually raised; suddenly there was a sharp report and the abdomen was distended. The speaker thought the gut had been ruptured, but the invagination had been reduced, Dr. Senn's proofs upon dogs notwithstanding.

Dr. T. G. Richardson, of New Orleans, remarked that his experience in these cases was that the percentage in the negro was in excess of that in the white man.

Dr. Donald Maclean, of Detroit, Mich., read a paper on

three cases of surgical disease of the kidney, with an account of operations performed for their relief, the complications which arose, and the results.

The first case mentioned was that of a woman, twenty-one years of age, who was supposed to be suffering from an ovarian tumor. Laparotomy was performed. The patient entered the hospital in October, 1884, and in January, 1885, was perfectly well.

The second case was a woman, forty years of age, the same result being secured; all trace of kidney-tissue had disappeared in the immense cyst.

The third case was a child, twenty-two months old; this case resulted fatally.

The next paper, by Dr. Neudörfer, of the Austrian Army, entitled, "On the Present Stand-point of Antisepsis and the Best Mode of its Application in War," was read by title, after which an instructive paper, by Dr. B. A. Watson, of Jersey City, on

the primary treatment of gunshot wounds,

was read. The author first adverted to the requisite qualifications of a military surgeon, and the duties required of him; discussed the selection of a proper site for a field station, and the means which should be adopted primarily for the arrest of hemorrhage. As the ligation of arteries is only, under the circumstances, exceptionally required, compression should be relied on to control hemorrhage. The author urged the importance of removing all foreign bodies from the wounds, and advocated the occlusion of the wounds of entrance and exit with aseptic bandages and compresses. Thoracic and abdominal wounds cannot be treated at the field station, and should be removed from the scene of action as rapidly as possible. Bayonet wounds should be treated in the manner suggested for gunshot injuries, while wounds produced by large projectile fragments of shells, and the like, should receive the treatment usually rec-

ommended for injuries caused by machinery and railroad accidents. The author closed with a few directions for retaining fractured bones in apposition, and the means employed therefor.

The discussion of the paper was opened by an ex-Confederate surgeon, Dr. Cullen, who averred that it was impossible to comply, upon the battle-field, with all the conditions imposed by a strict antisepsis; the speaker spoke of his large experience during the late war, and characterized all attempts of this nature as utterly futile. Rest, he said, was the best primary treatment, and the blood poured out upon the wound was the best antiseptic. Movement was fatal to many cases; the wounded should therefore be as gently handled as possible under the circumstances, sheltered under trees, and kept in a state of immobility.

Dr. William Varian, of Titusville, Pa., spoke of the dressing of a wound in its own blood as a procedure taught to the profession many years ago, and while he recognized the fact that many cases did well when treated in this way, he thought it the duty of the surgeon to treat the wound aseptically, in accordance with modern ideas, as it has been proved beyond a a doubt that such treatment insures a larger percentage of successes than by the time-honored procedure lauded by the former speaker.

Dr. G. T. Langridge, of England, agreed with Dr. Cullen so far as the importance of immobility is concerned. The less a wound is interfered with the better the chance of recovery, but a strict antisepsis is a necessity; the speaker had found that antiseptic wool was a better material for occluding the wound in primary dressing than any other, and is extensively used in the British Army.

Dr. Carnochan, of New York, shared the opinion of Dr. Cullen regarding the primary treatment of wounds in the field, and with him recognized the impracticability of using the antiseptic dressing on the field of battle, although in favor of it in private and hospital practice, where there can be no doubt of its great utility. The soldier himself becomes too indifferent, by reason of constant exposure to danger, to give heed to such details and appliances as the antiseptic treatment demands, so that any dressing designed to be applied by the soldier himself is without practical value.

Dr. L. von Farkas, of Budapesth, then read, in German, a short paper, giving statistics of the results of antiseptic treatment of wounds which were very favorable to the method, and exhibited a form of a drainage-tube and a speculum designed by himself for the exploration of gunshot wounds.

The next paper, by Dr. Eli A. Wood, of Pittsburg, Pa., entitled

THE IMPORTANCE OF THE GOVERNMENT SECURING AND PRESERVING VITAL STATISTICS IN THE ARMY AND NAVY FOR THE BENEFIT OF SUBSEQUENT APPLICANTS FOR PENSIONS,

was read by the author, who emphasized the duty of the Government toward its soldiers and seamen, and alluded to the cost, trouble, and injustice toward applicants for pensions where no complete and authentic records are preserved. He urged that the Pension Office should be so administered that not only individual interests should not suffer, but also to protect the Government against impostors. He enjoined military and naval surgeons to keep a full record of facts pertaining to the clinical history of all diseases and injuries incident to soldiers and seamen.

The last paper of the day, by Dr. Daniel Smith Lamb, of Washington, D. C., on

THE IMPORTANCE OF INTERNATIONAL REGULATIONS FOR THE MEDICAL TREATMENT OF PRISONERS OF WAR,

treated this subject in an able manner. The ancient custom of putting prisoners to death or keeping them in bondage was no longer in vogue. They should be treated, not as criminals—harshly handled or robbed of their personal effects—but as human beings worthy of proper consideration. They should be provided with such food, clothing, shelter, and occupation as will preserve health. If captured while sick or disabled by wounds, or if they become the prey of disease after being captured, they should receive such treatment as will tend to promote recovery. If the captors are unable to afford the proper care or treatment, they should be parolled and returned to their own side, which also should be bound to receive them. It is recommended that this Section of the present Congress give expression to its views and direct its Secretary to notify foreign governments of the same through the legations at Washington.

SECTION IN LARYNGOLOGY.

TUESDAY, SEPTEMBER 6TH—SECOND DAY—MORNING SESSION—CONTINUED.

Mr. Lennox Browne, of London, read a paper entitled,

RECENT VIEWS AS TO THE PATHOLOGY AND TREATMENT OF TUBERCULOSIS OF THE LARYNX.

The tubercular bacilli are generally admitted as a cause of specific laryngitis. Entrance is effected through the air-passages, and they are especially liable to accumulate in the upper parts of the lungs, where there is less respiratory action. The disease is usually secondary to pulmonary tuberculosis, and may be due to infection from the bacilli in the sputa coughed up and inoculating some abraded or unhealthy and irritated portion of the larynx, or the germs may find their way thither through the lymphatic system. The bacilli, like all parasites, act as an irritant, and eventually cause breaking down of the tubercular deposits.

They must have an unhealthy or abraded surface on which to locate and thrive, and are prone to choose some weak point. Whether carried by the air, sputa, lymphatics, or general circulation, cases are recorded of infection through wounds and teeth that have been extracted. The author of the paper quoted cases confirming the same.

The state of the health and the assimilation of food, together with tissue nutrition, have more to do with the development of tuberculosis than have locality or climatic conditions. Not only may we have laryngeal tuberculosis as a secondary infection, but we find cases where it is primary. The laryngeal symptoms may be the first to attract attention, and even become far advanced before pulmonary lesions can be detected. This is confirmed by many observers. The bacilli are recognized in the sputa, there is pain in the larynx, and difficult deglutition.

The larynx presents the specific appearance. We find the infiltration, swelling, and ulcers, but still can detect no pulmonary lesion. There must have been some neglected chronic laryngitis, or some solution of continuity when exposed to the presence of these germs. Cases are reported where these local symptoms have yielded to treatment before pulmonary complications were added, and the patients were discharged apparently cured.

Treatment.—Where the general system is not broken down, or the disease advanced to the lungs, sea- or mountain-air and high altitudes, especially in pine regions, are of vital importance. Oxygen, pure air, and the absence of germs are here more to be relied on than the thermal or climatic agents. Dr. Moore has ceased to advise the inhalation of medicated steam; but prefers oxidizing agents. Inhalations of vapor from turpentine, oil of eucalyptus, and menthol he has used with success.

It is well established that tuberculosis is a blood-poison, as is pyæmia, septicæmia, and the like. Germicides should be used, and benefit will result. He places great confidence in atropine, not only as a sedative, but as

a germicide as well. Arsenic often works in the same manner as does mercury in syphilis. So, also, do the salts of calcium, where there are tubercular deposits. The aniline treatment has not been a success, and the gaseous injections are still on trial. Experiments with sulphuretted hydrogen show temporary improvement, with diminution of the amount of sputa expectorated, less pain, and less distress from persistent cough. Still the permanent benefit is doubtful. This treatment needs careful supervision, and should not be trusted to the patients or their friends. The local treatment of tubercular laryngitis gives the best results, especially where systemic treatment is also employed to maintain health and nutrition. Use cocaine, and employ the galvano-cautery or lactic acid to destroy the deposits and induce healthy healing of the parts.

Where the infections are local, our success is in proportion to their accessibility.

He does not like iodoform or iodol dissolved in ether, as the ether is too much of an irritant, and prefers a brush made with cotton to the spray, in that it coats the surface better and is pressed into folds which are protected from the spray by the spasm of the larynx. The continued use of the spray he considers dangerous to the ciliæ of the epithelial cells. Local and systemic sedatives are emphatically called for. Insufflation is not as good as where emulsions are made with acacia, as it is apt to form cakes. Cocaine gives temporary relief, but morphia, belladonna, and balsam are more permanent in their relief of both pain and cough.

The surgical measures are to scrape away the deposits with curette or forceps, under cocaine, and apply lactic acid. Do not stab or incise; it may relieve tension and congestion, but is bad in that it gives new foci for infection. For the same reason it is better not to remove glomerulata unless respiration is seriously interfered with. Tracheotomy, for the purpose of giving rest to the larynx, is useless, and worse. The larynx does not then receive the necessary air and oxygen, and bacilli-infected mucus accumulates. The cold and dry air irritates the lungs and may induce pulmonary complications. Besides, the wound may become infected. Intubation of the larynx likewise causes too much irritation and aggravates the trouble, independent of the risk of blocking up the tube. Even refrain from removing elongated uvula. He does not approve of the recent suggestion of extirpating diseased portions.

Many apparent cures are reported, and he has had such cases himself, but is inclined to doubt their permanence. We can improve the condition of the larynx, stop pain and cough, cause better assimilation of food, and improve nutrition. There result local relief and apparently satisfactory results, but scarcely a cure, as claimed by Schmidt, Bosworth, and others.

Important suggestions.—(1) Early diagnosis and treatment. (2) Do not be carried away with new remedies. (3) Never be too active in destroying tissue; heal instead. (4) It is better to observe facts and be influenced by the experience of many, than by the new ideas of the few.

Dr. Sinclair Coghill, Ventnor, England, advised to treat more to alleviate pain and distress, which tend to shorten life, and obtain as much rest for the parts as possible. Look to body-nutrition. He also quoted cases of primary tubercular laryngitis from infection. The greatest benefit was from iodoform and morphia by careful insufflation. He had seen cases apparently cured. The medium or tissue in which the bacilli thrive was to him more important than the bacilli themselves. We do not see parasites in vigorous tissues; those well nourished are not liable to infection. Do not trust to local treatment alone, but improve digestion and assimilation.

Dr. J. Solis-Cohen, of Philadelphia said sulphurous treatment improves tissues or soil so that germs cannot flourish as well. He only recalled two cases of recovery from supposed tubercular laryngitis. He scraped andapplied lactic acid, also used morphia, iodoform, and atropia, and believed in them. He condemned tracheotomy to obtain rest.

Dr. E. Fletcher Ingals, of Chicago, finds it difficult to choose between high and low altitudes. High altitudes are injurious where the disease is advanced. Calcium salts are beneficial; so, also, are the chlorides. The use of sulphuretted hydrogen, in his experience, increased pain and other unpleasant symptoms, so he abandoned it. He also had poor results from lactic acid. Morphia, carbolic acid, and glycerole of tannin with water forms an excellent wash or spray. Tannin aids in alleviating pain by hardening the tissues. Glycerole of tannin without water is too irritating.

Dr. Coomes, of Louisville, Ky., finds that iodoform works best, and he uses it extensively for the pain by insufflation after cleansing with Dobell's solution. Whiskey-and-water is excellent to cleanse away the mucus and ease pain so as to allow the patient to eat. He had a bad case where he cured the larynx completely, but the patient died later from pulmonary deposits. He had seen a case recover, even when the epiglottis had sloughed away.

Dr. Devilbiss, of Toledo, O., uses both morphia and iodoform, but with liquid vaseline and sprayed in. He considers the liquid forms of vaseline the very best medium. He uses it with iodine and iodide of potassium.

Dr. Casselberry, of Chicago, doubts the good effect of lactic acid as it causes too much irritation, increases the cough, and does harm. The main point is to cleanse thoroughly, and use morphia and iodoform, or, better yet, iodol, which is lighter and more easily diffused. The temporary effect of cocaine is excellent, but continued use is bad. It causes reaction with congestion, increased irritation and inflammation. Morphia is better, and with iodoform the effect is for a longer time.

Dr. F. O. Stockton, of Chicago, Ill., has not had any success from scraping ulcers, and uses lactic acid, from ten to ninety per cent. He saw a case in Vienna where there were both tubercular and syphilitic ulcerations of the larynx.

Dr. John Mackenzie, of Baltimore, is sceptical as to permanent cures, and thinks that they are more likely diphtheritic cases. He has also doubts as to bacilli, with reference to cause and effect. Why will not they be caught in the nose of the same individual when there is an abraded surface? He is in favor of constitutional treatment and local treatment of bichloride, 1 to 2,000.

Dr. Curtis, of Chicago, says that atropine is of no use. He sprays the larynx with nitrate of silver, with the result of healing the ulcers.

Dr. Browne closed the discussion. He believes in the bacillary origin of the disease, but treats both bacillus and tissue as well. Note the close relation of bacillus of tuberculosis to that of lupus. We must treat individual cases differently. He has had no good results from large doses of quinine, as it was not assimilated. Iodide of potash proved harmful, by causing weight and interferance with nutrition. It is of benefit only in syphilitic laryngitis, which can readily be mistaken for tubercular.

Afternoon Session—Continued.

For special discussion a paper was read, entitled

RECURRENT HEMORRHAGES OF THE UPPER AIR-PASSAGES, BY WILLIAM PORTER, M.D., ST. LOUIS, MO.

Laryngeal hemorrhages are immediately dangerous only when beneath the mucous membrane, when they produce a hemorrhagic œdema and impending asphyxia. Laryngeal hemorrhage is very easily mistaken for hæmoptysis, but on auscultation we can discover no pulmonary signs. A list of the causes of hemorrhage from different parts of the upper air-passages was given, with both medicinal and mechanical treatment of each.

Dr. Stockton, of Chicago, gave the history of an actress who consulted him with reference to coughing up

a considerable amount of bright, frothy blood, which apparently came from the lungs. Examination revealed a small pulsating vessel on the right ventricular band, from which there was a slight spurt of blood at each pulsation. After failing to control it with iron, tannin, etc., the vessel was destroyed with electro-cautery.

Dr. Lennox Browne said that it was usually found in connection with syphilitic or tubercular larynx, sometimes caused by intemperance, and may require general treatment as well; straining of the voice may cause a congestion and dilated vessels. In alcoholic cases we frequently find such patches at base of the tongue, and above epiglottis.

TREATMENT OF LARYNGEAL PAPILLOMATA.

Dr. W. E. Casselberry, of Chicago, read a paper with this title.

The treatment resolves itself into the best methods for removal. Forceps, cautery, curette, or a combination. For small tumors forceps are most commonly used, and are best in that they are simplest. For larger tumors they are bad, for the reason that only small portions can be removed at one sitting, and it will have regained its former size before the resulting inflammation will have been sufficiently reduced to admit of another operation. Case related to illustrate this, where the tumor was afterward extirpated by galvano-cautery. In another case there were a large number of small tumors returning as fast as removed. He had to resort to curette and follow up with cautery. *Sarjous'* electrode exhibited, also handle with light wires attached to the centre instead of the end. Has had excellent results with the cautery. Uses curette and cauterizes bases.

Dr. J. Solis-Cohen, of Philadelphia, uses sponge for small papillomata, especially when below or upon vocal cords. He operates through crico-thyroid membrane for larger ones. Has not found cautery so successful; only scorches mucous membrane, and there is danger of injury to other parts. Believes in crushing with forceps if he cannot remove.

Dr. Ingals advocates using chromic acid on probe and carefully destroying with that agent.

Dr. Lennox Browne for twenty years used sponge, but now prefers the snare. Gave up sponge because he once lost the end of the applicator in the windpipe and *legal complications* developed therefrom. Prefers safe cotton brush with solid and jointless whalebone applicator. For persistent hyperæmia enjoins continued silence and uses lead coil over the larynx. He kindly drew a diagram showing the situation and size of the papillomata in the throat of the Crown Prince of Germany.

It was nearly the size of a split-pea, and situated on the vocal cord, close to its junction with the arytenoid cartilage, apparently having its base partly in the ventricle. What now worries Dr. Mackenzie is not that it may be malignant, but the persistent laryngeal hyperæmia. His work in Berlin was accomplished with strange instruments, and not well suited for the purpose. He found that the surgeons there had decided upon removing one-half of the larynx.

Dr. C. Slover Allen, of New York, gave the history of a case operated on for large papilloma below vocal cords. It was so large as to almost completely close the trachea. There was great dyspnœa on slight exertion, frequent severe choking spells at night, and extensive loss of weight. As tumor could not have been forced through the larynx, even if severed, it was removed through free opening in crico-thyroid membrane. It was taken off by snare, then the base thoroughly extirpated by curette and cauterized. Attachment was just below anterior extremity of left vocal cord. There was no preliminary tracheotomy. Result was complete restoration of voice and health.

Dr. Casselberry, in closing discussion, said that he used twenty-five per cent. cocaine, and had no difficulty in controlling the amount of destruction by cautery. He pressed electrode well into tumor before making the circuit. Had not found the cautery fickle; unsatisfactory results from crushing.

Next in order was a paper for discussion, entitled

THE DIAGNOSTIC DIFFERENTIATION OF RECENT TUBERCULOSIS, SPECIFIC AND RHEUMATIC LARYNGEAL DISEASES,

by Dr. E. L. Shurly, of Detroit, Mich., who gave an abstract of the paper, which can be best shown in tabular form:

Laryngeal Phthisis.	Syphilis.	Rheumatism.
	Hyperæmia or Congestion.	
Occurs later, but not marked.	Always persistent and extended.	Always present; not intense; often localized.
	Tumefaction or Infiltration.	
Constant and peculiar; affecting arytenoids.	Not marked.	Rare, except arthritic arytenoid joint.
	Condylomata and Gummata.	
None.	Sometimes.	None.
	Hemorrhage.	
Rare, as result of erosion.	Very rare.	Common.
	Mobility.	
Slightly affected.	Slightly affected.	Excessive in arthritic.
	Ulcerations.	
Common, develop slowly, scattered, small, irregular, or oval, usually on epiglottis and arytenoids.	May be rapid, but rare; in larynx, solitary; symmetrical and with areola.	None.
	Hoarseness.	
Present.	Slight; also slight dysphonia.	Present; also dysphonia or aphonia.
	Dysphagia.	
Only when epiglottis and arytenoids are affected.	Not marked, unless pharynx involved.	Persistent and constant.
	Pain.	
Absent in larynx.	Absent.	Constant, and about neck.
	Expectoration.	
Often contains bacilli.	Mucus.	Slight.
	Cervical Glands.	
Not enlarged.	Enlarged.	Not enlarged.
	Sensation.	
Not perverted.	Not perverted.	Often perverted; paræsthesia; frequent spasm; also chorea.

CHRONIC RHEUMATIC LARYNGITIS.

Dr. E. F. Ingals, of Chicago, Ill., read a paper on the above subject. It has been recognized for several years, but never thoroughly studied. Had found but few cases mentioned in literature; cases are rare, and usually associated with rheumatic diathesis. Had seen cases where hyoid bone and posterior part of larynx presented the only evidence of the disease. More often with attacks of articular rheumatism. It is erratic and obstinate. Pain may disappear for a few days and then return. In no case is the pain very severe. Hoarseness and aphonia are marked. Pain worse in damp or wet weather, but varies from day to day. Larynx alone may be invaded, or base of tongue and hyoid. Some cases slightly swollen, others not. There may be distention and swelling of arytenoid joint. Diagnose by excluding neuralgia, phthisis, and syphilis. Often confused with neuralgia when no swelling appears. May last from two months to a year or more, with periods of immunity. Ultimate recovery, though one case lasted four years.

Treatment.—Cleansing and astringent spray. Salicylate of soda, iodide of potash, alkalies, oil of gaultheria, ext. phytolacca, etc., used with benefit. During the dis-

cussion that followed, several mentioned cases where they had been puzzled as to the diagnosis, and which could probably have been classed under this head. They would expect to find evidences of rheumatism elsewhere. The subject should be worked up.

Dr. A. B. Thrasher, of Cincinnati, O., read a paper on

RESORCIN IN THE TREATMENT OF NASAL CATARRH.

Resorcin has a great affinity for oxygen, and absorbs it from the tissues; reduces congestion and inflammation by contracting the vessels. In hypertrophic catarrh, contracts turbinated tissues and this effect lasts a long time. Cocaine is only temporary in its action. Good results in infectious skin diseases because antiseptic; penetrates skin and kills germs. Cocaine interferes with secretion and proper functions of mucous membrane. Resorcin gives same results, but normal functions remain. It is slower in action and more lasting in result than cocaine. Cleanse nose with boracic solution or Dobell's, and use two to ten per cent. in vaseline or cosmoline; use a spray every second day. For patient's own use give two to four per cent. It will cure where there are dilated turbinated tissues in from two to six weeks. Allays all redness and congestion. Turgescent state yields better than where true hypertrophy exists.

GENERAL MEETING.

WEDNESDAY, SEPTEMBER 7TH—THIRD DAY.

Dr. Durante, of Rome, Italy, one of the Vice-Presidents, occupied the Chair.

Dr. Mariano Semmola, of Naples, Italy, delivered a general address on

BACTERIOLOGY AND ITS THERAPEUTIC RELATIONS.

The object of medicine is to cure disease. To cure diseases we must know the causes that produce them. The external causes are visible and tangible, but to discover the internal, invisible causes is the aim of medical science. To solve this problem we must employ the true method of solving all problems—the experimental method. Doctors lost themselves in fantastic speculations before this method was known. The wonderful progress of physiology has been made in the light of experimental methods. When morbid conditions had been studied, instead of going on with the same careful and slow research, physicians wanted to hurry on, because they wished simply to cure the sick. To apply the experimental method and, at the same time, go fast is, in the nature of things, impossible. Thus it happened that while physicians were making experiments in the laboratory, instead of having patience to master their studies, they came at once to a conclusion. New hypotheses had to be made, and without knowing it they began again the same errors that had characterized the medicine of an earlier day. New systems thus came into the field, that were the opposite of the experimental method. If medicine is to progress and be a science, it must not leave the experimental method, otherwise there will be nothing but renovations of error and loss of time.

THE ERROR OF THE DAY

is bacteriology considered as the key to all pathology. Bacteriology should be studied, because it teaches what is in the microscopical world, of which we had never dreamed the existence—a world in which man lives, and which is filled with

ENEMIES OF MANKIND.

We drink millions of microbes in water, and respire millions in the air. Sometimes these microbes affect us—perhaps killing in a few hours.

When we strive to cure the sick, we must proceed cautiously, because, before there has been a careful demonstration, if we attempt to deduce a remedy, there is danger of doing harm to the sick instead of curing them. This is the great harm modern bacteriology does. Doctors concluded at once that microbes were the cause of disease, whereas, in many cases, microbes are but

EFFECTS OF DISEASE.

We ought to reproduce the disease artificially by a microbe before concluding that it is the cause. The experiments made have not given any satisfactory results, except in carbuncle and tuberculosis. To conclude hastily that this or that microbe is the cause of any disease, is but to ignore or set aside the experimental method. The demonstration which the experimental method demands in this case would be complicated, because we would not only have to know that the microbe existed, but we would have to know what was the condition of the blood necessary to the culture of that particular microbe, and science tells us that, for the present, this is a problem we cannot solve.

We know very little of the normal condition of the blood, and biological chemistry is still in its infancy. Man cannot separate himself from these millions of parasites among whom he lives. That bacteriology may be a guide in the cure of disease, we must not only learn all we can of the microbe itself, but, more important than all, must ascertain all that is possible of the conditions of the field of culture. The science of the present knows nothing of the conditions of these fields of culture in living organisms. It is thus evident that in the present condition of bacteriology it cannot be taken as a guide for the treatment of internal diseases. The older schools of medicine spoke of organic dispositions, or tendency to such and such a disease. This expression had no meaning, but it expressed the fact. When bacteriology speaks of a need for a special field of culture it says the same thing, because we do not know of what the field of culture consists. Therefore this cannot be called a science, because a science is never composed of unknown things; it goes from the known to the unknown. If a man supposes a fact instead of demonstrating it, the phenomena of nature are not reproduced. When he resorts to hypotheses the power of man disappears. If nature's laws are not respected, the telephone does not work, the electric light does not flash, the steam-engine stops. The doctor, then, is the only one who pretends to become the master of nature without knowing her laws. Referring again to the failure of medicine to follow up a discovery in the scientific way with thorough research and demonstration, and its tendency to accept conclusions quickly, Professor Semmola said that modern bacteriology may lead the way to the most fruitful field of inquiry in the future, but for the present it has produced no practical results in the cure of internal diseases. It has not, he claimed, been demonstrated in what measure microbes are the causes of diseases. He therefore hoped that the younger generation would continue experimental researches with the thoroughness of method which the great masters have transmitted to us. They must renounce their preconceived ideas in medicine, and interrogate nature without torturing her. Scientific independence must be preserved. They must not proceed without measuring their steps. He trusted that his desire for scientific independence in such researches would be echoed in this land of independence.

A unanimous vote of thanks was extended to Dr. Semmola for his address.

SECTION IN THERAPEUTICS.

WEDNESDAY, SEPTEMBER 7TH—THIRD DAY.

Alfred S. Gubb, F.R.C.P. (Lond.), M.R.C.S., of London, England, was elected French secretary.

RHAMNUS PURSHIANUS.

Dr. John E. Brackett, of Washington, D. C., gave a botanical and chemical description of rhamnus purshianus, or cascara lagrada. He considered the fluid

extract, given twice daily in doses of five to fifteen minims, to be curative in chronic constipation, but the conditions favoring the occurrence of the constipation should also be corrected.

Dr. Murrell, of London, England, did not consider that the claims for special virtues in this drug had been well supported. He did not regard it as superior to the other varieties of rhamnus.

Dr. Phillips had obtained such results in chronic constipation that he had been much pleased with it. He had found points of superiority to both senna and rhubarb.

Dr. Woodbury said that in many cases of hemorrhoids accompanying constipation he had found both conditions disappear simultaneously under the effects of cascara, especially in cases of women who are liable to suffer with these disorders.

Dr. Ralph Stockman, of Edinburgh, read a paper entitled

ON THE PHARMACOLOGY OF SOME BODIES DERIVED FROM MORPHINE.

The experiments were conducted jointly by D. B. Dott, F.R.S.E., and Ralph Stockman, M.D. The relationship between chemical constitution and physiological action must always be a subject of deep interest to pharmacologists. In this short paper they proposed to mention briefly the changes in action resulting from various modifications in the constitution of morphine.

How, in 1854, by acting on morphine with methyl iodide, obtained a body which he named hydriodate of ethylmorphia, and which he regarded as a substitution product, the methyl iodide being supposed by him to replace one of the hydrogen atoms in morphine. In the light of our present chemical knowledge we regard How's body as an addition product, iodide of methyl (CH_3I) being simply tacked onto the morphine molecule.

In 1869, Crum Brown and Fraser investigated this body among others, and showed that the original action of morphine is quite lost, and a curare action substituted in its stead. From their nomenclature there can be no doubt that these observers regarded such bodies as addition and not as substitution compounds. Notwithstanding this, we find that in all text-books and reference-books these substances are always named and described as if they were substitution and not addition bodies. It is at present generally held that the substitution of methyl for hydrogen in an alkaloid causes the latter to act like curare, no matter what its original action may have been. The addition products, however, are very different in action from the substitution products.

The formula of morphine is $C_{17}H_{17}NO_3(OH)_2$, and it contains, therefore, two molecules of hydroxyl. It is the hydroxyl-hydrogen atoms which are replaced most easily by alcohol radicals. With regard to the action of morphine it may be divided into two stages—(1) narcosis succeeded by (2) tetanus. Methylmorphine, $C_{17}H_{18}(CH_3)NO_3$, is morphine in which one H has been replaced by CH_3. Codeine has the same constitution, and this body is simply codeine prepared artificially from morphine. The action is exactly the same as that of codeine derived directly from opium.

Ethylmorphine, $C_{17}H_{18}(C_2H_5)NO_3$, has the same action exactly as methylmorphine.

Acetylmorphine, $C_{17}H_{18}(C_2H_3O)NO_3$, and diacetylmorphine, $C_{17}H_{18}(C_2H_3O)_2NO_3$, have a similar action to the two preceding bodies. That is, they produce narcosis in very small doses, which is followed by tetanus when larger doses are given. All these bodies are much more active than morphine, and smaller doses are required. In dogs, however, they produce much greater distress and much more marked vomiting and diarrhœa. From our examination of their action, we think that none of them is in a position to replace morphine clinically.

Dr. George S. Hull, of Pennsylvania, inquired if the author could explain why the acetyl compound exerted such exaggerated effects as compared with the methylmorphine.

Dr. Stockman said that he could not explain this at present, but hoped to in the future, as these investigations are still in progress.

Dr. Murrell spoke of the usefulness of apomorphine as a prompt emetic. The rule laid down in the British Pharmacopœia, to prepare the solution extemporaneously, he regarded as puerile. The solution changes color, but retains its physiological effects for years. He had tried apocodeine, but had not been satisfied with the results and had gone back to apomorphine. In regard to codeine, he regarded it as less satisfactory than morphine and its employment in diabetes as merely due to fashion, and that the profession will eventually go back to morphine.

Dr. Stockman: Codeine is really the more poisonous of the two, although it is usually given in much larger doses than morphine is.

Dr. Brackett believed that codeine was less irritating to the stomach than morphine, and he was pleased with it in cough-mixtures, in cases where morphine could not be given.

Dr. A. L. A. Toboldt, of Philadelphia, read a paper on

CARLSBAD MINERAL WATERS.

In cases of chronic hypochrondriasis he obtained remarkable results from the use of the imported Carlsbad waters. The salts obtained by crystallization were less efficient, but the quell-salz or sprudel-salz powder, given in aërated or plain water, was found to be a good substitute. Mild cases of diabetes mellitus were entirely relieved. One case of obesity lost twenty-six pounds in less than four weeks under the use of the salt. The improvement in this case was permanent.

Dr. George S. Hull, of Chambersburg, Pa., read a paper on

SO-CALLED ANTISEPTIC ACTION OF CALOMEL WHEN GIVEN IN LARGE DOSES.

In cases of dysentery most prompt results in relieving tormina and changing the character of the stools were manifested. It acts as a cholagogue, producing a free flow of bile, sweeping out the contents of the bowel, and as a mercurial it exerts an antiseptic action. In cholera its usefulness in large doses has been advocated by some and denied by others.

In the discussion the relative value of large and small doses of calomel were freely considered by the members of the Section.

In closing the discussion, Dr. Hull said that he was dealing with epidemic dysentery and not with ordinary dysenteric conditions. The first effect of the calomel is to empty the bile-ducts and get a large flow of bile, and relieve the congestion of the liver and intestinal vessels. The second effect is due to the solution of the mercurial in bile, as pointed out by Headland, and this probably acts as an antiseptic in the bowels. The object is not simply to purge the patient, but to obtain a copious bilious discharge from the action on the liver. Where the tongue was most coated he got the best results. He believed that patients are killed by the use of opium and astringents.

SECTION IN ANATOMY.

Wednesday, September 7th—Third Day—Morning Session.

Dr. Joseph N. Dickson, of Pittsburg, Pa., then read a paper entitled

ANATOMICAL CONSIDERATIONS IN REGARD TO THE AMPUTATION AND DISARTICULATION AT THE ANKLE-JOINT, BY A NEW METHOD.

This method was first made public in 1875, and later in 1881. An incision should be made in advance of the

line laid down by Syme, around the sole of the foot from malleolus to malleolus, and also an incision a little above the plane of the articular face of the tibia. The disarticulation was carried out by division of the ligaments of the ankle-joint, and the dissection was begun from above downward and backward, keeping the lateral section in advance of the posterior one. As the knife was carried backward and downward it included the periosteum and bursa between the tendo Achillis and the head of the os calcis. The advantages of this operation are a long plantar flap, shortening of the superior section, division of the malleoli obliquely, and, as stated above, preservation of the bursa between the tendo Achillis and the head of the os calcis. His methods of dressing were also simple. The oblique division of the malleoli allowed a better adaptation of an artificial foot and leg. Of fifty-two cases, three deaths occurred, one or two of which were complicated by other injuries. The average stay in hospital was twenty-one days, and this included patients from four to sixty-five years of age.

Afternoon Session.

Dr. H. C. Boenning, of Philadelphia, Pa., read a paper entitled

destruction of the dissecting-room offal,

in which he spoke of the difficulties of disposing of the waste anatomical material. He enumerated the most usual way of getting rid of this offal by burial, storage, cremation, by alkalies, by mincing it and throwing it in the sewers, by giving it to the buzzards, and by boxing it up and sending it away. He found great objections to all these methods, on account of expense and trouble. He thought he had found the solution of this unpleasant problem by the use of the Gregory furnace, the principles of which were so simple and cost of construction so slight. He found that the small cost of fuel and the small amount of ash left, and the entire absence of foul gas, rendered it an indispensable accession for every school of anatomy. The furnace was lined with asbestos upon the firebrick.

Dr. Boenning further reported a curious

anatomical anomaly.

In the subject, a colored female, aged thirty, was found an *entire absence of the arch of the aorta*. There were two vessels going from the left ventricle, the one up to supply the head, neck, and upper extremities, and the other down to become the thoracic and abdominal aorta. In other respects the subject was normal.

Section in Ophthalmology.

Wednesday, September 7th—Third Day—Morning Session.

Dr. C. F. Horz, of Chicago, Ill., read a paper entitled

restoring the normal position of the free tarsal border in trichiasis.

The essayist began by the introduction of a few anatomical facts bearing upon the subject. He showed that the free edge of the tarsal cartilage in the normal eyelid is placed at an angle of ninety degrees to the surface of the eyeball, and that the eyelashes are inserted at an angle of about ninety degrees to the free border of the cartilage. The angle made by the hairs with the free border may be considerably altered, as in blepharitis ciliaris, without the hairs touching the cornea or surface of the globe. But if the free border of the cartilage is turned inward by shortening of the conjunctival surface of the cartilage from shrinkage caused by inflammation, then it is easy to see how the hairs will sweep over the cornea. This may be remedied either by lengthening the posterior or shortening the anterior surface of the cartilage. It is not necessary, nor does it occur that the curve of the cartilage is changed. Lengthening the posterior surface is impracticable, but it is proposed to show how the position of the free edge can be restored by shortening the anterior suface. An incision is made just below the upper border of the tarsal cartilage, the lid being stretched downward by an assistant, and the skin and muscular tissue dissected off from the cartilage down to the roots of the cilia. Then an incision is made directly back through the cartilage to the conjunctiva, met by another starting from a line about two millimetres above, and the wedge-shaped piece removed. A narrow ribbon of skin being now cut from the edge of the flap, it is replaced, and the sutures carried in through the edge of the flap, then through the upper border of the cartilage, and out through the upper margin of the incision in the lid. The result of this procedure is apparent, the apposition of the edges of the wedge-shaped wound of the cartilage is good without sutures, and the normal appearance of the lid restored. To avoid cutting through the conjunctiva when making the incision through the cartilage the tactile sense of the finger placed on the inner side of the conjunctiva at the free border is sufficient, but a button-hole at this point does no harm, and does not affect the result or the healing.

Dr. B. Pitts, of St. Joseph, Mo., next read a paper on

the best method of operating for entropion.

His paper was an exposition of the advantages of electrolysis not only in removing the troublesome hairs which had assumed faulty position, but also in producing resolution and absorption of the thickened and infiltrated tissues, and in this way, even when relief was only partial, preparing the way for the easier performance of blepharoplastic operations.

Dr. Jones, of Chicago, Ill., spoke of the importance of the subject and the uncertainty of the ultimate result. He had seen several cases where the immediate effect of Dr. Hotz's operation was all that could be desired, but would like to know if the relief was permanent. Some of the cases did not appear so well later on.

Dr. Holcombe, of New York, spoke of a method which he had put into practice, of placing the hairs in position, turned away from the cornea, and holding them in that position by silk surgeon's plaster. He had invariably had excellent results, and renewed the application from time to time as required.

Dr. Frothingham, of Ann Arbor, Mich., thought that Dr. Hotz's operation will give better results than anything we now have. The principal trouble will be in reducing the relaxation of tissue.

Dr. D. A. Thompson, of Indianapolis, Ind., said that while home doctors could not muster as many cataracts as some of our foreign brethren, they had an abundance of this variety of trouble. He thought that no one operation would ever be found suitable for all these cases, and that procedure must be modified to suit circumstances.

Dr. Keyser, of Philadelphia, had had considerable success by removing the entire cartilage.

The President said that Dr. Hotz had apparently dropped the idea of curving out the cartilage, and wished to know the reason. The reply was that the idea of the incurvation of the cartilage had been found to be incorrect, and that therefore there was no need to alter the curve.

Dr. E. Landolt, of Paris, France, read a paper on

operation for strabismus.

He called attention to the marked peculiarities distinguishing this from all other operations on the eye, because it always concerns both eyes. Squint is always binocular. A man with one eye does not squint. Cyclops has no squint. Cataract and other operations may be done without taking into consideration the condition

of the other eye, but not so with strabismus-operations. He dwelt upon the importance of the precautions to be taken for the success of the operation, and the causes of convergence and divergence. A most powerful aid in the correction of squint is the desire for binocular vision. Without binocular vision there is only an apparent cure, a cosmetic effect, because it leaves out the most powerful aid in the cure of strabismus. It is necessary before operation to determine the nature and measure, the degree of the refraction and accommodation, to find how far vision has been lost, and to remedy it if possible. The agents for this purpose are atropia, glasses, cessation from work, and orthoptic exercises. He never operates without satisfying himself that he has got the full effect of non-surgical measures. If the correction is made in the child while young and without these precautions, divergence may occur later. The difficulty of determining beforehand just how much to do to get a certain effect was remarked, and that it was better to do too much than too little. It is easier to diminish than to increase the effect. Dr. Landolt never operates on two homonymous muscles at once. He rather does a tenotomy of one, and an advancement of its antagonist. The remedies for over-effect in operations for convergent squint are stoppage of atropia, removal of stitches from advanced muscle, and use of the other eye. No case should lose its power of convergence or divergence after the operation, as without that power binocular vision would be impossible. If divergence persist, advance the tenotomized muscle. This can easily be done to the tenth or twelfth day.

In divergent squint, on the other hand, the danger is in doing too much. If the divergence is of long standing and the eye amblyopic, then tenotomize with advancement, or do two tenotomies. Do not use atropine, but exercise the eye in the required direction. He often prefers advancement to tenotomy to remedy faulty position. It is more complicated but not more dangerous, and has a greater and more favorable effect than tenotomy. The operation for strabismus is not to be considered as a cure, but only as an adjunct to orthoptic treatment.

Afternoon Session.

Dr. George F. Stevens, of New York, read a paper on

some important problems respecting insufficiency of the ocular muscles.

He said that anomalies of the ocular muscles were of as frequent occurrence as those of refraction and accommodation, while the literature of the subject was very scanty, and what existed would lead one to infer that only one of the muscles was liable to insufficiency—the internus—while the deviations in other directions had been ignored or barely mentioned.

The object of the paper was stated to be to suggest certain problems, rather than to explain apparent contradictions. For instance, a case showed, with a prism over one eye, insufficiency of the externi of 8° at twenty feet, and at one foot insufficiency of the interni of 10°. There was an adducting power of 50°. Now, there could not be an insufficiency of both interni and externi at the same time. Another case, with the prism eliminated from the question, had diplopia, homonymous, of 4° at twenty feet, and crossed, of 5° at two feet. Here seems to be a contradiction of results and a problem to explain.

Dr. Stevens then entered into an explanation of the terms which he used in designating the muscular variations. He uses Orthophoria to express the correct equable balance; Heterophoria to express any departure from it. He divides Heterophoria into Esophoria, a tending of the visual lines inward; Exophoria, a tending outward; and Hyperphoria, a tendency of one image to rise above the other. Latent heterophoria is as common as errors of refraction are, but is often overlooked, and is much more difficult to discover. In case hyperphoria exists, in what way are we to determine in which muscle the fault lies? Again, how shall we determine the absolute amount of anomaly and the best manner of procedure? Dr. Stevens then detailed his own mode of examination, always prescribing prisms of a degree somewhat less than the hyperphoria. He believed it was better to correct too little than too much. He does not believe that prisms are curative or permanently beneficial, but that they are of much use in diagnosis.

Dr. J. F. Fulton, of St. Paul, Minn., in his paper, entitled the

advantages of early operation in strabismus,

spoke of the difficulty of overcoming diplopia or amblyopia where they exist after operation. He agreed with Solberg Wells that suppression of the image results in amblyopia from disuse where the trouble occurs in children, and even in cases where the difficulty is of a later date. He favors operating in children at an early date. If operation is not admissible, then the other eye should be covered, and the squinting eye exercised carefully at short intervals. Amblyopia met with in strabismus is either primary or secondary. If primary and congenital nothing can be done, but he thought many cases were secondary and due to the same cause as the squint. The vision of the defective eye sometimes rapidly deteriorates when the image is suppressed. A case in point was one where V., $= \frac{20}{20}$ in the right eye, and $\frac{20}{30}$ in the left, was raised to normal by a suitable glass. Some time after the fixing eye was lost by accident, when the left eye was found to have only $\frac{20}{80}$. This was raised, after use for some time, to $\frac{20}{30}$. Other cases were quoted, one of two members of the same family, one of whom was operated on, with the result of improving the vision from $\frac{20}{40}$ to $\frac{20}{30}$, while in the other, which was let alone, the degree of strabismus remained stationary, but the amblyopia increased.

Dr. C. H. Abadie, of Paris, France, read a paper on

faulty eye-movements and the means of remedying them,

which was most concise and exhaustive. He reviewed the modes of diagnosis, particularly in relation to the differentiation between those cases that require complete and partial tenotomy, and dwelt on the ability to control the amount of correction by removing more or less of the muscular fibres. It is easy to change a partial tenotomy into a complete one, if it be necessary.

Dr. E. O. Shakespeare, of Philadelphia, Pa., read a paper entitled

on the strength of the superior recti muscles as a cause of asthenopia.

He found many cases of asthenopia not relieved by correction of the refraction, and external and internal recti in which there was want of proper action of the superior or inferior recti. In testing, we may find that the displacement of the image is greater when a prism is placed over one eye than when over the other. If you use a correcting prism you will find one superior rectus stronger than the other. To correct the muscular error, if there is an error of refraction, he discentres the lenses, and if no refractive error is present, then he puts on prisms.

Dr. Landolt gave a demonstration of his method of strabometry, and showed how easily the patient and tapes were placed in position, and the accuracy of the result. The tapes are made by Dubois, rue Monsieur le Prince, Paris.

Dr. H. Power, of London, after stating that it was not so long since the operation was done like dividing a tendon in orthopedy, said that he is not now so certain as formerly of a positive cure. A great deal of care is now taken of the cases before operating, and even with it all

we will have cases that appear to be just as bad after operation as before.

Dr. Shakespeare rose to ask about the successive removal of muscular fibres by Dr. Abadie in small degrees of insufficiency. He wished to ascertain something of the permanency of the relief afforded.

Dr. Landolt, replying in the absence of Dr. Abadie, said that he could not answer that question, as he had never done that operation, and probably never would do it. He always divided the whole tendon. He believed that Dr. Abadie claimed a very good and durable effect.

Dr. G. S. Norton, of New York, asked if Dr. Stevens would tell what was the matter where both external and internal insufficiency appeared to exist, without hyperphoria.

Dr. Stevens replied that that was just one of the problems he had submitted to the Section, and that he did not know.

Dr. J. A. White, of Richmond, Va., spoke of the great value of Dr. Landolt's paper, and added a few remarks on his own results in advancement of the capsule, with which he had obtained as good results in cases of considerable degree as by advancement of the muscle.

Dr. Thompson, of Indianapolis, was afraid that, after all, a large proportion of cases return to their original condition.

The President submitted a question as to the time for operation.

Dr. D. S. Reynolds, of Louisville, Ky., suggests the exercise of the retina with strong lenses, even where considerable amblyopia exists, with the hope of improving vision before operating.

Dr. B. J. Baldwin, of Montgomery, Ala., is satisfied that there are many cases in which amblyopia may be prevented by an early operation. A year or two ago he believed that amblyopia was congenital, but he does so no longer.

Dr. Landolt, in closing, thanked the Section very heartily for their kindness and indulgence, and expressed pleasure at the free discussion which had been drawn out.

Dr. A. G. Heyl, of Philadelphia, Pa., then addressed the Section on

ABNORMALITIES OF THE VISUAL AXIS.

He said that the definition of the visual axis is involved in obscurity, and is as well a matter of extreme importance. He reviewed the terms and definitions at present used, showing their incorrectness, as Gesichtslinie, Blicklinie, and their mechanical and not physiological basis. Collimating axis is better, but it belongs essentially to monocular vision, in which one eye dominates over the other.

His true definition is a line from the macula, directed directly in front when the eye-muscles are in a state of rest or equilibrium. It is a conception low down in consciousness, as is the conception of the median plane.

Through the pull of the tendons on the sclera, the recti muscles keep the macula pointing straight ahead. He then entered into the subject of the origin of the macula—whether from the fœtal cleft, which would call for a rotation of at least ninety degrees, which is said to have been observed. Then he said: "My position, for want of a better, is that the pull of the recti, antagonized by the ciliary muscle, is the factor in the production of the macula." The position of the macula to the outside of the centre, he accounts for by the antagonism of the three third-nerve recti to the one abducens, causing the point of equilibrium to be removed to the outside.

Dr. Ole Bull, of Christiania, Norway, wished to know how Dr. Heyl accounted for the existing of two maculæ in some birds with restricted vision.

Dr. Heyl in closing, in answer to Dr. Bull, stated that he knew that those cases existed, but that he would have to examine the arrangement of the muscles before being ready to explain it. He thought the same process of tension might take place in two different directions.

SECTION IN DERMATOLOGY AND SYPHILOGRAPHY.

Wednesday, September 7th—Third Day.

LUPUS ERYTHEMATOSUS.

Dr. A. Ravogli, of Cincinnati, O., read a paper on the above subject. In his opening remarks the author said that he would always prefer to treat lupus vulgaris than lupus erythematosus, so difficult was it to obtain satisfactory results. Kaposi had regarded the condition as a neoplasm. Hebra first described it as a seborrhœa, but modified the term by adding to it *congestiva*. All authors mention erythema and congestion as important features. Specimens were exhibited, which showed enlargement of the epithelial cells and hypertrophy of the papillæ in the stroma of the corium, and an infiltration of inflammatory cells in the meshes of the tissues, and some cells are seen between the fibres of connective tissue surrounding the hair-follicles. There is an increase in the number of connective-tissue corpuscles. The elastic fibres are swollen and enlarged, and the loculi, formed by the fibres of connective tissue, contain fluid. The blood-vessels are filled with blood. The condition is then one, not of neoplasm, but is an inflammatory process. Each layer of the skin is affected. After a patch of lupus erythematosus has disappeared there is left a thin, white, parchment-like condition of the skin resembling a scar.

There is a true atrophy of the skin, caused by pressure producing obliteration of the glands which first take part in the hypertrophy. The process is then first an hypertrophy of the histological elements, followed by an atrophy.

The cause of the atrophy is found in the blood-vessels being closed and obliterated by pressure. The primary cause consists in an irritation and stimulation of the nerves, which increases the blood-supply and causes a disturbance in the biological activity of the cells.

The author has examined scales from three cases of lupus erythematosus. The epidermic cells were found enormously enlarged, and contained a large number of round bodies which he regarded as micrococci. They formed groups and colonies, and chemical tests appeared to confirm the opinion that they were such.

Sections of the skin were made and showed the existence of the cocci in the papillary layer, most abundant where exudation has taken place, and small colonies in the interior of the fibres and in the capillary blood-vessels.

These bodies answered to the test laid down by Friedländer for micro-organisms, and Dr. Ravogli does not doubt that micro-organisms exist in lupus erythematosus, not only upon the surface, but also within the structure of the skin. He has been unable to make any culture experiments. These organisms he regards as the cause of the disease, and instead of classing it as a neoplasm, thinks it should find its place among the infectious diseases.

The inflammatory symptoms and hypertrophy are explained by the irritation of the micrococci. The function of the sebaceous glands is increased by the irritation, hence the seborrhœa and the formation of the greasy scales. This explains lupus erythematosus discroides; in the form called aggregatus the micrococci still better explain the condition.

As regards treatment, internal remedies are useless, as a rule. The application of emplastrum hydrargyrum has been considered the best treatment. The benefit of this powerful microbe strengthens the theory. When the skin is destroyed with caustics we succeed in destroying the cocci. When the sharp spoon was used to scrape the patches, or they were burned, the disease often returned in the neighborhood of the patch. Dr. Ravogli has obtained complete recovery in three cases of the disease by the use of ichthyol. Diminution in the secretion of the sebaceous glands is soon noticed. The reducing action

of this agent is displayed on the underlying tissues. Ung. diachyl. hebræ goes well with ichthyol (ten per cent.), producing elevation of the epidermis and suppuration. The ichthyol is diminished to three per cent., and only slight scars result. He finishes treatment with ichthyol in collodion. Dr. Ravogli showed microscopic specimens to illustrate the pathological changes and the bodies which he regarded as cocci.

In the discussion, Dr. Knaggs, of England, asked if the reader considered the micrococci as causative, and whether the ichthyol destroyed them and the tissues, too, or acted as an antiseptic.

Dr. Ravogli replied in the affirmative. The ichthyol acted, he thought, by abstracting oxygen, upon which the life of the cocci depended.

Dr. Unna, of Hamburg, regarded as the most important part of the paper that relating to micro-organisms, and he considered it the weak point as well. The cocci must be seen in all parts of the thickness of the skin, and, he believed, in the sweat-glands, too. He thought micro-organisms probably existed in the disease, and would some day be discovered, but could not regard the specimens presented as showing them, and hoped Dr Ravogli would continue his investigations and make cultures. He asked if the sections were made deep enough to show the sweat-glands.

Dr. Ravogli said he had not paid special attention to these glands.

Dr. Unna was glad to hear of the good influence of ichthyol, never having used it alone in this disease, but with the addition of salicylic acid. He had found resorcin beneficial and most useful as a varnish or collodion dressing.

Dr. Thin, of London, said that the refractive particles seen under the microscope might be micro-organisms, and might be other bodies. More characteristic stainings would be necessary and sections carried into the deeper parts, showing the same bodies, before they could be regarded as micro-organisms. Furthermore, cultures and inoculations would be necessary to prove the case. Dr. Thin spoke of several rare cases he had recently seen in England, which, from their peculiar appearance, had been given the name of the cock's-comb disease, as similar cases had not been observed there. The feature of the affection was a raised, bright-red, uneven surface, with abrupt margins. He had examined specimens of the tissue, and had found it identical with that of lupus erythematosus. There was a greater degree of vascularity than usual, the epidermis was raised, and a dense mass of small cells was found between the rete mucosum and strata lucidum. The affection was found very unsatisfactory as regarded treatment. He related one case of lupus erythematosus in which an inexplicable spontaneous cure had taken place while the patient was upon an exclusive milk-diet prescribed for another disease. He believed in a micro-organism, but thought it had not yet been found.

Dr. Klotz was glad to hear Dr. Ravogli say he avoided stronger and caustic remedies. He preferred salicylic acid combined with soap plaster. He thought the discovery of micro-organisms would bring lupus erythematosus into closer relationship with lupus vulgaris, from which it had been too far alienated.

Dr. Zeisler, of Chicago, thought the micro-organism theory a very plausible one; still, it was only a theory. To prove it, it would be necessary to make cultures and inoculations. He did not regard the studies in this direction as entirely new, as Morrison, of Baltimore, had made similar investigations. Lupus erythematosus of the mucous membrane is an extremely rare condition. He had observed it in Vienna, in a case in which the mucous membrane of the mouth was affected. It presented a whitish condition of the membrane, the tissues were hardened, and it proved very obstinate under treatment. Caustic nitrate of silver was alone found to influence the condition. He agreed with Dr. Unna as to the value of resorcin, and that ichthyol had little effect. A 10 per cent. solution of resorcin in collodion had acted well.

Dr. Robinson, the President, spoke especially in regard to the microscopic specimens. He agreed with Thin and Unna that in all probability a micro-organism exists, but he does not think that Dr. Ravogli has pursued proper methods, nor do the specimens show the bodies to be cocci. It is not clear that they are not extraneous matter. We must exercise great care in placing importance upon micro-organisms found upon the surface. He urged Dr. Ravogli to follow up his investigations, and thought something might come of them.

In closing, Dr. Ravogli said that he labored under difficulties in making his demonstrations at this time. He considered the test with caustic potash a convincing one, as it never attacked micro-organisms, but did attack everything else. He was glad to hear the opinions of so many that micro-organisms probably existed. He would not say positively at the present time that they were causative, but would wait until he had been able to make cultures, etc., as suggested.

ERYTHEMATOUS LUPUS OF THE HANDS

was the title of a paper by Dr. Ohmann-Dumesnil, of St. Louis, Mo.

Few cases of erythematous lupus of the hands have been observed or accurately described. Existing upon the hands alone the disease is extremely rare. Treatment is sought usually on account of the appearance.

Dr. Dumesnil related the history of a case in which the lesions appeared upon the hands alone, had existed for a long time, and had been treated by caustic applications without much benefit. He employed concentrated latic acid in the form of a paste, which produced severe pain, and was followed by a slough; pyrogallic acid was also used, but the case passed from observation before a cure was effected. The author has collected forty-five cases. In twelve the disease began in the face, the hands being subsequently affected. The lesions do not extend beyond the nails, and the dorsal surface is the seat of predilection. The patients were usually in good health. Dr. Dumesnil had endeavored to find cocci in the scales and sections of lupus erythematosus, but had not been successful. There is at first an inflammation of the epithelial layer, which subsequently dips down into the hair-follicles, following and affecting the epithelial structures, and only extends to the dermic structures by contact.

CONTRIBUTION TO THE KNOWLEDGE OF IMPETIGO HERPETIFORMIS (HEBRA),

by Dr. Josef Zeisler, of Chicago, Ill., was the next paper read.

Dr. Zeisler first gave a short historical review of the literature of the subject and paid especial attention to the work of Duhring, who, as he thought, went too far in including a disease like impetigo herpetiformis, so sharply characterized by its clinical course, the unmistakable efflorescences, the almost exclusive occurrence in women in connection with the puerperium, the fatal end, etc., with other diseases, under one name, that are so entirely different and mostly of a benign character. He referred to a recent paper of Kaposi, who, describing the disease again in a classical manner, warns against confusion in studying a question which needs so very much to be cleared up. The author then furnished an exhaustive description of a case of this rather rare affection.

In the discussion which followed Dr. Unna related a case which resembled both impetigo herpetiformis and dermatitis herpetiformis, but differed from both and was probably neither. It was similar, as regarded treatment, in that iodine in abundance was the only treatment which gave good results.

It resembled more an impetigo, because the blebs appearing did not from the first contain pus, as is necessary to establish the diagnosis.

SECTION IN GENERAL MEDICINE.

WEDNESDAY, SEPTEMBER 7TH—THIRD DAY—AFTERNOON SESSION.

DR. JOHN A. OUCHTERLONY, M.D., Louisville, Ky., read a paper entitled

THE STUDY OF THE NATURAL HISTORY OF DISEASE.

He was deeply impressed with the importance of the subject in its practical bearing upon the solidity and permanency of medicine as a science. In endeavoring to discuss this he desired not to be understood as belittling in any way that science. It is not only well to admire past achievements but also thoroughly to review the past to ascertain its deficiencies and seek the means most likely to overcome them. The study of the natural history of disease is most conducive to this end.

This subject is difficult on account of the vast scope and the complexity of disease. In looking over the ground we see in every department of pathology unmistakable evidences of the all-pervading presence of laws.

The eagerness of the physician to relieve pain and restore health often causes him to manifest distrust in nature's agency in the cure of disease. Diseases themselves are perfectly natural though not normal conditions of the living body; and the same power which called them into being may also not unreasonably be supposed to be adequate to their removal.

The truth is, nature possesses far greater power in curing disease than is admitted. A knowledge of the natural history of disease is the necessary basis upon which to estimate all medication.

The multiplicity and divergence of scientific opinions result from the neglected study and consequent ignorance of the natural history of disease.

To arrive at a proper knowledge of the natural history of disease, the co-operation of large numbers of medical men throughout the world is necessary, dissecting and attending to the various morbid conditions which affect the human race. These observations must include patients affected with various diseases modified by age, sex, occupation, etc., the duration of the malady, the events marking its course, the mortality, and mode of death. We shall then be in a position to judge with positiveness the value of a drug in shortening disease, preventing complications, or averting a fatal result. There are many obstacles to the execution of such a plan. To some it will appear culpable to withhold the assistance of art, and consign a patient to the exclusive care of nature. Independent of the consideration of the benefits to be derived therefrom, all objections to such experimentations may be fairly met by the following arguments:

First—Since we do not hesitate to subject patients in our public hospitals to treatment with medicines the action of which is imperfectly or not at all known, and consider it legitimate, it can be no less so in similar cases to simply watch the operations of nature.

Second—It must not be overlooked that nature, having inflicted disease, is also in many instances adequate to its cure. This is true of both light and severe diseases—those in their nature grave, such as malignant fevers, tuberculosis, and cancer spontaneously recover.

It is beyond dispute that the worst forms, and apparently hopeless cases of fever, recover unaided by medicine. Tuberculosis has most frequently been recovered from under simply good hygienic surroundings. Hence the steadily increasing favor with which the profession regards the climatic treatment of this formidable enemy of our race.

Third—The strong tendency to recovery in acute affections is often admitted, and is a good reason in many cases for reducing medicinal interference to a minimum, and in many cases amply justifies allowing the disease to pursue the undisturbed and natural course.

Fourth—The character of self-limitation which we now know to characterize many diseases should be a warning to those who entertain exaggerated ideas of the results produced by their treatment, and an encouragement to those desiring to study the natural history of disease.

Fifth—Were it not that the *vis medicatrix naturæ* is no imaginary power, but a living reality, it would be impossible to understand how it is that many quite feeble or absolutely inert medicaments could have attained such a high reputation in the treatment of various and severe affections. To-day "sage" is known to have no medicinal power, yet its history is classical, and it has received the indorsement of the learned as an effective medicinal agent. How many drugs have, like the garden sage, been lauded for imaginary virtues, but after a while have sunk, like it, into well-merited disuse. Yet while in vogue, and medical journals were filled with accounts of their vast powers, it was the *Great Silent Mother* who wrought the cure.

Sixth—The indisputable fact that recoveries take place from similar diseases under quite opposite plans of treatment allows no other inference than that the recoveries are due to nature alone.

Seventh—When one recalls how marvellously patients sometimes get well under the rude and pernicious medication inflicted by quacks, one is forced to conclude that nature is not only adequate to remove the original disease, but also to overcome the artificial disease not infrequently superadded by the *energetic ignorance* of the practitioner.

He was well aware that physicians cannot if they would, and should not if they could, forego all medicinal treatment in the management of all the sick under their charge. But in private practice instances will occur when such a course would be both safe and proper.

The greatest field for observation is in the hospitals. It is well to set aside a certain number of cases and compare the results of medicinal and non-medicinal treatment

Medical students should be taught not to believe in the exclusive power of art in the treatment of diseases, but more prominently the utility of studying their natural history.

DR. CRONYN, of Buffalo, N. Y., discussed the paper. He thought that, as it is the natural history of disease that teaches us, attention to it is best. After all, it often depends upon nature, keeping the patient quiet, and assisting nutrition. The laity think diseases due to a poison varying in degree and intensity according to the severity of the illness.

DR. HEMINGWAY, of Michigan, said: Our work is not as physicists, but as doctors, teachers. I fully agree with all that has been said in the paper. We, as physicians, have made the mistake of following the popular demand "to do something." I think we may sometimes give a little colored water. We may thus not only do the patient but others good, who might otherwise fall into the hands of quacks. In the methods of our studies of disease we should seek to learn the cause, general progress, and termination. We ought to study to aid recovery. We can do our patients no good in any other way.

DR. W. J. SCOTT, of Cleveland, O., was pleased with the paper. He believed we would have a broader foundation by studying the history of the treatment of disease—what has been done, that we may know what ought not to be done. He objected to the too free use of compendiums of medicine instead of thorough and detailed works. He had faith in medicines. He then spoke somewhat out of line with the subject of the paper, upon the increased efficacy of our materia medica and the action of drugs upon specific diseases.

The President, DR. A. B. ARNOLD, said: If we are called to see a patient in an attack of apoplexy, the friends invariably want the patient to do something

when we know that the patient ought to be kept quiet, to allow the clot to form. There is a form of diabetes where an excess of sugar taken into the body will be eliminated by the kidneys in the urine. We know that by taking only as much sugar as can be assimilated the patient will be cured. There is another form of diabetes where the sugar is from the animal tissues, and consequently this is not improved by such treatment. These he gave as examples showing the advantage of a correct knowledge of the natural history of disease in determining treatment.

Dr. Thomas H. Manley, of New York, believed each disease had a special course and tendency to recover. He discussed quite freely the use and abuse of drugs.

Dr. Bell, of Minnesota, gave his idea in regard to the time to use remedies, and spoke of the relation of agents for remedies to the physician.

Dr. S. S. Green, of Buffalo, N. Y., following in the wake of the others, expressed his firm belief in the potency of drugs, but was asked by the President to confine his remarks to the subject of the paper.

Dr. Thomas Hay, of Philadelphia, Pa., stated briefly that he believed in remedies.

Dr. Ouchterlony, closed the discussion by saying that he had been edified by the spontaneous expressions of regard for remedies; there was certainly not a word in his paper in reference to this subject. "I thought when Dr. Scott said so emphatically that he believed in remedies that perhaps he thought I did not." He wished to see an exact science, which could only be realized by the method suggested in the paper.

Dr. Pavy, of London, England, remarked, "I felt that I could not leave without saying I am heartily in accord with the idea that there is a natural history of disease, just as we each have a natural history of ourselves. By studying the natural history of disease we enable our own natural history to have its free play." He believed we needed, as physicians, more knowledge of agencies to cut short the natural history of disease. We also needed medicines to influence the mind as well as the body.

THE DISEASE OF INEBRIETY AND ITS TREATMENT.

Dr. T. D. Crothers, Superintendent of the Walnut Hill Asylum, Hartford, Conn., read a paper with this title. The doctor mentioned the historic fact that inebriety was called a disease long before insanity was thought to be other than spiritual madness. On an old papyrus found in one of the tombs of Egypt, dating far back into antiquity, a clear recognition of inebriety was found. Herodotus wrote, four centuries before the Christian era, that drunkenness was both a disease of the body and mind. Other writers were noted who had urged this same idea, for centuries down to the present. By a strange shifting of events, insanity, which was supposed to be a spiritual affection until a comparatively recent date, is now studied as a physical disorder, while inebriety, which was mentioned as a disease twenty centuries ago, is still invested with the superstition of a spiritual origin.

The doctor said that when inebriety is seen from a scientific point of view, it is found to be controlled by laws which vary according to certain physiological, psychological, and physical forces, of which heredity, environment, culture, nutrition, brain- and nerve-vigor, are most prominent. When accurately recorded histories of many cases of inebriety are studied and compared, certain fixed ranges of causes appear, which follow some regular order of movement. These causes were summarized as follows:

1. Certain conditions of heredity, certain physical and psychical shocks and nerve-injuries, are followed by inebriety in a large proportion of cases.

2. Certain structural changes of the brain and functional perversions, certain disturbances of nutrition, and nerve-irritation precede inebriety in many cases.

3. Certain unstable brain-organizations, regular, retarded, and defective brain-developments, etc., are apparent causes in many cases.

4. Certain diseases seem to have a special predisposition to develop into inebriety without any exciting causes.

These groups were discussed in detail.

In dipsomania and periodical inebriety a condition allied to epilepsy was mentioned. The explosions of the craze for drink were called nerve-storms; the regularity and uniformity of these periods were mentioned.

The uniformity of the symptoms of inebriety were described. Inebriety was affirmed to be increasing, and becoming more concealed every year. The coarser features were giving way to mania and suicide, etc.

The evidence of drink-cycles were described, and the temperance-movements were affirmed to be reactions of the drink-cycles, and governed by laws and forces unknown.

In the treatment, work-house hospitals, conducted on a military basis, were urged, such hospitals to be built from the license fund and made like quarantine stations, where the patients could be controlled and placed in the best condition for recovery.

Different plans of treatment were mentioned in detail, and the profession urged to take up this subject and solve its problems along the line of accurately observed facts.

Dr. E. Cutter, of New York, asked if the doctor was acquainted with the Christian faith-cure.

Dr. Crothers replied that he had heard of it, but was not acquainted with its working.

Dr. Cutter said that he had sent one patient there, who had been cured after ordinary methods of treatment had failed.

Dr. O'Neal, of Gettysburg, thought that we ought to watch carefully, to see if there is any restlessness or tendency to go on a spree. They must be kept in a safe place. In treating the habit itself, he uses a pen made out of oak boards, in which the patient is confined and given nothing but good, nourishing food.

Dr. Fair, of Illinois, thought it the great question of the day. He had tried ordinary remedies, but had found church influences the best. It might be a myth, but it seemed to him that these people are greatly assisted by cultivating an instinct which recognizes a superior being who controls them. He cited the case of a man who went fifteen years without liquor under church influences. This man went away, and was supposed to have been lost; he was found in an isolated building where he had wandered in his delirium, and had become too weak to remove himself; he had now gone ten years without drink.

Dr. George E. Stubbs, of Philadelphia, was reminded, by the paper, of what Dr. O. W. Holmes once remarked: "That in order to treat some diseases, we needed to go back two hundred years." When we know that we are dealing with children from hereditary drunkards, we should properly advise about the bringing up of these children. He had a profound respect for church influences, and the idea of taking your trust in God was always a good thing. But these children must abstain from alcoholic beverages.

Dr. John A. Cutter, of New York, cited several instances where he believed people to be thoroughly cured by religious influence and experience.

Dr. William Waugh, of Philadelphia, said: I believe in these remedies, but for other reasons than that claimed. Inebriate asylums cure only to make the patients worse. On account of the fact that he has been kept idle, is supported by kind friends, and having every attention given him, he becomes indolent and careless, desiring only to be pampered. The patients ought to be made to do physical labor. Too much is now attributed to mental influences; they also need attention given to the physical part of their being.

He had a case where a week before the attack of in-

ebrity there would be an absence of bile in the passages.

Another case was presented to him where there was a red deposit in the urine preceding this attack. Appropriate remedies relieved these cases.

Dr. Cronyn, of Buffalo, N. Y., spoke of the Italian method of treatment, which consists of giving the patient food steeped in wine until he gets a strong dislike to alcoholics. He claimed that this treatment seldom failed.

Dr. Crothers replied that these cases are practically insane. There is no one plan of treatment. Inebriety ought to be considered a disease as much as typhoid fever, and we are as capable of caring for it as any clergyman. He could convert them into the church. They are emotionally diseased, and this conversion is a part of that disease. All these methods, such as faith-cure, moral influences, etc., are good, but such treatment is incomplete.

Dr. Ouchterlony said that some of the greatest drunkards he ever knew had been clergymen, on account of which it seemed improbable that moral influences alone were sufficient for a cure.

Dr. Cisna, of Pennsylvania, read a paper on

TYPHOID FEVER.

The paper was not discussed.

SECTION IN CLIMATOLOGY.

Wednesday, September 7th—Third Day.

Dr. A. Tucker Wise, of Engadine, Switzerland, presented a paper on

THE CLIMATE OF THE SWISS ALPS, WITH PULMONARY CASES TREATED AT AN ALTITUDE OF SIX THOUSAND FEET.

The marked peculiarities of Alpine winter climate may be enumerated as, dryness of the air and freedom from micro-organisms, mechanical irritants, and noxious gases, low temperature, plenty of sunlight, low pressure, and ozoniferous atmosphere. The results of these peculiarities upon pulmonary complaints may be stated thus:

1. By breathing aseptic air free from dust, irritation, or, perhaps, recurrence of infection by microbes in the respiratory tract is greatly lessened.

2. Vaporization of morbid secretions in the lungs takes place, promoted by reduced barometric pressure and dryness.

3. Increased oxidation of blood and tissue from sunlight, cold air, and reduced pressure.

4. Increased quantity of blood circulating in the lungs, the freedom of the circulation being aided by extended chest-movements.

5. Increased activity in the pulmonary lymphatics, and a general improvement in nutrition and glandular secretion; also an exhilarating effect upon the nervous system.

The four principal health-resorts of the Grisons, in Switzerland, are Maloja, Wiesen, Davos, and St. Moritz. The climates of these resorts are stimulating and tonic.

Twenty-three cases were related, showing great improvement during a residence of from one to sixteen months.

A paper by Dr. John D. MacDonald, Inspector-General Royal Navy, on

GROUND AIR IN ITS HYGIENIC RELATIONS,

pointed out the importance of the study of the atmosphere of the soil, but contained no new points of view.

Dr. P. H. Boyce, of Toronto, Canada, Secretary of the Provincial Board of Health, read a paper upon

HOUSE ATMOSPHERES, OR ARTIFICIAL CLIMATES.

The points considered were the constituents of house atmospheres, their temperature and humidity, and air-currents; the effects of house atmospheres on populations, and remedies for existing evils connected with house atmospheres

With reference to the constituents of house atmospheres, the observations of Miquel, Koch, Aitken, and Tyndall upon indoor and outdoor air were quoted. Considerable attention was given to temperature and humidity in connection with house air.

The remedies for the evils mentioned are sunlight in abundance, greater care in the construction of dwellings, foundations, and plumbing appliances, improved municipal sanitation, and the attainment of equable heating and thorough ventilation. In conclusion, it must be recognized, that the fatal effects of the imperfect conditions of human life under which Indians, negroes, and many of the people of limited means exist, demand the earnest consideration of all workers in the field of climatology and demography; and since the occupations, urban residence, and limited means make it impossible for an increasing proportion of our population to enjoy the health-giving influences of rural residence and the stimulating effects of life by the ever-restless ocean, or upon the mountain side, we shall best conceive the duties assigned to us, of making it possible for every willing citizen to so live under his own roof as to maintain a vigor unimpaired for the discharge of the work lying nearest him, and to transmit to the race that is to be a legacy of physical health.

SECTION IN DENTAL AND ORAL SURGERY.

Third Day, Wednesday, September 7th—Morning Session.

Dr. Pradère, of Lyons, France, read a paper on

PHTHISIS CURED BY THE CONTINUOUS APPLICATION OF MEDICINE TO THE PALATE.

Immediately after the paper was read, Dr. James Trueman, of Philadelphia, Pa., moved that it should *not be accepted by the Section*, but should be referred, without discussion, to Section I., in General Medicine; also embodying that the Executive Committee be censured for allowing such a paper to come before the Section. The motion was seconded by Frank Abbott, M.D., of New York, but the Chair ruled that, inasmuch as the Executive Committee had seen fit to admit this paper, it would be out of order to put the motion to the house. Dr. Trueman dissented from the decision of the Chair and renewed his motion. The question being then called, it was voted to refer the paper to Section I.

CLINIC.

A number of gentlemen gave clinics in the treatment of diseased conditions of the oral cavities, and others demonstrated their methods of filling teeth and constructing artificial dentures for patients. These clinics are spoken of as the most successful features in this Section, and it is but just to say that a good deal of credit is due to Dr. C. F. W. Boedecker, of New York, for the result.

Dr. Metnitz, of Vienna, Austria, read a paper on

OSTEOMYELITIS.

The main feature of the paper was the report of two cases from practice.

The history of the first case was as follows: In October, 1886, a lady, aged forty-three, had two teeth extracted. A few days later she suffered with chills, which were followed by slight mental disturbances. The seventh day the patient became unconscious, in which condition she was brought to the hospital. Examination revealed that there was a large swelling over the left cheek, extending to the temporal region; the skin covering this swelling was tense and pale in color; the sclerotic was highly colored (yellow), and the skin showed a yellow tinge; the pupils were without reaction. The odor

of the breath gave evidence of necrosis. The submaxillary glands were very much enlarged, and the neighboring tissues infiltrated. There was unconscious urination and defecation. Death occurred the following day. The post-mortem examination showed the membranes of the brain to be thickened and traversed by numerous vessels. The left hemisphere was covered by a layer of pus, and the right hemisphere showed considerable pus along the track of the vessels as well as several pus-depots. The brain-substance was quite soft. The examination of the oral cavity disclosed that of the two teeth extracted the upper alveolus had almost entirely filled up with healthy granulations, whereas the lower was filled with pus. The mucous membrane in the region of this diseased alveolus was very much discolored and could be easily removed in pieces. The probe discovered nothing but dead bone. All the muscles of the neck which are attached to the left side of the lower jaw were infiltrated with pus. The periosteum was separated from the left side of body and ramus of the jaw. The alveolus of the extracted wisdom-tooth communicated by two good-sized openings with the marrow-cavity, and the marrow itself was discolored and infiltrated with fat. The cause of this extensive destructive action is no doubt to be looked for in the unclean condition of the alveolus after the extraction. Sections of the jaw show that the medullary canal was very much enlarged.

Kocher, Rosenbach, and Busch, in experimenting on animals, have found that it is impossible to produce an acute pus-forming osteomyelitis either through traumatic injury or chemical and mechanical irritation, but that such a condition can readily be brought about by infecting the fresh wound in the bone by any decaying substance.

The second case was one of multiple osteomyelitis. The patient, male, aged seventeen, suffered from an attack of osteomyelitis of the humerus, the ulna, and the lower jaw. According to Billroth, it is not settled whether this condition (multiple osteomyelitis) is due to septic influences acting on various places at the same time, or whether the infection dates from one point.

Death in this case, as in the first, was directly due to acute suppurative meningitis. When we have to deal with a simple inflammation, energetic antiseptic treatment will prove quite sufficient. In severer cases of osteomyelitis Billroth advises that the seat of disease be reached as soon as possible—the pus evacuated, the cavity thoroughly disinfected and dressed with antiseptic dressing. Many cases present no actual depots of pus, or abscesses, but simply an infiltration of the marrow. In such cases Billroth holds it of little value to open into the medullary canal. Neither does he advocate disarticulation or resection, because, in the first place, the exact extent of the disease cannot be foretold, and, secondly, the medullary substance of a patient suffering from osteomyelitis is in such a susceptible condition that a new injury would almost certainly prove fatal.

This paper was read by the essayist in German. No discussion followed.

Dr. Jenison, of Minneapolis, Minn., read a paper on

ART IN DENTISTRY.

The essayist advocated the restoration in gold of all teeth that had been destroyed by caries, thereby improving both their usefulness and beauty.

In constructing artificial dentures more time should be given to the restoration of the features of the patient, and for that purpose single and not section teeth should be used.

Dr. John Allen, of New York, discussed the paper, taking up the main points to be observed in constructing an artificial denture. He closed his remarks by saying that inasmuch as the countenance reveals the thoughts of a person, great care should be exercised in restoring lost features.

AFTERNOON SESSION.

Dr. R. R. Andrews, of Cambridge, Mass., read a paper on

THE ORIGIN OF THE DENTAL FIBRIL, ILLUSTRATED BY AID OF THE STEREOPTICON.

Dr. Andrews described his process of preparing and mounting the specimens for the microscope, which differed in no essential respect from the latest methods employed by others for that purpose.

In speaking of the formation of the fibrils, the essayist says there are two kinds of odontoblasts—those which are square toward the dentine, and others, just by the sides of the first mentioned, which are pear-shaped. From these latter, and not from the first (or square end ones), originate the dental fibril.

The stereopticon views presented by the doctor showed very clearly with what patience, earnestness, and intelligence the essayist worked to establish his view of the question, and the hearty appreciation accorded him by the Section was well merited.

Dr. Frank Abbott, of New York, in opening the discussion, paid a high tribute to the reader of the paper for the hard work done in behalf of his specialty. In order to understand the process by which the dental fibril is produced, it is necessary for us to consider the matter from the third to the fifth month of intra-uterine life, at which period of the existence of the fœtus the papilla of teeth are so far developed that a material change is observed to be taking place. The papilla is a mass of myxomatous tissue, liberally supplied with medullary elements. In some instances at three months, at others as late as the fifth of intra-uterine life, a coalescing of several of the medullary corpuscles into one may be observed upon the periphery of the papilla adjacent to the enamel organ, which at this period may be observed forming a cap upon the papilla. The united medullary corpuscles are known as odontoblasts. The impression has generally prevailed among histologists and embryologists, that the odontoblasts were directly formed into dentine. This theory, through recent researches, has been proven to be incorrect. The odontoblasts, when viewed with a power of 1,200, show a delicate reticulum, which unites the nuclei with the walls of each corpuscle and with each other. This reticulum, as well as the walls of the odontoblasts, are the living matter which remains as the living portion of the dentine. Before the beginning of the deposition of lime salts, the odontoblasts are reconverted into medullary substance. As such they receive the calcareous basis-substance, and thus a certain territory of the papilla becomes dentine. While this process of calcification is going on, another row of odontoblasts makes its appearance, from the sides and ends of which prolongations of the living matter may be seen running into the canaliculi of the dentine already formed. A spindle- or pear-shaped odontoblast gives off one, while those with broad ends give off two, three, and even five, prolongations. If the views advanced in the paper were correct, it would necessarily follow that territories of considerable size would be left in the dentine with no canaliculi whatever; nor is there any provision for furnishing these territories with any living tissue.

Dr. Fletcher, of Cincinnati, O., read a paper on

PROTECTIVE DENTINE, ILLUSTRATED BY STEREOPTICON.

This paper was listened to with great interest by the Section. The slides which were shown on the screen showed the different kinds of protective dentine, and the essayist gave his views of how these different efforts on the part of nature to protect herself are brought about.

Dr. W. X. Suttuth, of Philadelphia, agreed with the essayist in the practical conclusions drawn; he supplemented the reader's remarks by stating that the odontoblasts remain after the development of the dentine, but can be stimulated to produce or perform their function of forming protective dentine.

Dr. W. H. Atkinson, of New York, complimented the gentlemen on producing such well-digested papers.

Dr. J. Howard Mummery, of London, England, exhibited

PHOTO-MICROGRAPHS OF ALL THE STRUCTURES OF THE TOOTH,

and explained the best method of producing them.

SECTION IN GYNECOLOGY.

Wednesday, September 7th—Third Day—Morning Session.

Dr. Ernest W. Cushing, of Boston, read a paper entitled

CANCEROUS DEGENERATION OF THE HYPERPLASTIC GLANDS OF THE CERVIX UTERI.

Ruge and Veit have described a condition of the glands which they considered to be in itself the nature of a cancer—a transition from innocent to malignant formation. This seems to me much less clearly demonstrable than the views which they maintain concerning erosion.

Briefly, they attribute the greater import to a certain filling up of the lumina of the glands with epithelial cells, either columnar or flat. The fascinating theory of Veit and Ruge agrees so thoroughly with Theirsch and Waldeyer and their followers that it has been very widely accepted, and a plate showing the transition is shown in Dr. A. Martin's "Gynecology." I think it possible that greater importance has been attached to this condition of glands than has been warranted.

The question is of practical importance in regard to the microscopical diagnosis of suspicious affection of the cervix, for as it is admitted that the diagnosis cannot be made securely by the unaided eye nor by the touch, and as vaginal hysterectomy is now advocated, and, at any rate, free amputation of the portio vaginalis is indicated in all cases of undoubted cancer, even in an incipient stage, a great responsibility is thrown on the microscopic examination.

In the first place, as Ruge and Veit expressly declare, in their majority of cases the carcinoma did not originate in the new-formed gland, but infiltrated the cervix as a "carcino-sarcoma," an aggregation of small cells lying in masses in alveoli of connective tissue. In such cases there was no evident connection with the epithelium of the surface with the glands.

In four out of twenty-two beginning cancers of the cervix, however, they found appearances of solidification of the glands and filling up with epithelium, which they describe and figure as a transitional stage in the development of the adjacent cancer. With much diffidence I venture to suggest that my studies of the changes in question have led me to different conclusions from these observers.

THE PLATES OF RUGE AND VEIT

are not conclusive on this point.

Even when a whole series of glands lying adjacent to each other show occluded lumina on section, I cannot feel the diagnosis of carcinoma is justified, but only that of adenoma. It may become destructive, but is not carcinomatous until changes occur in the connective tissue between the glands, when the boundaries of the glands are broken through by the growing cells.

Even when the new glands are thus involved manifestly in the carcinomatous growth, it has seemed to me they are invaded from without by the growth of cells in the surrounding tissue. . . . I have found no evidence that after filling up the lumen of a gland the proliferating columnar epithelium changes to the flat variety, and, breaking through the boundary of the gland, invades the surrounding tissue.

Moreover, in attributing so much importance to the fact that they found the lumina of some of the new glands occluded, Ruge and Veit have not noticed the explanation that precisely these solid acini or branches may be the first stage of their existence previous to the formation of the lumen.

Such a mode of growth is seen in the formation of new glands in the walls of a multilocular cystoma of the ovary. These little solid sprouts, lined with columnar epithelium, afterward become hollow and then dilate, forming cysts.

A similar mode of growth is seen in the female breast when rapidly enlarging, preparatory to the secretion of milk.

Where the microscope shows glandular degeneration, the surface bare of epithelium, the tissues heavily infiltrated with small cells, especially if the woman be fifty or over, we should not say that the microscope only shows chronic inflammation, but that

WHILE CANCER IS NOT PROVED, IT IS NOT EXCLUDED,

and should recommend a free removal or destruction of the suspected tissue.

Shall we, then, say that a case is not cancerous which shows no distinct structure of carcinoma on microscopic section, only a glandular hypertrophy, with some of the glands filled with epithelia, and the stroma infiltrated with small cells, the surface denuded of its epithelial cells and irregular?

May we not reconcile the long contest between the two theories, which assign the origin of cancer respectively to the connective tissue and to the epithelial layer of the glands of the involved organ, by supposing that the anatomical arrangement of cells, which clinically and microscopically we call cancer, is only the visible and outward sign of a morbific agent at present hidden from us?

The practical deductions which depend upon our speculative opinions as to the nature of cancer are of the greatest importance.

In the first place, if the disease comes from within, if it is a perverted growth of a part of the tissues, dependent on some original error of development, it is necessarily absurd to try to find, empirically, any medicine which should cure it.

If, however, it is an infection of some kind from without, we are justified in trying empirically, if as yet vainly, for some remedy which may overcome it.

Of more practical importance is the question of the utility of cauterizing the stump or cavity from which a cancer has been removed. There is considerable evidence which shows that surgical interference with a cancer is sometimes followed by a recrudescence of the disease more rapid and violent than the original disorder. If we consider that the operation opens veins and lymphatics which sometimes become infected with the morbific agent, we can better understand why a thorough cautery of the tissues left bare by the removal of a cancer of the cervix should be apparently so useful in lessening the chances of a return of the disease.

Dr. Franklin H. Martin, of Chicago, Ill., read a paper with the title,

A METHOD OF TREATMENT OF FIBROID TUMORS OF THE UTERUS BY STRONGER CURRENTS OF ELECTRICITY BASED UPON EXACT DOSAGE.

The author recognized in the treatment adopted by Dr. Apostoli a rational, harmless, comparatively painless and eminently successful mode of treating fibroid tumors of the uterus by electricity. It is upon these well-tried principles that Dr. Martin is able, after successful practical experiments, to lay down an exact line of dosage, enabling him to obtain all the beneficial effects of electricity without overstepping the limits of tolerance in the most susceptible or sensitive subjects.

The distinctively original feature of the paper was the description by Dr. Martin of his method of exact calcu-

lation of dosage, experiments being cited which showed that a certain local effect may be expected at an active electrode of given surface from a definite strength of current passing for a certain length of time. The demonstrations proved that in order to get the characteristic local effects of electricity on the mucous membrane of the uterus, or to check hemorrhage, upon a surface of one square centimetre, a current of twenty-five milliampères passing for five minutes is necessary. One square centimetre is found to be about the surface represented in length of the uterine sound electrode. Upon this basis of calculation, the uterine canal which would require an Apostoli electrode twenty centimetres in length would require a current, if equal conduction took place from its entire surface, of five hundred milliampères. The author argued that in many cases this strength of current would not be tolerated, and if it were there is no means of being certain that the sound conducts equally from so large a surface or that it comes in actual contact with the mucous membrane of the uterus in its entire extent.

In order to obviate this difficulty Dr. Martin has employed electrodes, concentrating the current to smaller portions of the uterine canal, so constructed that each portion of the canal may be treated at each succeeding operation.

Dr. Martin

RECOGNIZES BUT TWO VARIETIES OF OPERATIONS:

1. Positive inter-uterine galvanism, which corresponds to Apostoli's "galvano-caustique positive."

2. Negative inter-uterine galvanism, which corresponds to Apostoli's "galvano-caustique négative." These operations were fully described, from which procedures Dr. Martin believes we have a safe, painless, accurate, and rational method of treating fibroid tumors of the uterus. By this method all danger to the patient is avoided, such as may be observed in other treatments.

In conclusion, the principal advantages of this method were summarized under six headings: (1) It is entirely free from danger; (2) it is absolutely painless; (3) it invariably checks hemorrhage; (4) it rapidly reduces the size of tumors; (5) it alleviates neuralgic pain; (6) it is a system of treatment of fibroid tumors of the uterus based upon principles which make exact dosage possible.

Dr. Thomas More-Madden, F.R.C.S., of Dublin, Ireland, then read a paper entitled

SOME POINTS IN THE PATHOLOGY AND TREATMENT OF LACERATIONS OF THE CERVIX UTERI.

The pathology and treatment of lacerations of the neck of the uterus have received an amount of attention, in America and elsewhere, which would appear exaggerated were it measured by the comparatively scanty attention as yet accorded it in Great Britain. When he read a paper on Emmet's operation at the closing meeting of the Dublin Obstetrical Society, the very name of that operation, or the circumstances calling for trachelorrhaphy had never been alluded to in the transactions of the premier association of British obstetricians and gynecologists.

In neither English nor American literature had he found sufficient recognition of the frequent complications, pure and immediate, arising from cervical lacerations in obstetric practice; viz., the causation of one of the most troublesome forms of post-partum hemorrhage, and secondly, the occasional occurrence of puerperal septicæmia as the direct result of lacerations of the cervix uteri. So far as he was aware, the advantages of amputation of the mutilated and hypertrophied cervix, in many cases of extensive stellate and bilateral lacerations, over trachelorrhaphy were not generally recognized.

THE RACIAL AND CLIMATIC CONDITIONS

are not so obviously different in London and Dublin from the same in New York and Boston, and any method of treatment found useful on their side of the Atlantic should, *cæteris paribus*, have a like effect in similar cases here. He therefore ventured to submit his clinical experience to the judgment of the Ninth International Medical Congress, and more especially his American brethren therein. It is to them that they who practise in the narrower limits, and perhaps more conservative atmosphere, of the old country are mainly indebted for their present acquaintance with this department of modern gynecology. He was convinced by his clinical experience, which was now tolerably large, that it was a far better and more rational practice, if any operative treatment were really required, to resort to the amputation of the entire extent of the mutilated and diseased cervix by either écraseur or galvano-cautery. H need not say he did not advise this operation indiscriminately; indeed, he thought the majority of cases of cervical laceration needed no operative treatment specially, and such an operation as the removal of the cervix was not to be undertaken without due caution and, above all, real necessity. When thus justified, however, the amputation of the cervix, despite the protestations of some eminent gynecologists, was as unquestionably legitimate as any operation in gynecological surgery. By this procedure, when successful, the surgeon may rapidly and effectually remove every trace of a morbid condition which, if uncured, would probably entail a life of continual uterine discomfort. We may also with certainty prevent the otherwise not improbable possibility of the lacerated and hypertrophied parts becoming the seat of malignant disease at a future period.

Dr. Leopold Meyer, of Copenhagen, Denmark, read a paper on

CONTRIBUTIONS TO THE PATHOLOGY OF INFLAMMATION OF THE LINING MEMBRANE OF THE UTERUS (ENDOMETRITIS CORPORIS CHR.).

1. (*a*) In cases of chronic endometritis, as a rule, we find two varieties of cells, or, rather, of nuclei (as the limits of each single cell are often not distinct) in the inter-glandular tissue. One variety has smaller nuclei; these average as large, or a little larger, than red blood-corpuscles, are stained brightly by hæmatoxylin, carmine, Bismarck-brown, and the substance of the nucleus rarely presents a granular condition.

The second variety has a great resemblance to the so-called decidua-cell.

(*b*) This second variety of cells is not only found in cases where the woman has been pregnant, but is seen in the most developed forms in women whose virginity is unquestionable.

(*c*) This second variety of cells seems, as the first variety, to be derived from the cells normally found in the inter-glandular tissue of the lining membrane of the uterus, the decidua. Cells of the second variety are found in the normal lining membrane during menstruation.

(*d*) Besides these two kinds of cells, we find regular connective-tissue cells and white blood-corpuscles in the inter-glandular tissue.

2. In cases of chronic endometritis the epithelium covering the lining membrane of the uterus can preserve its character of a low columnar epithelium, but it frequently changes character altogether.

Dr. Alfred C. Garrett, of Boston, Mass., read a paper on

TUMORS OF THE BREAST TREATED BY ELECTROLYSIS.

Many, or most of the tumors that so frequently occur in the human breast, we find can be completely cured if treated while young, or new—that is, while in the first stage of existence—by certain mild applications of electricity.

In the first place, to obtain uniform success by this method, we must plan to find these tumors as soon as possible after they form in the breast, while they are in a curable stage in the majority of cases.

However, we already know we cannot assume that

EVERY MORBID LUMP

that grows or appears in the human breast begins from the first a simple or non-malignant tumor, though the most of them seem to do so, judging from the uniformly successful results of these treatments by electricity when applied to the selected, new, or recent tumor.

It is determined that here we must choose the form of electricity and method of application as carefully as we seek to find the curable cases; for we are not to resort to the usual electro-puncture needles, knife, wire, nor any active destructive electrolysis, nor any other means that produce solution of continuity. We are to employ simply surface applications of certain graduated, galvanic, steady currents, through peculiar, large, soft, and moist electrodes, so adjusted close to each side of the tumor as to cause this gently chemical current to completely permeate, and wash through the whole mass from side to side in its deeper parts, mainly in direction toward the axilla, for about half an hour at each *séance*. It is not enough to simply apply the two electrodes to the surface of the breast or in any manner. Moreover, we need to use a milliampère-meter to measure the current that actually passes through the tumor and gland; also a key-board that can enable the operator to pick up and increase the current, cell by cell, to the tolerant and efficient strength, which will be from ten to fifty milliampères. The current required for each individual case cannot be stated in exact terms, as it is found in practice there is a wide difference in the resistance, tolerance, and effect in different persons; yet this point is of great importance.

The result is, that out of 186 tumors treated since 1864, a record of them having been kept and looked after, 157 disappeared and have remained well. Several others did not quite obliterate, however, but left a small nodule, the size of a chestnut, which in every case disappeared or remained benign.

AFTERNOON SESSION.

DR. W. H. WEEKS, of Portland, Me., read a paper on

MYOMA IN PREGNANCY.

He considered the question of operation in these cases to be still under discussion. He introduced the paper by the relation of a case—a young lady, pregnant, having a large uterine fibroid which nearly filled the uterine cavity. He was in favor of allowing the pregnancy to go to term, and such was the opinion of a Boston gynecologist to whom he sent her for counsel. A New York gynecologist, however, advised immediate delivery by the induction of premature delivery. The method by which he would do this was to inject hot water and deliver under ether *per vias naturales*. If allowed to go to term laparotomy would be necessary. Two Boston gynecologists agreed with him, and the author was obliged to surrender. He carried out the instructions of his colleagues to the letter. The patient died in less than an hour after delivery. She seems to have died of hemorrhage and shock. When, as in this case, pregnancy is complicated by a large interstitial uterine fibroid, occupying and wellnigh filling the cavity of the pelvis, is it better to induce abortion or premature labor or to allow gestation to go on to full term, and then deliver by abdominal section?

GUIDED BY THE LIGHT OF ABDOMINAL SURGERY,

I shall maintain that in the vast majority of cases, as stated in the above question, it is better to allow pregnancy to go to term and then, if it is found that delivery is impossible *per vias naturales*, to resort to abdominal section without waiting till the patient's strength is exhausted by protracted labor. The operation best suited to such a case is Cæsarean section, Sänger's method, and then the removal of the ovaries, and, if possible, the Fallopian tubes. Would it not have been better in this case to have allowed the patient to go on to natural labor, and then performed laparotomy before she was broken down?

The author had sent out letters of inquiry to prominent gynecologists of this country and abroad. Nine out of thirteen physicians were in favor of the induction of premature labor. This proportion he hoped would be reversed.

DR. GRAILY HEWITT, of London, opened the discussion and commended the paper very highly.

IT IS A THANKLESS DUTY

to bring an unfortunate case before the Congress, and Dr. Weeks should have our admiration for doing so. He thinks it is generally admitted that rapid evacuation of the uterine cavity in labor is a mistake. The operation in this case seems to have been done rather rapidly. Whether this had anything to do with the hemorrhage and shock he did not know.

DR. TRENHOLME, of Montreal, had had three cases of labor complicated with fibroids, which he related in brief. In one of these premature labor was brought on by a sessile tumor in the base of the uterus. The temptation to remove the tumor was great, and he did it, but the patient died. In his second case he found a small fibroid, which he left alone. The patient did well for some time, but had a return of the trouble. He believed evacuation of the uterine contents should take place slowly.

DR. LAWRENCE, of Bristol, England, discussed the question,

SHOULD A WOMAN SUFFERING FROM FIBROID TUMOR BE ALLOWED TO MARRY?

This is a question frequently presented to the physician and gynecologist. If the patient is not suffering from symptomatic troubles you may tell her that she will probably never be pregnant, but if pregnant she will probably have hemorrhage and may die of it. With this understanding, if she persists let her marry. The doctor reported eight cases in brief. In one of these, after a large number of pregnancies, the tumor disappeared entirely.

DR. S. C. GORDON, of Maine, said that the case of Dr. Weeks was originally his own, and he felt like saying something. He agreed with Dr. Weeks that no abortion should be induced in this case. The position of the uterus in this particular case forbade the operation in his mind. The position of the tumor influences very largely our procedure. He reported a case. In a second case which he cited he advised the induction of abortion, because the tumor involved the anterior wall of the uterus low down to the os.

DR. ALEXANDER DUNLAP, of Springfield, O., read a paper on

THE EARLY HISTORY OF OVARIOTOMY IN AMERICA.

This was a *résumé* of the trials and oppositions which the early American ovariotomists met with in prosecuting their work. The author's own work, which is well known to have been of great importance, though little of it has been published, was described minutely.

Early in 1843, with a very limited knowledge of medicine and surgery, he came in contact with a very peculiar case of ovarian dropsy which he had been led to consider as incurable. This he tapped several times, with the usual results. [He then went into the history of his first ovariotomy with all the enthusiasm of forty years ago, and by the way he described it one would have thought that he was with the young surgeon at the patient's house doing the operation.] After much delay the patient succeeded in forcing him to perform the operation, much against his will. He invited ten of his medical friends to witness the operation. They declined, saying that they could see enough people die without seeing

them killed. One of them presented himself at the time. He was an old retired army surgeon who was addicted to drinking. With this assistant and four students he operated, first giving the patient a teaspoonful of laudanum, after which he went to work (applause). The operation was carefully described. The patient was placed in bed after the operation, with no especial shock, having watched every movement made with care and interest. She did well for four days, when she had a severe diarrhœa which was brought under control. She progressed favorably for a time, when she was taken with an excessive excretion of urine and died on the twentieth day after the operation, evidently from excessive drainage from the kidneys. There was no septicæmia. He was convinced that she did not die from the operation but from the tappings, which had deranged the system and were probably the cause of the kidneys acting as they did. He had no doubt that had he operated when she wanted him, she would have been alive to-day. His reports of this case were

REFUSED PUBLICATION

by the Cincinnati journals.

Dr. Kimball, of Lowell, Mass., was then called up by the President to give his experience in early ovariotomy in the East. His story was quite similar to that of Dr. Dunlap, and his opposition as great. This opposition, he must say, came mostly from the New England metropolis, Boston. Being asked for his first case, he said his first case was one in which he did not operate. He then reported the first case in which he did operate about thirty-five or forty years ago. He invited ten physicians. During the operation he met with considerable difficulty in the form of nine cysts, and when he looked about for his assistants they had all left but one.

Dr. Bozeman, of New York, reviewed the revival of the history of ovariotomy after its abandonment by McDowell, of Kentucky, and its condemnation by the profession. Dr. Miller was the first to use chloroform as an anæsthetic in ovariotomy in America. It was in Terre Haute, Ind., and he, Dr. Bozeman, gave the chloroform. He credited Dr. Dunlap very much for his work, and especially for what he had done in recognition of the importance of adhesions.

Professor A. Cordes, of Geneva, Switzerland, read a paper on the

MEDICAL TOPICAL TREATMENT OF UTERINE CANCER.

The paper was divided into a general consideration of the subject: Medical and surgical treatment; the opinions and treatment of Hippocrates and Celsius; the obscurity of the primary symptoms; the impossibility of hysterectomy in certain cases; adherence and extension to other organs; statistics; topical applications; the treatment of advanced periods of cancer by turpentine, the properties of this remedy, its application and preparation by M. Betrix, assistant to the clinique. The paper closed with a series of conclusions to which the author had arrived.

A paper was read by Dr. A. Lapthorn Smith, F.R.C.S., of Montreal, on

A NEW THEORY AND TREATMENT OF DISPLACEMENTS OF THE UTERUS BY ELECTRICITY,

and one by M. le Docteur Apostoli, of Paris, entitled

SOME NEW APPLICATIONS OF THE INDUCED OR FARADIC CURRENT TO GYNECOLOGY.

SECTION IN DISEASES OF CHILDREN.

Wednesday, September 7th—Third Day—Morning Session.

Dr. Cyrus Edson, of New York, read a paper on

THE MILK-SUPPLY OF CITIES,

calling attention to the great importance of improving and maintaining the standard of milk-supply by banishing adulterated and infected milk. He advocated the examination by veterinary inspectors, from time to time, of every herd of cattle in the State, in order to secure the destruction of all animals suffering from tuberculosis, and the quarantine of those liable to cause contagious disease.

Professor Albert Leeds, of the Stevens Institute, Hoboken, N. J., stated that the work done by inspectors in preventing the dilution of milk is important from a commercial rather than a sanitary point of view, as water is in itself a harmless adulterant. The best work is done when official inspection is extended so as to include the pasture, the stall, and the dairy. Skilled and scientific effort in this direction would prevent the spread of infectious diseases from cattle to man.

A French paper was then read by Dr. Paul Redard, of Paris, on

THE TREATMENT OF ERECTILE TUMORS BY ELECTROLYSIS.

The writer described in detail the method proposed by Ciniselli de Crémorne, which, with some modifications, he had found satisfactory in a large number of cases in dispensary practice. The operation is moderately painful, and the effect rapid, with no suppuration or scars.

Dr. de Valcourt, of Paris, then read a paper on

THE TREATMENT OF TUBERCULOSIS BY SEA-BATHING.

Afternoon Session.

Dr. Isaac N. Love, of St. Louis, Mo., opened the session by reading a paper on

INFANTILE MARASMUS.

He reviewed a class of cases distinct from those caused by tuberculosis, syphilis, and intestinal catarrh. In an advanced stage they present a picture the principal features of which are wasted muscles, prominent bones, a loose and dry skin, and face withered, wrinkled, and worn. A careful study of a large number of such cases had suggested to him the following conclusions:

1. Infantile marasmus is dependent primarily on torpidity and inactivity of the glandular system, and is aggravated by unsuitable, over-abundant, or insufficient food and insanitary surroundings.

2. It is of the first importance, in treatment, to arouse secretion and excretion, the best remedy being calomel in one-twentieth of a grain doses, with the free administration of water; both of these agents exciting glandular action, stimulating the secretion of the digestive juices, and promoting diuresis and intestinal secretion.

3. "In the matter of diet, the mother's milk is the best, and some other mother's milk the next best."

4. In extreme cases, administer soluble foods in the form of baths, and practise gentle friction and massage, with an occasional bath in water containing a diffusible stimulant.

A paper was then read from Dr. William Henry Day, of London, entitled

SOME OBSERVATIONS ON HEADACHES IN CHILDREN, AND THEIR RELATION TO MENTAL TRAINING.

The writer considered the characteristics of nervous frontal and neuralgic headache, and the condition known as irritable brain. One form or the other is the first and most persistent symptom of the breaking down which follows the mental over-pressure which now prevails in education and in the competitive examinations for entrance in every profession and in every branch of the public service. The irritable brain is not infrequently accompanied by myopia, hypermetropia, and astigmatism.

Dr. William S. Dennett, of New York, recognized the type of headache to which Dr. Day had referred as associated with refractive troubles, as well as the occipito-cervical discomfort associated with muscular insufficiency. It would be well if all cases of incipient myopia were attended with a forewarning headache.

Dr. William D. Booker, of Johns Hopkins University, then read a paper, entitled

A STUDY OF SOME OF THE BACTERIA FOUND IN THE DEJECTA OF INFANTS AFFECTED WITH SUMMER DIARRHŒA.

Twelve different varieties of bacteria had been isolated. Eleven were bacilli and one belonged to the cocci. Two of the bacilli only liquefy gelatine. Their action on milk is as follows: Some coagulated casein with acid reaction and evolution of gas, one variety caused coagulation with alkaline reaction, one gave the milk a peptonized appearance, other varieties caused no perceptible change.

In guinea-pigs, young kittens, and white rats and mice the post-mortem results were fully detailed in the paper, and an interesting discussion followed.

SECTION IN MILITARY AND NAVAL SURGERY IN MEDICINE.

Wednesday, September 7th—Third Day—Morning Session.

The first paper of the day, upon

THE PROPER TREATMENT OF PENETRATING WOUNDS OF THE JOINTS.

was read by the author, Professor Frederic Hyde, of the University of Syracuse, N. Y.

After a critical review of the history of the subject, of the methods advocated by various civil and military surgeons for the treatment of these wounds, and the textural changes resulting therefrom, the author stated that the result of the wound, whether incised, lacerated, contused, or punctured, depends upon the intensity of the inflammation and the destruction of tissue, and presented his views as to the treatment. These may be summarized into: The arrest of hemorrhage; treatment of shock; the removal of foreign bodies from the wound, which should be enlarged, if necessary. In all cases of suppuration a direct opening should be made for its evacuation. After any form of injury an effort should be made to save the limb; perfect immobility should be secured by plaster-of-Paris or other fixative dressing; finally, pain should be alleviated, and the general condition be improved by stimulants, good food, and the like, according to indications. The treatment of the injury throughout should be antiseptic. The speaker contrasted the earlier treatment of joint-wounds, which forbade the opening of a suppurating synovial sac, with the treatment of to-day, and characterized the former as the spoliative and the latter as the saving treatment. Amputation should only be resorted to as a *dernier ressort*.

The next paper, upon the same subject, by Dr. George L. Porter, of Bridgeport, Conn., was then read. It had especial reference to the injuries of the larger joints, particularly that of the knee. The treatment should be adapted to each individual injury; aseptic precautions, complete rest, the ice-pack, and expectant treatment generally the author thought to be applicable to most cases.

Dr. Eli A. Wood, of Pittsburg, Pa., read a short paper on this important subject, which in the main agreed with that of Dr. Hyde.

Dr. Marston, of England, favored amputation.

Dr. Janes, of Waterbury, Vt., stated that his experience had been an unfortunate one, all his cases having died.

Dr. Gregory, of St. Louis, inveighed against resorting to amputation, and favored the opening of the wound under aseptic precautions and removal of foreign bodies, and careful supporting treatment.

Dr. G. T. Langridge, of England, spoke of his large experience in wounds of the knee-joint produced by machinery; under aseptic treatment a very large proportion of cases recovered completely.

Dr. L. von Farkus, of Budapesth, stated that during the late Servo-Bulgarian War there were observed nineteen cases of gun-shot penetrating wounds of the knee-joint, all of which were, with one exception, treated by fixation by the plaster-of-Paris bandage, after free opening under antiseptic precautions and drainage; fever was absent in all cases, and all recovered, including the exception mentioned, which was a case of injury so serious as to require amputation.

Afternoon Session.

The paper of Dr. W. S. Tremaine, U. S. A., entitled

IS LAPAROTOMY FOR GUN-SHOT WOUNDS OF THE INTESTINES FEASIBLE IN MILITARY PRACTICE AND ITS TECHNIQUE?

and another upon

THE TREATMENT OF PENETRATING WOUNDS OF THE ABDOMEN, WITH WOUND OF THE INTESTINES,

by Dr. Francis Patrick Staples, of the British Army, were read by title.

An abstract of a paper upon

THE PROPER TREATMENT OF PENETRATING WOUNDS OF THE ABDOMEN,

by Dr. S. T. Armstrong, U. S. A., of Memphis, Tenn., was, owing to the absence of the author, read by Dr. Smith, of the army. The main points brought out by the writer were, that the treatment depends upon the part injured; rest, sedatives, expectant treatment, with laparotomy as a last resort.

The next paper, also upon this important subject, entitled

ON NON-FATAL PENETRATING GUN-SHOT WOUNDS OF THE ABDOMEN TREATED WITHOUT LAPAROTOMY,

by Henry Janes, M.D., of Waterbury, Vt., was read. The author began by saying that the tendency at present is to too much operating upon the abdominal cavity. He had tabulated the cases observed by himself during the late war, of penetrating gun-shot wounds of the abdomen, covering twenty-seven cases, eighteen of which were complicated by lesions of the abdominal viscera, and other cases of injury to pelvic and abdominal organs. In none of these cases were operations performed, except for the purpose of removing fragments of bone, the missiles, or other foreign bodies.

SECTION IN LARYNGOLOGY.

Wednesday, September 7th—Third Day—Morning Session.

Dr. H. H. Curtis, of New York, being absent, his paper on

SURGERY OF THE NASAL SEPTUM AND TURBINATED BODIES

was read for him. He classified various deformities of the septum so as to more accurately describe the different operations. Operations on the turbinated tissues were disposed of in systematic manner, and attention was given to catarrhal conditions of ethmoidal cells.

Dr. F. Massei, of Naples, Italy, sent a paper on

PRIMARY ERYSIPELAS OF THE LARYNX.

Dr. Massei being absent, his paper was read for him. It opened by quoting a list of authors who admitted that there was a primary erysipelas of the larynx. It is fortunately a very rare disease, and no good clinical history is given showing the laryngeal appearance. The disease

is usually secondary to erysipelas elsewhere on the body; where primary it is found in hospitals where the air is bad, and where the patient's bed is near that of another who has an attack of erysipelas. The disease may begin in the throat and attack the skin later. In 1885 his attention was called to cases in private families where there was primary erysipelas of the larynx. The cases had not been exposed, to his knowledge, to infection from other cases of erysipelas. There was no manifestation of the disease elsewhere on the body. Noticed one form where the local symptoms were most prominent, and another where there was an early collapse. It may extend to the lungs without any external appearance of the disease.

Early symptoms are, difficulty of swallowing and talking, change of voice, with pain; fever is high, and pulse rapid. Epiglottis swollen; mucous membrane of larynx intensely congested and reddened, also much swollen. Narrowing of glottis even to suffocation may occur as symptoms increase in severity, and we find aphonia and dyspnœa, caused by swellings and œdema over arytenoid cartilages and ary-epiglottic folds. The swelling has a way of migrating from one part to another, may sink down on one side and the other become rapidly tumefied. The swelling of a part is preceded by intense congestion. Frequently there is an eruption of blisters or bullæ. These burst and form crusts with mucus and blood. Fever is more or less relapsing; temperature varies from 40° to 38° C., but is not periodical in its changes. Lymphatics are very sensitive, and neighboring glands are swollen and inflamed. After several relapses of temperature, we may have resolution and recovery, or death from asphyxia if tracheotomy is not resorted to, or collapse from extension to the lungs. More apt to extend to the lungs in the aged. In treatment, use ice or coil to the larynx, also counter-irritants; use bichloride, one to two thousand, as a spray. If patient cannot swallow food through a tube when œdema or bullæ interfere seriously with breathing, then scarify, and resort to tracheotomy if necessary. In migrating from one part to another, it may be rapidly fatal, so as to give no time for action. Treat the disease by symptoms.

Dr. Stockton, of Chicago, saw a case of a powerful and healthy man, who came to Chicago for nasal trouble. Contracted what he thought was severe cold. Had symptoms rapidly increasing in severity; pulse, 140; temperature, 103½°, preceded by severe rigors. Great difficulty in breathing, with aphonia. Epiglottis thick and red, so also arytenoid and folds between, and thickly covered with small blebs. More or less œdema over the arytenoids, with numerous blisters. Ventricular bands covered the true vocal cords, and almost completely closed the glottis. Tried intubation, which worked perfectly to relieve dyspnœa; but the redness of the erysipelas extended over the pharynx to post-nasal space and through the nose, then over face and eyes to the forehead. Recovery.

Dr. Benham, of Pittsburg, Pa., thought it more common than usually supposed, and there was no disease more distressing or likely to tax the physician's resources more. He has never seen it primary. Instant relief from scarification. Cannot understand the sudden recovery that sometimes occurs.

The President (Dr. Daly) thinks that mustard and external irritants are beneficial, if used early. He thinks that intubation would favor gangrene.

TWENTY YEARS OF LARYNGOLOGICAL WORK IN THE CITY OF MEXICO,

was the title of a paper sent by F. Semeleder, M.D., of Mexico. It treated chiefly of the difficulty of getting books and instruments early in his career, and described how laryngology was unknown there. He gave a list of prevalent troubles, and the various operations he had performed.

PRESENT STATUS OF THE GALVANO-CAUTERY IN THE TREATMENT OF THE DISEASES OF THE UPPER AIR-PASSAGES, ILLUSTRATED BY INSTRUMENTS AND THE DESCRIPTION OF CASES,

was the title of a paper by F. B. Eaton, M.D., Portland, Ore.

The author being absent, the paper was read and the instruments exhibited.

Inventive faculties stimulated continually to devise more radical methods of treating nasal catarrh. Must avoid over-medication, over-treatment. Considers specialists a necessary evil. There will be a reaction and less operative interference result. Defends galvano-cautery against attacks of being cumbersome and expensive. It is only relatively so. It is never disappointing in its results, but surpasses one's expectations. Not as much disliked by patients as acids, and easier to regulate the effect. Patients fear it less than knives, saws, and snares. No pain when twenty per cent. of cocaine is used. Operation is clean, with no hemorrhage; can remove small exostoses and cartilaginous masses, but not where they are large. A saw is better here. Puncturing them may cause enlargement and fatty degeneration. Treat hypertrophies by puncture and incision with cautery. Leave puncture and move the point freely in the mass, so as to cause contraction without destroying the external tissues. Battery and various electrodes exhibited. He has in operating used rigoline, after Dr. Jarvis' method.

Dr. R. H. Thomas agreed with Dr. Eaton's conclusions as to the general applicability of galvano-cautery, but did not consider it as successful for large hypertrophies as the cold snare. He considered twenty per cent. of cocaine as far from safe for indiscriminate use. He has seen too many unpleasant effects from even weaker solutions. Never needs over ten per cent. as the highest.

SECTION IN OBSTETRICS.

Wednesday, September 7th—Third Day—Morning Session.

DISCUSSION ON CÆSAREAN SECTION.

Professor Alexander Simpson, of Edinburgh, Scotland, was in accord with the ideas expressed in Dr. Lusk's paper, though he did not think the time yet come when craniotomy could be entirely laid aside; its performance, however, should be restricted. In Edinburgh pelvic deformity was rare and craniotomy was rarely required.

The cases requiring abdominal section could be divided into two groups—first, those where the prognosis was rendered grave by pre-existing inflammatory conditions or sepsis, and, second, those favorable cases where we could choose the moment and place of operation, when we should nearly always succeed. At present he would be bold who would perform Cæsarean section by other than the Sänger method. Where the uterus was diseased and its removal would give the patient a chance, he would employ Porro's method.

Professor August Martin, of Berlin, Germany, considers the Sänger modification very important, and one which has rendered the operation safe. Since the adoption of this modification the section had been done in some cases where he thought version could have been safely performed. In moderate degrees of pelvic contraction we should ascertain whether delivery could not be effected in other ways, as by version, before performing the section. Had done the Cæsarean in pregnancy complicated with cervical myomata. Sänger had operated in similar cases. Where carcinomata of the organs in the pelvis endangered life we should endeavor to deliver child and remove growth at the same time. When the uterus was infected by septic material it should be removed. In a rachitic, kyphotic woman, with heart and lung disease, the symptoms were so grave that he did

not think the woman would stand normal parturition or the puerperal state; accordingly he had done abdominal section, saving both child and mother, who finally died from her lung trouble. Much depended upon our knowledge of the technique; if we succeeded in doing the operation perfectly, either the Sänger or Porro operation was justified. The statistics of the Porro operation were rendered less favorable by Italian operations done on unfavorable subjects who were septic and in whom the operation was too long delayed. The Cæsarean section always gives us hope of perfect recovery, while the Porro operation prevents future maternity.

Abdominal section is indicated when it seems impossible to bring a living child through the pelvis (take care not to operate too soon); when neoplasmata narrow the canal or endanger the progress of parturition; and when diseases are present in which the life of mother and child would be endangered by the process of parturition or the puerperium.

The Cæsarean section should be done when we have reason to believe that the patient can endure another pregnancy; the Porro operation, or total extirpation, when there is no hope of future maternity or where the disease, from its nature or seat, is probably fatal.

Dr. Joseph Taber Johnson, of Washington, D.C., reiterated the opinions expressed by Drs. Lusk and Wathens. He believed that by delay and the attempt to perform other operations many lives were lost. He advocated the Porro operation when the uterus was septic or bruised. The wonderful results of foreign operators were due to their exceptional opportunities and skill, the operations being done by a few men, while here the operators were scattered, and many operations had been done in the backwoods. He thought that soon American surgery would reap as brilliant a reward as that abroad.

Dr. Balls-Headley, of Melbourne, Australia, advocated the Cæsarean section when the child could not be born alive through the natural passages. There were also certain conditions, as carcinoma of the cervix, where other operative interference would allow the child to be born, but in these cases his experience taught him that the Cæsarean section offered a very much better prognosis. The operation was an easy one. In slight pelvic contraction the section gave good results. We should operate early, or, if the parts were bruised, substitute the Porro operation.

Dr. Doléris, of Paris, France, accorded with the views of Lusk and Martin. He believed in the use of the elastic ligature.

Dr. W. W. Jaggard, of Chicago, Ill., said, with reference to the *relative indication* for Cæsarean section, that in cases where the child could pass *per vias naturales*, when diminished in volume, with safety to the mother, as, for example, in pelvic contractions of from 6 to 8 ctm. in the true conjugate, four considerations should receive attention:

1. Craniotomy does not require a higher degree of operative skill than every qualified obstetrician ought to possess, when proper instruments are employed, *e.g.*, Braun's curved trepan and cranioclast.

2. The mortality of craniotomy, when performed in time, and before exhaustion and infection of the woman, with adequate skill and antiseptic precaution, is, as remarked by Barnes, practically nil.

3. The consent of the woman, obtained without direct or indirect coercion, an essential condition of the relative indication, is seldom gained, if the facts be presented to her.

4. That there is much sentimentalism with reference to the value of the life of the child in utero, as compared with the value of the life of the mother. This interest in the child is purely impersonal and scientific. The delight in saving the child's life is frequently that arising from the success of a difficult scientific experiment.

Dr. William T. Lusk, of New York, said that the points made by Dr. Jaggard were opposed to his recent investigation. With skill we could remove a living child where the contraction was only 7 to 10 ctm. Craniotomy was a dangerous operation, and, under three inches, required much skill and good instruments. He believed the Cæsarean section not more dangerous than the extraction of the child after craniotomy.

In his recent case the operation was done in the open ward, with the same preparations as for ordinary laparotomy. The children, according to his researches, did not die, as general opinion would have it. The Cæsarean section was easy to do. He thought there was danger, in the employment of the elastic ligature, from paralysis and inertia, caused by the compression. We did not want to encourage trying craniotomy and then Cæsarean section, but should make the lattter the operation of election. Most of our cases had been done under circumstances which had rendered death inevitable.

Afternoon Session.

Dr. J. A. Doléris, of Paris, France, presented a paper on the

TREATMENT AND SURGICAL RESTORATION OF THE CERVIX DURING PREGNANCY.

He first described a case where at a previous pregnancy the cervix had been very extensively lacerated. The patient was again several months pregnant, and suffered from a profuse, fetid, probably gonorrhœal discharge. There was severe vaginal pain, and the cicatrix of the cervical laceration was very painful when touched. Preliminary treatment did not relieve the patient and the cervix was sewed, four sutures being placed on either side, and the vagina filled with iodoform gauze. The result was excellent, with no interference with the pregnancy.

This was only one of several similar cases where he had operated successfully.

A severe laceration accompanied by profuse and fetid discharge was very distressing, and might lead to abortion or puerperal fever.

He thought the danger of producing abortion by the operation was exaggerated, and that in the class of cases mentioned it produced good results.

Dr. Opie, of Baltimore, recalled a single case where a severe bilateral laceration of the cervix had been operated upon; the woman proved to be pregnant, and aborted on the sixth day. There was objection to any operation about these parts during pregnancy, especially early pregnancy. Cervical operations were not without their special dangers at this time, and should be but rarely done.

Professor Leischman, of England, said that preconceived opinions often stood in the way of new truths. His preconceived opinion was that operations about the cervix were likely to produce abortion, especially when not done by the most skilled hands. Any operation during pregnancy, and this in particular, should be done only in rare and strictly defined cases.

Dr. Doléris responded that he had not advised the operation except in the well-defined cases he had mentioned, and in which he thought it would rather tend to prevent abortion.

Dr. Joseph Kücher, of New York City, read an elaborate paper

ON THE RELATION OF THE ATMOSPHERE TO PUERPERAL FEVER.

He spoke of the importance of pure air in the lying-in room, and put the question: What influence has an impure air on puerperal fever? A *résumé* of the literature and statistics of the subject shows that the malaise of dissecting-rooms is more due to impure air than to absorption of septic material, and that true sepsis occurs only by inoculation through an open wound.

Overcrowding does not necessarily cause puerperal fever when septic infection is prevented. Pure air undoubtedly allows of more rapid convalescence; bad air depresses and allows the more easy access of septic infection; sepsis does not occur from bad air alone, but only from direct contact with septic matter.

Dr. Thomas More-Madden, F.R.C.S. Ed., of Dublin, Ireland, presented a paper

ON THE PREVENTION AND TREATMENT OF PUERPERAL SEPTICÆMIA,

which was read by the Secretary.

The author considers all forms of septic fever consequent on parturition, and occurring within the puerperal period, as various manifestations of a specific puerperal fever. Puerperal sepsis may originate in three ways, viz., from inoculation with the micrococci of clinically allied diseases, such as erysipelas or scarlatina; from infection by the pathognomonic, chain-like micro-organisms evolved by other puerperal-fever patients; or the disease may arise from auto-infection with self-generated septic matter. Although absolute immunity from puerperal fever must be considered hopeless, its prevalence may be much diminished, and its virulence minimized, by the rigid observance of certain precautionary antiseptic and hygienic measures.

For prophylaxis the author strongly recommends the administration, during the latter months of pregnancy, of the chlorates of iron, potash, and quinine. Strict attention to the patient's local and general hygienic and aseptic condition is insisted upon. The author uses a carbolized intra-uterine douche daily throughout the puerperium, together with large doses of ergot for the same time.

In the treatment of puerperal fever he relies primarily on the maintenance of the patient's strength by suitable nourishment and stimulants; secondly, on the daily washing out of the uterine cavity with hot water, plain or medicated; thirdly, on full doses of quinine and turpentine—which latter drug he believes to be especially valuable in every form of puerperal fever.

Dr. Charles Warrington Earle, of Chicago, Ill., presented

A STUDY OF CERTAIN QUESTIONS IN CONNECTION WITH PUERPERAL FEVER, WITH PARTICULAR REFERENCE TO THE USE OF THE INTRA-UTERINE DOUCHE AND CURETTE.

After a discussion of various theories, he concluded that puerperal fever was in every instance produced by infection from without. There was no such thing as autogenetic infection. No one could now disbelieve the germ-theory. Experience had shown that it was impossible for decomposition to occur without the presence of bacteria. There were many ways and many forms of infection. In a larger number of cases than we would suspect, débris bits of placenta, decidua, etc., were left in the uterine cavity, which were, in our present modes of practice, infected by patient, nurse, or doctor.

The only rational treatment was to remove all decomposing material, and prevent a local poison from invading the entire system and producing general sepsis.

Any marked rise of temperature in the puerperal woman should be investigated, and, if not plainly due to other causes, the genital tract should be suspected. A vaginal and uterine douche not reducing it, the uterus should be curetted, using a large, blunt instrument with all antiseptic precautions and great gentleness; the curetting to be followed by an intra-uterine douche to carry away all loosened shreds.

The author cited many cases where the curetting had been done with the most gratifying results, and in no case did he know of any harm resulting from it. He did not wish to be understood as advocating the indiscriminate use of this measure, it being indicated only in those cases where the high temperature persisted after an intra-uterine douche, when it was extremely valuable.

Dr. R. Lowrey Sibbet, of Carlisle, Pa., read a paper on

THE PREVENTION OF PUERPERAL FEVER.

The contagium was always from without, and was never autogenetic. It was carried always by the medical attendant or nurse. Aseptic cleanliness on their part was the best prophylaxis. He had always kept a disinfectant on his washstand, and had never lost a case of puerperal fever. He did not believe in the intra-uterine douche in private practice; it was dangerous, and could not be trusted to an unskilled nurse.

Dr. Doléris, of Paris, France, thought that in practice we were ahead of theory. He used the douche and the curette, or the milder intra-uterine brush, in cases such as Dr. Earle had indicated. He had used these measures with the very best success in many cases, from the second to as late as the seventeenth day.

SECTION IN SURGERY.

Wednesday, September 7th—Third Day—Morning Session.

Dr. W. N. Hingston, of Montreal, Canada, discussed Dr. Maclean's paper of the preceding day. He remarked that he agreed with him in all but one thing, viz., regarding abdominal section. He had operated in three cases; in two of these cases he had made the abdominal section, and both patients died from shock. In the second case he performed the lumbar incision and the patient survived, and there was but little disturbance of the system after the operation. The speaker considered the lumbar incision advisable in all cases where possible.

Mr. Edmund Owens, of London, England, thought there were three factors which should guide us in the operation.

If there was a doubt about the operation, it should be done through the abdominal wall. Again, the size of the tumor must be considered. And in what line of the profession is the operator called, gynecology or surgery. This latter will often decide the point according to the ground he is apt to go over.

Dr. Hardy, of Indianapolis, mentioned a fatal case where the median incision was made.

Dr. F. Lange, of New York, used the lumbar incision; and if the tumor was too large to be removed, he thought it a good plan to incise it and perform a second operation when it had been reduced.

Dr. Maclean, in conclusion, remarked that perhaps he was not quite understood, as he had distinctly stated in his paper that where the lumbar incision could be performed it was preferable. In the cases he mentioned he had no choice. His first case the speaker thought was an ovarian tumor, and naturally made section in the median line.

Dr. Richardson, of Boston, read a paper on

GASTROTOMY FOR FOREIGN BODIES IN THE THROAT.

A patient (male), thirty-seven years of age, was presented to the Section, from whom the doctor had removed a plate with four teeth attached from the lower portion of the œsophagus, about one and one-half inch from the stomach-entrance, by performing gastrotomy. When first seen by the doctor he could discover no obstruction, but the man was, however, retained in the hospital. He was finally discharged apparently well, the pain at the point indicated by him having subsided, and he was able to eat his meals. Eleven months later he returned very much emaciated, the pain returning and being much more severe; gastrotomy was decided upon and the operation performed, the opening being made large enough to admit the hand; the plate was then discovered in the location stated. Owing to its long retention a small abscess had formed there, which subsequently ruptured, the patient making a rapid recovery.

The speaker remarked that had he been certain the plate was there, he was positive he could have removed

it with the forceps; but the difficulty lies in locating, and also the location of the cricoid cartilage and the cardiac opening. He had operated in sixty cases, and found the average distance from the incisors to the cardiac opening to be fourteen and one-half inches; the longest was seventeen inches, and the shortest ten and one-half inches.

The writer described accurately, on the black-board, the anatomy of the parts and location of the plate removed; showing that by gastrotomy or œsophagotomy the œsophagus would be reached at all points with ease.

Dr. F. S. Dennis, of New York, presented some specimens of *scarlet fever bacilli* sent by Professor Lee, of Edinburgh. He then read a paper on

AMPUTATION OF THE HIP-JOINT FOR SARCOMA.

The case was quoted in order to induce surgeons to report such cases and the results. Out of twenty-eight cases of sarcoma of the thigh, only two were living.

The case at present was a young man seventeen years of age; family history was excellent. Five months before entering the hospital the swelling in the left thigh commenced; it had been aspirated, and ten ounces of fluid removed. The tumor when seen was ten inches in length, and twenty-seven in circumference, the inguinal glands were slightly enlarged.

The diagnosis of sarcoma was made, and amputation at the hip-joint was decided upon. No elastic bandage was applied to the leg, but a strong rubber band was passed around the thigh above the joint, which controlled all hemorrhage, and the operation was a bloodless one. On the sixth day the dressings were removed, and the wound was found to have united by first intention; temperature did not rise over 100°, and only reached that point on one day.

The points worth noting are: (1) this patient had a sarcoma, with no hereditary taint; (2) there was no exciting cause; (3) the great rapidity of the growth; (4) absence of metastasis; (5) rapid return to health, as the boy is perfectly well now; (6) importance of secondary hemorrhage; (7) unfavorable prognosis in his condition; (8) the diagnosis was confirmed by the microscope in the hands of Dr. Grower; (9) abscess limited to shaft of the bone; (10) absence of a spontaneous fracture of the femur; (11) large size of the mixed cells of the sarcoma; (12) radical removal of the tumor by amputation at the hip-joint, not at the upper third of the thigh.

Dr. Garmody, of New York, read a paper on

THE SURGICAL TREATMENT OF TRAUMATIC INSANITY BY MEANS OF THE TREPHINE.

The speaker reported the case of a young woman who was struck on the head with a brick, causing depression of the skull; she had been trephined shortly after, but ten years later she began to exhibit symptoms of insanity; trephining was suggested by the speaker, and the operation followed out, the space after the operation being three and a half inches by two inches. No elevation of temperature followed, and at the end of twenty-one days she was perfectly rational; the wound united by first intention.

Sir James Grant remarked that the case was an interesting one, and in his experience of brain surgery he had found that the lower type of brain would bear a fracture of the skull much better than those of an intellectual type. He quoted the case of a mill-hand who fell out of a window and fractured his skull. The speaker was sent for, and on his arrival found the man walking about, and yet there was a depression in the back of the skull in which the finger could be inserted; the brain he considered, became very sensitive in educated individuals.

SECTION IN PSYCHOLOGICAL MEDICINE.

Wednesday, September 7th—Third Day—Morning Session.

Professor Mendel, of Berlin, read a paper on

THE ORIGIN OF THE UPPER FACIAL NERVE,

which was illustrated with numerous sections of the brain.

The paper was discussed by Dr. E. C. Spitzka, of New York.

Dr. E. A. Homen, of Helsingfors, Finland, read a paper on

HISTOLOGICAL ALTERATIONS FOLLOWING AMPUTATIONS IN THE PERIPHERAL NERVES, THE SPINAL GANGLIA, AND THE MARROW.

Dr. Homen had two sets of observations, one relating to the effect on the spinal cord after amputations in dogs. In some of them he amputated the hind limb below the knee, in others the hind limb at the thigh, in others the fore limb at the shoulders. He kept some alive three weeks, some for months, and some for a year. He found that the atrophy, besides involving those limbs whose atrophy has been stated by previous observers, chiefly the posterior column, also involved a special cell-group of moderate- or small-sized cells. This cell-group was atrophied when only the posterior roots were eliminated. He concluded that they had a sensory function. In most of his cases the ascending degeneration was very slight and difficult to identify. The second set of his observations related to the changes in the nerve-stumps, and corroborated those of Spitzka and others.

Dr. Homen presented some beautiful photographs illustrating the points he had stated in his paper.

Dr. Spitzka asked Dr. Homen more particularly as to the location of the degenerated area. He referred to the fact that in some cases a part, in others the whole of the hind leg, in still others the whole of the fore leg, had been amputated; the area of secondary ascending degeneration must have been different in each case. It seemed to him that in the last-mentioned case the degeneration should be in the comma-shaped field, in the former two in special parts of the column of Gall.

Dr. Homen replied that, on the whole, he supposed that expectation would be realized, but where he had succeeded in tearing out special posterior roots their number had been too few, and the consequent degeneration too slight, to permit of very accurate and positive location.

Dr. Otto's paper on

NUCLEUS-STAINING BY ANILINE DYES

was next read, and was not discussed.

Dr. J. Langdon Down, of London, England, presented a paper entitled

CASES ILLUSTRATING THE ASSOCIATION OF THE PROW-SHAPED CRANIUM WITH NEUROTIC DISEASE,

and cited several interesting cases which had come under his observation. The paper was not discussed.

Afternoon Session.

The afternoon session was almost entirely occupied in the discussion on

SYPHILIS IN ITS RELATIONS TO INSANITY.

Dr. Savage, of London, England, opened the discussion. He said there were but few new facts to add. The object of his paper was clinical, not statistical. We have to sum up experience after the syphilitic wave of fashion has passed.

His experience resembled that of most others, that severe cases of brain-syphilis follow slight evidences of secondary trouble. Local syphilitic lesions often form

the starting point of general degenerations. He was unable, in many cases, to draw any defining line between true general paralysis and degeneration following cerebral syphilis. He believed that in some cases general paralysis depends on syphilis for its origin; but does not believe it to be anything like a universal cause. Idiocy, imbecility, and moral perversion due to congenital syphilis, he thought, was rare; most men connected with idiot asylums consider that but few idiots have congenital syphilitic histories. Other physicians, like Dr. Bury, think a fair number of cases are due to this disease. Many syphilitic children die in utero and early life. Syphilis may produce idiocy by causing disease of the envelopes of the brain, or of the brain itself, or by causing destruction of the organs of sense. Syphilis may cause epilepsy in children, and thus lead to idiocy. Some children of syphilitic parents are morally weak, and others break down in critical periods in development. To this last class belong the children of some general paretics.

Discussion then followed upon these two points in Dr. Savage's paper.

Dr. E. D. Ferguson, of Troy, N. Y., instanced a case of general paralysis in a male patient who, near the time of his marriage, had contracted syphilis; which, on account of his previously correct life, was not suspected, and went on to a considerable extent before specific treatment was resorted to; when syphilis was finally suspected and treatment actually entered upon, the patient had become insane. At all times, after he had contracted the disease, he had suffered from great mental depression and mortification; he could never get over the sense of shame. At the post-mortem there were found gross lesions of the membranes of the brain and of the bones of the skull.

Dr. Hurd, of Pontiac, Mich., had no doubt that a true syphilis will produce the simpler psychoses like mania and melancholia. He cited a case that had come under his observation, of what appeared to be acute mania, and a short time after admission it was discovered that she suffered from syphilis. She had the syphilitic rash, the rise in temperature, and these and other symptoms lasted several weeks. She was at once put upon treatment, with the effect of alleviating the symptoms, and there was a corresponding improvement in her mental condition. There was at all times, however, a tendency to relapse of the syphilitic troubles. The disease went on and displayed characteristic constitutional symptoms. After two or three years' treatment the syphilitic trouble was finally in such a state of abeyance that the girl was sent home on trial, and has remained at home nearly a year. The doctor had no doubt that she would sooner or later be returned to the asylum, in consequence of the syphilitic trouble lighting up again.

Dr. C. H. Hughes, of St. Louis, Mo., said syphilis manifests this peculiarity in the neural tissue—it produces abneural changes rather than changes within the structure of the nervous texture. This explains the facility with which syphilitic mental aberration is removable under adequate and vigorous specific treatment. He had seen syphilis often remain without manifestation for years after insanity, and finally develop in locomotor ataxy. We know there is such a thing as syphilophobia, and that it may exist without the pre-existence of any syphilitic poisoning. Syphilitic general paralysis, he had no doubt, was exceedingly common as the result of this poison.

Dr. W. W. Godding, of Washington, D. C., said he had never seen any mental symptoms whereby he could diagnose a case as syphilitic insanity. He cited the interesting case of a girl in his hospital, who came to him about nine months since in the most advanced stage of dementia. Syphilis was only suspected after she had been in the hospital some time and had remained profoundly depressed. She was placed at once upon specific treatment, with the effect of bringing about an immediate change for the better, and she is to-day in a very comfortable condition of bodily and mental health.

Dr. Spitzka, of New York, referred to a febrile condition in secondary syphilis which is complicated with acute delirious mental disturbance. This he believed was a very rare thing. He had seen one case seven years ago, and had not seen anything written upon the subject since that time. The discovery had been made by Finger that during the roseola there was abolition of the knee-jerk. Finger had reported 61 cases in which the knee-jerk was absent.

Dr. E. N. Brush, of Philadelphia, said that two cases of syphilis were now under his observation, which served to confirm the statement of Finger. One of these cases had a short time ago a remission of symptoms of acutely maniacal excitement. He had been quiet and coherent, had parole of the grounds. For five days was very much excited, and there was a very slight return of the knee-reflex, which had previously been entirely absent. He tore his clothing, had hallucinations, and disturbances of sight and hearing. The doctor did not believe we should adopt the term syphilitic insanity.

Dr. T. W. Fisher, of Boston, Mass., cited the case of an officer in one of the hospitals at Boston, who contracted syphilis, and suffered from a great sense of mortification, and went into a state of apprehension and sleeplessness, and finally developed delusions of suspicion. Under asylum-treatment he recovered after the syphilitic symptoms had disappeared.

Dr. Brown, of the Asylum for Feeble-minded Children, at Barre, Mass., was glad to be able to support the ground taken by Drs. Savage and Down in reference to very few imbecile children having congenital syphilitic histories. In his experience of thirty-five years he had noticed but one and one-half per cent.

Dr. Savage said he agreed with Dr. Godding that there was no such thing as syphilitic insanity. You might speak of a specific cause of asthma, and give it a title accordingly. The less said about syphilitic insanity the better, in his opinion. As to the cases recorded of the febrile disturbance of constitutional syphilis, he was glad to note that it was, after all, not so uncommon, although it had hitherto been hardly recognized.

Dr. Savage then proceeded to the next branch of the discussion,

INSANITY DUE TO ACUTE SYPHILIS.

Such cases are rare. Probably some acute cases follow the delirium which may follow with the rash. Many lunatics exhibit venereal diseases contracted while insane. Insanity may follow the onset of secondary symptoms of the more severe type—thus, with optic neuritis, with ulcerations about the face—or it may appear with the onset of local paralysis of the third or other cranial nerve. It may occur with the neuralgia or sleeplessness of syphilis. The disfigurement may cause insanity. There are cases in which syphilis has acted as a moral cause and has set up a form of hypochondriasis.

Dr. Savage next passed to

SYPHILIS PRODUCING EPILEPSY, WITH OR WITHOUT INSANITY.

The epilepsy may be the chief symptom or only a sign of widely spread disease, or it may be a symptom of general paralysis, or of locomotor ataxy. The doctor said cases of epilepsy had come under his observation with a syphilitic history, in which he had not been able to find coarse lesions, as had been claimed to exist by Ferrier and Hitzig.

Dr. Hughes asked Dr. Savage if in his post-mortems he had been unable to find foci, either vaso-motor or vascular changes, microscopically.

Dr. Savage answered that the arterial disease was so general that he had not been able definitely to say that on the left side there was more arteritis than on the right.

Dr. Savage also said there was a good group of cases in which

PROGRESSIVE WEAK-MINDEDNESS

follows constitutional syphilis. It may be preceded by some motor symptoms, by either the ocular motor trouble, a monoplegia, or hemiplegia, in one by aphasia, and in another with other motor trouble. There was another group in which sensory trouble, some temporary loss of vision or taste or hearing, some aphasia, which may be purely muscular, or some temporary giddiness may be the first symptom, which is followed by progressive degeneration, which is not of the same kind and not to be grouped with true general paralysis of the insane depending upon syphilis.

Dr. Channing asked Dr. Savage how he would classify the cases just described.

Dr. Savage replied that he would classify them as organic dementia; that seemed as good a classification as any.

Dr. W. Channing, of Boston, asked if the term syphilitic dementia could be used, if there were sufficient cases to justify it.

Dr. Savage preferred organic dementia of syphilitic origin.

Dr. Gundry next discussed the question, and cited the case of a most respectable and highly connected young lady whose friends had noticed in her a growing tendency to *double entendres*, to slight smuttiness in conversation, and who were at a loss to account for this. He suspected syphilis, but was not for a long time listened to. Finally, after getting the patient on specific treatment, these morbid peculiarities disappeared.

Dr. Savage next discussed

THE GENERAL PATHOLOGY OF CASES OF INSANITY WITH SYPHILIS.

There may be a moral element in some cases, this being of two kinds, either producing hypochondriasis or true melancholia. Syphilitic cachexia may cause melancholic symptoms. Disease of the vessels, small or great, may produce different sets of symptoms.

Gummata are not so common as one would have expected. Inflammation of the membranes in both young and old may cause disease, such as idiocy or acute insanity.

Whether there are any changes in the neuroglia is doubtful. There are changes produced in the nutrition of the various parts, leaving a form of weakness which may act as a cause of fresh changes that may run an acute or chronic course.

Dr. Spitzka corroborated the conclusions of Dr. Savage. His experience coincided with that of Dr. Savage as to the absence of gummata.

The connection between syphilis and tabes dorsalis was still a mooted question. He gave the case of an actor who had been under his observation for some time. This patient has abolition of both knee-jerks. His disease was at times controlled by treatment, and then recurred. He had had in the course of one day fifty or sixty attacks of a peculiar kind of *petit mal*, in which he lost consciousness for a moment, while coming upon the stage oftentimes, but so briefly that he could recollect himself. In one case, where he had to cross a foot-bridge, he had an attack in the course of passing over, but went on as if nothing had happened, the *petit mal* losing its character as a loss of consciousness and becoming replaced by a peculiar sensory disturbance. He found that, accompanied by the prodromal feeling, all the faces of the audience were exactly the same. This sensation passed like an electric flash. He still has these peculiarities, although they are becoming rarer. They are a matter of interest to the patient himself, and he observes their course and peculiar symptoms.

After the reading of a paper by Dr. Ingram, of Washington, D. C., on

GUNSHOT WOUND OF THE SPINAL CORD,

the Section adjourned until Thursday at 11 A.M.

GENERAL MEETING.

THURSDAY, SEPTEMBER 8TH—FOURTH DAY.

Dr. A. Y. P. Garnett, of Washington, offered the following resolution, which was unanimously adopted:

Whereas, It is proposed to hold at the City of Washington, in 1892, an international celebration in honor of the 400th anniversary of the discovery of America by Christopher Columbus, and an exposition of the history, arts, and industries of all nations;

Resolved, That the International Medical Congress favors this patriotic movement, and commends it to the nations of the world.

Dr. A. L. Gihon, United States Navy, offered the following resolution, which was adopted at the general session on Wednesday:

Resolved, That the President of the Congress be authorized to appoint a committee, to consist of an equal number of members from each nationality represented in the Congress, for the purpose of selecting the place of meeting of the Tenth International Medical Congress, to be held in the year 1890; which committee shall report on Friday morning, immediately before the address of Dr. Brandford.

The following committee was appointed on Thursday to name the next place of meeting of the Congress:

Argentine Republic—Dr. Villa, of Buenos Ayres.
Austria-Hungary—Dr. Faskas, of Budapesth.
Belgium—Dr. Gervais, of Antwerp.
Brazil—Dr. Freire, of Rio de Janeiro.
China—Dr. Boone, of Shanghai.
France—Dr. Landolt, of Paris.
German Empire—Dr. Martin, of Berlin.
Great Britain—Dr. Pavy, of London.
Italy—Dr. Semmola, of Naples.
Japan—Dr. Saiga, of the Imperial Navy.
Mexico—Dr. Alvarado, of Mexico.
Russia—Dr. Reyher, of St. Petersburg.
Spain—Dr. Lalearda, of Seville.
Sweden and Norway—Dr. Tillman, of Halinstadt.
Switzerland—Dr. Cordes, of Geneva.
Turkey—Dr. Post, of Beirût.
United States—Dr. A. L. Gihon, United States Navy.
Egypt—Dr. Grant (Bey), of Cairo.

Dr. P. G. Unna, of Hamburg, Germany, then delivered a general address in German on the

RELATIONS OF DERMATOLOGY TO GENERAL MEDICINE.

He endeavored to prove that every general practitioner has the greatest interest that dermatology should be more deeply and more extensively studied. Dermatology, as a special branch, is still young, and has not yet passed the state of formation. The immense difficulties in the way of the study of diseases of the skin, which have up to this time disturbed its continuous development, are in great part well founded, as well in the external position of this organ as in its complicated structure. The author demonstrated these complications in detail, showed the differences in the appearance of the symptoms according to regional differences of the skin, the changes in symptoms in the course of the development of skin diseases, the varieties produced by external agents, the influence of climate, season, nature of countries, of races, sex, and age. Among the external agents the parasites, according to our present knowledge, occupy the most prominent place.

These difficulties will in future be overcome only by minute analysis of each of the several symptoms of skin diseases. All progress in this direction will be of the greatest value for general pathology and therapeutics,

because these facts are proved in the human tissue by means of the naked eye. Dermatology, studied properly, will advance all other parts of medicine—internal medicine as well as surgery—occupying a middle ground between them. Unna recommends, in place of experiments on animals for pathological and therapeutical experiments, to use the human skin, and showed by several examples how this method has led already to the knowledge of new facts. The endowment of new chairs and of separate private laboratories is not sufficient for a thorough investigation of skin diseases. Unna recommends the establishment of a central institute, where noted scientists work together, where all means and methods of study are condensed. Then dermatology will be raised to the rank of one of our most important specialties in medicine, and it will contribute largely to the progress of knowledge in all branches. Finally, the speaker expressed the hope that the United States, always so liberal in the promotion of science, will be the first to develop this ideal.

(To be continued.)

INTERNATIONAL CONGRESS NOTES.

The scientific work of the International Congress was diversified by some interesting incidents of a personal and, at the same time, cosmopolitan nature. A gentleman from the oppressed districts of Ireland found himself insulted at not having been invited to the medical editors' banquet. Consequently he withdrew from the Congress, after drawing proper public attention to his wrongs.

A California dentist claimed that he could transplant teeth—a claim which is well known, in this country at least, to be capable of abundant support. But a British dentist denied the possibility and called for a demonstration. This, we understand, was given to the satisfaction of the foreign guest. The odontology of the West is triumphant.

The Semmola-Durante incident was embarrassing, and at one time seemed to be serious. Matters were smoothed over, however. Dr. Durante presided while Professor Semmola spoke. Then there was clasping of hands and general applause. The spectacle was calculated to fill one with a sense of the true goodness and amiability of the human heart.

All the doctors' wives were charmed by the beauty and grace of the wife of the President of the United States, and the elegant reception which the Chief Magistrate and his accomplished wife gave to the members of the Congress will long be remembered as one of the social events of the occasion. Its complete success was marred only by the astounding brazenness with which the public made their way into the line, to the discomfort and the displacement of those who were entitled to be regarded as guests.

The contributions which have been made to the proceedings by our foreign brethren have received high commendation.

The banquet of the Association of American Medical Editors, given at the Riggs House on Monday evening, was a brilliant entertainment, and amply illustrated that the knights of the quill and scissors can, without special detriment, work until cock-crowing time in pursuits other than those strictly medical.

Every nook and corner, and also a few niches, in the fair city of Washington was occupied by a doctor.

The last arrivals of steamers brought a goodly number of foreigners, so that before the Congress closed a large delegation was present. "By Jove! you know, I was the first to go down after we left Queenstown; and then, you know, the most astonishing thing is that you can't help it."

It is deeply to be deplored that the slimy, cloven-footed ethical question should have been dragged into the proceedings of this Congress. A member of the Council of one of the Sections was made a target. He resides west of Albany and east of Buffalo in the State of New York. He was ousted by the cunningly devised machinations of one who has become popularly known as the ready consultant with homœopaths in their capacity as nurses, and the influence which was exerted upon the valetudinarian element of the Executive Committee enabled that august body to aid in accomplishing the nefarious purpose of the original instigator.

The immense (40 × 30 in.) photograph of the International Medical Congress held in London, elegantly framed and placed on exhibition in the parlor of the Riggs House, by The Medical Record, attracted groups of admirers.

The reception and dinner given by Dr. A. R. Robinson, of New York, President of the Section in Dermatology, at Willard's, to the foreign and American dermatologists and a few guests, on Wednesday evening, was one of the highly enjoyable entertainments of the Congress.

The grand banquet given at the Pension Hall was a great fête. Special precautions were taken to prevent those who, without rights, manners, and cerebral gray substance, insist on gratifying their curiosity from being in attendance. To a commendable degree the plan was successful, and the Committee of Arrangements are entitled to the thanks of the members of the Congress.

The receptions given on Wednesday evening by the citizens of Washington were brilliant and most hospitable. Washington at this season of the year is nearly empty of its wealthiest citizens and those whose open doors always offer a hearty welcome on festive occasions, but the pleasures of the evening were greatly enhanced by the sumptuous entertainments given to the members of the Congress by those who were at home.

The reception at the President's was mismanaged in some way, and was hardly a success. The buffet lunch of five thousand doctors at the Pension Office was, however, an agreeable and satisfactory affair. The doctor is always at home at a buffet lunch.

We note the enterprise of the local Washington papers in publishing good likenesses of the officers of the Congress.

The next meeting of the Congress will be held in Berlin, in 1890, and Virchow is named as its president. This decision will meet with universal satisfaction.

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THE MEETING OF THE INTERNATIONAL MEDICAL CONGRESS.

THE Ninth International Medical Congress opened under favorable auspices. The beautiful city of Washington had within its borders one of the largest gatherings of medical men ever assembled for a single purpose. The delightful autumnal weather could not be surpassed. The good feeling engendered by a warm, bounteous hospitality prevailed everywhere, and when the crowning pieces were placed upon the preliminary work, through the selected words of the President of the United States and the scholarly welcome pronounced by the Secretary of State, the vast assemblage gave unmistakable evidence of its high appreciation of the labor that had been inaugurated.

The full lustre of international courtesies was shown in the pleasing responses, to their most cordial reception, made by the distinguished representatives from Great Britain, France, Germany, Italy, and Russia.

When the moment arrived for President Davis to enter upon the discharge of his duties, it became doubly manifest that the labor of the Secretary-General had been most exacting, but that it had been systematically and completely performed. His report showed that there was no unfinished business upon his table.

The ceaseless and untiring efforts of the Chairman of the Committee of Arrangements, also, became apparent, as well as the critical diligence of the Chairman of the Executive Committee, who gracefully acknowledged the excellent work done by the original committee on organization.

Numerically the Congress was a success. Of its scientific merits the reader can become fully informed through the medium of our reports and the forthcoming volumes of the transactions.

The number of foreigners present was not large, but it included several distinguished representatives.

The President of the Congress, in his address, paid a graceful and worthy tribute to the memory of the lamented Flint, and then gave a summary of the benefit which would arise from a collective investigation of disease, together with the medical study of the meteorological and other conditions under which diseases occur.

The social entertainments provided for the members of the Congress and their families were bountiful and acceptable. The most noteworthy were the informal reception given by the President of the United States at the White House, and the banquet at the United States Pension Hall. The receptions given by private citizens were exceedingly brilliant, and the lawn-parties and the excursions furnished ample opportunity for those who wished to discard scientific pursuits to find agreeable occupation for all their leisure hours.

Our report of the proceedings of the general meetings, and of the meetings of the sections, of the Congress, was prepared by gentlemen skilled in each department, and we venture to state that for accuracy and fullness it is unequalled in the history of medical journalism.

It has been our aim to give as condensed, and yet as complete, a report as the magnitude of the proceedings would allow, and no pains have been spared in making it comprehensive as well as concise.

Our readers will have discovered that we have been compelled to issue a triple number this week, and nearly or quite as much space will be required for the next number. Our regular contributors, therefore, must patiently withhold their criticisms because of the delay to which their papers will necessarily be subjected.

Of course, it was not reasonable to expect that there would be unalloyed satisfaction throughout the entire meeting of the Congress. Such, in the very nature of the case, could scarcely be hoped for. The number of opinions on a mooted point is necessarily so large that absolute agreement is rendered impossible.

But the withdrawal from the Congress of one of the foreign representatives must be deeply deplored, and that he should have had cause to take umbrage at the supposed humiliation that he had been forced to receive, is profoundly to be regretted.

THE CONDITION OF THE CROWN-PRINCE OF GERMANY.

FROM a special cablegram sent to THE MEDICAL RECORD by Dr. Myles, of London, chief of Dr. Mackenzie's clinique, we learn that the Crown-Prince of Germany has received great benefit from his stay in the Scottish Highlands, that there has been no further recurrence of the growth, and that the disposition toward local congestion is less frequent and more transient.

THE MEDICAL CONGRESS AND THE PUBLIC.

IT is a matter of some interest to observe the tone of the lay press regarding the International Medical Congress just held at Washington. It seems as if the gathering together of some five thousand educated men for purposes of advancing human knowledge, would be a matter of considerable contemporaneous interest. It is, however, always difficult to get the daily press to treat medical conventions with any great amount of seriousness, and this Congress has not been a marked exception. Most of our esteemed contemporaries have devoted vastly more space to the gossip of play-houses, and to incidents of an erotic or criminal character, than to the work of the medical gentlemen at Washington. The editorial discussions, where such have been undertaken, have been gently facetious, or patronizingly critical. It has

been officially telegraphed that the doctors were a fine-looking set of men, and the fraternizing of so large a number appears to have excited a good deal of mild astonishment. Yet it is sagely observed by one paper that there was more bigotry in the International Congress than could be found in any other collection of educated men, not even excepting clergymen.

We cannot, however, complain of all this. Medicine is a technical science and the questions with which it deals only interest the people when some practical application is reached. We have not in this country a physician with the eloquence of Paget, or of the political importance of Virchow, to lend their help in illuminating the somewhat darksome paths of iatric discussion. Medical conventions must be content to do their work with faithfulness and receive their rewards at the hands of the profession itself—which was never more quick than now to recognize merit, or to see through the pretensions of charlatanry.

THE NINTH INTERNATIONAL CONGRESS.

It has already been recorded that the Medical Congress at London was the most scientific, that at Copenhagen the most hospitable, and it will now go down in history that the Washington Congress was the biggest one of all that have been held.

This bigness is generally thought to be a peculiarly American quality, and therefore opportunely fits itself to this last international meeting. The Fifth and Sixth Congresses had a membership of less than five hundred. At the London Congress there were 3,182, and at Copenhagen over seventeen hundred. The Washington meeting is credited with an attendance of over five thousand. There were over a thousand foreigners at London, and nearly thirteen hundred at Copenhagen. The small percentage of foreigners at Washington was due in part, of course, to the long distance which separates us from Europe.

When, three years ago, the invitation to hold the Congress at Washington was delivered at Copenhagen by Dr. Billings, he referred somewhat facetiously to the dangers of undertaking to run a daily paper in a weakly town. It must be confessed that there was a slight suggestion of the aptness of this remark at Washington during the week past.

The managers worked heroically, but five thousand persons of medical education and somewhat erythritic temperament is a large number, and a good deal of friction was inevitable. We think the officers of the Congress deserve much credit, on the whole. The reward properly due to their labors and anxiety will hardly be received by them in this world. Doubtless this was not expected when the management was taken from the hands of the first organizers of the Congress.

The social features of the meeting were, by necessity, much inferior in attractiveness to those of its predecessors. Four or five thousand people cannot be individually and enthusiastically welcomed or comfortably dined and entertained at Washington in September. We recall the feeling words uttered regarding the Copenhagen Congress at its conclusion:

"By the king and his subjects the professors of medicine were honored as they have never been honored in any country. We have had a veritable feast of reason and a flow of soul. Only in a true civilization could medicine have been so received!" Such an encomium is in strong contrast to the reception of the Congress by our Government.

We believe, however, that our foreign guests have seen that their American hosts were hospitable to every extent in their power.

The scientific work of the meeting was respectable, though falling much below the average of the two preceding Congresses. It is impossible to deny the fact that the representation of distinguished foreigners was extremely small; and the best contributions were decidedly from American physicians.

In conclusion, we venture the opinion, which must rise inevitably in unprejudiced minds, that the Ninth International Congress was far from being a failure, but still further from being a brilliant success. From an international point of view it was tremendously lopsided, being made up largely of the West, still more from the South, with a touch of the East, and a Continental sprinkle from Europe. The general character of it was much as it had been predicted it would be. But it is over now, not without credit, and we trust that peace and harmony will reign.

News of the Week.

The Wisconsin State Dental Society, at its annual meeting, held in Milwaukee in July, passed some stringent rules against advertising, and prescribed that all new dental appliances invented by members of the Society must be brought before the whole body, and opportunity given for a discussion of their merits. Some of the members are said to have objected so strongly to the new regulations that they withdrew from the association.

Dr. T. Y. Sutphen, of Newark, N. J., was elected a member of the American Ophthalmological Society at its last meeting.

The Berlin papers report that Dr. Morell Mackenzie has sent his bill to the Crown-Prince for his two visits to Berlin. The bill amounts to the sum of 2,500 guineas ($12,500).

The New York City Board of Health has recently been reorganized by its President, Mr. Bayles. The same officers are retained, but in many cases their positions and work have been changed.

The following resolutions have been adopted:

Resolved, That Dr. E. G. Janeway, Dr. A. Jacobi, Dr. C. R. Agnew, Dr. Stephen Smith, Dr. Daniel M. Stimson, and Dr. Joseph O'Dwyer, be and are hereby requested by the Board to act as a Consulting Medical and Surgical Board of the Willard Parker Hospital and of other hospitals of this Department in East Sixteenth Street.

Resolved, That provision be made by this Board to refund quarterly during the coming year, to the physicians of this city who may be engaged in private prac-

tice, the amounts that may be expended by them for postage in reporting births and contagious diseases to this Department.

Resolved, That the recommendations of the Sanitary Superintendent for securing a full registration of births be approved, and that he be directed to take the necessary measures to enforce a proper reporting of the same to this Department.

The above are calculated in many ways to add to the efficiency of the Board. The recommendations regarding the registration of births are eminently practical and timely, as it is estimated that at least twenty per cent. of the births occurring in this city are not reported. The ability of the Board to remunerate physicians for postage, etc., will possibly depend upon the amount which may be allowed by the Board of Apportionment for that purpose. There is every argument in favor of it, however, and it is, in fact, the only condition which will insure prompt and faithful reports.

The Antiseptic Value of the Essential Oils.—In the *Annales de l'Institut Pasteur*, No. 4, April 2, 1887, M. Chamberland examines the action of essences on the bacteria of charbon, and on many other less known microbes. The number experimented upon was 115; only 14 allowed the development of the charbon-bacillus in yeast-water saturated with their vapor. Among these was essence of cloves, which is sometimes used to arrest dental caries. But out of 102 essences that by their presence prevent the development of the organism, only 8 seem to kill it definitely, for it usually revives as soon as the essences have evaporated. The essence of cinnamon alone appears completely to destroy the germs in four days, while bacteridian germs placed in fresh yeast-water have been cultivated after having been for four days in contact with other essences. Essence of China cinnamon does not stop the development of filamentous bacteria, but essence of vespetro seems to kill it completely in eighteen hours. Placed in contact with carbuncle-bacillus, or its germs, in solution (essence ½ c.c., alcohol 10, saponine solution at 1–100th, 20, water 70), seven essences kill that bacterium in doses varying from 1–13, 200th to 1–24, 200th. These essences have about the same antiseptic power as sulphate of copper. Among these seven essences are three of great antiseptic power, either in solution or in vapor: Essence of China cinnamon, of Ceylon cinnamon, and of origanum. The essences must be used fresh; when they become oxidized by exposure to air, they lose part of their properties. M. Chamberland next compares the antiseptic action of thymic acid and of different metallic salts upon bacteria. The bichlorides of mercury, and of ammonia and nitrate of silver, act at a strength of 1–80,000th; after these come thymic acid, persulphate of iron, chloride of zinc, etc. In order to study the antiseptic power of certain substances upon organisms in general, he prepared solutions of these substances at 1–100th, of which he poured 1 c.c. into a series of small flasks containing severally 5 c.c., 10 c.c., and 20 c.c. of neutral yeast, which gave him solutions of 1–600th, 1–1100th, and 1–2200th; to each of these he added ½ c.c. of washings of garden-soil. He found that the most energetic antiseptics were sublimate of mercury and thymic acid. Sulphate and acetate of copper and bichromate of potash, although very active, allowed vegetations to grow; next to them in power were China cinnamon, persulphate of iron, carbolic acid, alum, and sulphate of quinine. Boric acid, hyposulphite of soda, salicylate of soda, arseniate of potash, bisulphide of soda, chloride of alumina, and chloride of lime are comparatively weak antiseptics.—*British Medical Journal.*

The Progress of Medical Science in Roumania.—It may be said, in a general way, that the cultivation of science in a country goes hand in hand with that country's advance in prosperity, and with the happiness and well-being of its citizens. If such be the case, far-off Roumania is to be congratulated upon its progress. The activity of its medical and scientific men is well shown in the character of the articles published in its journals. One of the oldest, if not the oldest, medical journals is *Spitalul*, now in its seventh year, published monthly at Bucharest, in the Roumanian language. But this language, though allied to the other Romance tongues, is so little known to the western nations of Europe that the articles there published are long in seeing the light, and this has led to the establishment of journals printed in other languages. The *Bulletin de la Société de Médecins et Naturalistes* is published monthly at Jassy, in both French and Roumanian. In July of the present year there was begun the publication at Paris, and wholly in French, of the *Archives Roumaines de Médecine et de Chirurgie.* The editor is Dr. Georges Assaky, Clinical Professor of Surgery at Bucharest. The journal is to appear every two months.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from August 28 to September 3, 1887.

Smith, Joseph R., Lieutenant-Colonel and Surgeon. Ordered to report in person to the Surgeon-General of the Army, on September 2, 1887, on business connected with the public service, and on completion thereof to return to his proper station. Par. 9, S. O. 198, A. G. O., August 26, 1887.

Official List of Changes in the Medical Corps of the United States Navy for the week ending September 3, 1887.

Dean, Richard C., Medical Director. Detached from duty as member of Examining and Retiring Boards and ordered to the Naval Hospital, Chelsea, Mass.

Peck, George, Medical Director. Orders as delegate to International Medical Congress revoked.

Simons, M. H., Surgeon. Detached from the Constellation and ordered to the Naval Academy.

Rogers, B. F., Surgeon. Detached from Marine Rendezvous, New York, and ordered to the Alliance.

Field, James G., Assistant Surgeon. Detached from the Vermont, and ordered to Marine Rendezvous, New York.

Henry, C. P., Assistant Surgeon. Ordered to the Ossipee.

Lumsden, G. P., Passed Assistant Surgeon. Ordered to the Boston.

Atlee, Louis W., Assistant Surgeon. Restored to duty.

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Reports of Societies.

International Medical Congress.

NINTH SESSION.

Held in Washington, D. C., September 5, 6, 7, 8, 9, *and* 10, 1887.

(Special Report to THE MEDICAL RECORD.)

(Continued from page 361.)

SECTION IN PATHOLOGY.

WEDNESDAY, SEPTEMBER 7TH—THIRD DAY—MORNING SESSION.

THE PIGMENTATION OF THE SKIN AT THE ARTICULATION OF THE PHALANGES IN CHLOROSIS.

DR. POUGET, of Cannes, France, read a paper on this subject, in which he directed special attention to pigmentation of the knuckles, a fact first noticed by Bouchard, of France.

DR. THOMAS TAYLOR, of Washington, D. C., read a paper on the

CRYSTALLOGRAPHY OF FATS,

in which he directed special attention to their condition and relation to health and disease.

THE ETIOLOGY OF LIVER ABSCESS

was the title of a paper sent by DR. KARTULIS, of Alexandria, Egypt, and read by Dr. J. A. S. Grant (Bey), of Cairo.

DR. CHARLES W. EARLE, of Chicago, described

FIBROID DEGENERATION OF THE PANCREAS,

of which he had reported cases, and which was liable to be mistaken for cancer.

AFTERNOON SESSION.

DR. JOHN NORTH, of Keokuk, Ia., read a paper on

THE PATHOLOGICAL RELATIONS OF PTOMAINES AND LEUCOMAINES.

The paper was discussed by Dr. Johnson and Dr. Keller, and was followed by a paper on

TYROTOXICON,

by DR. VICTOR VAUGHAN, of the University of Michigan.

SECTION IN PUBLIC AND INTERNATIONAL HYGIENE.

WEDNESDAY, SEPTEMBER 7TH—THIRD DAY—MORNING SESSION.

THE PRESIDENT read a paper from DR. B. W. RICHARDSON, of London, England, on

THE GROWTH OF PREVENTIVE MEDICINE IN GREAT BRITAIN.

DR. DOMINIGOS FREIRE, of Rio de Janeiro, Brazil, read a paper, which was translated by the French secretary, Dr. R. Le Mounier, of New Orleans, La., on

VACCINATION IN YELLOW FEVER,

the tenor of which was that the disease can be prevented by inoculation with attenuated virus. The paper was accompanied by microscopic specimens of the microbe of yellow fever.

Dr. Freire being asked what was his theory concerning the attenuation of the virus of yellow fever, answered, by oxidation through the red corpuscles of the blood, and the proper or improper medium into which it is placed; but, he added, all this is *as yet* only conjecture.

DR. BAILHACHE, Military Hospital Service, asked if vaccination in one family arrested the progress of the fever in that family?

DR. FREIRE answered in the affirmative, stating that in families of ten and fifteen members, living in *one hut*, if vaccination was practised after the outbreak of the fever among the members not yet affected, that this arrested the further progress of the scourge; whereas, where it was not practised they all were stricken down with the fever and many, if not all, died.

SECTION IN MILITARY AND NAVAL SURGERY AND MEDICINE.

WEDNESDAY, SEPTEMBER 7TH—THIRD DAY—AFTERNOON SESSION (Continued).

The foregoing papers upon this subject (Penetrating Gun-shot Wounds of the Abdomen) elicited a very interesting discussion, in which DR. THOMAS G. MORTON, of Philadelphia, took a prominent part.

The first point to be considered, the speaker said, in the treatment of these wounds, is whether the patient is in a proper condition for an operation; upon this depends the success of many operations. Another point of great importance is the positive knowledge of the existence of a perforation of the intestines or other abdominal organs, or even of a mere penetration of the peritoneum, without such complication. There being no doubt in the surgeon's mind as to these points, he should not, in the speaker's opinion, have the least hesitation in opening the abdomen. There exists, in all cases of penetration, a possibility of loss of blood from some severed vessel, and of the escape of fecal matters into the peritoneal cavity.

The abdomen should always be opened under the strictest antisepsis; through its potent aid the operation is attended with little danger. In cases of stab wounds of the abdomen, with perforation of the peritoneum, he would advise making an incision sufficiently large to enable the surgeon to clearly see what he is doing, and, having secured any bleeding vessels, to wash out the cavity with a warm solution of bichloride of mercury, a $\frac{1}{10000}$ (!), until the water returns perfectly clear, and then sew the wound in the usual way. He preferred, in the great majority of cases, to make the incision over the middle line, except in perityphlitic abscess, when he made a curvilinear incision over the most prominent parts of the abscess. His experience had taught him that a large incision is better than a small one, and safer in every respect. For a gun-shot wound, he proceeded in the same manner. In a boy, seventeen years of age, with a penetration of the transverse colon, and a young negro with a similar injury, upon whom he lately performed this operation, the temperature did not exceed 101° and 102°, respectively, and this for the first day only, recovery being perfect and rapid in both cases.

DR. HENRY JANES, of Waterbury, Vt., asked the speaker how long a time such an operation as he had described usually required.

Dr. Morton, in answer, replied that the time varied somewhat, according to the seat and extent of the injury, but that from one hour and a half to two hours was, as a rule, sufficient.

Dr. Varian, of Titusville, Pa., desired to know Dr. Morton's opinion as to the practicability of performing this operation upon the battle-field.

Dr. Morton, in reply, thought it would be difficult, but that the numerous objections which had been given concerning the impracticability of operating were easily disposed of. In the first place, the probable abundance of pure spring water in the neighborhood with which to prepare the solution of the bichloride—which can easily be carried in the pocket—and the removal of the patient to some field hospital, were, of themselves, conditions which would enhance, rather than diminish, the chances of success. I consider it the surgeon's duty, in the light of recent experience and observation, not to temporize, but to make an effort to save the patient; this operation can do it, while the expectant treatment involves many dangers. I am confident that something can be devised for use on the battle-field; a modified antisepsis is better than no antisepsis at all.

Dr. Daniel Smith Lamb, of Washington, D. C., asked how large a wound would induce the doctor to operate.

Dr. Morton replied that the slightest perforation of the peritoneum was an indication for the operation, for it is well known that these small wounds may be, and are often, followed by grave results. He would take this opportunity to say that he advocated the opening of the abdomen in typhoid fever when perforation of the intestine by ulceration has taken place, as such an operation gives the patient the greater chance of recovery.

The President, Dr. Smith, adverted to the great importance of this subject. What we want, to deduce conclusions for our future guidance, is an accumulation of facts. Dr. Morton, by his remarkable success in these cases, which success was not, it may be confidently asserted, the result of mere chance, and the New York surgeons, with their recent experience, had, he thought, been accumulating such facts very rapidly. In the light of these facts the legal responsibilities of the surgeon should be considered. The President concurred with Dr. Morton in his views as to the possibility of modifying antisepsis to meet the exigencies of the battle-field.

Dr. Moore, of Richmond, Va., after a few preliminary remarks, read his paper, entitled

ON THE TREATMENT OF PENETRATING GUNSHOT WOUNDS OF THE ABDOMEN.

The author gave statistics of cases of this nature and the rate of mortality, and quoted at length from reports of the French and British army.

No surgeon had, in his opinion, had sufficient experience with this operation, which was comparatively a new one, to be considered an authority on disputed points. He spoke of the difficulties of diagnosis of perforation, and advocated the exploration of the wound with some delicate instrument. The incision should be made only sufficiently large to allow a thorough exploration, and the earlier after the reception of injury, barring the occurrence of shock, the greater were the chances for recovery. It is the opinion of Sir William Malcolm that if the operation be delayed twenty-four hours no case ever recovers.

In conclusion, he advocated supporting measures and the use of quinine hypodermatically previous to the operation, to diminish the liability of resultant shock.

Dr. Varian's views were in harmony with those of Dr. Moore so far as civil practice is concerned, but the question still to be discussed was the treatment of such cases upon the field of battle.

Dr. Watson, of Jersey City, agreed with Dr. Morton.

Dr. Bentley, of Little Rock, Ark., dissented from the opinion of Dr. Morton, and regarded the application of the method of treatment as impossible on the battle-field, as it is an operation which requires skill, time, and care. He, however, recognized its value in private and hospital practice, where all the conditions are favorable.

SECTION IN PATHOLOGY.

Thursday, September 8th—Fourth Day.

Dr. Leopold Gervais, of Antwerp, Belgium, reported two successful cases of

REMOVAL OF THE SUPERIOR MAXILLA

for cancerous tumors.

Dr. Jackson, of Norfolk, Va., read a paper on

THE NATURAL AGENCIES EXHIBITING THE LIFE-PROCESSES OF PATHOLOGICAL ORGANISMS.

This was followed by a paper on

THE PATHOLOGICAL ANATOMY OF ALCOHOL,

by Dr. Henry F. Formad, of Philadelphia.

Dr. N. S. Davis, Jr., of Chicago, read a paper on

CELLULAR DIGESTION AND ITS UTILITY IN PATHOLOGICAL PROCESSES.

All these papers were technical and gave rise to little or no discussion.

SECTION IN PUBLIC AND INTERNATIONAL HYGIENE.

Thursday, September 8th—Fourth Day.

A translation of a paper by Tomassi Crudeli, of Rome, Italy, on

FACTS AND THEORIES RELATING TO THE CAUSE, NATURE, AND PREVENTION OF MALARIAL FEVER,

was read and the bacillus described.

Dr. George T. Maxwell, of Ocalo, Fla., then read a paper on

THE INFLUENCE OF CLIMATE ON THE PRODUCTION OF CHOLERA INFANTUM,

in which he took the position that heat was an essential factor in its causation. The general scope of the paper was that the cause of this disease is not yet well understood.

THE HISTORY AND PRACTICAL APPLICATION OF STEAM AS A DISINFECTANT

was the title of a paper read by Dr. A. N. Bell, of New York, which was followed by papers on "The Sanitary Inspection of Railroad and Passenger Cars," by Dr. Harvey Reed, of Mansfield, O.; "Public Hygiene," by Dr. W. C. Cook, of Nashville, Tenn.; "The Clinical History of Continued Malarial Fever," by Dr. B. D. Taylor, U.S.A.; "A New Method of Detecting Trichina Spiralis in Meat," by James A. Close, M.B. (Toronto), F.R.M.S. (London), L.R.C.S.E.

SECTION IN GENERAL MEDICINE.

Thursday, September 8th—Fourth Day—Morning Session.

Dr. Ephriam Cutter, of New York, read a paper entitled

MORPHOLOGY OF RHEUMATIC BLOOD.

Dr. Cutter illustrated his lecture with stereopticon slides. He attributed the increased force of cardiac, with consequent exhaustion and inflammation, to the great adhesiveness of the blood.

Dr. Mariano Semmola, of Naples, Italy, read a paper on the

PATHOGENESIS OF ALBUMINURIA.

The paper was delivered in the French language. He gave the results of original investigations made at the University of Naples.

Dr. Nunn discussed the paper, speaking favorably of the albumen diet.

Dr. Cutter, of New York, regarded the diagnosis of Bright's disease as imperfect unless there were albumen and casts.

NOTES ON THE TREATMENT OF PHTHISIS, MORE PARTICULARLY THAT BY INTRA-PULMONARY INJECTION.

R. Singleton Smith, M.D. (London), F.R.C.P., Physician to the Bristol Royal Infirmary, England, read a paper on this subject. Since the last International Congress at Copenhagen, in 1884, numerous attempts have been made to do more than had previously been attempted for a disease in which the *vis medicatrix naturæ* does so little. The reader of this paper briefly summed up the various methods which have been recently suggested since the discovery of the bacillus of tubercle, and expressed his belief in the possibility of benefit by treatment directed toward the destruction of the bacillary growth. He reported the result of his experience with regard to gaseous rectal injections, and said that in consequence of the absence of all indications of benefit he had given up this method entirely. He alluded to the work done by Professor Pepper, of Philadelphia, and Drs. Beverley Robinson and White, of New York. In carrying out the method of intra-pulmonary injections suggested by these and other workers he had met with partial success in a series of cases reported in the *British Medical Journal*, of 1886.

In consequence of the proved utility of iodoform in chest disease, as shown by a steadily increasing mass of evidence since its first introduction for this purpose by Professor Semmola, in 1878, and supported by a series of cases presented to the International Congress of 1884, in which the author found increase of weight, improved appetite, diminution of temperature, and general improvement under the administration of iodoform given by the alimentary canal, it was thought that iodoform would be the best substance to employ for injection into the parenchyma of the lung. The clinical utility of iodoform being the ground on which its use for this purpose has been founded, the evidence is not shaken by any statistics as to the comparatively feeble powers of the drug as a germicide.

The insolubility of the drug is the chief difficulty; various solvents have been used, but with only partial success. Ether is objectionable, because of its effects on the brain; giddiness and other feelings of discomfort rather alarm the patient, and give rise to an unwillingness to have a frequent repetition of the injections. Eucalyptus oil is irritating, two cases were mentioned in which acute pleuritis, with much pain, rise of temperature, and effusion had followed the injection of an iodoform solution in oil of eucalyptus. The vaseline oil, either alone or in combination with eucalyptol, had also been used, but the author still considers the question what is the best fluid to inject, to be still unsolved. He did not advocate the use of solutions containing free iodine or bichloride of mercury, and he would not in future employ any fluid for injection into the lung which had not previously been tested hypodermically; if it gave rise to much inflammatory irritation in the subcutaneous cellular tissue he would not venture to inject it into the lung. He was of opinion that injections into cellular tissue might possibly be of some little service, although there was as yet not much reliable evidence on this point, but they would serve as a reliable test whether any given fluid was suitable for deep intra-pulmonary injection.

It is true that if iodoform be of use, as the clinical evidence indicates, then it is likely to be of far greater utility when injected, even in small quantity, into the focus of a diseased patch than when given in larger doses diffused throughout the whole body. Such injections have been shown to be not especially hazardous. Even the cases in which pleuritis has occurred had recovered completely from the attack in the course of a few days, and possibly the pleuritis was due to the failure of the fluid to pass beyond the pleural cavity into the lung-substance. Nevertheless, the author would not advocate the use of such injections in cases which were hopeless, neither would he employ them in cases where other and less active measures were accomplishing the object in view. He concluded his paper by urging perseverance in spite of failure, and by expressing his belief that what as yet was only a tentative investigation would ultimately result in numerous and signal successes.

The President made a few very complimentary remarks to Dr. Smith for his valuable paper. He was favorably impressed with Semple's inhaler.

Dr. Truax, of New York, said that he had little faith in iodoform, as he had cultivated the bacillus tuberculosis in its solution.

Afternoon Session.

Dr. Pavy, of London, England, spoke on

DIABETES.

This disease has always been regarded as an inscrutable one. There are still many points open for earnest study and patient investigation. The nature of the disease is that of faulty disposal and assimilation of food, elements. Foods taken into the body are classed as nitrogenous, fatty, and the carbohydrates. It is this latter class that especially concern us in diabetes. Starch-dextrine, lactic- and cane-sugar go to make up this group, and each has an equal action, when ingested, in causing the condition of diabetes.

Normally the carbohydrates are disposed of in the portal vein, from whence they are carried to the liver and there assimilated. Experiments in which defibrinated blood or oxygen have been injected into the portal vein have been followed by marked evidences of sugar in the urine. Similar results have been produced in animals by forced respiration, thereby supersaturating the blood with oxygen. Vaso-motor paralysis of the hepatic vessels, by causing an excess of blood, prevents the proper deoxygenation of the blood, and similarly causes sugar to be present in the urine. This condition allows the carbohydrates to be converted into sugar and to pass through into the general circulation.

In the celebrated experiments of Benard, in puncturing the floor of the fourth ventricle, he also noticed a vaso-motor paralysis of the hepatic vessels. It is noticeable that in those cases of vaso-motor paralysis of the chylopoëtic system where there is a red tongue the disease is more severe, undoubtedly owing to the fact that the paralysis has extended more generally throughout the circulatory system.

In health there is only a faint trace of sugar in the blood and the urine. The latter is always a reliable index as to the amount of sugar in the blood. In diabetes the sugar reaches the blood directly, without going through the process of assimilation in the liver. In health, sugar is stopped before it enters into the general circulation, but in diabetes it is found in the blood directly in proportion to the quantity of carbohydrates taken. Sometimes even in health there is sugar in considerable quantity in the urine, in cases where there has been taken very large quantities of the carbohydrates, showing that there is a normal limit to the assimilative power of the liver, which, if exceeded, will result in a diabetic condition. The liver is a fat- rather than a sugar-producing organ, converting animal starch into sugar and then into fat. The liver is different from other organs in that it has small arteries and large veins. The contents of the portal vein should be in a decidedly venous condition, otherwise we will get sugar into the general circulation.

Diabetes is of a neurotic origin, and it is well established that nervous conditions influence in a material manner the condition of the patient.

In considering these cases the first thing to do is to test for sugar in the urine, and in order that we may

fully appreciate the progress of the case this test should be a quantitative one.

In selecting urine for examination it is necessary to procure both an evening and a morning specimen. It frequently occurs that sugar is only present directly after the taking into the body of carbohydrate foods. It is owing to the fact that specimens of urine are procured at different times and after different conditions of diet that physicians differ so often in the diagnosis of diabetes. Among the various tests for sugar probably the most accurate is the copper test, in the form of Fehling's solution. The great objection is that this solution will throw down a precipitate on boiling, which is very liable to mask the test. In order to obviate this he had had pellets made of the solid ingredients of this solution, in an anhydrous form, such as can be at any time dissolved in water for use.

When patients come to us we should not ask them, but tell them, what they have been eating or drinking. This can be accurately done by the quantitative test. This is best and most easily accomplished by the decolorization test, which is done in the following way:

At the bottom of a long, graduated pipette is attached a tube running into a flask containing a given quantity of a solution of sulphate of copper, differing from Fehling's solution only in containing ammonia and potash instead of the latter alone (in order to prevent the precipitation of the oxide); at the upper part of the flask is placed an escape-tube. At the rubber tube through which the urine escapes into the flask is placed a compressor controlled by a screw, which regulates perfectly the flow of the urine. After the copper solution is brought to the boiling-point, by a flame placed underneath the flask, the urine is allowed to enter the flask, drop by drop, until the copper solution is exactly decolorized. By reading upon the graduated pipette the amount of the urine which has been necessary to decolorize the known quantity of copper solution, we can form a proportion by which an accurate estimate can be made of the contained sugar. By this means we can follow the course of the disease even more accurately than the clinician who, with his stethoscope, watches, from day to day, the progress or retrocession of pulmonary disease.

It is well to note, in passing, that in diabetes we sometimes find albumen in the urine, and this is often present just in proportion as the patient improves or gets worse. A test for albumen, which has no known fallacy, is that with citric acid and the ferrocyanide of sodium. The objections to the nitric-acid test are that it may precipitate either uric acid or the oleo-resins. In the above test, if a pellet of citric acid is dissolved in the urine and boiled, we may then get a precipitate of uric acid, but upon the addition of the ferrocyanide of sodium the solution invariably clears up unless albumen be present.

In considering the disease itself, we find it has different grades of intensity. The liver, in health, has not unlimited control in the assimilative power over the carbohydrates, and diabetes may be said to exist when that power is below the ordinary. When a person first comes to have diabetes, as we have stated, it is through faulty assimilation; it does occur, however, that as the disease progresses, the sugar is formed from the tissues themselves, as is proved by its constant presence when the patient is upon a strictly meat diet.

Age influences greatly the occurrence of the disease. Out of 1,360 cases tabulated, forty-five per cent. occurred between forty and sixty years of age. Age also affects prognosis; young subjects rarely recover, the disease ordinarily terminating in two years. In old people the prognosis is more favorable, many recovering. One reason, possibly, for the tendency of children to do badly is that they take unsatisfactory care of themselves, while elderly persons are oppositely inclined.

Diabetes sometimes commences in a very mild form, and may exist for a long time unrecognized. How do we know it is not recognized? It is said that bootblacks in hotels become expert in recognizing diabetics by the white stains on their shoes and clothing caused by stains from their urine.

Then, too, diabetes runs in families in a very marked manner. One of the most striking instances of this was in a family which came under my observation, where the grandmother, the mother, and four out of her five children died of diabetes.

Recently he had found many cases beyond the middle period of life having pain in their limbs, which were formerly called neuralgia; they also have an irregular gait, somewhat ataxic. They sometimes feel as if they wanted to "gather themselves together," so that they may walk without giving their friends the impression that they have been taking too much. Again, they have the peculiar symptoms of pains in their extremities and "throughout the bones," which are much worse when they get warm in bed. This probably is, or analogous to, a peripheral neuritis.

In treating young subjects we must try merely to stay the disease; we cannot stop it. We take away the sugar, the patient temporarily improves, and believes himself cured. He is borne up only by false hopes.

In young subjects it seems to have a progressive character, not unlike progressive muscular atrophy, or of locomotor ataxia.

For elderly patients we can do much. Appropriate diet is absolutely essential. Sweets, pastry, puddings, and bread must be interdicted, while meat, eggs, poultry, butter, and cheese may be taken. In regard to milk it must be remembered that it contains lactic sugar, and, therefore, also, cannot be taken.

In regard to bread, the gluten and almond breads, especially the latter, are preferable. Gluten bread may be considered of a good quality if containing only thirty-three per cent. of starch. He had found that many times patients paying a high price for their bread got an inferior quality, containing from sixty per cent. to eighty per cent. of starch. Almond is far preferable, containing fifty per cent. of fatty matter, and only seven per cent. or eight per cent. of carbo-hydrates. It was necessary, therefore, to have the proper means with which to carry out the treatment successfully. The medicinal agents which he gave were opium, morphia, and codeia. Whether due to the natural history of the disease he could not tell; but he thought they exerted a restraining influence over the disease.

If the sugar disappears from the urine he commenced to give his patients two ounces of bread daily; if, after a few weeks or months, he still found no sugar, he gave them three ounces of bread, increasing in this manner until he gave them six ounces, with which quantity they must remain content.

If the bread causes the sugar to reappear, it must not be taken.

We have seen that if there is sugar in the urine, it must be proportionately so in the general circulation. An excess of sugar in the blood predisposes to disease. The patient is then "ripe for anything wrong."

Dr. Herrick, of Cleveland, O., asked whether Dr. Pavy considered the condition of the urine the objective point in the treatment, or did he aim his treatment directly to the abnormal condition in the portal and hepatic circulation.

Dr. Pavy said that he looked upon the lessening of sugar as an evidence that the assimilative power of the carbo-hydrate is improved. The urine is an index of sugar plus the power within.

Dr. Arnold, the President, asked whether Dr. Pavy would corroborate the statement that the Hebrew race are predisposed to diabetes.

Dr. Pavy replied that while it was true they were more predisposed, it was also true that they were more amenable to treatment.

Dr. Truax, of New York, asked if Dr. Pavy had found

that where acetic ether was present death followed quicker.

Dr. Pavy replied that he was not a believer in acetonæmia.

Drs. Miller and Holton also addressed questions to the lecturer.

Dr. J. A. Ouchterlony, of Louisville, Ky., moved that Dr. Pavy be requested to furnish a paper for publication, which was voted unanimously.

Dr. Stockman read a paper for Dr. R. W. Phillips, of Edinburgh, Scotland, entitled

THE ETIOLOGY OF PHTHISIS.

He claimed that experiments go to show that ptomaines are the principal etiological factors in phthisis. In experiments where the ptomaines have been injected the animals give all the characteristic symptoms of phthisis, such as sweating, great depression, etc.

Dr. Phillips sent with his paper a tabulated report of experiments with injections of atropine, which, he claims, counteracts the action of the ptomaines.

Dr. Herrick, of Cleveland, said that he believed that the deposits in the lung were excretions from the blood of material which the natural eliminatives were unable to dispose of. He did not believe the bacillus tuberculosis to be the cause of phthisis *ipso facto*.

Dr. Whitmarsh believed that a very large number of the race have tuberculosis; it often lies dormant, yet the germ is there, like fuel, only needing a match to set it on fire. The early stage of phthisis is curable, but, unfortunately, that stage is overlooked.

Dr. Arnold, the President, thought that Koch still had the best side of the argument. The crucial experiment has been made, that when inoculations are made with sputa containing the bacillus tuberculosis, we get phthisis, but do not get phthisis under any other circumstances.

Dr. Truax, of New York, called attention to the additional evidence of the power in the bacillus tuberculosis, viz., that repeated cultures of the germ still retain the power to cause phthisis.

The Secretary read a paper by Dr. W. B. Neftel, entitled

SOME CONSIDERATIONS ON THE PATHOGENESIS OF DISEASES OF WOMEN.

He endeavors to prove, by experiments upon the lower animals, that compression of the chest will cause phthisis. Although his experiments did not prove this, they did show that they would cause albuminuria, which he attributed to venous stasis.

From these experiments he made analogous comparisons of the deleterious effects of wearing corsets and high-heeled shoes.

He suggested that the Congress appoint a commission to investigate the various modes of feminine dress of the different nationalities, and select such forms as are both practical and useful. He thought that in this way, with the sanction of the profession, some impression might be made upon the female sex to change their present mode of dress.

Dr. Herrick thought that experiments upon the lower animals were of little use in forming opinions of disease in the human subject.

Dr. Price, New York, agreed with Dr. Herrick in the main. He did not think that bacilli were the cause of phthisis.

Mrs. Dr. Finlay, Mansfield, O., asked if statistics showed that the difference in dress caused a corresponding increase of mortality among women.

Dr. John Eye, Reading, Pa., thought it very necessary that each air-cell had free play in performing its function, otherwise it would be a favorable soil in which the bacillus could grow. He believes in the germ-theory of phthisis.

SECTION IN GENERAL SURGERY.

Thursday, September 8th—Fourth Day—Morning Session.

Dr. Burney read a paper, on behalf of Dr. Richardson, of St. Louis, on a case of gastrotomy for the relief of foreign bodies in the throat. The speaker also mentioned a case in which he himself had operated, a man having swallowed an ordinary plated case-knife (the latter he presented at the meeting). While playing with his family the knife slipped from his fingers as he pretended to swallow it, and really did. The writer did not believe in the continued suture in this operation, but the interrupted, one and one-eighth of an inch apart.

In discussing Dr. Dennis' paper, Dr. Myers remarked that Macewen used only digital pressure in the amputation of the thigh-joint.

Dr. Maclean, of Detroit, said that Dr. Dennis' method was the principal point in the paper; he had had the best results in Lister's abdominal compressor.

Dr. Weeks, of Maine, stated that he used the ordinary rubber-bandage with a compress, the bandage being four thicknesses and secured much the same as Dr. Dennis'.

Dr. Manley, of New York, thought it difficult to find anything to take the place of Lister's compressor.

Dr. Reyher, of St. Petersburg, said that he had had some unpleasant experiences with Lister's compressor. He was in the habit of first excising the head of the bone, then piercing the thigh and ligating in two parts, then amputating the legs; the flaps were then under the control of the surgeon, and he could work at leisure, but he usually put a rubber-bandage above.

Dr. N. Smith thought that the less tissue left the better, and that he was satisfied with Brodie's operation, the anterior and posterior skin-flaps; as for controlling hemorrhage, the hands were best; he had not had much experience with the rectal staff.

Discussion of paper by Dr. L. H. Sayre, of New York.

Dr. Springler, of Dresden, remarked that about one-fifth of these cases healed primarily; one-fifth in about three weeks, and one-fifth in about two to three years, and then perhaps would die from the amputation and prolonged drain on the system.

Discussion on aspiration of hip-joint by Dr. Benton.

Dr. Lange, of New York, stated that he thought the conclusions on the subject were rather premature.

The question was asked if the fluid were examined under the microscope for bacilli; also whether the fluid was removed as a curative measure or only to relieve pain.

To the former question Mr. Owen replied it was not, and as to the latter it was both; replying that if you are in doubt as to these cases, put in your trocar and cannula; you can do no harm and you may do good.

In regard to Dr. Garmony's paper, Dr. Burney stated that he had a case of a boy whose skull was fractured, and shortly afterward was taken with maniacal attacks of screaming epilepsy. He was trephined and two buttons of bone were removed; a second operation was performed and the dura mater incised, when immediately a large quantity of cerebro-spinal fluid gushed out, which very much alarmed the speaker; sponges were quickly placed in the cavity and the wound sewed up. Since that time he has gradually improved.

Dr. Manley, of New York, read a paper on a case of

GUN-SHOT WOUND OF THE LARGE INTESTINE, WITH A SUCCESSFUL RESULT BY LAPAROTOMY.

The patient was operated on twice. The speaker considered that opening of the peritoneal cavity of a man was far different to opening that of a woman, and liable to more risks; the breathing of a man is largely abdominal, while that of a woman is almost entirely thoracic; the incision in the man should not be a bit larger

than is necessary, because of his laborious work being liable to produce ventral hernia after recovery. For exploratory operations he made the median incision, but thought there might be exceptions to this rule. In regard to the drainage-tube in these gunshot wounds of the abdomen, he thought there was no need of them when the peritoneal cavity was healthy and laparotomy performed soon after the injury, and although he had put one in in the case spoken of, he should not do it in the next one. Of course there might be exceptions, but he believed the tube was a source of irritation and more liable to produce hernia.

AFTERNOON SESSION.

DR. ROBERT NEWMAN, of New York, read a paper on

THE USE OF THE GALVANO-CAUTERY SOUND,

particularly in hypertrophy of the prostate gland, with report of cases. The application of the cautery, he stated, would depend much on the condition of the patient, but it averaged about from every three to six days; the cautery was not to be red hot, but simply to show a bright light. The apparatus was exhibited to the Section. The advantages claimed are that there is no hemorrhage, the healing is more rapid, and there is no septicæmia. Out of these cases ninety-one per cent. are made comfortable and given a new lease of life.

DR. CARNOCHAN, of New York, presented a remarkable specimen of

BONY UNION OF THE NECK OF THE FEMUR WITHIN THE CAPSULE,

after fracture, occurring in a woman seventy years of age. As she had plenty of means she had every attention. She was kept in her fracture-bed for nine months, rest being the method of treatment. The value of the specimen was very great, especially in courts of law.

DR. F. LEMOYNE, of Pittsburg, presented some drawings of an united fracture of the femur, and history of a successful case in which he had applied his method of treatment, viz.,

DOUBLE SPLICE AND WIRED CLAMPS.

The treatment has been successful in three cases—two of the humerus and this one of the femur. The bone was cut down upon and the fragments found to be overlapping nearly three inches. The ends were sawed off, the upper fragment in the form of a wedge; from the lower one a wedge-shaped piece of bone was removed, so that the upper fragment fitted into it. A hole was drilled in both bones about one and a half inch from the fractured ends. A stiff, flat, steel bar, with a prong at either end, was placed lengthwise on the surface of the bone, so that the prongs were inserted into the holes; a stout piece of wire was then passed around the clamp and femur at either end, and twisted close up, holding the clamp in position. The wires and clamp remained there nine weeks, when the wound was reopened and the clamp removed. The bone was firmly united, but the limb is two and a half inches shorter.

DR. MANLEY, of New York, stated that he had had considerable experience in wiring bones, and thought the bones when lapping very much should be wired at the first; the wires he always left in, as they did no harm. In one case of compound comminuted fracture he had followed this method and secured perfect union.

DR. QUIMBY, of Jersey City, stated that he could hardly approve of this method.

DR. LEMOYNE remarked, that he thought his method was original, and previously everything else had failed, the man having undergone a number of operations prior to his treatment, and all of his cases so treated had met with success; he did not believe in wiring in primary fractures.

DR. GIBSON exhibited some wire extension splints for fractures at or near the joints; he had used them since 1879. They were a modification of the wire splint of Dr. Nathan Smith, and, as one gentleman remarked, seemed like resurrecting him.

DR. MYERS remarked that he thought the day of extension, except in compound fractures, had gone by; he was very well satisfied with plaster-of-Paris, board, or some simple and light dressing.

Several other gentlemen remarked to the same effect.

DR. GIBSON replied that he wished it understood that he did not use this splint in all cases, but for those fractures at or near the joints.

In discussing Dr. Manley's paper, DR. QUIMBY stated that he thought in many cases of wounds the tubes were left in too long. He quoted one case of laparotomy in which no tubes were introduced. Death followed the operation; the wound was reopened, and the peritoneal cavity found perfectly dry.

DR. MANLEY concluded by saying that in ovariotomy, where substances were removed, it was different, but in gunshot wounds he considered the tubes injurious.

SECTION IN MILITARY AND NAVAL SURGERY AND MEDICINE.

THURSDAY, SEPTEMBER 8TH—FOURTH DAY—MORNING SESSION.

DR. J. D. BRYANT, of New York, being absent, his paper, entitled

ON THE CAUSES AND TREATMENT OF ERYSIPELAS,

was read by title, and was by an unanimous vote referred to the Committee on Publication.

A paper by DR. WILLIAM VARIAN, of Titusville, Pa., on the subject of

ETIOLOGY AND TREATMENT OF HOSPITAL GANGRENE DURING THE WAR,

then followed. The author enumerated the symptoms of this disease as observed by himself during the late war, and the causes which were probably concerned in its development. There may be certain atmospheric conditions, such as the prevalence of cold, wet weather, or hot moist weather, with marked electric or barometric oscillations. The influence of bad food, imperfect care, and mental depression acted, the speaker said, as a predisposing cause. The probability of the presence in the atmosphere of some unknown septic poison was discussed at length. A necessary condition for the development of the disease is the existence of a solution of continuity of the cuticle or soft tissues generally; the same may be said of wounds in a state of suppuration and granulation; non-recent wounds being, however, more likely to be attacked. Hospital gangrene is a local, and not a systemic, disease; it develops an auto-generative contagium, which may be spread by atmospheric diffusion, or may be conveyed from patient to patient by the surgeon's hands, instruments, or dressings. That it is a local disease is attested by the fact that it may develop in only one wound upon an individual afflicted with a number of them; a few such cases were observed during the late war by others besides myself.

The subject of treatment was then entered upon. The futility of medicinal treatment was shown, and the complete destruction of the tissues affected was, the author said, essential to successful treatment. These should be boldly removed by the knife, and some caustic thoroughly applied. Success is less dependent upon the nature of the latter than upon its thorough application. In his experience he had found bromine the surest, although the most disagreeable; but nitric acid and the acid nitrate of mercury had also been successfully used. The importance of a supporting treatment, of good food, stimulants, and tonics, to combat the great vital depression which always co-exists was shown. In conclusion, the author remarked that a strict asepsis should eliminate hospital gangrene from the surgery of the future.

Dr. Frederick Hyde, of Syracuse, N. Y., desired to know if the author had met with cases in which the disease had actually been communicated by unclean sponges and dressings; he had himself observed this in a number of instances. An affirmative answer being given,

Dr. Pickett, of Cory, Pa., related his personal experience with hospital gangrene; he had been treated by bromine and cured, but the disease had made such an impression upon him that he was still suffering.

The President, Dr. Smith, asked one of the British members, Dr. Anderson, of the British army, what had been his experience with the disease. The doctor replied that he had never met with it in his hospital experience, whereupon the President congratulated him upon his good fortune.

An interesting paper on

THE ETIOLOGY AND TREATMENT OF CAMP DYSENTERY AND DIARRHŒA,

was read by Dr. Charles W. Buvinger, of Pittsburg, Pa. Camp dysentery and diarrhœa are always the result of a radical change in the manner of living; by the use of bad water from stagnant pools or wells contaminated with organic matters. The use of improperly cooked food, and privations, were important factors. The speaker adverted to the influence of malarial or paludal neighborhoods, and to that of scurvy in their causation.

The nature of these diseases is not well understood. They are not due to a micro-organism, bacteria, or a special bacillus, so far as known; in spite of numerous researches we are still in the dark as regards their origin.

The history of the treatment of dysentery shows the diverse and discordant opinions entertained by authors regarding the use of ipecacuanha. No one remedy can be considered a specific for either of the diseases in question. The writer, having been a great sufferer from both, briefly related his experience and experiments upon himself with various remedies.

He is convinced that fuming nitrous acid, 43°, as furnished by Powers & Weightman, of Philadelphia, is the best remedy that we have; it may be reinforced by opium, if necessary. His favorite formula is the following:

℞. Acidi nitrosi, 43° ..... f ʒ j.
Tinct. opii ..... f ʒ ij.
Aquæ destil ..... f ʒ vj.
Syr. simpl ..... ad f ʒ viij.
M. Sig.—A tablespoonful in one wineglassful of water every three hours.

This remedy will afford relief in the majority of cases of dysentery and camp diarrhœa. Oil of turpentine is most valuable in the latter disease, especially in the hemorrhagic form as well as in the chronic diarrhœa met with in private practice. The writer has for years used with success the following formula, which possesses the advantage of being pleasant to the taste, and is readily taken by children:

℞. Acaciæ pulv ..... ʒ jss.
Ol. terebinth ..... f ʒ ij. ʒ ij.

Misce et adde:

Aquæ ..... f ʒ iij.
Syr. simpl ..... ad f ʒ xij.
M. Sig.—One teaspoonful every three hours to adults.

It will be noticed that this emulsion contains twenty drops to the drachm, a quantity which is less likely to cause strangury than a smaller dose. It may be reinforced by tr. opii, to prevent undue catharsis. The dose for children should, of course, be proportionate to their age. I have found this combination invaluable.

In camp diarrhœa, another efficient combination is the following, which will be found useful also in summer diarrhœa:

℞. Hydrarg. chlor. mit. ..... gr. ij.
Pulv. ipecac ..... gr. iij.
Opii ..... gr. v.
M. et in chartulas no. x. divide.
Sig.—One every three hours.

The next paper was read by Dr. Joseph R. Smith, U.S.A., of New York, upon

THE BEST FORM OF REPORT OF SICK AND WOUNDED OF ARMIES.

The object of such a report was described, and the form adopted by various European armies shown. Of these, that of the Prussian army is, in the opinion of the writer, the best. A model of a form suitable for all armies, designed by the author, was presented.

Five propositions were formulated for adoption by the Section, the first stating the objects of report of medicine and surgery; the second the frequency and periodicity of the same; the third recommending simplicity and uniformity; the fourth expressing preference for the Prussian system of classification; the fifth urging the adoption of the model form here presented, and directs the Secretary of the Section to communicate their opinion to the medical bureau of all nations represented in the Congress.

An essay by Dr. Chas. W. Brown, of Elmira, N. Y., upon

THE ETIOLOGY AND TREATMENT OF TETANUS

was read. The author began by saying that the cause of the disease is still enshrouded in doubt, but was more probably due to ascending neuritis than to the irritation of peripheral nerves. He considers the disease a specific, contagious, and infectious one, which, according to Rosenbach, is caused by a bacillus, his experiments having shown that rabbits and mice inoculated with material from a case of tetanus died of the disease. The author adverted to some experiments made by various observers upon the horse, and proceeded to compare a true case of the disease with one of cerebro-spinal meningitis, which, he thought, had often been mistaken for idiopathic tetanus; in fact, his experience and observation had cast a doubt in his mind as to the existence of such a disease as idiopathic tetanus, which was always the result of some wound, however slight. After an interesting account of a case met with in his practice he approached the subject of treatment, which he characterized, as a rule, as very unsatisfactory. The wound should be, if necessary, freely opened and cleansed with some antiseptic fluid, and dressed in accordance with the methods of modern asepsis. Isolation and rest in a dark room, free from air-currents, were of great importance. The removal of wounded parts has not given good results in traumatic tetanus. Supporting measures are indicated in the disease, and the intelligent use of stimulants. The use of concentrated foods was not to be overlooked.

Quinine had been in some cases apparently used to advantage, in enormous doses, some giving as much as two hundred and sixty grains in one dose. He had himself administered it in doses of one hundred grains every hour for some time; this case recovered, and no bad results followed from the injection of such a large quantity of the drug. Fowler's solution, cannabis indica, morphia, cocaine, the bromides, had in turn been tried in vain, although the latter, particularly bromide of potassium, had been strongly recommended by Dr. McCord, of Kentucky, in twenty-grain doses, every hour. The use of pounded ice and the ether spray along the spine should always be resorted to.

The President, Dr. Smith, announced that the paper which had been promised upon

THE MICROBIC ORIGIN OF TETANUS,

by Dr. William Browning, of Brooklyn, N. Y., had not been received. He then called upon Dr. J. McF. Gas-

ton, of Atlanta, Ga., to open the discussion upon this interesting subject.

Dr. Gaston, at the outset, regretted exceedingly that the paper just mentioned had not been presented, as he had expected from it, and, as a result of the author's experiments, the presentation of new data of a definite nature upon this subject. In the absence of any such data, and relying upon his own experience with the disease, the speaker's views were not in harmony with those of Dr. Browning, concerning its bacterial origin, contagious or infectious nature. Dr. N. Senn, of Chicago, in a recent lecture, appeared to take for granted the bacterial origin of tetanus, the author of the paper under discussion appeared to hold the same views, but has not eliminated the doubt which may exist in regard to this etiological factor. It is begging the question to claim that tetanus is due to a bacillus, because a certain bacillus of a distinctive character has been found in the course of the disease, since such an organism may be a mere accompaniment or result, and have no causative influence whatever. Regarding the claim of contagiousness or infectiousness, chiefly based upon the synchronous or subsequent appearance of the disease in man or animals in the same locality, it should be considered that there may be certain predisposing atmospheric conditions in such locality which may account for the occurrence of the disease without implying its infectious or contagious nature in the ordinary acceptation of the terms.

In the speaker's experience, suppurating wounds do not often cause tetanus. The disease may be due to the development of some ptomaïne, but the question of its origin is still *sub judice*.

As for the treatment, the use of chloroform and the thorough saturation of the system with chloral and potassium bromide offer the best chance of success. The speaker had observed eighteen cases of traumatic tetanus, treated in this manner, of which ten cases had recovered.

Afternoon Session.

The first paper of the session was read by Dr. J. W. S. Gouley, of New York, on

the practical consideration of human nosography.

The author first considered the importance of a correct and thorough nomenclature of diseases, and the causes that had retarded the progress of this science. To be of practical utility, nosography should be established upon a sound basis. The defects in the past and present nomenclature of diseases were chiefly enumerated, and suggestions given for their remedy. The paper concluded with the presentation of propositions looking toward an improved classification of diseases.

Dr. Simeon Tucker Clarke, of Lockport, N. Y., spoke of the importance of this subject and agreed, in the main, with the views of the author.

Dr. Harrison, of Washington, Dr. Didama, and Dr. Frederick Hyde, of Syracuse, N. Y., discussed the subject and presented their views relative to its importance.

Dr. Hingston, of Montreal, Canada, spoke of the necessity of such a revision as that proposed, and Dr. Bontecou, of Troy, N. Y., referred to the simplicity of the Prussian nomenclature of diseases, as compared with ours.

Dr. Gouley concluded the discussion by suggesting that co-operative movement was needed to reach the desired end of a perfect nomenclature.

The second paper, entitled

what class of gun-shot wounds and injuries justify resection or excision in modern warfare?

was read by the author, Dr. Reed Brockway Bontecou, of Troy, N. Y.

After a clear definition of the terms, the author entered upon a consideration of the value of operations as compared with the results of expectant treatment or amputation, referred to the advantages of excisions and their reduced mortality under the antiseptic method, and gave statistics of gun-shot wounds of cranium, clavicle, scapula, and shoulder-joint. The fractures of the hip-joint were next considered. The results of resections of lower extremities were not satisfactory, with regard to their future usefulness. The condition demanding excision of the shaft of the femur in gun-shot fractures were chiefly enumerated. In conclusion the author adverted to the favorable statistics of antiseptic treatment without operation, and to the encouraging results of resection of the knee-joint under the same method of treatment.

Dr. Goodman, of Philadelphia, after a few remarks upon the paper, reported some cases of resection of the femur after the battle of Chancellorsville, attended with fatal result.

Dr. Henry Janes, of Waterbury, Vt., read an important paper, giving the results of his experience during the late war, with

gun-shot fractures of the femur.

The author's conclusions upon this interesting subject are based upon the results of no less than 427 cases occurring in his service, and treated by himself, or under his immediate observation, in two field hospitals in his charge during the year 1862 and 1863.

Of these fractures 95 were in the upper third of the bone, all of which were treated conservatively, giving a mortality of forty-six per cent. at last reports; 125 were in the middle third, 102 of these being treated conservatively, with a mortality of thirty-two per cent., 23 were amputated, mortality forty per cent.; 207 cases were in the lower third of the bone; 67 of these, not including knee-wounds, were treated by the conservative method, with a mortality of twenty per cent.; 140 cases were amputated, resulting in a mortality of thirty-five per cent. Besides these 427 cases, there were 34 fractures involving the knee-joint, treated conservatively, with a mortality of eighty-five per cent. The cases requiring amputation terminated earliest, but about one-eighth of them suffered from painful and tedious osteitis. Up to about forty years of age, advance in life did not seem to increase the rate of mortality. The author's conclusions are the following:

Antero-posterior wounds did no better, in his experience than the transverse. Fractures caused by bullets moving with great velocity were fraught with more danger than those moving at a lower rate of speed.

Wounds occurring in prisoners did not do so well as those in their captors under the same conditions; this was probably due to the incident moral influences.

Gun-shot fractures sometimes united as readily as simple fractures.

False joint occurred but once among the two hundred and sixty-three cases treated conservatively.

Secondary hemorrhage occurred only in nine cases, in several times it was incident to septic poisoning.

Tetanus only occurred once.

Hospital gangrene seemed to be induced in the autumn of 1863 by bad ventilation and the occurrence of cold, damp weather.

The shortening, in the cases which completely recovered was generally of more than one inch; it was, in several instances, increased by the too early use of the limb.

The formation of callus was sometimes so irregular and excessive in amount as to impede muscular action; it sometimes encroached upon an artery or nerve and caused secondary hemorrhage or neuralgia. In some cases the callus was absorbed in the course of septic inflammation.

Refractures, caused by falls and similar accidents, generally reunited readily when the wounds in the soft parts were healed.

The limbs often became much more useful than any

artificial substitute; the author has unfortunately no statistics bearing upon this subject to offer.

Regarding the treatment of injuries of this nature, he would enjoin the surgeon *not* to saw off the ends of fractured bones, and not to use too much force in tearing off fragments of bone still attached to the periosteum. Moderate, simple extension by weights and pulleys is the best in the majority of cases; in some of the cases that did the best no extension was used. He would advise the dry dressing of wounds, with plenty of absorbents, rather than with water-dressings. Strict antisepsis, according to the modern idea, is impossible in large hospitals on the battle-field.

In conclusion, the author spoke of the necessity of a liberal diet, the intelligent use of stimulants, and due regard to the sanitary precautions in the camp or hospital in which this class of injuries are treated.

Dr. Robert Reyburn, of Washington, desired to know what proportion of the doctor's cases had been reated in tents and in buildings.

Dr. Janes said the majority of the cases were treated under canvas, with free access of air; with the advent of the cold and damp weather of winter, the ventilation was not so perfect, as it was difficult to impress upon the soldiers the importance of free ventilation, at a time when they were suffering from the cold. It was, as previously stated, at this time that hospital gangrene set in.

Dr. Reyburn, in my experience, the kind of hospital in which the wounds under consideration are treated has much to do with the mortality; the treatment in tents I consider the best; unfortunately, most of the cases observed by him in the service could not be treated under such favorable conditions, and he had to report a mortality of about seventy-five per cent. The results achieved by Dr. Janes were most remarkable, and show what can be done by conservative surgery.

SECTION IN OBSTETRICS.

Thursday, September 8th—Fourth Day—Morning Session.

Dr. Alexander Simpson, of Edinburgh, Scotland, occupied the chair—Dr. Miller being called away by a death in his family. The Section passed resolutions of condolence and sympathy.

Dr. Emil Poussie, of Paris, France, read some remarks on a case of

TYPHOID FEVER IN THE PUERPERAL WOMAN.

Seven days after labor, grave symptoms of true typhoid fever appeared, the disease running its course and the patient recovering. The report was made to call attention to the importance of distinguishing typhoid in the puerpera, from septicæmia.

Dr. Alexander Simpson called attention to the importance of distinguishing the various forms of puerperal fevers. In Edinburgh he saw many cases of typhoid after labor; these were sometimes difficult to differentiate from ordinary sepsis, sometimes distinct and with a clear history of sewage-infection. He had seen scarlatina and measles after delivery simulating septicæmia. These diseases in the puerperal woman were apt to prove fatal before their full development.

Dr. Graily Hewitt, F.R.C.P., London, England, thought that the great advance in the treatment of puerperal fever in late years consisted in means tending to prevent the introduction of septic material into the blood. Women in whom the uterus did not remain firmly contracted were the most liable to contract puerperal fever. The uterus was the seat of entrance of the poison, and in private practice the best safeguard was to keep the uterus firmly contracted. Keep the patient in as good general health as possible during the latter months of pregnancy, feed her soon after labor and keep up her strength, for where there were weakness and debility the uterine contractions were apt to be imperfect. He used antiseptic precautions and vaginal injections, with the uterine douche in appropriate cases. When the germs had once gotten into the connective tissue about the uterus, douching did no good. He insisted upon the necessity of free passage for the return flow, and advocated Budin's double-tube, which he had had made of glass, as it was then more easily examined and kept clean. In general treatment keep up the uterine contractions by various means, nourish the patient, and use stimulants *freely*.

Dr. Jones, of Danville, Ill., had never had a case of puerperal fever in his own practice. He had always used careful antisepsis, employing the mercuric bichloride, or oil of turpentine, which he considered a most excellent antiseptic. The uterine douche was a most valuable agent. Keep yourself clean.

Dr. W. W. Jaggard, of Chicago, Ill., would treat the uterus when mild infection had already begun. He vigorously protested against Madden's use of the douche daily, and was more in accord with the Vienna school, where the uterus was washed out thoroughly with a weak (two and one-half per cent.) carbolized solution, and a bacillus of iodoform weighing from sixty to seventy grains introduced. No more interference was needed. The douche was not repeated, except in exceptional cases. There was no danger from iodoform poisoning.

Dr. J. F. Y. Paine, of Galveston, Tex., in twenty-four years had had but one case of puerperal fever. The best prophylaxis was to secure firm contraction of the uterus and remove clots. The uterine douche was meddlesome and hurtful in the great majority of cases. Cleanliness, rest, quiet, good air, and good diet were all that was necessary. Quinine and iron might be given in some cases.

Dr. D. T. Nelson, of Chicago, Ill., mentioned a very grave case of puerperal septicæmia where sulphuretted hydrogen gas was used, as in Bourgeon's method in phthisis. At first the symptoms became more favorable, then diarrhœa set in. The treatment was continued cautiously, but rectitis and hemorrhage appeared, and the patient died. Here, at first, the treatment aided, but later, no doubt, hastened her death.

In a second case, in the third week of typhoid fever, a miscarriage occurred at the third month. The fever became septic, with a characteristic scarlatinal rash. The same treatment was used, employing the gas in smaller quantity, and with immediate amelioration and recovery.

Dr. William T. Stewart, of Philadelphia, Pa., indorsed Dr. Hewitt's views, and thought the liquor sodæ chlorinata, ℥ ij. to O ss., the best for vaginal douching.

Dr. Lloyd Roberts, of Manchester, England, used quinine, irrigation, and the curette when necessary. Mild cases would get well without treatment. He did not agree with Dr. Sibbett that the doctors and nurses so often carried the disease. He considered the mercuric-bichloride douche dangerous when strong; calomel was used successfully forty years ago. Could it not have had an antiseptic action?

Dr. Cameron, of Montreal, Canada, did not think we could treat the disease intelligently until we realized that purperal fever and purperal septicæmia were synonymous. There was no such thing as auto-infection; endosepsis was a pernicious myth. His views were in accordance with those of Jaggard. Antiseptic precautions were to kill or to prevent the entrance of germs. There was a very general lack of knowledge as to when or how to use antiseptic measures. The douche and curette were valuable in the right place, but harmful in others.

When you have used the douche, iodoform, and the antiseptic pad, why use other local measures? You have sterilized the canal. Food, stimulants. rest, and iron were important. There was no specific treatment. Each case should be studied. Local conditions required local treatment, general states general treatment.

Dr. Charles Warrington Earle, of Chicago, Ill.,

thought the ground very thoroughly and ably gone over by Dr. Cameron. He believed in adopting absolute antiseptic precautions beforehand. If possible, have clean, intelligent nurses. Look for the cause of the sepsis; if in the uterus, clear it out and patient would recover.

Dr. Rodney Glisan, of Portland, Ore., presented a paper on

CONSERVATIVE OBSTETRICS; WITH SPECIAL REFERENCE TO THE REMOVAL OF THE SECUNDINES AFTER ABORTION, AND TO THE TREATMENT OF THE THIRD STAGE OF LABOR.

He thought that the expectant method of treating retained secundines after abortion and the placenta after labor was unsafe in private practice, especially when the doctor resided at a distance from his patient, yet it might succeed fairly well in hospitals, under the constant vigilance of experienced practitioners.

He approves of the immediate removal of the secundines after abortion in all cases where the cervix is somewhat dilated or dilatable, as is generally the case for an hour or so after the expulsion of the embryo, and in all cases of septicæmia or dangerous hemorrhage, no matter when they occur. When neither of these accidents is present, and the cervix closed, he does not advocate the immediate and forcible removal of the secundines, but would wait a more favorable condition, when the finger could be easily inserted, moderate hemorrhage being controlled by ergot, the tampon, etc. No instrument in these cases was so safe, trustworthy, and generally useful as the finger. He adopts the bimanual method, depressing the uterus with one hand to within reach of the finger of the other, giving an anæsthetic if necessary.

In the removal of the placenta during labor the author used the Credé method, supplemented by moderate traction on the cord. He does not believe that moderate traction on the cord, when the uterus is well contracted and properly grasped by one hand externally, is attended by the least risk of inversion or of increasing the hemorrhage by a suction-like process of the placenta on the cavity of the womb. He thinks that traction upon the umbilical cord as an aid to delivery of the placenta ought not to be abandoned.

Dr. Graily Hewitt accorded perfectly with Dr. Glisan. In cases of abortion there was often great difficulty in passing the internal os. We must not expect the os to be open until the abortion had continued for some time. Instruments other than the finger were dangerous. He was much impressed with the importance of not allowing the secundines to remain long in the uterus.

Others present expressed the same views.

Afternoon Session.

Dr. Edward Henry Trenholme, of Montreal, Canada, presented a consideration of

INTERNAL UTERINE HEMORRHAGE THE RESULT OF OVERDISTENTION OF THE UTERUS FROM HYDRAMNIOS.

The author pointed out some of the causes of hydramnios and the serious results of such distention. The distention caused a deficient nutrition of the decidua, which allowed it to rupture, causing hemorrhage from the site of the tear. The blood might clot *in situ* or pass between the layers of the deciduæ. The hemorrhage began with severe pain and sense of fulness, with signs of internal hemorrhage. Cited case. We should forestall the danger by causing premature labor before the hemorrhage occurred, that is, as soon as the distention becomes excessive. Should bleeding have occurred, it is necessary to wait until the vessels have closed before we attempt treatment.

A posthumous paper by Dr. W. T. Taylor, of Philadelphia, on "Maternal Impressions Affecting the Fœtus," was read by title.

Dr. William T. Stewart, of Philadelphia, Pa., read a paper on

THE IMPORTANCE OF ACCURATE DIAGNOSIS IN PREGNANCY, WITH THE HISTORY OF A UNIQUE CASE OF RETROFLEXION OF THE GRAVID UTERUS, LABOR AT TERM.

After some remarks on the causes and necessity of the numerous cases of abdominal surgery, in which he hoped for some better means of prevention of female diseases, he spoke of the evil effects of the modern steel-clad corset, which injured the muscles of the back, forced down the contents of the abdomen, and impeded the venous return. He reported a case showing many blunders in the way of mistaken diagnosis.

The patient, aged twenty-nine, one year after the birth of her third and last child, consulted a female doctor, who told her that a tumor was growing in the posterior vaginal cul-de-sac. She consulted with several other physicians, some of them famous gynecologists, who agreed as to the nature of the "fibroid" and decided upon operation. Two days before the proposed removal of the tumor, Dr. Stewart chanced to see her and found a retroverted pregnant uterus. He advised her not to undergo the operation, and as she was not his patient did nothing more. At full term he was called upon to deliver her, and found the uterus still retroverted. The vertex presented above the brim, the body lying posteriorly. The os was dilated, but nearly out of reach above the pubes. An attempt at reposition, made with the patient in the knee-chest position, was successful. At the first pain after the reposition the membranes were ruptured, and at the second the child was born, living; weight, six and a half pounds.

Only two similar cases were recorded, in both of which the child was dead.

Dr. Alexander Simpson, of Edinburgh, Scotland, thought the case interesting, as it was extremely rare for a retroversion to persist to term.

Dr. Rodney Glisan, of Portland, Ore., related the history of a case of retroversion of the gravid uterus reduced in the knee-chest position, at the fourth month, and followed by abortion. We should always insist upon a rectification, even to the fifth month.

Dr. Williams, of Baltimore, Md., related a case where a retroverted gravid uterus, with bilateral laceration of the cervix to the vaginal junction, simulated cancer with fibroid.

Dr. John Bartlett, of Chicago, Ill., presented

A STUDY OF DEVENTER'S METHOD OF DELIVERY OF THE AFTER-COMING HEAD,

supplementing the paper with a demonstration upon the phantom.

Deventer spoke in the most confident manner of the success and safety of podalic version, and of the ease with which the head could be delivered, but did not describe his method, which, however, Dr. Bartlett had found mentioned in Smellie's work. Deventer's method was shown to consist of a reversal of the so-called Prague method, in that the body of the child was carried far backward toward the perineum, with the view of turning the occiput out from under the pubes, the anterior surface of the neck resting on the perineum. At the beginning the occiput of the child was turned forward, so as to come under the pubis as the child was drawn down. The arms were *not* to be drawn down, but left up alongside the head, being placed so as to come anterior to either parietal base. The delivery by traction backward upon the body was to be aided by pressure made immediately above the pubes, the wedge formed by the head and arms being decomposed by the

withdrawal of the larger transverse diameter of the head from between the arms, as descent of the head accompanied by extension occurs. The mechanism was only favorable when the occiput was anterior. Deventer never lost a child or tore a mother. The arms being left up, protected the neck of the child and allowed a passage for the cord alongside of them, so that haste was not as necessary as with ordinary methods, and, occupying a broad and yielding part of the pelvis, they did not obstruct delivery. The method was a plausible one, and certainly worthy of trial in suitable cases.

Professor Simpson spoke of Deventer as one of the most reliable of obstetric writers; yet, as the method would seem to endanger the perineum, he would like to see a practical demonstration of its value.

Dr. A. F. A. King, of Washington, D. C., considered Dr. Bartlett's paper the best that had been presented to the Section. In regard to the safety of the method, we must remember that the puerperal canal was elongated by the perineum, which he thought liable to be torn. However, he should describe the method in the next edition of his book.

Dr. Parkes, of Chicago, Ill., described two cases where he had had difficulty in getting down the arms, and where a decided pull backward had easily and unexpectedly delivered the head. He had not understood the matter until Dr. Bartlett's paper had made it clear.

Dr. Jones, of Danville, Ill., cited three similar cases where he had, without knowing it, used this method, with the patient on the side; the delivery being unexpectedly easy and the perineum intact in each case.

Dr. J. E. Kelly, of New York, read an elaborate paper, entitled

LITHIASIS IN PREGNANCY.

Being impressed by the frequency, during gestation, of many of the arthritic, gastric, and other phenomena which ordinarily are present in lithiasis, the author reviews in detail the relations existing between the two conditions, and concludes that the association is due to the correspondence of the condition of the blood in lithiasis and pregnancy. First considering the general pathology of lithiasis, and subsequently that of the various systems, he then investigates the phenomena of pregnancy, and indicates the influences which produce, in the maternal blood, a condition almost identical with that which is present in lithiasis, and draws a parallel between the diseased conditions most frequently observed in pregnancy and the symptoms of lithiasis. These investigations would suggest the careful supervision of the condition of the pregnant female, especially with regard to the digestive, circulatory, and urinary symptoms, and, in suitable cases, the intelligent application of prophylaxis.

Dr. E. P. Christian, of Wyandotte, Mich., read a statistical paper on

THE PROPORTION AND CAUSES OF STILL-BIRTHS.

The average for states and countries was about four per cent.; for large cities, seven per cent. His personal statistics, in a small manufacturing town, were a little less than four and a half per cent. in 1,675 labors, including 17 cases of twins.

Prominent among the causes of mortality were syphilis, intemperance, and ergot.

Professor Alexander Simpson spoke of the value of such statistical researches and of the labor they required. He strongly condemned ergot, given before the birth of the child, as being a most fruitful cause of stillbirths.

Drs. Dunmire, of Philadelphia; Pierce, of Ohio; Lester, of New York; Stewart, of Philadelphia; Robinson, of Danville, Va.; and Sale, of Mississippi, united in condemning this use of ergot.

SECTION IN DISEASES OF CHILDREN.

Thursday, September 8th—Fourth Day—Afternoon Session.

Professor Albert R. Leeds, of the Stevens Institute, New Jersey, read a paper on

THE NUTRITION OF INFANTS.

He had undertaken to find a true basis for the preparation of artificial food by analyzing eighty samples of human milk. He found that human milk differs from cow's milk chiefly in the proportion and digestibility of the caseine, which is smaller in quantity and more easily digestible in human than cow's milk. He believed that he had solved the problem by digesting the caseine by a peptogenic powder, easily obtainable and of constant strength, which, with the aid of heat, reduced the caseine in five minutes. Before this cooking, the milk had been first diluted with water in order to lessen the proportion of caseine, and then had been enriched by the addition of cream to restore the normal proportion of fat. The results of a very large number of trials, followed by careful observation, encouraged the belief that by this process the artificial feeding of infants had nearly reached perfection.

A paper by Professor D'Espine, of Geneva, Switzerland, entitled

OBSERVATIONS ON TRUE OR LOBAR PNEUMONIA IN CHILDREN,

was then read by Dr. Cordes, of Geneva. The object of the paper was to maintain that there exists in children a special form of true pneumonia, which may be called central, from its location; congestive, from the violence of the inflammatory symptoms; and abortive, when its duration does not exceed two or three days. It is found in the interior of the upper lobe, and in its upper part. As the physical signs are detected with difficulty it may easily be mistaken for some disease which has the same train of general symptoms. The microscopic examination of the sputa reveals the presence of the micro-organisms commonly found associated with pneumonia.

A fatal termination is the exception, and when it occurs is generally the result of complications. The writer detailed cases in which death had been preceded in some cases by gangrene, and in others by gray hepatization. The best form of treatment is that which has for its object the reduction of the inflammation. Tepid baths, the compresses of Priessnitz, and similar methods of combating general and local heat are to be used. This treatment is alone reliable when there is high fever with cerebral symptoms.

Dr. Henry Ashby, of Manchester, England, then read a paper entitled

SCARLATINAL NEPHRITIS FROM A CLINICAL AND PATHOLOGICAL STANDPOINT.

The paper presented the results of his own observations in the wards and dead-house of Pendlebury Hospital for Sick Children, where fifteen hundred cases of the disease had been received in the past eight years. The disease has been observed in three forms: (1) An early or initial form, not especially important when compared with the others, and (2) a variety dependent on septic changes which leaves traces in the kidneys discoverable by the microscope. It occurs in the second and third weeks. In most cases this septic inflammation of the kidneys gives no symptoms distinguishable from those of general septicæmia. It does not extend so widely in the tissues of the kidneys as to impair their functions seriously. The urine is not diminished, and general œdema and uræmic symptoms are absent. (3) Post scarlatinal nephritis, or the nephritis of convalescence, far surpasses the other forms in interest and importance. It occurs in an apparently well or rapidly convalescing child, and is the last and often fatal assault of a disease which has been

almost subdued. It occurs from the sixteenth to the twenty-fourth day. The kidneys, after this form of scarlatina, like the lungs in measles, are weakened by their efforts to eliminate poison, and are more readily affected by fibrinous or croupous inflammation. In hospital practice, at least, cases of mild scarlatina are less liable than severe cases to be followed by nephritis, which ranges in severity from cases which might easily be overlooked to those in which the uræmic symptoms are sudden and alarming. The earliest and most characteristic signs are diminished urine and puffiness of the face, which may appear several days before albumen is detected. The amount of albumen and its specific gravity vary greatly in different cases. The urine continues to diminish in quantity, and œdema of the face sets in, with vomiting and other uræmic symptoms, when suddenly a crisis like that of pneumonia takes place, large quantities of smoky urine of low specific gravity passes, and the patient is convalescing again.

A paper on the

ANATOMICAL CHARACTERS OF SCARLATINAL NEPHRITIS

was then read by Dr. Frank Grauer, of New York.

The writer reviewed the post-mortem renal conditions in the initial catarrhal nephritis of scarlatina and those which are found in the large flabby hemorrhagic kidney which belongs to septic inflammation. But he had more particularly studied post-scarlatinal or Klebs' acute glomerulo-nephritis, his observations being based on nine cases of this affection. The gross and microscopical appearances were described in detail. The kidneys were enlarged and hyperæmic, with the cortex unchanged or sometimes thickened, and the glomeruli prominent. With a low power the glomeruli are larger than normal, and with a higher power apparently bloodless.

Although he had noticed swelling and proliferation of the glomerular epithelium he did not agree with the opinion of some that the capillary circulation is obstructed through compression of the capillaries by this proliferation, because in all the specimens which he had examined the loops of the capillaries were larger as a rule than normal, showing that the pressure was from within not from without.

He believed that the capillary obstruction is due to proliferation and thickening of the endothelial cells. The hypertrophy of the left ventricle, noticed in all his cases, was due (1) to the presence of some toxic element in the blood, and (2) to obstruction of the circulation in the Malpighian bodies, which compelled the left side of the heart to do more work.

He suggested that the term glomerulo-nephritis ought to be limited to those affections in which there is an obliteration of the loops of the capillaries in the Malpighian bodies, and not applied to those affections in which there is only proliferation and desquamation of the glomerular and capsular epithelium, which are common to all forms of chronic nephritis.

SECTION IN OPHTHALMOLOGY.

THURSDAY, SEPTEMBER 8TH—FOURTH DAY—MORNING SESSION.

Professor X. Galezowski, of Paris, France, opened the session by reading a paper entitled

THE CURABILITY OF DETACHMENT OF THE RETINA.

He stated that the pathology of the disease is not entirely clear.

The writer had observed in twenty years, among 152,000 persons, 789 detachments, of which 87 were in both eyes, 63 in emmetropic and hypermetropic eyes, and 194 were traumatic; 13 occurred after extraction of cataract, 18 were syphilitic, and 4 in sympathetic affections. Tumor was found in 10 cases. Twice only he found detachment in retinitis albuminurica, although he frequently saw this affection. Cataract is very frequent in detachment of the retina.

Occasionally tearing of the retina is noticed, with the corpus vitreum introduced behind the retina, between the choroid and retina. He could say that the rupture of the retina is not so frequent, and considers it the consequence and not the cause of the detachment. Professor Graefe has said that the detachment is not curable, and the function of the retina is not restored. Dr. Galezowski had seen a case which showed alterations in the retina at the place of detachment, which had been completely cured. The patient gave the usual history of trouble with the vision, coming on suddenly and continuing for one or two or three months, with afterward recovery of sight. He explained the appearance of the fundus as seen by the ophthalmoscope, and illustrated them on the blackboard.

The conditions predisposing to detachment were said to be (1) choroiditis; (2) liquefaction of the corpus vitreum. In treating these cases he begins with antiphlogistic treatment, atropia, rest, etc., and he had in seven cases a complete cure—the retina completely adherent, and around the line of the separation atrophy, with pigment-deposit and choroiditis disseminata. The first indication is antiphlogistics. Apply every month two, three, four, or five leeches, then atropine, and warm and cold compresses alternately, and in the intervals between the leeches he applies derivative plasters. Inside of five months he has completely cured detachment of the retina. Mercury and potassium iodide are also useful where exudation is present or in cases of constitutional disease.

Fifteen years ago he proposed iridectomy to stop the inflammation of the choroid, but it did no good in that way, although it stopped the iritis. Now he proposes a new operation. He considers the exudation behind the retina as being of the same character as the effusion in pleuritis or peritonitis, and has had an instrument (which he exhibited) made to aspirate the fluid. The instrument is a syringe with a stop-cock and an aspirating-needle. He introduces the needle through the sclerotic at a considerable distance behind the ciliary body, and passes it into the globe for some distance. Then he exhausts the air by drawing out the piston. If the needle-point is too far in, no fluid appears in the barrel of the syringe, but on withdrawing the needle gradually the fluid appears, and one, one and a half, and two grams is generally obtained. There is no inflammation after the operation. By this means two out of seventeen cases operated on were completely cured, and there is a certainty of amelioration in all cases.

In old cases he introduces a curved needle from behind forward through the sclera and the detached retina, before introducing the aspirating-needle, and when the fluid is drawn off a catgut ligature is drawn through as a seton and brought tight.

Dr. Abadie, of Paris, France, spoke on the causation of detachment in myopes, setting forth the gradual stretching of the sclerotic in staphyloma and its drawing away from the retina as a cause of the detachment, with remarks on treatment.

Dr. Keyser, of Philadelphia, spoke of Graefe's method of tearing the retina through the detachment with a needle, of De Wecker's trocar, and of the double-needle method. He had never been able to get a permanently good result, although the immediate effect was sometimes very pleasing. He thought well of Dr. Galezowski's instrument, but wished to know how it would act in old cases.

J. Richardson Cross, Esq., F.R.C.S., of Bristol, England, said that there was no doubt that the subject was an exceedingly difficult one. He had treated a case with diaphoretics, had pushed pilocarpine, and used the other commonly accepted means of relief, with no change till now. He had done sclerotomy in three eyes, two in one girl. One, in a woman, did no good.

Dr. E. Landolt, of Paris, France, recognized three

kinds of detachments. The first is due to choroidal exudation; the second, detachment in myopia; and the third, traumatic detachments. For the first, the treament is perfect rest and compress dressing. He quoted a case which was cured and had remained well for three years. In the second class surgical interference may be justifiable, because there is scarcely any hope of restoration of vision in the part affected. He illustrated by a diagram his mode of operating with a Graefe knife, and remarked on the possibility of sucking out vitreous if the syringe was employed. For the third variety, traumatic detachments, there were no general rules. Some are restored with simple rest, and others resist all treatment.

Dr. E. Smith, of Detroit, Mich., had been struck with the remarks of Professor Abadie. In his first case he introduced an acupuncture needle, and the immediate result was brilliant; but the permanent improvement was *nil*. He preferred to do the operation suggested by Dr. Wolf, of Scotland, and would hope to get up adhesions to tie the retina down to the wound. Professor Galezowski's operation looks rational, if he does not puncture the retina.

Dr. Holcombe, of New York, remarked that Dr. Galezowski, when he spoke of a cure, did not mean complete restoration of vision, but only reduction of the detached portion, and its restoration to its original plane. He also described Sichel's operation.

Dr. Reynolds, of Louisville, wished to know whether it were a fact in the eye as in other organs, that frequent tapping is followed by increased accumulation.

Dr. Calhoun, of Atlanta, Ga., wished to know what advantage is to be obtained by operating in cases of this kind of long standing. The eyes are blind, and vision is not restored, and the operation may set up inflammatory action. He had done sclerotomy many times, but without satisfaction.

Mr. Power, of London, England, found it difficult to understand how there could be restoration of vision in these cases of detachment. The pigment layer is detached from the retina and left behind, and does not reattach itself again as before. He believed there might be an apparent restoration where the detached portion had hung down over the good part like a bag, and after reduction of the detachment there was an apparent improvement in that part of the retina.

Dr. Bermann, of Washington, D. C., wished to answer Dr. Calhoun's question by relating the course of a case that had come under his observation.

Dr. Galezowski remarked, in closing, that he had only done the operation in bad cases. If it had been done in all cases we might get a better percentage of favorable results. An antiseptic might be injected into the cavity. It is possible for the retina to resume its function of vision, but even if it were not, the arrest of the process and saving the rest of the vision is of value.

Dr. J. A. S. Grant (Bey), of Cairo, Egypt, then read a paper contributed by Dr. Brugsch (Bey), of Cairo, who was not able to be present, on

THE PREDISPOSITION TO GLAUCOMA.

He said that increased tension, the recognized test-symptom of glaucoma, might be produced in two ways, either by increased secretion or by retention of the secretion when normal in amount. He was inclined to think that the theory of retention was, at least in some cases, the one which appeared reasonable. It was a question whether eyes with small corneæ were more liable to be affected, and he gave some statistics which seemed to point in that direction.

The predisposition of the Semitic race to glaucoma is remarkable. In other races it occurs in the proportion of one to one hundred, here the proportion is four to one hundred. He had been surprised by finding children affected with glaucoma. The cornea of the pure Egyptian is decidedly smaller than that of other races, and he had been endeavoring to find whether the whole globe was also smaller, but his researches had been hindered by the trying climate, which produced decomposition in fresh eyes so rapidly. After iridectomy there appears to be a relaxation, and even an enlargement, of the corneal circle, as you can see if you notice that the coloboma will sometimes appreciably enlarge a considerable time after the operation.

Afternoon Session.

Dr. A. G. Sinclair, of Memphis, Tenn., reported

A CASE OF RETINAL GLIOMA ON BOTH SIDES.

A young child was brought to him with the history that some time before it was noticed not to see well, and soon appeared to be blind; then a white and somewhat lumpy appearance was observed in the pupil. Soon afterward black lines were noticed over the surface of this appearance, the retinal vessels. On examining the eye Dr. Sinclair found congestion of the conjunctival and episcleral vessels, pupil slightly dilated, tension somewhat above normal. The same appearance was observed in both eyes, except that the left cornea appeared somewhat abraded in the centre. Enucleation was proposed and was consented to. The right eye was removed, together with about one half-inch of the optic nerve, and the left eye and the whole contents of the orbit, as far as possible, without cauterization.

A careful and complete pathological examination of the right eye was made by Dr. T. Mitchell Prudden, Director of the Physiological and Pathological Laboratory of the College of Physicians of New York, who reported it as a *glio-sarcoma*.

The left eye and its appendages were examined by Dr. Carl Heitzmann, of New York, and his report came to the same conclusion. These two examinations and reports were each made without any knowledge of the other.

The case has now been observed for six years since the operation, and there appear to be no signs of the return of the disease, and the child is perfectly healthy. No heredity was discovered.

Dr. Keyser, of Philadelphia, remarked that in cases of this sort he was doubtful if the child would live more than eighteen months or two years. One case of his had lived seven years, and one died eighteen months after operation of glioma of the brain. He was doubtful if the successes were cases of true glioma.

Mr. Power, of London, England, expressed the same doubt, although he has had some successes also.

Dr. Galezowski, of Paris, has operated for the removal of this disease, and one recovered and was afterward healthy. He had only seen four cases.

Dr. D. S. Reynolds said that he thought it is a malignant proliferation conveyed through the lymph channels. When it originates in the retina he saw no reason for its not being successful. He had had a case where he had enucleated both eyes, which were invaded simultaneously and equally. There was immunity for ten years.

A propos of Dr. Reynolds' remarks as to the origin of glioma, whether in the optic nerve or retina, Dr. R. L. Randolph, of Baltimore, Md., remarked that in a microscopic examination of a gliomatous eye very recently, he found the optic nerve-fibres pressed apart by the growth, which latter extended up to the severed end of the nerve. The whole optic nerve-tissue was disorganized, and, so to speak, monopolized by the growth. He inferred that the growth must have had its origin in the optic nerve.

Dr. H. C. Paddock, of New York, read the next paper, entitled

ERGOT OF RYE IN OPHTHALMIC PRACTICE.

No mention is made of this remedy in the earliest works on medicine, and even until very lately it has been

considered to be a medicine for the obstetrician alone, and only to be good to stimulate contraction in the uterine muscle. The action of ergot is to promote contraction of the blood-vessels, as well in other organs and tissues as in the uterus, and especially in the blood-vessels of the eye. Soelberg Wells in his work mentions it as a valuable remedy in congestions, episcleritis, etc., while Hammond says it possesses the property of contracting unstriped muscular fibre. It is certain that it does diminish the calibre of the vessels, and has a good effect in obstinate affections. It is a rational remedy, and nothing more is claimed for it than its general therapeutic properties. He gave a few cases in which it had seemed to exert a marked beneficial effect.

In the case of a woman with conjunctival congestion and pain and discomfort, the whole trouble was stopped on the third day. In still another case, Mrs. B——, twenty-five years of age, there was conjunctivitis, iritis, retinitis, and ciliary neuralgia. Under ordinary treatment she improved for four or five weeks and then came to a standstill. She was then given ergot, and was discharged cured in a few weeks. In regard to the use of ergot, he begged to remark that it is a reliable drug, that it must be used in maximum doses and for several days, and that it is a good tonic; that atropia should be used in iritis, and rely on general treatment for any complications that may arise.

Mr. Power, of London, England, then read a paper written by Mr. P. H. Mules, of Manchester, England, who was unavoidably absent, entitled

EVISCERATION AND THE ARTIFICIAL VITREOUS.

The object of the paper was stated to be to lay before the Section the results of an operation which was intended to produce an improved appearance over the result in evisceration alone, with a clean cavity free from muco-pus. The mode of shrinkage after evisceration was discussed, and a blackboard demonstration of the method of operation given. The incision is made through the conjunctiva around the cornea, elliptical with its long axis horizontal. The conjunctiva is dissected back for a short distance, and an elliptical incision made through the sclera of about the same size and in the same position as that in the conjunctiva. The contents of the globe are then carefully cleared out, which is easily determined by the view of the white sclerotic in the interior of the eye. The glass ball is then introduced, the edges of the scleral wound carefully fitted together over the ball, care being taken to have no tension at the point of union, united by sutures, and the conjunctiva then brought together and sutured. There may be considerable reaction and some pain, which is treated in the usual manner. Mr. Power had performed the operation about a dozen times, and had had three bad results. One suppurated, and in two the wound yielded and the glass globe was pushed out. Catgut sutures are used.

Mr. Cross, of Bristol, England, thought Mr. Mules' operation would be a permanent one. The shield over such a globe has a better motion than any artificial eye on a natural stump can have, because the muscles have been placed in a position more nearly corresponding to that in the natural eye. It does not make any difference whether you use a glass globe or a silver or, as has been lately, a celluloid one. An advantage of this operation is that the lower lid is preserved, and is not gradually obliterated so that the shell cannot be retained. It cannot be said that Mules' operation will prevent sympathetic ophthalmia, because we cannot entirely clean out the globe. There may be affection of the lymphatics exterior to the globe already before evisceration, and it is, of course, impossible to reach them in this operation. Mules' operation is not to be compared with enucleation in sympathetic ophthalmia. We operate in sympathetic ophthalmia to save the other eye. It is not a question of appearance, but of sight.

Dr. Galezowski, of Paris, would divide the question into two parts—evisceration, and introduction of the glass ball. He saw this first fourteen years ago, with Professor Richet, in Paris. Great inflammation resulted, and it was not possible to introduce the glass ball. Enucleation was done six months after and the patient got well. He saw another case four months ago. Six months previous a good operation had been performed, but a sinus had formed in the region of the wound. Treatment with antiphlogistics, antiseptics, etc., was of no avail. Enucleation was done and all was well. One year is not long enough for a final conclusion in the matter of result. In sympathetic ophthalmia there must be danger if we leave the smallest piece in the eye, and the enucleation must be completely and carefully performed, so as to leave none of the sclerotic attached to the nerve.

Dr. Baker, of Cleveland, O., as an illustration of the ability to retain a foreign body in the eyeball with impunity, related a case which had occurred to him. A man had his eye burned severely with sulphuric acid, so that an unsightly ball was left, with no cornea. He put in a glass button like a collar-button, and the man had been wearing it comfortably ever since.

Dr. Keyser, of Philadelphia, Pa., stated that he would try Dr. Mules' method. He had had very severe inflammation occur after evisceration. To illustrate the danger of sympathetic ophthalmia, when enucleation is not effectually performed, he related a case where a small button of sclerotic was left on the divided nerve. He advised to get it all out, but it was not thought worth while, and sympathetic ophthalmia set in. He believed it was better to do evisceration early.

Dr. Dibble, of St. Louis, had seen two cases of bony deposit inside the sclerotic, and believed that in such a case the pressure of the glass ball would produce irritation and perhaps sympathetic trouble.

Dr. E. Smith, of Detroit, had seen Dr. Power perform one of these operations, and although Dr. Power had predicted considerable chemosis and severe reaction, there was no trouble whatever, and a happy healing resulted. There was not a bad symptom. He laid stress upon the fact that the edges of the cut sclerotic should just meet, not overlap or strain.

Dr. R. L. Randolph, of Baltimore, Md., read a paper contributed by Dr. H. Gifford, of Omaha, Neb., entitled

FURTHER CONTRIBUTIONS TO SYMPATHETIC OPHTHALMIA.

It related to the posterior lymph-stream, and detailed the results of experiments with injections of India-ink and anthrax. The course of the injections was ascertained by examining the eyes at periods after injection, and it was found that, even in neurectomized eyes, the coloring matters or anthrax bacilli had reached the brain from the posterior chamber; even where the cerebral end of the cut nerve contained none, showing that there is a current from the posterior part of the eye back to the brain, independent of the channels of the optic nerves.

Mr. J. Richardson Cross, of Bristol, England, next contributed a paper entitled,

RETINOSCOPY; IT PROMISES A RAPID AND RELIABLE METHOD OF ESTIMATING ERRORS OF REFRACTION, AND IS A TEST OF THE GREATEST PRACTICAL VALUE.

He stated that the full correction of the refractive error is not the one that is always most likely to be accepted by the patient, when determined by the upright or direct image method. With trial glasses it is often necessary to use atropine, but in retinoscopy he has only found it necessary to use atropine in cases of spasm of accommodation. In all other cases cocaine is quite sufficient. Either the plane or the concave mirror may be used. The production of the image at the far point of the eye in myopia is the important unit in the question of retinoscopy. The shadow observed in myopia is that of the aërial image projected from the observed eye. With illumination, no movement, and no shadow, the ob

server must be near the conjugate focus of the rays. It is a usual thing to have one constant point to calculate from and to work from, and the usual standard of a little over a metre is objectionable, because it is necessary to get up and approach the patient to make every change of glasses. Dr. Cross could use an optometer made by Doyne, which he exhibited at a distance of eighty centimetres, which obviated the necessity of moving with each change of the patient's glass. Mr. Cooper has brought out a somewhat more complicated optometer, by which you are enabled to sit at the full distance and turn the disk.

The proper point to estimate the refraction in the patient's eye is the macula, but it is not easy; the disk is easier, but not so accurate on account of the occurrence of the physiological cup so often. The writer preferred to take a point midway between the two, which could easily be done by making the patient look at the other side of the face.

The results of retinoscopy are quite satisfactory; unsatisfactory in only about ten per cent.

The differences between the result with and without atropia are slight in degree, in a spherical direction, and do not exist as to the cylindrical correction. A much higher degree of latent hypermetropia is uncovered by retinoscopy than by trial lenses.

Drs. Keyser and Reynolds rose to questions of information as to the abolition of the accommodation in the use of the method, and

Dr. Galezowski stated that he liked the method, but did not like the name. He believed the shadow to be produced by the changes in the cornea, and that the proper name is keratoscopy. An advantage is that you can make a diagnosis of the reflection without atropine.

Dr. Galezowski's assistant, Dr. Parent, had described it very accurately, and used the name keratoscopy. In proof of its being the shadow in the cornea, the best diagnosis of staphyloma of the cornea could be made by this method. There is no reason at all for the term pupilloscopy.

Dr. A. R. Baker, of Cleveland, O., also read a paper on

RETINOSCOPY.

Although retinoscopy has been extensively employed by general practitioners and specialists in England and France, it has been almost entirely ignored by German and American practitioners. While many competent observers have written extolling the method, no less an authority than Professor Hirschberg, of Berlin, remarked in a laughing manner, when the writer asked his opinion of the value of retinoscopy, "Oh, that is a lazy English method, and don't amount to much." And Dr. Loring, in his excellent work, thinks that it does "nothing which cannot be more easily and more expeditiously performed by the upright image."

Probably one reason for the rejection of this method by Professor Hirschberg and Dr. Loring is their extreme accuracy in the use of the ophthalmoscope. But this accuracy was, he believed, limited to only a very few, and it required a large amount of clinical material to continue proficient, and few, if any, master the ophthalmoscope sufficiently under forty years of age to become proficient.

In teaching the method it is better to select an emmetropic eye for the first, and dilate the pupil. A concave is more convenient than a plane mirror. If the plane mirror is used it is to be remembered that the image will move against the mirror in myopia and with it in hypermetropia, and the reverse with a concave mirror.

Dr. Burnett, of Washington, D. C., proposed the name scioscopy. He prefers the plane mirror.

Dr. Calhoun, of Atlanta, Ga., wished to know if all cases were corrected by this method so that they did not come back dissatisfied.

Mr. Cross, in closing, stated that retinoscopy was a name in general use now, and therefore it was better not to change it. He thought he would continue to use it. It certainly was not dependent on the view of the cornea, and he certainly never should call it keratoscopy.

SECTION IN DERMATOLOGY AND SYPHILOGRAPHY.

Thursday, September 8th—Fourth day.

Dr. P. G. Unna, of Hamburg, Germany, read a paper (with microscopic demonstration) on

SEBORRHŒAL ECZEMA.

The author does not consider that the diagnosis "acute" or "chronic" eczema is a sufficiently exact and scientific one. For example, there are three distinct types of infantile eczema of the face; viz., a nervous, a tuberculous, and a seborrhœal. The nervous type is seen in the eczema of dentition, appearing upon a perfectly sound skin, usually first upon the cheeks and then upon the forehead. The eruption itches in proportion to the strength of the infant and the thickness of the epidermis. The vesicles, at times, suggest in their appearance and their reddened base herpes zoster, but the marked symmetry of the lesions and the tendency to relapse would prevent such a diagnosis. Seborrhœal eczema is entirely different, in that the skin is not in a previously healthy condition. A seborrhœa has existed upon the scalp probably a few weeks after birth, which often spreads over the upper portion of the face after becoming somewhat moist. There is less itching than in the eczema of dentition. For the latter affection a zinc-ichthyol ointment is recommended to be applied and covered with a mask, together with the bromide of potassium, internally, to allay nerve-irritation. In seborrhœal eczema sulphur should be added to the zinc-ointment. Ichthyol is useless, but resorcin acts well.

Dr. Unna regards all so-called dry seborrhœas as chronic inflammatory processes of the skin, and his studies convince him that there is no hypersecretion from the sebaceous glands which can clinically be considered a dry seborrhœa, produced by a deposit upon the surface of the product of these sebaceous glands. The disease which Unna has named eczema seborrhoicum is dependent upon a condition of, or rather change in, the coiled or sweat-glands, giving rise to the secretion of fat by them. An increase of fat upon the surface indicates increased activity when it proceeds from the sebaceous glands, but when the sweat-glands pour out fat it is because of the death of their endothelial cells.

Almost all seborrhœal eczemas have their starting-point in the scalp. Three forms are described. In one, eczema seborrhoicum begins as a latent catarrh of the scalp, and goes through the stages of scaly formation and dryness, finally ending as a hyperidrosis oleosa. In the second, the scales heap themselves up between the hairs into fatty crusts, and cause the hairs to fall out. A corona seborrhoica upon the forehead, at the margin of the hair, is described, which is typical of this form of the affection.

The third form is that in which the catarrhal appearances are the most pronounced and in which "weeping" occurs, especially about the temples and eyes. This follows a simple itching pityriasis, and produces the appearances of a moist, shining eczema. A pityriasis or a seborrhœa may exist upon the scalp, while at the same time an eczema is present upon the face. The chest is affected with the crusty form almost exclusively.

Upon the arms there is a predilection for the flexor surfaces, which is explained by the rôle the sweat-glands play in eczema seborrhoicum.

Upon the legs, early in the disease, we find only the large papular and crusting forms.

Patches of seborrhœa about the mouth and nose of old people are often the starting-points of carcinoma. In almost all cases of eczema seborrhoicum of the scalp,

a simple, itchy scaliness of the ear is observed. A patch of eczema seborrhoicum is extremely stationary, remaining for years possibly without much change in size and giving rise to only slight symptoms. Beginning upon the scalp or head, as a rule, it extends to other parts below in a very gradual manner; especially locating upon the face, sternal and intra-scapular regions. This course is so the rule as to be regarded as pathognomonic, as no other eczema or psoriasis runs this course.

When the whole body becomes involved it resembles closely pityriasis rubra. Psoriasis is often confounded with seborrhœal eczema. The latter attacks the parts near the median line of the body, and is more stationary than psoriasis. It is preceded by a local seborrhœa, and the scales and crusts have a decidedly fatty character. The patches have also a peculiar configuration and spontaneously flatten out in the middle or upon one side. The prognosis is more favorable than in psoriasis. The cure is not easy, because the deep-seated sweat-glands are implicated. Sulphur is the great remedy for the disease. More active remedies for the scaly and crusty forms are pyrogallol and resorcin. Internal treatment is seldom required. Once cured, prophylactic measures, such as hygiene of the skin, must be employed.

In the discussion which followed, Dr. Zeisler said he was impressed with the closeness of Dr. Unna's observations. Such cases are frequently seen here, and are called seborrhœa. He had regarded it as a hypertrophy of the endothelium of the sebaceous glands.

Dr. Rohé, of Baltimore, said no one was in a position to call in question any statements or claims made by Dr. Unna, as similar work had not been done by others.

Dr. Robinson, the President, said there is much difficulty in classing eczema, on account of its great varieties, causes, and modifications.

As regards seborrhœal eczema, seborrhœa and eczema existing together is not uncommonly observed. He can understand how they can go hand in hand, but does not now see how the fat can have an effect as a local irritant in producing an eczema.

In closing, Dr. Unna said the point had been misunderstood; that he did not believe the fat was the cause of the irritation. He had merely spoken of the clinical side of the question. He was at the present time experimenting with some thirty cultures of micro-organisms from seborrhœa, and believed that a parasite was the cause of the irritation at a point where the fatty matter existed.

What we have called seborrhœa sicca is not a hypersecretion, but an inflammatory affection.

Warts of the scalp and of the penis he also thinks are due to a parasite which finds its pabulum upon the skin of the penis and also upon the fatty matter from a seborrhœa of the scalp.

MULTIPLE SARCOMA OF THE SKIN.

Dr. Rohé, of Baltimore, Md., presented a patient with this rare disease, characterized by the development within the skin of multiple sarcomatous tumors. The patient was a man of about thirty years of age. The tumors were of about the size of an English walnut, and were situated upon the regions of the back and shoulders, legs and thighs. He was also suffering from tuberculosis of the lungs, and had also partial hemiplegia.

Dr. A. R. Robinson, of New York, gave a report of

A UNIQUE CASE OF PROGRESSIVE MELANOSIS OF THE SKIN,

the peculiarity consisting in the progressive nature of the affection, its long duration, and the situation of the pigment. The patient was a female who, twenty-one years ago, at the age of eight, first noticed a small, dark spot upon the side of the temple. There were no subjective symptoms of pain or tingling in the part. She had suffered from chills and fever. The lesion consisted of pin-point-sized non-elevated dark or bluish-dark spots, which formed a patch occupying the whole lateral surface of the forehead.

Microscopical examination of the skin showed the epithelium to be of normal thickness. The rete mucosum contained dark-brown pigment-granules, which were also seen in lower rows of the pavement-epithelium.

Discussing the paper, Dr. Unna said he had been impressed with the blue color of the patch as represented in the colored drawing contrasting with the dark-brown color of the pigment seen under the microscope. He asked if clinically the disease presented this blue color, and whether the corneous layer was especially thick. He had never seen a similar case, and regarded it as interesting and unique.

Dr. Robinson answered that the color was faithfully represented, and that the corneous layer was not thick.

A paper was then read by Dr. A. H. Ohmann-Dumesnil, of St. Louis, Mo., on

DOUBLE COMEDO.

Dr. Dumesnil said that he had found double comedo in two and one-fourth per cent. of all male patients in hospital practice. It occurs upon all portions of the body excepting the limbs and forehead.

In regard to the formation he does not regard it as congenital, but that two contiguous comedones become fused by the absorption of the intervening septum. Multiple plugs of sebaceous matter are found, having only one central common cavity and possibly three or four external openings, all connected within. This is readily demonstrated by cutting the bridge of skin between them.

The mode of production is the same as in the single comedo, and the cavity is the analogue of the single form. This explanation he regarded as more reasonable than to suppose the existence of a number of anomalies in comedo-formation, with the necessity of having an anomaly to account for each new case.

Dr. Unna, in discussing the paper, said he believed that double comedo never developed in a totally healthy skin—that at some time there had been an inflammatory process followed by cicatrization. He had observed many cases and always found evidences of these changes, and a scar could usually be discovered.

Dr. Dumesnil did not believe in the inflammatory-process theory, and had not observed scars in many cases. He hoped someone would be able to make observations upon the disease in the formation-stage.

The next paper was by Dr. H. Watraszewski, of Warsaw, Poland, on

TREATMENT OF SYPHILIS BY INJECTION OF INSOLUBLE MERCURIC SALTS.

There is nothing new in the injection of insoluble salts of mercury in syphilis. The author has already made a communication on the same subject. He had since pursued his investigations, and has been led to give the preference to the yellow oxide of mercury. The injections are to be made about once each week, and from four to five injections have been found sufficient to cause a disappearance of the symptoms. He has never had any difficulty from abscesses.

Cases come to the special hospital for syphilis with which he is connected from all parts of Poland, having been treated by other methods. Some have the disease in its worst forms, and present all the conditions favorable for a thorough test of this treatment. The author has had results follow the injection-cure which are very favorable and warrant his enthusiasm. The feature of the method is the small number of injections required, twelve to twenty being required for a course of treatment, and only four or five to cause a disappearance of the lesions at any time present.

Once each week a Pravaz syringeful of the following solution is to be injected deeply into the tissues.

℞.	Hydrargyri oxyd. flav...	1.00 gram.
	Gummi arab.....	0.25 centigram.
	Aquæ destillat.....	30.00 grams.
M.	S.—Shake and inject.	

A Pravaz syringeful represents about four centigrams, or two-thirds of a grain.

A calomel solution made in the same way, but three times as strong, has been used by the author, who finds that while it is beneficial the reaction and irritation caused by it are much greater.

In the discussion, Dr. Gottheil, of New York, said that during the past few years we have had brought forward a variety of new methods for the injection of the mercuric salts. He thinks that patients in other countries must differ from those in America, for here they will not submit to this method. Internal treatment, he believes, must here at least remain the more common course. He asked if the injection-course was employed only in the severer cases or as routine treatment.

Dr. Shoemaker, of Philadelphia, Pa., said he had treated many cases of syphilis by this method during the past seven or eight years, and held it in high esteem, especially for old, chronic cases, where treatment had failed. He made the injections in the arm, or whereever there was plenty of fatty tissue, in the inferior scapular region and the back, and deep into the muscular tissue of the gluteal region when the patient was thin. He employed the bichloride in a watery solution, and gave as high as half-grain- and even grain-doses when the patient had been under treatment for some time, making the injections once in about three days. He had never seen an abscess result.

Dr. Klotz said he had had considerable experience with the hypodermic method, both in private and public practice, and he was surprised to hear the remarks of Dr. Gottheil relating to an inability to employ it with patients in this country. His private patients had never objected, when they were intelligent men and the process had been explained to them. In fact, when a relapse occurred they would voluntarily return and ask for it. There is some pain, but the patient will stand it, and the results compensate for it.

Dr. Zeisler was surprised to hear what Dr. Shoemaker had said. He had considered that the salts should be injected daily. The more we give at a dose the greater is the danger, and he asked if such a large dose as a grain was not very dangerous to the life of the patient. In Vienna, when he had used the method, the rule was to give one centigram in the syringeful. He thought the good feature of the method proposed by the reader of the paper was the small number of injections necessary to get the good results claimed.

Dr. Shoemaker, in answer, said that someone in London had reported fifteen hundred cases treated, in which one-third grain of bichloride had been the dose used.

He usually began with one-tenth grain, and increased it until the physiological action had been produced, or the larger doses used.

Dr. Watraszewski, in closing, said that we must not use the hypodermic method indiscriminately, but must individualize. He saw each year many of the worst imaginable cases. The patient would throw pills out of the window instead of taking them. Inunctions would be improperly and imperfectly performed; but here we have an accurate, sure, and safe means of dealing with all cases, and in severe cases the cures were much more rapid than by other means. It had proven especially beneficial in his hands in syphilis maligna of finger, and in late syphilis.

SECTION IN LARYNGOLOGY.

Thursday, September 8th—Fourth Day—Afternoon Session.

The first paper was on

NASAL FIBROMATA,

by Dr. W. E. Casselberry, of Chicago, Ill. Under this title the doctor included such neoplasms only as were of a purely fibrous structure, or where that predominated, and excluded those of a compound type, as fibro-myxomata and fibro-sarcomata. Those originating in the sinuses or naso-pharynx were likewise excluded; naso-pharyngeal fibromata are common, and tumors in the nasal cavities are prone to assume a compound type. Fibromata originating primarily in the nose are comparatively rare. In 265 cases of nasal neoplasms reported by Hopman and Schmiegelaw there is not one mentioned, and Mackenzie has reported but one of his own. Growths to a certain extent correspond in type to the structural elements of the tissue from which they originate. The fibrous layer of the mucous membrane predominates in the naso-pharynx, while the superficial layer predominates in the nose.

Fibromata may arise from any part of the nasal cavity, as turbinated bodies, septum, and floor, but the vault, especially posterior portion, is its favorite site. Local irritation, traumatism, or the presence of chronic hypertrophic process, may serve as the exciting cause, not influenced by sex or age. The duration is from one to two years. Early symptoms are of catarrhal nature, followed by obstruction and distention of the fossa. Nasal bones are forced apart, neighboring cavities encroached upon, eyes protruded, and the deformity of "frog face" may be produced. Tumor firm and non-translucent. The microscope is the only certain means of diagnosis. They are often enveloped in a smooth fibrous capsule. Microscopically the fibres are grouped in bundles or closely interlaced, with few vessels and a limited number of round or spindle cells.

Nasal fibromata tend to degenerate into sarcomata, and to recur after removal. The thorough extirpation and destruction of the base by cauterizing to the bone gives a good prognosis. The doctor gave the history in detail of a case which came under his observation. Also a systematic table of cases, giving name of operator, date, age, etc., treatment, and result.

His own case was successfully treated by taking out portions from time to time with a cautery knife and loop. For the loop he used steel piano-wire, which is from its stiffness easier to apply, and which was heated almost as readily as the platinum wire. He used cocaine, twenty per cent., thoroughly applied, and had no pain. He recommends the galvano-cautery for most cases. Accomplish a little at a time and don't aim at making a brilliant operation by removing all at once, regardless of the danger to the patient. Remove by snare if possible, so as to avoid the dangerous and disfiguring external operation.

Dr. Stockton said that a little iridium added to the platinum gave the wire the necessary stiffness, and it was more readily heated.

Dr. Casselberry, in closing, said that though there were individual peculiarities in the effects of cocaine, still much of non-success was due to solutions too weak or not thoroughly applied. Don't use a strong solution first, but weaker ones before resorting to a strong solution of twenty to twenty-five per cent.

Dr. John O. Roe, of Rochester, N. Y., then read a paper on

CHOREA LARYNGIS,

usually associated with an attack of general chorea. The author gives the history of cases where the affection was purely local as to its manifestation.

Miss S——, aged seventeen, delicate and nervous, after an attack of quinsy, developed a peculiar spasmodic

and uncontrollable cough. She would cough rapidly ten or fifteen times, with a peculiar hoarse, barking sound, after which there would be an intermission of from one to three minutes. The cough was in sound so like the barking of a dog that she was the curiosity of the neighborhood, and known as the "barking girl." It did not continue during sleep. He tried electricity and local application without effect. Hypodermics of morphia and atropia produced only temporary relief. Benefit was derived from treating as chorea. The cough suddenly ceased after seven months.

Another case, a healthy girl of thirteen, with much the same history, was mentioned, where there was no nervousness during the intermissions, which lasted one to two minutes.

He mentioned a case of a young woman of sixteen years, in delicate health, where the barking cough continued during meals, and even during sleep, without awakening her. Spray of cocaine increased the trouble. These cases were not associated with uterine trouble. On examining the larynx he found but little congestion or inflammation. Before a paroxysm of coughing there would be a peculiar twitching of the vocal cords for a while, then they would be suddenly approximated and forced apart as the cough occurred. The movements were those of chorea. As a rule, the treatment should be systemic, in addition to local applications—arsenic, valerianate of zinc, iron, valerianate of atropia, hydrocyanic acid, morphia, etc.

Dr. Thorne, of Cincinnati, O., mentioned several cases where chorea laryngis was associated with pregnancy, beginning in the second or third month, and ceasing spontaneously just before delivery. He had one case where there was such an alarming spasm of the glottis that he thought he would have to perform tracheotomy. The cords were constantly in motion between the attacks.

Dr. Lennox Browne, of London, England, had seen a case where the disease appeared with each pregnancy, and disappeared just before delivery; also three cases where it was cured by the removal of enlarged tonsils. He thinks a sea-voyage the very best remedy.

In a paper on

THE DELETERIOUS EFFECTS OF TOBACCO ON THE THROAT AND NOSE

Dr. M. F. Coomes, of Louisville, Ky., said that he considered smoking far more injurious to these parts than chewing. The smoke came into the mouth heated, and loaded with an irritating oil that would soon coat the mucous membrane were it not washed away by the saliva. Cigarette smoking is especially injurious, because the smoke is so universally inhaled, causing pharyngitis, laryngitis, and chronic irritation in the nose, not to mention the injury it may occasion to the trachea and lungs. Where the smoke is habitually expelled through the nose, we find hypertrophies, congestion, dilated vessels, and a hemorrhagic condition. The smell is impaired or destroyed. The potash salts may also have some effect in adding to the injury. Ninety-five per cent. of smokers have something abnormal or unhealthy about the upper air-passages. In bad cases he found chronic hyperæmia and inflammation of the epiglottis, with congested cords, and a hacking cough to remove the tough mucus; the voice tires easily.

A peculiar form of tobacco-habit is what is known in the South as dipping snuff. It is prevalent among negroes and women of the lower classes. They chew the end of a twig so as to form a rude brush, they then continually dip this into a small box of snuff, and rub it over gums and teeth. The gums, pushed down on the teeth, are red and inflamed, from tobacco lodged between them and the teeth, and the whole pharynx is inflamed.

Dr. Stockton thinks that as a nation we are the greatest chewers, and that chewers suffer most. He does not like potash salts used on throat or nose.

Dr. Browne smokes cigarettes, and considers them less harmful than any other form, if we don't inhale the smoke, and use a fresh mouth-piece.

The taking of snuff is an especially baneful habit, and likely to cause polypi. Singers should not use tobacco. He excludes potash salts, except, perhaps, the bromide, in treating the upper air-passages.

INTUBATION OR TRACHEOTOMY.

Dr. Max J. Stern, of Philadelphia, in a paper on this subject first gave a short history of tracheotomy from the earliest record to the present time. Some of the earlier statistics on the continent show as high as thirty per cent. of recoveries.

In the United States our results have not had such encouraging results, due probably to the difficulty of obtaining consent to an early operation.

He also gave the history of intubation from the first catheterization to the perfection of Dr. O'Dwyer's tubes.

He quoted the following statistics to show the comparative percentage of recoveries: Intubation, 26⅔ per cent.; tracheotomy, 26⅔ per cent.

The number of bad results due to accidents was very small in either case. From the following statistics it appears that up to five years of age intubation has decidedly the advantage, over that age tracheotomy has the best record:

Age.	Intubation. Per cent.	Tracheotomy. Per cent.
Under 2 years	15	3
Between 2 and 2½ years	24	12
" 2½ and 3½ "	28 7/10	17
" 3½ and 4½ "	33 1/10	30
" 4½ and 5½ "	28 5/10	35
Over 5½ years	37 9/10	39½

Some of the advantages of intubation are that it is easier to gain the parents' consent, and does not require skilled assistants or attendants afterward. Less in the after-treatment.

Tracheotomy is extremely difficult in very young children. The usual time that the tube is left in the larynx is four to ten days. As the air can reach the lungs through the proper channels, so there is less danger to the lungs.

If the child is under three and a half years, always intubate if possible; between three and a half to five, use either; if over five years, perform tracheotomy. Intubate adults. Do not perform tracheotomy if there should be much membrane in the trachea. Intubate poor patients when they cannot get good nursing.

Dr. Stern then closed by paying a high tribute to the good work accomplished by the perseverance and energy of Dr. O'Dwyer.

Dr. Charles Denison, of Denver, Col., believes in tracheotomy without tube. He showed a gag which he had modified by removing the long levers that sometimes cause its displacement. It was kept open by a ratchet catch.

Dr. Casselberry, in intubation, passes the index-finger not into the larynx, but to the arytenoid cartilages and entrance of œsophagus, instead of trying to lift the epiglottis. He advises wearing a finger-stall and practising on the cadaver first.

SECTION IN DENTAL AND ORAL SURGERY.

THURSDAY, SEPTEMBER 8TH—FOURTH DAY—MORNING SESSION.

MICROSCOPY.

Professor Frank Abbott, of New York, and Dr. R. R. Andrews, of Cambridge, Mass., were in charge of this department. Every facility was afforded the members of this Section to acquaint themselves with dental microscopy, both physiological and pathological. Among the ground specimens shown by Professor Abbott were those of carious teeth, congenital pathological enamel, hyperostosis (osteomas) of the roots of teeth, and deposits of secondary dentine. Dr. Andrews exhibited serial slides of the developing teeth, and the de-

velopment of the dental fibril. About forty negatives from his photomicrograph were especially interesting and valuable.

CLINICS.

About thirty gentlemen gave clinics in filling teeth with gold, pivoting teeth, constructing artificial dentures, and treating (surgically) diseased conditions of the gums. It would require too much space to enumerate all the gentlemen who acquitted themselves in such a creditable manner.

C. L. GODDARD, A.M., D.D.S., of San Francisco, Cal., read a paper entitled

PAIN IN THE TEMPORO-MAXILLARY JOINT CAUSED BY IRREGULARITY OF THE TEETH.

The patient, thirty years old, experienced pain in the temporo-maxillary joint during mastication, which was caused by straining the muscles and ligaments, owing to masticating with the jaw protruded. When the teeth were brought together, as in the act of eating, the incisors alone touched, and the bicuspids and molars were about one-eighth of an inch apart. The treatment employed consisted in spreading the upper teeth and thereby securing a proper articulation.

DR. E. S. CHISHOLM, of Tuscaloosa, Ala., read a paper entitled

THE INFLUENCE OF WEATHER-CHANGES ON THE HUMAN ORGANISM.

After carefully noting the influence exerted by temperature, humidity, and electricity, the author concludes that by far the greatest power over the human organism is exerted by atmospheric pressure. In support of this theory he submits two arguments. The normal atmospheric weight on man is 14.7 pounds to the square inch at the sea level. The body is sustained by an equal power of resistance, wisely provided. If the pressure be less, the surface of the body will be distended, and the superficial circulation less restrained. This change can be brought about by exposure to great altitude, as well as by natural physical causes, when the circulation will be disturbed just the same. Any undue pressure on a portion of the body may then be felt. May not this disturbance of tension on soft tissues which are fixed to the bony framework of man, or where disease has a seat in periosteal and ligamentous attachments, be liable to greater inflammation? Or when a nerve of a tooth, which in a state of health is inclosed in a bony chamber (which has no expansive liberties, nor needs them as long as health continues), becomes exposed through a small aperture? When the normal atmospheric balance is lowered, the nerve has a tendency to be drawn through the aperture and takes on inflammation, probably followed by congestion and complete devitalization.

A report from the Pennsylvania Hospital, some years ago, on the observation of barometric pressure in surgical operations, shows that in 259 operations the barometer was ascending in 102, descending in 123, and standing in 34. Fifty-four of the whole number were fatal, 11 having been operated on with barometer ascending, 25 when descending, and 8 when standing.

AFTERNOON SESSION.

The Section was honored by a visit from the President of the Congress, DR. N. S. DAVIS. In introducing him PRESIDENT J. TAFT recounted the efforts that had been put forth by Dr. Davis to secure recognition to the Dental Section. To him more than to any other man in the medical profession is due the credit for having removed the obstructions in the way of the dental specialty.

DR. DAVIS replied: Twenty-two years ago I had the pleasure of entertaining the members of the American Dental Association, then assembled at Chicago, at my house. On that occasion I expressed the hope that some day, in the near future, we might meet on equal grounds. My hopes of that day are realized to-day. At the last meeting of the American Medical Association, when the question was brought up to admit dentists holding their degree from a recognized institution, it met with no opposition. The action of that body has forever removed the obstacle which had been in your way, and you are now on an equal footing with your medical brethren.

He congratulated the members for the interest they took in the advancement of the healing art, and closed by warning them not to fall into "schools," but to meet everyone on the broad field of science.

DR. E. S. TALBOT, of Chicago, Ill., read a paper on

ETIOLOGY OF IRREGULARITIES OF THE JAWS AND TEETH.

This paper was very exhaustive and thoroughly well prepared. The writer showed throughout an intimate acquaintance with the subject, and the Section was not lacking in appreciation of his efforts.

The paper was discussed by DR. W. C. BARRETT, of Buffalo, N. Y.

A paper by Dr. J. J. R. Patrick, of Belleville, Ill., on "Irregularities," was read by title; also one by Dr. E. H. Angle, Minneapolis, Minn., entitled "Notes on Othodontia, with a New System of Regulation and Retention;" also one by Dr. L. C. Ingersoll, Keokuk, Ia., on "Inflammation of the Oral Tissues."

SECTION IN CLIMATOLOGY.

THURSDAY, SEPTEMBER 8TH—FOURTH DAY.

DR. TITUS MUNSON COAN, of New York, read a paper on

AMERICAN MINERAL WATERS, WITH REMARKS ON CLIMATE.

He discussed the subject under four topographical headings: Springs of the Atlantic, the Southern Central, the Northern Central, and the Western or Pacific States. He called attention to the fact that much of the Eastern area of the country was of earlier formation than that of Europe; that, in fact, this part of the New World was, geologically speaking, the Old World, and not the New. This fact explained the comparative absence of thermal springs in the East, while the Western area, including but thirty-nine per cent. of the total area of the country, yet contained eighty per cent. of the known thermal springs. The range of the American mineral springs in their chemical constitution is very great, and their curative waters are as important as those of Europe. In some parts of the country, as in New Mexico and in Nevada, it is often easier to find an alkaline or a saline spring than a stream of pure water. Dr. Coan gave a rapid survey of the subject, mentioning the typical springs which are suitable for the cure of particular diseases, and at which good hotel or other accommodation can be found. He remarked upon the comparative absence of well-appointed *sanatoria*, or cures, at the American springs, and the consequent lack of systematic treatment, leading both patients and physicians to underrate the curative value of spring treatment. Climate is an adjunct element of the utmost importance in spring treatment; and the best climate in the country is that of California and Oregon. The climate of the Hawaiian Islands is probably the most equable that is known, at the comfortable range of about 70° to 80° F., and those islands are destined to become a health-resort for Americans.

DR. RICHARD J. NUNN read a paper entitled

A CONTRIBUTION TO THE STUDY OF CLIMATIC AND OTHER PECULIARITIES OF LOCALITIES WHICH DETERMINE EXEMPTION FROM ENDEMIC PLAGUES.

The object of Dr. Nunn's paper was to determine whether the extraordinary exemptions from certain diseases in Savannah are due to any special topographical or sanitary conditions in that city.

Vesical calculus, typhoid fever, typhus fever, puerperal fever are absent; Asiatic cholera visited the city only once (1866); diphtheria and exanthematous diseases are mild; membranous croup is exceedingly rare; cholera infantum is mild and exceedingly rare; cerebro-spinal meningitis has appeared but once in the city; sunstrokes are very unusual; erysipelas is not common; yellow fever has occurred but four times as an epidemic; dengue is infrequent.

The varying death-rate between the white and black races was referred to. Between 1856 and 1860 the black mortality never reached that of the whites, while since the war the death-rate among the negroes has reached double that of the whites. The changed social condition of the black race is supposed to be responsible for this variation. Formerly the negroes were almost entirely exempt from consumption, now they are extremely liable to this disease. The same may be said of syphilis.

The following papers were then read:

"The Injurious Effects of Overcrowding in Cities," by Dr. A. Wernich, of Coeslin, Germany; "The Thermometer as a Climatological Instrument," by Major Charles Smart, Surgeon, United States Army; "Vital Statistics and Medical Geography," by Alfred Haviland, M.R.C.S., of London, England; "Western North Carolina as a Health Resort," by Dr. Henry O. Marcy, of Boston, Mass.; "Therapeutic Influences of the Climate of Southern California," by Dr. P. C. Remondino, of San Diego, Cal., and "Short Notes on the Mineral and Thermal Springs of California," by Professor W. F. McNutt, of San Francisco, Cal.

SECTION IN GYNECOLOGY.

THURSDAY, SEPTEMBER 8TH—FOURTH DAY—MORNING SESSION.

DR. EPHRAIM CUTTER, of New York, read a paper on

GALVANISM FOR UTERINE FIBROIDS.

The paper was divided into Expectations, Realizations, Answers to Critics, Conclusions.

EXPECTATIONS.

August 21, 1886, the first American operation was performed, simply to arrest development of the fibroid. It was participated in by Dr. W. S. Stoveham, of Massachusetts (see *American Journal of Obstetrics*, New York, February, 1887, p. 120).

Dr. Gilman Kimball was present, August 29, 1887, and operated the second time. "So far as the priority is concerned, I am willing to give it to him, for I will have no question of honor between him and me."

The idea of using common needles was scouted at once by their unsatisfactory performance. Dr. Kimball said he would have nothing to do with the operation unless better needles were provided. Dr. Cutter invented one plated with gold and shaped like a corkscrew, which proved a useless device. The so-called Cutter needles were then produced. Whatever has been or may be said of them, they were satisfactory.

REALIZATIONS.

After sixteen years, besides the expected arrest of development in a large majority of the cases, there have been: 1, entire cures; 2, great diminution of the growths; 3, relief from pain and hemorrhages; 4, attention to the operation by the profession; 5, about four hundred cases of operation reported, besides many scores not reported; 6, the variation from galvanism to faradism, in the mode of application, in the batteries, in the duration of the application, in the kinds of electrodes, in the discovery of instruments for mensuration; 7, the operation has been widely published and has become pretty well known; 8, uterine fibroids are no longer *opprobria medicina*.

When the first operation was done there were no ampèremeters, only voltameters, which are measures of electro-motive force. It was not claimed that the milliampèremeter cures; it only measures. He only objected to the doctrine that no operation could be done without measurement, not to measurement itself.

APOSTOLI'S CRITICISMS.

Dr. Cutter distinguished between him and his sayings; he knew him for the work he had done, and replied to him in no spirit of malice.

CONCLUSIONS.

1. When an untried operation is purposed it is not wise for those whose opinion is asked as experts to say it cannot be done.

2. Best to give all due credit for what they do.

3. In performing this operation use common-sense, and not blindly follow anyone's method unless indicated by the strongest signs.

4. Hereafter any physician who says uterine fibroids are hopelessly incurable is not sustained by the facts and evidence.

DR. A. LAPTHORN SMITH, of Montreal, Canada, was sorry that Dr. Apostoli could not defend himself in the English language against the criticisms in the paper of Dr. Cutter. Most uterine fibroids are situated posteriorly, and hence are easily reached and treated by negative galvano-puncture. He had been deluged with questions about this treatment since the reading of Dr. Apostoli's paper and his own. As to the question, Can fibroids be treated without puncture? he would refer them to Dr. Martin's paper, which was on this subject. Apostoli never dares to make an examination without first washing out the vagina with a bichloride solution (1 in 1,000, 2,000, or 3,000). He cures subinvolution, and with the positive galvano-cautery does away with dilatation in very many cases of dysmenorrhœa. Gentlemen who make their living by the removal of the ovaries will lose their occupations when electricity is more in vogue.

DR. F. H. MARTIN, of Chicago, said he knew it to be utterly impossible for Dr. Cutter to get any current at all through the battery described by him.

DR. KIMBALL, of Lowell, Mass., who was introduced by THE PRESIDENT as a pioneer in the treatment of fibroid tumors by electricity, gave his experience.

DR. GARRETT, of Boston, who was also introduced as a pioneer, gave his testimony, thus completing the programme of the "pioneers' picnic."

DR. APOSTOLI, of Paris, spoke in defence of his system. He wished to give Dr. Cutter all credit for his investigations; but now that we have the means of measuring electricity, a measurement made definite by the Electrical Congress of Paris, there is no excuse for using it haphazard and everyone should use it rationally.

DR. SMITH, of Montreal, said there were a hundred little details, which it was impossible to explain in the short time allowed.

DR. CUTTER, of New York, called his son to testify that he got a current in his battery, which the son did, reciting a case. Dr. Cutter said he did not want to be put down as a fool, and told to do this and to do that. He asked Dr. Apostoli if he had cured any case so that the tumor had entirely disappeared.

DR. APOSTOLI replied that he cures the cases symptomatically, the patient does not know that she has a tumor.

AFTERNOON SESSION

DR. AUGUST MARTIN, of Berlin, Germany, read a paper on

THE VAGINAL TOTAL EXTIRPATION OF THE UTERUS FOR CANCER.

Freund inaugurated the extirpation of the cancerous uterus ten years ago. Sufficient material is now at hand

to decide the two following questions, which may legitimately be asked concerning every new method of surgical treatment:

1. Is this operation practicable with such immediate success that it promises good results in the hands of others than a few specially successful operators?

2. Does the extirpation of the cancerous uterus give permanent results which force us to recognize that this method is superior to any other treatment of cancer employed up to the present time?

In seeking an answer to the first, if they examined the literature, they would be struck with the fact that only meagre and isolated reports about this operation could be found in English and German medical journals. Vaginal extirpation had obtained decided recognition in Germany. In this country the purely vaginal operation of Czerny and Billroth and Schroeder had been adopted instead of the procedure of Freund, which was a combination of abdominal and vaginal operations. The results of the same have improved noticeably with increasing exercise and experience.

In 1881 Olshausen collected 41 cases, with twenty-nine per cent. mortality. In 1883 Sanger, 133 cases, twenty-eight per cent. mortality. In 1884 Engstrom, 157 cases, twenty-nine per cent. mortality. In 1886 Hegar, 257 cases, twenty-eight per cent. mortality.

Through the courtesy of these operators, who to his knowledge commanded the greatest amount of material, and, at his request, placed at his disposal the results up to the end of the year 1886, he was able to present the following:

Up to the end of 1886 these total extirpations had been performed on account of carcinoma uteri: Fritsch, 60 times, with 7 deaths; Leopold, 42 times, 4 deaths; Olshausen, 47 times, 12 deaths; Schroeder (Hofmeir), 74 times, 12 deaths; Staude, 22 times, 1 death; A. Martin, 66 times, 11 deaths. Total, 311 cases, with 47 deaths, or 15.1 per cent.

Were they not justified in assuming that this

RATE OF MORTALITY WOULD DECREASE

with more experience, as shown by the published tabular results of each of these operators? Already the total extirpation of the uterus for cancer showed better results, so far as immediate mortality is concerned, than removal of the breast for cancer.

For the latter, Kuster, at the Twelfth Meeting of the German Surgical Society, in 1883, published 778 cases, with a mortality of 15.6 per cent. Who would hesitate to propose to perform the amputation of the cancerous breast so soon as the diagnosis is established?

He did not hesitate to answer his first question in the affirmative, and to claim for this operation of the vaginal total extirpation of the uterus a full and equal rank among all methods for the treatment of cancer of this organ.

For an answer to the second he would make use of the relatively small, but very accurately reported cases of Schroeder, collected by Hofmeir, and those of Fritsch, Leopold, and himself.

They show that the permanent results of vaginal total extirpation in this relatively short period of observation were no doubt equal to the best results of carcinoma operations of other organs.

The author up to the end of 1885 operated on 44 cases. Of these relapsed 18, or 29.7 per cent.; recovered 31, or 70.3 per cent.

Was there any other method of treating cancer which with so small mortality could show equally good results? There was no other mode of treating cancer of the fundus and those forms of diseases of the cervix in which the mucous lining of the cervical canal was the point of origin, or in which there were carcinomatous nodules in the tissues of the neck. There was no room for discussion except in epithelioma of the portio vaginalis arising from the surface of the cervix, that is, from a surface covered with flat epithelium and containing very few glands.

He agreed with Fritsch that the observation of cases of progress of the disease in isolated nodules in the mucous membrane up to the fundus, in cases of carcinoma colli, is sufficient in itself to show it was erroneous to claim that in carcinoma of the cervix we should try to save the body of the uterus. Binswanger and P. Ruge have described such well-marked cases.

The possibility of a subsequent pregnancy was not excluded in cases of high excision; but Hofmeir himself declares that pregnancy is a very serious danger in carcinoma. Therefore he was convinced that it is much better to immediately perform vaginal total extirpation in these forms of epithelioma of the cervix. The sooner they operated the more surely they might hope to save their patients from the sad fate of death by cancer. The greater the experience with vaginal total extirpations the more has the rule been proved that we should perform the operation only when the vicinity of the uterus is entirely free from carcinomatous infiltration. All attempts to enlarge the boundaries of the operation in this direction had failed.

The technique of the operation had undergone only immaterial changes, as is shown by the results of operators using different methods. It was irrelevant whether the uterus be removed by an incision made in front or at the side of the neck, or behind it. It was of little importance whether hemorrhages be prevented by stitches introduced before the incision, or whether each separate vessel be seized and tied as it bleeds. It was immaterial whether the uterus be turned over or removed by drawing it down and freeing it; whether the opening in the floor of the pelvis remain open or be closed, or be drained either with the iodoform gauze or with a tube.

If it were easily practicable he advised that the ovaries and tubes be also removed. It was immaterial whether the wound be sutured or not. It was wonderful what little impression the operation made on the patient. One could liken her very much to a puerperal woman.

Bleeding must be stopped, at all events during convalescence, and the parts as much as possible kept at rest. Washing out the peritoneal cavity does not work favorably.

The papers of Drs. Martin and Jackson, on "Hysterectomy for Uterine Cancer," were now opened for discussion.

Dr. Martin, of Berlin, said he was accustomed to prepare his patients for operation with the most thorough antiseptic vaginal injection. He then described most minutely his method of operating. He very frequently opened Douglas' pouch at one stroke of the knife. We then see the posterior fornix and cut carefully, paring with the finger-nail. When the perineum is opened he introduced one finger into the peritoneum, and, having warm water running over the surface, did not use sponges and sutured the vagina to the peritoneum. When he had freed the broad ligament he cut it from the uterus and generally had no hemorrhage. He then proceeded in like manner on the other side, till he had the broad ligament severed there also. Up to this stage there was very immaterial hemorrhage. He then commenced on the bladder—freeing it with the forceps or the knife. After it was freed he united the cut border of the vagina with the peritoneum, just as he did before. He was accustomed to put a drainage-tube into the peritoneum, consisting of india-rubber. He thought it did good, although he confessed that he believed that a case which is not infected should be closed up. Yet he had had such good results from this that he still used it. There were various gentlemen present who had seen him operate, and who could testify that he lost a very small amount of blood. Of course there are cases where a loss of blood is necessary from the existing conditions. The operation was yet new, it had only been

done for six years, and he thought we would improve on it very much.

Dr. D'Arnay, of Hungary, gave a history of his experience with twelve cases. Out of these twelve cases only two are now living, after a period of three or four years. As to the operation, he thought that the best we could do was to close the opening into the pelvis, and fill the vagina with iodoform gauze, and let the patient alone. As to Dr. Jackson, he thought he was on the wrong road with his statistics. Statistics deal only with quantity, not with quality. If there are one hundred persons on a ship, possibly he could save only one of them. Should he not save this one? Certainly. Patients suffering with cancer of the uterus are shipwrecked persons, and sure to die a most painful death. We can save a number of our patients, and those who die usually die in a short time, and comparatively comfortable deaths. Humanity demands of us that we do the operation of vaginal hysterectomy in all cases in which we can remove all of the diseased tissue.

Dr. A. P. Dudley, of New York, wished to enter a plea for vaginal hysterectomy for uterine cancer in America, and point out why the operation had been less successful here than in Germany. Martin had sixty-six cases, with eleven deaths. In a paper read by the speaker some time since, he reported sixty-six cases with thirty-four deaths. These sixty-six cases, however, were divided between thirty-four operators, and there lay the difficulty. Experience is a good teacher, and practice makes perfect. The child must creep before it can walk, and the surgeon must have a fair trial, especially in America. As in the case of ovariotomy, which originated in America, our surgeons are almost flocking to Europe to learn how it is done. The amount of pain and suffering in the death of the patient is one of the points which should induce us to try this operation, The doctor then showed some pictures on a screen, relating to the discussion.

Dr. Nunn, of Savannah, Ga., said that there was always a starting-point to cancer. It is generally due to neglect of fissures or some other irritant, arising consequent to parturition. In his own practice he has his patients report to him occasionally after delivery, and sees that they take care of themselves properly, and he has not had a case of cancer among his own patients.

Dr. Graily Hewitt, of London, said that the whole civilized world, and the uncivilized too, were under obligations to Dr. Martin and his colleagues for their work in this line, having advanced the operation to its present state. In a discussion in the London Obstetrical Society, a few years ago, he was the only one who refrained from condemning the operation. He thought it should be done in properly selected cases, by gentlemen of experience.

Dr. A. Reeves Jackson, of Chicago, thought it wrong to attempt to reason against facts, as well as difficult. His paper was based on facts founded on the results of Gusserow, Paget, and such men. These gentlemen had estimated the duration of life, in those women suffering from uterine cancer, to be twenty-one months as an average. If this be true, then my calculation as to the duration of life will not be denied. The average duration of life of women operated upon is fourteen months; this difference in the aggregate amounts to nearly three hundred years of grand total loss of life. Does anybody allege that it has saved life? Dr. Martin claims that the operation should be done only when the disease is limited to the uterus. How does he know the case was limited to the uterus? Because it did not return? Baker, of this country, by his high operation, has sixty per cent. of recoveries, which is far better than Martin's.

Dr. Martin replied that he knew that a cancer was limited to an organ by its having a layer of entirely healthy tissue around it.

SECTION IN ANATOMY.

Thursday, September 8th—Fourth Day—Morning Session.

The first paper presented was entitled

THE FUNDAMENTAL ANATOMICO-MECHANICAL CONSIDERATIONS UNDERLYING THE SUCCESSFUL TREATMENT OF DEFORMITIES, DISEASES, AND WEAKNESSES OF THE SPINE,

by Milton Josiah Roberts, M.D., etc., of New York. He began by saying that he had spared no time, labor, nor expense in studying this subject thoroughly, by testing all known methods, and felt that he could offer his results with some satisfaction to the Section. The corsets for the arrest of Pott's disease and other spinal troubles were made of a fine wire thread which was carefully woven over a plaster cast of the patient's body, so as to secure an exact adaptation. The great problems to be solved were —how and where to get hold of the body to support it without irritation, and how best to apply any remedies necessary. These problems, he thought, were simply mechanical. Bone should be the supporting point. He spoke of the great advantage of these wire corsets over the heavy and clumsy plaster-of-Paris jackets. He thought there was a great want of proper description of how to apply these apparatus on the part of writers and lecturers. He mentioned, also, the ease with which these wire jackets followed the chest-walls during respiration. He had found no brace so good for the support of the head as the one which went over the head. He showed several fine specimens of Pott's disease and other spinal deformities, and also many well-executed photographs, drawings, and models, all his own work.

Dr. William J. Herdman, of Ann Arbor, Mich., spoke of the great advantage of Dr. Roberts' wire jackets over the old plaster jackets, and very wisely insisted that such apparatus could only be applied by one thoroughly interested in the subject and ingenious and skilful.

Dr. Max J. Stern, of Philadelphia, Pa., then presented a specimen of

AN ANOMALOUS MIDDLE THYROID ARTERY,

the knowledge of which was of surgical importance in tracheotomy. He thought it was the first of its kind made public.

Dr. William J. Herdmann, of Ann Arbor, Mich., had seen several such anomalies, and thought it not uncommon; but had never published his cases.

Afternoon Session.

Dr. W. X. Sudduth, of Philadelphia, Pa., then read a paper on

DEVELOPMENT OF BONE,

in which, after defining the terms ossification-bone and osteoblast, he laid down as the result of his study of developing bone that the white blood-corpuscles were the basis of all the connective-tissue group. He emphasized the point that the osteoblast did not become calcified. In the process of calcification the secretion took place around and not in the cell, the calco-spherules joined, and solid bone was formed. This deposit of bone-salts took place in the interstitial protoplasm. As the ossification began, the first deposit of bone was at the periphery of the system, and as it approached the centre it was self-limiting. As calcification progressed the osteoblast decreased in size and its envelope grew thicker. He quoted several authorities and their definitions of the different kinds of bone according to their development. His own definition of bone was that it was an aggregation or conglomeration of calco-spherules. His own division of bone according to its development was:

(1) Interstitial; (2) intermembranous; (3) subperiosteal; (4) intercartilaginous.

By interstitial bone he meant those bones which were not preformed in cartilage and in which ossification took place prior to birth. The paper was illustrated by many microscopical specimens of developing bone, which were beautifully stained and mounted.

Dr. N. Stamm, of Fremont, O., then read a paper entitled

ANATOMICAL POINTS OF VALUE IN THE DIAGNOSIS AND TREATMENT OF SOME OF THE JOINT AFFECTIONS.

He first described the anatomy of the synovial sac and proceeded to speak of some of the inflammatory and tubercular affections of the joints, confining his remarks to the knee- and ankle-joints. He reviewed the etiology, pathology, and bibliography of the subject and then laid down the rules of treatment, the basis of which was rest and fixation.

Dr. Benjamin Lee, of Philadelphia, Pa., then read a paper entitled

CASE OF DEFORMITY OF THE SPINAL COLUMN PRODUCED BY MATERNAL IMPRESSION ON THE FŒTUS,

in which he related a case of kyphosis supposed to have been caused by maternal impression.

In the discussion which followed, Dr. Joseph N. Dickson, of Pittsburg, Pa., and several others were of the opinion that many cases occurred in which the maternal impression had no visible effect upon the fœtus, and thought that if statistics of all such cases could be collected a small proportion would be found to be so affected.

SECTION IN PSYCHOLOGICAL MEDICINE.

THURSDAY, SEPTEMBER 8TH—FOURTH DAY.

Dr. S. S. Bishop, of Chicago, read a paper on the

PATHOLOGY OF HAY FEVER.

The doctor believed full reliance could never be placed in the pollen theory. The very fact that hay fever recurred upon the very same day of the year in many cases, irrespective of the late or early coming of the seasons, was a proof against it. He believed it was of nervous origin, and would designate it by the term nervous catarrh.

Dr. Channing thought it should hardly be dignified with the term of a neurosis. He supported the pollen theory, and stated that removal to mountains or sea-shore resorts was an effectual remedy in the cases he had seen.

Dr. Brush did not believe in the pollen theory. He had himself suffered from hay asthma at different times in the summer, from July until autumn.

Dr. Hurd believed in the neurotic origin of hay fever until the present season, which he said had been an unusually hard season for sufferers from nervous troubles. As a matter of fact, hay-fever invalids had had little or no discomfort. He believed ragweed to have a potent effect in causing hay fever, and stated that in Michigan this year ragweed had not flourished, and the result is seen in the little discomfort from hay asthma.

Dr. Andrews believed we could point to no one cause for hay fever. Different causes affected different people. He would ask Dr. Bishop for his views on the treatment of hay fever.

Dr. Bishop stated that people of a particularly nervous temperament were the greatest sufferers from hay fever, just as they were often great sufferers from peculiar troubles of nervous origin. He had heard a patient declare that eating strawberries would throw her into convulsions. Hay fever is most prevalent, he said, during the most depressing season of the year. He could not believe in the pollen theory.

As to the treatment, he would say that it was more palliative than curative in the majority of cases. One physician of his acquaintance had procured benefit in forty-five cases by the application of the galvano-cautery to the septum nasi. He had obtained either partial or complete relief.

As to his own practice, he had found the use of a combination of sulphate of morphia and atropia, in the proportion of one-fiftieth of a grain of atropia to one-half grain of sulphate of morphia, to have a most beneficial effect. Not that he would give half a grain of morphia to patients at once. He had made this combination of morphia and atropia into small tablets, and gave them in the proportion of one-eighth of a grain of morphia to a proportionate amount of atropia.

In his experience, if a patient would take one or two of these tablets immediately upon feeling the first symptoms of hay fever, it would usually abort the attack. He had always given as large a dose of morphia as he thought the system of the patient could stand, in order to make an impression at once upon it. He had also found taking cool drinks or ice-cream immediately before going to bed to be of great assistance in warding off nocturnal attacks.

If a patient keeps himself cool throughout the day, too, there is less danger of his being attacked. Quinine deadens sensibility, and is of use, but will not always avert an attack.

The next paper was by Dr. Elliott, of New Haven, Conn., on

THE TREATMENT OF NEURALGIA

by the general practitioner.

Dr. Crego did not like to hear that Dr. Elliott prescribed so much morphia in the treatment of neuralgia. It is the duty of physicians to use as little morphia as possible. Arsenic and iron should be prescribed and electricity be used as often as practicable.

Dr. Duquet thought well of the hypodermic injections of chloroform in sciatica. Injections of twenty drops very deeply into the muscles, just at the beginning of an attack, he had found of great value. He did not share in Dr. Crego's sweeping denunciation of morphia.

Dr. Heber Ellis thought highly of hydrochlorate of ammonia, which he said had been used with success in Germany, and which he had himself found valuable. He could not so highly recommend quinine. He had seen cases of chronic deafness result from its constant use.

Dr. Girstrom, of Sweden, had found massage of great value in the treatment of neuralgia.

Dr. Brower, of Chicago, discouraged the indiscriminate use of morphia and quinine. He had seen too many morphia *habitués*, whose habit had commenced in this way, not to feel like protesting against their too frequent use. You obtain a great amount of *éclat* for instantly relieving your patient, but you do him, in many cases, far more harm in the long run than good.

Dr. Clark, of Toronto, said he took good care when prescribing morphia, in all cases, to conceal from the patient the fact that he was giving him morphia. Many times when prescribing it internally, he gave it with some medicines of such nauseating bitterness that the patient was rarely inclined to ask for its like again. He believed that the treatment of neuralgia should depend upon the causes of the disease.

Dr. Andrews recommended the use of cod-liver oil in the treatment of chronic neuralgia. In an emulsion aided by phosphites, iron, arsenic, and other tonics, it was excellent. The use of the hot-water bag, too, was very useful.

Dr. Russell read a paper entitled

BORDERLAND OF INSANITY,

endeavoring to show that epilepsy and kindred diseases did not necessarily produce mental weakness. He introduced Julius Cæsar, Napoleon, Martin Luther, Cowper, and others.

Dr. Gundry said we had no exact facts of any kind

as to the nervous troubles from which Cæsar, Napoleon, and others were said to suffer.

Dr. Porter hoped the suggestions of Dr. Russell's paper would be followed. In too many cases were the obvious signs of insanity not heeded, and oftentimes a patient is permitted to remain at home, passing without treatment into a case of chronic insanity.

Dr. Ellis, of London, thought that the course pursued in the past, both in England and America, in the commitment of patients to asylums, was not such as to induce the friends of a patient to place him in an asylum, unless, in many cases, absolutely compelled to do so. Happily, in England a new plan had been adopted. A medical man receives one or two patients into his house, and these patients are seen regularly by the commissioners and receive proper inspection. They secure the benefit of change of air, of environment, of diet, and are at all times under careful personal observation by the physician.

When a patient is cured he retires quietly to his home, and does not retain with him the unpleasant recollection that he has been committed to an asylum—a humiliating thought under the best of circumstances. The great objection to this plan was the expense involved to the patient.

Dr. Fisher read the next paper, written by Dr. Edward Cowles, entitled

NURSING REFORM,

which detailed the success which he has had at the McLean Asylum in training his nurses, and of the improved *esprit de corps* among the attendants and patients.

Afternoon Session.

Dr. W. W. Godding presented a paper entitled

INSANITY AS A DEFENCE FOR CRIME.

He denied that the test of a knowledge of right and wrong was a correct one to apply in determining the criminal responsibility of lunatics. Judges in the United States have made but a metaphysical study of insanity. They should obtain clinical knowledge of cases by visiting a hospital for the insane, and thus get rid of the idea that lunatics acted reasonably in regard to their acts. He believed that the New Hampshire ruling as to insanity, which Judge Cox on the Guiteau trial rejected as heresy—namely, that all questions on insanity were facts for the jury to determine, and not rulings for the court—would one day prevail.

Dr. Savage then opened the discussion upon

SYPHILIS ASSOCIATED WITH GENERAL PARALYSIS.

General paralysis is not a definite disease, but a degeneration. Syphilis seems to have a distinct and special tendency to cause degeneration of the nervous structure. There is a difference in statistics as to the numerical relations between syphilis and general paralysis. He believed that very many general paralytics had had syphilis, and that usually general paralysis was due to syphilis. That from family histories other causes were as efficient without general paralysis, and caused general paralysis.

He could not distinguish between general paralysis due to inherited weakness and that due to syphilis and that from any other cause. General paralysis associated with syphilis might begin in the brain or cord. Acute general paralysis might suddenly develop in cases of chronic syphilis. Dr. Savage gave a very interesting case of this form, in a man in whom syphilis had not manifested itself for several years, and in whom general paralysis had suddenly developed and gone on to a fatal termination in a very brief time.

General paralysis with syphilis may run an ordinary course in every way, having no special cranial-nerve or other complication. In some of these cases the patients have a worn aspect, with capillary congestion about the face. There are very many cases in which the following history is given—viz., that there has been a cranial-nerve lesion which has improved under specific treatment, and, later, symptoms of progressive degeneration have set in.

The nerve-lesion may be motor or sensory. He had had cases of ptosis followed by general paralysis. and of giddiness followed by general paralysis.

In cases of general paralysis associated with syphilis, some are spinal, and of these some are ataxic; others have degeneration in the lateral columns, with spastic symptoms. There may be eye troubles with either. The course which cases of general paralysis with syphilitic histories run differs in some particulars from others; it appears to be more subject to remission, and even to apparent cure.

The Section next listened to an address by Professor Mendel on

MORAL INSANITY.

He maintained that the term should be stricken from the nomenclature of mental diseases. Mental imbecility or paranoia, or something more tangible, should be adopted.

Dr. Savage said there were certain terms which we were at times obliged to use provisionally, and this was one of them. There were people with moral scars who did not deserve the term paranoic nor imbecile, unless you extend the term unduly. Of course I agree with Professor Mendel that we must be careful not to use in courts of law terms that we cannot define, but I still believe we shall have to use the term moral insanity.

Dr. Hughes did not question the existence of moral insanity, as described by Pritchard. He would substitute for the term moral insanity, because of the difficulty encountered in explaining its meaning in courts of law—"a state of imbecility associated with congenital mental defect."

The discussion upon the relation of syphilis to general paralysis was then resumed.

Professor Mendel's views were presented in German.

Dr. Mickle had often seen cases due to syphilis present the same symptoms as the ordinary every-day case of general paralysis. Other groups were those presenting at first local motor symptoms, local motor paralysis, or sensory symptoms, as well as nocturnal headache. There are local unilateral spasms, followed by paralysis. These paralyses clear up sometimes, but their more usual course is to gradually take on a complete hemiplegia. Such patients often present local symptoms late in the course of the affection, such as ocular paralysis. Then when you come to the necropsy, there is in this class of cases a pachymeningitis—a local one—affecting the dura on one side. Thickening is found on one side, and there is adherence of the meninges to the surface of the convolutions and erosion of the convolutions, which is so common in general paralysis.

There is often a somewhat diffuse yet circumscribed sclerosis affecting a greater or less tract of the cortex of the brain. That he had frequently found existing upon one side chiefly, or upon one side only. There is another group of cases of brain-syphilis and general paralysis. The affection often simulates its demented form. There are probably epileptiform convulsions, a local paralysis, more or less marked, and sometimes a monoplegia. Such patients often die in epileptiform seizures, and in an epileptic status. At the necropsy you find the cerebral blood-vessels, particularly those of the circle of Willis, with their coats enormously thickened. Then they exhibit, sometimes, growths that are really syphilomatous, really a gumma of the arterial coat. At such times there is a diminution of the lumen of the vessels. This explains the absence of degeneration in these cases.

In consequence of syphilitic arteritis affecting the walls of the large blood-vessels, and in consequence of

the syphiloma affecting their coats, causing thickening of the walls, there is an obstruction of the walls and a tendency to thrombosis, and as a result we get local softenings, and these give symptoms of ordinary paralysis. In these cases there are gummatous infiltrations affecting other than arterial walls.

Dr. Down said that in his experience in London hospitals he had come to the conclusion that nearly all cases of locomotor ataxy were of syphilitic character, that they all responded to specific treatment, and that they are, as a rule, syphilitic. He had had an opportunity of studying the question whether there was any connection between locomotor ataxy and general paralysis of the insane. He cited the case of a chaplain in a Welsh prison, who had come under his observation suffering from locomotor ataxy of a progressive character. There was nothing else indicating trouble, but this man, after ten years, had some exaltation of mind, which rapidly increased, and he soon became a general paralytic and died in about eighteen months after the first attack.

Dr. Yellowlees said one often sees cases of general paralysis in which there was constitutional syphilis running an ordinary course. He thought one should be careful as to stating the effect of syphilis in the history of the disease. He agreed emphatically with what Drs. Savage and Down had said about the probable syphilitic origin of those cases which begin with spinal symptoms, but we seem to have as a result, in cases of general paralysis occurring in patients with a history of constitutional syphilis, that the disease is modified to a greater or less extent by a greater tendency to local paralysis than in ordinary cases.

Dr. Nichols said in the large number of cases of general paralysis which he had treated, some two-thirds, he thought, had had syphilis. He had really doubted whether syphilis was an essential cause of general paralysis of the insane. It seemed to him that those cases which he had not been able to trace to a syphilitic origin ran their course more regularly than those in which he could, and he had never been able to benefit a patient who had not had syphilis by any anti-syphilitic treatment, and he had retarded the progress of the case in many instances in which he knew that the patient had had syphilis. It had appeared to him that in some way the degeneration of the brain did take on a syphilitic character, although it was accompanied undoubtedly by gross lesions that were common to other forms of brain-degeneration. He might add that he had supposed that excessive venery, excessive intellectual labor, and loss of sleep were the most efficient causes of general paralysis of the insane, and it seemed to him that they would cause it independently of syphilis.

Dr. Spitzka was obliged, in some particulars, to differ very materially from the conclusions of the distinguished superintendent of the Bethlehem Asylum. It was a new suggestion to him that all cases of general paralysis of the insane where spinal troubles, such as locomotor ataxy, precede the mental disturbance are syphilitic in their origin. One constantly growing evil seen in all large capitals was the habit of imperfect coitus indulged in for the prevention of conception. This has a most deleterious effect upon the spinal apparatus. Another was the vicious habit indulged in by those who are losing sexual power. These certainly were causes of locomotor ataxy. The doctor thought that, notwithstanding the objections made yesterday and to-day, we were justified in adopting the term syphilitic dementia. We are shown, in insane hospitals, cases of alcoholic dementia and cases of puerperal insanity.

Now, can you explain the characteristic symptoms of puerperal insanity? It is known in the peculiar combination of symptoms as a whole. Syphilitic dementia differs from ordinary paralytic dementia, or paretic dementia. He had seen hemorrhages in brains, but not from those places in which they were usually found in cases of status epilepticus. Wendel in his monograph has pointed out many of the peculiarities by which we are able to differentiate cases of syphilitic dementia from ordinary cases of general paralysis of the insane, that there are changes found in ordinary cases of general paralysis that are not seen in cases of syphilitic dementia. Dr. Spitzka then enumerated several differences which he found in post-mortems between these two classes of cases. In the matter of nomenclature, he said, we often strain at a gnat and swallow a camel. He could not see why this distinctive term should not be adopted. He believed wine, women, and worry the most potent factors in causing general paresis.

Dr. Hughes asked if anyone present had made post-mortem examination of general paralytics who had died during remissions of the disease, particularly in cases where the patient had suffered from his first attack of insanity and had died during the first remission.

Dr. Brush said he had seen just such a case—a patient who had died of phthisis during the first remission of the disease. The lesions usually found in general paralysis of the insane were found in this case. Dr. Brush was not sure but that the phthisis had acted in this case in bringing about the remission in much the same way as in the case mentioned by Dr. Savage, where the carbuncle had developed between his patient's shoulders.

Dr. Hurd believed that we had all seen cases of general paralysis of unmistakable syphilitic origin. He would ask Dr. Savage if he believed any benefit would ensue in these cases from anti-syphilitic treatment.

Dr. Savage in reply cited the case of a patient who had suffered from paresis of a syphilitic origin, and who, after being put upon anti-syphilitic treatment, enjoyed a remission after a fortnight. He believed this a fair specimen of the results to be found in these cases. Certainly if these cases are not cured, it seems to be the consensus of opinion that they are relieved. He believed that we have reached the high tide of syphilitic pathology, and that it was now time to mark a shore-line. Dr. Savage did not like to have too definite lines drawn in the nomenclature of paralysis. Since we know comparatively little of the relationship between syphilitic dementia and syphilitic general paralysis, we had better not be too definite.

T. E. McGarr, M.D., Utica, N. Y.

GENERAL MEETING.

Friday, September 9th—Fifth Day.

The Congress was called to order punctually at 10 A.M., by The President.

The Assistant Secretary, Dr. W. B. Atkinson, of Philadelphia, made some announcements concerning excursions and receptions, after which the

Secretary-General, Dr. Hamilton, reported that the committee appointed on the time and place for holding

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had recommended Berlin, Germany, as the place, and the year 1890 as the time.

The report was unanimously adopted.

Dr. Hamilton also reported resolutions adopted by the Section in Military and Naval Surgery and Medicine, the purport of which was a recommendation of

UNIFORMITY OF THE REPORTS OF SICK AND WOUNDED IN ALL THE ARMIES OF THE WORLD.

Dr. Hamilton further reported, as having been adopted by the Section in Public and International Hygiene, the following preambles and resolution:

Whereas, The whole community has been shocked by the almost daily occurrence of terrible accidents on many of the railroads, causing considerable loss of life, and by the habitual neglect of the most elementary sanitary laws;

Whereas, As this Section considers itself in a degree the guardian of public health; be it

Resolved, That the attention of this Ninth International Medical Congress be respectfully called to this most important question, and that it be requested to use its influence to obtain the necessary reforms.

The following were reported from the same section on *Thursday:*

After the reading by Dr. Domingo Freire, of Rio Janeiro, representative in the Congress of the Brazilian Government, of a paper entitled "Vaccination with the Attenuated Culture of the Microbe of Yellow Fever," with demonstration of the microbe under the microscope, the following preambles and resolutions were adopted by the Section:

Whereas, Inoculation against yellow fever, if it prove successful after further examination, is calculated to benefit the human race throughout the world; and,

Whereas, The facts presented by the experiments of Dr. Domingo Freire afford a reasonable assurance of its protective influence in Rio Janeiro; therefore,

Resolved, That this Section recommends the co-operative investigation of the results obtained by yellow-fever inoculations as a protective against that disease, and that adequate appropriations by the governments represented in this Congress be made for that purpose.

Resolved, That this action be communicated forthwith for consideration in the general session of the Congress.

The President then called upon Dr. Charles D. C. Phillips, of London, England, to occupy the chair during the delivery of the general address by

G. Fielding Blandford, M.D. Oxon., F.R.C.P., London, late Lecturer on Mental Diseases at St. George's Hospital, London, England, on

THE TREATMENT OF RECENT CASES OF INSANITY IN ASYLUMS AND IN PRIVATE HOUSES.

The inquiry was limited to the treatment of recent insanity only, without reference to the care and maintenance of the chronic insane. Recent insanity in very many cases is a curable disorder. What mode of treatment, then, will afford the best prospect of recovery? Will the latter take place only under asylum supervision, or is there a fair chance of curing the sufferer in a house taken for the purpose, or the house of a medical man? For the great majority of patients asylum treatment is the only available method, but there is a certain proportion of insane persons whom it is important to treat, if it be possible, outside of an asylum, to save them from the stigma of having been the inmates of one, as this may seriously damage their future prospects and position. Among females some may be of high rank, whose friends shrink from the publicity of certificates and asylum surroundings; some may be young girls at the outset of life; others young mothers whom and whose children it is desirable to save from the reminiscence of an asylum. Among men there are not a few to whom confinement in an asylum will certainly bring a loss of employment tantamount to ruin. And a young man's future career may be marred by the same fact. It is, therefore, of importance to consider what mental disorders are likely to be transitory and capable of being treated in an ordinary house, or slight and free from danger to the patient and those about him, so that he may be able to live in such a house, or move from place to place under the charge of suitable companions.

The most transitory of all mental disorders are attacks of maniacal excitement, varying from undue elation and hilarity to very acute mania. The most frequent cases are those caused by drink, varying from ordinary delirium tremens to other forms of insanity seen more especially in women. Very similar forms occur without any history of drink, in persons prone by inheritance to nerve-disturbance. They arise after a sudden shock of bad, or even good, news, or great fatigue, or other exhausting cause, and last a few hours, days, or weeks, the subsidence being often as rapid as the onset. The prognosis as regards recovery is often easy, the doubt being as to duration, and this will be solved by proper treatment.

Patients who are not actively excited or unduly elated, but depressed and melancholic, must be considered from a different point of view. They are more manageable, at any rate in the less acute forms, but the disorder is more tedious, and treatment will have to continue for months rather than weeks or days. But many recover without asylum treatment, many without the aid of a specialist. As the commencement of this depression is almost always slow and insidious, treatment outside an asylum is likely to be adopted at first, so that there is an opportunity of considering how far such treatment is answering or likely to answer. The first objection to be urged against the keeping of a melancholic patient in a private house is the danger of suicide. That an ordinary house, with unguarded windows, staircases, and fireplaces, offers more facilities for suicide than an asylum is certain. But asylums do not afford absolute protection, as our commissioners' reports abundantly testify. Nothing will effectually prevent suicide but the unceasing vigilance of good attendants, and this, in many cases, can be applied as well out of as in an asylum. One symptom which often necessitates removal to an asylum is obstinate refusal of food. When this is determined, and forcible feeding requires the aid of several assistants, it can hardly be carried out in a private house. Another reason why an asylum may be preferred is, that in an ordinary house or family the intense egoism so characteristic of melancholia is fostered rather than removed by the concentration of the attention of all upon the patient and his delusions. In an asylum, especially a large one, he becomes a unit in the number of those treated, and this of itself is often highly beneficial. There is one more variety of insanity which can often be treated out of an asylum. This is acute primary *dementia*, or *stupor*, as it is sometimes called. These patients, though often very lost and idiotic, are seldom dangerous. With plenty of food, air, and exercise, they will get well in a private house, and as they are almost all young persons, it is an advantage that they should escape the asylum reputation.

For the treatment of all patients in private houses one thing is absolutely requisite, viz., funds. Unless proper medical supervision, proper attendants, and proper quarters can be provided and paid for, to an asylum the sufferer should go. Friends are often willing to make a sacrifice, and profess they will pay anything. But this may mean a scanty and poverty-stricken supply of what is necessary, the funds become exhausted before recovery takes place, and then an asylum is necessary, and money is wasted which could hardly be spared. Where means are slender and the duration of the illness doubtful, it is better to send the patient to an asylum at once, and save the money for the convalescent stage. Treatment in a patient's own house is rarely successful, therefore the alternatives are an asylum, or a house adapted to the requirements of the case.

At the close of the address, which was listened to with marked attention, Dr. A. Cordes, of Geneva, Switzerland, moved a vote of thanks to Dr. Blandford for his able and interesting address, which was seconded by Dr. P. H. Kretzschmar, of Brooklyn, N. Y., and then unanimously adopted.

The Congress then adjourned to meet at 9.30 A. M. on Saturday.

SECTION IN GENERAL MEDICINE.

Friday, September 9th—Fifth Day—Morning Session.

Dr. George E. Stubbs, of Philadelphia, Pa., read a paper entitled

RATIONAL TREATMENT OF DISEASES OF THE RESPIRATORY APPARATUS.

He made an elaborate and somewhat extended review of the subject of phthisis. Dust inhaled into the lungs

was a great exciting cause of phthisis. In treating this disease he was partial to counter-irritation with moisture and heat. For this purpose he used flannel wrung out in hot mustard-water, applying this around the chest and putting a dry layer of flannel over this.

Dr. Thomas Hay, of Philadelphia, thought counter-irritation invaluable. He paints the whole exterior of the chest with iodine. He gives large doses of whiskey.

Dr. Eye, of Reading, Pa., read a paper on

A NEW METHOD OF TREATING PHTHISIS.

He does not believe in the cure of phthisis unless it can be demonstrated by the microscope. Whether the bacillus tuberculosis is, in itself, the cause of phthisis, makes no difference so long as we know it to be the invariable accompaniment of this disease. To the white of one egg is added six to eight ounces of water; this mixture is put away in a bottle for five or six days, until the mixture has the odor of rotten egg. From one-half to two ounces of this fluid are placed in an atomizer and deeply inhaled during twenty-four hours. Under this treatment the expectoration becomes thinner and of less quantity, the microscopic examination of the sputa shows a less number of the bacilli, and finally none at all. The experiments attempting to prove that the inhalations of the bacterium termo would exterminate the bacillus tuberculosis have proved a failure. While it is impossible to speak definitely upon the *modus operandi* of this solution, Dr. Eye is confident in regard to the favorable clinical results. He suggests also that, among the fifteen or twenty varieties of bacteria contained in the egg solution, there are probably some which have a fatal antagonistic action upon the bacillus of phthisis. He stops the treatment when the sputa no longer contain the bacilli.

Dr. Eye was asked what he thought of the sulphuretted-hydrogen treatment, to which he replied that it relieved, but did not cure, phthisis.

Sir James Grant, of Canada, read a paper on

DIPHTHERIA.

Diphtheria is of two varieties—the simple and the malignant. We must look upon this disease as a blood-poison. He has used mustard-baths at the beginning of the attack, containing one ounce of mustard to an ordinary bath-tub of water, after which the patient is wrapped in blankets and diaphoresis encouraged. He uses light treatment, iron internally and applied to the pharynx. Nourishment should be encouraged.

We must be very careful about letting the patient move about suddenly, on account of the danger of paralysis of the heart. He must be kept long in the reclining position.

As to the malignant type of the disease, he had never seen but one epidemic, and that about twenty years ago. He knew of no remedies for this form of disease.

It was interesting to note that when there is a large snowfall, and consequent dryness of the atmosphere, diphtheria is less prevalent, and *vice versa*. Moisture in the atmosphere has a predisposing influence. Cases usually do better inland than at the seashore.

Dr. Thomas Hay, of Philadelphia, moved that the thanks of the Section be extended to Sir James for his valuable paper.

Dr. John A. Ouchterlony, of Louisville, Ky., remarked that he was exceedingly grateful to Sir James, especially for the valuable suggestion of diverting the poison to the surface and eliminating it through the perspiration; it was an idea which he had never heard or thought of before.

Dr. A. B. Palmer, of Ann Arbor, Mich., said that he brought the system early under a free perspiration and salivation by means of jaborandi, taking into account, of course, the condition of the heart. He had used counter-irritation, with a similar idea to that of Sir James, in spinal meningitis.

Sir James Grant replied that he had never used jaborandi. Mustard had the advantage of being well known and handy.

Afternoon Session.

Dr. Ouchterlony read a report of the committee appointed to investigate Director Körösi's paper, read on the second day of the Congress, entitled

THE PREVENTIVE POWER OF VACCINATION.

The report reviewed the original paper, which it confirmed in terms highly complimentary to the author.

Dr. A. B. Arnold, the President, of Baltimore, Md., requested Dr. T. B. Lester, of Kansas City, Mo., to occupy the chair. He then read a paper on

DILATED AND FATTY HEART.

He called attention to the facts that degeneration often takes place secondary to cardiac hypertrophy; that in fatty heart and aortic regurgitation we are liable to sudden death, and also that the symptoms of depression in fatty degeneration are due to cerebral anæmia. He made some extended remarks, stating that digitalis should not be used in fatty degeneration of the heart.

Dr. George E. Fell, F.R.M.S., of Buffalo, N. Y., read a paper on

FORCED ARTIFICIAL RESPIRATION IN OPIUM-POISONING, ITS POSSIBILITIES, AND THE APPARATUS BEST ADAPTED TO PRODUCE IT.

In one of the latest extensive works, we find that artificial respiration has a wider range of application than might at first be supposed. It has been used in drowning, strangling, occlusion of the air-passages, hemorrhage, and poisoning from anæsthetics and the various alkaloids. Those methods depending upon the movement of the limbs and body for their success have been usually supplemented with pressure by the physician. In the physiological laboratories experiments are performed, in which the trachea is opened to supply the air for respiration by means of bellows. The insertion of laryngeal tubes aiding in artificial respiration is worthy of consideration.

I have applied the term *forced respiration* to those cases in which the trachea is opened, to distinguish it from the ordinary artificial respiration. After extended inquiries, I have never heard of a case in which forced respiration has been used upon the human subject in opium-poisoning. On July 23, 1887, I was called to see a severe case of opium-poisoning, which, after the ordinary course of treatment, I finally gave up to die. Dr. F. R. Campbell was summoned to the case, at which time we found the respirations only one per minute: the pulse was still to be detected at the wrist. Atropine was at this time administered hypodermically, which soon resulted in a dilatation of the pupils.

Having frequently performed the operation of forced respiration on animals, I suggested the advisability of trying this upon our patient, to which Dr. Campbell acquiesced. The apparatus which I possessed for this purpose was immediately sent for. The operation of laryngotomy was made, the tube inserted, and forced respiration produced.

The pulse soon became stronger and more regular, and in twenty to thirty minutes the respirations themselves began. In three hours the respirations had increased from one to twenty per minute. In twenty-four hours they again went down to six per minute. It was also interesting to notice that after being resuscitated he was taken with an attack of delirium tremens, in which he was maniacal, but from which he soon recovered. He had been drinking very heavily before taking the opiate. There was no injury of the lung-tissue. The original instrument was shown, as well as the improvements made adapting it for use on the human subject.

Dr. Brainard, of Los Angeles, Cal., objects to this method, owing to the danger of the operation. He thought Sylvester's method sufficient, if sufficiently prolonged, and if we used the precaution to pull forward the tongue. The artificial method should be continued faithfully for at least six to nine hours.

Dr. Fell replied that in his case the artificial respiration was kept up until the patient seemed to be getting worse all the while.

Dr. Enterkin, of Ohio, had tried successfully forced respiration in opium-poisoning, by passing an ordinary piece of tubing in through the larynx, and attaching to the external opening an ordinary pair of bellows. The connection had, of course, to be broken with each expiration. John Woodman, M.D., New York.

SECTION IN SURGERY.

Friday, September 9th — Fifth Day — Morning Session.

Dr. George Assaky, of Bucharest, Roumania, read a paper on

IODOL IN SURGERY.

The conclusions arrived at were: (1) Wounds unite under l'iodol by first intention. This union, however, being the result of various and complex conditions attending operation, it is not possible to attribute to l'iodol alone the absence of suppuration and inflammatory conditions. In wounds which gape and suppurate l'iodol is an excellent antiseptic. It rapidly retards suppuration, renders it inodorous, reduces the frequency of dressing, and considerably hastens cicatrization. In ulcerating or gangrenous wounds l'iodol aids in resisting the destructive process, and changes the wound, after a variable time, to a healthy, granulating condition. This action of l'iodol extends itself to hard chancres. In case of soft chancres the result is variable. Sometimes it transforms them into a simple wound with brief delay; at others it is insufficient for this purpose, and it becomes necessary to employ in addition, locally, antiseptic lotions. The same is true with reference to open venereal bubos of the groin.

The powdered l'iodol has this advantage over iodoform, that it is free from odor and is not toxic in its effects.

(2) Doses of l'iodol of from 0.40 centigrammes to 2.0 grammes, daily, produce no functional trouble, even if continued a long time.

These doses give marvellous results in tertiary syphilis and in scrofulous affections. In the secondary stage of syphilis, taken internally, it rapidly destroys the syphilitic manifestations. L'iodol seems to aid the general nutrition and increase strength and flesh. It is indicated in all cases of specific malnutrition.

L'iodol is an antipyretic. In acute infectious diseases, such as erysipelas, etc., it causes a rapid fall of temperature.

Dr. Milton J. Roberts, of New York, read a paper on

A NEW METHOD OF OPERATING ON BONE BY MEANS OF THE ELECTRIC OSTEOTOME.

The speaker presented an elaborate apparatus for this purpose, of most ingenious mechanism. One member remarked that he feared such a display would make the patients feel rather nervous, if seen by them.

The osteotome consisted proper of a hollow cylindrical handle, protruding from which was the shaft of the instrument, at the end of which was a small wheel with teeth like an ordinary finger-saw; the base of the handle was connected with the electric batteries by means of the covered wires usually used in all electric batteries; anterior to the handle were "cut offs," which could be worked by the forefinger and thumb, disconnecting the current in an instant, and checking the revolutions of the saw-wheel just as quickly; according to the diameter of the bone, different-sized saws were adjusted. In connection with this was a set of drills for drilling into any part of a diseased bone and removing the sequestrum or dead tissues in the bony cavity, the cavity being illuminated by a small electric light thrust in at different stages of the operation in order to secure removal of all carious bone. The femur was exhibited, the head of which had been drilled in this manner, the drill-opening into the bone being three-eighths of an inch in diameter, while the entire inside portion had been removed by the drill.

The question was raised as to the cost of such an apparatus being beyond or more than the surgeon would care to invest unless making a specialty of such diseases, and one gentleman affirmed that he could perform all the work which this instrument did with the regular dental drill, and that he had done it on several occasions, borrowing the drill from a neighboring dentist.

Dr. Close, of Illinois, thought the chief advantage of the apparatus was that the operator does not necessarily require skilled assistance, as the current was controlled by the hand in which the instrument was held, while the left hand was at liberty. He had been in the habit of using at times the band-wheel engine for such purposes, but found it too slow; in order to cut bone the saw must revolve quickly in such an apparatus.

Dr. Roberts, in conclusion, said that he had tried the dental engine many times and found the revolutions too slow, and it was for that reason he had set to work in order to secure the best possible method of removing bone in such cases; when the wheel revolves slowly the bone-tissue is torn; had it been satisfactory, he would not have spent the time and money in bringing forward a new instrument. In operating, the periosteum is not lifted or removed, but cut through with the bone. The speaker also exhibited some instruments for measurement, which would record the exact size of the bone to be removed in cases of deformities, etc.

Dr. George E. Post, of Beirût, Syria, read a paper on

CALCULUS IN SYRIA.

The writer remarked that it would almost seem to be produced from climatic causes, as it was such a prevalent malady there. In Palestine in almost every village these cases are extremely numerous both in young and old; in one day four patients came to him from a single village. When an operation is performed, the stone is generally found to be larger than is found in European countries, owing to the natives being extremely averse to all surgical operations, and hence procrastinate; a Moslem dislikes an operation extremely. Then, again, there are not many good surgeons there, and they frequently hesitate to perform an operation for stone; besides, too, the people are ignorant and poor. In that region there is a class of men called "stone-cutters," who make it their business to travel and remove stone from the bladder. They carry a bag containing the stones they have removed, and also those bequeathed to them by their ancestors, if in that calling. Their method of operation is as follows: The patient is laid on his back, without the use of anæsthetics, and held by assistants; the stone-cutter inserts two fingers into the rectum and feels for the stone in the bladder; when felt it is pushed toward the neck of the bladder, and then, with the aid of a razor or borrowed scalpel, he cuts down upon the stone through the perineum, and, when reached, the stone is pushed out by the fingers in the rectum.

The writer quoted one of his cases, in which five stones were removed, two from the bladder and three from the perineal tissue. Another case was more curious than that; the patient had been operated on in infancy by the method described, and a fistulous opening still existed. In that country they are in the habit of eating grapes with skin, seed, and pulp; the fistulous opening connect-

ing the rectum with the urethra had secreted grape-seeds, these forming the nucleus for the stone formation. There were sixty-four stones removed from the fistulous tract and bladder, ranging from the size of a grape-seed to a nut; a portion of one stone was embedded in the prostate, and with a short neck the larger portion was embedded in the bladder.

Another case of the same character, but with a stone much larger in size (weighing six ounces), in which a portion was in the bladder and a portion in the prostate, was removed, and not the slightest disturbance of the system ensued, although the stone was of such large size. In another instance the speaker removed a stone weighing twelve ounces; it was four inches long and two inches wide.

The largest number of calculi he had ever removed from one patient was two hundred, of various sizes, but eleven of them weighed six ounces each. The patient died from double pneumonia three days after. The speaker stated that he had operated in 250 cases of stone in the bladder. The mortality was 10 in 176 cases. One hundred and six of the cases (250) were in children ten years of age and under. He had performed 44 lithotrities, 8 of which died. One patient, a man seventy years of age, came under the writer's care from whom he removed three stones from the urethra—one from the membranous portion, one three inches from the meatus, and one from just inside the meatus—the largest was the size of a bean. Going from one extreme to the other, he cited the case of a child, not quite two years of age, from whom the writer had removed a stone the size of a bean.

Dr. J. A. S. Grant (Bey), of Egypt, remarked that calculus is very common there also. A friend of his, Dr. Zacharol, had made careful and scientific examinations of the various calculi, and almost invariably found the nucleus to be the egg of Bilharzia hæmatobia, and which, he suggested, would account for the stone.

A patient came to the speaker's office one morning with his scrotum extremely inflamed, and about the size of a child's head. The man—a native—while sitting near the railroad track had been struck on the scrotum by a bottle thrown from the hands of a soldier in a train that was passing; the blow had laid open the scrotum. The speaker removed the stone, which weighed fourteen ounces. This was the largest he had ever removed, and was taken away in three pieces.

Dr. R. T. Morris, of New York, asked which species of Bilharzia was found, and also in how many cases the blood-worms were found.

Dr. Grant replied that Bilharzia hæmatobia was in almost every case examined by Dr. Zacharol.

Dr. Post remarked he hardly thought Bilharzia could be a cause, as, while Bilharzia was very rare in Syria, calculi were very common.

Dr. Oscar J. Coskery, of Baltimore, Md., read a paper on

AN UNCOMMON CASE OF FRACTURE, WITH DISLOCATION OF THE TARSUS AND METATARSUS.

The patient, a male, was run over by a steam-car, the right leg being crushed, compelling amputation, and the left foot cut, the before-mentioned dislocation occurring as mentioned. Reduction was impossible, and the patient died nine hours after the accident. At the autopsy it was found that three of the metatarsal bones were completely luxated, the scaphoid projecting up, presenting the appearance very much of such bone in a case of strong pes equinus, while the posterior portion of the os calcis had been crushed and the astragalus bruised.

Dr. N. Senn, of Milwaukee, Wis., read a paper on

ELASTIC CONSTRICTION OF THE NECK, WITH EXCLUSION OF THE TRACHEA, AS A MEANS OF CONTROLLING HEMORRHAGE IN OPERATIONS ON THE HEAD.

He called attention to the fact that where we desired a bloodless operation there were more blood-vessels than in any other part of the body. He thought, however, this hemorrhage could be overcome by the following method, which he had practised on dogs, namely—cutting down on the trachea, separating it from the surrounding tissues, and then passing a strong rubber band behind it, the ends passing backward, the vessels of the neck could be constricted by tightly securing the ends of the rubber band, while respiration could be carried on. One dog, upon which he had operated, retained the bandage for two hours, and is now as well as ever. Another one, where it was retained still longer, had been put under the table, and afterward, when about to be thrown out, it was noticed the heart pulsated, but respiration had ceased. The band was released and artificial respiration practised, when the animal speedily recovered.

Dr. Carnochan, of New York, presented a specimen of

DOUBLE DISLOCATION OF THE HIP-JOINT.

He remarked that previous to 1820 this condition was unknown, but in 1826 Dupuytren first brought it to the notice of the profession. The speaker stated there were various theories as to the causation of this condition, among which were carelessness of the accoucheur, movement of the fœtus in utero, etc; the question arises, also, as to whether it is really a dislocation or a malformation.

Dr. R. T. Morris, of New York, stated that he did not think that it could be caused by careless handling of the physician, as in the northern part of Germany it was quite common, and they certainly had skilled physicians there. He thought it might be due to arrest of development.

Dr. Post drew attention to the two classes of cases, one of which seemed to be rachitic; but he had seen it occur in healthy infants with a difference in length of limbs. A few weeks since he saw a case in which the head of the bone was in the thyroid foramen; the speaker could only account for it that the child moved in utero.

Dr. Link, of Indianapolis, Ind., read a paper on

ALCOHOL AS AN ANÆSTHETIC.

The speaker had used it in over a hundred cases and never had a fatal result, while the anæsthesia was complete. The whiskey was given in two-ounce doses, every two to five minutes, until a pint to a pint and a half had been taken and the patient became stupefied. Then about two drachms of chloroform were placed in the cone, and a few respirations would put him to sleep; the operation could then be carried out. The speaker's reasons for using this method was that in cases of shock there is depression; the alcohol increases the heart's action, while the chloroform, which is a depressant, administered as stated secures the equilibrium of the heart's action.

E. Develin, M.D., New York.

SECTION IN MILITARY AND NAVAL SURGERY AND MEDICINE.

Friday, September 9th—Fifth Day—Morning Session.

AMPUTATION FOR INJURY OF LIVING PARTS NEVER NECESSARY.

A paper upon this subject was read by Dr. Elisha H. Gregory, of St. Louis, Mo. The author mainly described improved methods of coaptating deep structures, and the prevention of wound accidents and complications. He advises that, if by peculiarity of the injury the main channels are cut off, the surgeon should wait for collateral circulation, because the injury is not general.

The second paper was

THE SUPERIORITY OF THE BAVARIAN PLASTER-OF-PARIS SPLINTS FOR GUN-SHOT AND OTHER FRACTURES OF THE LIMBS,

by Dr. James H. Gregory, of Omaha, Neb., and was read by the author, who related his experience and observation

during four years of service as surgeon during the War of the Rebellion. Instances were given in which the spica bandage and other appliances had caused gangrene.

The history of the Bavarian plaster-of-Paris splint was briefly given, after which the writer related his experience in its use, and the proper mode of its application.

Then followed a paper by RICHARD FRANCIS TOBIN, M.K.Q.C.P. Ireland, of Dublin, entitled,

SOME REMARKS UPON THE KIND OF DRESSING MOST AVAILABLE FOR GUN-SHOT FRACTURE OF THE LOWER LIMBS ON THE FIELD IN CONNECTION WITH TRANSPORTATION.

This paper, owing to the absence of its author, was read in abstract by his compatriot, DR. JEFFREY A. MARSTON.

It had reference chiefly to fractures of the upper third of the femur, and to the desirability, in treating such cases, of fixing in an immovable position, not only the injured member but also the opposite limb and the trunk. The appliances that, in the opinion of the writer, best fulfil these indications were described.

DR. J. R. SMITH, U. S. A., opened the discussion with the assertion that the permanent immobilization of fractured limbs upon the field of battle is impracticable.

The injured limb should be rendered immobile temporarily by a common splint, and by being fastened to the other limb, if the leg is involved, or to the body, if the arm be the seat of the injury. In the United States Army all these modes and materials had been tried, and a large number of surgeons have about concluded that the silicate bandage is the neatest, lightest, and strongest dressing for hospital use; the speaker had known patients thus treated to travel from Philadelphia to Maine.

DR. R. B. BONTECOU, of Troy, N. Y., preferred the silicate of soda or potassa as a primary dressing for fractures of the lower extremities, with a view to transportation; it is cheap, hardens quickly, is lighter than plaster of Paris, and can be carried in the field in tin cans of a capacity of one or two litres with a large mouth and screw-cap cover. When used it should be of the density of ordinary sirup.

PRESENTATION TO THE PRESIDENT.

DR. JEFFREY A. MARSTON moved that the President temporarily vacate the chair and that Dr. William H. Lloyd, of the Royal Navy, be installed therein for the transaction of special business.

The motion being unanimously carried,

DR. ELI A. WOOD, of Pittsburg, in a well-expressed speech, presented to the President, Dr. Henry H. Smith, of Philadelphia, in behalf of the members of the Section in Military and Naval Medicine and Surgery, a beautiful vase of agate, and submitted the following resolutions:

Whereas, In consideration of the very extraordinary labors of Henry Hollingsworth Smith, M.D., LL.D., in organizing the Section in Military and Naval Medicine and Surgery, accompanied by great efficiency in presiding over its sessions, it is hereby

Resolved, That Dr. Henry Hollingsworth Smith has pre-eminent claims upon the members of this Section for his judicious administration of its business meetings, and the hearty thanks of the Section are hereby extended to him, with a high appreciation of his useful work in connection with the Ninth International Congress.

Resolved, That a Committee of Drs. J. R. Smith, J. A. Marston, and Ch. D. Phillips be requested to communicate this action to Dr. Smith.

The resolutions were seconded by DR. MARSTON in a brief address emphasizing the high estimate placed upon Dr. Smith by the visitors from abroad, and the cordial appreciation of his personal attentions.

DR. W. H. LLOYD also expressed his heartfelt participation in the recognition of the President's valuable services.

DR. SMITH, in reply, gave utterance to his profound sense of gratitude to the friends who had presented the beautiful present, and to the Section, whose appreciation was prized as an indication that his efforts in honor of the profession and the credit of this country had not been unavailing.

The President, resuming the chair, announced the conclusion of the business of the morning session.

AFTERNOON SESSION.

The proceedings were opened by DR. E. GRISWOLD, of Sharon, Pa., who read a paper entitled

WHAT CONDITIONS ON THE FIELD JUSTIFY AMPUTATIONS IN GUN-SHOT WOUNDS?

The author claimed that amputation on the field of battle cannot always be done, although the established rule of surgery, as well as the opinion of the surgeon, may demand it in many cases in which it is not done. The exigencies of war often separate the surgeon from his equipments and deprive him of the means of action, or he may be overworked and unable to attend to his duty.

The surgery of to-day and of the future makes it necessary for military surgeons to be supplied with means by which asepsis can be practised upon the field in the treatment of wounds, and this can be done and made practical wherever an adequate supply of water is attainable, if a rapid method of filtration and purification is available.

The possibilities of antiseptic surgery are already largely developed, and the military surgeon of the future must know what is to be expected in the way of conservatism; and when his patient, having a severe gun-shot wound in one of his extremities, is found to be clearly beyond the reach of conservatism, he is not only justified in amputating in the field, but it is his bounden duty to do so.

DR. BONTECOU said he would practise conservative surgery when there are arteries to nourish the limb and veins to carry the blood back from the injured member to the heart.

DR. E. A. WOOD alluded to other elements, such as shock, which must be taken into consideration in determining whether amputation be or be not required, and in some instances of probable deformity resulting, with consequent uselessness of the limb, the part should be excised.

DR. COLLINS, of Pennsylvania, thought many cases that would otherwise recover died of the wear and tear incident to the transportation.

DR. H. H. BIEDLER, of Baltimore, Md., adverted to certain operations for grave injuries having terminated fatally after amputation, from the operation itself, and without the complication of shock.

DR. GRISWOLD closed the discussion by saying that he had noticed that shock, in injuries of the knee-joint, seemed to be more serious than in those of the hip-joint.

When the injury is such that amputation is clearly indicated, it should be done early; still, even in bad cases, conservative surgery was available, and an attempt should always be made to save the limb.

The paper presented by DR. CHARLES SMART, United States Army, was, at the request of the author, read by title, and referred to the Committee on Publication.

THE PRESIDENT announced that the business before the Section was concluded, and with a few appropriate remarks declared the Section adjourned.

R. LORINI, M.D., Washington, D. C.

SECTION IN OBSTETRICS.

FRIDAY, SEPTEMBER 9TH—FIFTH DAY—MORNING SESSION.

The Committee appointed to formulate resolutions in regard to

UNIFORMITY IN OBSTETRICAL NOMENCLATURE,

submitted its report, which, after an animated discussion, was unanimously accepted, the only dissentient being Dr. Martin, of Berlin, who was not present but had left a message stating that he thought the matter should not be settled by an American Congress, but should wait three years and be accepted or not by a congress meeting in the Old World.

REPORT AS ACCEPTED.

A. It is desirable to try to attain to uniformity in obstetrical nomenclature.

B. It is possible to arrive at uniformity of expression in regard to: 1, The Pelvic Diameters; 2, The Diameters of the Fœtal Head; 3, The Presentations of the Fœtus; 4, The Positions of the Fœtus; 5, The Stages of Labor; 6, The Factors of Labor.

C. The following definitions and designations are worthy of general adoption by obstetric teachers and authors:

I. PELVIC BRIM DIAMETERS.—1. Antero-posterior: (1) Between the middle of the sacral promontory and the point in the upper border of the symphysis pubis crossed by the *linea terminalis* = *Diameter Conjugata vera*, Cv. (2) Between the middle of the promontory of the sacrum and the lower border of the symphysis pubis = *Diameter Conjugata diagonalis*, Cd.

2. Transverse: Between the most distant points in the right and left ileo-pectineal lines = *Diameter Transversa*, T.

3. First Oblique: Between right sacro-iliac synchondrosis and left pectineal eminence = *Diameter Diagonalis Dextra*, D. D.

4. Second Oblique: Between left sacro-iliac synchondrosis and right pectineal eminence = *Diameter Diagonalis Læva*, D. L.

II. FŒTAL HEAD DIAMETERS.—1. From the tip of the occipital bone to the centre of the lower margin of the chin = *Diameter Occipito-Mentalis*, O. M.

2. From the occipital protuberance to the root of the nose = *Diameter Occipito-Frontalis*, O. F.

3. From the point of union of the neck and occiput to the centre of the anterior fontanelle = *Diameter sub-Occipito-Bregmatica*, s. O. B.

4. Between the two parietal protuberances = *Diameter Bi-Parietalis*, Bi-T.

5. Between the two lower extremities of the coronal suture = *Diameter Bi-Temporalis*, Bi-T.

III. PRESENTATION OF THE FŒTUS.—The *presenting part* is the part which is touched by the finger through the vaginal canal, or which, during labor, is bounded by the girdle of resistance.

The *occiput* is the portion of the head lying behind the posterior fontanelle.

The *sinciput* is the portion of the head lying in front of the *bregma* (or anterior fontanelle).

The *vertex* is the portion of the head lying between the fontanelles and extending laterally to the parietal protuberances.

Three groups of presentations are to be recognized, two of which have the long axis of the fœtus in correspondence with the long axis of the uterus, while in the third the long axis of the fœtus is more oblique or transverse to the uterine axis.

1. Longitudinal: (1) Cephalic, including—vertex and its modifications; face and its modifications; (2) pelvic, including—breech; feet.

2. Transverse or trunk, including shoulder, or arm and other rarer presentations.

IV. POSITIONS OF THE FŒTUS.—The positions of the fœtus are best named topographically, according as the denominator looks—first, to the left or the right side, and second, anteriorly or posteriorly. When initial letters are employed it is desirable to use the initials of the Latin words.

In the case of Vertex positions we have:

Left Occipito-Anterior = *Occipito-Læva-Anterior*, O. L. A.

Left Occipito-Posterior = *Occipito-Læva-Posterior*, O. L. P.

Right Occipito-Posterior = *Occipito-Dextra-Posterior*, O. D. P.

Right Occipito-Anterior = *Occipito-Dextra-Anterior*, O. D. A.

The Face positions are:

Right Mento-Posterior = *Mento-Dextra-Posterior*, M. D. P.

Right Mento-Anterior = *Mento-Dextra-Anterior*, M. D. A.

Left Mento-Anterior = *Mento-Læva-Anterior*, M. L. A.

Left Mento-Posterior = *Mento-Læva-Posterior*, M. L. P.

The Pelvic positions are:

Left Sacro-Anterior = *Sacro-Læva-Anterior*, S. L. A.

Left Sacro-Posterior = *Sacro-Læva-Posterior*, S. L. P.

Right Sacro-Posterior = *Sacro-Dextra-Posterior*, S. D. P.

Right Sacro-Anterior = *Sacro-Dextra-Anterior*, S. D. A.

The Shoulder presentations are (left and right side of the *mother*):

Left Scapula-Anterior = *Scapula-Læva-Anterior*, Sc. L. A.

Left Scapula-Posterior = *Scapula-Læva-Posterior*, Sc. L. P.

Right Scapula-Posterior = *Scapula-Dextra-Posterior*, Sc. D. P.

Right Scapula-Anterior = *Scapula-Dextra-Anterior*, Sc. D. A.

V. THE STAGES OF LABOR.—Labor is divisible into three stages: (1) First stage—from the commencement of regular pains till complete dilatation of the os externum = *Stage of Effacement and Dilatation.* (2) Second stage—from dilatation of os externum till complete extrusion of child = *Stage of Expulsion.* (3) Third stage—from expulsion of child to complete extrusion of placenta and membranes = *Stage of the After-birth.*

VI. THE FACTORS OF LABOR ARE—(1) The Powers. (2) The Passages. (3) The Passengers.

(Signed) DE LASKIE MILLER, M.D.,
President of the Section.
A. F. A. KING, M.D.
WILLIAM T. LUSK, M.D.
A. R. SIMPSON, M.D.

DR. R. S. STRINGER, of Florida, presented a paper on

A RATIONAL METHOD OF RELIEVING ASPHYXIA NEONATORUM,

which, in the absence of the author, was read by title.

DR. IRA E. OATMAN, of San Francisco, Cal., read a paper on the

TREATMENT OF PUERPERAL ECLAMPSIA.

After giving a sketch of the disease and the usual methods of treatment, he recommended, when the convulsions occurred before labor, anæsthesia and clearance of bowels and rectum, together with as rapid delivery as was compatible with the safety of the patient. When the convulsions occurred after delivery and were accompanied by high, nervous, and vascular tension, nothing was so safe, speedy, and reliable as veratrum viride. This he gave in the dose of ℥vj. by mouth, or ℥x. by rectum, repeated every fifteen minutes until the convulsions ceased.

Should the veratrum cause excessive depression an immediate and certain antidote was found in alcohol. It was better to give the veratrum in excessive doses than to risk the continuance of the convulsions, for the brandy or whiskey to counteract its effect were always present, and the veratrum certainly exhibited a remedial action not otherwise attainable. The puerperal period was to be treated as usual, together with treatment of any pathological condition present. He found the veratrum equally efficient in the convulsions of children and in hystero-epilepsy.

Dr. Alexander Simpson, of Edinburgh, Scotland, thought any suggestion that would enable us to control eclampsia of extreme value. He would like to hear opinions regarding veratrum; he had used it once twenty years ago, and had not felt inclined to try it again.

Dr. G. Lane Taneyhill, of Baltimore, Md., advocated strongly the use of veratria in eclampsia, and said that fifty per cent. of his cases had, in the last twenty years, been treated by it, he giving ten drops of the tincture hypodermatically every hour of convulsive action, and always keeping another hypodermic syringe with brandy to sustain the heart should the pulse go below forty-two. He was led to this practice by observing its use by Latimer in a case which he could control but temporarily by chloroform. He had not lost one case of eclampsia since using veratria; it enabled him to hold the engine (the heart) in check as an engineer with the air-brake, and was not as dangerous a medicine as was generally supposed. It produced the same effect as bleeding, save that no blood was lost to weaken the patient afterward.

Dr. Duncan C. MacCallum, of Montreal, Canada, had fourteen cases; all recovered. He used chloral, chloroform, potassium bromide, bleeding, morphia hypodermatically, and cleaned out the bowels by stimulating enemata. There was no routine treatment; each case was to be treated on its own merits.

Dr. Pierce, of Ohio, thought it foolish to try to map out any one line of treatment for eclampsia; each case must be rationally treated.

Dr. Lawrence, of Bristol, England, believed in as early delivery as possible, and the use of chloral. In plethora, bleeding was sometimes useful. It was difficult to lay down definite treatment.

Dr. Jones, of Danville, Ill., said that veratrum was an active purgative, and a loaded colon was an active agent in causing epileptiform convulsions. He took charge of his patients beforehand, kept their bowels regular, used chloroform in labor when any nervous symptoms appeared, and saw no cases of eclampsia.

Dr. A. F. A. King, of Washington, D. C., had never used veratria in eclampsia, but had suggested its use twenty years ago theoretically (*New York Medical Journal*, October, 1865), to lessen arterial hyperæmia of the nerve-centres, by reducing the force of the heart. He then, and more recently (in the *American Journal of Obstetrics*, March and April, 1887), considered, and still considers, eclampsia to be caused chiefly (and in addition to uræmic poisoning) by abnormal pressure of the gravid womb upon the aorta and its branches, and vena cava and its branches. He believes this abnormal pressure to be chiefly due to premature descent of the lower uterine segment and fœtal head *below the brim into the pelvic cavity*, especially in primiparæ, two or three months before full term.

In transverse presentations, whether in multiparæ or primiparæ, eclampsia does not occur. The head of the child ought not to sink below the pelvic brim before labor—in fact, such *descent* is the *second* stage in the mechanism of *labor*. Yet recent authorities affirm that it is usual, and therefore normal, in primiparæ. This he denies. He maintains that the normal posture of the fœtus during pregnancy, before labor begins, is transverse or oblique; a head-presentation is abnormal until the sinking of the womb just before delivery, when it changes in order that labor may take place. To remove the cause of and prevent eclampsia, we should, by posture and manipulation, lift the prematurely descended head out of the pelvis, and put it above the brim in one of the iliac fossæ, where it normally belongs, and where it would have remained but for corsets, dress, coitus, and other displacing influences.

Dr. W. W. Jaggard, of Chicago, Ill., said: 1. Eclampsia is a symptom of renal insufficiency, renal inadequacy, to use a term of Sir Andrew Clarke's, the result of functional or organic disease. The arguments of Dr. A. F. A. King were entirely inconclusive. 2. The cause of the convulsions was cerebral anæmia, the result of vaso-motor spasm, caused by irritation of the vaso-motor centre, by excrementitious matter retained in the blood. 3. The indication for treatment was absolute continued narcosis. He used chloroform, potassium bromide, chloral, morphine. Veratrum viride, according to the researches of Wood and Behrens, of Philadelphia, causes vaso-motor dilatation, and the woman is literally "bled into her own veins." At the same time, when this remedy is employed a hypodermic syringe filled with brandy must be ready. Pilocarpin is unreliable, causing cardiac depression, and aiding in œdema pulmonum when no diaphoretic action is effected. Professor Fordyce Barker has frequently called attention to this fact.

Dr. Oatman said that he had seen large doses of as much as a drachm of the fluid extract of veratrum taken by mistake and recovered from without treatment.

Afternoon Session.

Dr. H. O. Marcy, of Boston, Mass., read an elaborate paper on the

histology and pathology of reproduction.

The studies offered were based upon the conviction that the profession owes to the late Professor Ercolari, of Bologna, the establishment of new and simple truths which are fundamental and of the first importance. Comparative studies teach that there is a unity of type in placental development. The writer endeavored to show that immediately after conception a destructive process affects the inner surface of the uterus; in some animals and in women this process is limited to the epithelium, while in other animals, as in the rodents, the destruction extends to the entire submucous connective-tissue layer.

This destruction is essential, since it facilitates the setting up of neo-formative changes, from which will result the maternal portion of the placenta. This process consists in the formation of new vessels, which are distinguished from the vessels of the unimpregnated uterus in that both the artery and vein consist of only a simple endothelial wall, and that from the external surface of this is elaborated a layer of special cells not separable from the wall of the vessel. These are the so-called decidual or placental cells.

The relation established between those two factors of new formation is what is known as placental development. The manner in which this relation is established gives rise to the different forms of the mammalian placenta.

Dr. Alexander Simpson, of Edinburgh, spoke of the value of the paper and sketched the development of the placenta from the lowest type, where the fœtal and maternal surfaces were simply laid together, and were separated at parturition, to the complicated interdigitation in the higher animals, and the highest type as found in the human female, where, at the time of delivery, the maternal as well as fœtal portions came away together, leaving beneath it only the basal portion of the uterine mucous membrane.

Dr. E. Paul Sale, of Aberdeen, Miss., read a paper on the

management of pregnancy, with reference to the prevention of post-partum hemorrhage,

in which he strongly insisted upon the value of prophylaxis, undertaken months before delivery, during which

time the patient should be under the supervision of the accoucheur. Some of the predisposing causes and their treatment are as follows:

1. Hæmophilia, abnormal tenuity of the walls of the capillaries — Use stimulating oils, as turpentine or oleum origanum. Matico, liquid extract, also good. Ergot and allied drugs no value.

2. Anæmia, from various causes — Fluid extract stylothansis, cimicifuga racemosa, salix nigra, etc. Faradization of the abdominal muscles for ten minutes daily.

3. Atonic debility, from rapid childbearing — Exercise, tonics, quinine, strychnia, iron, fresh air.

4. Laceration of cervix, cancer, fibroma—Let alone, except before third month.

5. Intemperance—Moral measures (what success?).

6. Heart disease—Gelseminum.

7. Plethora—Dietetics, salines.

Dr. H. B. Hemenway, of Kalamazoo, Mich., had not been able to diagnose post-partum hemorrhage many months before labor. He asked what was the relation of late ligature of the cord to post-partum hemorrhage.

He strongly suspected that it tended to prevent such an occurrence, and his explanation was as follows: There is no direct connection between the maternal blood-vessels and the placenta; if the cord is ligated late, or if only the fœtal portion was ligated, blood flows from the placenta. The cord is normally attached near the centre of the placenta; if, then, blood is extracted, the placenta must shrink and the edge will first become detached. If blood is not extracted from the placenta, it is more rigid, and as the uterus contracts the centre is likely to be first detached. A sac is thus formed which fills with the maternal blood, and the mouths of the uterine vessels do not firmly close. When the placenta is delivered, this accumulated blood rushes out and the maternal vessels again bleed.

Dr. W. W. Jaggard, of Chicago, called attention to the following propositions:

1. Late ligature of the cord is always indicated in the interest of the child—when not contra-indicated in the concrete case. The researches of Budin have demonstrated that when the cord is ligatured when it ceases to pulsate the child receives seventy-five grammes of blood—lost when the pulsating cord is tied. The relation of late ligature of the cord to the prevention of post-partum hemorrhage, to which the gentleman from Michigan has called attention, is of great interest, if it be a fact.

2. The best preventive of post-partum hemorrhage is to secure retraction of the uterus, by keeping the hand on the fundus uteri from the moment the child begins to pass through the vulvar outlet until the muscular fibres have rearranged themselves—about one hour after expulsion of the placenta.

Kucher, in his admirable book, has called attention to friction over the fundus twice daily during the first two days of the puerperium. This is the practice in Vienna. There is little danger of dislodgement of a clot in the uterine sinuses, or interruption of the process of puerperal thrombosis, by this procedure. It is also an excellent prophylactic against resorption of septic matter.

Dr. George Wheeler Jones, of Danville, Ill., read a paper on

DYSTOCIA FROM RIGIDITY OF THE CERVIX AND ITS MANAGEMENT.

After a consideration of the various conditions which might cause rigidity of the cervix, he spoke of the most important—spasmodic contraction. Here opium was most valuable, together with chloroform and Barnes' dilators, if quick dilatation was necessary. Sitz baths, warm vaginal douches, delivery in a warm room, morphia hypodermatically, quinine where there was malaria, salicine in rheumatic cases, and electricity were all useful. He would never use chloral, as it was dangerous to mother and child. He then detailed some original investigations into the medicinal action of Gassypii radix, delphinium, and ipecacuanha.

Dr. A. F. A. King, of Washington, D. C., called attention to the fact that the thinning of the uterine segment and the obliteration of the cervical canal, conditions which led to the rigidity of the cervix, were abnormalities. When the uterus and child maintained during pregnancy their normal lateral obliquity, the canal of the cervix from the external to the internal os will remain unobliterated until full term, which is the normal condition both for primiparæ and multiparæ. Under the same normal circumstances the great thinning of the lower uterine segment, the tearing of the decidual mucous membrane, the "formation of a new cervical canal," and the other tissue-changes observed by Bandl, will be absent *during pregnancy*. They are abnormal. They may nevertheless occur *during labor* from *abnormal* mechanical obstruction to delivery. Dr. King also objected to the use of chloral.

Dr. Brooks H. Wells, of New York, did not agree with Dr. Jones concerning the great danger to the unborn child from the use of chloral. In about one hundred cases out of between six and seven hundred which he had had under his charge, or had witnessed, it had been used both as an anæsthetic, where the first stage had been unusually painful, and in spasmodic rigidity of the cervix, and in no case had he seen any harm accrue to mother or child, but only the most gratifying results. He always used the precautionary measure mentioned by Dr. Jaggard, viz., to keep himself informed of the condition of the uterus by a hand placed over the fundus, slight rotary friction overcoming any possible tendency to relaxation, and had never had any serious post-partum bleeding, either with or without the use of chloral. Its administration might, in full doses, blunt the pains somewhat. He was accustomed to administer the drug in ten to fifteen grain doses, by mouth or rectum, until this result was attained—usually from two to four doses. He considered morphia and the hot douche important agents in treating the class of cases mentioned.

A paper by Dr. John H. Wilson, of Chicago, Ill., entitled "Puerperal Uræmic Amaurosis," was read by title.

The Section then adjourned, after passing a vote of thanks to Professor Simpson for the felicitous and able manner in which he had presided.

Brooks H. Wells, New York.

SECTION IN DISEASES OF CHILDREN.

Friday, September 9th—Fifth Day.

Dr. A. B. Judson, of New York, Vice-President of the Section, called the meeting to order. He said that it might be called the first meeting of the Subsection of Orthopædic Surgery, the embryo of what may in the future be a mature section.

A paper was read by Mr. William E. Balkwill, of London, entitled

THE TREATMENT OF CONGENITAL CLUB-FOOT, DEMONSTRATED BY THE EXHIBITION OF APPARATUS.

The writer limited himself to the consideration of talipes equino-varus. He believed that in the majority of cases tenotomy will be required. The question of an early or late operation is to be answered by considering the general condition of the child rather than the nature of the deformity, as a severe case may be as thoroughly and permanently reduced, if circumstances make a delay desirable, a few months after birth as if the operation was done in the first week. He divides the tibialis posticus, the tibialis anticus, and the plantar fascia, in the order named, and after an interval of three weeks of the diligent use of a flexible splint and bandages, he is ready to proceed with the division of the tendo Achillis. Then, instead of extending fully and at once after tenotomy of the Achillis, and keeping the foot in the new position,

he takes more time, and, in fact, uses the foot as Isaac Walton did his frog—no force, no undue pressure, but careful guidance.

Mr. Balkwill then exhibited a large number of ingenious instruments designed to accomplish complete reduction by the gradual method. Their action was controlled by the pinion-key in some instances, and in others by modifying with suitable wrenches the tractable steel of which they were constructed. He deplored the existence of a strong prejudice among people of all classes against the wearing of "irons." If properly constructed and correctly applied, they should do the work required, not only without pain, but with an increase of comfort, arising from the increased facility which they add to locomotion. He feared that surgeons were largely responsible for the existence of this prejudice, from the fact that it is so much easier to refer the case to an instrument-maker than to give to it the care and painstaking which it requires, and without which success is impossible.

A paper was then read by Dr. Lewis A. Sayre, of New York, entitled

SECTION OF CONTRACTURED TISSUES ESSENTIAL BEFORE MECHANICAL TREATMENT CAN BE EFFECTUAL.

The writer defined his position as follows: A contra*cted* tissue is one that is simply shortened, but which can be elongated by careful, continuous, and judiciously applied traction and manipulation. A contrac*tured* tissue is one which has undergone some change of structure in the fibrillæ of the muscles, and which cannot be elongated or stretched. Distortions or deformities which are the result of contrac*tured* tissue can only be removed by forcible rupture of the same, or by cutting before traction is applied; but similar deformities resulting from simply contracted tissue may frequently be rectified by manipulation and constant traction, properly applied, without section of the tissue. How are we to know whether the tissue is *contracted* or *contractured?* If in any case of club-foot or other deformity from muscular contraction we stretch the shortened parts to their utmost tension by manual force or mechanical aids, and when the parts are thus stretched we suddenly add to the tension by pressing with the thumb or finger on the part thus stretched, or by pinching the stretched tissue between the thumb and finger, and if by either of these acts we produce a *reflex* spasm, or sudden shivering of the whole body, that muscle, tendon, or tissue, thus yielding this *reflex spasm* is *contractured*, and cannot be elongated *without severing* of its fibres. If, on the contrary, when the test is applied as above described, and no *reflex* irritation or muscular spasm is produced, it is evident that the parts are simply *contracted*, and can be further elongated by persistent constant traction and proper manipulation, and therefore do not require divulsion.

To attempt to stretch a contractured tissue causes unnecessary pain, and exposes the patient to the risk of disturbances of the nervous system through long-continued irritation. In all such cases it is infinitely safer to make such division by subcutaneous section than by manual or mechanical force. Treatment is to be completed by massage, friction, active and passive motion, electricity, and such mechanical appliances as may be required in each case. A number of illustrative cases were given.

The Vice-President, Dr. A. B. Judson, of New York, thanked Mr. Balkwill for bringing over the instruments which he had shown, braving the terrors of the New York Custom House in order to add to the interest of the Congress. His view of the subject was that the treatment of congenital club-foot is divided into two stages by the arrival of the time when the child begins to try to stand. Before this time, when the child's weight does not interfere with corrective procedures, the varus should be reduced by whatever means may be at hand—a succession of carved-wood splints, tractable metal splints, adhesive plaster, plaster-of-Paris splints, the artificial muscles; or a combination of these methods, one with another, or with tenotomy, as the case may require. Whatever the plan adopted, by the time the child begins to put his weight on the foot, the varus should be so far reduced that the sole is presented squarely to the ground. Of course, if nothing more be done, the varus would return when walking begins, and would soon be as bad as ever; and what is now required in this, the second stage, is a slight splint extending up the inner side of the foot and leg, and so fitted with buckles and webbing that pressure may be distributed where the steel is directly applied, and concentrated on the outer side of the ankle, where it can be easily borne, because made by webbing-straps. The object of the splint is simply to give the foot a push toward valgus, so that when the child steps the sole presents squarely to the ground, or a little more than squarely. Every foot-fall will then be an impulse in the right direction, applied with the force of the rapidly increasing weight of the body. With tractable metal in the splint, varus may be absolutely reduced, and, if it were desirable, even valgus could be produced.

Mr. Edmund Owen, of London, stated that he was heartily devoted to what he believed was rightly called the American plan. The old plan consisted in dividing first the tendon of the tibialis posticus, and perhaps also that of the flexor longus digitorum, and then in putting the foot up in only a slightly improved position; then, when it was supposed that plastic effusion had connected the divided ends of the tendon, to begin with Scarpa's shoe to correct the inversion. Later on, perhaps weeks afterward, when the inversion had been fairly dealt with, the tendon of Achilles was divided, and in a few days flexion of the foot was started with. Mr. Owen considered that this plan was now, even in England, giving place to the method of dividing all the tendons at one and the same time; and not only that, but bands of fascia and ligament were also divided. He called particular attention to the need of dividing the anterior part of the internal lateral ligament of the ankle-joint, which was much concerned in keeping the front part of the tarsus flexed and inverted on the head of the astragalus. Scarpa's shoe should, together with mechanical spinal supports, be relegated to the limbo of extinct surgical instruments; the introduction of the plaster-of-Paris treatment had rendered them superfluous. There need be no fear of failure of union occurring in the divided tendon after putting the foot at once in the correct position; plastic effusion and blood in the sheath of the tendon quickly prepared the way for an efficient splicing of the tendon.

Mr. Owen could not accept entirely all that Professor Sayre said as to the difference between contractured and contracted tendons; he would not deny its existence in fact, but he was not prepared entirely to accept it. He commended in the highest terms Dr. Sayre's teaching and his practice.

Dr. E. R. Lewis, of Kansas City, Mo., said that if the distinction made by Dr. Sayre was correct, it was a most valuable diagnostic sign. He would try it, and, if successful, would feel amply repaid for his trip to Washington.

Dr. Hingston, of Montreal, Canada, stated that formerly it had been his custom to delay tenotomy till after the period of teething, at least; but he had long ago accepted the dictum of Dr. Sayre, that one is warranted in delaying the operation only till the tenotome can be procured. He had followed this rule with almost invariable satisfaction.

Dr. D. A. K. Steele, of Chicago, advocated the plan of treatment which had been outlined by Mr. Owen. His experience had led him to the adoption of the following rules of practice: (1) Operate as early as the child is brought. (2) Divide all tissues that prevent perfect restoration of the foot. (3) Retain the foot in a correct

position by plaster-of-Paris dressing. (4) Leave the toes out in order to watch the circulation. Antisepsis, of course.

The tripod was then erected, and Dr. Lewis A. Sayre and Dr. Lewis Hall Sayre suspended a patient of Dr. Magruder, of Virginia, and applied

THE PLASTER OF-PARIS DRESSING FOR POTT'S DISEASE.

The following papers were then read by title: "Forcible Correction of Contracted Knee-joint," by Dr. E. H. Bradford, of Boston, Mass.; "The Progress of Orthopedic Surgery," by Mr. Noble Smith, of London; "Anchylosis of the Knee-joint in a Straight Position by Excision, as a Remedy for the Atrophy and Deformity following Acute Poliomyelitis of Childhood," by Dr. Stephen Smith, of New York; "The Treatment of Lateral Curvature of the Spine," by Dr. James Knight, of New York; "The Results of the Treatment of Hip Disease by the so-called American Method," by Dr. A. B. Judson, of New York; "The Diseases of Faulty Habit," by Dr. James F. Goodhart, of London, England; "The Treatment of Strumous Glandular Enlargement of the Neck," by Dr. Martin G. B. Oxley, of Liverpool, England; "The Nature and Antiseptic Treatment of Whooping-cough," by Dr. Moncorvo, of Rio de Janeiro, Brazil; "On Acetonuria in Children," by Dr. Adolph Baginsky, of Berlin, Germany; and "Mediastinal Tumors in Children," by Dr. Oscar Wyss, of Geneva, Switzerland.

The session was closed by a few valedictory sentences by the President, Dr. J. Lewis Smith.

At the close of the session the initiatory steps were taken to form

AN AMERICAN PEDIATRIC ASSOCIATION,

with Dr. J. Lewis Smith, of New York, and Dr. W. D. Booker, of Baltimore, Md., Provisional President and Secretary. A. B. Judson, M.D., New York.

SECTION IN OPHTHALMOLOGY.

Friday, September 9th—Fifth Day—Morning Session.

The Section being called to order, Mr. H. Power presented a new pattern of *ophthalmoscope, folding handle*, for vest-pocket use, which could be carried in a case much like a pair of eyeglasses. A paper was also mentioned as having been sent by Dr. David Prince, of Jacksonville, Ill., "On some Points in the Treatment of Dacryocystitis and Affections of the Nasal Duct," with a new cannula for drainage, which instrument was exhibited to the Section.

Dr. E. Smith, of Detroit, Mich., then read a paper on

THE TREATMENT OF ABSCESSES AND ULCERATIONS OF THE CORNEA WITH JEQUIRITY.

He remarked upon the experience, common to all, of the difficulty in procuring the absorption of pus in the cornea, and noted the existence of the same tendency in all closed abscesses. The best means of arresting suppuration, and of getting rid of the pus when formed, has engaged the attention of the writer, with many others, for years. A paper on the above subject, in the spring of 1883, with another published in October, 1883, gave the result of his observations up to that time. He had since had many cases of ulceration of the cornea speedily relieved, and an astonishing clearing up of the cornea after its use. He believes the remedy affects the proliferation in corneal corpuscles. After explaining his impression of the mode of action of the remedy, he proceeded to describe his manner of using it. He does not use a strong preparation, and aims not to produce a sharp inflammation, as is done in trachoma. He uses a three per cent. solution, or a very minute quantity of the powdered seed. It is applied sparingly, till a mild catarrhal inflammation is set up, characteristic of the remedy, and in some cases there may be slight membrane. The object is to avoid a high degree of reaction. The eye is kept washed out with a two per cent. solution of boric acid, and the result is almost uniformly surprisingly good. The corneal cicatrix is often hardly apparent to anyone but the patient.

Dr. Galezowski, of Paris, France, said that he did not like jequirity. In his observation it had frequently produced ulceration and destruction of the cornea and synechia anterior, and in some cases enucleation had to be made to avoid sympathetic trouble. He thought jequirity exerted a very bad action on the cornea. The modification in Dr. Smith's method is doubtless in the amount of the drug used. Dr. Galezowski thought it a dangerous method.

In intermittent fever he had found ulceration of the cornea, which yielded to the administration of quinine. In another case, lasting for several months, after the extraction of a tooth, cicatrization occurred. The best treatment for corneal abscess and ulcer is the antiseptic method. He applies the powdered iodoform directly to the surface three times a day, under cocaine, and uses the steam douche two or three times a day, ten minutes at a time. When it is not doing well cauterization with a solution of nitrate of silver, twenty-five centigrammes to ten grammes, may be done once or twice every day.

Dr. Richey, of Washington, D. C., wished to know whether scraping the ulcer before applying the remedy had not been found of advantage.

Dr. Smith, in closing, said that Dr. Galezowski had used jequirity in trachoma, in the way described by De Wecker, till he obtained marked diphtheritic membrane. In these cases it was the swelling and chemosis that caused strangulation and loss of cornea. He should hesitate to use jequirity in sthenic cases; it was the asthenic cases requiring stimulation that were suitable for this treatment.

Dr. D. S. Reynolds, of Louisville, Ky., read the next paper, entitled

NECESSITY FOR REFORM IN THE MANNER OF DESIGNATING LENSES.

He said that often the difficulty was more in the defective apparatus than in the methods employed. The method which he employed was to abandon the idea of measuring and denoting lenses by their focal distance, and make the radius of curvature the measure of the lens, having them measured from a unit of ninety degrees, or the quadrant of a circle. The lenses might be graded at intervals of five or ten minutes, and in the higher grades have an interval of fifteen minutes. He gave a description of an instrument of Professor Snellen's for determining the value of a lens. It consists of a stand with upright, on which a horizontal beam carries at one end a lamp, and near it a positive lens of one-sixth. In the centre of the beam is placed a clamp for holding the lens to be tested. On each side of the centre, on the beam, is placed a lens plano-convex one-twelfth. Near the lamp is placed a copper disk, perforated by two lines of minute holes, one line perpendicular and the other horizontal. At the farther end of the beam, working in a graduated brass plate, is a frosted glass disk. Steel tapes pass up through the stand and along the beam, connecting with the frosted disk and the perforated plate. It is easy by this means to note the exact point where the point of light reaches the frosted disk without any red or colored margin, and by revolving the lens on trial in the clamp any irregularity can be easily ascertained.

Dr. Landolt, of Paris, wished to know how the essayist would express in writing the power of the glass by his proposed method. In reply, Dr. Reynolds wrote the prescription for a supposed case on the black-board:

O. D.		O. S.	Bis C.
$+\frac{1}{20}$ c. 90°	⌒ $+\frac{1}{40}$ s.	$+\frac{1}{60}$ c. 75°	⌒ $+\frac{1}{60}$ s.	$2\frac{1}{2}''$

Mr. J. Richardson Cross, of Bristol, England, wanted to know the focal length of the unit of Dr. Reynolds'

system, and received the reply that it would be something less than an inch.

Dr. Landolt suggested that the radius of curvature, while most accurate as a unit of measurement, is not satisfactory, as with the same radius there may be differences in composition and differences in the refractive power. The manufacturers' lenses will tell you that the refracting index of lenses is a variable quantity, and no one can make lenses, even of the same material, that will always have an exactly similar refracting index.

Dr. Burnett, of Washington, D. C., thought we could not get along without a knowledge of the focal distance of the lens. His objections to the proposed change were that Dr. Reynolds' plan lacks simplicity, and that the present method seems to answer the purpose very well and is universally adopted, and that the change would be very difficult to make.

Mr. Cross thought that the proposed plan was based on scientific accuracy. But, as a reformer, the author must not expect to succeed until he can give us a medium which is as accurate as his quadrant. The speaker himself was perfectly content with the accuracy of the metre. Of course it is not quite accurate, but much more so than any other measurement we have. Then, all refraction deals with focal length. Our patients want to see at a certain distance. We fit them with glasses to see to a particular point. Again, contrast the simplicity of the metre with the complicated formula of Dr. Reynolds. It is as bad as going back to the inch-system.

Dr. Allen, of Pittsburg, Pa., was unwilling to return to the old system of numerals in refraction. We deal constantly with distance, and distance is measured on a straight line. He thought the adoption of the method would be a step backward.

Dr. Thompson, of Indianapolis, Ind., thought we could not always make scientific methods practicable. He was well enough satisfied to write in the metric system. There was no certainty in the composition of spectacle-lenses, even in pebbles, of which so much was talked about all over the country, and so few sold.

Dr. E. Jackson, of Philadelphia, Pa., then read a paper on

THE DESIGNATION OF PRISMS BY THE MINIMUM DEVIATION INSTEAD OF BY THE REFRACTION-ANGLE.

The object of the paper was to urge the advisability of extending the same principle to the numbering of prisms that now obtains in relation to lenses. The refracting power of the prism depends upon the substance of which it is composed, and upon the medium in which it is placed. The latter being air, it can be eliminated in practice. The same difference existing in the material of which prisms are made as in that of spherical and other lenses, it follows that prisms cut to the same angle may differ very much in the extent to which the ray is bent in passing through them. For instance, a prism marked 3° may have a refracting power of 1.51° or 2¼°, and yet be the correct one according to the prescription, by our present method of measurement. Among a number of prisms tested, only one set came within sixteen per cent. of the supposed standard. He proposed to take as the basis of measurement the minimum deviation, or the deflection of the ray when it passed through parallel in the prism to the base, or where the angles made with the surface on entering and leaving were the same. The change could be easily made without producing confusion with the present system by marking the number of the new system inside a circle, thus, (2).

Dr. Landolt, of Paris, expressed himself as much interested in the paper. It was exceedingly meritorious, logical, and practical, and he would regard it as an honor to carry out the proposal to support the idea. He moved that the Section take up and support the opinion expressed in the paper.

Dr. Reynolds seconded the motion.

Mr. Power, of London, England, moved that a committee be appointed by the Chair to take charge of the subject, and to report at the next Congress. Carried unanimously.

Dr. G. S. Norton, of New York, read a paper on the

RELATIVE IMPORTANCE OF SMALL DEGREES OF ASTIGMATISM AS A CAUSE OF HEADACHE AND ASTHENOPIA.

He related a number of cases which had occurred to him, where correction of astigmatism of only 0.25 D. caused relief to follow with remarkable rapidity. His conclusion was that 0.25 D. of astigmatism may, and not infrequently does, produce disturbance, which its correction relieves. It most commonly occurs in children and young girls that small degrees occasion disturbance and asthenopia. If the hyperopia is of high degree, it is better to try to correct the trouble with spherical glasses first.

Dr. F. B. Tiffany, of Kansas City, Mo., next read a paper, under the title of

AMETROPIA,

introducing a series of statistical tables based on examination of over two thousand school-children in Kansas City, including three races—white, red, and black. The object of each examination was to ascertain the condition of the eyes, nature of the affection, and endeavor, if possible, to remedy it. The examination took in hypermetropia, astigmatism, and spasm of accommodation, as well as myopia.

The matters of light and ventilation were so well arranged that they might be eliminated as factors in the result. It appeared as if the greater number of ametropes in proportion were in the higher classes, and it might be said that ametropes were more fond of study than emmetropes. Spasm of accommodation developed into myopia. If the eyes were examined each year and corrected carefully, the anomalies would gradually diminish. Hazel eyes are most affected by myopia; blue and gray stronger than hazel, brown, and black. Females have more myopia than males, and Indians are mostly emmetropic.

Dr. Burnett, of Washington, D. C., remarked that he suspected that in the prompt relief spoken of by Dr. Norton the astigmatism was between 0.25 D. and 0.5 D. He found that when one of these cases did so well with 0.25 D., that the total amount was somewhat greater.

Dr. Herbert, of Philadelphia, has been astonished to find how little annoyance is felt in high degrees of ametropia and astigmatism, and how much from slight degrees. He had had to not infrequently prescribe as low as 0.2 D.

Dr. Tilley, of Chicago, remarked on Dr. Tiffany's paper that every new-born child is hypermetropic. Myopia does not generally occur till six or seven years of age.

Dr. Young, of Iowa, remarked that the astigmatic glass determined under atropia was not always accepted. The ciliary muscle did not always readily change its compensatory contraction, and a cure by cylinders was sometimes worse than the disease.

Dr. Dickinson, of New York, related a case of reflex irritation, with nausea, etc., existing three years, which had been promptly relieved by correction of a very low-power cylinder.

Dr. Baldwin, of Montgomery, Ala., wished to state, as to the condition of the negro in regard to refractive troubles, that in over nine hundred cases he had only found an error of refraction in about eight per cent. This seems to bear out the old doctrine that civilization increases eye troubles.

Dr. Calhoun, of Atlanta, Ga., stated that it had been his experience that the negro had very little refractive trouble, and if they have not been to school, none whatever. He had known of but one near-sighted negro up to ten or fifteen years ago. Now myopia is becoming more frequent. They are subject to other eye troubles,

specific affections of the cornea and other parts, but they do not seem to be so serious as in the white, and get well very easily, with almost no treatment at all. Another thing, glaucoma is of extremely uncommon occurrence among them. He had only seen three cases among negroes.

Dr. Burnett, of Washington, D. C., could corroborate what Drs. Baldwin and Calhoun had said concerning the increase of myopia in the negro of late years, and desired also to call attention to the fact that the negro does not squint. He thought that glaucoma occurred in the negro, although, perhaps, not to the same extent.

Dr. Blitz, of Minneapolis, Minn., wished to add his testimony to what had already been said about refractive errors and squint in the negro. He finds disease more easily handled in the negro than in the white.

Dr. Galezowski, of Paris, said that in many cases asthenopia was caused by small degrees of astigmatism, but in many others this had not the effect. He instanced the case of a student, an American, who suffered great inconvenience when using his eyes. Professor Hirschberg, of Berlin, found a slight degree of astigmatism, and corrected it, which relieved the patient for two weeks, and then he became worse again. He came to Paris, and under Dr. Galezowski's notice, who suspected that it was not the ametropia that was causing the trouble. Examination disclosed tenderness over the supra-orbital notch, over the right eye, and all around the left eye. He suspected trouble with the teeth, and found one that had been plugged, but was not tender. He had the plug taken out, and found a small piece of rubber crowded up through the top of the tooth. The tooth was extracted, and the patient recovered. These cases are not infrequent. In other cases it may be a slight alteration in the lachrymal puncture. To test the matter, Dr. Galezowsky injects tepid water, and if it enters the nose badly, it is treated by daily injections and dilatation of the canal, not catheterization.

Dr. Reynolds, of Louisville, Ky., remarked upon the difficulty of having the patient wear glasses properly, especially in people who were not in the habit of wearing them. In some cases the distance between the eyes has to be so nicely adjusted that the patient must have a pair for distance a little wider apart, and a pair for near work closer together.

Dr. Gradle, of Chicago, found very few of his cases of asthenopia relieved by weak cylinders.

Dr. Leartus Connor, of Detroit, Mich., did not recollect that he had had occasion to use as little as 0.25 D.

The President referred to his own experience as corroborating the remarks of the previous speakers in relation to errors of refraction in the negro.

Dr. E. Smith, of Detroit, Mich., found a great amount of refractive error among negroes, and said that it was not uncommon for him to operate upon them for strabismus. It may not be so in the pure negro. In his section they are considerably mixed.

Dr. Erwin, of Ohio, stated that as oculist to the Pennsylvania Railroad Company he had found that about twenty-five per cent. of the men employed in the transportation service are astigmatic, and yet not more than twenty per cent. of those referred for special examination have astigmatism. None of the twenty per cent. complained of vision, except referred for spectacles, and only ten per cent. of those so referred required correction of astigmatism to relieve suffering.

Dr. Norton, in closing the discussion, said that he had not advanced the subject as anything new. He agreed with Professor Galezowski that many other causes might produce asthenopia and neuralgic symptoms. As to the exact determination of the amount of astigmatism, he used two sets of radiating lines, one coarser than the other, and when the patient was able to see all the lines in the finer diagram he was quite sure to be accurately corrected.

In rising to adjourn the Section The President, in a few well-chosen words, thanked the members for bearing with him and so cordially supporting his endeavors, and expressed the hope that it had been a season of pleasure and profit to all. There was no doubt about its having been a success.

Mr. Power, of London, England, moved a vote of thanks to the President for his agreeable way of conducting the meetings, and thanked the Section and the profession for the very pleasant time enjoyed.

Dr. Landolt, of Paris, France, wished to warmly support Mr. Power's motion. To the good help of their American brethren, as well as the untiring energy of the President, the success of the meeting was due.

Dr. Galezowski, of Paris, France, also expressed his pleasure and thanks in a few well-chosen words. The Section then adjourned *sine die*.

After adjournment Mr. J. Richardson Cross, of Bristol, England, gave a demonstration of the method of

RETINOSCOPY,

as used by him with Doyne's optometer.

N. J. Hepburn, M.D., New York.

SECTION IN DERMATOLOGY AND SYPHILOGRAPHY.

FRIDAY, SEPTEMBER 9TH—FIFTH DAY.

Dr. A. R. Robinson, of New York, read a paper on

ALOPECIA AREATA, WITH DEMONSTRATION OF DEEP-SEATED MICRO-ORGANISMS.

Believers in the parasitic origin of alopecia have advanced clinical facts to strengthen their theory, while those who believe in its neurotic origin, and they are in the majority, advance other clinical features to substantiate their views; thus the circular nature of the patches, their appearance shortly after injury of the tissues, nerve-shock, neuralgias, etc., and the occasional spontaneous regrowth of hair. On the other hand, the believers in a fungus or micro-organism refer to the well-known tendency of the disease to spread by contiguity of tissue, its occasional occurrence in members of the same family, etc. To prove either case it would be necessary, in the first instance, for the bacteriologists to make cultures, and by inoculation reproduce the disease. In the same way, those who claim a nerve-origin would be forced to show under the microscope changes in the nerve-tissue, or be able to produce a case of alopecia areata by causing an injury of a nerve supplying the scalp. The author carefully and exhaustively reviewed the literature bearing upon the subject of etiology in alopecia, and gave the observations of Ichorst, Thin, Von Lehlen, and others who have observed micro-organisms in this disease. He called especial attention to the manner of origin and spread of the disease, the absence of inflammatory symptoms, the complete falling out of the hair, etc. If the disease depends entirely upon an organism which is so difficult to find, we should not expect so rapid and sudden a falling of the hair. The complete falling of the hair at once is against this theory of a micro-organism, as some hairs would be likely to escape its ravages and remain scattered over the patch. Again, if so abundant as to cause this, they should have been long since easily detected. The fact of broken-off hairs free from the fungus at the seat of fracture, the manner of the fall of the hair, and the condition of these hairs do not permit of a fungus as a cause. Redness in the patch is an exceptional condition, and not to be suspected of being due to a parasite. The loosening and falling out of the hair have been attributed by Dr. Thin to growing organisms. The fibrillation of the hair is the result of atrophy and not of direct action. The hair-root is usually thin and pointed.

Von Schleu discovered organisms especially in the hair-follicles, and mostly in the hairs retaining their root-

sheaths after epilation. We learn, then, from many observers that micro-organisms are pretty constantly present. Cultures, however, fail. Similar organisms are found upon the normal scalp. Cultures when inoculated produce only slight inflammation. If the disease is parasitic parasiticides should cure it, while in fact they are not successful in controlling it. The disease is not contagious in the usual sense of the word. Experiments in inoculation are always negative, but too much stress must not be placed on this failure. The liability of the disease to disappear spontaneously interferes with the accurate observation of the effects of remedies. It may be that the failure of parasitic remedies is due to the disappearance of the organisms before the clinical aspects of the affection really appear, or very soon after the hair has fallen. He has found parasiticides of more benefit when employed early, and they are the most trustworthy means at our command at the present time. Dr. Robinson has been led to believe that the disease does not depend upon a micro-organism to be found upon the surface of the skin or in a hair-follicle, and has been led to look for the cause in deeper parts. To be sure, alopecia has been produced by injury, and neuralgia frequently precedes or accompanies it—but the observations are too few. A general alopecia from shock should have more importance attached to it. Still there are clinical points against the neurotic theory. The author then described the appearances presented by microscopic sections which he had made deep into the tissues, at various stages of the disease. Skin taken from the scalp, on which an alopecia had existed for one week, showed normal epidermis, signs of inflammation in the corium round-cell collection in the sub-papillary layer, cellular infiltration of round-cells blood-vessels dilated, and small arteries containing fibrinous coagulum. The lymph-channels in the corium were enormously dilated and contained also a fibrinous coagulum. The sebaceous and sweat-glands were not affected.

Some hair-shafts showed signs of splitting up and of malnutrition. There was a mild inflammatory condition of the sub-papillary corium, a falling out of the hair, which was replaced by lanugo. In this case the hair grew rapidly again. In a case which had lasted for six months, attributed by the patient to mental disturbances, the same changes were found, but greater ones in the papillary layer. The embryonic cell-collection was marked, and the coagulation distinct. In a case in which the alopecia had existed for several years, causing almost complete baldness, there was found atrophy of all the structures, excepting the vessel-walls. There was some atrophy of the fat-tissues, and only the remains of sebaceous glands were at times found. The hair-follicles showed signs of falling of the hair, there was atrophy of the papillæ, and inflammation, not particularly perifollicular. The inflammatory changes in these cases pointed to this as a direct cause of the loss of hair. In severe cases the secondary disappearance of the sebaceous glands occurs at times and the skin becomes thinner. There is a temporary narrowing of the blood-vessel lumen in all cases. The sudden falling of the hair would be explained by the thickening of the walls and coagula in the vessels supplying the affected area. The inflammatory changes leading to temporary or permanent baldness is a disease of the corium and not of the hair-structures. Alopecia areata is not a hair-disease at all. The author could not consider the disease a trophoneurosis. And the view that it was a vaso-motor disturbance of central origin was not to be entertained ; hence he looked for a local cause and found micro-organisms like those described by Von Lehlen. They were present in the lymph-spaces of the corium and sub-papillary layer, with some in the papillæ, and also deep down in the corium. They consisted of cocci in masses, colonies, and lines, and in rows in the lymph-spaces. Diplococci were frequently seen. In the case of one week's duration micrococci were very abundant.

The question arises : Are they accidental or causative ? A local agency is suggested : The spread of a patch ; the development of new ones. The manner of spreading is cleared up by considering micro-organisms causative when we remember how they travel in the lymph-channels, as in erysipelas. The slight or non-contagiousness is explained by their deep seat, as is also the frequent failure of parasitic remedies. Treatment must be by penetrating remedies, by internal ones. The soil must be rendered unfavorable by building up a run down subject, or the organisms must be killed directly. Remedies advised are sulphur, pyrogallol, mercury, chrysarobin, which latter is quite reliable. Croton-oil and remedies producing inflammation almost always control it.

In the discussion, Dr. Unna said that just as summer changes to winter and back again, so do the views upon the etiology of alopecia first favor the neurotic then the parasitic theory.

He himself might be said to hold both views. One must, however, have his mind directed to the possibility of a parasitic origin when one sees, as he has, a father and daughters in one family simultaneously affected. On the other hand, an alopecia following an injury to the scalp, as from a needle broken off in the tissues, rather favors the opposite view, and one must recognize a neurotic origin for cases of general alopecia following shock, etc. He could only offer his congratulations to Dr. Robinson on the scrupulous original work which he had done and the admirable manner in which he had presented the result of his investigations. The two theories rise side by side, each having points of strength and weakness. He thought it would be a long time before either became the recognized one for all cases of alopecia areata. To prove the parasitic theory, isolation, cultivation, and transmission were necessary.

Dr. Ravogli said he had found small corpuscles resembling micro organisms in the epidermis, around the hairs, and in the hair-follicles and hair-shaft. He related the case of a lady who complained of an itching in a circumscribed spot, shortly after which a spot of alopecia areata occurred at this point. He related the clinical histories of several other cases.

Dr. Knaggs related a case of general alopecia following a severe dental neuralgia. The perchloride of mercury, pilocarpine in large doses, the extraction of the teeth, were without avail. Faradism finally resulted in a cure. After this the patient had marked anæsthesia of the whole body, especially of the scalp. A strong current was necessary to make him feel the application. Afterward he suffered intense agony when the electricity was given, even in weak current.

In other cases he had used twenty per cent. oleate of mercury with benefit.

Dr. Zeisler agreed with Dr. Unna that it would take a long time to bring about a union of the two opinions regarding the cause of alopecia areata. We must admit the presence of micro-organisms when, as now, they are found after careful methods of staining, etc. Each one must form an opinion for himself, and this opinion is apt to be on the side to which the majority of his own cases appear to belong. He related two cases in which the neurotic origin appeared unmistakable. One was in a case of exophthalmic goitre (Basedow's disease) ; the other followed a stroke upon the head.

Dr. H. J. Reynolds said he had favored the neurotic origin, but we cannot question Dr. Robinson's observations. The cause seems to have been shown by him to reside in the deep skin, and the pathology established, but he is not convinced that a neurotic trouble may not give rise to the changes described. It is a question whether the organisms enter from without, or find their way to the locality of the patch from within the body.

He had never seen micro-organisms present. He suggested the use of a galvanic current to aid absorption of parasiticides. This he thought would show whether organisms were the cause of the disease if a cure was hastened.

Dr. Thin said it was evident that we now had a demonstration for the first time of micro-organisms in the deeper tissues of the skin in alopecia. He had come to the conclusion, many years ago, that a blooming fungus about the hair-roots was nothing more than epithelial structures. He had himself described micro-organisms in and around the hair-shafts. After his observations, however, for a time the theory of a trophoneurosis predominated.

Clinically, the patients are healthy and present no cause for attributing the condition to a micro-organism. Since then aniline dyes have come in and Von Sehlen has shown a micro-organism. He wished to refute the idea that micro-organisms are present in all hairs.

If the surface of the scalp be disinfected and the epilating forceps scrupulously clean, none will be found in health. In alopecia they exist in numbers proportionate to the distance from the centre of the patch, few being found at the edges.

He did not think cultivations and reproduction necessary before we could accept the theory. We cannot expect mathematical demonstration in these matters. We accept other organisms as causative. No one doubts the tricophyton, still he is not aware that anyone has succeeded in reproducing ringworm from cultures.

The organism shown resembles the one he saw both in form and size, and he thinks Von Sehlen's organism the same. It is not found in the broken hairs, and he thinks the staining and washing washes out many of the organisms. Examination before staining shows minute bodies which have more or less disappeared after washing.

More or less hairs are swollen and ruptured; why should they be unless a force is exerted from their interior?

Dr. Robinson's arguments appeal to gentlemen whose minds can accept micro-organisms for lupus, tuberculosis, lepra, etc. The theory is gradually gaining ground.

Dr. Robinson, in closing, said he was sorry more notice in the discussion had not been taken of the histological changes. Inoculation, if practised, would lead us wrong if a negative result was obtained.

Cases following injury might be explained by our knowledge of the inoculations in osteo-myelitis, the disease not showing itself until the bone has been injured. The existence of organisms in the lymph-spaces explains the disease to his mind, and he is as much convinced of that as he is that tinea versicolor is a parasitic disease.

SECTION IN LARYNGOLOGY.

Friday, September 9th—Fifth Day—Morning Session.

The session was a short one, and, on account of the absence of the authors, several papers were read by title. The only one read and discussed was upon

the action of the epiglottis in swallowing,

by Carmalt Jones, M.D., of London, England.

The old idea, and perhaps the one which is even now most prevalent, is that the epiglottis acts like a lid hinged to the base of the tongue, and by a simple backward movement covering the larynx and directing the food into the œsophagus. The author does not believe that it has any such simple action as that. There is always a slight regurgitation of food and liquids as they are grasped by the middle and inferior constrictors, which would be apt to lift up the epiglottis and pass beneath it. As a result of personal experiments, he finds that the epiglottis on irritation folds the sides together so as to grasp the upper part of the larynx. When this spasm occurs, one must wait until it relaxes before trying to pass a brush into the larynx, or it will glide over the epiglottis into the œsophagus. He thinks that the backward movement of the tongue in swallowing is, for the most part, theoretical. One can swallow well with the tongue held between the teeth or firmly grasped by the fingers. There is only a slight effort to draw it back. We swallow more through the action of the pharyngeal muscles. The larynx is raised toward the base of the tongue, and the constrictor muscles do much toward closing it. The epiglottis is drawn down by muscular action and moulds itself about the upper part of the larynx instead of acting like a simple lid.

Dr. O'Dwyer, of New York, said that in trying to lift the epiglottis for the introduction of the tube he has found that it is often folded about the larynx so firmly as to require a little force to pass the finger beneath its posterior border and lift it up.

Dr. William Porter, of St. Louis, mentioned a case where he had removed the greater part of the epiglottis, and the patient had but little difficulty in swallowing. He thinks that the epiglottis is only accessary, and that the sphincters have much to do in closing the larynx.

Dr. C. S. Allen, of New York, related the case of a syphilitic patient where the centre of the epiglottis had been destroyed down to its base. On irritation, the long, thin borders, which were left with muscular attachment intact, were closely approximated and formed a fair protection to the larynx.

General discussion followed as to the difference in action under irritation and when simply swallowing.

There being no other papers for the morning session, Dr. E. F. Ingals, of Chicago, explained, by aid of the blackboard, a very practicable method of obtaining an abundant supply of compressed air. He had a large kitchen-boiler placed in the basement and connected with the running water, which had a pressure of thirty or forty pounds. The water entering the bottom of the tank compressed the air in the upper part. As the air was used he would allow the water to run into the waste-pipes and air enter the tank from above, and then turn on the water-pressure again.

Dr. C. Slover Allen, of New York, presented to the Section

a new snare and écraseur.

The advantages demonstrated by using the instrument were shown. It can be used with one hand, even when the greatest power is applied, while the other hand is free for holding the speculum. It is made of steel throughout, so that there is no possibility of its breaking. The ends of the wire pass beneath a small excentric, and are quickly fastened or released by the simple movement of a lever. The angle of the instrument is such that no part of it or of the hand interferes with a clear view of the part operated on. The rings for middle and index fingers are attached to either end of a double lever, crossing the sliding frame and pivoted to it at the centre. The lever carries a ratchet-catch on either side, which fits into ratchet-teeth on the sides of the square rod or frame. The thumb-ring is at the end of this rod. When both finger-rings are pressed upon, the sliding frame is drawn down and held by the ratchets, and the wire loop suddenly contracted upon the tumor. The alternate movement of index and middle fingers causes the advance of the ratchet on one side while the other holds, and the wire being drawn down gives great leverage power that will cause it to cut through dense tissue.

Afternoon Session.

A very interesting paper was read on

the longitudinal tension of the vocal chords, its physiology, and its derangements,

by Dr. C. M. Desvernine, Havana, Cuba.

The paper was the result of a long series of experiments and dissections, showing the isolated action of each separate muscle, and the effect on the vocal chords where different groups acted as co-ordinate factors. It was thoroughly exhaustive in treating the subject, both

in experimenting on the cadaver and the action of the muscles in the normal larynx of a living subject. The paper showed hard work, and good, earnest investigation.

TREATMENT OF CHRONIC STENOSIS OF THE LARYNX AND TRACHEA BY INTUBATION.

Dr. J. O'Dwyer, of New York, first gave a short sketch of his earlier experiments, and passed around specimens of his tubes showing the gradual improvement from the crude round and oval short tubes first used to the perfected ones now used. Specimens were shown of the larynx of children of different ages, with the tube inserted. Two specimens were shown of a healthy larynx and diphtheritic one of same age, showing by sections through them at various points that the diminishing of the calibre was caused, not by the false membrane alone, but by a considerable amount of submucous thickening.

The objection had been made that the calibre of the tubes for children was too small, but it was easy to demonstrate that the calibre of the small tubes was larger in proportion to the size of the trachea than was that in the adult tubes. A complete set of the instruments were shown, and the method of introducing and removing the tubes was demonstrated.

The histories of a series of cases were read where subglottic stenosis was successfully treated after tracheotomy had failed. In the first case he was forced to begin with the smallest child's tube, and gradually increase the size until free breathing-space was produced—in eighteen days. The stenosis was the result of syphilitic contraction, and returned in three months; he used tubes for a month, and then resorted to occasional introduction for a few hours. He then taught her to introduce them herself. When worn for a very long time the metal tube may cause ulceration, which is not the case with rubber. He often found so much pain and irritation during the first few hours after introduction that he had to give a hypodermic of morphia in spite of the previous application of cocaine.

He treated a case where syphilitic ulcers had caused adhesion of the cords and complete closure of glottis. Tracheotomy had been performed. Dr. O'Dwyer forced a passage through with forceps and finger, and then used a tube, but was finally obliged to remove a portion of the cords. Cartilaginous support was absorbed and weakened to such an extent that he could not leave out the tube. The patient disappeared for ten months with the tube still in. When he removed it on her return, he found obstruction by granulation tissue. This was removed, and she has since dispensed with the tube. Some at first have great difficulty in swallowing while the tube is in the larynx, but soon learn how to do it with more comfort. Semi-solids are better than either solids or liquids.

In tracheal contraction and stenosis he would be inclined to open the trachea and lay in a tube with an enlarged portion or shoulder at each end, and then sew up the wound, leaving it there permanently. The trachea is far less sensitive than the larynx.

Dr. Browne, of London, spoke in the highest terms of the grand success that had attended the years of study and patient work of Dr. O'Dwyer, and said that he was commissioned to purchase a complete outfit for his hospital. He was surprised that tubes could be retained in so sensitive an organ.

Dr. O'Dwyer closed the discussion, and exhibited a laryngeal speculum and a snare for removal of membrane and small papillomata from below the vocal cords.

Dr. William Porter, of St. Louis, read a paper in which he narrated three cases of benign tumors of the pharynx. In the second part of the paper he presented a new treatment of cystic goitre by substituting for the usual iodine injection a piece of catgut steeped in iodine, withdrawing it after inflammation had been excited. The patient wore a compress and did not stop work.

Dr. Stockton had used injections of a few drops of pure carbolic with benefit.

The Section then adjourned, after a vote of thanks to its President and officers for its excellent management.

C. Glover Allen, M.D., New York.

SECTION IN DENTAL AND ORAL SURGERY.

Friday, September 9th—Fifth Day—Morning Session.

CLINICS

A very interesting clinic was given by Dr. A. R. Starr, of New York, in capping the exposed pulp of a tooth.

It is only of late years that any progress has been made in treating and protecting an exposed tooth pulp so as to preserve its vitality. The operation caused the patient very little pain, and all those who have had the opportunity to see it agreed that it was a success.

Dr. William J. Younger, of San Francisco, implanted a tooth. Great diversity of opinion was expressed as to the ultimate result of this method of supplying lost teeth.

Dr. R. B. Adair, of Gainesville, Ga., completed the treatment of a case of pyorrhœa alveolaris.

Thirty-two other gentlemen gave clinics on filling teeth and constructing artificial dentures.

Professor F. Busch, of Berlin, Germany, read a paper on

THE COMPARATIVE PATHOLOGY OF THE TEETH, WITH SPECIAL REFERENCE TO THE TUSK OF THE ELEPHANT.

A number of specimens were shown by the doctor to illustrate his paper. At its close he exhibited an instrument for removing the small birth-marks so often found on the face. The instruments have a circular cutting edge ranging in size from one-fourth to half an inch in diameter, and fit into the dental engine. The mode of operation consists in selecting a knife the size of the mark to be removed, placing it upon the spot, and quickly revolving it. It will take only a moment to accomplish this, and the operation is said to be almost painless. The only dressing the doctor applies is dry cotton, which he leaves in position for from six to eight days, at the end of which time the part is perfectly healed.

Discussion of the paper was taken part in by Drs. Wm. H. Atkinson, of New York, and W. C. Barrett, of Buffalo, N. Y.

Dr. E. Andrieu, Paris, France, read a paper on

THE SIXTH-YEAR MOLAR.

The essayist held that the sixth-year molar being in development, eruption, and structure an organ of transmission from the temporary to the permanent set, it should be extracted when the permanent teeth are in position. More room is gained by this procedure, and a longer period of usefulness insured to those remaining.

Dr. L. D. Sheperd, of Boston, Mass., expressed his regret that such sentiments should still be prevailing among the profession. He cited cases from practice where the extraction of these teeth caused not alone loss of valuable masticating surface, but actual irregularity of the ones remaining.

Dr. Paul Dubois, of Paris, France, stated that he wished the Section to note that the ideas expressed in the paper were not carried out by the dentists in France.

Professor Frank Abbott, of New York, could see no difference in structure between the sixth-year molar and the other permanent teeth under the microscope, but a very marked difference was apparent between that and the temporary teeth.

A paper by Dr. Th. David, of Paris, France, on "Aphthous Stomatitis," was read by title.

Dr. J. S. Marshall, of Chicago, Ill., read a paper on

OPERATION FOR THE CURE OF A PERSISTENT NEURALGIA OF BOTH TEMPORO-MAXILLARY ARTICULATIONS, AND REFLECTED PAIN IN THE RIGHT BRACHIAL PLEXUS.

History.—Patient, female, forty-two years of age, was operated on some eight years before for the removal of

an osteo-sarcoma of the right inferior maxilla. Extensive suppuration followed, and the wound did not heal for several months. Considerable cicatricial tissue was formed, and the jaw displaced to a considerable extent. Neuralgia dated from the healing of the wound, and the conclusion arrived at was that the irregular position of the jaw was the cause. An operation for the relief of this condition was performed, and the neuralgia ceased. The doctor described the steps of the operation at great length, but failed to show that it differed from methods generally employed

The following papers were read by title: "Articulation of Artificial Teeth," by Dr. H. L. Cruttenden, of Northfield, Minn.; "Power in Dentistry," by W. St. George Elliot, M.D., of London, England; "Porcelain Filling," by Dr. E. C. Moore, of Detroit, Mich.

Dr. Alton H. Thompson, of Topeka, Kan., read a paper entitled

DOES FUNCTION CONTROL THE EVOLUTION OF STRUCTURE?

Some time since, Dr. C. N. Pierce discussed a subject similar to that at the head of this paper. After noticing the mechanical forces involved in and influencing the evolution of the teeth, he says: "Those cumulative forces are utilized through heredity, and, while so potent in tooth-evolution, exert a similar influence in the development and modification of all other structures and organs. All departments of biology recognize the fact that heredity, adaptation, and growth, being of special importance in the evolution of the organic body, must therefore be regarded as especially formative functions. Adaptation to environment might be called the ancestor of function, as function is of organization. Illustrations of modification of structure in response to function are very numerous in which it is shown how an organ may be completely changed or a mere rudiment be fully developed by the demand for the performance of a function unknown before."

A century ago Lamarck laid down the following laws concerning the development of organic life, which we, with all our accumulated facts, can change but little. In his second law he said that, The production of a new organ in an animal body results from the supervention of a new want continuing to make itself felt, and a new movement which this want gives birth to and encourages. Third law: The development of organs and their force of action are constantly in ratio to the employment of those organs. Fourth law: All that has been acquired, laid down, or changed in the organization of the individual, in the course of this life, is commenced by generation and transmitted to new individuals which proceed from those which have undergone those changes. Altered wants lead to altered habits, which result in the formation of new organs, as well as in the modification and growth of those previously existing.

In our study of the subject we will confine our observations to that field in which we, as dental and oral specialists, are most interested—the teeth.

Everything is made for a purpose, and the purpose must precede the thing made for effecting the purpose. Nature plans her work as deliberately as man plans his actions. The means for accomplishing an end are not the cause of execution, but the effect. The organ is the effect, and function is the cause of structure. As food-selection is the cause of the function, so the function of the acquisition and preparation of food is thus the cause of the masticating apparatus.

If function is the cause and support of structure, if an organ develops or atrophies as it is used or disused, if the impulse of active employment dictates the evolution of parts and tissues in succeeding generations, if organs have been suppressed through disuse or remain in various forms as mere rudiments—their function having passed away—then, indeed, must the teeth of man be tending toward final and inevitable suppression.

If in the future of physical education there shall be found a place for education in the accomplishment of masticating food, then, indeed, may the teeth be improved and developed by exercise, as the muscles and lungs are improved and developed.

Owing to the time for adjournment having arrived, no discussion was had on this paper.

The President congratulated the members on the interest they had shown throughout the session, and hoped great good might come from this Congress, both to the profession and their patients.

A vote of thanks was offered to President L. S. Davis for the exertions he put forth in behalf of the dental section.

A vote of thanks was also offered to President J. Taft and the Executive Committee.

M. C. Gottschaldt, D.D.S., New York.

SECTION IN CLIMATOLOGY.

Friday, September 9th—Fifth Day.

The papers read in the Section were: "The Demographic Effects of introduced Diseases, and especially Leprosy, upon the Hawaiian Races," by Dr. George W. Woods, Surgeon, United States Navy; "The Native Treatment of Disease in Syria," by Professor Thomas W. Kay, Syrian Protestant College, Beirut, Syria; "Demographic Consideration of the Evils of Artificial Methods of preventing Fecundation and of Abortion in Modern Times," by Dr. Thomas M. Dolan, of Halifax, England.

The following is a summary of the paper by Dr. Woods:

Physically and mentally, the Hawaiians were considered superior to all other Polynesian races. They are described as tall, broad-chested, sinewy rather than muscular, with lively, expressive faces, noses slightly flat and often aquiline, mouth and lips large, splendid teeth, and with bodies tattooed. They are intelligent, energetic, kind, simple, and hospitable.

Civilization, represented principally by the Anglo-Saxon race, changed their ancient conditions and ways, and impressed upon this peculiar people their laws, religion, manners, customs, languages, government, opinions, and vices. Climate, soil, and general environment remained the same. Hence the altered conditions in their habits and implanted germs of disease must be looked to for an explanation of the astonishing demographic changes which a century has wrought in the Hawaiian race.

The first effect of the contact with civilization was the inoculation of the race with syphilis, which spread so rapidly that it is now often declared that the great majority of the adult population is contaminated. Then came epidemics of scarlatina, rubeola, pertussis, influenza, and variola, slaughtering thousands; and the native population, which a century ago had been estimated at four hundred thousand, was reduced to forty thousand in 1884. The extraordinary mortality has been attributed to cachectic conditions, venereal disease, poverty, bad food, licentious and vicious indulgences, including ava-drinking, opium-smoking, and excess in intoxicating liquors. Later, leprosy was introduced by the immigration of the Chinese. This disease was spread rapidly by the good-nature, social tastes, and hospitality of the natives; no fear of the disease, eating from the same dish, and passing the pipe or ava-cup from mouth to mouth; cohabiting with infected persons, and promiscuous and compulsory vaccination.

The first case of leprosy in a native was recognized in 1848. From the establishment of the leper asylum, on the island of Molokai, in 1865, to 1885, three thousand and seventy-six lepers were received, showing in a measure the great prevalence of this scourge. For the eradication of leprosy the following measures are recommended: Segregation of the infected, cremation of the dead bodies and, so far as possible, all discharges, morbid and fecal, as well as the clothing and bedding, and proper disinfection of the walls, floors, and utensils used by the living.

Geo. H. Rohé, M.D., Baltimore, Md.

SECTION IN GYNECOLOGY.

FRIDAY, SEPTEMBER 9TH—FIFTH DAY—MORNING SESSION.

DR. HENRY O. MARCY, of Boston, the President of the Section, read a paper on

THE HISTOLOGY AND SURGICAL TREATMENT OF UTERINE MYOMA.

The author presented an interesting array of microphotographs. He showed the multilocular growth, the capsule, the multilobular growth, and the parts at which they lie in juxtaposition; the histological relation of the growth to the uterus; the vascularization; the first injection they were able to make into a fibroid tumor; and discussed the bacilli discovered by Dr. Nelson, of Boston, which he termed bacillus Nelsonii. He showed a number of other cuts, and the specimen of a tumor which he had removed from a woman per vaginam, but which he would not attempt again, on account of its size; exhibited some instruments for the operation of removal of fibroid tumors, of his invention, and discussed the shoemaker's stitch.

Illustrations were thrown on the screen by Drs. Martin, Clark, Nelson, and Hewson.

DR. CALEB R. REED, of Middleport, O., read a paper on

INTER-UTERINE STEM PESSARIES,

in which he favored very much their use for promoting the flow of the menses in cases of local origin, and especially those where there was an ill-developed uterus. He thought that this instrument should come in the list of emmenagogues, and that it should not be condemned with the arrogance which generally accompanies its discussion.

DR. DANIEL T. NELSON, of Chicago, read a paper on

THE TREATMENT OF UTERINE MYOMA BY MEANS OF ERGOT.

The author had gone to much pains to gather statistics from the profession, and made a good argument for this mode of treatment.

A paper by DR. M. D. SPANTON, of Hanley, England, was read by DR. EDOES, of Manchester, England, on the subject of

CYSTITIS IN WOMAN.

Local conditions leading to cystitis in women, among which are enumerated diseased states of the uterine appendages, bands of adhesions dragging upon the bladder, and some of the affections causing obstruction to the passage of the urine, which are often obscure and trivial in themselves, are not infrequently overlooked.

DR. WILLIAM L. REID, of Glasgow, Scotland, read a paper on

THE REMOTE RESULTS OF SHORTENING THE ROUND LIGAMENTS.

He had performed the operation eighteen times. He gave the opinions of the authorities, mostly British, and which were mostly unfavorable to the operation. The discussion which followed this paper was also rather unfavorable to the operation.

AFTERNOON SESSION.

DR. J. H. KELLOGG, of Battle Creek, Mich., read a paper on

ALEXANDER'S OPERATION,

and reported twenty cases. He favored the operation.

DR. W. C. WADE, of Holly, Mich., read a paper on

DISPLACEMENTS OF THE UTERUS,

his paper consisting of thirty-nine terse statements about displacements.

DR. JOSEPH TABER JOHNSTON, of Washington, D. C., read a paper on

THE TREATMENT OF COMMENCING OR THREATENED PERITONITIS BY BRISK PURGATION.

PROFESSOR VULLIETT, of Geneva, Switzerland, had two papers, "Progressive Uterine Dilatation" and "The Buried Suture with Iodized Silk in Vesico-vaginal Fistula." They were read in English by PROFESSOR CORDES, of Geneva.

DR. ADDINELL HEWSON, of Philadelphia, Pa., read a paper on

ABDOMINAL SURGERY.

DR. E. H. TRENHOLME, of Montreal, Canada, read a paper on "Extirpation of the Uterus for Bleeding Myoma."

A number of papers were read by title and the Section adjourned. E. S. MCKEE, Cincinnati, O.

SECTION IN ANATOMY.

FRIDAY, SEPTEMBER 9TH—FIFTH DAY—MORNING SESSION.

DR. J. NEELY RHOADS, of Philadelphia, Pa., read a paper on

THE ANATOMY OF STRICTURE,

in which he reviewed the anatomy of the urethra, and, after comparing the male and female urethra, laid it down as a fact that the former was not a canal of uniform calibre, while the latter was. He also dwelt upon the great sensitiveness of the meatus in both sexes. After describing the different varieties of stricture, he exhibited a full set of his pocket bougies, as made by Snowden, of Philadelphia. This case contained ten 2¾-bulbs, a universal handle, and several different sound- and bougie-points, making a cheap, easily portable, and convenient case, equivalent, by varied combination, to twenty bougies. The principal advantage claimed by the author was that, the bulbous part being in the centre of the sound, the meatus was only dilated up to a certain point, and then the smaller handle prevented further pain, while the bulb, deeper in the urethra, was dilating the stricture.

DR. E. C. SPITZKA, of New York, then read a paper on

THE MESOCEPHALON OF THE TRUE REPTILE,

and one on

THE INTER-CRANIAL NERVE-TRACTS IN THE LIGHT OF ATROPHY-METHODS OF VON GUDDEN.

The observations related to two subjects which were somewhat connected. The first has the significance of the fact that the post-optic lobes varied so much in the animal scale as to have actually been overlooked in some reptiles and amphibia, and to be enormously overgrown in others. He believed to have found this in the relation of these bodies to the auditory nerves. Where these were large the post-optic lobes were large. This observation was confirmatory of the experiments of Baginsky and others.

In the discussion which followed, DR. FRANK BAKER, of Washington, D. C., asked Dr. Spitzka if he could trace the nerve-tract throughout its whole course. He remarked on the importance of the conclusions, and asked as to the course of the atrophied nerve-tracts. The metameric division of the brain and skull could not, he thought, in the present condition of our embryological knowledge, be clearly made out. There could be no doubt that the number of somites was large, and as the differentiation had been very great it was doubtful whether we could properly determine the segmental value of each

nerve. The auditory nerve was probably complex. In conclusion, he asked what Dr. Spitzka had observed as to the separate origin of the cochlear and vestibular branches.

Dr. Augustus C. Bernays, of St. Louis, Mo., in reply to Dr. Spitzka remarked that the sense of hearing was only a modification of the sense of touch, and that the auditory nerve was probably only a sensitive portion of the same spinal nerve of which the facial was the motor portion. He could not see how the nerve of hearing could become attached to the post-optic lobes. He thought that the theory of Dr. Spitzka could not readily be made to agree with this proposition.

Dr. Spitzka, in reply to Dr. Bernays, said that while recognizing the importance of the segmental theory, he did not think it advantageous to engraft biological cranial nerve-anatomy on physiological cranial nerve-anatomy. If the two sets of observations conflicted, he would sacrifice the former.

In answer to Dr. Baker he replied that the difference between the two divisions was recognized; the vestibular branch went to the cerebellum. His observation related only to the cochlear branch.

Dr. A. H. P. Leuf, of Philadelphia, Pa., then read a paper on

THE PROPER METHODS IN THE STUDY OF ANATOMY,

in which he enumerated the many defects in the present mode of teaching anatomy, and, confining his remarks principally to schools in this country, he denounced all schools, with few exceptions, in this respect as bad and unscientific. His list of defects is as follows: (1) The instruction is special as regards certain organs only. (2) It is too general as regards other organs. (3) It is neither the one nor the other as regards still other parts of the body. (4) In generally overlooking the relations of organs to one another in a way that would be very useful to remember. (5) Failure to prepare the student's mind with an incentive to acquire anatomical knowledge before it is imparted. (6) Too little of the philosophy or principles of anatomy, which, if properly taught, would make remembrance easier. (7) The failure to clearly show the connections of anatomy with the other branches of medicine. (8) The great want of good teachers.

To remedy these many defects, he thought it necessary: (1) To teach the special anatomy of *every* organ, distinct from all others. (2) To also give a general idea or outline of each organ. (3) To never fail to do this with every organ or part of the body. (4) To invariably show the true and exact relations of the parts to each other. (5) To always create in the mind of the student a desire for the knowledge to be acquired, by showing its necessity. (6) To show in a natural way, without much artificial mnemonics, how many anatomical principles there are which, if remembered, will do alike for all parts of the body. (7) Thorough instruction as to the relations of anatomical study to the other branches of medicine. (8) To have good teachers and men thoroughly acquainted with the subject.

In the discussion which resulted Dr. Augustus C. Bernays, of St. Louis, Mo., objected strongly to the use of mnemonics or any other artificial means of learning anatomy, and believed that it should be taught from an embryological stand-point alone.

Dr. Frank Baker, of Washington, D. C., was much opposed to the manner of teaching anatomy where only a collection of isolated facts were given. His definition of anatomy was, the science of structure.

Dr. E. C. Spitzka, of New York City, spoke in strong terms against the pernicious methods of teaching anatomy, and thought we should try to raise the standards of our study of anatomy to a level with those in Europe.

Dr. F. W. Langdon, of Cincinnati, O., then read by title a paper on "The Didactic Teaching of Human Anatomy."

AFTERNOON SESSION.

The afternoon session was of short duration, and much time was spent by Drs. F. C. Schaefer, Joseph N. Dickson, and others in discussing the subject of

SKIN-GRAFTING.

The President, Dr. William H. Pancoast, of Philadelphia, Pa., gave a very clear and simple demonstration of the peritoneum and its position in relation to the abdominal organs, by means of different-sized sponges and mosquito-netting. This demonstration is of great assistance in making clear to students the manner in which the peritoneum, a closed sac, surrounds the abdominal viscera. He also stated his theory as to the development of the peritoneum.

After passing a vote of thanks on the part of the Section to the able and efficient President of the Section, Dr. William H. Pancoast, of Philadelphia, for his untiring zeal and interest in the work, the Section adjourned *sine die*. William B. Canfield, Baltimore, Md.

GENERAL MEETING.

SATURDAY, SEPTEMBER 10TH—SIXTH DAY—FINAL SESSION.

The Congress was called to order by The President at 9.30 A.M.

The Secretary-General reported resolutions from the Section in Climatology, concerning the establishing of a bureau of vital statistics; from the Section in Military and Naval Surgery and Medicine, with regard to the prohibition of the use of explosive balls in warfare; and from the Section in Public and International Hygiene, with reference to the necessity of teaching hygiene in the public schools.

Dr. Graily Hewitt, of London, on the part of the foreign members, and after making a few preliminary remarks, in which he conveyed their grateful thanks for the attention which the Congress had received and their high appreciation of the success which had attended its work, offered the following resolution:

Resolved, On the part of the foreign visitors and officers of the Congress, that we desire to convey to the President of the United States our best thanks for his presence at the ceremony of the inauguration of this Congress; that we desire to express to the Executive Committee of the Congress, particularly to Dr. Henry H. Smith, Dr. John B. Hamilton, Dr. A. Y. P. Garnett, Dr. Toner, and Dr. Arnold, our very high appreciation of the efforts they have made for the efficient organization, action, and working of the Congress, which have resulted in so great a success, and that we would convey our warmest thanks to the citizens of Washington for the kind hospitality, both public and private, we have received during our pleasant visit to their beautiful city.

Dr. Martin, of Berlin, spoke in German, and expressed his thanks for the kindness that had been manifested to him and to the other foreign members of the Congress. He had come here with some doubt, but that had been all removed, and its great success would secure for it high rank among the Medical Congresses which had been held.

Dr. E. Landolt, of Paris, France, spoke in French, and said that he had been commissioned to express to the President of the United States their sentiments of profound gratitude. The sanction given by President Cleveland to their Congress had given the greatest charm to their stay in that capital. Returning to their hearths they would preserve the most grateful and respectful remembrance of the President of the Republic, and would say to the whole world that the United States, already so favored, possesses, above everything, a chief who directs them surely in the way of progress and prosperity.

Mr. Edmund Owen, of London, England, seconded the resolution presented by Mr. Hewitt, in a neat speech, which was received with ringing applause. When the history of this grand country is written we trust President Cleveland will have a niche in the temple of fame side by side with those great men, Lincoln and Garfield. When you are in our country we love to hear you say, "We admire your Queen." We can say to you with all truth, we admire, we love your Queen, for her beauty and grace, and in seconding this vote of thanks we simply express a prayer that Mr. President Cleveland and Mrs. Cleveland may long continue in strength and health to preside over a happy, a prosperous, and united country.

The Secretary-General, Dr. John B. Hamilton, made a glowing speech, in which he returned his warmest thanks, especially to the foreign members, who had contributed by their presence, their writings, and their kind words to the success of the Congress.

The President of the Congress, Dr. N. S. Davis, in the name of the medical profession of the United States, thanked the foreign members for their sympathy and their assistance in the work of the Congress, in which representatives from every State in the Union had been present to greet them, and then declared the Ninth International Medical Congress adjourned.

SECTION IN THERAPEUTICS.

Thursday, September 8th—Fourth Day.

A paper on

THE CHEMISTRY AND PHARMACOLOGY OF THE NITRITES AND OF NITRO-GLYCERINE,

by George Armstrong Atkinson, M.B.C.M., was presented, and in the absence of the author was read by Dr. Ralph Stockman, of Edinburgh.

The action of the salts of nitrous acid resembles closely those of the acid which is the essential basis of this group of medicinal agents. Nitrous acid is remarkably unstable; in watery solution of $\frac{1}{3000}$ it may be used for a day or two for experimentation, but it has no advantage over a solution of nitrite of sodium, which possesses identical effects in so far as an acid can be considered identical with one of its salts. Our knowledge of the action of the nitrite group has been chiefly derived from a study of the effects produced by nitrite of amyl. Since here the base (amyl) has a decided action of its own, it is necessary to select a salt in which the base in its combination possesses no well-marked physiological activity. The resemblance between the action of sodium nitrite and amyl nitrite has been pointed out by Gamgee, Lauder Brunton, Hay, Leech, and others. Barth described its highly poisonous qualities. Binz showed that it caused death from general paralysis, especially of the muscular system, no convulsions preceding the fatal issue. Reichert considered it identical in its toxic effects with potassium nitrite. Its effects may be summed up as a paralyzer of muscular tissue, non-striated muscle being affected less quickly than striated. The brain-centres are also affected. The blood becomes of a chocolate color in mammals (methæmoglobin), respirations are slowed, and temperature slightly lowered. Death occurs in frogs from cessation of respiration; after the heart has stopped its movements it is found in full diastole and quite inexcitable.

Post-mortem rigidity comes on early. In rabbits, three grains were a fatal dose in one three pounds in weight. The same appearances were found post mortem. In man, small doses (eight grains) produced great tendency to faintness and considerable acceleration of pulse, with decided lowering of arterial tension. Paralysis of respiration is due to the effect of the nitrite on the muscular system chiefly, but also in part to the effect on the medullary centre. Small doses slightly increase the flow of urine; large always diminish it. Urea and uric acid are almost unaffected. Sugar appears in the urine of rabbits after some hours, if the animal be kept very decidedly under the influence of the drug; but rapidly disappears if the administration of the drug be stopped. The nitrite is largely destroyed in the system, being partly, however, excreted as nitrate, partly, probably, as urea; a portion of it is excreted as nitrite.

The pharmacology of the other nitrite is briefly dismissed. Nitrite of potassium, nitrite of ethyl, nitrite of amyl act in very similar manner to the sodium salt. Nitro-glycerine acts partly as a nitrite, and partly *per se*. In small doses it exerts the nitrite effect as a paralyzer; in large doses it produces convulsions.

Dr. Murrell, of London, England, referred to his discovery of the usefulness of nitrite of amyl in the condition of angina pectoris, and he always advised patients to carry the medicine in a small bottle. The pearls he considered too expensive for use. The tabellæ (Ch. B.) of nitro-glycerine, made with chocolate, he considered dangerous, from their resemblance to confections. He has used nitro-glycerine in one per cent. solution (dose ℥ v.–xv.) in cases of neuralgia of the fifth nerve, surgical shock, asthma (spasmodic and cardiac), and reflex neuroses. He preferred this in epilepsy to the nitrite of sodium, which had been recommended by Dr. Law. In angina, patients can take fifteen minims when they feel the attack coming on; such patients should carry a small bottle with them for immediate use when they feel the attack coming on, otherwise they might perish before the agent could be obtained. He gave an amusing instance of the difficulty of obtaining nitro-glycerine in England at present.

Dr. Upshur, of Richmond, Va., reported a case in which the inhalation of nitrite of amyl, in a patient suffering with heart-failure and puerperal septicæmia, undoubtedly saved life by cautiously continuing the remedy, whenever there was failure of the pulse, for about forty-eight hours, when it was withdrawn and diffusible stimulants substituted.

Dr. Wade, of Holly, Mich., prefers a ten per cent. alcoholic solution of the amyl nitrite, which he uses by inhalation. He regards it as the best form of cardiac stimulant in sudden emergencies.

Dr. Phillips, of London, England, had experienced headache, dizziness, and faintness after taking five minims of a one per cent solution of nitro-glycerine hypodermatically. He had found the tabellæ (each ℥j. of a one per cent. solution) useful in angina pectoris. Patients usually will not tolerate more than three or four of these, but some will require twenty-five or thirty. The effect of sodium nitrite is more prolonged than for the ethereal nitrites, and for this reason he prefers to give it in dyspnœa attending bronchitis.

Dr. Brackett, of Washington, D. C., reported a case of successful treatment of an epileptic by the use of amyl nitrite by inhalation.

Dr. Wade, of Holly, Mich., recommended nitro-glycerine in cases of threatened local asphyxia of brain from embolism or thrombosis; he had had good results.

Dr. Phillips, in answer to a question, said that he would regard fifteen minims of solution of nitro-glycerine, hypodermatically given, as a dangerous dose.

Dr. Murrell thought that there was no advantage to be derived from its hypodermic use, since it acts so quickly when swallowed.

The next paper was read in German,

ON THE POISON OF THE COBRA,

by Dr. Julius Gnezda, of Berlin. The substance from which the experiments were made was brought from India by Dr. Robert Koch. It was obtained by making the cobras strike some shells covered with sheepskin. The poison was afterward dried. It is soluble in water, but not in alcohol or ether; its activity is lost by boiling. It is uniformly poisonous to higher animals. The European hedgehog and the ordinary swine of this country

are popularly believed to enjoy an immunity, but this is explained by mechanical obstacles to absorption in these cases. The poison is contained in an albuminous fluid, but its chemical construction is not as yet settled. It is poisonous when applied to mucous surfaces, without causing blisters.

The effect is very marked when the poison is injected into the circulation. The blood-pressure is at first increased, the blood-corpuscles are changed in their shape, and the spectrum of the blood is characteristic. It was found that death did not occur at once, but after about half an hour, and as the result of failure of respiration, so that the Indian Government was induced to recommend artificial respiration in such cases. At present, no antidote is generally accepted. Since it is not known whether the poison is an alkaloid, a ptomaine, or other body, such a question is at present only a speculation. As it is secreted by salivary glands, it is probably an albuminous body. Permanganate of potash has not been found an efficient antidote.

Dr. Phillips, of London, regarded the paper as an interesting contribution to our knowledge of the characteristics of snake-poison.

Dr. Lewin, of Berlin, could not harmonize the report made of the spectroscopic appearance with the usual characters of the blood-spectrum. The appearance was peculiar, and needed further investigation. With regard to the antidote, it may be acknowledged that there can be no general antidote to counteract the poison after it gets into the system; but if the remedy can be injected *locally* into the wounds, then potassium permanganate and a number of agents having a caustic effect may neutralize or destroy it.

Dr. Woodbury said that in regard to the nature of the poison, Drs. Mitchell and Reichert, of Philadelphia, had conducted a series of experiments which seemed to establish the fact that the snake-poison is not a single substance, but is probably composed of two, one of which is of the nature of a peptone. In the "Life of Francis Buckland," the English naturalist, the incident is given of Mr. Buckland having been inoculated with a very minute portion of the virus, accidentally, under his finger-nail. He shortly afterward suffered with intense pain at the back of his head, faintness, and collapse, from which he recovered with difficulty after taking large doses of ammonia and brandy. He attributed his recovery to the antidotal effects of these agents. We may conclude that when a minute amount has been absorbed ammonia and alcohol are antidotal, but where any considerable amount is received into the circulation the case is hopeless.

Dr. Traill Green said that he had made some experiments with snake-poison, and had been surprised by the quickness of the effects on a rat which had been bitten over the jugular vein. Death was instantaneous where the poison entered the blood directly.

Dr. L. Lewin, of Berlin, read a paper

ON THE MAXIMAL DOSES OF DRUGS.

Of the many difficulties which pharmacotherapy has to strive against, the dosage of medicine is by no means the least. Variation in dose arises (1) from the differences (*a*) between one person and another; (*b*) between single individuals at different times; (*c*) between the intensity of the disease in men suffering with the same affection; (*d*) between diseases in which the same drug is used. (2) From the variability in the activity of the greater part of our remedies.

At the same time it is possible and desirable to establish the usual dose of agents which are active in relatively small quantity, and which readily produce toxic effects when the dose is increased. Two groups of preparations fall under this head: (1) Plants (crude) and plant-products, and their pharmaceutical representatives; and (2) chemical substances such as metalloids, metallic salts, and carbon-compounds.

The first group is almost universally inconstant in its effects, and thus far an international agreement as to their maximal doses has not been possible. The remedies of the second group, on the contrary, are nearly uniform, and the doses beyond which they cannot be given without danger can be determined by physiological experiment; but although the basis for such agreement is tolerably broad, yet the statements given in different pharmacopœias in many cases vary greatly. Such variation can be easily explained in the case of the first group, but becomes incomprehensible in the second.

From the results of his own observation and a comparison of the most of the pharmacopœias which give maximal doses, the author had constructed a table of the ordinary maximal doses of many of the drugs belonging to the second group, which he appended to this communication. Such a list should be added to the pharmacopœias of such countries as have no maximal dosage, for the convenience of the practitioner, who thus would be enabled to prescribe such drugs with confidence even if they should not be generally used in his own country. From this Congress he hoped the influence would go out which would make such an international agreement possible.

Dr. F. Woodbury instanced the varying effect from chloral hydrate, which is sometimes taken safely in large doses, and at other times it proves rapidly fatal, even in doses of ten grains. He inquired if this effect could be due to the coincidence of digestion and the change of the chloral into chloroform by the alkaline bile, as Liebig believed.

Dr. Stockman said that the amount of chloroform liberated from ten or fifteen grains of chloral hydrate would be so small as to be trifling. He thought that it was not decomposed, but that it acted as chloral hydrate. A good deal of dissatisfaction has been felt with chloral on account of its depressing action, and other agents, such as hypnone and urethan, have lately been introduced to take its place.

Dr. H. G. Beyer, U.S.N., said that Mayer had explained the action of chloral hydrate as that of trichloracetic acid; and, in fact, all other halogen derivatives of organic compounds produce their effects by the chlorine which they contain, which is said to be set free whenever these compounds are brought into an acid medium. For instance, the cells of the cerebrum are supposed to react slightly acid during intellectual activity, but when trichloracetate of sodium is injected into the blood, the chemical compound is decomposed, chlorine is set free, and sleep produced, or intellectual torpor, in the same manner as this is done by chlorine hydrate.

Dr. John N. Upshur, of Richmond, Va., read a paper entitled

THE EMMENAGOGUE ACTION OF THE MANGANESE PREPARATIONS.

The usefulness of potassium permanganate when used as a deodorizer and disinfectant is based upon its readiness to part with its oxygen. Its mode of action is not clear, but in small doses internally it acts like iron, improves the general nutrition, and causes an increased and easier flow of blood at the menstrual period. The permanganate of potassium and the oxide of manganese are both used, the latter being more acceptable to the stomach than the former. It is given in gelatine-coated pills (gr. j. to ij. after meals), and to get its full effect it must be given before three successive periods. In amenorrhœa, due to an impoverished and cachectic condition of the blood, oxide of manganese, given in combination with some form of iron, will undoubtedly prove of benefit. It is also useful where the condition is due to defective nervous or vascular supply, when pain is present due to functional disorder; also when *no* obstruction exists, but the endometrium is in a state of chronic congestion, or is affected by inflammation due to obstruction which has been removed; in all cases of vicarious menstruation; in

amenorrhœa of plethora and obesity; *in fine, when the menstrual derangement is due to functional and not mechanical or obstructive cause.* Especially had he found it advantageous in membranous dysmenorrhœa. An interesting case was reported in illustration of the latter class.

Dr. DeWitt Clinton Wade, of Holly, Mich., read a brief communication on a

FORMULA FOR OFFICINAL DILUTE HYDROBROMIC ACID (U. S. P.).

In 1874 he had first made the acid by the reaction of tartaric acid upon potassium bromide; and in 1875 had published a paper recommending its use in therapeutics. It was made officinal in the last revision of the United States Pharmacopœia, but the product is very variable by the official process. He recommends the following for making a standard ten per cent.

SOLUTION OF HYDROBROMIC ACID.

Bromide of potassium, four (*Avoir.*) ounces; tartaric acid, five (*Avoir.*) ounces; water, seven (fluid) ounces. Dissolve the salt in the water and add the acid. When thoroughly mixed set aside in the cold for the precipitation of the acid tartrate of potassium. Decant the supernatant fluid and dilute with sixteen fluid ounces of water. The result is a ten per cent. solution, by weight, of hydrobromic acid.

FRIDAY, SEPTEMBER 9TH—FIFTH DAY.

The following papers were read by title: "On Collinsonia Canadensis," by John V. Shoemaker, A.M., M.D., of Philadelphia; "On Cold as a Remedy in Inflammatory Affections," by Hiram Corson, M.D., of Conshohocken, Pa.; "The Therapeutics of Alcohol in Disease," by E. N. Liell, M.D., of New York City.

Dr. Justus Anndeer, of Munich, read a paper on

RESORCIN AND ITS PREPARATIONS.

In this paper the author briefly gave the result of ten years' experience with pure resorcin. He had found it non-toxic, antiseptic, and possessing many advantages over carbolic acid, being free from odor and non-corrosive to the skin. He had obtained excellent results from it in eczema, in keloid and in parasitic skin-diseases, as well as diseases of mucous membranes. In the form of keratine-coated pills, it can be given for bronchitis, or in combination with castor-oil (one to two per cent.) for diarrhœa and dysentery. For local use it may be combined with cacao-butter as a salve, or it may be made up into a soap of varying strength, from one per cent. up. Failure to obtain satisfactory results from its use may arise from not using a chemically pure resorcin, or from giving it in insufficient doses.

Dr. Lewin said that all are familiar with the writings of the lecturer upon the subject of resorcin. He thought that by devoting exclusive attention to this one member of a group the others might be in danger of having their value slighted. What is the value of thymol? What does resorcin accomplish more than phenol, carbolic acid, and others of this class? He questioned the statement that resorcin is not toxic, since it can in large doses present a condition of cerebral confusion and excitement which closely resembles mania.

Dr. Anndeer replied that the agent was an efficient antiseptic, tasteless, odorless, and in ordinary doses free from toxic effects. He considered it a valuable addition to our therapeutic resources, and superior to phenol and thymol in many respects.

Dr. William Ward, of Washington, presented a paper on

VICARIOUS RESPIRATION SUPERINDUCED IN CERTAIN DISEASES BY ADMINISTRATION OF OXYGEN-YIELDING COMPOUNDS THROUGH THE ALIMENTARY TRACT.

This paper was not finished when the hour of adjournment arrived. The Council of the Section met and passed a vote of thanks to Dr. Traill Green for his ability and affability as President of the Section and for his labors in behalf of the Congress, to the success of which he had so largely contributed.

Frank Woodbury, M.D., Philadelphia.

Progress of Medical Science.

Melanotic Tumors.—Dr. Dieterich has published a statistical comparison of 145 cases of melanotic growth, 114 of which were operated on. Seventy-four of the patients were males, 59 females. In 12 cases the sex is not stated. The age varied very much, as is shown in the following table:

From 0 to 10 years	5
" 11 to 20 "	2
" 21 to 30 "	15
" 31 to 40 "	20
" 41 to 50 "	20
" 51 to 60 "	29
" 61 to 70 "	23
" 71 to 80 "	2
Of unknown age	20

The youngest patient was aged six months, the oldest seventy-five years and nine months. Thus, though no time of life is free of the disease, yet mature age is most exposed to its attacks. As regards etiology, in 37 cases the disease took its beginning from a mole or a wart; in 1 case it was caused by a blister, which produced moist eczema. The growth was on the head in 28 cases, in the neck in 11, on the trunk in 41, on the extremities in 48; in 1 case the site of the disease is not specified. The average duration of the disease to the time of operation was two years and a half; the shortest being a month and the longest twenty years. Of 33 cases operated on there was no record. Of the remaining 81, 53 died; 15 were still living, but the disease had recurred; only 13 remained quite well. The date of recurrence varied from two days to fifteen months. Of these 13 cases 8 were still doubtful, because fifteen months had not yet elapsed since the operation, and recurrence was still to be feared. Thus the number of established cures was reduced to 5. It was proved, however, that operation might produce lasting benefit, one patient having been free from recurrence for twelve years. In cases not subjected to operation, the duration of the disease from the beginning until the death of the patient was, on the average, fifteen months, while in cases that were operated on the corresponding interval was thirty-three months. It would, however, be a mistake to conclude from this that operation prolonged life to that extent, as the cases in which an operation was impossible or inadvisable were, as might be supposed, more severe in themselves, or presented special features of difficulty owing to the disease being situated in important organs, such as the liver. On the whole, operation was advisable, as it offered the only chance, infinitesimal though it was, of saving life.—*Archiv für Klinische Medicin.*

Injections of Carbolized Water in Diarrhœa.—Dr. Illingworth, writing in the *Provincial Medical Journal*, August 1, 1887, says that he has used injections of carbolized water with great success in diarrhœa. He gives one ounce of the one in twenty carbolic lotion, and directs that it shall be added to a teacupful of warm water, to be used as an injection, and retained. The effect is marvellous. He has never yet had to repeat the injection, although he has used it in scores of cases during a recent epidemic of choleraic diarrhœa. The addition of minim or two-minim doses of carbolic acid, to ordinary diarrhœa mixtures, is also of great service in effecting rapid cures of this very prevalent complaint.

Professor Virchow has arranged to accompany Dr. Schliemann on his visit to Egypt next spring.

THE MEDICAL RECORD:

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THE DISEASES OF THE CEREBRAL ARTERIES.

EVERY large and important organ of the body has a distribution and arrangement of blood-vessels peculiarly adapted to itself. The circulation of the blood in the cranial cavity is especially unique. The four supply vessels—the internal carotids and vertebrals—are so arranged that blood is conveyed in larger amount, and more directly, to the left side. The carotids have a diameter of four millimetres, the vertebrals of three and one-half. The arrangement of the basilar vessels in the form of the circle of Willis, the high importance of the middle cerebral branch as a nutrient channel to motor centres, the absence of anastomoses in the small branches of the pial vessels that pierce the cortex, the arrangement of capillaries and lymphatics, form the chief features of the intra-cranial circulation. Under normal mechanical relations the cerebral arteries are believed by some not to pulsate. They change their calibre, however, and that continually, under various influences. The arterial pressure in the carotids is about one hundred and fifty millimetres, in the brain sinuses seventy to eighty millimetres. The pressure in the veins of the neck is almost negative, hence the force tending to empty the cerebral veins is very great. The cerebro-spinal fluid fills up any intracranial space left by the brain and its vessels. When the brain shrinks, as in old age, this fluid amounts to half a pint, but ordinarily there are not more than two ounces.

The blood-vessels are subject to four principal forms of disease—aneurism, rupture, embolism, and thrombosis. But as ruptures and thrombosis are often due to aneurisms, and as emboli sometimes cause aneurisms, these four pathological changes are not in reality so very distinct.

With reference to the etiology and diagnosis of their conditions, modern research has brought out some interesting facts. Professor Gerhardt believes that not only aneurisms, but other forms of arterial and brain disease, are much more often caused by traumatisms than is generally believed. Among 131 cases collected by Killian only 8 were put down as due to traumatism, a proportion which Gerhardt thinks too low.

The great majority of aneurisms are due to endarteritis. This endarteritis is itself due to excessive mental and emotional strain, and the use of alcohol, combined with the degenerative changes of old age. Among 136 cases of cerebral aneurisms in Gerhardt's clinic (*Berlin. Klin. Wochensch.*, May 2, 1887), 42 occurred between the ages of fifty and sixty ; 94 between forty and eighty.

Cerebral aneurisms may occur, however, in children, and then without a preceding endarteritis. In these cases Ogle and Ponfick have shown that the aneurisms are due to embolism—an important pathological fact. Syphilitic disease of the arteries may cause aneurism also. In twelve per cent. of Heubner's cases of syphilis of the cerebral vessels aneurisms were found. These aneurisms are usually on the basilar or vertebral arteries, and account for some of the peculiar bulbar symptoms in brain syphilis. Brain aneurisms most frequently affect the basilar artery, next the artery of the Sylvian fissure, and then the internal carotid. Aneurism of the vertebrals is not excessively rare, and causes symptoms somewhat resembling bulbar paralysis.

Emboli lodge on the left side oftener than the right, in the proportion of two to six. The preference of the left side exists not only for the carotid and middle cerebral, but also for the vertebral, arteries. Emboli lodge in the vertebral because at its entrance to the basilar there is a slight constriction, so that the calibre is diminished one-fifth. Hence we have emboli in the vertebrals, but only thrombi in the basilar. This narrowing is greater in the left than the right artery.

Among 300 sufferers from valvular heart disease Spuling found that embolism had occurred in 84, and cerebral embolism in 15 of them. It may be laid down as a rule, then, that five per cent. of persons with valvular lesion of the heart have brain embolism. The majority of these occur on the left side, and usually enter the artery of the Sylvian fissure. Two-thirds of the cases of embolism occur in women, while hemorrhage affects men to a greater extent. The preference of embolism for women is due to post-partum accidents, and, contrary to Gerhardt's statement, the fact cannot be used as a helpful one in diagnosis. Loss of consciousness is the rule in apoplexy, but is present in only one-third of the cases of embolism. In this latter condition the absence of premonitory symptoms, the presence of aphasia, and the milder type of paralysis point to embolism.

Cerebral hemorrhages can be produced by a very great variety of diseases, *e.g.*, scurvy, leukæmia, chlorosis, pernicious anæmia, morbus Brightii, and pertussis. Occurring in these diseases the vessel rupture is due to the combined influence of a diseased and weakened vessel-wall and increased blood pressure. In such conditions one does not expect to find miliary aneurisms, which are so common in cerebral hemorrhage occurring under other conditions.

That it is small aneurisms (0.2 to 1.0 millimetre in diameter) which, by rupturing, are the direct cause of cerebral hemorrhage in most cases, is generally admitted. These aneurisms are found with decreasing frequency in the thalamus, corpora striata, cerebellum, centrum ovale, cerebral peduncles, and medulla. They are produced by an endarteritis. Other diseases, however, may weaken the vessel-wall and lead to its rupture. Prominent among these is syphilis, which was a certain factor in twenty per cent. of sixty-three cases examined by Gerhardt.

Thrombosis comes from exhausting or septic diseases,

and from thickening and stenosis of the arterial walls, such as occurs in syphilis and tubercular disease. Thrombosis plays an especially important rôle in brain syphilis and in senile alcoholic cases in which the arteries are thickened and atheromatous and the heart feeble.

THE SYMPATHETIC NERVOUS SYSTEM.

Not many years ago it was orthodox teaching to describe the nervous apparatus of the body as consisting of two great systems, the cerebro-spinal and the sympathetic. The former was said, in general terms, to preside over the functions of *animal* life; while the latter concerned more definitely the vegetative functions—that is, nutrition in its broadest sense. It was, of course, taught that these two systems acted harmoniously, one being voluntary, and the other involuntary.

More careful anatomical and physiological investigations have given us a somewhat different view. We now regard the sympathetic system, so called, as but a division of the cerebro-spinal, and not entitled to the position of a separate standing. This aspect of the case has been elaborated by Dr. Gaskell, in a recent course of lectures before the Royal Institution in London. He claims that no new nerve-fibres arise in the so-called sympathetic ganglia. The fibres destined to them from the cord come from the inner portion of the posterior horns, and inner portion of the gray matter. They are, of course, medullated; but in passing through the ganglia they lose their medullary sheaths and divide into smaller strands. The outer portion of the posterior horns and the outer portion of gray matter in the cord are more intimately concerned with the voluntary muscles. The intimate relations of these two central areas, which are really but divisions of one, give a corresponding association of symptoms in both voluntary and involuntary muscles. Hence the association of visceral pains in connection with spinal lesions.

The more physiological research is carried on, the more intimately is the nervous system seen to be connected with many vital processes, which have hitherto seemed to localize themselves in single organs or groups of organs. A great field may lie open for internal localization, corresponding or analogous to the cerebral surface areas.

VACCINATION AGAINST TYPHOID FEVER.

It is not at all beyond the bounds of probability that medical science will yet discover a safe "vaccine" against typhoid fever. Already some progress has been made in this direction. Recent researches by Brieger, Sirotinin, and by Beumer and Peiper, have shown that typhoid bacilli secrete a peculiar poison or ptomaine which Brieger, its discoverer, calls "typhotoxine." This substance injected into animals seems, in some cases, to have produced lesions similar to those of typhoid fever in man. Furthermore, it is apparently shown that the bacilli themselves are not the direct harmful agents in typhoid, for sterilized cultures are found to be as injurious as non-sterilized. Hence it is believed that the symptoms of artificial (as well as of true) typhoid are those of intoxication rather than infection, if such a distinction can be drawn. The *London Medical Record*, in summarizing the recent work in this direction, says that "Beumer and Peiper, in their last experiments, had been obliged to use repeatedly the same animals. They, therefore, were enabled to make typhoid revaccinations, and obtained the curious fact that the results of these were either negative or very doubtful. E. Fraenkel and Simmonds, as well as Sirotinin, in their experiments, have likewise observed that the first infection insured to these animals a certain immunity, owing to which the subsequent reinfection either produced but few or no morbid symptoms at all.

"Reviewing these interesting experiments, the results and conclusions arrived at by their authors are the following:

"1. The symptoms and alterations observed in animals in which cultures of typhoid-bacilli had been injected are due to the toxic substances secreted by these bacilli.

"2. The noxious germs, which secrete the typhotoxine, are reproduced in the intestinal canal. From these the ptomaine is taken up by the circulation and carried to all the organs liable to be affected by this poison.

"3. It is most probable that the same takes place in abdominal typhoid fever of man.

"4. A first infection insures immunity against the injurious effect of a later infection, even of large quantities of the toxic substance.

"5. Further experiments and careful clinical investigations are necessary in order to establish a scientific support of the theory of immunity from injections of sterilized cultures containing not more than a determined quantity of typhotoxine.

"6. In case this theory be an ascertained fact, the reproduction of the same immunity in man would be justified by commencing with very minute doses of typhotoxine, which would be gradually increased according to the results obtained."

WHY THE TEETH ARE DETERIORATING.

Dr. Julius Pohlman, in an interesting article on "The Human Teeth Viewed in the Light of Evolution" (*The Medical Press of Western New York*), shows the inadequacy of many of the explanations of the poor teeth of modern times. He believes that people have poor teeth as they have poor muscles, because they are not used enough. The food of the present day is cooked, softened, and hard particles removed, children are brought up on soft foods, and in general there is a tendency to allow the teeth to lapse into a harmful desuetude.

The cure would be therefore to make children and adults eat crusts and hard bread, to chew their food into fine particles without having it previously minced—in fine, perhaps, to spend a few years in a third-class boarding-house or an Adirondack hotel.

A LITERARY WANT.

Hardly a year passes that we are not favored with some new work treating of the history of medicine. A glance at these books shows that they are mainly compilations, and all from the same sources, viz., Sprengel, Littré, Pettigrew, Moir, and Friend. The historical orations which so often adorn our annual society or

college celebrations betray always a perusal of the same useful works, supplemented, perhaps, by Watson or Dunglison. In Germany there is being published a biographical dictionary of medical men, but it covers only a narrow field. Mr. Fort, of London, and M. Thomas, of Paris, have lately published some original contributions to the subject of medical history. But there is still lacking a complete and philosophical work on the history of medicine—a book which will show original study, a knowledge of modern historical methods, and an acquaintance with the numerous additions to historical and sociological knowledge which have been made in the past fifty years. The history of medicine is the history of civilization, and it furnishes a worthy subject for the labors of the scholar and the interest of the student.

News of the Week.

Our Report of the International Medical Congress is completed in this issue. We have spared no pains nor space in presenting an exhaustive *résumé* of all that was done at the meeting in Washington, and trust that it has been satisfactory to our readers. Much that appears is not specially new to most of our patrons, but it is part of the official work of the Congress, and as such must find its proper place.

Natural and Artificial Infants' Food.—Professor Albert R. Leeds states that out of every one hundred infants fed on mothers' milk, statistics showed that about eight die at the end of the first year; out of one hundred wet-nursed, eighteen died; and of one hundred fed on "infant-foods," fifty-one died by the end of the first year. He advocated the use of cow's milk diluted to the standard of human milk. Professor Leeds' statements are, we believe, somewhat misleading. Infants intelligently fed have nearly as good a chance of life with artificial as with natural food.

The College of Physicians and Surgeons.—Inaugural Exercises of the new building of the College of Physicians and Surgeons, 437 West Fifty-ninth Street, will be held on Thursday, September 29th, at 3 P.M. There will be an Historical Sketch of the College, by J. C. Dalton, M.D., President; an Inaugural Address, by Joseph H. Choate, Esq., Trustee; and the Presentation of Portrait Busts, by William H. Draper, M.D., Trustee. The profession is invited to attend.

Hospital for Incurables.—The corner-stone for a new hospital, the St. Joseph's Hospital for Incurables, was laid on September 14th. The new structure is located at 143d Street. It will contain two hundred and fifty beds.

Bequests to Hospitals.—The late George E. Downs, of Canton, Mass., has bequeathed to the New England Hospital for Women and Children $10,000; to the Children's Hospital, $2,000; to the Massachusetts Homœopathic Hospital, $5,000.

A Kind of Laparotomic Quincentennial was celebrated by Professor Nussbaum recently on the occasion of his performing his five-hundredth laparotomy. His pupils prepared a floral arch containing the figures "500," and placed it over the entrance to his clinic.

Dr. Fordyce Barker tendered a reception to the Fellows of the American Gynecological Society and foreign delegates to the Congress, on Tuesday evening. A large number of New York physicians was present.

Fluid Extract of Pichi in twenty-drop doses is a valuable addition to our remedies for the treatment of vesical catarrh, according to Dr. T. G. Comstock, in the New York *Medical Times*.

Counter-prescribing in Illinois.—Illinois druggists are very indignant, says the *Sanitary News*, because Section 10 of the new Medical Practice Act prohibits "counter-prescribing." At a recent meeting the State Pharmaceutical Association denounced the act in unmeasured terms, and appointed a committee to prepare an amendment to the act which should wipe out the section, and instructed the committee to use its best efforts to have the amendment passed by the legislature.

The Contagium of Scarlet Fever.—In a careful critical review of the researches and claims of Dr. Klein and Dr. Edington regarding the contagion of scarlet fever, Dr. Thin has shown that the identity of this contagium with that found in a certain disease of the cow's udder is not established. The view that scarlet fever may be derived from the cow is therefore still lacking demonstration. The claim of Dr. Edington to have discovered the specific virus is also shown to be wanting in positive proof.

Doctor Pedlers.—Doctors are so scarce in Russia that the *Nijegorodsky Listok*, of May 21, 1887, recommends young medical men to provide themselves with a box of drugs and chemist's utensils, and to walk from one Russian village to another, as do ordinary pedlers, in order to prepare pills, mixtures, etc., at every village.

New Regulations by the Health Board.—During the past week the following resolutions have been adopted by the Health Department:

Resolved, That Dr. W. DeF. Day be and is hereby relieved of the duties of Register of Records of this Department.

Resolved, That Dr. R. S. Tracy be and is hereby transferred from the position of Chief Sanitary Inspector to that of Register of Records, and that his salary be fixed at $3,000 per annum.

Resolved, That the position of Chief Inspector in charge of the Sanitary Police be and is hereby abolished, and that Willard Bullard be transferred to the position of Chief Sanitary Inspector, *vice* Dr. Tracy transferred to Division of Vital Statistics, and that the Sanitary Police report to Chief Sanitary Inspector Bullard.

Resolved, That on September 19, 1887, the Medical Sanitary Inspectors of this Department be transferred to the Division of Contagious Diseases, and that on that date they do report to Dr. J. B. Taylor, Chief Inspector of that Division, for instructions.

Resolved, That the Chief Inspector of the Division of Contagious Diseases be and is hereby directed to report to this Board at once, a comprehensive and concise plan for the instruction of the Medical Sanitary Inspectors in the performance of their duties, whereby a systematic and persistent war can be waged on all forms of preventable and contagious diseases in this city.

Resolved, That from and after January 1, 1888, the Medical Sanitary Inspectors be graded as follows:

First Grade.—This grade shall consist of all such Medical Sanitary Inspectors as may thereafter become connected with this branch of the Department, together with all such Medical Sanitary Inspectors as are then connected with this branch of the service who have served the Department satisfactorily in the capacity of Medical Sanitary Inspectors for three years or less. The salary of this grade shall be $1,200 per annum.

Second Grade.—This grade shall consist only of such members of the first grade as shall have served satisfactorily in that grade for the term of three years, together with all other Medical Sanitary Inspectors of this branch of the service as at present constituted. The term of service of each member of this grade shall be two years, and the salary shall be $1,500 per annum.

Third Grade.—This grade shall consist of only such Medical Sanitary Inspectors as shall have served satisfactorily in the second grade for the full term of the same. The term of service of each inspector of this grade shall be three years, at a salary of $1,800 per annum.

Fourth Grade.—This grades hall consist only of such of the members of the corps as shall have served satisfactorily in the third grade for the full term of its service. The salary of this grade shall be $2,000 per annum.

Obituary.

ALONZO CLARK, A.M., M.D., LL.D.,

NEW YORK.

On September 14th Dr. Alonzo Clark died at his home in this city. He was in his eighty-first year, and had practised his profession for over fifty years. For nearly the same period of time he had been a professor and teacher in our medical colleges, and at the time of his death there were few physicians who had helped to equip so many students for their professional career. Dr. Clark was born in Chester, Hampshire County, Mass. It is stated that he never knew the exact date of his birth. He believed it to be 1807, but others had told him that it was 1808. During his earlier years Dr. Clark attended the public schools of his native town. In 1824 he entered Williams College, being graduated in 1828. He at once began his medical studies, and in 1835 was graduated from the College of Physicians and Surgeons of this city. Soon after graduation he was appointed Professor of Pathology and Materia Medica in the Vermont Medical College at Woodstock. After a few years spent in lecturing there, he removed to this city and entered upon active professional duties. His success as an instructor had become so marked that he was soon made Professor of Physiology and Pathology in the College of Physicians and Surgeons. This position he held from 1848 until 1855. Meantime he was gaining a high position as a practitioner of special ability in the diagnosis and treatment of disease.

In 1855 Dr. Clark was appointed Professor of Pathology and Practical Medicine in the College of Physicians and Surgeons, and in the same year he became Visiting Physician to Bellevue Hospital. In 1853 he was elected President of the New York State Medical Society. In 1861 he was made President of the Medical Board and Consulting Physician to St. Luke's Hospital. He was Consulting Physician to the Northeastern and also to the Northern Dispensary. In addition to the State Medical Society he was a member of the American Medical Association, of the New York Medical and Surgical Society, of the New York Society for the Relief of the Widows and Orphans of Medical Men, of the New York Pathological Society, and of the New York Academy of Medicine.

Dr. Clark never attempted surgical work. He took a peculiar interest in pathology, and was one of the pioneers in that branch of medical science in this country. His contributions to the pathology of yellow fever, cholera, and of pulmonary and cardiac disorders made him at one time the foremost pathologist of the country. By his work and enthusiasm he gave impetus to the study of a branch previously not carefully cultivated here. Dr. Clark was early an adept in the use of the microscope and in its application to the study of disease.

It has been customary to give to him the credit of devising the opium-treatment of peritonitis, a method now universally adopted, and one that has been of infinite service. It is certain that Dr. Clark first systematically used and taught this method. If he had done nothing else, he would have been entitled to the lasting gratitude of mankind.

Dr. Clark made numerous contributions to medical literature, many of the most important being published in THE MEDICAL RECORD. He never wrote a systematic treatise, though three years ago a small work on Diseases of the Heart, composed of a series of didactic lectures, was published.

Dr. Clark was a successful and popular lecturer and teacher. He was not eloquent or rhetorical, but told the story of disease in a simple and clear manner, enlivened with touches of dry humor. He was decidedly conservative as to the physician's powers both in diagnosticating and curing disease.

Personally, Dr. Clark was tall, of fine presence, and courtly manners. His was the temperament that scorned the petty quarrels and jealousies that attach themselves to the careers of so many prominent and more aggressive men. He made few enemies, but many friends.

A NEW THEORY OF RESPIRATION.—Herr von Fleischl has recently brought forward the following new theory of respiration at the K.K. Gesellschaft der Aerzte in Vienna. It rests upon the fact that when liquids holding gases in combination are subjected to mechanical agitation a certain proportion of the gaseous molecules are set free, or else form a much looser combination with the constituents of the liquid than before; in other words, chemical combination is changed to a mere solution. This fact is perfectly consistent with the fundamental principle which underlies the existing theories of respiration, that hæmoglobin forms with the oxygen of the air a compound called oxyhæmoglobin. But Von Fleischl asserts that this combination, as first formed, is too stable for the tissues to overcome, even for the tissues which have a special affinity for oxygen, *i.e.*, are oxidizable; but that when the blood, after passing through the lungs, arrives in the left ventricle laden with oxyhæmoglobin, it is there subjected, by the contraction of this ventricle, to a shock or agitation which sets free a certain portion of oxygen, and thus renders it serviceable for the tissues. Blood which has assumed the venous character only holds about two-thirds the amount of oxygen which arterial blood contains, and blood having only this proportion of oxygen is as useless for oxidizing purposes as blood during asphyxia, or as quicksilver.—London *Medical Record.*

THE OPIUM HABIT.—According to a paragraph which is going the rounds of the daily press, there are ten thousand opium eaters in Iowa, a large majority of them being women. This estimate is as likely to be below as above the actual figures.

Army News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from September 4 to September 10, 1887.

BYRNE, MAJOR C. C., Surgeon. Detailed as a member of the Army Retiring Board in Washington City, *vice* Captain Washington Matthews, Assistant-Surgeon, relieved. Par. 2, S. O. 208, A. G. O., September 7, 1887.

O'REILLY, MAJOR R. M., Surgeon. Ordered to proceed to Fort Niagara, N. Y., on public business, and upon completion thereof to return to his proper station, Washington, D. C. Par. 10, S. O. 205, A. G. O., September 3, 1887.

PERLEY, CAPTAIN H. O., Assistant-Surgeon. Ordered to accompany battalion of the Twenty-third Infantry from Fort Wayne, Mich., to Chicago, to participate in the International Military Encampment to be held in that city in October next. Par. 1, S. O. 191, Headquarters Division of the Atlantic, September 8, 1887.

BANISTER, W. B., First Lieutenant and Assistant-Surgeon. Granted leave of absence for one month, with permission to apply for extension of one month, to take effect upon arrival at Fort Lowell, of Assistant-Surgeon J. B. Girard. Par. 4, S. O. 91, Headquarters Department of Arizona, August 29, 1887.

SUTER, WILLIAM N., First Lieutenant and Assistant-Surgeon. Ordered to accompany Battery E, Third Artillery, from Washington Barracks, D. C., to Philadelphia, on the 14th inst., to participate in the military parade, during the celebration of the centennial of the adoption of the Constitution, September 15, 16, and 17, 1887. Par. 3, S. O. 191, Headquarters Division of the Atlantic, September 8, 1887.

Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and death from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending September 10, 1887:

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	47	13
Scarlet fever	47	9
Cerebro-spinal meningitis	3	3
Measles	6	0
Diphtheria	81	36
Small-pox	6	1
Yellow fever	0	0
Cholera	0	0

TREATMENT OF INFANTILE DYSPEPSIA BY LACTIC ACID—THE CAUSATION OF THE GREENISH DISCHARGES WHICH CHARACTERIZE THIS AFFECTION.—Hayem, in a communication recently made to the Paris Academy of Medicine, claims signal success in the treatment of gastro-intestinal irritations of infants, especially such as are attended with green discharges, by lactic acid (*The Boston Medical and Surgical Journal*). He employs a two per cent. solution, of which a teaspoonful is given to the infant a quarter of an hour after nursing. From five to eight such doses, representing about half a gramme (or seven and a half grains) of pure lactic acid, are administered during the twenty-four hours. The effects of this treatment, it is said, rapidly show themselves. The vomiting (where vomiting exists) ceases almost immediately, the diarrhœa lessens in frequency and amount, and the discharges soon take on their natural yellowish hue. Hayem was led to adopt an acid treatment in these cases from having frequently tested the vomited and fecal matters, and found them neutral or alkaline. In these discharges, moreover, he detected the constant presence of a strange microbe, clustering in masses. This microbe he has been able to isolate and cultivate in gelatine-peptone, and, by experimental researches undertaken with his interne, Lesage, he thinks that he has conclusively shown that these masses of bacteria produce the greenish matter by a sort of excretion. This microbe, moreover, can only live and multiply in an alkaline medium, and the etiological conditions which bring about the gastro-intestinal dyspepsia of infants, by modifying the secretions of the alimentary canal, make it a fit habitat for the microbe, which now becomes the principal factor in the graver accidents which characterize the disease. These micro-organisms, it has been found, soon perish in an acid medium. Hayem first tried dilute hydrochloric acid with some success, but soon found that lactic gives the best results. This acid, he says, acts in two ways: it combats the dyspeptic condition by giving the stomach the degree of acidity required for healthy digestion, and it sterilizes the germs of the bacillus, thus effectually antidoting the pernicious effects of the latter on the digestive tube. Lactic acid is, moreover, pleasant and easy of administration. The contagiousness of this gastro intestinal affection with green discharges is a natural corollary from the fact, real or assumed, of its bacillary origin. This contagiousness, Hayem affirms, is proved beyond the possibility of a doubt by clinical experience, and when once a case of the kind enters the wards of the children's hospitals, an epidemic of the disease is sure to follow. Recently, Damaschino claimed priority over Hayem in the discovery of the microbe supposed to be the causal agent in the diarrhœa with green discharges in young children, and produced microphotographs which he presented three years ago to the Society of Biology, and which he affirmed to be representations of the same microbe described by Hayem as causative of the disease in question. These bacilli are of characteristic forms and dimensions, and constitute an important morphological element of the stools of young diarrhœic patients. They are the more numerous, the more severe the affection, and in three grave cases of green diarrhœa they presented the appearance of pure cultures in the microscopic preparations. In the fresh state they are animated by rapid movements. These bacilli disappear as the disease diminishes in intensity, and the discharges take on their natural yellowish hue. Hayem, in replying to the communication of Damaschino, did not deny the value of the discovery of the latter investigator, of which he (Hayem) was ignorant at the time of the presentation of his paper, only Damaschino had not proved any causal relations between the masses of rod-like forms which he had found in the green discharges of infantile diarrhœa and the disease. This proof, Hayem claimed, had been furnished by his interne, Lesage, who had isolated and cultivated the specific microbe, and, by introducing the pure products of his cultures into the digestive canal of animals, had reproduced the disease, with the identical green discharges. The report of these interesting experiments Hayem has promised to give at an early day.

THE PROPHYLAXIS OF SYPHILIS IN FRANCE.—The Paris correspondent of the *Lancet* writes as follows on this topic, which has recently engrossed the attention of the Académie de Médecine. The disease is, indeed, disastrous and dangerous through its multiple consequences, individual, social, and hereditary. It is, with alcoholism, one of the gravest social evils of the present time. It is looked upon in society as the result of a series of successive contaminations rather than the consequence of a single contagion, and it is therefore supposed to be evidence of an ill-spent life of debauch. This view is erroneous. Syphilis is contagious like all other contagious diseases, *i.e.*, it results not from repeated infec-

tions, but from one alone. There are numbers of people who acquire the disease from what Professor Fournier terms "moral virtuous," or purely accidental, contagions, but syphilis, both deserved and undeserved, has a common origin. The infection of a virtuous wife and the contamination of a child may most often be traced back to disease of a prostitute; hence the consequence that to combat syphilis in the latter is to protect both the virtuous wife and child. Public interest requires that such an evil should be repressed by general measures capable of reaching it at its source. These measures are of three kinds: 1. The extension of the disease may be restrained by administrative or police regulations to prevent provocations in the public thoroughfares, by what is called the inscription or registration of prostitutes, which brings them under police and sanitary supervision; by the inspection of those establishments which, under the names of taverns and drinking-bars, are in reality nothing else than houses of assignation. 2. Syphilis may be checked, in the second place, by treatment by hospitalization, *i.e.*, by extinguishing its germs of contagion. 3. It may be combated not less efficiently by teaching the rising medical generation, more thoroughly than has hitherto been done, all that concerns the symptoms of this disease in its different forms, its social dangers, and its treatment. As regards measures of administrative prophylaxis, the Commission was unanimous in declaring that prostitution constitutes a public danger by the contagion which it disseminates in the population. It is therefore indispensable, both on hygienic and moral grounds, that it should be supervised, and, if necessary, repressed, by the public authorities. The measures proposed for this purpose by M. Fournier are briefly as follows: In the first place, public provocation should be considered as a misdemeanor. This measure, entirely in accordance with public opinion, would have the effect of removing habitual prostitutes from the arbitrary jurisdiction of the police. Those convicted of the offence should be *inscrites*, and subjected afterward to periodical examination. Special hospitals for the treatment of venereal diseases should be created for the large centres of population, and the medical direction given to specialists, who should engage to remain in charge for at least five years; but in respect to the army, the Commission proposes that lectures on syphilis should be delivered to the soldiers to make them understand the dangers of contagion; that the men should never be punished for having contracted venereal disease; and that treatment should be continued after the soldier has returned to duty. Professor Fournier's final recommendation is for the benefit of society at large. Henceforth no wet nurse should be allowed to receive an infant without a medical certificate that the parents are free from syphilis.

Infanticide or Homicide?—The following case is reported in the *Münchener Medizinische Wochenschrift:* A physician was called to attend a tradesman's wife in her confinement. The presentation was a shoulder one with prolapse of an arm. After an ineffectual attempt to turn, the arm was cut off; then followed another ineffectual attempt to turn, after which the other arm was amputated and the lower jaw torn out. Even after this he did not succeed in extracting the child, and another practitioner was called in, who succeeded in delivering the woman. The first practitioner was cited before the Court, where the experts, professors, and practitioners expressed the unanimous opinion that the child had been killed by the injuries inflicted upon it, and that the contention of the physician, that the child was already dead before dismemberment, rested upon indications that were not scientifically justifiable. There were no just reasons for killing the child, and the practitioner had improperly failed to persist in his efforts to turn. After negligence had been incontestibly proved by the opinion given, the defendant claimed that the case did not come under paragraph 222 of the German Strafgesetzbuch (negligent killing), but under paragraph 230 (negligent bodily wounding). The former referred to negligent homicide; the fœtus, however, up to the time of dividing the cord, was a part of the mother's body, so that the case was only one of wounding. In opposition to this, the Court ruled that the law recognized the vital existence of the fœtus, and protected it as a human being, at an earlier period, viz., as soon as a part of the child became *visible* outside the vagina; paragraph 218 defined killing of the fœtus *in utero* as fruit-killing (*Fruchttötung*), while paragraph 217 recognized the killing of a child *in* or immediately after birth as the killing of a human being (homicide). The Court, therefore, held the accused guilty of homicide by negligence, and condemned him to several years' imprisonment. An appeal was not allowed.

Not a Well-built Word.—Among the frantic attempts to muddle medicine with jaw-breaking technicalities, we find one which resulted in the word "syggignoscism." If we had found it as coming from Sweden or the Sandwich Islands, our astonishment would have been less.—*Medical Review.*

Hydrogen Dioxide.—Referring to a paper on this subject by Dr. Blyer, in The Medical Record, Mr. Thomas Latham calls attention to the difficulty of obtaining a solution of constant strength. The solution is usually put up in five-pound bottles, and each time that the bottle is opened an escape of gas takes place. He suggests that the manufacturers put it up in two-ounce bottles securely corked, and this could then be used to prepare a diluted solution for use in which the H_2O_2 would remain permanently dissolved. The writer further states that it is incorrect to use the term "ozonized" in connection with this solution. The oxygen evolved by its splitting up is not in the form of ozone. Schonbein even proposed for it the name, antozone.

Contracted Kidney in Childhood.—Förster has published two cases which he considers as examples of contracted kidney, although they presented during life symptoms closely similar to those of diabetes insipidus. The patients, brother and sister, belonged to a family with a markedly neurotic history. The father was syphilitic and suffered from locomotor ataxia, while both parents of the mother suffered from diabetes mellitus. The first symptom noticed in the boy was the onset of great thirst and diuresis at the age of four and a half years. The urine became as much as seven pints in the day. The specific gravity of the urine varied from 1.004 to 1.010. There was no sugar, and, at first, no albumen, though this was found a short time before death. The diuresis continued, while the patient lost weight and developed a pale and sickly complexion with a dry skin. The mental qualities were unaffected. The child died when nine and a half years old, five years after the commencement of the illness. Death was preceded some weeks by increasing somnolence, twitchings of the legs, incoördinate gait, and increase of the tendon-reflexes. The post-mortem, which was performed by Birch-Hirschfeld, showed a thickening of the ependyma of the fourth ventricle, flattening of the pons, which was sclerosed at its junction with the medulla. There were sclerotic patches in the posterior cornua of the spinal cord. The left ventricle was hypertrophied, and the kidneys were contracted, especially in the cortex, the capsule being adherent. The other patient, in whom a post-mortem was not performed, was taken ill at the age of four and three-quarter years, with symptoms similar to those presented by her brother. The cause of the malady was practically the same, except that albumen was found in the urine at an early stage, and that it increased in quantity. Förster mentions the close analogy of the cases with the symptoms presented by diabetes insipidus, but draws attention to the differences, viz., that the quantity of daily urine was not as great as that of diabetes insipidus, and that the specific gravity was also higher than occurs in that disease.

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CEREBRAL CONGESTION FOLLOWING REMOVAL OF THE UTERINE APPENDAGES.

BY H. C. COE, M.D.,

NEW YORK.

SIR SPENCER WELLS said, fifteen years ago, in writing of the after-history of the patients upon whom he had performed laparotomy: "As a rule, in all statistical returns from hospitals, the bare fact of death or recovery is all the information that is given, and any attempt to follow up the successful cases afterward is found to be excessively difficult." In spite of the vast number of statistics that have been published since this was written, it applies equally well to the present stage of abdominal surgery. It cannot be denied that laparotomists can give us only meagre information concerning the condition of patients one or more years after recovery from the operation. It is unfortunate that our knowledge regarding the general, as well as local, phenomena which appear in women after removal of both tubes and ovaries is derived rather from isolated cases than from carefully collected groups. While the phenomena attending the natural menopause have been thoughtfully studied, and have formed the subject of elaborate monographs, those dependent upon the artificial climacteric, if noted at all in special treatises, are dismissed in a few words as insignificant. The general impression given by laparotomists is that the removal of the uterine appendages is seldom followed by any general disturbances—in fact, that the system accommodates itself at once to the sudden and rude interruption of the menstrual function.

The reader who recalls the profound systemic disturbances that attend the gradual cessation of ovulation will be puzzled to account for this discrepancy. Theoretically, it would seem as if a young woman in the prime of her sexual activity ought to be more seriously affected by the artificial induction of the menopause than one in whom the gradual disappearance of the function keeps pace with the general senile atrophy. While it is a fact that the majority of patients recover without any serious complications, careful investigation will show that irregular or periodical metrostaxis, constant or recurring pelvic pain, "flushings," neuralgiæ, and various minor vaso-motor disturbances, such as are noted at the natural climacteric, appear for a shorter or longer period in not a few, and, moreover, that they are still present one or two years after recovery from the operation.

I was led to describe briefly a phenomenon occasionally observed in these cases by the remark of a young woman to whom laparotomy was proposed as a possible means of relief from intractable dysmenorrhœa. She did not dread the operation, she said, but a friend of hers had had her tubes and ovaries removed a few years before, and had suffered ever since from frightful attacks of congestive headache at the menstrual period; that she considered her present condition as far worse than the former one. Having had under constant observation during the past three years a patient with the same symptom, I was able to understand that the nature of the trouble had scarcely been exaggerated. It may be safely stated that cerebral congestion is a well-recognized sequela of the operation referred to, and that it would be found to be more frequent than is commonly supposed if we were able to follow up these cases and obtain accurate reports of their general, as well as local, condition at the end of a few years. We are justified in using the expression "cerebral congestion" in this connection, not only because all the symptoms point to an increased determination of blood to the cranium, but because the congestion seems to be a vicarious one. As Tilt (and more recently Börner) has shown, this cannot be affirmed of the normal menopause, where the headache, flushing of the face, and other cerebral troubles are to be ascribed rather to vaso-motor disturbances than to actual congestion.

Olshausen ("Krankheiten der Ovarien") regards the symptom referred to in this paper as purely vaso-motor, and calls attention to the fact that the phenomena observed after castration do not, as a rule, appear with the periodicity of menstrual disturbances, but are relatively more severe and persistent than those observed in connection with spontaneous cessation of the flow. This, he adds, is to be ascribed to the suddenness with which the function of the ovaries is interrupted, while in senile involution the process is gradual.

While it is true that the nervous phenomena in question are commonly atypical—that is, they are not confined to the periods when the menstrual flow usually appeared—they are in many instances clearly aggravated at those times when increased pelvic congestion is indicated by local pain and metrostaxis, or "weeping from the uterus," as it has been termed by English writers.

The condition which I regard as cerebral congestion is also most marked at these pseudo-periods, as evidenced by severe frontal and occipital headache, vertigo, pulsation of the carotids, flushing of the face and neck, suffusion of the conjunctivæ, etc., symptoms which can hardly be attributed to "nervousness" alone.

It is vain to theorize regarding the cause of phenomena which are so little understood, since our data are not yet sufficient to allow of any positive scientific deductions. The duration of this distressing condition after removal of the appendages is uncertain, and this uncertainty should lead the laparotomist to express a guarded opinion when asked by the patient to fix a certain limit to her after-symptoms. The young woman to whom reference was made, whose periodical attacks of pelvic and cerebral congestion (assuming that I am correct in inferring the presence of this condition) is rather worse than better, although nearly three years have elapsed since her ovaries and tubes were extirpated. The pelvic distress may be attributed to the presence of adhesions, resulting from an attack of localized peritonitis following the operation, but the head symptoms of which she complains would certainly be explained as due to an increased determination of blood to the brain, if they were observed by a general practitioner.

Hegar noted the presence of menstrual molimina five years after castration, and Olshausen observes that "they often persist for several years."

The therapeusis in these cases is highly unsatisfactory. These are the women who haunt one's office and clinic, exhausting at once the patience of the gynecologist and his ingenuity in combining drugs. An injection of morphine may relieve them temporarily, but it is a dangerous makeshift, and may lead to unfortunate results. The bromides, perhaps, afford relief for a time, but they soon appear to lose their power. Electricity is a useful agent, a mild continuous current sometimes having a happy ef-

fect. It certainly relieves the pelvic pain, although I have not satisfied myself regarding the permanent results of electrical treatment in these cases.

It hardly seems justifiable to deduce a lesson from such a brief and imperfect sketch, in which I merely wish to call the attention of the general reader to certain puzzling phenomena in patients who have recovered from an operation which is now so common. The subsequent condition of such patients may be disappointing, not only to themselves, but to their medical attendants, who expected a more perfect "cure." The practical point is this: Whatever promises may be made to a woman who is about to submit to laparotomy for the removal of the appendages, with regard to the relief of her local trouble, the prognosis concerning the persistence of such general symptoms as have been described should be a guarded one.

PERIODICALLY RECURRING OCULO-MOTOR PARALYSIS.[1]

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This disease is not referred to in any of our standard text-books on general medicine or nervous diseases. A line in Strümpel states that Möbius has reported a case. Bastian's late work on "Paralysis, Cerebral, Bulbar, and Spinal," does not mention the disease.

The following briefly described case came under our observation in May last: T. S——, born in Sweden, aged twenty years; family history good, and free from neurotic heredity. Both parents living, and well, as are also all of her brothers and sisters. She was perfectly healthy until her seventh year, when the first of the attacks to be described occurred. She awoke one morning to find that she could not open her left eye, and on raising the lid the eye was seen to be turned outward. The paralysis was not associated with pain or vomiting, and followed a good night's sleep. After three or four days the eye opened as perfectly as ever, and the direction and movements of the eyeball were normal, and vision was perfect. On the morning of the attack a physician was called who gave some medicine, but the patient does not remember that he expressed any opinion regarding her condition. After about two months, during which time the eye was free from any symptoms of paralysis, she experienced a severe pain in the side of the head, accompanied by vomiting and vertigo. For about two days she was confined to her bed, the stomach rejecting all food, and on the second day, about thirty-six hours after the commencement of these symptoms, she suddenly found that she could not open the left eye, there was a divergent squint, as in the first attack. As soon as the paralysis appeared the vomiting, vertigo, and headache ceased. The paralysis of the eye muscles in this second attack lasted about one week, and was accompanied by slight paresis of the left arm; patient says that it felt heavy and weak, also that articulation was impaired, though she could think as acutely as before. The recovery from this attack was perfect. After an interval of three months, during which time she was perfectly well, the third attack came on, and was similar in every respect to the preceding, except that the arm and muscles of articulation were slightly more involved, and recovery was a little longer delayed. Four months elapsed when the fourth attack came on, which was substantially a repetition of the foregoing, the pain in the head being a little worse, as well as the vomiting and vertigo. During this attack she had left tinnitus aurium with occasional deafness, coincident with the headache and vomiting. From this time on the intervals between the seizures grew longer, the attacks occurring, on the average, once or twice each year until she was eighteen, when for a year and a half she was free from them. This period just preceded her journey to this country (June, 1886), and includes a time when she was an out-patient in an eye and ear infirmary. Since the onset of menstruation the seizures have borne no relation to this function. The first week after her arrival here she had an attack more severe than any former one, the pain and vomiting lasting three days, and the subsequent paralysis over a month. During the past six months she has had four attacks, the third one being very severe—the headache lasting nearly a week. The last attack came on about one month ago, before the eye had recovered from the effects of the preceding one. Following this last attack the paralysis has remained complete. Since the beginning of the disease the symptoms of each seizure have increased in severity, have been more prolonged, and the recovery from the paralysis has been lengthened and less perfect. After the fifth attack an undetermined degree of divergent squint and ptosis persisted during the intervals between the seizures.

Present condition.—When the patient is requested to open the eye, she succeeds in raising the lid about one line, divergent squint is present, and the pupil is widely dilated and immobile, the ring of the iris being 1½ mm. in width. The external rectus is normal, but no movements can be detected in the direction of motion of the muscles supplied by the third nerve.

Acuity of vision: R. E., $V = \frac{20}{xx}$, and all lenses are rejected. With this eye she reads No. I. Snellen at three to twenty inches, showing normal accommodation. L. E., $V = \frac{20}{lx}$, and no glass improves distant vision. With this eye she reads only No. X. Snellen at twelve inches without glasses, and with + 5.50 D. She reads No. I. Snellen with some difficulty at six and a half inches, thus showing a paralysis of accommodation. The ophthalmoscope shows a similar and normal fundus in both eyes. The ocular diagnosis is, therefore, a paralysis of the left motor oculi in all its branches; together with an amblyopia of the left eye without evident intra-ocular disease. The patient is an emmetrope.

At the present time, and while the ocular paralysis is complete, there is no weakness of the left arm, at least not greater, as compared with the right, than is usually found with right-handed persons. The tongue is protruded in the median line, and the facial lines are symmetrical. All the other cranial nerves are intact, and co-ordination, the reflexes, and other nervous functions are perfect.

The first case of this kind, so far as we have looked up the literature, was described by Gubler[1] in 1860. The patient suffered, at intervals of several years, from three separate attacks of paralysis of the right motor-oculi. The fourth attack was attended with delirium, coma, and death. The post-mortem examination revealed a plastic exudate along the base of the brain, the result of a chronic progressive basilar meningitis. The motor-oculi was surrounded by exudate. A small blood-clot was found in the pons. The cause of the meningitis was referred by Gubler, to an injury of the head, sustained by the patient some years previously.

The next case was observed by Mauthner,[2] in the klinik of Professor v. Graefe, in 1864. This patient, a girl, aged twenty, received a blow on her forehead in her third year, the scar of which still remains. A few months subsequently paralysis of right oculo-motor occurred, and was accompanied by headache and vomiting. This condition lasted some six months and then disappeared. The complex of symptoms returned at varying intervals for many years.

In 1876, A. Jacobi,[3] in an article on "Masturbation and 'Hysteria' in Young Children," reports a singular

[1] Read before the Chicago Medical Society, June 20, 1887.

[1] Schmidt's Jahrbücher, Bd. cvii., p. 299.
[2] Vorträge, Heft 13, p. 398.
[3] American Journal of Obstetrics, 1876, p. 223.

case of functional paralysis of the third nerve. So far as we are aware, this is the only case of the kind recorded. A girl, nine years of age, was attacked with clonic convulsions followed by paralysis of all the branches of the right motor-oculi, excepting its intra-ocular fibres, as shown by the history. Ptosis was complete, the eye deviated outward, the pupil was somewhat dilated but responded to the light slowly. The child remained in this condition for weeks, but finally recovered. A second attack of convulsions was again followed by paralysis of the right oculo-motor, which was relieved by firmly pressing on the supra-orbital nerve and urgently commanding her to open the eye. The ptosis was instantly removed by this procedure. She remained well for a time, when a recurrence of the attack was relieved by similar treatment.

A recent letter from Professor Jacobi in reference to this case states that his notes extend only over one year after the last attack reported. Within the first five months of this period she had two attacks, in which there was only ptosis; no other branch of the nerve being affected. For the seven months before she was last seen there were no morbid symptoms.

In 1882 Saundby[1] published "A Case of Megrim, with Paralysis of the Third Nerve." The attacks began at twelve years of age and occurred at intervals of from six to nine months, until the age of nineteen. The attacks began with pain in the left side of the head, malaise, and constipation. The paralysis was total, except the sphincter of the iris.

In 1883 v. Hasner[2] published the case of a girl, seventeen years of age, who each month for the past four years had suffered from complete paralysis of the left oculo-motor. The girl began menstruating at the age of fifteen, and since that time the paralysis had always appeared with menstruation.

Möbius,[3] in 1884, described the case of a girl, six years of age, in which the attacks came on at the age of eleven months. They were accompanied by vomiting, headache, and vertigo.

At the November, 1884, meeting of the Berlin Society of Neurologists, Thomsen[4] related a case of periodical paralysis of the oculo-motor, in an epileptic, thirty-four years of age. The paralysis was accompanied by headache and vomiting, and had occurred once or twice each year since the patient was five years of age. The attacks bore no relation to the epileptic seizures. In the discussion Remak described a similar case; a man, twenty-two years of age, had had the attacks twice yearly since his twelfth year.

In 1885 a considerable number of observations were reported. Saundby[5] described an additional case of migraine with oculo-motor paralysis.

Before the French Society of Ophthalmologists, January 29, 1885, Perinaud[6] related the case of a woman, twenty-six years of age, who had suffered from this form of paralysis each spring since her seventh year.

D. Weiss[7] described a case with an autopsy.

Snell[8] reported a case to the London Ophthalmological Society. In the discussion Clark, Ormerod, and Beevor said they had seen similar cases.

W. Manz[9] described a typical case in August, 1885.

If the case of Jacobi be excluded we find that up to the present, and including our own, sixteen cases have been reported in which the clinical features resemble each other sufficiently to be classed together, and which constitute, so far as we know, the entire literature of the subject.

Möbius[10] would confine the term periodically recurring oculo-motor paralysis to those cases in which the disease begins during infancy or childhood, in which the paralysis is confined strictly to the branches of the third nerve, and is accompanied by vomiting and headache. If we admit the definition of Möbius our case can hardly be included among the typical ones, but it is to be remembered that the paresis of the left arm and muscles of articulation were only slight and transitory. At the present time there is no evidence of any weakness of these muscles. All the other features of the case are typical.

Regarding the pathology of the disease, the different authors vary widely. Saundby, Remak, and Perinaud refer the condition to a functional disturbance; v. Graefe and Manz think that in most of these cases there is a basilar meningitis. V. Graefe says, in reporting his case, that the blow on the head probably caused a fracture of the base of the skull, which may have been followed by an ostitis or an exostosis, which by periodical inflammatory enlargement pressed upon the nerve. Manz speaks of congenital malformations or arterial anomalies as a possible cause. In every case he thinks there is a chronic progressive anatomical lesion, and that it is not in any sense a "functional" disease. Möbius and v. Hasner think that in most of these cases the nucleus of the nerve is affected. It must be admitted that the theory of Möbius is well supported by the clinical history of the affection, and agrees fully with the evident central origin of our own case. The pain, from its character, he refers to an involvement of the descending band of fibres, passing to the fifth nerve (*absteigende Quintuswurzel*), which lies above and a little to the outer side of the nucleus of the third.

The clinical features in the beginning point strongly to a congestion, with or without compression, of the nucleus of the nerve, with more or less involvement of the surrounding parts. The pathological process later results in permanent anatomical changes. Möbius, however, distinctly admits that a peripheral (basilar) lesion may cause this form of paralysis.

Up to the present time three post-mortem examinations have been made in these cases. The first, that of Gubler, was hardly a typical one. The lesions in this case, so far as they affected the third nerve, were meningeal. The exudate extended, however, as far forward as the optic chiasma, and was especially thick about the circle of Willis and along the borders of the medulla. In addition, a blood-clot was found in the pons. The patient of Weiss died of phthisis. The lesion in this case was found strictly circumscribed, and involved the nerve-trunk itself; the nucleus was found free from change. The left oculo-motor, as it left the peduncle, was found flattened, grayish, and covered with numerous granulations, which, on microscopical examination, were found to contain numerous tubercle bacilli. The right oculo-motor, as well as all the other cranial nerves, were intact. The case of Thomsen, above described, has since died in the insane asylum at Dalldorf. The post-mortem examination, reported by Richter,[1] showed the right oculo-motor, where it passed through the dura, grayish in color and club-shaped. The left nerve was one-half the thickness of the right and white. A fibro-chondroma had separated the fibres of the right oculo-motor, but had not destroyed them. The nucleus of the nerve and all other portions of the brain were normal.

This last is the only typical case of recurring oculo-motor paralysis in which the anatomical diagnosis has been made. In each one of the three cases the lesion was peripheral, the nucleus remaining intact.

As a matter of fact, a careful examination of the literature of this disease would indicate that it may be of central (nuclear), peripheral, or even "functional" origin.

The prognosis is unfavorable. In only one case is there a history of anything like improvement.

[1] Lancet, vol. ii., p. 345. [2] Prager Medicinische Wochenschrift, 1883, p. 89.
[3] Berliner klin. Wochenschrift, No. 38, 1884.
[4] Westphal's Archives, Bd. xvi., p. 281.
[5] Lancet, January 10, 1885. [6] Annales d'oculistique, 1885, p. 121.
[7] Wiener Med. Wochenschrift, April, 1885. [8] Lancet, 1885, p. 738.
[9] Berliner klin. Wochenschrift, 1885.
[10] Schmidt's Jahrbücher, ccvii., p. 244.

[1] Arch. f. Psychiatrie, xviii., i., p. 259.

HYDRATE OF TERPINA IN THE TREATMENT OF CATARRHS AND BRONCHITIS—TEREBENE.

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LATE PROFESSOR OF SURGERY IN THE BALTIMORE MEDICAL COLLEGE; LATE SURGEON FRENCH ARMY (DECORATED), ETC.

To the *Pinus australis* Michaux, the most important of the coniferæ, science is indebted for a remedy, not only possessing decided antiseptic powers, but also one that neutralizes fermentation, arrests the putrefactive process, and, what is of still greater value, destroys the lower forms of organic life, as they are found manifested in leptothrix, infusoria, vibrios, and bacteria.

The uses of turpentine in therapeutics seem to have been relegated chiefly to its exhibition in the tympanites of typhoid fever, to turpentine stupes in ileo-colitis, and to the occasional inhalation of a few drops of the oil in some cases of asthmatic dyspnœa. It is not, however, my intention to champion a remedy, although confessedly a valuable one, that is gradually being discarded by the profession, and finding a grave in the country grocery-store; but to direct attention, in the present brief paper, to an alkaloid of turpentine, namely, the *hydrate of terpina*, which has recently been found to be of considerable efficacy in the treatment of colds, catarrhs, bronchitis, and kindred diseases.

While practising in Italy, last winter, a case of obstinate bronchitis came to me for treatment. This case was one of long standing. The patient, a lady, had contracted the disease in the North of Europe, and had been previously treated with remedies usually prescribed in these cases, such as muriate of ammonia, extract of eucalyptus, and so forth, without having derived permanent relief therefrom. She consulted me in Florence, in which city, and just at that time, my chemist happened to show me a new alkaloid of turpentine, but recently prepared. This preparation, contained in a four-ounce glass-stoppered bottle, consisted of round, rhomboidal, and polygonal crystals, about the size of, and presenting much the same appearance as, those of the hydrate of chloral. It was the hydrate of terpina. A few of the more eminent Italian physicians had begun to prescribe it; they had, however, had no experience with it beyond a few cases, and their method of prescribing it did not seem to me to be the best. They were using invariably the pill-form, in doses varying from two to ten grains, every two, three, or four hours, according to the symptoms. Their pills appeared large in proportion to the quantity of the drug ordered, heavy, and uninviting; and fearing that, administered in this form, hydrate of terpina might not agree with the already weakened stomach of my patient, I determined to have it put up, and for the first time, in a mixture. Having ascertained by experiment that it was readily soluble in glycerine, my prescription was:

℞. Hydrate of terpina..... grs. xxiv.
Glycerine, C. P., q. s. ut f. solutio.
Syrup of lactucarium.....ad ℥ j.
M. Sig.—One teaspoonful every three hours.

After two doses there was already an amelioration in my patient's condition; the cough began to loosen; expectoration became free and easy in consequence of elimination by the bronchial mucous membrane; the skin became soft, moist, and natural on palpation; and there was a marked diminution in the bronchial whistling and râles. This improvement continued steadily for one week, during which time my patient was kept continually under the influence of the hydrate of terpina treatment. At the end of that time all physical signs of the disease had disappeared; a steel tonic was ordered her, and she left Florence shortly after, entirely restored to health.

In another case—one of catarrhal congestion of the larger bronchi—the mixture was administered in the same manner. In this instance there was a notable decrease of the mucous râles *ab initio*, and normal vesicular murmur could be distinctly heard in a very few days after. This was a case of recurrent bronchial affection, complicated by laryngitis, which had been treated as one of incipient catarrhal phthisis. It yielded readily to the hydrate of terpina treatment, in about the same space of time as the first case; the laryngeal trouble disappearing together with the bronchial affection.

Other cases, such as nasal and pharyngo-laryngeal catarrh from cold, have been treated by me with equal success by hydrate of terpina, exhibited in accordance with the formula given above.

In a case of night-cough from habit, two grains of hydrate of terpina, exhibited in a similar mixture at bedtime, had the effect of quieting the distressing cough on the first night until an early hour in the morning, when another dose was taken, and the patient slept quietly until day. The second night a single teaspoonful on retiring was all-sufficient to procure for the patient a comfortable night's rest. And so on the third night. At the end of ten days the medicine was entirely withdrawn, and there was no return of the malady. Bromide of potassium, tinct. opii, etc., had failed to relieve this case. It is probable, therefore, that hydrate of terpina possesses anodyne and hypnotic properties somewhat allied to those of hydrate of chloral, although my experience with it in cases of this nature has not been extended enough to enable me to speak positively on this point.

There is not the slightest taste or odor of turpentine about this valuable alkaloid. Taken in doses of ten grains, it produces in some patients a sense of fulness in the epigastrium, slight cerebral hyperæmia, accompanied by a feeling of stimulation, but these symptoms disappear directly the drug is withdrawn, and are due to reflex irritation of the sympathetic. Fifteen grains is the maximum dose given thus far. We should be cautious in prescribing larger doses, having always in mind the toxic effects, which would probably first be observed in the lungs and kidneys.

Terebene.—There is still another preparation bearing some chemical relation to the hydrate of terpina, viz., *terebene*. Terebene has been recently obtained in London from turpentine by distillation; it is a colorless liquid, volatile, and without the taste or odor of turpentine. This agent has been introduced into British practice during the last few months, and since the discovery and introduction of terpina by the Italians. Terebene is exhibited in doses of from two to ten minims on lump sugar or in a solution, and, like hydrate of terpina, has thus far been only prescribed in diseases of the respiratory organs. Owing to its form and volatility it cannot, of course, be administered in pills, an advantage possessed by the hydrate of terpina in suitable cases.

As late as the 12th of May last, terebene was unknown in most of the English pharmacies, and the specimen then shown me in London was vastly inferior as a preparation to the clear white crystals of the hydrate of terpina, likewise unknown in England. Up to that time, there had been no report of cases treated by terebene, nor has any, so far as the writer is aware of, appeared since.

One great advantage of the hydrate of terpina is its extreme cheapness. It has proved eminently satisfactory in my hands in every case in which I have used it, and I now prescribe it freely in all coughs, colds, and catarrhal affections, as well as in bronchial troubles generally, whenever elimination is indicated, and should advise its administration in asthmatic dyspnœa, in doses of two grains every fifteen minutes until ten grains had been given, or relief had been obtained. If these maladies depend upon a morbific germ or a bacillus, it is in the germicide properties of hydrate of terpina that we must seek for an explanation of its prompt and vigorous therapeutical action. From the foregoing, it is highly probable that we possess in the hydrate of terpina a rem-

edy that is destined to replace all preparations of the crude drug for internal exhibition, possibly hydrate of chloral as well, at least in some cases. It has none of the revolting attributes of turpentine, has already proved itself of great utility in the treatment of diseases of the respiratory tract, and must be conceded to be a valuable addition to the Pharmacopœia.

MANIA AND INEBRIETY.

By T. D. CROTHERS, M.D.,

HARTFORD, CONN.

The following cases bring out the facts I wish to present:

A—— had two attacks of acute mania in five years and recovered. He was able to go on with his business (that of a builder), with no apparent evidence of incapacity. He was a temperate, hard-working man, but had a neurotic heredity. Premonitions of another attack of mania appeared, and arrangements were made for his removal to an asylum, when he suddenly disappeared.

Two weeks later he was found in a hotel, where he had been intoxicated every day, but attracted no attention in act or thought. His removal home was followed by a rapid recovery, and soon he went about his business as usual. Ten months later, after a period of excitement, he rushed to a saloon and drank to stupor. He was taken home, was delirious for a week, and then recovered. Two months after, he secreted himself in a saloon and drank for a week to stupor, then went home fully conscious and recovered. Since that time he has had three attacks in which the impulse to procure spirits was uncontrollable. On two of these occasions he was restrained, developing a confused mania of two weeks' duration and a long period of convalescence. On the third attack he ran away, and after four or five days' drinking to stupor returned, and recovered rapidly.

This question came up: Should he be allowed to go away and drink to great excess when the drink impulse came on? or, should he be restrained at home or in some asylum, where he would probably have mania?

The increasing frequency of these paroxysms, and the large business interests under his control, started inquiry as to his mental responsibility. Two medical experts found no indications of insanity or mental incapacity, based on an examination in the free intervals of his paroxysms. The drink-impulse was regarded as a moral lapse, and the mania appearing when he could not procure spirits as simulation.

In my opinion this man was insane, and the paroxysmal inebriety was only a symptom. His real mental condition was concealed, because he lived along accustomed lines of thought and act, and hence acted automatically, and could keep up a semblance of sanity without effort.

B—— came under my care, a neurotic by inheritance and a periodic inebriate. Nothing unusual was noted until the return of the paroxysm, when he ran away, and was found a short time after, having drunk two or three glasses of spirits. He was placed under restraint, and very soon after had an attack of acute mania. This lasted twenty-four hours.

After a week's convalescence he was about again as usual. The return of the next paroxysm was marked by the same mania, when restrained, of nearly the same intensity and duration.

He escaped on the return of the third paroxysm, and drank to stupor for two days, then was found and returned. The recovery was rapid, and later he was placed in the care of another physician. Here the same experience was repeated. The drink-paroxysm became a confused, trembling mania when restrained from procuring spirits; but if he could be intoxicated for a day or more, he would recover rapidly. Nothing less than profound stupor seemed to break up the mania.

This man possessed property, and the same question of responsibility came up. Like all others of this class, he had delusions of power to stop at will, and regarded his drinking as moral weakness and of little moment.

The following case came to me for consultation: A man in active business suffered from a heat-stroke and soon after became a periodic inebriate. These drink-periods were always preceded by states of unusual exhilaration, great buoyancy of spirits, self-confidence, and muscular activity. His wit and humor were overflowing and boisterous, then suddenly he would disappear and be found later stupidly intoxicated.

If any obstacles intervened he would spend large sums of money to procure spirits, seeking retirement where he could indulge unmolested. In a few days he would recover and go home, and after a short period of rest go out again as before.

These periods increased in frequency and duration, and the question of placing him under restraint when the premonitory mental exhilaration came on was proposed. He consented, and was placed in a private insane asylum. Two days after he had an attack of acute mania, and did not recover so as to go out for two months.

On the return of the next attack he went to a physician's house, where the mania reappeared with great severity.

At the next attack he ran away, and was stupidly intoxicated for four days, and then quickly recovered.

On the next occasion he was restrained in a hospital, had mania, ran away, became intoxicated, and while in this state lost large sums of money. The same question of responsibility, and what should be done, came up. To the advice to give up business and go under medical care, the objections were his apparent good health, and large business interests, which he conducted with pleasure and skill, and temperate life in every respect except at these periods. Occupation of both mind and body seemed essential to his health. To give up business and travel was especially dangerous, and to restrain him when these periods came on always developed mania. If allowed to drink to stupor for a time, other dangers appeared. In these drunken states he gave away large sums of money and signed notes.

The counsel of many eminent men has been sought, and still no solution has been reached.

In the future the narcotic action of alcohol will fail, then permanent mania will appear. When alcohol is withheld, mania comes on; when it is given, the mania is prevented.

These cases are unusual, but they outline many symptoms and conditions that are more or less common in all periodical cases of inebriety and dipsomania.

The drink-impulses in these periodical cases are states of mania seeking relief from some psychical pain or agony. This may be found in drugs as well as alcohol, and when ungratified manifests itself in complex mental symptoms of disorder and disease.

A clergyman who was a periodical inebriate, and was cured, has regularly every three months short periods of intense mental irritation. At these times he is angry at everything, is suspicious, and abuses his best friends. When this passes away he apologizes, and regrets his conduct keenly. He has not drunk any for four years. These periods last for three days or more, and are literally manias.

A professor in a medical college, who used alcohol to excess for years, and then abstained, has periods of two or three days' duration during which he is plunged into the deepest melancholy with the belief that he is going to die; hence gives up business for a time. Then suddenly the melancholy will pass away like a cloud, and he will laugh at his past fears and conduct.

These cases, which exhibit many phases of mental degeneration in distinct paroxysms, are common in persons who have drunk to excess and become abstainers. Are they caused by the drink-paroxysms of long ago? or are

they symptoms of other mental disease which have been aborted by the drink-impulse and exist as traces of other brain-disorder?

In some cases it is clear that the drink-impulse is another form of insanity, which from unknown causes develops in this way.

The very close relation which exists between these periodical drink-impulses and complex manias, and the alternation of one with the other, open new fields of research, which often have great practical interest. Thus in one case where the drink-impulse was preceded by melancholy, an important will was written that indicated incompetency, and was in the courts for years. This depended on the failure of the physicians to understand the mental condition of the victim.

Another case comes into court where a merchant kills a clerk for his efforts to prevent him from drinking. He was suffering from mania, which preceded or followed restraint from drink. A periodical inebriate made some business transaction which wrecked a large firm, and then developed the drink-impulse. The unusual character of this act, just before the drinking period, indicated mania and incompetency, but the court failed to recognize this. The family physician often recognizes states and conditions that are manias, pointing clearly to the irresponsibility of the person. When called to give testimony in court, he finds himself unsupported by any teachings of authority and hence fails to make his views clear.

The following conclusions may be stated as authoritative and fully sustained by all clinical study so far: The inebriate is in all cases, as a rule, insane, and of lessened capacity to reason and act normally. The periodic inebriate suffers from a marked mania, which may turn in any direction, taking on almost any form.

Careful study of the symptoms of these cases indicates the gravity of the brain-degeneration and the incapacity of the victim. It also points out the intimate association of periodical inebriety with insanity. The drink-impulse when gratified may prevent a more serious outbreak of insanity and permanent brain-lesion. The inebriety is often a symptom of brain-disease.

The responsibility and mental integrity of periodical inebriates should always be the subject of investigation, under all circumstances and conditions.

A New and Impervious Dressing.—Photoxylin, a substance in use among photographers, was recommended some time ago by Dr. Krysinski as a suitable material for mounting microscopic specimens, and more recently still it has been utilized by Professor Wahl, of St. Petersburg, as a substitute for collodion in surgical practice (*The Lancet*). A five per cent. solution in equal parts of alcohol and ether he finds preferable to collodion, as it adheres more firmly to the skin, not being so easily rubbed off in washing. It is absolutely impervious to liquids, and exerts a perfectly even compression on the tissues. In out-patient practice Professor Wahl finds that, after small operations, such as the extirpation of glands, the application of photoxylin solution enables him to dispense entirely with voluminous antiseptic dressings; also in plastic operations on the face, and in operations in the neighborhood of the male genital organs, such as those for the radical cure of hernia and castration, where it is very difficult to prevent the urine soaking through antiseptic dressings. Professor Wahl, after carefully arresting all hemorrhage, closes the wound with sutures and gelatine-plaster, and then covers the whole with a thin layer of wool soaked in a solution of photoxylin. This, it is stated, will remain eight or ten days, entirely resisting all the effects of moisture. Even in laparotomy, extensive dressings may, he believes, be dispensed with by painting a solution of photoxylin over the wound with a brush, or by the application of a layer of cotton-wool soaked in the same liquid.

PERSISTENT VOMITING OF LABOR ARRESTED BY TINCTURE OF IODINE.

By LLEWELLYN ELIOT, M.D.,

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Gastric disturbance is one of the many unpleasant attendants upon the pregnant state, only a few women escaping entirely. Ordinarily the vomiting of pregnancy ceases in the earlier months, at times, to again appear toward the latter end of gestation. Now and again it is with difficulty subdued, and frequently abortion or premature labor has been induced for its relief. Dr. Thomas C. Smith,[1] of this city, has reported a case where abortion was performed for the relief of excessive vomiting in pregnancy. In this case the emaciation following the gastric disturbance was so great that the patient was a veritable living skeleton. Every remedy employed had failed, and as a last measure a bougie was passed into the uterus, thereby saving the life of the mother at the expense of the ovum.

Dr. John Blake White[2] has reported two cases of pernicious vomiting of pregnancy, occurring in the same subject, of which I make extracts: Mrs. M——, aged twenty-three, when the sixth month of utero-gestation was reached, had a slight "show," followed by slight uterine contractions and constant nausea, vomiting, and retching. The uterus was quieted, but the gastric symptoms continued unabated for ten days. Every well-known remedy for the relief of the symptoms was resorted to without any apparent benefit. That which seemed in any degree to be of service was carbolic acid, in fraction-drop doses, every half-hour or hour, *pro re nata*, and an occasional morphine suppository. The advisability of inducing premature labor was being considered when the stomach became more tolerant, and in due time convalescence was established. No further trouble occurred, and she was delivered naturally at term. During the period of her second pregnancy her condition continued favorable up to the sixth month of utero-gestation, when she was again sick with distressing nausea and vomiting, but recovered from the attack without any serious consequences, and continued in fair health up to within two weeks of her expected confinement, March 19th. He was called March 12th, when she had been suffering from nausea and occasional vomiting for several days. Her nausea and retching continued throughout the night, and these symptoms assumed a very serious aspect. On March 19th, when the patient's condition appeared to be rapidly becoming critical, and the induction of labor seemed to be decidedly the proper course to pursue, natural labor set in and resulted in a still-birth. The third stage was rapidly and satisfactorily accomplished; the womb afterward contracted firmly, and it was hoped that the persistent retching would cease after the seemingly exciting cause had been removed. The retching soon returned with increased energy, and, with the vomiting, continued, in spite of every means to control these symptoms, until evening, when the hemorrhagic character of the vomit became manifest. The symptoms persisted until death from asthenia supervened, twenty-four hours after confinement. There was no septicæmic influence to account for the malignancy of the symptoms.

Sometimes vomiting attends labor, but it causes trouble in but a few isolated cases, where, from its persistency, exhaustion becomes so great that the contractions of the uterus become too feeble to complete the labor. The cases recited show the little value attached to the remedies usually employed, and the benefit to be derived from the internal administration of tincture. According to the teaching of Wood, iodine, when taken internally in moderate doses, causes "some gastric uneasiness and a disagreeable metallic taste in the mouth; when larger

[1] Smith, Thomas C.: Amer. Jour. Obstet., June, 1886, vol. xix.
[2] White, John Blake: New York Med. Jour., August 7, 1886, vol. xliv., p. 154.

amounts are ingested, the gastric uneasiness may be intensified into violent vomiting, with increased salivary flow, abdominal pains, and sometimes purging."[1] He also states, in regard to the internal administration of iodine: "Nor should the tincture be given internally, because the iodine is precipitated by the watery juices of the stomach;"[2] but advises the use of the compound solution of iodine in doses of five to fifteen drops. The *rationale* of its action, in the class of cases to which reference is made, I do not attempt to explain; the fact remains the same nevertheless.

The United States Dispensatory[3] states: "The tincture of iodine is not elegible for internal use;" and further,[4] "the dose of the tincture is from five to fifteen drops, but Lugol's solution is a much preferable preparation for the internal administration of iodine."

Bartholow[5] states: "The vomiting of pregnancy can sometimes be greatly relieved by drop-doses, every hour or two, of the tincture."

Potter[6] writes: "But it is generally used as a local application or for injection into cavities;" and further,[7] "and in the vomiting of pregnancy drop-doses of the tincture every hour are often efficient."

Brunton[8] writes: "On account of its irritating action on the intestinal mucous membrane iodine is rarely given internally."

Farquharson[9] does not mention its internal use, nor does Gubb.[10]

The first recorded experience of the use of iodine in gastric disturbances which I have met with is by Dr. Thomas J. Gaunt,[11] who relates a series of successful experiences with the compound tincture, under the title of "The Use of Iodine as a Stomachic Sedative." He gave it in doses of from three to five drops. I have frequently obtained the same beneficial results which he reported, in cases of the morning-sickness of drunkards. If for any reason the compound tincture cannot readily be obtained, the simple tincture will answer equally as well.

M——, white, aged twenty-six, born in the District of Columbia, went into labor with her first child, March 2d, at 2 A.M. Her previous history was negative, if we except the usual vomiting attending the earlier months of her gestation. When called, at 3.30 A.M., the os was dilating, vagina moist, head presenting, membranes intact, but she was vomiting persistently. Previous to my arrival she had been given lime-water, pepsine, brandy, ingluvin, and cerium oxalate, without benefit. Mustard was ordered over the pit of the stomach, and cerium oxalate combined with ingluvin given without success. Carbolic acid in half-drop doses failed, as did lactopeptine. She was becoming rapidly exhausted and the pains had ceased. Whether to administer chloral hydrate per rectum, or to administer an anæsthetic and so terminate the labor, were questions to be weighed, when the iodine treatment came to mind. Following the advice of Dr. H. B. Hemenway,[12] in protracted labors—"Posture during Labor"—she was propped up in bed, hoping thereby to precipitate the labor, at the same time the finger being introduced and pressed against the anterior lip of the cervix; contractions of a feeble character followed, still the vomiting continued. At this juncture she was given five drops of tincture of iodine in a tablespoonful of sweetened water; the effect was magical, for the vomiting ceased almost immediately. To make assurance doubly sure she was given a second dose in thirty minutes. The labor now progressed rapidly, and at five o'clock, three hours after the first pains, she was delivered of a male child, well developed and healthy. Third stage normal. No bad effects followed the use of the iodine. While Dr. H. B. Hemenway is credited with the postural treatment of protracted labors, the idea was not new, as I have seen it mentioned briefly in obstetric works, but I think the credit of developing the idea belongs to him.

Dr. Samuel C. Busey,[1] of this city, read before the Medical Society of the District of Columbia, at a recent meeting, a paper on "Persistent Vomiting during Labor relieved by Anæsthesia." In this case success followed the use of the alcohol, chloroform, and ether mixture, but it was necessary to continue the administration to the end of labor, as the vomiting recurred upon the suspension of the anæsthetic. In the report of remarks made, it appears that "the tincture of iodine finally controlled the vomiting, but the pains ceased."[2] This is a mistake, as the labor progressed to a rapid end after the arrest of the vomiting, as appears above. Dr. L. Mackall[3] referred to the good effects of administering a cupful of crushed ice, swallowed as rapidly as possible; he had by this means allayed gastric irritability as well as promoted efficient uterine contractions, and prompt delivery in such cases.

The use of anæsthetics to lessen the pains in labor, I fancy, is a prolific cause of post-partum hemorrhage, since there is want of discretion and care in their use; but the first insensibility were the limit of their action they would be far safer. The safest plan is self-administration. The treatment here recited will be of service in cases of vomiting of pregnancy, that following a debauch, and almost any variety of vomiting, and as an agent so potent for good deserves a fair trial.

HERNIOTOMY UNDER COCAINE ANÆSTHESIA.

By W. W. HEWLETT, M.D.,

BABYLON, L. I.

A. D——, aged seventy-nine years and eight months, has long been afflicted with double inguinal hernia; the right developed over forty years ago, the left appeared twenty years after.

He has a weak heart and an intermittent and irregular pulse. He often suffers with œdema of the feet and distressing dyspnœa, for which he is obliged to resort to digitalis.

Owing to an ill-fitting truss, the hernia of the right side frequently descends, but he is generally able to reduce it without assistance. On August 13th it descended into the scrotum, and he was unable to put it back. On the 15th he summoned medical aid, but repeated taxis in various positions of the patient's body, with applications of ice, etc., utterly failed. Stercoraceous vomiting and strangulation of the gut ensued, and it soon became apparent that death must speedily follow unless resort was had to surgical means. The advanced age of the patient and the serious condition of his circulatory system rendered it extremely hazardous to administer ether or chloroform. It was decided therefore to perform the operation with the aid of cocaine.

On August 19th I injected two drachms of a four per cent. solution of cocaine in sixteen different places, seven subcutaneously on either side of a line where the incision was to be made, and two deeper and near the neck of the sac.

After fifteen minutes the operation was performed, under antiseptic precautions, in the usual manner, with the assistance of Dr. E. C. Wendt, of New York; Dr. S. R. Corwith, of Islip; and Dr. A. B. Leggatt, of Babylon. The stricture being in the neck of the sac, the latter was opened and the intestine, though deeply congested and purple in color, was returned into the abdominal cavity. The patient was perfectly conscious and a very interested observer during the entire operation. He de-

[1] Wood: Therap. Mat. Med. and Toxicol., p. 411.
[2] Ibid., p. 415.
[3] U. S. Dispensatory, fifteenth edition, p. 809.
[4] Ibid., p. 1461.
[5] Bartholow: Prac. Treat. on Mater. Med. and Therap., p. 219.
[6] Potter: Handbook Mater. Med., Pharmacy, and Therap., p. 231.
[7] Ibid., p. 234.
[8] Brunton: Text-book Pharmacol., Therap., and Mater. Med., p. 559.
[9] Farquharson: Guide to Therap. and Mater. Med., edition of 1879.
[10] Gubb: Griffith's Mater. Med. and Pharmacy.
[11] Gaunt, Thomas J.: Amer. Jour. Med. Sc., April, 1883, p. 413.
[12] Hemenway, H. B.: Amer. Jour. Obstet., June, 1886., vol. xix., p. 575.

[1] Busey, S. C.: Jour. Amer. Med. Assn., April 30, 1887, vol. viii., p. 484.
[2] Eliot, L.: Jour. Amer. Med. Assn., April 30, 1887, vol. viii., p. 492.
[3] Mackall, L.: Jour. Amer. Med. Assn., April 30, 1887, vol. viii., p. 492.

cleared that he felt no pain from the knife, and that we did not hurt him except when the tumor was pushed backward. When he saw the distended intestine rising before his gaze, he said: "Are you going to tear me all to pieces?"

There was no shock. Free spontaneous dejections occurred during the night. The wound closed by primary union, and his progress toward recovery has been uninterrupted. One week after the operation he sat up on the side of his bed and shaved himself.

So far as I can ascertain, this is the first recorded instance of the performance of herniotomy under cocaine. The result fully demonstrated to the gentlemen who kindly assisted in the operation, and also to me, that the employment of cocaine in cases like the one here described is both feasible and highly satisfactory.

Clinical Department.

RELIEF OF AN ACUTE INTESTINAL OBSTRUCTION BY PUNCTURE WITH A TROCAR.

Dr. M. R. Perry, of Russellville, Ky., reports the following case: "Mrs. P——, thirty-five years of age, partook freely one day of a fruit lunch, consisting of bananas, pineapples, and blackberries. A few hours after a severe pain began in the region of the ileo-cæcal valve, which gradually increased in violence until the next day, when I was called. She is of a constipated habit, and subject to occasional attacks of colic. I found the abdomen somewhat swollen and tympanitic, with great tenderness in the region of the valve. I gave at once a hypodermic injection of one-sixth of a grain of sulphate of morphine, which was repeated three times within an hour before there was any relief. In the evening ten grains of calomel was given, and in six hours one ounce of castor-oil, with no effect. On the following day the hypodermics were administered every four or five hours, the dose being increased to one-fourth of a grain. There was great distention of the abdomen, with nausea and occasional vomiting; the patient was very restless, throwing herself from side to side of the bed every few minutes. On the day after this the morphine was increased to one-half grain; the pain was intense, the distention was increasing, there were distressing nausea and vomiting, but no movement from the bowels, though enemas and purgatives were freely administered. The next day the symptoms were about the same, except increased pain and restlessness, requiring one grain of morphine three or four times in the twenty-four hours to give any rest. Twenty-four hours later, at my request, Dr. R. H. Keene was called in consultation, and, after a careful examination, agreed to the diagnosis of obstruction at the ileo-cæcal valve, with fecal impaction and inflammation. The next day Dr. Keene suggested the administration of two drops of croton-oil, which was repeated in three hours, with no effect. A long rectal tube was then pushed up the bowel with a female catheter alongside, and more than a gallon of warm water thrown up; this was tried several times during this and the following day, with no result. On the morning of the eighth day the symptoms became still more grave, the distention was so much increased as to interfere with the movements of the diaphragm, the nausea was very distressing, and fecal vomiting occurred. I suggested to Dr. Keene the great danger of any further delay if we intended any kind of operative measure; he readily concurred, and said our patient could not live twelve hours longer with the rapidly increasing distention of the abdomen. I at once introduced a large aspirator-needle in the median line about two inches below the navel, and this permitted the escape of a large quantity of gas. A trocar was then passed through the abdominal wall in the right iliac region, about two inches above the ileum, into the gut; this was allowed to remain for three or four hours, during which time considerable quantities of gas, with about one quart of liquid fecal matter, escaped. In eight hours after the introduction of the trocar there were two large evacuations from the bowels. The nausea and vomiting were relieved as if by magic, the distention very much reduced, and, in fact, all the symptoms were much better in the following thirty-six hours. For three days after the operation there were from six to ten large serous evacuations, indicating inflammation of the mucous lining. Enormous quantities of morphine and opium were used before and after the operation, in order to relieve pain and subdue the great restlessness. On the twentieth day after the operation the patient was entirely out of danger, all the symptoms of a grave nature having disappeared. At this time she is able to be about her room, it still being necessary to administer one-tenth of a grain of morphine daily. Frederick Treves gives several cases of intestinal obstruction that were cured by this procedure, in some of which it was resorted to as a mere palliative. It strikes me that in those cases of fecal impaction, or inflammation, in and about the ileo-cæcal valve, this operation should be tried before resort is had to one of greater danger. I have never read of a similar case relieved by the same method in any of the American journals."

IODISM IN THE NURSING INFANT.

Dr. Henry Koplik, of New York City, writes: "The rarity of recorded cases of iodism in the nursing infant during the administration of the iodide of potassium to the mother has induced the writer to publish the following: Traces of various drugs have been found in the milk of the nursing women a short time after ingestion. Some investigators (Spaeth and Schoenstein) have endeavored to solve the problem of therapy of the nursling through the milk of the mother (Fleischman). This would be of especial utility in relation to the subject of congenital syphilis. Rhubarb, potassium sulphide, potassium iodide, iodine, and solutions of opium (Fleischman) have all been found in the mother's milk after their ingestion by her. Iodide of potassium has been found quite frequently in mothers' milk, and even in the urine of the nursing child (Ringer, Bartholow). Cases of drug-eruption recorded from the iodides in the infant are rare, for the reason that in these little patients the eruption may so easily be mistaken and taken for other cutaneous and transient affections so common to children.

"Mrs. X——, aged thirty, Irish extraction, mother of two children; youngest three months; no abortions; under treatment at my polyclinic for indurated anal fold, condylome of the anus, and fissures of the anus (syphilis). The child at the beginning of treatment was aged three months, nursing at breast; its skin, mouth, nose, anus, vulva all free from any eruption or signs of syphilis. The mother, outside of a few cicatrices of a suspicious character around the vulva, showed no other accident of syphilis; the breasts healthy, of good development, and secreting abundance of good milk. The child was normal in development and of healthy appearance. The patient (mother) was, in addition to local treatment, put upon potassium iodide (℥ iiss.–aq. ℥ ij.), ℥ j., t.i.d. in water internally. Two days after having taken the iodide the mother brought the child to the dispensary, and showed me some few macules and papules on the right arm and on the forehead, of a rose-red color. Within two days these were reinforced by others on the chin and upper part of the chest and abdomen. The old spots had developed minute pustules. There were some looseness in the bowels and some dyspeptic symptoms, and a little increased secretion in the nose. The iodide was reduced to one-half. The patient returned in two weeks; she had not been taking the iodide for about ten days, and the eruption on the child had disappeared. The iodide was commenced

again, and in four days the patient not only showed the eruption on her face of maculo-papules again, but in the milk traces of the iodide were found, and on the child the eruption above described appeared again on the hands and face, but less intense, and not with such clear dyspeptic symptoms. There was no fever. The infant seemed tolerant of the drug to a greater extent than on the first trial."

A CASE OF DOUBLE COMPOUND FRACTURE.

Dr. J. Leon White, of Halsey Valley, N. J., writes: "In The Medical Record of July 16th, Dr. R. C. Newton, in his article on 'Compound Gunshot Fractures,' speaks of the rarity of cases recorded of double injuries of this kind, and says that a search through the principal medical journals for the last eighteen years reveals but two cases of double compound fracture reported since the war, only one of which was a gunshot wound. I am able to add one more case of double compound fracture, though not gunshot wounds. The case was seen by me in the autumn of 1877, while a student. My preceptor, Dr. A. Treganowan, of South Amboy, N. J., was called in consultation and I accompanied him. The patient was a German, about fourteen years of age, and had received his injuries by falling from a tree while nutting. Besides lesser injuries he sustained a compound fracture of both forearms. In one arm both bones were involved, and in the other the radius, certainly—but I cannot say positively that the ulna was, my impression being that this bone was also fractured. The broken ends of the upper segments, in both arms, protruded for at least an inch from the wounds, each being about two and a half inches above the wrist-joint. Three days after, one arm, I think, was amputated at the juncture of the middle with the upper third of the humerus, for rapidly spreading gangrene. The other arm did well, and the patient made a rapid recovery, becoming, as I have repeatedly noticed to be the case after amputation of a limb, much more fleshy than before receiving his injury."

PELVIC ABSCESS AND UTERINE CYSTS.

Dr. F. L. Smith, of Shaftsbury, Mich., reports the following case: "Mrs. Myrtie B. W——, aged nineteen, married three and one-half months, presents the following history: When about thirteen years of age she was blind for several months, but the sight was restored by an operation the nature of which is unknown. Had always been irregular in her monthly periods, the periods occurring sometimes twice a month, sometimes once in two or three months. She had been treated three times for lung troubles. During the winter of 1885–86, was treated for an abscess in her right side (pelvic, as she would point to it). Has had what were said to be three miscarriages since April, the last one on August 4th, having skipped her July period. At this time she flooded profusely. Felt well on August 5th, but began to show signs of inflammation on August 6th, and grew rapidly worse until the 8th, when she died. In this sickness was attended by an irregular physician. The nurse said that a fœtus one and a half inch long, and nearly perfectly formed, came away. By invitation of the friends I was present at the post-mortem examination, twenty-four hours after death, Dr. T. A. Kay operating, and the following points were noticed: Body thin, rigor mortis marked, abdomen slightly enlarged and hard. There were some dark inflammatory nodules in the vagina. There were evidences of a slight general peritonitis. The uterus presented first and was mistaken for the bladder. On puncture, to empty it of its contents, an amber-colored fluid flowed out, the inside of the walls being covered by an amber-colored, jelly-like substance, which was found to be encysted. The entire muscular structure was displaced by these cysts, which varied in size from a pea to an egg. The entire uterus weighed ten or twelve ounces. There were no traces of a cervix, the vagina ending in a pouch in the fundus uteri. The intestines, great omentum, uterus, and appendages were glued together by old inflammatory adhesions. Only the right ovary could be found, it was natural in size and somewhat inflamed. Between the ovary and uterus an encysted pus-cavity was found, containing five or six ounces of greenish black pus. The sigmoid flexure was nearly surrounded by the cyst-like wall of the uterus. Kidneys were normal. Spleen slightly enlarged. Lungs normal. The heart, normal in appearance, contained a clot three inches in length which was adherent just within the tricuspid valves. This was probably the cause of death. During life the patient never had any peritonitis—in death she presented no appearance of lung trouble." Dr. Smith asks whether the abscess that was found could have been the one the patient was treated for in the winter of 1885–86, and he asks also for any information concerning the literature bearing on this condition.

VARICOSE VEINS ABNORMALLY LOCATED.

Dr. George Ross, of Richmond, Va., writes: "An uncommon case has just fallen under my observation—so uncommon that I fail to find its duplicate in any work on surgery accessible to me. The subject is a young man, for ten years past a watchman at the railroad wharf near this city. In the first year of his employment he fell through the hatchway, a distance of twenty feet, lighting on his feet. If soreness be excepted, no immediate effects followed. Later on within the year he noticed a swelling over the pubis, steadily growing but not interfering with his duties. For several years it has remained practically stationary, and to casual inspection would give the impression of a double inguinal hernia. When the man is standing, the mass is like a pendulous apron, which, on examination, is found to be an enormous knot of 'varicose veins,' covering the entire super-pubic region. Many of the veins are as large as the human thumb, and all empty themselves when the patient lies down. He declares himself equal to any work or play engaged in by his companions, and is now filling an appointment on the police force of the city."

A RARE CONGENITAL DEFORMITY.

Dr. E. H. Martin, of Salisbury, Vt., reports the following case: "Mrs. P——, living in this vicinity, was delivered, after an easy labor, on April 2d last, of a female child weighing about eleven pounds. This child presents the anomaly of either complete absence or complete fissure of the sternum. There is a breach of about two inches in the continuity of the bony thoracic wall, in the space usually occupied by the sternum, in its whole extent. The clavicle and ribs articulate with the ribs of the same side, but have no bony or cartilaginous connection whatever with their fellows of the opposite side. This space of bony deficiency is covered only by soft structures, which with every act of inspiration and expiration flap inward and outward. The heart, every pulsation of which can plainly be seen, lies within this space, and can be readily grasped through its thin covering by the thumb and finger. There is a space about as large as a nickel where the integument over the heart has attained so great tenuity as to be almost transparent, and presents a silvery-white appearance. There is a similar deficiency in the abdominal wall, the recti abdominis being separated or non-developed, and there is an umbilical hernia which, in acts of straining, protrudes as large as the clinched fist. The convolutions of the small intestine can be readily seen through their thin covering. The child is still living at this writing (four and a half months), and has developed an inguinal hernia of the right side. The pubic bone and pudenda are normal. Weight about same as at birth. Parents healthy, and their older children, several in number, present no anomaly."

Progress of Medical Science.

A New Method of Treating Localized Tubercular Processes. — The Vienna correspondent of the *British Medical Journal* writes as follows on this subject: "In a preliminary communication recently made by Dr. Kolischer to the Imperial Royal Society of Physicians of Vienna, he gave an account of the results which he had obtained in the treatment of localized tubercular affections by parenchymatous injections of a solution of phosphate of lime. The following considerations induced him to make a trial of this method. He wished to ascertain whether localized tubercular processes could not be cured in a way analogous to that in which spontaneous recovery takes place in pulmonary tuberculosis, namely, by supplying the diseased organ with lime salts, and thus artificially producing calcification of the fungous masses. Then, bearing in mind the fact that the inflammation set up in cases of articular fractures sometimes checked the tubercular process, he was led to suppose that an artificial inflammatory irritation might accelerate the cure of the tubercular disease. He used concentrated solutions of phosphate of lime for the parenchymatous injections. Healing of the fungous masses was obtained by this method, in the *clinique* of Professor Albert, in from four to six weeks. The injection was followed by severe reaction; the fungous masses broke down, and healed very rapidly. The process reminded one of the demarcation of gangrene. The florid healthy granulations which appeared after the fungous masses had been cast off filled the cavities after an interval of fourteen days. When a necrosed piece of bone was present in a fungosity, this quickly broke down, and the bone was eliminated with a rapidity which could only be attributed to the treatment. The effect of the treatment was also seen in cases of fungous processes with enlarged lymphatic glands. In a case of fungoid disease of the female breast, the swelling of the glands also disappeared after the injections, and this was still more evident in a case of necrosed bone in which the axillary lymphatic glands and those of the bicipital groove were enormously enlarged. Dr. Kolischer showed some patients who had been affected with tuberculosis of the joints, and successfully treated in the way described. The first case was that of a girl, who had tubercular disease of the elbow-joint, for which she had been admitted in January. The joint was at that time anchylosed in the rectangular position, and the skin over the affected part was very tender, especially over the outer condyle. The olecranon could not be felt. After the injections, a period of reaction with fever and pain was first observed. This was followed by a period of induration. Three weeks later complete absorption had taken place, and the joint had almost recovered its normal mobility. These successive stages of reaction, solidification of the masses, absorption and speedy recovery of the function of the joint were also noticed in a second case. Dr. Kolischer, moreover, showed a case of caries of the hand in a child, aged six, and a case of tubercular disease of the knee-joint, both of which had been successfully treated in the same way. He also presented a case of calcified caries of the hand in an adult, a cured fungosity of the tibio-tarsal joint, in which there was circumscribed necrosis of the fascia, and, lastly, a case of anal fistula, which had not been scraped with the sharp spoon, but only slit up, and packed with gauze saturated with the above-mentioned solution. At the time this patient was shown, fourteen days after the application, healthy granulations could already be seen, and the wound was beginning to skin over. In his earlier experiments Dr. Kolischer had used a solution of chlorate of lime for the parenchymatous injections. This, however, was found to produce such severe reaction that afterward he, at the suggestion of Dr. Freund, employed only solutions of phosphate of lime, in which there was always an excess of phosphoric acid. Dr. Kolischer concluded by saying that he hoped to be able to report next to the society on the results obtained in the treatment of tubercular affections of the larynx and pulmonary phthisis by the same method. Professor Albert, in whose *clinique* the experiments had been performed, said that he wished to draw the attention of the profession to the good results which had been obtained by Dr. Kolischer; he would most urgently recommend further trial of the method. Few facts had made such an impression on him as those just related by Dr. Kolischer. At first he (Professor Albert) had taken up a skeptical attitude, but the results had surprised him. He had, indeed, seen good results in tubercular disease from igni-puncture, but in Dr. Kolischer's cases free mobility of the joints was obtained, an advantage which could not be overrated. We had to deal here with new and most remarkable facts."

Mesenteric Cysts.—Dr. E. Hahn recently read a paper on Mesenteric Cysts before the Berliner Medizinische Gesellschaft. These cysts are rare. Victor Angagneur is the only writer who has written a good monograph on the subject. The mesentery consists of connective tissue, adipose tissue, lymphatic and blood-vessels, and glands (*British Medical Journal*, June 18, 1887). From the connective tissue and fat, fibromata, lipomata, enchondromata, sarcomata, myomata, and cysts may be developed. Carcinomata and dermoid cysts have not been discovered in the mesentery. Rokitansky and Virchow both believed that mesenteric cysts were developed from degenerated glands. Hahn divides mesenteric cysts into (1) blood-cysts, (2) chyle-cysts, (3) serous cysts, and (4) hydatid cysts. According to Angagneur, 90 mesenteric tumors have been observed, of which one-third were cystic. Of these, 17 were subjected to operative measures. In 5 cases of chyle-cysts, abdominal section was performed; in 3 of these cases the cyst was removed, with 1 death; in 2 the cyst was incised and drained, the patient recovering. The fluid, sometimes abundant, is milky, and contains fat and albumen. The cyst-wall is composed of connective tissue, with traces of lymphatic tissue, and is not lined with epithelium. Millard and Tilland and Werth have supplied good evidence that these cysts arise from lymphatic glands. Blood-cysts of the mesentery are very uncommon. Dr. Hahn states that two cases have been carefully noted—one occurred in Sir Spencer Wells' practice, the second was operated upon by Hahn himself. The patient was a girl, aged eight. Two years before operation a swelling, the size of a hen's egg, was discovered in the abdomen; it was attributed to a blow. The swelling was freely movable, and at first caused little inconvenience, but at length became the source of severe pain, much like that which is felt in some cases of floating kidney. The child would be cheerful for a time, and then complain of intense pain, and lie down with the thighs flexed, and the head bent till it nearly touched the knee. This pain would last for two or three days and nights, preventing sleep. An incision over four inches in length was made through the linea alba, the great omentum was pushed aside, and the dull-red, lustreless surface of the tumor was exposed. The incision was enlarged, and the tumor could then be easily raised. A coil of intestine formed a frill in front of the growth. The anterior layer of mesentery was divided, the fluid contents of the cyst emptied, and the collapsed cyst was then dissected away. After checking the hemorrhage the operator sewed up the wound in the mesentery with catgut. The child made a rapid recovery. Serous cysts are the most frequent and the most serious form of cystic disease of the mesentery. They often become very large. Simple tapping has seldom caused a serous mesenteric cyst to disappear. Extirpation has been attempted five times, with three deaths. It appears that incision and drainage are preferable to complete removal of the cyst. Hydatid cysts have only been twice noted in literature. A discussion followed the reading of Dr. Hahn's

paper. Dr. Gottschalk described a case of serous mesenteric cyst successfully removed by Dr. Landau. The pedicle, formed out of the mesentery, was returned, and drainage was not found necessary. Dr. Gottschalk preferred complete operations to incision and drainage, and in this opinion most British operators will agree with him. Dr. Küster had observed one chyle-cyst and one hydatid cyst of the mesentery. There was generally great difficulty in emptying the cyst, which was enveloped in the folds of the mesentery, the intestine being often stretched over the tumor. He believed that total extirpation was dangerous and unadvisable, incision and drainage answering very well. Dr. Hahn replied that in the case of chyle-cysts and blood-cysts not one death had followed extirpation.

Boracic Acid in the Treatment of Leucorrhœa.—From the excellent results which are yielded by boracic-acid packing in chronic suppurating otitis, Dr. N. F. Schwartz (*St. Louis Courier of Medicine*) was led to employ it in a case of leucorrhœa which had resisted the most persevering use of the ordinary remedies. The experiment was successful within a fortnight, and the patient has remained well for several months since. Dr. Schwartz states that he has been equally successful in a number of other cases. His manner of using it is as follows: Having first irrigated the vagina with water at as high a temperature as can well be borne by patient, a cylindrical speculum is introduced, and the vaginal walls very carefully dried, first with a soft sponge and then with absorbent cotton. This done, boracic acid in crystals is poured into the mouth of the speculum and pushed up against the uterus and vault of the vagina with a clean cork caught in a uterine sponge-carrier, sufficient acid being used to surround and bury the intravaginal portion of cervix, filling the upper part of vagina. A tampon of absorbent cotton is then firmly pressed against the packing, and held *in situ* until the folds of the vaginal walls close over it as the speculum is withdrawn. This should be allowed to remain three or four days, or even longer, as after this time there still remain some undissolved particles of the acid, nor will the tampon seem at all offensive. The ostium vaginæ, if examined in twenty-four hours, instead of being besmeared with the leuchorrœal secretion or discharge, presents a clean appearance, and is bathed in a watery fluid, which begins to appear several hours after the packing has been placed; and in his cases this was the only discharge noticed afterward. However, a second or even a third repetition may be necessary, but in none of his cases, numbering nearly a score, has he found more than a second packing called for, and in many one sufficed; and in no instance has its use occasioned pain, nor even inconvenience.

Lesions of the Placenta in Albuminuria.—Albuminuria has long been recognized as predisposing to puerperal hemorrhage; and in women, who have succumbed to attacks of eclampsia, hemorrhages have been found in the brain, liver, kidneys, and lungs. The placental lesions, however, had so far escaped notice. According to Dr. Rouhaud (*Archives de Tocologie*), the outside appearance of placentas containing hemorrhagic foci is not, as a rule, different from the normal, except they, or some of them, should be near the surface. On manipulating the placenta indurated nodules can be felt, on cutting into which a clot of variable size may be discovered. In the first variety the cavity is irregular, ragged, and throws out branches, never, however, communicating with the surface. In a second variety the blood is contained in cavities, round or oval in shape. The walls of these cavities are formed by the tissue of the placental cotyledons, and no trace has ever been found of the orifices of the vessels, the rupture of which had given rise to the hemorrhage. They are generally situated near the borders of the placenta. Their number varies from four to fourteen, but does not often exceed four or five. Out of sixty-eight women whose urine contained albumen during labor, twenty-eight had more or less hemorrhage into the placenta, equal to forty per cent. of the cases. The frequency would appear to bear some relation to the intensity of the albuminuria. Twenty out of the twenty-nine cases in which hemorrhages were found were primiparæ. The diagnosis cannot be made with certainty. A sensation of sudden weight and pain in the pelvis toward the termination of pregnancy, with albuminuria and slowing of the fœtal heart, may give rise to a suspicion, but rarely with sufficient clearness to justify intervention on behalf of the fœtus. Albuminuria alone would not seem to have an unfavorable effect on the progress of pregnancy, but placental apoplexy is very apt to cause abortion. In twenty-nine cases of albuminuria with hemorrhage into the placenta, pregnancy went on to term fourteen times; in the remainder delivery was premature, most usually between the seventh and eighth month. Out of forty-one cases of albuminuria without placental lesions, premature delivery took place seventeen times; but in six of these, hydramnios, or twins, may have conduced to this result. Albuminuria without placental lesions would therefore appear to cause premature delivery in twenty-five per cent. of the cases. As regards the health of the fœtus, the result of placental hemorrhage is even more disastrous. In twenty-nine cases of albuminuria with placental lesions, in eleven the fœtus was still-born, and the remainder were much below the usual weight. Out of forty-five children born of albuminuric women without placental lesions, twelve only were still-born, and the others were of normal weight.

The Distribution of Pyæmic Abscesses.—At a recent meeting of the Cambridge Medical Society (*British Medical Journal*, July 30, 1887), Mr. Stephen Paget read a paper on the Distribution of Pyæmic Abscesses. If cases of pyæmia were arranged according to the nature of the primary lesion in each case, it would be seen that there was some evidence of a relation between the situation or character of the primary lesion and the situation of the secondary lesions. In pyæmia after venesection, effusions into the serous and synovial cavities were very frequent, while the kidneys and the spleen were seldom affected. In pyæmia after amputation the spleen and the liver were affected in a certain number of cases, but effusions into the serous cavities were much less frequent than in pyæmia after venesection. Effusions into the joints were also less frequent. The heart was often diseased in pyæmia after acute necrosis, and the spleen was not infrequently affected. Effusions into the pleuræ were common; so were effusions into the joints, but usually it was the elbow-joints that suffered; the knees did not appear to have suffered in any case, except by extension of inflammation from the femur or the tibia. Thus the kidneys were affected in none of the venesections, and in only two per cent. of the amputations of the thigh, but in sixty-six per cent. of the cases of acute necrosis. The heart was affected in only five per cent. of the venesections, and in none of the amputations, but in sixty-seven per cent. of the acute necrosis cases. The liver was attacked in five per cent. of the venesections, six per cent. of the necrosis cases, and twenty-one per cent. of the amputations. The spleen was attacked in none of the venesections, but in 16.5 per cent. of the amputations, and in twenty per cent. of the necrosis cases.

How to Open a Felon.—Dr. John Ashhurst, Jr., says that in opening a felon the parts to be avoided are lines of the arteries and that of the flexor tendon, which is the median line. The felon should be opened midway between the artery and tendon. If necessary, it can be opened on both sides. If the sheath of the tendon is opened, the tendon will almost always slough, and the finger will be useless.—*Polyclinic.*

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LEGAL'S DISEASE.

UNDER this title Dr. Pietro Masucci describes, in the *Giornale Internazionale delle Scienze Mediche*, No. 6, 1887, an affection characterized by severe and persistent temporo-occipital neuralgia, which is intimately associated with, if not entirely dependent upon, chronic follicular pharyngitis and inflammation of the middle ear. In this article the author states that many years ago he had observed a number of cases of chronic cephalalgia, accompanied by inflammation of the naso-pharynx and tympanum, in which the first-mentioned symptoms disappeared entirely upon improvement in the local conditions consequent upon appropriate treatment. He had at the time made notes of these cases, and, when opportunity offered, scanned the current literature to learn whether similar observations had been made by others. No description of any affection similar to those observed by him appeared until Legal published his series of thirty cases in the *Deutscher Archiv für klinische Medicin*, No. 2, 1887. The author's description of these cases corresponded exactly in all essential particulars to those observed by Masucci.

The disease may best be described by a brief recital of one of the cases observed by Masucci. A young man, aged nineteen, came under treatment, complaining of severe paroxysmal occipital neuralgia. There was marked hyperæsthesia in the left temporal region, the slightest pressure on this part causing the most intense pain. There was also considerable dryness of the throat, and the patient complained of some deafness. Examination showed chronic granular pharyngitis, with secondary catarrhal trouble of the Eustachian tubes, chronic bilateral rhinitis, and hyperæmia of the drum-membrane. Treatment was directed solely to the cure of the local lesions, no remedies being given for the relief of the cephalalgia, despite the urgent entreaties of the patient. The good effects of this treatment became manifest within a few days, and as the catarrhal trouble progressed toward recovery, the neuralgia and temporal hyperæsthesia gradually disappeared. The result was most satisfactory, and the patient made an excellent recovery.

The author admits his inability to explain the exact relation between the local lesion and the neuralgic trouble. It would naturally be supposed that the deflection of the drum-membrane, owing to the rarefaction of the air in the tympanum, might cause some irritation in the nervous filaments ramifying on this membrane, which filaments are derived in part from the auriculo-temporal nerve. The experiments of Legal, however, have shown that the drum-membrane may be strongly deflected artificially without giving rise to any nervous disturbance of this nature. But however the neuralgia might be cured, its dependence upon the local trouble was clearly shown by the results of treatment.

The author insists upon the necessity of recognizing the possibility of a persistent paroxysmal temporo-occipital neuralgia, arising from a chronic inflammation of the naso-pharynx, with secondary extension to the Eustachian tube and tympanic cavity. And he concludes his interesting memoir with the advice of Legal. The latter says that whenever a patient presents himself complaining of persistent cephalalgia, with hyperæsthesia over the region of distribution of the temporo-occipital nerve, an examination of the pharynx and ear should be made, and insufflations of compressed air should be practised. If then, after these insufflations, a sensible diminution in the pain, either spontaneous or short, due to pressure, be experienced, the physician may hope to obtain, in many if not the majority of cases, a complete cure of the headache. This is to be effected by means of appropriate treatment directed to the relief of the inflammation of the naso-pharynx and Eustachian tubes.

MUSCULAR ATROPHY RESULTING FROM THE PROLONGED APPLICATION OF BLISTERS TO THE ARM.

THERE is a warning contained in a communication made by Dr. Collignon in the *Journal de Médecine et de Chirurgie Pratiques* for August, 1887, which is well worthy of consideration. The writer states that, when he was five years old, he suffered from a rebellious kerato-conjunctivitis following scarlatina. Other means of relief having proved ineffectual, the physician advised the application of large blisters to the arms. These were made, and were not allowed to heal for a period of eighteen months. The result of this was an atrophy of the muscles of both arms. The writer is otherwise of fair physical development, but the muscles of the upper extremities, between the shoulders and the elbows, are small in size and weak as compared with those of other parts. This is an instructive case, and one that may with profit be remembered. For the well-meant advice of a short-sighted physician has resulted in an injury which time has been unable to repair.

TREATMENT OF SCIATICA BY REFRIGERATION OF THE SOUND LIMB.

SOME time ago M. Debove announced that he had been able to afford marked relief in a case of obstinate sciatica by means of a spray of chloride of methyl applied along the course of the sciatic nerve in the unaffected member. At a recent meeting of the Société de Biologie (*Le Concours Médical*, August 6, 1887), M. Raymond reported that he had obtained favorable results by a similar method in three cases. He found, however, that the effect was the same even when the spray was directed to any part of the limb, and not necessarily along the course of the sciatic nerve. This would seem to prove that the relief of the pain was due to an impression made upon the spinal

centres by refrigeration of the peripheral nerve-terminations, rather than to a direct influence exerted upon the trunk of the affected nerve itself, or of its fellow in the opposite limb.

A LITTLE GIRL'S INVESTIGATION OF PRELIMINARY MEDICAL EDUCATION.

Dr. Frederick H. Gerrish, of Maine, has been making some unique investigations into the requirements, as to preliminary education, called for by the medical colleges of this country. He made his inquiries through the agency of an eight-year-old girl, whose handwriting gave plain evidence of her immaturity. She made written application for admission to the various colleges under an assumed name, and in each application confessed her absolute ignorance of some special study, proficiency in which is supposed to be necessary to a comprehension of medical science.

About one-half of the answers—according to the *New York Times*, which notices the matter editorially—received by the child, informed her that she could not enter the course prescribed until she was able to pass the preliminary examination, including the studies in which she had confessed her ignorance. The other half, however, evinced a willingness to take the fee of the applicant, and promised to make a doctor of her in spite of her confessed inability to pass the examination prescribed in their prospectuses as necessary to gain admission to their halls. Dr. Gerrish read specimens of some of these answers. One college wrote encouragingly: "Our examination is not difficult; no one has yet failed to pass." Another kindly wrote: "Natural philosophy is not required, except as a suggestion in the line of a liberal education." A third, bent on quieting all anxiety on the part of the applicant, wrote: "The preliminary examinations are not difficult, and no deserving applicant is rejected on account of not being able to pass them. Call and see me when you are in the city, and I will fix it so you can enter."

Dr. Gerrish's investigations tell us nothing new, but they emphasize in a striking way the melancholy condition of medical education in many parts of this country. Some improvement is, we believe, slowly, very slowly, taking place; and the American Academy of Medicine, before which Dr. Gerrish's paper was read, is doing good service in keeping the need of reform steadily before the profession.

ECHOES OF THE CONGRESS.

When the late Medical Congress was in session, the editors-in-chief of our various leading dailies gave out their orders to "write it up." So next morning there duly appeared a half-column or more of reflections upon the great triennial event. We have been looking over these various efforts of journalistic skill with much interest. On the whole, they are creditable to the editorial capacity of the daily press. We do not find the matter treated with the copiousness of a Macaulay, or the cumulative vigor of a Carlyle, but the proper things, as a rule, were said in an agreeable manner. We recognized the conventional compliment that medicine is a noble profession, and noted a considerable iteration of the obvious comment, that the meeting of so many physicians must prove beneficial to humanity, and incremental to human knowledge. We found that medical science was criticised as inexact, medical art as of limited power, and medical practitioners as a somewhat quarrelsome and bigoted, but (in another paragraph) learned and intellectual class. One contemporary suggests that a pleasant address and plenty of assurance are half the battle; but another describes the life of the physician as one of incessant and self-sacrificing toil.

Few journals had much to say as to the success or lack of success of the Congress, although one prominent Philadelphia paper affirms that "it is notorious that the Washington Congress was not such a success as it should have been, or as it certainly would have been, had not many of the most eminent medical men in the United States refused to have anything to do with it."

The cause of the trouble it attributes to "the code of ethics," an explanation which bears with some severity on our Philadelphia brethren, who believe in the code with an intensity inversely proportional to their enthusiasm for the Congress.

Although such apt and interesting generalities as above indicated were published, the numerous and prolonged sessions do not seem to have struck any sparks of original and fructifying power in the contemporary press. One paper, however, dwells with force and appositeness upon the lack of means for scientific research in this country, and suggests the need of a great medical university where the medical sciences can be studied for themselves alone. If the Congress could awaken our citizens to an appreciation of this need, its meeting would be truly of incalculable benefit.

TEMPERANCE INSTRUCTION IN SCHOOLS.

Probably no class of men in the community are better fitted to give a calm, unprejudiced opinion on the alcohol question than physicians. In their capacity of public sanitary guardians, they feel an interest in all practical measures designed to limit the deleterious effects of the use of liquors upon the human system. The latest effort in this direction is the introduction into the public schools of several States of so-called "temperance" text-books and other paraphernalia of teaching. Some communities have already experienced the first-fruits of this new system of instruction. These results are somewhat curious. It is found that the incidental facts designed only to lead up to the one great moral are more prominent in the pupils' minds than the moral itself. The various charts which portray stomachs, livers, and other viscera diseased from alcohol are regarded much in the light of picture-books on a large scale. They produce no more impression on a child's mind than the sight of a tattooed man, or some "freak" of a dime museum.

It is right that the question of temperance should be brought down to the scope of a child's ideas; right from a medical stand-point as well as from a moral one. But it is hardly the judicious course to teach him to regard alcohol as a deadly poison under every circumstance. He will be disillusioned as he grows older and will look back to his text-book teaching as a mass of overstated facts. The trouble with many of the text-books on temperance used in schools is that they are not physiologically cor

rect. They are written by persons with more zeal than accurate knowledge, and consequently we have sometimes ludicrous statements from pupils. The description of the distillation of alcohol strikes the child as a very interesting thing, and so the fact designed to be taught—its pernicious effects—fails to make a lasting impression.

We think that a better state of things could be brought about if physicians could be led to take a more active management in the public schools. Ministers, lawyers, business men, and professional politicians are always represented upon school-boards, but rarely physicians. They are the very ones who should be fully represented. They can, by their advice, better than any other class, conduce to bring up a class of pupils who shall have sound minds in sound bodies. They can prevent the introduction of text-books on temperance or any other topic having reference to physical matters which are not written with a due regard for truth and for the receptivity of the minds which are to grasp it. It is coming more and more to be realized that a physician's duty to the community oversteps the sphere of mere sanitary matters and lays hold upon social factors as well. Much of the teaching in schools nowadays is one-sided, because the mind is regarded as something apart from the body and taught accordingly. No one can so well appreciate the relation of one to the other as the physician.

THE TREATMENT OF BRONCHO-PNEUMONIA IN CHILDREN.

M. Simon divides the different types of broncho-pneumonia into (1) the *foudroyante*, which kills the patient in two or three days; (2) the acute, which lasts seven or eight days and is very fatal; (3) the subacute, which may last three or four weeks. Whatever its type, broncho-pneumonia is a most serious disease, and, according to Simon, hardly fifty per cent. recover. The affection is one of special interest also because of its frequency and the difficulty attending its differentiation in some cases from acute phthisis. The remedies that have been usually recommended in treatment are emetics, expectorants, and stimulants, together with external applications. English writers, like Dr. Day, pin their faith on ipecac-wine, senega, and carbonate of ammonia. American writers lay less stress upon expectorants, but recommend at first small doses of calomel with bicarbonate of soda. The ammonia preparations, strychnia, quinia, and alcohol are then given. Only rarely are emetics or venesection used. German authors, like Henoch, speak favorably of ipecac, wet cups, and even tartar emetic in the vigorous class (a class most likely to get well in any event). In the majority of cases dry cups, hydropathic applications to the chest, camphor, benzoic acid, infusion of ipecac-root, and stimulants are to be recommended.

M. J. Simon has recently been delivering a series of interesting lectures upon this subject of broncho pneumonia in children. In that portion devoted to therapeutics we are struck, first, with the great change which has come over the therapeutical teachings of the French school since the days preceding the writings of MM. Barthez and Rilliet (1862). Still, M. Simon evidently does not accept the purely expectant treatment at one time advocated by the former author. In vigorous children he gives first a single emetic, not using, however, kermes mineral or antimony; neither, he adds, should such depressing agents as opium, belladonna, or aconite be given. On the other hand, some form of alcoholic stimulant should be administered, and quinine in doses of from one to four grains twice daily. The bowels should be kept open by repeated injections, or the use of magnesia or senna. External applications of mustard or flying blisters, followed by poultices, are also recommended. The temperature of the room should be equable, neither hot nor cold, dry nor moist. As an anodyne and sedative, if one is needed, chloral is advised in doses of five or six grains.

THE ART OF QUACKERY A HUNDRED YEARS AGO.

One hundred years ago Dr. Samuel Johnson wrote, referring to London physicians:

"A physician in a great city seems to be the mere plaything of fortune; his degree of reputation is, for the most part, totally casual; they that employ him know not his excellence; they who reject him know not his deficiency. By an acute observer, who had looked on the transactions of the world for half a century, a very curious book might be written on the fortunes of physicians."

At about the same time the celebrated Dr. Mead gave the following choice bits of advice, in a letter to a young London physician, on the art of getting a practice. It perhaps shows why the reputation of the physician was "totally casual."

"The first thing I advise you to do is to make all the noise and bustle you can, to make the whole town ring of you, if possible, so that everyone may know that there is such a being, and here in town, too, such a physician."

"The old and the simple, the riotous and the whimsical and the fearful, are your best company, and those who will provide you with most business. Or if you would be esteemed very wise, sober, and grave, you should then learn to fawn and soothe man, woman, and child, since few else will thrive unless blessed with wit, in which case they may be allowed a little more liberty.

"To make yourself known, the making friends for some public lectureship is not amiss.

"If you can be introduced to a hospital your business is done for life, be your success what it will.

"If your wife mind business in her way it will certainly increase yours.

"It will not be amiss to set up an equipage, to purchase a mountain of books, and add anything by which you will acquire the reputation of being a learned and ingenious gentleman.

"Let your religious and political opinions swim with the tide.

"Dancing and dressing well are not such slight accomplishments as you may imagine—his fashionable gesture and agreeable way of feeling the pulse is half the business.

"Should you have an itching to write a book on physic, I would advise you to choose a subject by which you think you will get most money, as fevers, small-pox, etc. For in those diseases some must always live, some die; it is a hard matter to tell when right or when wrong.

"And next, then, I would advise you, whatever the subject you write upon (if uncommon, the better), rather to write so as neither to make downright sense or nonsense thereof, than otherwise, because thus none of the profession can well lay hold of you for any particular part, or, if they should, there is room for you to defend it, being as easily understood one way as t'other."

One can hardly believe that the foregoing was written by one of the most distinguished and learned physicians of the eighteenth century. If written seriously, which we must doubt, Dr. Mead quite deserves the name of the Machiavelli of medicine. If written in satire, it is a gloomy picture of the methods well known to have been frequently employed in the last century, and abundantly explains Johnson's observations upon the fortune of physicians.

Medical reputation now is not gained by such methods nor lost by mere accident.

In noble contrast to the eighteenth-century sentiments is the counsel to young physicians recently given by Dr. Robert Battey: "If you want to succeed in life—in professional life, I mean—don't be too careful, when a call comes to you, to inquire into the circumstances of your patient, whether he is able to pay or not. Don't be too careful to prune closely at the outset and trim your practice into influential patients only, and all that sort of thing. Try to infuse within your own heart and soul a true spirit of benevolence, love of your kind, zeal for your profession, anxiety to relieve human suffering, and, if you pursue your mission with your whole heart, with true earnestness of purpose, *somebody* will find it out, and it will not be a great while before a great many people will find it out, and they are not going to let you starve. That sort of men is too scarce to let starve. They don't starve in America. They can't be spared. If you want to be sure of your bread and meat, and provender for your horse, and something for the blacksmith and carriageman, take that recipe and try it a while."

TWO EXPLODED PHYSIOLOGICAL DOCTRINES.

Theories regarding the finer details of the cardiac mechanism have been numerous and ingenious. One of the most attractive of these was the so-called "doctrine" of the *selbst-steuerung* of the heart, suggested first by Thebesius and later by Brücke. According to this, the aortic semilunar valves are pressed down over the orifices of the coronary arteries during the heart's systole, and no blood enters them at this time. In diastole, however, the mouths of these arteries are open and the recoiling blood is driven into them. Unfortunately for this view, the orifices of the coronary arteries are often situated too far above the semilunar valves to allow of such a succession of events; and for this and other reasons the doctrine in question has been generally abandoned.

Another theory, which has been still more widely accepted and taught, is that of the suction-action of the heart. Chapters on the physiology of the circulation very often begin with the statement that the heart is a suction- and force-pump. During diastole, we were told, the tense net-work of vessels supplying the cardiac muscle caused the walls to expand and the ventricular and auricular cavities to dilate. A negative pressure was thus produced, and the blood sucked in from the veins. Goltz and Gaule have shown that there is a negative pressure in the ventricles for a brief period at the end of each systole; but Moens, on the other hand, demonstrated that this did not affect the auricles, and therefore did not make the heart a suction-pump, so far as the veins and general circulation are concerned. Professor H. Newall Martin and Dr. Frank Donaldson, Jr., have recently performed a series of experiments on dogs, by which the matter in question seems to be definitely settled. Their experiments were conducted upon the heart exposed in the manner devised by Professor Martin, the thorax being open, the pulmonary circulation intact, and the systemic circulation substituted by a continuous supply to the heart of defibrinated blood. Then, by connecting a manometer with the right auricle, it was easy to determine whether any blood was sucked from the veins by the right heart. The outcome of the work is stated as follows: "The heart is not a suction-pump. Once the 'aspiration of the thorax' has been eliminated, the right auricle of the mammalian heart will not receive blood unless supplied to it under a decided, if small, positive pressure. While the heart in the closed thoracic cavity may, and probably does, act as a suction-pump, this is not due directly to an active expanding force of the heart, but is a secondary result of the pneumatic conditions prevailing within the normal closed chest-cavity. Any cause diminishing thoracic aspiration must therefore greatly hinder the work of the heart; and it is probably more in this manner that the circulation is impeded in certain cases of hydro- or pneumo-thorax than by direct pressure exerted on the heart itself."

The United States Veterinary Medical Association held its annual meeting in this city during the past week, and discussed several topics of interest. Among these was that of the epidemic of cerebro-spinal meningitis, so called, now prevalent in New Jersey. Dr. Huidekoper said that the ravages of the disease had been much exaggerated. Although called cerebro-spinal meningitis, it was not that at all. It was not contagious, but miasmatic. The Committee on Contagious Diseases reported that pleuro-pneumonia was at present confined to the vicinity of New York and the States of New Jersey, Pennsylvania, Delaware, Maryland, and Virginia. There are about two thousand cases in the vicinity of this city. The Committee on Securing Uniform Examinations for Veterinary Colleges throughout the country reported that the colleges were favorable to the plan, but no meeting to carry it out had been held. It is proposed to have all candidates for diplomas finally examined by a board not connected with any of the colleges. These officers were elected: President, R. S. Huidekoper; Vice-President, J. C. Myers; Secretary, C. B. Michener.

Another Alleged Medical College in Vermont.—The *Rutland Herald* states that "the Vermont Medical College, which opened September 1st, on West Street, has been incorporated under the laws of the State for the laudable purpose of educating teachers of the healing art." The dean is said to be a specialist in metaphysical science.

News of the Week.

The late Professor Alonzo Clark, M.D., LL.D.—At a special meeting of the Medical Board of Bellevue Hospital, held September 19, 1887, the following minute was adopted:

The Medical Board of Bellevue Hospital desires to express its deep sense of the loss it has sustained, in common with the medical profession of this country, by the death of its honored associate, Dr. Alonzo Clark. For a third of a century he has been closely identified with the interests of this institution, as a skilful and kind physician to its patients, a wise instructor of its successive house staffs and clinical classes, a consulting physician of large experience, profound learning, and sound judgment, and for many years as president of its Medical Board.

Dr. Clark possessed in a marked degree the qualities that belong to a physician of the highest type. He was a man of unusually impressive and dignified presence, with a manner of mingled firmness and gentleness, that commanded the respect and won the confidence of all with whom he came in contact. He was an acute observer, an accurate diagnostician, and though he was conservative in therapeutics, his conservatism was equally removed from obstinate adherence to old methods and rash experimentation with new ones. A lifetime student, he kept at the level of the best thought of his profession, but at the same time he was an acknowledged leader, and by his teachings and writings did much to elevate the standard of medical science in this country.

But to those who knew the personal character of the man, its simplicity, solidity, and symmetrical development, how incomplete a conception of him is given by a mere enumeration of his intellectual qualities, great as these unquestionably were. Nature not only built him on a large scale, but she left out of his composition most of the foibles which so often lessen our respect for, and impair the usefulness of, those whom the world regards as great men. No trait was more notable in him than his remarkable self-control. Nothing appeared to disturb his equilibrium; not because he was impassive, but because the foundation of his mental structure was laid too deep to be easily shaken. He was eminently a kindly man, charitable in his judgments of others, liberal in his benefactions, but so unostentatiously that none but his most intimate friends, and probably not even they, knew their frequency and extent; and, as some of us can testify, he was a true friend in time of sorrow.

His mortal life ended with a long and distressing illness, but he bore it with a brave and uncomplaining spirit. To the profession he loved and honored, he has left the fruit of his labors and the memory of a great and noble character.

A. B. Ball, M.D.,
Austin Flint, M.D.,
William H. Thomson, M.D.,
Charles L. Dana, M.D.

Hydrophobia Epidemic.—The excessively hot weather in Southern Russia is said to have produced an actual epidemic of rabies; and the Pasteurian Hospital at Odessa is overcrowded.

The Medical Record's report of the International Medical Congress will be found to be the most complete that has appeared.

The American Profession would feel more at ease regarding the success of the Congress, if its friends would not make such painful efforts to show that it was a brilliant and conspicuous success.

We find, with regret, that we must depose the Congress from the eminence of numerical superiority upon which we at first placed it. The actual number of registered delegates was considerably below three thousand, and of foreign delegates not much over one hundred.

Dr. Morell Mackenzie is to receive the honor of knighthood, in recognition of his services in the treatment of the Crown Prince of Germany.

The New York State Medical Association holds its fourth annual meeting at the Hotel Brunswick, in this city, on September 27th, 28th, and 29th.

Cholera Infantum.—A negative got omitted, and Dr. Maxwell was made to say, in our report of the International Medical Congress, that "heat was an essential factor in its causation." It should have been, "*was not*," etc.

The Willard Parker Hospital.—By resolution of the Health Board of this city, Dr. George F. Shrady has been added to the staff of consulting surgeons.

New York Polyclinic.—The sixth annual session of the New York Polyclinic opened on September 19th. The new laboratory for the study of bacteriology will be opened on October 1st. Two large lecture-rooms have been added to the college building since the close of the session of 1886–87.

The Post-Graduate Medical School opened its session on the 15th. A number of improvements have been made in the building, a new lecture room and reading room added, and an extension of the ground-floor will soon be completed.

Another Decoration.—It is rumored that the Emperor of Austria intends to confer a decoration of a high class upon M. Pasteur.

The Drug Clerks of Paris threaten to strike, on the ground of overwork and poor pay. Their ordinary round of work is given as follows: He rises at seven o'clock, and serves the ordinary morning customers who come for castor-oil, sulphate of magnesia, and *tisanes*. At ten he goes to the laboratory, and makes up syrups, after which he returns to the shop, when he takes his lunch. After this, up to eleven o'clock at night, he is engaged in making up physicians' prescriptions. Even when in bed he is doomed to hear the frequent ring of a bell which summons him to the shop or laboratory in the small hours of the morning.

Pilocarpin has been artificially made by synthesis. The process was discovered by two French chemists, MM. Hardy and Calmest.

A Spanish Congress of Gynecologists is to be held at Madrid next year.

An Ophthalmological Congress was held at Turin, September 15th to 18th.

The Governor of California has been suffering from a severe illness, which may by this time have proved fatal. He has been attended by a lady physician of the name of Buckel, who has made the somewhat remarkable diagnosis of abscess of one kidney. At the last accounts there was fear that the abscess would burst, "in which event there would be danger of blood-poisoning." Temperature 99°, and pulse 64. We should like to hear more of this remarkable abscess.

Death of Ex-Governor Luke P. Blackburn.—Dr. Luke P. Blackburn died at his home, in Frankfort, Ky., on September 15th, in the seventy-first year of his age. He was born in Woodford County, Ky. When seventeen he studied medicine in Paris, and graduated at a medical college in Lexington, Ky., in 1835. He began practice at Lexington. His career was a notable and unique one. He won his fame not by scientific investigations or by special skill in his practice, but in fighting epidemics. The appearance of cholera or yellow fever was to him like the smell of gunpowder to an old warrior. In 1836 at Versailles, in 1847, and in 1853 to 1855 at Natchez, in 1856 at Staten Island, in 1866 at Bermuda, and in 1878 in Kentucky, Dr. Blackburn distinguished himself in personally attending and in organizing relief for sufferers from cholera or yellow fever. He lived for a time at Natchez and New Orleans, but in 1860 took up his residence at Louisville, Ky. In 1879 he was elected governor of the State. Since then he had continued in the practice of his profession until shortly before his death.

A Judicial Decision regarding Death from Anthrax.—In a recent case (says the Philadelphia *Medical Times*) the United States Mutual Accident Association refused to pay a policy where the assured died with malignant pustule. It appeared that the deceased was employed at a place where hides and cattle were received, and that the cause of death was "a putrid animal substance on the exterior of the body working inwardly, and usually communicated from the bodies of animals suffering with diseases of the hair." The policy insured against death from "external, violent, and accidental means," and excepted death "by taking poison." The question was whether there could be a recovery under the policy, and the court decided that there could be. The course of reasoning by which the learned judge reached this conclusion was somewhat curious. By the same rule death from erysipelas or syphilis might be considered accidental, for these are produced by external causes, in some cases, at least, accidental.

Increase of Blindness in the United States.—Dr. Lucien Howe read a paper on this subject at the last meeting of the American Association for the Advancement of Science, in which he said that while the population, during the ten years from 1870 to 1880, increased at the rate of thirty per cent., blindness during the same time increased one hundred and forty per cent. The statistics also show that blindness increased in an almost constant ratio from north to south in the United States, and that it decreased in the same way from east to west. The cost of sustaining this army of more than fifty thousand blind, if estimated on the lowest basis of cost and wages which should have been earned, amounted to more than $16.-000,000 in 1880, or more than $25,000,000 in 1887. Contagion and immigration were among the chief causes of this increase.

M. Richet has been appointed Professor of Physiology in the Faculty of Medicine of Paris.

Carbolic Acid in Otitis.—Dr. Hartamann during the last year has treated moderate otitis with instillations of several drops of a solution (1 in 10) of carbolized glycerine. The results were excellent. Pain instantly disappeared, and the progress of the affection was checked. In cases where effusion existed the relief obtained was equally great. M. Rohrer, who confirms M. Hartamann's statements, recommends a solution of twenty per cent.—*Brit. Med. Journ.*

The Secret of Petrifying Animal Bodies.—The secret of the method of petrifying human and other bodies, which was discovered by Dr. Massedaglia in the early part of this century, has never been revealed, and the curiosity of those who are anxious to know it seems unlikely to be gratified at present, at least. When the discoverer died he left a description of the method in a sealed packet to his "lawful heirs," but no lawful heirs have come forward until just recently, though Dr. Massedaglia died more than forty years ago. It is said that immense sums have been offered for the secret, but that the fortunate possessors are in no hurry to share it with anyone else. Some bodies of animals petrified by Dr. Massedaglia himself are, we believe, to be seen in the museum of the University of Padua.—*Brit. Med. Journ.*

Reporting Contagious Diseases.—The Health Board is disposed to do everything in its power to aid physicians in reporting contagious diseases, and we are quite sure that the result will be successful. Addressed postal cards are to be sent to physicians desiring them.

Etiology of Dysentery.—Professor Jaroslav Hlava, of Prague, has examined (*Pizeglad Leharski*, February 12, 1887) the stools and the intestines, with their contents, in sixty fatal cases of epidemic dysentery, two of sporadic, and ten in which the disease occurred as a complication of other affections. Recent stools from dysenteric patients were injected into the rectum or duodenum in seventeen dogs, six cats, eight rabbits, and in hens and guinea-pigs. In addition to this, seventy injections of pure cultivations of various bacteria which had been found in stools and intestinal contents were made. From those extensive observations Professor Hlava was led to the following conclusions: 1. Bacteria are not the cause of dysentery, since the disease cannot be produced in animals by introducing into them any microbes found in persons suffering from the affection. A simple passing intestinal catarrh is all that can be induced in that manner. 2. The injection of stools gives rise to dysentery only in cats. 3. There is no specific anatomical difference between epidemic and sporadic dysentery. 4. There are present in the stools (and sometimes in the mucous and submucous coats of the bowel) long or oval amœbæ with a granular protoplasm, which move about under the objective glass for ten hours. In sixty-five cases the amœbæ were very numerous. Dr. Hlava is now studying the question of their relation to the disease.—*British Medical Journal.*

Reports of Societies.

THE AMERICAN GYNECOLOGICAL SOCIETY.

Twelfth Annual Meeting, held in New York, September 13, 14, and 15, 1887.

TUESDAY, SEPTEMBER 13TH—FIRST DAY—MORNING SESSION.

THE Society convened in the Hall of the New York Academy of Medicine, 12 West Thirty-first Street, and was called to order by DR. ALEX. J. C. SKENE, of Brooklyn, President. Dr. John C. Reeve, of Dayton, O., First Vice-President, occupied the chair to the President's left, and Dr. George Granville Bantock, President of the London Obstetrical Society, was invited to occupy the chair to the President's right.

THE CALLING OF THE ROLL.

The Secretary, DR. JOSEPH TABER JOHNSON, of Washington, D. C., then called the roll, and the following Fellows responded: Fordyce Barker, of New York; W. H. Baker, of Boston; B. B. Browne, of Baltimore; S. C. Busey, of Washington; John Byrne, of Brooklyn; James R. Chadwick, of Boston; E. L. Duer, of Philadelphia; Thomas Addis Emmet, of New York; Frank P. Foster, of New York; Henry J. Garrigues, of New York; William Goodell, of Philadelphia; Charles M. Green, of Boston; William T. Howard, of Baltimore; James V. Ingham, of Philadelphia; A. Reeves Jackson, of Chicago; Jos. E. Janvrin, of New York; E. W. Jenks, of Detroit; Charles Jewett, of Brooklyn; A. F. A. King, of Washington; Charles Carroll Lee, of New York; William T. Lusk, of New York; H. Marion Sims, of New York; R. B. Maury, of Memphis, Tenn.; Paul F. Mundé, of New York; C. D. Palmer, of Cincinnati; Theophilus Parvin, of Philadelphia; John P. Reynolds, of Boston; William L. Richardson, of Boston; Ely Van de Warker, of Syracuse, N. Y.; H. P. C. Wilson, of Baltimore. The following, in addition, were present during the course of the meeting: G. J. Engelmann, of St. Louis; W. R. Gillette, of New York, James B. Hunter, of New York; A. W. Johnstone, of Danville, Ky.; M. D. Mann, of Buffalo, N. Y.; Ellwood Wilson, of Philadelphia; W. Gill Wylie, of New York.

The following gentlemen were elected

INVITED GUESTS:

Drs. Graily Hewitt and G. G. Bantock, of London, England; Augustus Martin, of Berlin, Germany; A. Cordes, of Geneva, Switzerland; A. R. Simpson, of Edinburgh; Georges Apostoli, of Paris, France; Dr. Frome, of Edinburgh; G. H. Kidd, of Dublin, Ireland; Lloyd Roberts, of Manchester, England; William L. Reid, of Liverpool, England; J. Milne Chadbourne, of Inverness, Scotland; J. Amédé-Doleris, of Paris, France; A. E. Aust-Lawrence, Nelson C. Dobson, and T. M. Dolan, of England; W. Balls-Headly, of Melbourne, Australia; Walter Brown, of Belfast, Ireland; J. A. S. Grant (Bey), of Cairo, Egypt; Professor Terrier, of Paris, France; G. Bernard, John Gould, John Sivins, Boyd Jole, of England; Valentine Knaggs, J. Comeys Leach, Foster McGeah, Thomas Logan, Fred. Morgan, Dr. Parkinson, R. Singleton Smith, and Dr. Wiseman, of England; J. H. Davenport, and G. W. Porter, of Providence, R. I.; Dr. Moseley, of Baltimore, Md.; William J. Aiken and James H. Stowell, of Chicago; W. W. Potter, of Buffalo, N. Y.; W. W. Seymour and Z. Rousseau, of Troy, N. Y.; Drs. Beebe, of Minnesota; Henry Hewitt, of Guelph, Ontario; M. Ogden, of Toronto; A. Van Derveer, of Albany, N. Y.; William Gardner, of Montreal; Lincoln McPhatter, of Guelph, Ontario; Dr. Banajee, of Bombay; J. Algeron Temple, Toronto, Canada; Augustus C. Burnays, of St. Louis, Mo.; William H. Haggard and W. D. Atchison, of Nashville, Tenn.; A. S. Hunter of New York; John Chambers, of Indianapolis; B. C. Hirst, of Philadelphia; Dr. Harvey, of Indianapolis; Ed. Mitchell, of Cincinnati; R. P. Harris and Howard N. Kelley, of Philadelphia; X. O. Minder, of Pittsburg; D. A. K. Stelle, of Chicago; Richard J. Thompson, of Fall River, Mass.; F. A. Flandreau, of Rome, N. Y.; E. W. Cushing, of Boston; N. S. Davis, of Chicago; Dr. Lonaker, Dr. Barnes, and W. C. Cook, of Nashville; J. H. Raymond, of Brooklyn; Robert L. Dickinson and Benton Butler; A. B. Palmer, of Ann Arbor; E. Landolt, of Paris, France; Duncan C. McCallum, of Montreal; all the members of the New York Obstetrical Society.

FORDYCE BARKER, M.D., LL.D., of New York, then delivered

THE ADDRESS OF WELCOME,

and in behalf of the resident Fellows of New York and Brooklyn, and of the Fellows of the New York Academy of Medicine, and of affiliated societies having the same aims and objects, welcomed the Fellows of the American Gynecological Society and the friends who had honored them with their presence.

Referring to the work which the Society had already done, Dr. Barker said:

"In the aggregate it may be asserted that both talent and genius have been developed and consecrated to these departments.

"I remember to have somewhere met this terse distinction between Talent and Genius: 'To do easily what others do with difficulty, that is Talent. To do what Talent cannot do, that is Genius.'

"Owen Meredith, now Lord Lytton, gave expression, some twenty-five years ago, to the same thought in the following couplet:

> "'Talk not of Genius baffled. Genius is master of the man.
> Genius does what it must, and Talent what it can.'

"To our foreign guests I will say, many of you are well known to many of us personally. All of you are well known to all of us by the good work that you have done. We give you a warm welcome, with the anticipation that the interest of this meeting will be largely enhanced by your participation in its work.

"We hope that you will find our hospitalities acceptable and agreeable, and we feel assured that you will leave behind you a warm place in our hearts, which will bind us in as close affinity in our personal affections, as we now are united in sympathy in our professional work.

"We welcome also our friends of this city and from other parts of the country, whose interest in the subjects to which we are devoted brings them here to watch our proceedings and to stimulate us to our best efforts.

"It only remains, Mr. President, for me to congratulate you that you have the honor to preside over such a body, and to congratulate the Society that it has you as its presiding officer. I will only say for ourselves, *Cuncti adsint, meritæque expectent premia palmæ.*"

The first paper was read by DR. THOMAS ADDIS EMMET, of New York, entitled,

A STUDY OF THE CAUSES AND TREATMENT OF UTERINE DISPLACEMENT.

Close observation and a long experience, said the author of the paper, have been of but little avail, if it be true that the version of the uterus is the disease, and if a simple change in the extent of the deviation be the remedy for the displacement.

Moreover, his experience had taught him that the degree of prolapse below, or the elevation of the uterus above, *a certain plane*, caused the symptoms now usually attributed to version alone. Years ago he had pointed out what he had termed "the health line," one that varies in each woman, but so long as the uterus occupies it, circulation remains normal.

Anteversion of the uterus certainly is not an abnormal position. Retroversion, to a very marked degree, is frequently detected accidentally, not the least inconvenience ever having been produced by it.

The causes of displacements to which he directed special attention were the *external, and due to pelvic inflammations.*

There is a large class of cases which belong under this head, but which have not received the attention that their importance demands.

With a backward or a forward displacement, the only relief to be obtained must be through some means which will correct the prolapse sufficiently to restore the circulation.

When the uterus has been displaced in either direction, as the result of peritoneal inflammation situated on the anterior face of the broad ligaments, any attempt to correct the version will not succeed unless the same principle be kept in view. When the inflammation has been limited to one side, most frequently upon the left, it is equally impossible to devise any pessary which will not make direct pressure, and in time increase the difficulty by exciting a fresh attack of local peritonitis.

The question may be asked, "What is the general practitioner to do with such cases?" His answer would be—if he is an honest man and considers the future well-being of his patient—let such cases alone, so far as making any attempt to correct the displacement. If it be absolutely necessary to undertake some mode of treatment, it should be confined to local application of iodine, with cotton and glycerine pads properly placed *to give needed support,* and to the use of hot-water vaginal injections. The treatment of such cases should never be attempted outside of a hospital service, and never would be were the consequences sufficiently understood.

Dr. Emmet then pointed out some of the peculiar features of the pelvic circulation of the female, its close relation to the surrounding fascia and connective tissue.

The whole skill in the successful application of a pessary is to so contruct it that, while it relieves the prolapse, it will just dispose of the over-stretch. A pessary does not give relief by simply counteracting version. Its effect is an indirect one, because, when properly fitted, it diminishes congestion by correcting the prolapse and giving tone to the connective tissue of the pelvis. If a uterus, free from peritoneal adhesion, be replaced and a sufficient support to the fascia be again brought into play, it will then be retained in position through the natural elasticity of the surrounding tissues.

Lest that he might hereafter be misrepresented by the statement that he did not approve of the use of pessaries, Dr. Emmet wished to say that, while the profitable range for the use of these instruments was not an extensive one, he believed that nothing could take the place of a pessary when properly fitted, and when used in the proper class of cases. The field of usefulness for the instrument, however, was much more limited than was generally supposed. It was not to be expected that a man who prides himself on his skill in fitting a pessary would change his practice, yet he might mistake as an evidence of his dexterity the degree of tolerance with which the Almighty in his infinite wisdom had endowed the female pelvis. A displacement should never be corrected simply on its own account, nor until the cause has been clearly ascertained. No attempt should be made to correct a displacement of the uterus so long as any evidence of recent inflammation in the neighborhood can be detected. If the displacement be a recent accident, the practice, as in case of luxation, would be correct to reduce it at once.

Dr. Graily Hewitt, of London, said that he had not met with a large number of cases in which pelvic cellulitis had been associated with uterine displacements, and from what knowledge he had been able to obtain on the subject, it appeared that there was possibly a difference in the constitution of the women of America and England, which rendered the former more than the latter liable to the occurrence of this form of inflammation. It might be an error on his part that he had not detected it in his cases, but he had attributed the sufferings of his patients to something else. He must say that he regarded the general causes of displacement of the uterus as one of the most important subjects which could be brought before the profession. With all these causes Dr. Emmet had already showed himself by his writings to be familiar, and none was more important than the general nutrition of the patient. Dr. Hewitt then alluded to pressure upon the nerves of the uterus itself as an important factor in estimating the cause of the suffering of the woman, perhaps as important as the disorders of the circulation mentioned by Dr. Emmet.

Dr. A. R. Simpson, of Edinburgh, thought it was easy to see that there were two distinct camps, represented by the two eminent speakers by whom he had been preceded. He thought that there was not so much difference in the constitutional peculiarities of American and English women as there was between practitioners who had been specially impressed with the importance of different causes of uterine displacements. He then spoke of a class of cases in which there was displacement with sterility, without history or evidence of pelvic inflammation, and when the uterus had been restored to its normal position the women had, in many instances, soon afterward conceived and borne children. He made this reference because there seemed to be a slight tendency in some quarters to abandon the use of the pessary, and he thought that it should not be abolished altogether.

Dr. George G. Bantock, of London, was sorry that he was unable to agree with Dr. Emmet concerning the frequency of pelvic inflammation, and he thought that perhaps the diversity of opinion on this point had been best explained by Dr. Simpson—namely, very much depends on the condition of the mind of the man who makes the examination of the case. As the result of his own experience, he had come to believe that the occurrence of pelvic inflammation was much more rare than had been generally supposed. He thought it had been proved beyond contradiction that the so-called cases of pelvic cellulitis were cases of salpingitis—cases in which the inflammation has been confined to the Fallopian tubes and the tissues in their immediate neighborhood.

If, therefore, the question of the occurrence of pelvic cellulitis could be removed, he thought that the treatment adopted by Dr. Emmet and himself in similar cases would be about the same. The failure of the pessary to afford relief in many cases has been because it had been improperly adjusted. There were certain cases of well-marked retroversion in which nothing more was required than replacing the uterus at once, and always by means of the sound, and the proper application of a pessary, to give complete relief from all the symptoms, such as bearing-down sensation, vesical tenesmus, etc. But when adhesions exist which hold the uterus in malposition, the use of a pessary at first would be perfectly useless, if not injurious.

Dr. Emmet in closing the discussion directed special attention to the fact that the examiner would remain in profound ignorance of the condition of the contents of the pelvis unless he examined *by the rectum.* It was utterly impossible to detect fully the inflammatory trouble by vaginal examination, and that was one explanation of the diversity of opinion concerning its existence. That the occurrence of pelvic peritonitis and cellulitis was common among the women of this country he was fully convinced. This conclusion was the result of many years' experience, and he knew it was true.

Dr. Samuel C. Busey, of Washington, then read a paper on

CYSTOCOLPOCELE, COMPLICATING LABOR AND PREGNANCY.

The word cystocolpocele was introduced to express correctly the anatomico-pathological conditions of prolapse

of the bladder into the vaginal passage. It might be partial or complete. Some of its synonyms were "vaginal vesicocele," "vaginal hernia," "vesical hernia," etc.

There were only six cases on record of this affection *complicating pregnancy*. The author of the paper gave a brief outline of each of these, together with one occurring in his own practice.

CYSTOCOLPOCELE COMPLICATING LABOR,

though rare, was far more common than that complicating pregnancy. As a hindrance to, and a cause of, lingering and painful labor, it had received general, if not adequate, attention from a few of the more recent writers on obstetrics. Multiparity is an essential and a constant factor of causation, but it must have a coefficient, such as a change in the relation of the pelvic viscera resulting from childbearing, etc. Lingering labor is the constant and most prominent subjective symptom, characterized by acute, ineffective pains. The objective symptoms can be discovered only by intelligent vaginal examination. The only positive, absolutely certain symptom is the discharge of urine from the urethra, and the lessening or entire subsidence of the swelling.

The treatment consists in the speedy and complete evacuation of the bladder, which usually permits rapid progress of labor. This can be accomplished by the catheter, or by the skilful manipulation of the cystocele, or by the two combined.

Dr. W. Goodell, of Philadelphia, reported a case which he encountered in his practice, and which at first gave him a great deal of annoyance.

Afternoon Session.

The Society was called to order by The President.

Dr. W. M. Polk, of New York, read a paper with the title,

ARE THE TUBES AND OVARIES TO BE SACRIFICED IN ALL CASES OF SALPINGITIS?

By the term salpingitis the author of the paper meant the disease which until recently was known by the name of pelvic cellulitis, and characterized by inflammation of the planes of cellular tissue belonging to the uterus and its appendages. According to its behavior, it has been called acute, chronic, and recurrent cellulitis and peritonitis. The most constant change produced by the adhesions was dislocation and imprisonment of the tubes in faulty positions, the outer openings were frequently closed, and no doubt the parenchymatous changes in the walls of the tubes were in part the result of the adhesions. The ovaries were likewise involved in the new connective tissue, and often, by being bound down, were deprived of that freedom of movement and ability to expand which were essential to the proper performance of their functions. The mobility and distensibility of the uterus were also greatly impaired.

The clinical evidences of the disease represent the general and local signs of an inflammation, the local evidence being greatly colored by the peculiar organs involved. The symptomatology of salpingitis has become familiar, as it has been described under the heading "pelvic cellulitis and peritonitis."

The observations which had led the writer of the paper to that conclusion were made in one hundred cases, and the argument on the question appeared in The Medical Record for September 18, 1886. Dr. Polk had framed his question that it might be pushed into the domain of that large class of sufferers who, remaining invalids, have no chance of efficient relief except in laparotomy. Had he been asked, one year ago, whether the tubes and ovaries should be sacrificed in all such cases of salpingitis, he would have replied "Yes." But some experience since had caused him to doubt the accuracy of that conclusion. In comparing the pathological conditions with the histories in his cases, it occurred to him that the *adhesions* might be the potent factor in sufferings endured. If so, it was evident that a cure might be effected by simply freeing the imprisoned organs.

Granting the result of health and comfort claimed for this disruption, the next question was the utility of leaving the occluded tube in position. For the purpose of procreation, there was, perhaps, no utility; but for the purpose of satisfying the patient's desire to escape mutilation, yes. The excuse for mutilation is to save life and to restore and insure health. Do this without mutilation and the requirements are answered, and the object of the paper was to show that it can be done in certain cases. Brief mention was made of eight cases.

Dr. A. Martin, of Berlin, Germany, was pleased to hear that Dr. Polk did not propose to call every tumor of the tube a salpinx, as he believed progress could be made only by distinguishing the different diseases of this organ. It had been supposed that salpingitis is of gonorrhœal origin very often, but in only a few cases has the gonococcus been found in the tube. One of these cases he found some months ago, and it was the second which had been recognized. Dr. Martin never contemplated removal of the uterine appendages without a great deal of anxiety. He had reached the conclusion that in certain cases the operation is demanded. Well-marked cases of pyo-salpinx, whether of gonorrhœal origin or not, will sooner or later require operative interference. And yet he was sometimes in doubt as to the correctness of that opinion when he found only a small quantity of cheesy matter, because it was evident that such cases were capable of curing themselves. He did not believe that cases of simple catarrhal salpingitis were proper ones for operative procedure. More serious still were the cases of hæmato-salpinx.

The discussion was continued by Dr. T. Addis Emmet, of New York; William Goodell, of Philadelphia; and G. G. Bantock, of London, who would unhesitatingly answer in the negative Dr. Polk's question.

Dr. Martin was inclined to regard Dr. Polk's proposed method of treatment very much as had Dr. Goodell—that is, if the tube be diseased and also the ovaries, they should both be removed; for in that way the salpingitis was removed and any displacement present corrected.

Dr. Sutton, of Pittsburg, could not agree with all the speakers in answering the question in the negative.

Dr. W. Gill Wylie, of New York, with a death-rate under five per cent., would now operate in cases in which a few years ago he would not have attempted the operation.

Dr. Emmet believed it to be a reflection on the profession to remove ovaries and tubes to cure symptoms due to anæmia, or to remove these organs without disease except the mere presence of a few cysts.

The discussion was closed by Dr. Polk.

Dr. Paul F. Mundé, of New York, then read a paper on

DRAINAGE AFTER LAPAROTOMY.

The questions which appeared to require answer in the study of this subject were: (1) In what class of cases does drainage theoretically seem necessay? (2) What are the advantages of drainage? (3) What are the disadvantages and the dangers of drainage? (4) What form of drainage is the best, and least dangerous? (5) What substitute can be offered for drainage, or how can the necessity for its employment be avoided?

Dr. Mundé's conclusion was that in those cases where hitherto drainage has been largely employed, the drainage-tube could be dispensed with if there was only slight bloody oozing and serous secretion, provided the peritoneal cavity be thoroughly cleansed and the most universal and scrupulous antiseptic precautions be observed during the entire operation.

Dr. Martin, of Berlin, does not use the drainage-tube in ordinary cases of ovariotomy. He employs it in supra-vaginal hysterectomy, in vaginal hysterectomy, and in all those cases where he must have a large sloughing surface or cavities in the broad ligament.

Dr. Bantock, of London, has such confidence in the value of the drainage-tube that he employs it on the slightest excuse.

Dr. William Gardner, of Montreal, should continue to use the drainage-tube until further experience changed his confidence in the procedure.

Dr. Goodell, of Philadelphia, is a believer in the drainage-tube, and Dr. Wylie, of New York, believes that it has a special advantage in affording a means of determining whether or not hemorrhage is taking place.

Dr. Mundé closed the discussion, and the Society adjourned to meet at 9.30 A.M. on Wednesday.

Wednesday, September 14th—Second Day—Morning Session.

The Society was called to order by The President, who in a few well-selected words referred to the death of Dr. John Scott, of San Francisco, Cal., and appointed Dr. Thomas Addis Emmet, of New York, to prepare a memoir for the volume of "Transactions."

Dr. C. D. Palmer, of Cincinnati, then read a paper on

THE THERAPEUTIC VALUE OF SOME MEDICINES IN THE TREATMENT OF HEMORRHAGIC CONDITIONS OF THE UTERUS.

The writer referred to the fact that only five papers had been read before the Society on the therapeutic uses of medicines in gynecology, while at the same time there had been no lack of surgical contributions. He thought that too little attention had been paid to the less brilliant medicinal treatment. Uterine hemorrhage could often be treated advantageously by means of drugs, and those to which he directed special attention were ergot, digitalis, bromide of potassium, arsenic, gallic acid, cannabis indica, hamamelis, gossypium, viburnum, hydrastis, and the use of cholagogue cathartics.

The paper was discussed by Dr. Fordyce Barker, of New York, who spoke of the great advantage to be derived in certain cases from medicinal treatment.

Dr. D. Lloyd Roberts, of Manchester, England, thought that if a single choice must be made of drugs to be used for the purpose of controlling uterine hemorrhage, ergot would be selected. The next best remedy, according to his experience, was gallic acid.

Dr. Balls-Headley, of Melbourne, Australia, could not understand how these remedies could act in many cases, without being supplemented by local measures. He spoke of the advantages of the tincture of the chloride of iron.

The discussion was continued by Drs. J. A. S. Grant (Bey), of Cairo, Egypt; H. P. C. Wilson, of Baltimore; J. R. Chadwick, of Boston; W. L. Reid, of Liverpool, England; and the discussion was closed by Dr. Palmer.

Dr. J. Amédé Doleris, of Paris, France, then read a paper, in French, on

ALEXANDER'S OPERATION,

as a remedy for uterine displacements. In the first part of the paper the writer spoke of the normal conditions of the pelvic contents, and in the second part of the displacements suitable for the operation.

The paper was discussed by Drs. A. Cordes, of Geneva, Switzerland; W. L. Reid, of Liverpool; A. Martin, of Berlin; W. T. Lusk, H. Marion Sims, C. C. Lee, of New York; Aust-Lawrence, of Bristol, England; and Howard N. Kelley, of Philadelphia.

The First Vice-President, Dr. J. C. Reeve, of Dayton, O., was called to the chair.

THE PRESIDENT'S ADDRESS.

Dr. Alex. J. C. Skene, of Brooklyn, N. Y., President, then delivered his address, in which he said that at this stage of the Society's existence and progress a few moments might be profitably occupied in reviewing its structure and functions, the objects which it has already attained, and in looking forward to its future possibilities. These were given in the form of a light interlude, "to fill the half-hour between the two grand acts of the drama, to occupy but not to tax your minds."

The good work which had already been done suggests that this Society was one of the products of necessity, that worthy progenitor whose children inherit the genius of invention, construction, and all consequent usefulness

It was the design of the founders of this Society that it should be devoted to the advancement of science and art, and the cultivation of the higher social elements of life; not an organization to regulate the relations between doctors of medicine and the people, nor to maintain the rights and privileges of the medical profession as a trade, but something far higher in which human action is guided by inherent honesty and nobility of character, which needs no written law to prompt gentlemanly behavior, a Society in which men act well their parts because they desire so to do, and not because of any obligation, either ethical or otherwise. Without royal patronage or help, without the hinderance of political intrigue, but with a constant devotion to the cultivation of gynecology and the friendly relation of its Fellows, this Society, though young, stands to-day among the imperial organizations of the world, a strong and prosperous republic, in which all men are monarchs, crowned with honor, honesty, and intelligence, and wearing the royal robes of justice, benevolence, and beneficence, and decorated with their own good deeds toward their fellow-men.

The social element in the complex constitution of the human mind had, no doubt, much to do with the genesis of this organization, and it certainly has been a guiding power in all that has been accomplished so far.

The usefulness and promise of medical societies depend largely upon their objects. They are short-lived when created for personal interest, but enduring as time itself when called into existence by the necessities of men, and for the benefit of the whole human race.

From the time this Society was organized until to-day, the major portion of its time has been devoted to surgery; this is neither necessary nor best. A higher cultivation would enable men to listen with as profound an interest to the details of the management of functional and organic diseases by the physician, as to the record of some marvellous case in which the surgeon removes all except the organs absolutely necessary to the existence of the patient.

A careful weeding out of many of the old and useless operations, a more judicious selection of cases for operative treatment, more positive knowledge and generally accepted views upon pathology, and more confidence and skill in the use of medicinal agents would bring greater relief to the suffering, and give more of variety of thought and action to the gynecologist, who, in this age, is too often seen plying his needle and thread until his fingers are weary and worn, and his eyelids heavy and red.

Above and beyond there are still unknown fields to be explored, fields that will contribute largely to the wants of humanity. The greatest of all is that of preventive medicine. The gynecologist has much to accomplish still in this department.

The man who by his wise counsel can guide the development of the chlorotic child so that she may attain health and strength at her majority, has surely a higher claim upon the gratitude of all than the one who labors to counteract the many frailties of those who suffer through life with chlorosis. A large percentage of the time of the practitioner is spent in trying to relieve those

who, from defective development of the sexual organs, suffer from a long list of diseases. All kinds of operations have been devised, and a vast number of mechanical contrivances have been invented, to cure anteflexion of the uterus, for example, and most of them have proved of little value. But hardly anything has been said or done to guard against these evils, most of which are no doubt preventable.

The greatest honor (ephemeral, it is true) is at the present time bestowed upon the one who does the most to combat the results of disease and injury; but the time must come when the man who does the most to prevent these will be recognized as the greatest hero. There is, no doubt, good reason why this should be so in our present state of near-sightedness. The cure of disease and the relief of suffering appeal to our senses, and can be appreciated by the most superficial observer, but the prevention of disease can only be comprehended through our higher reasoning faculties.

In this country there is too much writing in proportion to the thinking and acting. Many of the most copious writers are not the most distinguished in practice, nor the most judicious readers. The pens of such men remind us of the sword of Don Quixote, but nevertheless they obtain a following of Sancho Panzas.

If the published cases could be submitted to a supreme court, and a decision obtained from competent judges after a full discussion, medical literature would be greatly improved. But as it is now, the reviews of works of the masters in medicine are often written by their pupils, and are usually a hallelujah chorus with a grand amen.

Should fate determine that gynecology shall have its rise, decline, and fall, like many of the nations and their works in the past, I predict that when the men of the future come to explore the ruins of the once mighty Gotham, while they may find in the débris modifications of Sims' speculum, quaint and curious uterine supporters, and many musty jars with human ovaries and tubes, they will also find the works of great masters and their monuments in perfect preservation, including the transactions of the American Gynecological Society, and especially the volume of 1887.

Dr. Elwood Wilson, of Philadelphia, Second Vice-President, in the chair.

Dr. George Granville Bantock, F.R.C.S., of London, England, read a paper on

THE TREATMENT OF THE PEDICLE IN SUPRA-VAGINAL HYSTERECTOMY.

In the first case in which he used Centrat's *serré-nœud* he found it inefficient, and was obliged to substitute Koebrele's, which he subsequently altered, and produced the instrument that he now employs. He prefers soft annealed iron wire to either copper or steel. He summarized his management of the pedicle in supra-vaginal hysterectomy as follows:

First.—The broad ligaments may be so long, and the ovaries so easily raised from the pelvis, that the whole can be included in the loop without difficulty.

Second.—One ovary may be included, while it may be necessary to ligate the other separately.

Third.—It may be necessary to ligate both ovaries separately.

Fourth.—The tumor may grow between the folds of either broad ligament, so that it must be partially included.

Fifth.—The tumor may be situated so low down in the body of the uterus that it may be necessary to separate it largely from its peritoneal covering before a sufficient pedicle can be formed.

The proper recognition and management of these complications severely test the judgment and coolness of the operator, and can only be learned by experience.

In regard to the after-treatment of the stump, the main object was to keep it dry; therefore, the dressings should be changed as soon as they become moist. There was no hurry about getting rid of the stump so long as it kept dry.

The discussion was postponed until Thursday morning.

Second Day—Afternoon Session.

Dr. James B. Hunter, of New York, read a paper in which he reported a case of

ACUTE DILATATION OF THE STOMACH FOLLOWING LAPAROTOMY.

The patient was twenty-five years of age, married four years, but never pregnant, and had been the subject of long-continued treatment. The operation consisted in removal of both tubes and ovaries for disease of the latter organs of several years' standing, and gave rise to severe dysmenorrhœa. The patient vomited at intervals after the operation until her death, which took place on the eighth day, the vomiting being peculiar in that large quantities of fluid were regurgitated without much straining. The abdomen became greatly distended, and it was supposed that there was a low form of peritonitis. The autopsy revealed extreme dilatation of the stomach. There was no evidence of either recent or old peritonitis. There was no obstruction at the pylorus. The history of the case and the results of physical examination showed that the dilatation took place after the operation.

Dr. A. Reeves Jackson, of Chicago, then read a paper on

THE INTRA-UTERINE STEM IN THE TREATMENT OF FLEXURES.

The object of the paper was to present the results that he had observed to follow certain plans of treatment when applied to selected cases, and to explain the details of the method employed.

The single symptom which he requires for the treatment of flexion is dysmenorrhœa. The essential principle in the treatment consists in its slow, gradual conduct. The uterus must be coaxed and not forced into proper shape. He never uses the stem in any case of flexion in which the deformity is not the cause of the dysmenorrhœa, nor until the tolerance of the uterus has been ascertained by previous systematic introduction of the bougie, nor when there is the least evidence of peri-uterine inflammation.

Dr. M. Ogden, of Toronto, was in accord with Dr. Jackson's paper.

Dr. Aust-Lawrence, of Bristol, England, said that his method of using the intra-uterine stem was very much the same as Dr. Jackson's.

Dr. Apostoli, of Paris, France, then read a paper in French on

THE TREATMENT OF UTERINE FIBROIDS BY ELECTROLYSIS.

The author of the paper began in 1882 to practise electrolysis in cases of uterine fibroid, directing the treatment mainly to the interior of the uterus, because:

1. The endometrium is nearly all diseased in cases of fibroma, hence the hemorrhage will be arrested by cauterizing it.

2. By modifying the nutrition of the mucosa, that of the adjacent neoplasm is also affected.

3. By introducing one pole into the uterus the operator is able to place the organ directly in the current.

The writer was accustomed, in all forms of metrorrhagia, invariably to place the positive pole within the uterine cavity, using the negative pole in other cases.

The paper was discussed by Dr. Chadwick, of Boston, and Dr. Apostoli answered some questions asked by Dr. Sutton, of Pittsburg.

Dr. James R. Chadwick, of Boston, read a paper on

THE OPERATION FOR VENTRAL HERNIA AFTER LAPAROTOMY.

The history of these cases shows that the hernia does not result immediately after the operation, but appears a year or more later. Strangulation has not occurred in any hernia after laparotomy. It has not yet been ascertained what method of closing the original wound will prevent the occurrence of the hernia. While perfect union of the peritoneum may tend to favor the union of the musculo-aponeurotic layers external to it, there was no reason to believe that the condition of the peritoneum has any effect upon the development of the hernia. Judgment, guided by experience and the correct appreciation of the individual differences of cases, must determine the proper distance between the sutures, and the tension of the abdominal walls after the operation must be kept at the minimum. Dr. Chadwick described the technique of the operation in a case of very large ventral hernia in which he succeeded in effecting a cure.

This paper was discussed briefly on Thursday afternoon by Dr. Lloyd Roberts, of Manchester, England; Dr. Harvey, of Indianapolis; and Dr. A. W. Johnstone, of Danville, Ky.

Thursday, September 15th—Third Day—Morning Session.

The Society was called to order by Dr. John C. Reeve, of Dayton, O., first Vice-President.

DISCUSSION ON DR. BANTOCK'S PAPER ON THE TREATMENT OF THE PEDICLE IN SUPRA-VAGINAL HYSTERECTOMY.

Dr. A. Martin, of Berlin, gave a brief outline of the history of the treatment of the pedicle in this operation, referred to the causes of death, as sepsis, etc., and finally said that dropping the pedicle was restoring as much as possible the normal condition of the intra-peritoneal organs.

Dr. A. R. Simpson, of Edinburgh, thought that it could not yet be settled for all cases whether the one or the other method was the best. To his mind, however, the clamp was, on the whole, likely to hold its ground.

Dr. Gardner, of Montreal, would, from his experience in its use, continue to employ the clamp.

Dr. H. Marion Sims, of New York, adopts the external method of treating the pedicle.

Dr. M. D. Mann, of Buffalo, felt that the extra-peritoneal method was a safe one.

Dr. Bantock closed the discussion, and said that thus far the rate of mortality was less with the extra- than with the intra-peritoneal mode of treating the pedicle in this operation.

Dr. Robert Battey, of Rome, Ga., then read a paper with the title,

BATTEY'S OPERATION—ITS MATURED RESULTS.

An account of his first operation was published in 1872. Mr. Tait had claimed some connection with Battey's operation soon after, in an alleged conversation with Dr. Chadwick, in 1873, which conversation the latter was unable to recall. He had performed the operation 54 times, with 33 cures. 8 much improved, 5 little improved, 8 not at all improved. There was complete menopause in 50 cases; continued pseudo-menses in 4. The prime object of the operation is to produce the "change of life."

Discussion was deferred until after the reading of a paper by Dr. A. W. Johnstone, of Danville, Ky., on

THE INFANTILE UTERUS.

This paper was of a histological and physiological character largely. One of the conclusions of the writer was that the uterus is not only an entirely independent organ, but that it embraces two parts whose functions are entirely separate, and that there may be arrest of growth in either or both. Another conclusion was that when life had become a burden that was clearly due to arrest of development, the menopause should be hastened, but not until it was certain that nothing else could give relief. He hoped that the uterus would be emancipated from the thraldom of the ovaries, in whose secure grasp it had been held during the last fifty years.

The discussion was opened by Dr. Sutton, of Pittsburg, who asked Dr. Battey two questions:

1. Are we to understand that Battey's operation is limited to removal of the ovaries?

2. Are we to understand that in 54 cases he removed the ovaries alone, and established the menopause in all but 4?

Dr. Battey replied that removal of the ovaries was not a necessary constituent of the operation. It was the *change of life* that he wished to establish, and not removal of ovaries.

Removal of the ovaries does not invariably produce the menopause, nor does removal of the ovaries and tubes, nor, still further, of the ovaries, tubes, and uterus.

Dr. Parvin, of Philadelphia, asked if the ovaries which Dr. Battey had removed were invariably diseased, and how frequently he found disease of the tubes?

Dr. Battey replied yes to the first question, and to the second that the ratio was small. As a rule, he removes only the ovaries, but the tubes when they are diseased—that is, cases of pyo- or hydro- or hepato-salpinx; he does not remove the tubes on account of a little blush along the surface.

The discussion was continued by Dr. Lloyd Roberts of Manchester, Eng.; Dr. Bantock, of London, Eng.; Dr. Polk, of New York; Dr. A. Reeves Jackson, of Chicago; Dr. A. R. Simpson, of Edinburgh, and Dr. Johnstone.

Dr. Theophilus Parvin, of Philadelphia, read a paper on

THE IMPORTANCE OF ANTISEPTICS IN PRIVATE OBSTETRIC PRACTICE,

in which he urged their use, and exhibited a very compact pocket-case which would facilitate the practical application of the principles involved in the method.

Dr. Aust-Lawrence, of Bristol, England; Dr. A. R. Simpson, of Edinburgh; Dr. W. L. Reid, of Liverpool; and Dr. H. N. Kelly, of Philadelphia, spoke of the benefits of antiseptic midwifery, and of the means of carrying it into practice.

Dr. Ely Van de Warker, of Syracuse, N. Y., then read a paper on

EXTRA-UTERINE PREGNANCY, AND ITS TREATMENT BY ELECTRICITY.

When the author of the paper read a recent contribution to this subject, in which it was stated that the five months' fœtus was completely absorbed within three weeks, after having been killed by electricity, he concluded that the elementary literature had not been made complete, and as a contribution to that end, he reported a case in order that the subject might be again discussed.

The sign which had seemed to him to be most reliable in deciding whether or not the electricity had done its work completely was *lessened tension in the cyst*, a sign more easy of detection than *shrinkage* of the tumor.

The paper was discussed by Drs. J. C. Reeve, of Dayton, O.; H. Marion Sims, of New York; James R. Chadwick, of Boston; A. Martin, of Berlin, who recommended removal of tubal pregnancy at once by laparotomy; Dr. Apostoli, of Paris, France; W. H. Baker, of Boston; M. D. Mann, of Buffalo; J. E. Janvrin, of New York.

The discussion was closed by Dr. Van de Warker, who thought it had been proved that galvanism was efficient in this class of cases, and that its use had been un-

attended with danger. He believed, however, that puncture or injection of the sac, according to Dr. Apostoli's suggestion, was even more dangerous than laparotomy.

THIRD DAY—AFTERNOON SESSION.

DR. FRANK P. FOSTER, of New York, read a paper on

VAGINAL INJECTIONS IN SIMS' POSTURE.

The main desiderata in the use of hot-water injections were the penetration of the water to a situation as closely contiguous as possible to the seat of the disease and its application in sufficient quantity at a time to secure the maximum action of the heat.

To answer these requirements he had lately employed the injections with the patient in Sims' posture, or rather in a posture somewhat more decidedly prone than the Sims.

The paper was discussed by Dr. Barker, of New York.

DR. CHARLES JEWETT, of Brooklyn, read a paper entitled

A NOTE ON THE TREATMENT OF PUERPERAL ECLAMPSIA,

in which he recommended the use of *veratrum viride* subcutaneously, in doses of from ten to twenty minims, and repeated at the end of half an hour if the pulse does not diminish in frequency. No convulsion can occur while the patient is under the influence of veratrum viride, and the pulse below sixty per minute. In no case has a dangerous prostration been noted. He does not advocate the *veratrum* as a remedy to be relied upon exclusively.

The paper was discussed by Dr. A. F. A. King, of Washington; Fordyce Barker, of New York, who was the first to introduce veratrum into New York nearly forty years ago; and the discussion was closed by Dr. Jewett.

RESOLUTION AND RESPONSES.

THE PRESIDENT, at this stage of the proceedings, said that the time was drawing near when adjournment of the Society must occur by limitation, and he believed that the remainder of the time could be devoted to matters which were not strictly scientific, but equally interesting.

DR. JOHN P. REYNOLDS, of Boston, then introduced a resolution, in which was expressed the thanks of the Fellows to the presiding officer for his wise, firm, and dignified conduct of the proceedings, to which the success of the meeting had been so largely due, and especially to express for the Fellows the feeling that the interest of that meeting, which had been so conspicuously marked in contrast with all former assemblings of the Society, had been due mainly to the delightfully kind part taken in it by their foreign friends.

Responses were made by Dr. Graily Hewitt, of London; Dr. A. R. Simpson, of Edinburgh; Dr. Lloyd Roberts, of Manchester, England; Dr. Balls-Headley, of Melbourne, Australia; and Dr. A. Cordes, of Geneva, Switzerland.

THE PRESIDENT replied that he could most heartily indorse all that had been said by the distinguished Fellow from Boston concerning the visit of their foreign brethren. He then made a few complimentary remarks, and introduced the President-elect,

DR. ROBERT BATTEY, of Rome, Ga., who returned his thanks for the great honor conferred upon him, and pledged his best efforts in behalf of the interests of the Society.

The Society then adjourned, to meet in Boston, on the *third Tuesday* in September, 1888.

OFFICERS FOR THE ENSUING YEAR.

President—Dr. Robert Battey, of Rome, Ga.

Vice-Presidents—Dr. James R. Chadwick, of Boston, and Dr. A. Reeves Jackson, of Chicago.

Secretary—Dr. Joseph Taber Johnson, of Washington.

Treasurer—Dr. Matthew D. Mann, of Buffalo, N. Y.

Other Members of the Council—Drs. Frank P. Foster, of New York; C. D. Palmer, of Cincinnati; James B. Hunter, of New York; and R. Stansbury Sutton, of Pittsburg.

New Members—Drs. Howard N. Kelly, of Philadelphia; H. T. Hanks and Bache McE. Emmet, of New York; and Cornelius Kollock, of Cheraw, S. C.

The proposition to become a part of the American Congress of Physicians and Surgeons was not adopted.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

DOCTORS AND THEIR HOLIDAYS—LOCUM TENENS—CLINICAL TEACHING AND WORKHOUSE INFIRMARIES—THE PRESIDENT OF THE BRITISH MEDICAL ASSOCIATION—THE NEW SYDENHAM SOCIETY—THE SANITARY CONGRESS—THE LONDON WATER-SUPPLY—THE BRADSHAWE LECTURE AT THE COLLEGE OF PHYSICIANS—NEW THEORIES OF PNEUMOTHORAX—THE VOLUNTEER MEDICAL ORGANIZATION—A COLLEGE OF STATE MEDICINE—UNIVERSITY EDUCATION IN LONDON—THE INTERNATIONAL MEDICAL CONGRESS—SCARLET FEVER AND ITS PREVALENCE—THE STUDY OF FEVERS—THE DESTINATION OF THE WOMEN'S JUBILEE OFFERING—A SPECIALIST FOR THE SPLEEN—MEDICAL ADVERTISING.

LONDON, August 13, 1887.

LONDON is now supposed to be empty, it being in fashionable parlance "the dead season." It is only by a polite fiction that it can be described as such, for between three and four million people remain, including no inconsiderable number of doctors. Some of the latter have made the annual meeting of the British Medical Association in Dublin the occasion of a brief holiday in the sister isle, and are now returning; others are ruralizing within a short railway run of London, and come to and fro to look after their patients. The more fortunate are disporting themselves in Scotland, Wales, Ireland, the lake district, or the Continent, having left a locum tenens in charge. An efficient and steady locum tenens can easily earn three guineas a week, in addition to travelling expenses and board and lodging. Some few medical men gain their livelihood for years by taking charge of other medical men's practice. Employment is easily obtained through any of the recognized medical agents, and the work is not usually hard. In very small practices, or in those situated in very favored localities, much lower terms than the above are often offered and readily accepted—at any rate during the summer months. A consultant who ventures to leave his practice in the hands of a locum tenens usually pays the latter by giving him a proportion of the fees the latter receives. The share given will vary from one-half to one-fourth. At the latter rate the locum tenens receives of course five shillings and threepence for himself out of every guinea. I have known of one case in which the "locum" plaintively complained that in dividing the fees with him the physician for whom he was acting systematically omitted to give him the odd threepence due. A physician or surgeon in large practice will often leave word that he is to be summoned by telegraph to an important patient—even from the Continent. Those who envy physicians and surgeons in large practice little think of the physical toil many of the latter undergo in rushing about the country by train to see patients in all parts—sometimes travelling back to London through the night so as to see their patients as usual the following morning.

It being now the vacation season at the medical schools, lectures, etc., are in abeyance; but work in the wards and out-patient departments is going on. The months of August and September are, at most hospitals, devoted to cleaning, and some of the wards are closed in

rotation ; but the general work of a hospital goes on, as a rule, without intermission. The members of the staff take their holidays in turn. A goodly number of students, too, are now usually to be met with engaged in clinical work during the vacation. The old notion among students, that the moment they received their legal qualifications to practise they were fully equipped for their life-long battle with disease, has given way to larger ideas. Many now voluntarily continue their studies for a time after becoming qualified. Not only the hospitals attached to the schools, but others, and even many of the special institutions, are frequented by earnest students in search of information, and among them not a few young practitioners.

Clinical teaching in London has undergone a great process of evolution within the past decade. More and more, year by year, do teachers endeavor to avail themselves of all sources of clinical material. Even the workhouse infirmaries are now requisitioned for teaching purposes. It should be remarked, though, that these institutions are very different from what they were some years since, when Mr. Ernest Hart drew attention to their flagrant condition in a series of stirring articles in *The Lancet*, to which journal he was then attached. Dirt and disorder prevailed, and of skilled nursing there was practically none. One or two paupers, less infirm than the others, were set in charge of the others, and those helplessly ill had to be content with such attendance as they could get. Nowadays the arrangements are very different. The infirmary is now usually a separate building from the workhouse proper, and to it are relegated all those patients who are sufficiently ill to be confined to their beds. Many of the workhouse infirmaries are palatial structures, rivalling, in their architectural features and sanitary arrangements, some of the large hospitals. A sufficient number of paid nurses is provided, and they perform their duties under the watchful eye of one or more medical officers, who are debarred from private practice. It is not to be wondered at that, among the three or four hundred patients some of our workhouse infirmaries contain, many interesting and rare cases should be found. To some extent, as already mentioned, these clinical stores have already been utilized, but by no means exhaustively. There are great practical difficulties in the way. With such large numbers of patients under their care, the medical officers of such institutions already have their hands full of work, without adding to their other duties that of teaching. One proposal is to appoint outside medical officers as visiting physicians and surgeons ; but this plan is calculated to awaken jealousy in the residents, who naturally object to seeing others come in and utilize, for teaching and observation, just the very best cases they would like to reserve for their own study. I lately heard of a case in which an important hospital (one of such a size that I should have thought its staff were already overworked) actually proposed to appoint some of its staff to visit the neighboring infirmary with some of the hospital students and give instruction to them, without having even asked permission of the infirmary authorities to do so. Fortunately the plan was dropped, as it could scarcely have been carried through after such an unfortunate inception.

It is rumored that the President of the British Medical Association, Dr. Banks, is shortly to be created a baronet. I believe that Dr. Banks, a short time since, declined a knighthood, much to the gratification of his professional brethren, who thought the higher dignity should have been proffered to him.

The New Sydenham Society has just held its twenty-ninth annual meeting. As has been customary of late years, it has been held in conjunction with the annual meeting of the British Medical Association. Although it restricts its operations mainly to the issue of reprints and translations, the Society is in a flourishing condition, with a membership of more than two thousand. Among forthcoming works are translations of works and monographs by Spiegelberg, Raynaud, Klebs, Tommasi-Crudeli, Litzmann, Bandl, Charcot, and others.

This is the season of congresses. The British Association for the Advancement of Science will meet shortly at Manchester. Next month the Sanitary Institute will hold its tenth annual meeting at Bolton. Dr. Russell Reynolds, F.R.S., will be president of the Section of Sanitary Science and Preventive Medicine. If the collective wisdom of the Sanitary Institute could devise a means of improving the metropolitan water-supply, we poor Londoners should be extremely thankful. Until little more than a month ago, dwellers in house-boats and steam-launches (both of which abound on the upper river) have been allowed to throw overboard refuse of all kinds into the river just above the in-takes of the water-companies. After being permitted for years, this has now been forbidden and will, it is hoped, be put a stop to. But other equally bad sources of pollution remain.

London, August 19, 1887.

The Bradshawe Lecture for the present year was delivered at the College of Physicians yesterday by Dr. Samuel West, Assistant Physician to St. Bartholomew's Hospital. In the middle of August a very large audience could not be expected. The President, however (Sir William Jenner), was in his place and looked, I thought, remarkably well. Many of the leaders in medicine were also present, among whom might be noted Dr. Quain, Dr. Wilks, Sir Edward Sieveking, Dr. Munk, Dr. Powell, and many others. Dr. West took for his subject one which, he said, had been with him a favorite clinical study, viz., Pneumothorax. Of this he did not attempt any general account, but only discussed certain points. Phthisis, he remarked, was the chief cause and the primary lesion found in ninety per cent. of the cases. Many cases had been recorded in which pneumothorax occurred in the apparently healthy ; but, as in such cases recovery had always taken place, there had been no opportunity of proving or disproving the existence of a pulmonary lesion. Dr. West, however, opined that phthisis was present in many of these cases, and narrated some cases in point. He then considered the question of whether the healthy lung could be ruptured by any force brought to bear upon it by respiratory efforts. This question was answered affirmatively, though it was at the same time pointed out that violent expiratory efforts much more commonly produced subcutaneous emphysema than pneumothorax. Some experimental researches, made with a view of determining the pressure on the air-cells of the lungs at which rupture occurred, were then detailed. Dr. West's results agreed with those of Hutchinson, who had found that the air-cells could resist a pressure of from three to nine inches of mercury when expanded as in health. Most of his own observations were made upon the lungs after removal from the body, and he remarked that the bursting pressures thus obtained were no doubt much below those required with the lungs *in situ*. In the only instance in which he had attempted the experiment upon the dead body, the air did not appear in the neck until a pressure of eight inches of mercury was registered ; on examination, pneumothorax was found to have been produced on both sides. A pressure of eight or nine inches of mercury was far beyond anything that an adult could produce by expiratory effort. It was clear, therefore, that it could only be in cases where the normal resistance of the lung had been greatly reduced that (in the absence of any pulmonary disease) pneumothorax could be produced. The lung being thus in most cases capable of resisting the highest pressure that the most violent expiratory efforts could bring to bear upon it, the question might well arise, in those cases where the lung gave way, whether the absence of a local lesion could be without hesitation assumed ? It was a remarkable feature of many cases occurring in the apparently healthy, that there was fre-

quently a complete absence of any history of respiratory effort. The lecturer then proceeded to consider those cases of pneumothorax in which the pleural cavity had been laid open by injury. He quoted a passage from "Foster's Physiology," in which the mechanism of pneumothorax is described as consisting in the shrinkage of the lungs (by their own elasticity), whereby the pulmonary is drawn away from the parietal pleura. This explanation Dr. West proceeded to confute. There were, he said, not a few instances in which, in spite of the pleura being opened, collapse did not occur. In some cases where the side of the chest had been laid open, the lungs—although seen torn and bleeding in the wound—remained in close apposition to the thoracic walls, and no pneumothorax was produced. Cases in which, without any external wound, the lungs were torn and the pleural cavity opened were still more interesting. In cases of simple fracture of the ribs, with surgical emphysema, it was clear that both layers of the pleura were torn across and the lung opened, from the fact of air having made its way into the subcutaneous tissue; yet pneumothorax in these cases was extremely rare. Various explanations had been offered, but Dr. West now put forward a new one, viz., that in such cases the cohesion of the two serous surfaces kept them in contact. Accepting Donders' estimate of the normal elasticity of the lung as equivalent to seven millimetres of mercury, it followed that when the lung did not contract after the pleura was opened it must be kept on the stretch by some force greater than seven millimetres of mercury. He held that this force was to be found in the cohesion between the two serous surfaces of the pleura. He had investigated the point experimentally by taking two mahogany disks, stretching over them tightly pieces of serous membrane with the serous surfaces outward, and, after placing these surfaces in contact, observing the force required to separate them. This was found to be equal to twelve and a half millimetres of mercury, or five and a half millimetres in excess of the equivalent of the normal elasticity of the lung. (The cohesion of the disks was not due to atmospheric pressure, as air was admitted between them by means of an opening.) A more exact form of the experiment gave a still higher value to the force of cohesion. He found this cohesive force was destroyed by wetting the membrane, and equally by absolute dryness; the surfaces must be simply moist, as normally in healthy pleura. Any roughness of the membrane also prevented cohesion.

The variations of pleural pressure were then considered at some length. It was pointed out that the displacement of organs, especially of the heart, was the most important result of these variations. The heart, when displaced, was not, as once supposed, rotated, but simply drawn or pushed bodily over. The prognosis of pneumothorax was briefly discussed, and attention directed to the high mortality of cases occurring in the ordinary course of phthisis. In cases in which recovery occurred this might take place in one of two ways: The pneumothorax might become converted into a case of fluid effusion which healed in the usual way, or the air disappeared without the development of any fluid at all. In the first group of cases the exudation was usually, but not invariably, serous. The second method of recovery was much rarer. Rapid removal of air was familiar in experimentally produced pneumothorax, it being in fact difficult to maintain an artificial pneumothorax long in a healthy animal, because the air so quickly disappeared. Fluid effusion might also in like manner be rapidly removed. In both cases the lung might rapidly re-expand. The lecturer remarked that the common explanation of this re-expansion was not satisfactory. In the case of fluid the question was simpler than in the case of air. Fluid might be removed in many ways—by absorption, by transudation, or by the pump-like action of the respiratory movements upon the lymphatics of the pleura. He regarded the latter as an important factor. It depended upon the demonstration of stomata in the parietal and visceral layers of the pleura. To this mechanism was due the favorable result frequently brought about by removing a part of the fluid by paracentesis. Paracentesis was followed by a return of the respiratory movements, which had been more or less impaired by the large effusion, and as a consequence the lymphatic pump would be restored to action. Experiments showed also that a still air-tight lung was permeable to fluid under pressure, so that it was possible that a part of the exudation might be actually squeezed through the lung as through a sponge, and, when it had reached the bronchi, might be got rid of partly by expectoration and partly by absorption. The removal of gases was a more complicated problem. It might be brought about by diffusion, by simple absorption, or by absorption aided by chemical combination. The latter was considered somewhat fully, the variations in the chemical composition of the gases of pneumothorax, of the lungs, and of the blood being discussed, and some ingenious speculations offered. The general conclusion was drawn that in many of these processes there were sources of power sufficient to provide the force of which we were in search. Dr. West illustrated his lecture with several experiments, all of them being very successful, offering a happy contrast to many lecture experiments.

An important step is now being taken to organize the Volunteer Medical Service. The Volunteer Medical Association has had amalgamated with it the Volunteer Ambulance Department, the former title being retained for the conjoined bodies. An effort is being made to induce every volunteer medical officer to join the association. It has already done useful work in pushing forward on the government the claims of volunteer medical officers, and with its enlargement a larger sphere of usefulness promises to open out before it.

An institution has just been founded under the title of "The College of State Medicine." Its objects are the advancement of sanitary science. The acceptance by Sir Joseph Fayrer of the office of president is almost in itself a guarantee of success.

The question of university education in London still drags wearily along. University and King's Colleges have presented to the Privy Council their joint petition asking for powers to confer degrees. The association for promoting a teaching university have presented one similar in purport. That from the Colleges of Physicians and Surgeons has not yet been sent in. Meanwhile numerous counter-petitions have been presented. Not only the existing university in London, but four other universities, have taken time by the forelock, and lodged objections to the creation of a fresh degree-giving body.

LONDON, August 30, 1887.

BEFORE these lines are printed in your pages, the Ninth International Medical Congress will be an event of the past, and we shall be looking forward to its successor. In a certain sense we have already reached that stage here, for, as the Congress commences in less than a week from now, all those from Europe who intend taking part in it must be already well on their way. The British contingent will, I fear, be but a small one, and not equal in numbers to that which came from the States to take part in the Congress held here in 1881. The reasons are not far to seek. They imply no unwillingness to recognize the claims of American medicine nor any distrust of American hospitality. One drawback is the date of the Congress, which is fixed somewhat late in the season. Europeans attending it will scarcely be able to reach home much before October. It must also be confessed that Englishmen are not such travellers as Americans. Many English doctors also have neither the time nor the money to devote to spending a month on the Congress. I suppose this is the minimum time any of those who have gone from this country will be absent. Nevertheless, those who are unable to go will none the less be interested in it, and will look forward with zest to

the full and faithful reports of its proceedings, which are sure to appear in THE MEDICAL RECORD and other journals.

We have hitherto escaped the almost inevitable cholera scare, though one or two isolated cases have been reported as occurring. Scarlet fever, however, is justifying its name of the "English fever," by being unusually prevalent in London and the suburbs. The proportion of fatal cases, however, appears to be much less than in former years. This may in part arise from increased attention to the disease on the part of medical men, nince what may be termed the bacillary era came in. Sumbers of observers—both skilled and unskilled—have been on the alert to discover any fresh fact in relation to any one of the specific infectious fevers. So far as medical education goes, fevers have been as much neglected as mental diseases. Plenty of our students never see a case of measles or scarlet fever till after obtaining their qualifications. The ordinary hospitals refuse to admit such cases, though, of course, cases sometimes develop among the patients already received. In the out-patient departments infectious fevers occasionally turn up. For any real study of these diseases, however, the student has to wait for the opportunities of private practice, un less he can get the chance of doing a little visiting among dispensary or poor-law patients. There is, it is true, one fever-hospital in London, but it is not utilized for teaching purposes. The various hospitals of the Metropolitan Asylums Board also receive fever-patients, but the same remark applies to them. They are supported mainly for isolation-purposes, in which they serve a very useful purpose. It is now very common for practitioners to send poor patients to these hospitals for isolation-purposes, even if not absolutely paupers. Such patients are admitted on making a moderate payment. In the case of variola, the friends are often only too glad to send the patient away. One consequence of these facilities will undoubtedly be that in a few years a general practitioner with much experience of variola or typhus will be a *rara avis*.

One noteworthy feature of the celebration of the Queen's Jubilee here was the Women's Jubilee Offering. This consisted of *money*, and formed a good round sum. Some of it has already been spent by the Queen on a statue of the Prince Consort, etc., but nearly seventy thousand pounds, or two hundred and eighty thousand dollars, remain. Numerous have been the conjectures as to what the Queen would do with it, but no light was obtainable on the subject. After two months' consideration Her Majesty has at last announced that the surplus left will be donated to nursing institutions, or otherwise expended for the benefit of nurses.

The spleen has hitherto been an organ somewhat overlooked by specialists, no one having, I believe, as yet ventured to couple his name with it as an authority on its diseases. Physiologists have been busy enough discussing it. Some ten years or more ago a curious pamphlet on the subject, from the pen of one of the physicians to St. Bartholomew's Hospital, appeared under the title of "The Marriage of the Spleen: a Physiological Love Story." A physician for the spleen has, however, at last arisen, for I note in the advertising columns of *The Standard* for today, an announcement of a work on "Diseases of the Spleen and their Remedies, clinically Illustrated. By J. Compton Burnett, M.D." Splenic diseases evidently possess no terrors for Dr. Burnett. The object of advertising his work in a daily newspaper is somewhat dubious. Is it to bring practice, which is one of the real objects of advertising, though not often openly acknowledged to be? If so, how are patients to be first taught that they have a spleen, and then persuaded that it is diseased? But perhaps the author's aim is strictly scientific, though I should scarcely have thought a daily paper was the best medium for reaching a strictly medical audience.

Medical advertising is a vexed question. It is considered by the medical Mrs. Grundy quite allowable to advertise a medical work in the "publishers' column" of *The Times*, such column being restricted to new books of the current three months. To insert an advertisement in the ordinary literary columns of the same paper is, however, quite another matter, and to do so in one of the penny dailies a most reprehensible proceeding! Yet why is one column of a newspaper worse than another, and why is it disreputable to insert in a penny paper the same advertisement that appears without comment in a threepenny newspaper?

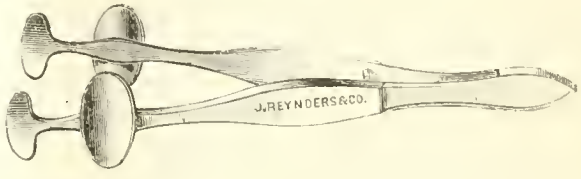
New Instruments.

THE TRACHOMA-FORCEPS.

By CHARLES H. MAY, M.D.,

NEW YORK.

THE accompanying cut is intended to illustrate a forceps designed to aid in the use of the *expression-treatment of trachoma*. This method of treatment (pressure) is based upon rational principles—of getting rid of the trachoma-follicles by pressing out their contents, and thus having collapse and obliteration of the granulations. But though made use of by some, notably Hotz, of Chicago, it has not gained a strong foothold with the majority of oculists. This is because it has been tried and found to possess no advantages over the old-established copper-treatment; in fact, most oculists consider it inferior to the latter method of treatment.



The writer, in having these forceps constructed, did so with the hope that, with a better method of applying expression, this plan of treatment might be productive of uniformly better results than followed the older methods, which, at best, are often lengthy and tedious. The usual method of producing the pressure necessary for emptying the trachoma-follicles is to evert the upper lid, to pass underneath it the nail of the left thumb, and upon this smooth, resisting surface to exert pressure by means of the nail of the right thumb. This plan is sometimes difficult of application, especially if the procedure is to be thorough. Dr. Hotz, of Chicago, uses an "old-fashioned" iris-forceps for this purpose.

The trachoma-forceps accomplishes expression as thoroughly as can be desired.

It consists of a forceps resembling, in the main, the ordinary dissecting-forceps. They are provided, a short distance from the lower extremity, with rests for the fingers in exerting the pressure, which also renders the roughening of the surfaces unnecessary, and thus allows the instrument to be kept perfectly clean. The lower extremities present two nail-like expansions, each about one-third of an inch wide, and having a curve resembling that of the lids. In applying them, one blade is inserted beneath the everted upper lid and the other above the lid; by exerting force upon the lateral finger-rests, pressure can be made to a greater or less degree. To use them upon the lower lid they should be applied vertically, the palpebral fold being caught between the two blades, and, by pinching, the granulations are emptied.

As already hinted at, the writer's experience with the expression-method of treating trachoma has led him to believe that it is *inferior* to other methods now in use. But there is one ocular condition in which these forceps are of immediate service and very gratifying in their results. In cases of *trachomatous pannus*, where a thickened, angry-looking upper lid causes, by the space occu-

pied and mechanical crowding, intense irritation of the cornea and marked suffering, the action of this instrument, in immediately reducing the thickness of the lid, is very satisfactory. There is comparative comfort at once, and then the routine treatment for trachoma can be instituted. From time to time, as acute exacerbations occur, and increased thickness of the lid results in increased irritation to the cornea, the procedure should be repeated. The operation is not very painful, and can be rendered less so by the use of cocaine. Used in this manner, and *for this particular indication*, the expression-treatment of trachoma gives highly satisfactory results.

202 East Fifty-eighth Street,
April 25, 1887.

Navy News.

Official List of Changes in the Medical Corps of the United States Navy for the week ending September 17, 1887.

Ashbridge, Richard, Passed Assistant Surgeon. Detached from the Constellation, and ordered to the Naval Academy, Annapolis, Md.

Ayers, Joseph G., Surgeon. Detached from Torpedo Station, and to await orders.

Wise, John C., Surgeon. Ordered to relieve Surgeon Ayers at Torpedo Station.

Coues, Samuel T., Medical Director. Detached from Hospital, Chelsea, Mass., and placed on retired list September 17th.

Bradley, George P., Surgeon. Leave of absence extended six months, with permission to remain abroad.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending September 17, 1887:

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	47	11
Scarlet fever	26	6
Cerebro-spinal meningitis	1	1
Measles	7	1
Diphtheria	76	24
Small-pox	6	3
Yellow fever	0	0
Cholera	0	0

A Rare Dislocation of the Patella.—Dr. V. Midelfart relates in the *Norsk Magazin for Lægevidenskaben*, July, 1887, the case of a twelve-year-old boy who had fallen some days before against a sharp stone. There was apparently a transverse fracture of the patella. The lower fragment was immovable, while the upper one could not be felt, but by pressing the finger forcibly upward and backward a slight crepitation could be obtained. The knee had been first flexed and then extended, and it was thought that perhaps the upper fragment of the patella had been torn from its attachment to the quadriceps and had become lodged between the articular surfaces of the femur and tibia. The joint was opened, and it was then found that the patella was not broken, but was dislocated, its upper edge lying against the articular surface of the tibia and its lower portion projecting strongly forward. The latter was what was supposed to be the lower fragment immovably fixed. The tendon of the quadriceps had been torn from the upper anterior surface of the patella, carrying with it some fragments of bone, which had occasioned the crepitus elicited by deep pressure with the finger.

A New Local Anæsthetic.—Dr. G. W. Durham, of Thomson, Ga., writes: "In your issue of July 30th the attention of the profession is called to a new anæsthetic by Drs. Goodman, V.S., and J. Herbert Claiborne, Jr. As to the medicinal virtues of the tree I know nothing; but if I am not very much mistaken, Professor Darby, in his 'Botany of the Southern States,' describes it as Gleditschia triacanthos. The tree is common throughout the Southern States, and in rich soil attains to the height of fifty or sixty feet. It is commonly known as sweet, or honey, locust. The fruit is highly esteemed by most of the negroes for making beer. The wood is highly esteemed by wagon-builders. It is very tough and very slow to decay, hence it makes extra hubs."

Genealogy of Neurotic Families.—Dr. M. J. Séglas laid before the Medico-Psychological Society of Paris (London *Medical Record*) the genealogy of two neurotic families in which at least twelve members out of thirty-four were deranged in mind. The following sentences contain a conclusion which he is anxious to impress: It has been often remarked that persons with a neurotic heredity often intermarry; this is now generally admitted. What explanation can be given? Are these unions simply the result of chance, or of different social causes (family reasons, considerations of fortune), or are they dictated by a sort of fatality, or natural law? In admitting the possibility of other causes (and it is this which renders the question so difficult) it is insufficient to explain the innumerable cases of convergent heredity, observed by the doctors in all times and countries, and which are only the result of these fatal unions. On the other side, the illegitimate unions which present characters precisely similar are not to be explained by all these particular causes, and are more demonstrative of the fact upon which we insist. Besides, the repetition of the same facts in a single family, in the same generation, and in the following generations, in nearly all the members of these generations, and sometimes even several times in the life of the same individual, seems to us to be a proof of what we advance. In the particular case which we report, this unhealthy attraction which draws persons with neurotic tendencies to each other by a sort of community of ideas and sentiments is the most manifest. It is found again in all the generations, in all the members of each generation, and even several times in the same individual. We find in it also consanguinity, which is on this account the more demonstrative. Moreover, these unions between blood-relations are not rare, and thus create a convergent heredity of the worst description in the descendants.

Dysacusis.—M. Lannois has published an article on hyperacusis in facial paralysis, and on the influence of mastication on the acuity of hearing. Among some individuals a very notable diminution of the faculty of hearing may be detected during mastication, and this diminution may even amount to actual deafness, so that on addressing the masticating individual not a syllable reaches his consciousness. In some cases of facial paralysis a distressing sensation in the ear of the paralyzed side may be experienced, and this has gone incorrectly by the name of hyperacusis. The tensor tympani or internal muscle of the malleus receives its nerve-supply through a small branch from the otic ganglion on the third part of the fifth nerve. It is held, therefore, that in paralysis of the facial nerve the auditory phenomenon is due to concomitant paralysis of the stapedius, which is believed to be supplied by the facial nerve, but this nerve does not supply the tensor tympani. The diminished auditory capacity observed in some individuals during contraction of the masseter and other muscles supplied by the motor part of the fifth nerve, is the result of a simultaneous but too energetic contraction of the tensor tympani, which is innervated motorially by the fifth nerve also.—*The Lancet.*

The Medical Record

A Weekly Journal of Medicine and Surgery

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Original Articles.

GLEDITSCHINE (STENOCARPINE), THE NEW LOCAL ANÆSTHETIC.

BY J. HERBERT CLAIBORNE, JR., M.D.,

INSTRUCTOR IN OPHTHALMOLOGY IN THE NEW YORK POLYCLINIC, CLINICAL ASSISTANT IN THE VANDERBILT CLINIC, ETC.

THE *Gleditschia triacanthos*, or thorny locust, is the tree from which the new local anæsthetic, discovered by Mr. Goodman, is obtained.

This conclusion has been reached in the following wise :

Soon after making the experiments recorded in my first article on this subject in THE MEDICAL RECORD, I searched all the literature afforded by the Astor Library relative to the American flora.

The description of the tree given by Mr. Goodman exactly corresponded to that of the *Gleditschia triacanthos* as found in the authorities mentioned. Just at this time a letter was received from Dr. W. P. Copeland, of Eufaula, Ala.; therein it was stated that in his opinion the tree could be none other than the honey-locust. At my request Mr. Goodman sent home for some of the leaves. After some delay leaves were forwarded, which were not recognized as those from which the anæsthetizing principle was extracted. Another order, more explicit, was given. In the meantime a communication, addressed to Professor F. W. Snow, of the University of Kansas, relative to the tree, elicited a very courteous reply.

Professor Snow recognized in the description given by Mr. Goodman the *Gleditschia triacanthos*, or honey-locust.

The second batch of leaves from Louisiana having been received, specimens of the leaflets were forwarded to Mr. Sereno Watson, of the Harvard University. He stated that from the scanty specimens sent he could conclude only in favor of the *Gleditschia triacanthos*.

Dr. L. P. Walker, of this city, said that he recognized in the description the thorny locust of his native State, Alabama, and that the tree could be found in great abundance in Central Park. Under his direction I found several clumps of the tree there.

Unsatisfied, I requested Messrs. Goodman and Seward to accompany me to the Park. A clump of trees was recognized by them as being identical with the one from which they had obtained their leaves, save that the trees in the Park did not possess any pods, whereas those in West Feliciana Parish, La., did. A branchlet of one of the clump in the Park, recognized by these gentlemen, and leaflets, pods, and spines of the specimen sent Mr. Goodman from Louisiana, were presented to Dr. H. H. Rusby, Curator of the Herbarium of the Columbia College, New York. He recognized them as identical, and the tree as the *Gleditschia triacanthos*, or thorny locust.

A letter addressed to the Tulane University of New Orleans remained unanswered for some time, owing to the absence of the Professor of Botany. Finally, a very full answer was received from Professor Jos. F. Joor, M.D., Professor of Botany in said institution.

Professor Joor stated that the description given by Mr. Goodman *exactly* tallied with that of the *Gleditschia triacanthos;* but that the name "Tear-blanket-tree," was applied locally to various prickly trees and shrubs, chiefly Texan and Arizonian, and that one of these was the *Acacia* (Vachellia) *farnesiana*, which grows along the Mississippi, between Baton Rouge and New Orleans; that he had never heard the name "Tear-blanket" applied to any tree indigenous to Louisiana. He stated, however, that the *Acacia farnesiana* never grew over seven or eight feet high in Louisiana, possessed *white* spines that were straight and *unbranched*, and bore a pod that corresponded in no respect with the one described in my article.

He would, however, make inquiries if I requested. This was earnestly suggested immediately by letter.

The last link in the chain of indisputable evidence was furnished by a telegram from Professor Joseph F. Joor, stating that "*Gleditschia triacanthos* is correct beyond peradventure."

FIG. 1.

At the dictation of Dr. H. H. Rusby I wrote the following :

"Gleditschia, Genus; Natural Order, Leguminosæ; occurs in temperate and subtropical Asia and North America. Consists of four or five species; there are two in this country, which are quite readily distinguishable one from the other.

"*Gleditschia triacanthos* Linn. has a long pod with a number of seeds in it. The pod may be straight, sickle-curved, or even twisted spirally.

"*Gleditschia monosperma* Walt. has a short pod containing but a single seed, or very rarely two.

"In this section leaves are deciduous, the tree being bare in winter. It is said that along the Gulf the leaves persist during the winter.

"Inasmuch as it has been stated (by Dr. Seward) that the winter leaves in Louisiana contain a larger amount of the alkaloid than the summer ones, it is possible that in this section, where the leaves never reach the winter

stage, they may be much less rich in alkaloidal properties."

From "Gray's Botany," last edition, I quote the following:

"Gleditschia Linn. Honey-locust. Flowers polygamous. Calyx short, 3–5-cleft, the lobes spreading. Petals as many as sepals, and equalling them, the 2 lower sometimes united. Stamens, 3–10, distinct, inserted with the petals on the base of the calyx. Pod flat (G. T. many-seeded). Seeds flat. Thorny trees, with abruptly once or twice pinnate leaves and inconspicuous greenish flowers in small spikes. Thorns above the axils.

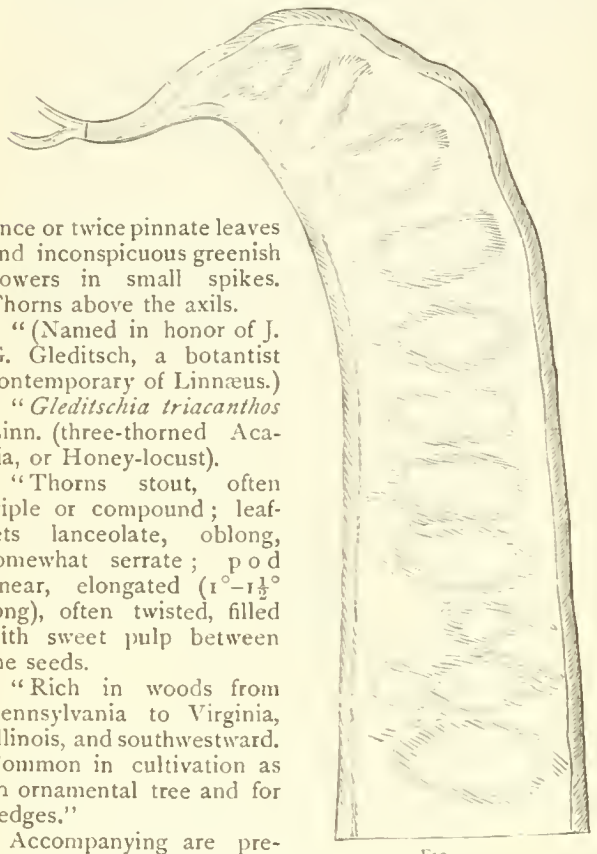

Fig. 2.

"(Named in honor of J. G. Gleditsch, a botantist contemporary of Linnæus.)

"*Gleditschia triacanthos* Linn. (three-thorned Acacia, or Honey-locust).

"Thorns stout, often triple or compound; leaflets lanceolate, oblong, somewhat serrate; pod linear, elongated (1°–1½° long), often twisted, filled with sweet pulp between the seeds.

"Rich in woods from Pennsylvania to Virginia, Illinois, and southwestward. Common in cultivation as an ornamental tree and for hedges."

Accompanying are presented cuts of the leaf, spines growing from a branchlet, and a part of one of the pods.

The leaf and branchlet from which the cuts were drawn were clipped from one of the group of trees in the Park, recognized by Drs. Goodman and Seward.

The clump above referred to did not possess any pods, as stated.

The one from which the cut was made was taken from a tree in the vicinity. Leaf and spines are of the natural size, while only a part of the pod is shown. This was ten inches in length and curled upon itself. This curling is not shown in the figure.

If anyone be sufficiently curious, he may find a clump of the thorny locust just to the right of the bear-pit in the Park; or he may find a hedge of the thorny locust skirting the wall facing on Fifty-ninth Street, between the Broadway and Sixth Avenue entrances to the Park.

According to Dr. Rusby, there is no reason to assume that the thorny locust and honey-locust are not identical. Certain it is that the pods of some trees contain a sweet, viscid juice, and that those of others do not. In my native section, the eastern part of Virginia, the name wild locust is applied to those trees whose pods do not contain any juice, and honey or domestic locust to those that do.

As a boy I have frequently eaten the juice of the honey-locust, and considered it a great delicacy. I have never observed any unpleasant after-effects. The fruit is not considered edible till it has been nipped by frost.

Dr. Copeland writes me that as a boy he has experienced an unpleasant sense of intoxication after eating freely of the pods. It has been stated in a recent issue of the *Times-Democrat*, by Dr. Phares, of Louisiana, that the juice has been used in that State to make beer.

It would be interesting and pertinent to observe that the active principle was reduced on the banks of the Mississippi, in the vicinity of the tree from which the first poultice was made. Dr. Seward and Mr. Goodman inform me that the simplest domestic utensils were used.

Mr. Goodman has just written me that "the new alkaloid is not, strictly speaking, a powder, but a semi-liquid mass, of a greenish tint."

Dr. Seward tells me that the leaves were treated before they became dry, and that he was not able to extract the alkaloid from them after they had dried.

All the solution of the alkaloid at present possessed was made before leaving Louisiana. Only a few leaves, spines, and pods of the tree had been brought to New York, hence my desire for accurate specimens had to remain for a time ungratified.

This historical notice would be incomplete, if I failed to express my thanks to the gentlemen who have assisted me in presenting the foregoing facts to the medical public. I wish to express my sense of gratitude to Dr. Copeland, Dr. Walker, Dr. Rusby, Professor Joor, Professor F. W. Snow, Mr. Sereno Watson, and to my friend Mr. W. T. Thatcher, by whom the drawings were made.

We have abundantly corroborated the statements made in our former article with reference to the effects of the alkaloid on the eye and nose. No operations other than that of removal of foreign bodies from the cornea have been performed under its influence. The irregular dilatation of the pupil of the treated eye we have observed so constantly that we deem it worthy of repeated record, although it may not have any peculiar significance.

The contraction of the opposite pupil has occurred sufficiently often for us to be compelled to note *it* again. A diminution in tension when the mydriatic effect was at its height, we have noticed in every case since our former report. The eye of the rabbit, upon which our first experiments were made, presented a dry and glazed appearance, similar to that produced by cocaine. This has not been observed in any case on the human eye; the latter class of eyes have invariably remained humid under its use. In testing the anæsthetic effect of the drug on the cutaneous surface, five or six drops of a two per cent. solution were instilled upon a small piece of absorbent cotton; after this had dried it was removed and placed in a two-drachm bottle that had formerly contained some of the two per cent. solution; one drachm of hydrant water was poured into the bottle, shaken well, and allowed to stand for an hour. Two drops of this were instilled into a patient's eye; there was no such recoil as is often observed from the instillation of the two per cent. solution. In five minutes the conjunctiva and cornea were completely anæsthetic, and remained so for twenty minutes. At the end of an hour the pupil was dilated almost *ad maximum*.

This solution has been used in a number of cases, and always with the same result. A calculation has been made of the percentage of this solution; supposing that none was lost on the skin the strength cannot be more than one grain to the ounce of water (one-fifth of one per cent.).

This indicates a very remarkable power. The bleaching of the conjunctival vessels was marked; more so, we must confess, than under the effect of a two per cent. solution. The palpebral fissure was rendered by no means as great as by the two per cent. solution. From these facts we may infer that the latter solution is not necessary to cause anæsthesia in the eye.

We have obtained the most brilliant results, therapeutically, by its use, in relieving the pain of iritis and the photophobia of trachomatous pannus and phlyctenulæ. For these purposes it is eminently indicated, since it combines the action of atropine and cocaine. Unfortunately no case of glaucoma has fallen into our hands since we have been in possession of the drug. One pair of glasses

had been prescribed under its use. The case was one of compound myopic astigmatism in which there was a severe spasm of the accommodative muscle.

On the first morning five drops were instilled into each eye within a period of three hours. The patient complained at one time of dryness of the throat. This was relieved by drinking a little water. At the end of three hours the patient could only read the larger prints of Jaeger's test-book within his far point, but, owing to a lack of uniformity in the results gotten by the functional examination, I suggested that he return on the morrow. On that day five more drops were instilled into each eye. In three hours the results of examination by the functional method, retinoscopy, and the direct method tallied. On the morning of the fifth day the pupil and accommodation were normal. The examination now corresponding with that under the use of the drug, the glasses were prescribed and relief was given.

Fig. 3.

The dilatation was never any greater than that obtained from two drops in other cases, and the effects passed off equally as rapidly.

In order to determine the influence of eserine over a pupil, and accommodation under the effect of the alkaloid, I had one drop instilled into my left eye. As soon as the mydriatic and paralyzing effect became evident, frequent instillations of a solution of the sulphate of eserine (gr. ¼–f ʒ j.) were made. After a few minutes the eserine would enable me to overcome the effect on my accommodation, and I would be able to read with an effort for a short time. The pupil would become somewhat smaller, but never, on the first day, returned to its normal size. For several hours before retiring the instillations of eserine were discontinued, and at midnight the pupil was practically dilated *ad maximum*, and the accommodation completely paralyzed. On the following day both pupil and accommodation could be managed by frequent instillations of the eserine, but the change of the accommodation and the pupil did not keep pace; in fact, at one time the left pupil was rendered smaller than the other, while I was able to read only Jaeger's number five or six at ten inches.

It has been employed in a number of cases of acute myringitis, and in acute middle-ear catarrh associated with myringitis.

In a case of the latter, where the drum was excessively swollen and bulging, the external auditory canal was half filled with the solution, and it was allowed to remain half an hour; paracentesis was performed in the lower and posterior quadrant, the Schwartze incision being made. The patient seemed to suffer the utmost pain; evidently *no* anæsthetizing effect was produced.

In numerous cases of the above affection in which the drum was greatly reddened, a few drops allowed to rest on the drum caused evident bleaching, so that the vessels that ran over the drum from the periphery, which were very marked before the instillation, could scarcely be seen. These cases all improved under treatment. In view of this effect, we feel warranted in suggesting it as an indication in the two affections mentioned. One patient complained of a "numb feeling in the ear." We have not used it at all in purulent middle-ear disease.

In our former report we settled the anæsthetic effect upon the nose, through the assistance of Dr. L. P. Walker. This experience has been amply verified in my own case and in that of a patient. Some of the two per cent. solution was freely painted on the exceedingly swollen mucous membrane of the inferior turbinated bone of a young man. In five minutes the swelling had entirely disappeared, the mucous membrane clung closely to the bone, and was rendered pale. Tactile sensibility was entirely eliminated.

Suffering from a severely acute attack of coryza, I painted with a cotton-armed probe the whole of the interior of my anterior nares on both sides with the solution. In ten minutes my breathing was perfectly free, and all sensibility to touch in the nose was removed. The entire organ felt deadened—not unlike the sensation produced by frost-bite. This remained, gradually diminishing, for three hours. The coryza was completely relieved until five or six hours after treatment, when it returned slightly. Another application before retiring relieved it entirely.

I have frequently had cocaine applied in the same way in stronger solutions, and can safely say that the anæsthetic effect of Gleditschine is decidedly more profound and lasting than that of cocaine.

Dr. Knapp has obtained anæsthetic effect upon the throat and the other mucous surfaces of the male human body, under its use.

With reference to the effect upon the skin, our results since our former report have been somewhat contradictory. We have applied it twice ourselves to inflamed surfaces in the manner first employed; that is, by saturating a piece of absorbent cotton with it and allowing the cotton to remain twenty to thirty minutes on the part. In each case there was decided evidence of pain when the incision was made. Bearing in mind the pathological condition by which the nerve-filaments are surrounded in inflammation, we were not sanguine of success in these cases. My friend, Dr. George T. Harrison, applied it in the manner suggested by myself, in a case of ingrowing toe-nail. He states that in his opinion the pain of the operation was considerably diminished. It was attempted to remove a chalazion (fibroid tumor) from the upper lid of a man thirty-five years of age, under its use. The cotton, saturated with the solution, was laid on the skin covering the tumor and allowed to remain thirty-five minutes. At the end of that time a small incision was made in the skin over the seat of the tumor. The patient complained bitterly both of the incision and the consequent manipulation. Soon after the publication of Dr. Knapp's article, in which it was stated that absolutely no anæsthetic effect was observed under its use on the unbroken cutis, Mr. Goodman brought me another sample of the solu-

tion. I immediately noticed that this was colorless and possessed scarcely any smell, while the taste, though like that of my first sample, was less pronounced. He stated to me that the first sample, with which I had obtained anæsthetic effect upon the skin, had been preserved with salicylic acid; that which Dr. Knapp had used, with boric acid. He then dissolved some salicylic acid in a solution of the alkaloid which had already been prepared with boric acid, and noticed that a gummy sediment was precipitated. He then filtered the supernatant fluid till it became perfectly clear. This was brought to me and used on the patient with chalazion. Several days after I received it, a few beads of some deposit were discovered on the sides of the bottle. This was examined under the microscope. There was no evidence of fungoid growth, and, judging from the stringy nature of the sediment when disturbed with a platinum needle, it has been presumed that it is the same gummy substance which was observed by Mr. Goodman.

The odor and taste of the solution have invariably increased with age.

The solution which failed to give anæsthesia in the case of the man with the chalazion, I used on my own person seven days later. Its anæsthetic effect upon my own cutis has been unequivocal equally satisfactory with that obtained by the first experimentation mentioned in my former article.

With this same solution we have just obtained complete anæsthesia on the inner surface of a rabbit's ear in seven minutes. Puncture of the ear in the vicinity not touched by the solution was followed by vigorous struggles from the animal.

It is impossible for me to explain these facts; I consider it my duty, however, to record them as they are.

I feel confident that all observers will finally agree on this point—in favor of its anæsthetizing effect on the unbroken, uninflamed cutis.

Dr. Knapp has experimented with the alkaloid, with reference to its systematic effect, by hypodermic injection in rabbits and in man.

I have taken a number of doses by the mouth. Below are recorded the effects observed:

Five drops of a two per cent. solution (about one-ninth of a grain) have been taken three times. On the first occasion my pulse, which is usually between 75 and 80, went up, just before taking the dose, to 98 beats per minute, owing to excitement. In half an hour the pulse was still 98, but fuller and stronger. In three hours it had fallen to 66, was stronger in general than before taking, but was somewhat irregular in force and rhythm. On the other two occasions of taking five drops the pulse fell 18 and 20 beats in two or three hours. The effect on its character as to force and rhythm was the same as after the first dose.

A slight sense of constriction in the soft palate persisted fifteen minutes after each dose. A sense of well-being and surface-glow was experienced; there was also invariably slight drowsiness; these symptoms wore off in several hours, and left me with a dry throat and husky voice, which persisted two or three hours.

On one occasion five drops were taken, and three hours afterward eight more drops (about one-fourth of a grain in all). In one hour the additional eight drops reduced the pulse only 6 beats lower than five had reduced it.

Five drops were taken, and repeated in an hour; two hours and a half after the first dose the pulse had fallen 18 beats. After all doses it recovered its normal beat and character in from four to six hours. After the ten and thirteen drop doses the surface-glow and well-being were more marked—also the drowsiness. The dryness of the throat and huskiness of the voice were more pronounced, and lasted from the forenoon until sundown. A marked sense of fulness in the head after the larger doses is worthy of mention. The appetite was invariably blunted. No dilatation of the pupil was observed at any time.

Each afternoon following the morning of experimentation I felt depressed in spirits. I remained seated for two hours following each dose.

It is deemed pertinent to observe that I am very sensitive to the effect of all potent drugs.

Five drops administered to a phlegmatic adult, of twenty-five years of age, reduced the pulse 12 beats in an hour and caused a slight dryness in throat and voice which passed off rapidly. The character given the pulse was exactly that observed in my own case. The temperature was not taken either in his or my own case.

In conclusion, we would draw attention to one peculiar fact: Neither ten nor thirteen drops of the solution taken into the stomach reduced the pulse much lower than five drops taken in the same manner. The effect of ten drops, instilled into each eye in two days, wore off as rapidly as that of two drops introduced into the eyes of others. As complete an anæsthetic effect seemed to be obtained from a solution of the strength of one-fifth of one per cent. as from a two per cent. solution. Mr. Goodman and Dr. Seward have presented to the medical profession and the world at large a remarkable discovery, whose wide field of usefulness time and experience will limit.

130 Lexington Avenue.

REMOVAL OF LARGE FIBROID WITH UTERUS AND APPENDAGES.

By D. C. BEEBE, M.D.,

SPARTA, WIS.

Mrs. P——, forty years of age, called my attention in April, 1886, to a "bunch" in her right side, which she stated had been coming for seven or eight years. The tumor appeared then to be about the size of a man's fist, and firmly anchored in the right iliac region. The growth seemed smooth, was easily circumscribed, and not sensitive upon manipulation.

It seemed to have then no disturbing influence, except the mental anxiety occasioned by its presence. Menstruation was regular and normal.

I stated to the lady that in my opinion the growth was ovarian, and that, should it continue to develop, removal would be necessary at some future time. Subsequently I saw her at intervals of a few months, and upon examination I could detect a slow growth of the tumor up to the middle of the following winter, when the development was more rapid and its presence more disturbing in many ways.

In September, 1886, I measured the uterus by passing the sound without obstruction, and found no evidence of submucous or intramural fibroid. The uterine cavity was normal so far as I could judge.

Early in the spring of 1887 the growth had increased considerably, was more easily circumscribed, could be easily moved, and had a more elastic feel.

I thought that I could detect fluctuation through the entire growth, and as the patient's general health was now (May) becoming worse, she suffering from pain at epigastrium, loss of appetite, sleeplessness, and general nervous disturbance. I decided to operate, May 31st, and did so, assisted by Drs. Gage and Sarles my partners, and Dr. Smith, of Sparta.

My diagnosis was monocystic ovarian tumor. I omitted stating that Dr. Gage carefully examined the patient with me a few days prior to the operation, made uterine examinations, etc., and agreed with me in diagnosis.

Upon opening abdomen by a median incision extending four inches below the umbilicus, the growth came at once into view, and to the right. It presented externally a peritoneal surface, smooth and shining.

Having the feel of deep fluctuation, not being able to explore much of the growth through the abdominal open-

ing, I thrust into it an ordinary trocar and cannula, receiving upon removal a few drops of blood as a reward.

I then extended the incision one inch above the umbilicus, and drew the tumor far enough into the opening to thoroughly explore it by manipulation. It had no attachments except its principal mooring, which was the uterine neck.

The tumor had, as it were, swallowed up the uterus in the main, the ovaries, and broad ligaments. The ovaries were attached to either side. In size the tumor was about that of an adult head, and in appearance not unlike a gravid womb of six months. At about this time things were becoming interesting; the ovarian cyst of an hour ago was now clearly a sub-peritoneal fibroid that had engaged and swallowed up the uterus and appendages.

These relentless revelations staring the operator squarely in the face suggested to him the momentous question, What is to be done?

To remove the growth entire by amputation of the uterus would give a possible chance. To return the growth to the abdomen (if it were possible) with the bowels and omentum persistently protruding, and close it, would be to execute the death-warrant on the spot.

The former was the mind of all present, and was done with a large chain-écraseur, slowly worked. The neck was firmly secured by two strong double silk ligatures, passed through at right angles, thus ligating it, below the point of amputation, by fourths.

The four ligatures were then brought out at the lower angle of abdominal incision and secured there.

After making the abdominal toilet with care, using the bichloride solution 1 to 2,000, and enforcing extreme cleanliness in all details of the operation, the abdomen was closed and secured by gut and silver-wire ligatures, sterilizing the wound by an envelope of iodoform gauze and borated cotton.

The patient rallied from the operation without much nerve-shock, and for several days she suffered moderate traumatism, her pulse running at times as high as 120, and her temperature once rising as high as $103\frac{1}{2}^{\circ}$.

On the seventh day after the operation all these conditions disappeared, and she had no serious disturbance thereafter.

Drainage was established, by way of the vagina, after the first week, either through the neck or through a small opening made into the Douglas cul-de-sac, in the amputation of the uterine neck with the écraseur.

She was kept in bed seven weeks, with the hope that the ligatures, by making daily tension on them, would become loosened and be removed entire through the abdominal walls. But when, upon examination, August 10th, they seemed obstinately attached, they were cut short and dropped back into the abdomen, where they have peaceably remained to the present writing, September 5, 1887.

The patient has been up and about the house since the date of cutting short the ligatures, and, with the exception of slight œdema of one leg and thigh, she calls herself well.

This case presents to the writer two points of more than usual interest:

1. The difficulty, if not impossibility, of making positive diagnosis in all cases of abdominal tumors from external examination.

2. The removal of the uterus and its appendages a justifiable operation as a last resort.

Traumatic Tetanus is an infectious disease, at least sometimes, possibly always. It is due to the action of a specific infectious virus which exists in the tissues at the seat of infection, in the blood and in the central cerebro-spinal nervous system. Such is the conclusion reached by Dr. E. O. Shakespeare, as published in the *Boston Medical and Surgical Journal.*

A VISIT TO THE NEW BRUNSWICK LAZARETTO.[1]

By HERMAN E. HAYD, M.D., M.R.C.S. Eng.,

BUFFALO, N. Y.

During my holiday season I made a little excursion into the Province of New Brunswick, and while there visited Tracadie—the home of the lepers. This little village is on the northeastern coast of the province, and looks out upon the Gulf of St. Lawrence. A more beautiful and picturesque, as well as healthful, spot could not have been given these afflicted people for their habitation; or a more favored one, with so good a climate—cool and refreshing summers, and cold, dry, bracing winters—to wipe out the perpetuity of this terrible malady. The population is about four thousand—mostly French-Canadians. They are industrious, zealous, and sociable. The houses are small two-story, white, frame buildings, well isolated from one another; and the employment of the people farming, lumbering, and fishing. The farms average from two to forty acres, and their products are principally grass and potatoes.

The Lazaretto, or asylum, is a good two-story frame house, substantially built upon a little elevation of ground, which gives a commanding view of the gulf. It comprises three apartments: one for the Sisters who care for and nurse the lepers; one for the male, and another for the female, patients. It contains at present sixteen lepers: nine male and seven female. There is also a small chapel in connection with the institution.

The disease is quite endemic, and is confined to the two counties of Gloucester and Northumberland, and is seen particularly along the shores of the Baie des Chaleurs, the Gulf of St. Lawrence, and the Miramichi River. Its origin is obscure, and the theories relative to its development conflicting. It is generally believed, however, that the disease was brought into the country. The first case ever heard of was that of a woman named Ursule Landry, who died in 1828, with ulcerating leprosy. Her grandfather came from Normandy, in France, where leprosy existed at that time. Her father and she were born in New Brunswick. Another story is, that she washed some clothing of shipwrecked sailors, who, it is thought, may have had the disease. She was forty-two years of age when the disease was first noticed, and died nine years afterward.

Owing to the very close intimacy of family life, and the sociable habits of the people, and the giving and taking in marriage of nearly related families, the disease spread very rapidly, and soon it reached such alarming proportions that governmental interference became necessary. A system of segregation was adopted in 1844, by the establishment of a hospital. But this compulsory imprisonment and confinement led to so much discord and dissatisfaction that the affected families resorted to every available means to evade the law. They secreted their lepers, taught them to despise the public institution, and assisted them to escape when confined there. But a remedy was soon found. The government lessened its compulsory efforts, and entrusted the care of the lepers to a noble band of Sisters from Montreal, who volunteered their services, and by kindness and sympathy made what was a loathsome prison a desirable hospital. In this work they have been greatly assisted by the clergy, who have gone about from house to house visiting the afflicted families, showing them the dangers of social intercourse with the unclean, arousing and educating public sentiment. By continued patience and vigilance they have succeeded in insulating nearly every leper in the district. When once admitted into the Lazaretto they remain there for life, and have practically no intercourse or communication with the outside world.

They are, of course, segregated as early as possible—in fact, as soon as the disease can be made out. The diffi-

[1] Read before the Buffalo Medical and Surgical Society, September 6, 1887.

culty in connection with early commitments, apart from the pain of separation from family ties and associations, is the taking away from a family of often the only means of support, since a leprous husband or a leprous son can work for years with vigor, and strength, and energy. Therefore the Canadian government, desirous as it is to wipe out this terrible disease, should increase the annual grant to the hospital—which is but a mere pittance of thirty-two hundred dollars—and pension or assist families deprived of support by reason of the fact that their distempered members went early into the public Lazaretto. By such provision the segregation could be more easily accomplished, and the disease in time totally eradicated.

According to the report of Dr. Taché, the governmental inspector, the number of lepers is diminishing, and the disease is slowly but steadily dying out. It is his opinion that the cause of this diminution is segregation; so that, notwithstanding the increase in population, the number of lepers in the province is every year materially less. In 1875 there were thirty-six lepers in New Brunswick, and of this number nineteen were in the hospital and seventeen outside; but to-day, counting those in the Lazaretto, and the few who are not confined there, the total number would not exceed twenty-two.

The general features of the disease are precisely the same as those seen in leprous patients of other leprous districts; and are identical with the leprosy of ancient times, and open the same opportunities for important civic, social, and scientific investigation. Indeed, if you could walk into this institution and study these seventeen patients, manifesting the disease in its various stages of development, you would agree with me, that a more loathsome and horrible disease could not afflict humanity, accompanied by so much mental and physical, as well as moral, suffering, and so certainly fatal. Moreover, you would be surprised to see the patient resignation and the cheerful manner which these poor lepers exhibit—due, I am sure, to the bright and sunny influence of these kind Sisters, and the comforting religion which sustains them, together with the splendid discipline of the institution. It provides hours for religious devotion and meditation, certain hours for recreation, which consists of boating, fishing, etc., and others for general social intercourse. In this way the mind is kept as cheerfully occupied as possible, and shows its salutary influence in a better physical condition of the patients.

I shall not, in this brief paper, enter upon a discussion of those mooted questions in the etiology and pathology of leprosy, but dismiss them by saying that the disease is now generally believed to be slightly contagious and infectious, as well as hereditary. It is due to the presence in the blood and tissues of a definite specific microorganism, or bacillus, called the bacillus lepræ, resembling very much in physical characters and chemical action the bacillus tuberculosis of Koch.

Leprosy is unquestionably contagious; but in all probability an open sore or abrasion is necessary to admit directly some of the discharges from a leprous nodule or sore. A case in point occurred in New Brunswick. A woman died in an advanced stage of leprosy. The body, according to the custom in those days, was encased in a coffin and borne upon the shoulders of four men to the place of burial. The day was very hot and some of the discharges oozed out of the coffin. The friction from the sharp edge of the coffin, combined with the heat and moisture, produced an abrasion on a bearer's shoulder, and through it absorption necessarily took place. In some months the man began to feel ill, and in a short time developed the symptoms of leprosy, and died eleven years afterward. In this case heredity could not be cited as a cause, and, secondly, the man had always enjoyed the very best of health, and was strong and robust.

However, experimental inoculation upon animals has not been successful in producing the disease, as was shown by Professor Heinrich Köbner's efforts upon apes, guinea-pigs, fish, rabbits, etc., as detailed in the Philadelphia *Journal of Medical Science* in October, 1882. One husband of a leprous woman, and one wife of a leprous husband, have had the disease in New Brunswick and died of it, and there were no evidences in any other member of either family. I am also told of a very interesting case, that of a healthy husband having buried three leprous wives, while he himself remained strong and well. These cases go to prove that a certain peculiar vulnerability of tissue, or some peculiar individual susceptibility, is necessary for the successful inoculation, propagation, and development of leprous poison. That any special article of diet, as fish, or any particular occupation or mode of living, or peculiar climatic influence, local or terrestrial, should produce this disease, is without foundation. The counties where the disease is seen are very healthy and the people are not poor. The houses are well built and well isolated from one another, and good food and healthy employment are enjoyed by most of the inhabitants.

However, we must admit that any condition which will lessen the resisting power of the economy, and will interfere with nature's reparative processes, whether it be overwork, poor food, bad hygiene, or what not, might rednce the system so that the fecundation and development of leprous poison would be favored as is any zymotic germ under similar circumstances.

Whether it is infectious in the sense that it can be communicated from patient to patient, as scarlet fever or measles, without contact, is very questionable. That it is an hereditary disease is generally believed, but the same peculiarities and freaks of heredity that are seen in other constitutional blood diseases are noticeable in leprosy, in that it often skips one generation to appear in another; or shows its potentiality in certain members of a family and not in others.

It is mostly seen after puberty, in adolescence and middle life, yet no age is exempt from it; the young child, as well as the septuagenarian, is occasionally attacked by it. The youngest case ever admitted into the New Brunswick Lazaretto was a boy aged eight years. It is also more common in males than in females, and there seems to be a greater resisting power in women, for in them the advance of the disease is much slower. There are now two women in the hospital, who have had the disease forty-eight and thirty-two years, with occasional remissions and exacerbations. Perhaps nine to twelve years is the average duration of the disease. The time of invasion varies, and it is because the period of incubation, and subsequent premonitory development, is so long that we have such difficulty in attributing any special and definite cause for the disease. The symptoms are very variable, and may exist for months, or even years, before any special features of the disease are seen.

Most lepers have complained of general uneasiness, restlessness, irritability of temper, loss of sleep, malaise, aching and shooting pains in bones and body, and repeated attacks of fever for a long time, and various other irregular and indefinite symptoms. After a time the more characteristic features of the disease show themselves—perhaps a crop of blebs, or a macular staining or bronzing of the skin, or the development of irregular nodules or tubercles, accompanied with more or less hyperæsthesia, as well as anæsthesia of the skin. This has given rise to a rather arbitrary classification of leprosy, so that most authors speak of two kinds: *lepra tuberculosa*, and *lepra anæsthetica*, which are in fact one and the same disease, excepting that in the one the skin and the mucous membranes are especially involved, while in the other the nervous system. Yet when one compares two typical cases, as is seen in the New Brunswick hospital, where two brothers are afflicted—the one horribly distorted from tubercular leprosy, so that not a single feature is recognizable, and the other, a handsome young man, somewhat emaciated, with pale yellow skin, but perfect

features—one cannot help but think that the division is a good one. Of course, it is not often that these special characters of the disease are so prominent and so well marked, since usually both forms exist to a greater or less degree in every leper.

These tubercles vary in size from a shot to a small marble, and the skin over them is shining and tense from distention, and they are a little tender to pressure. Oftentimes this infiltration does not take the character of definite isolated nodules, but in its stead are seen great infiltrated masses which produce prominent folds, as on the forehead, where the appearance suggests a lion's head, and hence the name "leontiasis." The nose, and especially the alæ nasi, become thickened and swollen, and stand out in large and irregular masses. The lips undergo a similar change, so that the mouth is horribly distorted and irregular; and, in fact, every feature of the face is so awfully disfigured that the person is beyond recognition. The eyebrows and eyelids are shed early in the disease, but the hair of the head is thick and coarse, and very seldom drops. After a variable period these tubercles break down and ulcerate, and a dirty, thin, ichorous discharge oozes from them. At times the ulcerative action ceases, or is temporarily arrested; but more frequently it goes on and involves deeper structures. It attacks the cartilages and bone, and even dismembers the body by literally amputating the fingers and toes, or even the hands and feet, as is seen in one of the cases in the hospital. The mucous membranes of the nose and mouth, and other orifices of the body, are early attacked, either by a superficial ulceration which may remain quiescent, but more often goes on until deep, ragged, irregular, painful sores result. The soft palate is eaten and perforated in various places, often making communications between oral and nasal cavities. The larynx is early invaded, so that the patient speaks and breathes with difficulty; deglutition is painful or impossible; and finally death kindly puts an end to all suffering by suffocation, asphyxia, or asthenia. Yet, on the whole, one is surprised to see how little pain the average leper suffers, because the same infiltrating and ulcerating process which involves the grosser structures attacks the nerves and terminal nerve-fibrils, rendering the tissues more or less anæsthetic.

That variety called lepra anæsthetica was even more interesting to me, from a scientific standpoint. Although tubercles may be present, and usually are, sooner or later, in the course of the disease, yet they are not a prominent feature of this form. Here the distemper shows its predilection for the nervous system, and through it influences nutrition. The skin assumes a yellow or ashen hue, or, as in the tubercular variety, from pigmentation, a blue or bronzed color, resembling somewhat the discoloration of nitrate-of-silver poisoning. To the touch it is dry, harsh, and rough, and there are often isolated patches covered with fine white scales; and perhaps it is this feature which suggested the simile in biblical literature that the leper was white as snow. There is also present more or less anæsthesia, and analgesia and hyperæsthesia are complained of as well. The muscles begin to atrophy, and I am told that one of the earliest significant features of the disease is the withering of the abductor and adductor muscles of the thumb, so that the thumb appears thinner and more elongated, and the metacarpal space between thumb and index finger sunken. This progressive atrophy continues, and involves the muscles of the hands and feet, as well as the general muscular system of the body, so that in an advanced case the hand is long and claw-shaped, and the body but a living skeleton. As this atrophy advances terrible contractions take place, which result in great distortions and unsightly deformities.

The fingers are crooked and bent upon one another, and the articulations and joints are swollen and immovable. A slight ulceration attacks the skin over the joints, and the ends of the bones begin to soften, and the nails and other structures undergo disintegration, until the whole phalanges are absorbed, or drop off, or even the hands and feet.

Let me here give you the history as well as the gross features of some of the lepers in the Lazaretto.

Peter N——, aged thirty-two. Mother alive and well, aged fifty-two. Father died when seventy-two years of age. Has two sisters and five brothers, the youngest being five and the oldest twenty-five. No other trace of the disease in his family, except grandparent on the mother's side died of it.

He suffered the usual indefinite premonitory symptoms, and was admitted into the Lazaretto twelve years ago. For a number of years he enjoyed good health, and added much to the social enjoyment of the institution in that he is an intelligent and sociable fellow. But during the last years he has failed very much, and now, to say the least, is a most pitiable object. The skin of the body is of a bright, shiny, bronze color, and here and there are seen irregularly shaped, yellowish, pigmented spots, while the palm of the hands is rough and scaly, and of a glistening white color. The skin over the forehead is thrown into a number of distinct folds. The eyebrows and eyelashes have fallen off, the eyelids thickened and everted, and the beard, which was once full, thick, and heavy, is very sparse and thin. The nose is large, broad, and flat, and numerous little blood-vessels—varicose and dilated—are seen over its surface. The septum nasi is absent, and the alæ nasi are thickened and pedunculated, and the anterior nares partially closed from hardened secretions. The mouth is much distorted, the lips are thick and protruding, and the mucous membranes of the cheeks are covered with a grayish ulceration. The tongue is not enlarged, and on it are seen numerous little gray ulcers. The soft palate and pillars of the fauces are partially destroyed, and perforations are seen at its junction with the hard palate, so that communications exist between the nose and mouth. The breathing is stridulous and the voice husky and dysphonic, and deglutition difficult and painful, showing that the deeper laryngeal structures are also involved. The ears are enlarged, and the lobules hang down like two pendent masses. The hands are much distorted, the fingers stiff and crooked, with the phalanges flexed upon the palm, nails absent, and a thin serous discharge exudes from the matrix. Glands of the neck swollen, and freely discharging a thin, stinking, irritating matter. Large ulcers are seen upon the skin, and the tibia itself is painful and tender to the touch, from subacute periostitis. The toes are swollen, and superficial ulcers are seen between them, and over the phalangeal joints the disintegrating and dismembering process has begun.

Joseph B——, aged twenty-six. Tubercular leprosy. Has been in the institution nine years. Condition much like Peter N——'s. Brother entered the same day, but has anæsthetic leprosy. Father and one brother died in hospital, and one sister has been in the institution two years, but is now looked upon as a doubtful case. One aunt and one cousin had it on father's side, and two aunts on mother's side. Mother is now fifty-eight, well and strong, and has been employed in the building as washerwoman for a number of years.

Maurice B——, aged twenty-four, brother of Joseph. Has lepra anæsthetica.

It is very interesting to compare this man's condition, after nine years of the disease, with his brother's. We find him a handsome young man, with dark hair and full beard, heavy eyebrows, and long eyelashes; pale skin, high cheek-bones, rather long nose, broad and high forehead; in fact, quite an intellectual face. There are a few papules on the hands and chest, and a few scattered discolored spots on the body. The hands are much emaciated, long and thin; the interossei muscles very small and atrophied, so that the metacarpal spaces are very deep, and the metacarpal bones stand out in bold relief. The joints are beginning to undergo disintegration. The fingers are bent and distorted toward the palm, and

are always partially flexed, and extreme extension is impossible. There is little or no feeling in the parts—in fact, a pin can be thrust deeply into the tissues and no pain is experienced. The young man's spirits are good, has good appetite and excellent digestion. This is by far the most chronic form of the disease, and may go on for twenty, thirty, or forty years; and with it are seen the most terrible mutilations, where the various members of the body fall off, and hence the term lepra mutilans, a typical example of which is seen in the case of a woman, aged seventy-six, who has had the disease for forty-eight years. She entered the Lazaretto in 1848. Her general health is very good. She has lost all her fingers and toes, and the stumps are clean, smooth, and strong.

The treatment is merely palliative. No case has ever been cured. Some have been discharged and remained at large for variable periods, but sooner or later have returned to the institution. Tonics, good food, good air, and hygiene, as well as sedatives to relieve pain, are indicated; in fact, the various symptoms are treated as occasion calls for.

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MEDICAL CASES IN THE COURTS.

By HENRY A. RILEY, Esq.,

new york.

A recent case in the New York Supreme Court contains many points of interest to physicians, and reference will again be made to the case, but at present we will give the decision of the court on the question of a "violent" death. The action was brought to enforce a policy of accident-insurance which insured against injury by "external, violent, and accidental means."

The insured person died from a malignant pustule, caused by infection from putrid meat in an establishment where he was working. The court says: "Suppose the fact to have been that an insect which had been feeding on the putrid meat afterward alighted on the deceased's face, and even pierced the skin, was this violent? Or, suppose the fact to have been that the deceased himself placed his own hand, infected with this putridity, on his face, was this violent? It may help us to understand the meaning put in this word 'violent' by the defendants, if we examine some of the exceptions made by them. The certificate says that no claim can be made when death has been caused by lifting, over-exertion, sunstroke, or freezing. Now, as these are made exceptions, it is reasonable to understand that without special exception they would have been within the language 'violent means.' Yet sunstroke and freezing do not import physical violence any more than does drowning. We say a man dies a violent death without necessarily implying anything more than that he dies not in the ordinary course of nature and disease.

"If by violent is meant physically violent or forcible, then how great must be the force? Is it not enough, however small it be, if it produces death or bodily injury? A poisoned arrow may make a small wound; but if it produces death, is not that a death by violent means? A rattlesnake-bite may be hardly perceptible. It is hardly possible that this certificate is to be considered as insuring against death from great violence, and not against death from a slight blow. There is an exception in this certificate of 'self-inflicted' injuries, but this must mean intentionally self-inflicted.

"It cannot be a self-inflicted injury when one accidentally stumbles and falls down-stairs, breaking his leg. So that even if this pustule came by the contact of the deceased's own hand, yet it could not justly be called a self-inflicted injury. . . . This is an accident-policy. If the deceased died from disease as distinguished from accident, plaintiff cannot recover. If deceased died from accident as distinguished from disease, he can. Now, undoubtedly, accidents and external injuries often produce death through the disorganization of internal organs, still the accident is the cause.

"On the other hand, it is said that impure water taken into the stomach, or impure air into the lungs, causes fever. But these fevers are diseases having their origin internally. They are not the results of accidents. But in this case there is just what the defendants evidently believed there was not—an external and accidental cause, and not an internal disease manifesting itself externally."

In accordance with this reasoning the court decreed that the company must pay the policy.

In a recent Wisconsin case there were some quite important legal points developed. It appeared that a pregnant woman was arrested, and while in jail gave birth to a child. The arrest seems to have been an illegal one, and suit was brought for damages; and the weak and deficient condition of the child was relied on to enhance the damages. It is said in the record as follows: "Dr. Robinson attended her in prison, and officiated at the birth of her child. He testified that he found her in prison suffering nervous prostration, followed by indigestion and debility; and the drift of his testimony is that, in his opinion, such condition was caused by the nervous shock caused by her arrest and incarceration, and still continues to some extent; and that while she may recover, he does not look for a speedy recovery. He also testified that a pregnant woman in that condition would be liable to give birth to a monstrosity or a deficiency; also, that the plaintiff's child when born was perfect so far as he then knew, but that at the time of the trial, nearly two years later, it was defective in the brain, spinal cord, and nervous system. Dr. Robinson went to Europe in April, 1884, about four months after the birth of the child, and did not return to Wisconsin until May, 1885. It does not appear that he knew or suspected that the child was deficient until after his return. He was permitted to testify that, in his opinion, the cause of the deficiency in the child was the nervous, prostrate condition in which he found the plaintiff in July, 1883. Dr. Robinson was a competent witness to the condition of the plaintiff when he saw her in jail and afterward. He was competent, also, to give his opinion as an expert as to the nature and probable effects of her condition upon herself, and, perhaps, upon her unborn child. But in view of the facts that it is common knowledge that there are numerous causes for physical, mental, or nervous deficiency in children; that healthy women do sometimes give birth to deficient children; that nervous or otherwise unhealthy women often bear healthy children, and that Dr. Robinson detected no defect in the plaintiff's child until it was nearly a year and a half old—we think the authorized limits of expert testimony was greatly exceeded when he was allowed to give his opinion that the deficiency in the plaintiff's child was caused by the nervous prostration of the plaintiff during her pregnancy. The testimony should have been excluded."

In a recent New Jersey life-insurance case, where the insured had allowed the policy to lapse and then had it restored, by making a statement in regard to his health covering the lapsed period, it appeared that the insured, in his statement, said that he had not been "sick, or afflicted with disease." He had had a "cold," as was afterward shown when suit was brought to enforce the policy, but the court held that this fact was not inconsistent with the statement. The words "not afflicted by disease," or "not sick," are not to be construed as importing an absolute freedom from any bodily ailment, but rather of freedom from such ailments as would ordinarily be called disease or sickness. Where a lapsed policy was revived on condition that the insured was in good health, it was held that the phrase was not to be construed as meaning an absolute exemption from any physical ill. The insurance companies are often very technical, as in this case, and it is very satisfactory to notice that the courts and juries decide against them.

Coroners' inquests are of doubtful value, and it is a question whether they aid or retard the punishment of criminals. In two recent cases of very great importance it would seem as if they were a decided hindrance in the way of justice. In the case of the railway disaster at Chatsworth, Ill., where some eighty persons were killed or burned to death, the verdict was one of censure for the section foreman, while the railroad company was allowed to go scot-free. This was rendered in the face of the evident fact that the company allowed an enormously long train to go over a bridge which had not been properly inspected.

The jury was said to have some "friends of the railroad" on it, and the verdict warrants the statement.

In the case of the accident on the Baltimore & Ohio Railroad near the Washington station, the accident was declared by the jury to be "due to the very rapid rate of speed at which trains habitually enter the city, and especially in rounding the curve, which the company must know to be a dangerous point."

The verdict does not go to the extent of saying that the officials were responsible; and yet the accident was a "railroad murder," if there ever was one.

The Bureau of Vital Statistics, of this city, is after the doctors and clergymen with a sharp stick, for their failures to report, promptly, births and marriages. The deaths get recorded with sufficient particularity and promptness, because it is necessary to have a burial permit before the funeral can be finished. People are born and married, however, without it being absolutely necessary to get a permit, and thus it is easy to evade the law. The Health Board are contemplating arresting some of the violators of the regulation, and it is believed that an arrest will induce such persons to put down with great regularity, and report with great promptitude, all facts relating to births or marriages.

The adulteration question is again in the foreground, and deserves to remain there until adequate punishment has impressed offenders with a wholesome respect for the law. The New York statute-book contains a law which says that any person taking to a butter or cream factory any milk diluted with water shall be punished for a misdemeanor. The constitutionality of this law has been attacked, but the Court of Appeals has affirmed its validity, and the conviction of the milk-can fiend has been affirmed.

What is a nuisance? is a question which perennially comes before the courts for adjudication.

In a recent Connecticut case, it was sought to give an answer by showing that a factory which used its machinery so as to jar the windows of an adjoining house and shake the dishes, and which prevented all reading, writing, or conversation, except under great difficulty, was a veritable nuisance. It furthermore appeared that the smoke and cinders fouled clothes hung out to dry, soiled everything in the house, even the food on the table, and affected, injuriously, the health of the inmates.

The defence was, that the neighborhood was one where all kinds of manufacturing was carried on, and that the plaintiff knew this fact when he decided to locate in the neighborhood. The court decided that the vicinity was full of the houses of mechanics and laborers, but was not devoted specially to manufactories, and that any business like the one stated was a nuisance. This decision is good law and sound common-sense.

Live Maggots in the Nasal Cavity.—Dr. F. A. Schmitt reports, in Daniels' *Texas Medical Journal* for August, 1887, the case of a lad, eighteen years of age, who was found comatose, with bloody serum issuing from the nose. The boy having vomited two maggots, an insufflation of calomel was made into the nasal cavities, with the result of bringing away over three hundred worms in the course of nine hours. The maggots had had time to damage the mucous membrane only, and the lad recovered.

A CASE OF RAPID AND ALMOST TOTAL LOSS OF HEARING IN A CHILD, SEVEN YEARS OF AGE; INHERITED SYPHILIS APPARENTLY THE CAUSE; MARKED IMPROVEMENT FOLLOWING THE USE OF THE IODIDE OF POTASSIUM.[1]

By ALBERT H. BUCK, M.D.,

CLINICAL LECTURER UPON DISEASES OF THE EAR, COLLEGE OF PHYSICIANS AND SURGEONS; CONSULTING AURAL SURGEON, NEW YORK EYE AND EAR INFIRMARY.

A CHILD, seven years of age, and of somewhat delicate appearance, was brought to me by his parents on January 11, 1887, for the relief of pronounced deafness. The history given by them was, in brief, as follows:

About three weeks previously the child had what seemed to be an attack of croup, which lasted four or five days, and was followed by impaired hearing. The deafness rapidly became so marked that it was almost impossible to communicate with him by speech. Previously to the present attack the child, it was said, had never shown any signs of impaired hearing, although on cross examination the parents admitted that they had sometimes observed a certain degree of inattention on his part, yet not sufficient to make them suspect impairment of the hearing power.

Inflations of the middle ears, according to Politzer's method, were resorted to promptly by the physician in attendance, and were continued, at regular intervals, up to the time when I saw the case—that is, for a period of about two weeks. Noticeable improvement in the hearing, lasting for a few minutes, or for an hour or two, followed these inflations. In the main, however, the hearing power diminished rather than increased, during this period.

At the time when I first saw the child there seemed to be, for all practical purposes, total deafness. From the statements made by the parents, and also from my own observations, I became satisfied that there were brief intervals of time during which the hearing was sufficiently acute for the child to distinguish correctly at least some of the words that were spoken loudly into one or the other ear. A careful inquiry into the previous history revealed nothing that might throw light on the nature of the aural affection. There had been no complaint of pain, no staggering or uncertain gait, no paralysis. On examination both drum-membranes were found to present a somewhat dull and sunken appearance. The dull appearance was of such a nature as to suggest the presence of mucus in the drum-cavities. However, when air was forced into them by aid of the Eustachian catheter, the sound conveyed to my ear, through an auscultation-tube, was that of air entering freely a tympanum of undiminished size, and free from the presence of fluid. This satisfied me that the dulness observed was due not to the presence of mucus, but rather to an œdematous condition of the mucous membrane on the reverse side of the membrana tympani. The hearing seemed to be impaired to an equal degree in both ears. There were ample evidences of nasal and naso-pharyngeal catarrh.

In the matter of a diagnosis I was obliged to confess that both the nature and the precise seat of the disease were unknown to me. The rapidity with which the hearing had disappeared, and the apparent absence of physical changes in the middle ears adequate to explain the deafness, favored the hypothesis of lesions involving the labyrinth; while, on the other hand, the development of the deafness in connection with a croupy attack, the existence of decided catarrhal manifestations in and about the ear, and the temporary improvement brought about by inflations of the drum-cavities, favored rather the idea that the affection was, after all, simply a subacute catarrhal inflammation of the middle ears with an unusual degree of secondary labyrinthine congestion. At that

[1] Paper presented to the American Otological Society at its annual meeting in New London, July 21, 1887.

time there were no visible lesions in the external auditory canals; or, if they were present, they were so insignificant as to escape my notice.

Under these circumstances I gave a guarded prognosis, and recommended a plan of treatment based on the supposition that the disease was simply catarrhal in its nature.

On January 26th I noticed, for the first time, the existence of a circumscribed area of redness (localized periosteitis) on the posterior and upper wall of the right external auditory canal, in close proximity to the membrana tympani. The redness of the skin did not extend perceptibly beyond the periphery of the latter membrane. An examination of the left ear showed that almost precisely the same condition of the parts existed in that ear; the only difference being that the redness was somewhat less pronounced on one side than on the other. In the absence of pain, of fever, and of any other sign of an ordinary inflammation, and from the fact that the family history was not entirely free from a tubercular taint, I drew the inference that the case in hand was one of tubercular osteitis involving the bony floor of the antrum, and extending inward and forward as far as to the fenestra ovalis and probably into the labyrinth itself. With this new light on the case I suggested to the attending physician that in addition to the inflations and tri-weekly applications of silver nitrate to the vault of the pharynx, cod-liver oil and Huxham's tincture of cinchona should be administered internally, and a modified Wilde's incision[1] made behind the right ear. It was hoped that, by the aid of the decided counter-irritation which would be established by this last measure, the inflammation of the bone might be made to subside.

February 10th.—The incision was made as suggested, but the localized periosteitis still persists, and, so far as the eye can discover, it has not materially diminished in degree. The external wound has healed. There is a slight improvement in the hearing, according to the statement of the parents, but it is not recognizable by the physician.

February 15th.—Incision repeated, on the same side, and wound stuffed with coarse oakum, with a view to exciting more decided counter-irritation than before.

February 21st.—Very little inflammatory reaction has followed both this and the first incision, and no recognizable benefit has resulted from the procedure.

By the merest accident I learned to-day, from a person who had been acquainted with the child's parents in earlier years, that both of them had had syphilis before the birth of the child. I made careful inquiries in regard to the ailments and general condition of health of the patient prior to the attack of "croup," but failed to obtain any satisfactory information. From the attending physician, however, I learned that the patient was a pale, delicate babe. He had no serious illness during the first year. When a little over a year old he began to have attacks of vomiting, and at varying intervals they would recur. They began by his emptying his stomach, and then he would retch and throw up whatever he took, for three days. They got to expect a three days' siege whenever an attack began. There was no system or regularity about their return. There were no head-symptoms nor anything simulating a convulsion. The mother had had one miscarriage and had lost two or three children at an early age. An examination of the child's incisor teeth (not yet the permanent ones) shows no evidences of the characteristic defects described by Hutchinson.

Again the treatment was changed. All attempts at counter-irritation were abandoned, no further applications of silver nitrate were made to the vault of the pharynx—which, in fact, seemed then to be in so nearly a normal condition as not to require any further active interference—and the child was put under a regular course of potassic iodide, in slowly increasing doses. It was also suggested that mercurial inunctions should be added, later, to the internal administration of the iodide. My impression is that this part of the treatment was not adopted.

On March 27th the attending physician reported that the child was improving, both in his general health and in his hearing power. The iodide of potassium had been given, at first, in five-grain doses, three times a day, but the dose had been gradually increased, and at that date it had reached seventeen grains, three times a day. The cod-liver oil and compound tincture of cinchona had also been continued. "There is no change," his physician writes, "in the appearance of the external auditory canal that I can discover. The remedy has not yet shown its effect on the skin or in any other way; but the child hears better. Of this I am positive."

I quote again from a letter dated June 11th: "He has taken the iodide regularly since I wrote you last, and is improving quite steadily in respect to his hearing. He took at one time thirty-eight grains, three times a day, but it caused some coryza and he has taken less since. I have not seen him, until to-day, for nearly six weeks. Meantime he has developed a trouble with the left eye, the nature of which I do not understand [keratitis parenchymatosa?]. The chief symptoms are photophobia and watering of the eye. His parents have during this time taken the responsibility of reducing his iodide to seven and a half grains, three times a day. I have directed them to increase it again. The child's general health is good. He is growing, but not increasing in weight."

In answer to my request for more detailed information in regard to the condition of the hearing, the doctor writes, under date of June 18th: "He hears equally well, as nearly as I can ascertain, with both ears. He would not hear an *ordinary* tone to know what was said. He would hear a tone *slightly* elevated, if the words were spoken slowly and distinctly. His parents think he hears ordinary conversation at times." Again, on July 12th, he writes "that one of the child's knees has been in a swollen condition since ten days ago. There has been no pain, however, nor does it hurt him to use it."

Remarks.—It seems to me that there can be very little doubt in regard to the syphilitic nature of the lesions which damaged this child's hearing so seriously. The miscarriage experienced by the mother, the loss of two or three of her children in infancy, the selection of the bony parts of the ear by the disease for its first centre of activity, the subsequent development of inflammation of the eye, and then of some sluggish disease of the knee, and, finally, the markedly beneficial effects of potassic iodide administered internally—all these facts, I believe, favor strongly the idea that the case was one of tardily developed inherited syphilis.

A number of similar cases have been reported by Knapp, of New York (vol. ix. of the "Archives of Otology," where the earlier literature of the subject may be found); by Kipp, of Newark, N. J. (vol. ii. of the "Transactions of the American Otological Society"); and by others. The chief point of interest in the present case lies in the fact that a circumscribed periosteitis was demonstrable, for a comparatively long period, at symmetrically placed spots in both external auditory canals. These spots corresponded to the bony floors of the mastoid antra. In all other material respects the case differed but little from those hitherto reported.

The discovery of a limited periosteitis (and undoubtedly also osteitis) at the very spot where tubercular disease of the ear is apt to start, suggests the question whether, in cases of deafness due to tardily developed inherited syphilis, this spot, or one very close at hand, be not also a favorite seat of syphilitic lesions.

In view of this possibility, I would suggest that particular attention be directed, in cases such as we are con-

[1] Incision of the mastoid integuments, followed by stuffing of the wound with lint or other irritating material.

sidering, to that part of the external auditory canal which lies immediately next to the posterior upper limit of the membrana tympani. I am confident that even a careful observer may, in an unguarded moment, very easily overlook a certain amount of redness of the skin at this point, because it is not unusual to find very nearly the same state of things in cases of simple subacute catarrhal inflammation of the middle ear. The distinction between the two, however, may be stated thus: The redness of syphilitic origin is likely to be most marked at a spot lying directly upon bone-substance, while that due to simple catarrh is most marked along the manubrium mallei and at the periphery of the membrane, and then fades away rapidly from the periphery outward.

While, in the present instance, the administration of the potassic iodide alone, without mercury, appears to have been reasonably successful,[1] I find that a recent writer on this subject[2] lays considerable stress on the necessity of not trusting to this drug alone, but of employing at the same time, in conjunction with it, mercurial inunctions.

Progress of Medical Science.

Some of the Rarer Forms of Rectal Fistulæ.—At a recent meeting of the West London Medico-Chirurgical Society (*British Medical Journal*), Mr. Edwards read a paper in which he discussed the question of dealing with the sinus, extending upward by the side of the bowel, from the internal opening of a complete fistula. The treatment should depend upon the position of the sinus to the muscular coat of the bowel; if submucous it should be laid open, but if submuscular it was better to leave it, thus avoiding the risk of incontinence due to division of the fibres of the internal sphincter. A cure might be looked for after the frequent injection of the sinus with tincture of iodine. Fistulæ having their external orifices situate behind a plane passing transversely through the centre of the anus, usually had their internal aperture in the middle line dorsally, while those with their external orifice in front of this plane generally terminated in an internal opening immediately opposite. He defined horse-shoe fistulæ as having one or more external orifices on either side of the anus, with an internal one in the middle line behind. Surgeons of the present day, when operating upon such fistulæ, either slit up the sinus on both sides of the gut, thus dividing the sphincter in two places, or contented themselves with the division of one sinus, hoping that the other might heal of itself, with or without the insertion of a drainage-tube. Mr. Goodsall recommended complete division of the sphincter in the middle line, dorsally, laying open the abscess cavity and internal opening, and the subsequent slitting up of each lateral sinus from the external orifice to the central dorsal incision. By this means the whole of the fistulous track would be laid open, and the sphincter would only suffer one division, and this in the most favorable manner, namely, at right angles to its fibres, thus avoiding all risk of subsequent incontinence. Cases were related, one of fistula completely encircling the bowel, and the other of fistula originating in the pelvi-rectal space, that is, between the bowel and levator ani muscle.

Poisoning by Nutmeg.—The following instances of this accident are reported in the *British Medical Journal* by various correspondents. A middle-aged woman took one nutmeg, scraped and mixed with hot water, as a remedy for arrested menstruation. Two hours after taking it she was seized with extreme thirst, giddiness, and prostration; but to her the most painful effect was, in spite of the prostration, an intolerable restlessness, causing her to tramp up and down the room almost incessantly, holding on to the various articles of furniture for support; there was also "tightness of the chest," obliging her to loosen her dress. The symptoms continued (in spite of an emetic, strong coffee, and sal volatile) more or less during the whole of the evening and night, and then passed off completely. To judge by the paucity of the information in the text-books with regard to poisoning by nutmegs, it must be a very rare accident, and as nutmeg is so constantly taken as a flavoring for puddings, etc., even by very young children, it leads to the belief that, as in the case of the poisonous fungi, the toxic properties must be liable to great variations, caused by peculiar conditions of soil or season. A young lady one evening ate a whole nutmeg, being fond of it; this was about 7 P.M. Shortly afterward, feeling sleepy, which she ascribed to having been up the greater part of the previous night at a ball, she went to bed, and slept very heavily till late next morning, when she was with some trouble aroused. She got up and dressed, but had no appetite for breakfast, still felt very drowsy, and vomited slightly several times. When seen, about 10.30 A.M., vomiting had stopped, her face was pale, and she was unable to raise her eyelids; she did not complain of any giddiness, only feeling very drowsy and great disinclination for exertion. The treatment adopted, and under which the symptoms quickly passed off, was the use of strong coffee, cold douching of the head and face, enforced exercise in the open air, and a mixture containing ammonia. A physician was called one evening, about ten o'clock, to see Mrs. E. M——. He found her complaining of giddiness, faintness, and disturbed vision. The pulse was feeble, the skin cold and clammy, pupils dilated, no pain anywhere. He was told that she had taken the whole of a medium-sized nutmeg, scraped up and steeped in gin, as an emmenagogue. The treatment adopted was to administer an emetic, which had the effect of bringing away a large quantity of the nutmeg. He then gave her brandy, ordered her to be wrapped in blankets, and hot-water bottles applied to her feet. He also gave her a stimulating mixture and an aperient. Next morning the patient was nearly well, only complaining of a feeling of lassitude.

Cocaine in Tonsillitis.—Boeckel has recommended the application of strong solutions of cocaine to inflamed tonsils. He used a ten per cent. solution, applying it at intervals of fifteen minutes. The pain disappeared like magic after the third application, and the anæsthesia lasted an hour. The drug, however, caused a temporary paralysis of the muscles of the soft palate, so that when he attempted to drink the liquid immediately escaped from the nose. After five hours the abscess ruptured spontaneously, two days earlier than in his previous experience. He warmly recommends the application of a solution (five to ten per cent.) of cocaine at the beginning of an attack of tonsillitis.—*Rev. mens. de Laryngologie.*

Is Alcohol Incompatible with Pepsin?—This is one of the many questions of therapeutics that has most divided chemists and practitioners, and has caused the greatest divergence of opinion. The controversy is of perhaps fifteen years' standing, if not more, for some thirteen or fourteen years ago it was already discussed by Mr. Phillipp, before the Alumni Association of the New York College of Pharmacy. The Paris Société de Thérapeutique, an association including both physicians and pharmacists, recently gave the question another overhauling, the conclusion of which may fairly be said to be that alcohol is and is not incompatible with pepsin, according to circumstances. Dr. Bardet, Dr. Dujardin-Beaumetz's *chef de laboratoire* at the Cochin Hospital, led the discussion with an elaborate paper, well supported by experiments, and gave it as his opinion that up to

[1] While this article was in the hands of the printers, I learned from the attending physician that the boy now (September 13, 1887) seemed to hear as well as ever. —A. H. B.

[2] A. Wolff: Ueber Syphilis hereditaria tarda. Volkmann's Sammlung Klinischer Vorträge, No. 273.

twenty per cent. of alcohol is a proportion that pepsin solutions can stand with perfect impunity. Above twenty-five and up to seventy per cent., the loss of digestive power is in exact proportion with the excess of alcohol introduced. Above seventy per cent. the ferment is killed, just as albumen is suddenly coagulated at a certain temperature. This property explains the inertness observed by M. Catillon in specimens of pepsin precipitated by alcohol from glycerine or watery solutions. As to the loss occurring when wine is used as a solvent, it should be attributed to the tannin, not to the alcohol of the menstruum. M. Pierre Vigier partly agreed with Dr. Bardet, his own experiments having convinced him that eighteen or twenty per cent. of alcohol does not seriously impair the digestive ferment, although its power be somewhat injured. For this reason the revisers of the French Codex were right in admitting to the official list, notwithstanding Dr. Vulpian's opposition, wine and elixir of pepsin, two excellent preparations. But Dr. Bardet maintained his position; his experiments are conclusive, and prove that a proportion of alcohol not exceeding twenty per cent. has no untoward effect on pepsin, and it is only when twenty-five per cent. is reached that the ferment begins to be injured; the same result may be accidentally produced when alcohol is too rapidly added to solutions of pepsin, because then a portion of the digestive ferment may come into contact with a destructive proportion of alcohol.—*Therapeutic Gazette*, August 15, 1887.

Fragility of the Umbilical Cord.—At the Société de Médecine Légale, M. Descoust combated the opinion of M. Budin as to the fragility of the umbilical cord. He often tried to break it, in post-mortem experiments, in holding the child up by it, but it slipped through the fingers easily and was broken with difficulty. M. Budin replied, giving credit to his honorable antagonist for his views, as, if it were proved that the dead weight of the child was insufficient to break the cord, then it should be supposed that the cord was dragged purposely or even cut. But there is abundant evidence as to the spontaneous rupture occurring when the woman was delivered in the standing position or in the water-closet. He cited a recent case. A servant living in a faubourg of Paris, came to the Maternité in the month of December last. She said that she was *enceinte* about eight months, and that a few hours before she felt a lot of water running from her. Her mistress advised her to go immediately to the hospital. Before she left she had a desire to go into a water-closet, but remarked nothing particular. On examination it was found that she was already delivered, at which she seemed much astonished. The placenta had also come away and was found at the door of the hospital, with the cord torn across. The child was subsequently found dead in a water-closet. M. Vibert said that he fully believed in rupture of the umbilical cord when the woman was delivered standing, but in the case cited by his learned friend he could not look on it in the same light, and before a court he would deny its possibility. However, he was inclined to take into consideration the expulsive force, which in some cases is very great, and might produce a spontaneous rupture.—*Medical Press*, August 17, 1887.

Siegesbeckia Orientalis for Ringworm.—Dr. J. Hutchison, of Glasgow, writes: *Siegesbeckia orientalis* is a shrub, the green parts of which have quite a reputation in the Mauritius. For internal administration a syrup is prepared by pounding the green plant, adding sugar, and straining. This syrup is considered a powerful alterative, and is given in syphilis, gout, scurvy, scrofula, etc. For external use a poultice is made of the bruised leaves, and applied to gangrenous and sloughing sores with marked healing effect. The plant has been introduced into England, and placed within the reach of medical men here. I have used it in 15 cases of ringworm; of these 8 were cases of tinea circinata, 4 of tinea sycosis, 2 of tinea tonsurans, and 1 of tinea versicolor. The site of the 8 cases of tinea circinata was in 6 of them upon the neck, and in 2 upon the calf of the leg. None of the patients called upon me till the disease was well developed, when the red, raised, circular, bounding edge, and the pale central area, with its branny desquamation, left little doubt of the diagnosis. The four patients who were afflicted with tinea sycosis all blamed a "foul shave" for their ailment. In all of them the disease was upon the chin, and presented the characteristic fig-like appearance. The two cases of tinea tonsurans showed the roundness of the diseased patches, the scaly eruption, and the brittleness of the hairs peculiar to that form of the trouble. The one case of tinea versicolor was also typical. My prescription in all of them was the same, namely, equal parts of tincture of siegesbeckia and glycerine, and this I ordered to be well rubbed into the affected area night and morning. The drug appears to act both as a stimulant and a parasiticide, and the method of cure was for the diseased patch to become broken up into a number of smaller patches, with sound skin intervening. These smaller patches became again broken up till they disappeared altogether, and in their place was left a red blush, as if the part had been struck a smart tap with a cane. The redness, however, only remained for a day or two. The two cases of tinea tonsurans were the most stubborn to give way, but even in their cases more frequent applications, and continuing the treatment over a longer period, brought about the result desired, and that, too, without resorting to epilation.—*British Medical Journal.*

Urobiline.—At the Société Médicale des Hôpitaux M. Hayem recently gave an account of his researches on *urobiline*, one of the pigments of the blood met with in serum, urine, and bile. Serum does not contain a sufficient amount of urobiline to be easily detected, but with the addition of a few drops of a solution of iodine it readily appears. With the spectrum it gives a black line between the green and the blue. It seems to be a product of the bilirubine and biliverdine, and is formed in the intestine. It can be found in acute gout, pneumonia, pleurisy, rheumatism, etc. Among the chronic diseases in which it is constantly met with are heart affections, liver disease, tuberculosis, etc.—*Medical Press*, August 17, 1887.

Are Starch-containing Foods Dangerous to Young Infants?—At a recent meeting of the Clinical Society of London, Mr. Parker, Surgeon to the East London Hospital for Children, read a paper on the alleged dangers of starch-containing foods during the period of infancy, in which he took a different view of the subject from that now entertained by the best authorities on pædiatrics. (*Gaillard's Medical Journal*, September, 1887.) After many years' work in a children's hospital, he has arrived at the conclusion that the dangers of this kind of food are very greatly exaggerated, and he does not hesitate to say that he has never himself met with cases in which he could distinctly and directly trace disorder to starchy foods. His object in making these statements is not to advocate artificial feeding in preference to nursing, but to draw attention to what he believes to be the real and proximate causes of the immense mortality which obtains among young children, especially among the children of the poorer classes—namely, congenital debility. "It cannot be gainsaid," he says, "that very many artificially-fed children are puny and weakly, and it has come to be generally accepted that the children are puny and weakly because they are so fed. On the other hand, an analysis of any one hundred wasted and weakly children will show that a considerable number of them are breast-fed; and further, that of those which are being artificially fed many were puny and weakly when artificial food was commenced, and that artificial food was either added to the nursing, or sub-

stituted for it, because the children were not thriving. What inferences, then, are to be drawn from these facts? First, and chiefly, that many children are congenitally deficient in the vitality and digestive power which are absolutely essential to their healthy development. Such children will be weak and puny on any diet. Such children as these, moreover, are just the kind of children we should expect to be born of women (of parents) themselves weakly, either congenitally or from acquired causes, such as irregular modes of living, drink, poverty —leading as it does to privation of every kind; food, fresh air, light, rest, etc. Can women exposed to such conditions as these be expected to give birth to strong, healthy children, or even to produce good milk in sufficient quantity to nourish their children properly?" Toward deciding the issue raised, he gives an analysis of a hundred histories of artificially fed children, under twelve months of age, taken from among his unselected patients attending the East London Hospital for Children, which shows, he thinks, that in a very large percentage of cases the lowered health-status of the mothers is obviously the reason why artificial feeding of their children has to be adopted. "It does not need any long experience," he goes on to say, "to enable one to predicate that if the mothers are weakly their offspring likewise will be weakly. It follows, therefore, that the reason why so many children are fed on artificial food is that they do not thrive on the breast-milk of their mothers, or that they do not thrive on that alone. Thus, in estimating the causes and treatment of marasmus and other kindred diseases in infancy, it seems to me that too little stress is laid on the congenital debilities under which vast numbers of children labor, and too much stress is laid on artificial feeding, especially on the injurious effects of starch-containing food." He does not question the immense value of good maternal nursing, nor underrate the dangers and disadvantages of artificial feeding. He states that he simply questions the truth of the belief that starch-foods are actively injurious, and for the following among other reasons: "That many and many a child is now alive and well to testify against such a doctrine; that in years gone by, before malted foods came into vogue, hundreds of children throve upon milk thickened with a little of one or other of the common starch-containing cereals; that there are no experimental investigations to warrant such an assertion; that, as is well known, animals, when fed on starch, do not get rickets and the diseases usually attributed to starch-feeding—they die of inanition; that the starch taken in with the food passes out with the fæces unaltered. If it could be shown that the starch was broken up into other and deleterious compounds, there would be something to go upon; but, as a matter of fact, the starch passes out of the body unchanged." In this connection it may be of interest to refer to the examination of the fæces of twenty-four starch-fed infants, made by Dr. N. A. Randolph, two years ago, in the physiological laboratory of the University of Pennsylvania. Although the number of cases was small, the results are certainly unexpected and remarkable, since these showed that the presence of starch was exceptional, and apparently in no degree dependent upon the age of the child. The stools of eighteen out of the twenty-four children contained either no starch, or but a trace, *i.e.*, no more than is frequent in the evacuations of a healthy adult upon a mixed diet. Six of the specimens examined were from children of three months or less, the youngest being but forty-five days of age. In many cases the broken and empty cellulose envelopes of the starch-granules were clearly discernible. From these experiments, then, it is concluded that many infants of under three months can digest starchy foods, and that the individual variations, in this regard, are so numerous that no broad and general statement can be made as to the period at which infants begin to digest starches. It would seem, therefore, if these experiments are to be relied upon, that Mr. Parker and most other writers are mistaken in supposing that starch is not digested by young infants, but passes out of the body unchanged, except it may be in comparatively rare instances. Until the present time, however, it has been an undoubted fact, as he asserts, that the belief in the dangers of starch-food during infancy is widespread and generally accepted in the profession. Hence he thinks that there should now be a reconsideration of the starch-dogma, and it certainly does seem desirable that a full and impartial scientific investigation of this important subject should be made. But whether his views as to the innocuousness of starch should be confirmed or not, his paper is likely to prove of service in attracting attention to the fact that considerable harm has no doubt resulted from the almost exclusive attention which by many has latterly been bestowed on this element in infantile dyspepsia, and to the importance of more generally taking into consideration the congenital condition which may be largely responsible for the existing athrepsia.

Rectal and Dermal Alimentation of "Wasting" Infants.—In the course of an address on the dyspepsia of infants, delivered by Dr. Sansom (*The Medical Press*, July 27, 1887), the following practical suggestions are made: "Nourishment may be conveyed to the wasting infant by other channels than that leading to the stomach. Supplementary alimentation, until such time as the normal processes reassert themselves, is a most important therapeutic method. Something may be done by inunction. Cod-liver oil may be rubbed into the skin, and there seems to be very good evidence that this measure is productive of benefit. Still more valuable, however, is supplementary alimentation of the rectum. Food administered by the rectum should be predigested or converted into peptone. The simplest way of making a meat peptone enema for an infant or young child is, I think, the following: Shred raw beef or mutton in bulk about two tablespoonsful, add an equal bulk of water, and let stand for an hour; then add gradually four tablespoonsful of milk, heated to boiling. When all is well mixed the temperature of the mixture will be about 140° F., then add a teaspoonful of Savory & Moore's or Benger's liquor pancreaticus, and a pinch of bicarbonate of soda. Let the whole remain for six hours, and then heat to boiling. Strain through muslin and preserve the liquid, which will suffice for several enemas. A nutrient enema must be administered to an infant or young child very gently and gradually, but it is retained much better than *prima facie* considerations would lead one to expect. Not more than two ounces should be administered at a time. A ball syringe holding this quantity may be used, but the simplest and best method is to employ a small funnel or curved tube (such as is used for the application of leeches) to which a large, soft, flexible male catheter is attached. The catheter being gently introduced some distance into the rectum, the fluid to be injected is poured into the funnel; the latter is then elevated so that the fluid enters the rectum chiefly by the force of gravity. The fingers are then used to express into the rectum the fluid remaining in the catheter. Then the catheter should be slowly withdrawn. Still simpler than this peptone enema is the enema of cod-liver oil and milk, which I have used in many cases with very good results. This consists merely of equal parts of cod-liver oil and warm milk shaken together in a bottle till well mingled; it is, of course, administered in the manner previously described. It may be asked whether diarrhœa is a bar to the use of nutritive enemata, and the answer is, certainly not in all cases. In some there is a sedative effect upon the rectal mucous membrane and the irritability of the bowels manifestly subsides; but there are cases in which it is evident that the enemas cannot be tolerated."

In the Treatment of Cirrhosis of the Liver, M. Lanceraux thinks that the three great measures are hydrotherapy, iodide of potassium, and a milk diet.

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RECENT INVESTIGATIONS CONCERNING IODOFORM.

THE attack upon iodoform by Heyn and Rovsing has been beneficial, in stirring into activity a number of persons eager to learn the truth regarding the utility or otherwise of this substance in surgery and medicine.

Our readers will, we are sure, be interested in a brief review of the various contributions made of late, chiefly by German observers.

König (*Therapeut. Monatsch.*, 1887, April; *Centralbl. f. Chirurg.*, No. 37) contributes the results of several years' experience with iodoform in the treatment of wounds, and claims for it a positive value. Iodoform has feeble germicidal properties—so little, indeed, that it needs to be carefully purified itself. It is no specific against tuberculosis, in that it does not prevent the development of tubercle-bacillus. It acts only upon the healthy wounds freed from tuberculosis, preventing development of bacteria and promoting primary union. König does not think that it is wise to abandon iodoform, for it has, he believes, a real value; but he thinks that other substances may accomplish the same results.

Professor C. Binz, five years ago, showed in connection with König the peculiar drying action of iodoform. He now publishes the result of some experiments with iodoform upon the inflamed mesenteries of frogs (*Therapeut. Monatschrift.*, 1887, May), from which he concludes that it prevents the emigration of white blood-cells.

Dr. G. De Ruyter has experimented partly in the laboratory of the Hygienic Institute at Berlin, partly in the surgical clinic of the University (*Archiv f. klin. Chirurg.*, Bd. xxxv., Hft. 1). He found that iodoform powder outside the animal body was practically powerless against pathogenic micro-organisms. Strewn on bacteria-cultures, it at most only delayed the growth, and when *spread over infected wounds, the animals died just* as quickly as those in which the wounds were not so treated.

On the other hand, De Ruyter finds that in the animal body the iodoform is decomposed, and in part prevents the development of bacteria, in part makes them and their products harmless. Solutions of iodoform which allow of this decomposition are most valuable, and the author particularly praises a mixture of iodoform one part, ether two parts, and alcohol eight parts. Cultures and infected wounds treated with this solution were made sterile and innocuous.

Dr. H. Sattler, of Prague, has written upon the antiseptic value of iodoform and iodol (*Fortschrift der Med.*, 1887, Bd. v.), more particularly with reference to its use in eye-surgery. Dr. Sattler takes it for granted that iodoform does have antiseptic power. The experience of surgeons for years forbids one to doubt it. The question is, how and in what conditions does it act in this way? In answering this the author does not seem to have evolved anything new. He claims to have proven that iodoform does inhibit the vital activity and harmfulness of micro-organisms, by virtue of decompositions which set free iodine or some of its compounds; also, that the antiseptic action is confined to the parts close to the iodoform molecule. On account of its certainty, continuous action, and non-irritability, Sattler thinks that in many points iodoform is without a rival. Iodol has nearly the same properties, but is more irritating.

Baumgarten (*Berlin. klin. Woch.*, 1887, No. 2; *Centralbl. f. Chirurg.*, No. 37) denies the antiparasitic action of iodoform, upon the ground of certain experiments made by himself and Kunze. He injected masses of tuberculous matter rubbed up with iodoform into rabbits and guinea-pigs. They died of tuberculosis. Tuberculous matter treated with sublimate did not produce tuberculosis. Similar experiments were made with septicæmic anthrax- and pus-organisms, and all were unfavorable to iodoform. Death was delayed, but never averted.

Somewhat similar experiments to those of Baumgarten were made by Th. Rovsing, of Copenhagen (*Fortsch. der Med.*, Bd. v.), and with similar results. Rovsing injected tubercle that had been treated with iodoform into the anterior chamber of the eye of rabbits; tubercular nodules promptly developed.

Directly contrary results to the foregoing are furnished by P. Bruns and Nauwerck (*Mittheilungen aus der chirurg. Klinik zu Tübingen*, 1887, Bd. iii.). They extirpated parts of the walls of tuberculous abscesses, and examined them microscopically. After treating the abscesses with iodoform until they were much smaller, the walls were again examined and the tuberculous tissue found gone or nearly so. Eight cases were thus treated, and the conclusion is reached that iodoform has specific anti-tuberculous properties.

Dr. A. Lübbert, of Dresden, in an article upon the relations of iodoform to the *Staphylococcus pyogenes aureus* (*Fortschr. der Med.*, Bd. v., p. 330), gives the results of forty-three experiments upon animals, in which he tested the results of iodoform applications on infected wounds and in preventing infection. The results were all against iodoform.

A review of the foregoing shows that iodoform is not a powerful antiseptic, or very destructive to the life of micro-organisms. Bacteriological experiments, as a rule, are quite against it, but practical surgical experience continues to favor it. The conclusions of König appear to represent current surgical opinion most fairly.

FEES FOR VENEREAL DISEASE.

OUR esteemed contemporary, *The Medical Press and Circular*, finds fault with our views upon the subject of fees for venereal disease. We fancy, however, that there is no serious difference of opinion regarding the

matter. It would be monstrous to assume that the physician had any right to charge higher fees because his patient's disease followed vicious indulgence, and we have not assumed such a position. The physician, however, does have a right to charge more for treating disorders that are uncleanly and disgusting, not to say personally dangerous. It is for this reason that he may be justified in asking a higher fee for treating a catarrh of the urethra than for a catarrh of the pharynx. As for his mental attitude in the matter, each man has a right to feel sympathetic or otherwise, as his temperament or conscience dictates. Our esteemed contemporary may feel assured that there is no emergency in life in which it will not receive from us the assurances of our warmest consideration.

TRAINED NURSES IN SMALL COMMUNITIES.

PROBABLY there is no one who is not an advocate of the trained-nurse system. Even those who decry it do so on insufficient grounds. The general testimony is in its favor. A few nurses may be somewhat presumptuous; the majority are obedient even to a fault. Now and then a physician may meet a nurse who, without any special training, has become, by long experience, admirably qualified for her duties. There are in every calling a few who seem to have been born with a "knack" for it. To nearly everyone, however, ability comes only after a systematic striving therefor. All friends of trained nurses must admit, however, that this new calling is only in its infancy, that its sphere is restricted, and its benefits attainable by only a few. The law of supply and demand is so working at present that large wages can be secured by all training-school graduates, and only the very-well-to-do can employ them. As has been said, nurses are not now obliged to begin at the bottom of the ladder, as is the case with other professional workers. They begin their ascent from a landing already well up toward the top.

It is not our aim to cheapen the services of these new helpers. The monetary value of their labors will in due time feel the effects of competition, as happens in every new occupation. But we plead for the establishment of training-schools in small communities, where people of moderate means make up the bulk of the population. In large cities there are ample hospital accommodations for those who must have a trained nurse and cannot pay for her. In smaller places there is often no hospital, and at present there is a large class moderately able to pay, but as yet wholly unprovided with proper nursing.

An interesting paper was read on this topic, at the last meeting of the Massachusetts State Medical Society, by Dr. Worcester, of Waltham. In the latter city a small school has been established, entirely apart from any hospital, except as the latter has on a small scale grown out of the former. A body of ladies and gentlemen became patrons and patronesses, and made an annual guarantee. The services of a few young women were secured, and the physicians of the place agreed to give instruction. A lecture was delivered to the class, in some convenient place, five times a week. A two years' course was established, and small monthly wages paid to the members of the class. If any of the physicians had a patient desiring a nurse, a pupil was detailed for the case. For a first-year pupil the charge was, we believe, seven dollars a week, and for a second-year ten dollars.

During the first year the guarantors were called upon for a small payment. Since then the affair has become a self-supporting one. Out of the work has grown a small hospital, in a properly selected tenement, which makes a headquarters for the school. Thus, in a quiet way, has grown up, without great expense and without any undue effort on the part of any single person, an institution at once an honor and a blessing to the community in which it is situated. It is modelled after similar city institutions, and, like them, gives a diploma to its graduates.

The establishment of a cottage-hospital and small training-school in provincial communities introduces a social factor of the utmost value. About it many isolated charitable projects can cluster with mutual advantage. It becomes a so-called charity organization society, of which there is often as much need in small places as in large. In undertaking its foundation, local physicians can greatly increase their influence in the community. They can secure better care for their patients, and thus relieve themselves of a great deal of anxiety.

A NEW SPECIALTY WANTED.

DESPITE a general feeling that specialism in medicine is a little overdone, we are impelled to urge upon the attention of our readers the need of one more subdivision in the medical art. We should call the followers of it by the name of "gastrologists," and their peculiar line of research should be the stomach, with, incidentally, the intestines, liver, and spleen. Whenever an organ of importance has been made accessible to methods of exact research, a specialty is bound to develop in connection with it. The stomach has of late years become one of those organs. In former years its disorders were diagnosticated almost entirely from subjective symptoms. The physician heard the patient's story, looked at his tongue, and that was the end of the examination. Now, however, when a serious disease is suspected, the size and position of the stomach, and the presence or absence of tumors must be determined. By washing and siphoning, the duration of digestion is found out. The gastric secretion is collected, and the presence and amount of its inorganic acid and its peptic principles estimated by delicate chemical tests. The constituents of the urine are studied. It has been found possible to pass an instrument into the organ, and examine visually the condition of the mucous membrane. Quite recently a new œsophagoscope, invented by Professor Stoerk, of Vienna, enables one to make notes of the condition of the stomach's entering passage. With the means that have been devised for physical examination of the stomach, it is thus possible to learn with approximate exactness the character and activity of its secretions and the general anatomical condition of its walls. Already the treatment of gastric troubles by a few physicians abroad, who have been working in this line, has become based on objective phenomena, and has brought another division of internal medicine nearer to exactness. It is time that some American physicians take up the matter. We do not desire prematurely to promote the organization of an

association of American gastrologists, but simply to encourage an investigation and utilization of the exacter methods of studying the disorders of digestion. In this way the term dyspepsia will be abolished from scientific nosology. Whether the old-fashioned symptoms heretofore classed under that name will also be made to disappear, is a question which can be discussed in a later issue.

To those who are interested in this field of study we commend, besides the works of Leube and Ewald: Riegel, Ueber Diagnostik und Therapie der Magenkrankheiten, *Volkmann's Sammlung*, 289; also Ueber continuirliche Magensaftsecretion, *Deutsche med. Wochenschrift*, 1887, No. 29, and Beiträge zur Diagnostik der Magenkrankheiten, *Zeitschrift f. klin. Med.*, xii., p. 426. Cahn und v. Mering, Die Säuren des gesunden und kranken Magens, *Deutsches Archiv f. klin. Med.*, xxxix. Honigmann und v. Noorden, Verhalten der Salzsäure im carcinomatösen Magen, *Zeitschr. f. klin. Med.*, xiii., p. 87. Boas, Ueber den heutigen Stand der Diagnostik und Therapie der Magenkrankheiten, *Deutsche med. Wochenschrift*, 1887, Nr. 24, 25, 26. And an excellent review by Seitz in *Münchener med. Wochenschr.*, August 23, 1887.

SPINA BIFIDA OCCULTA.

The term "spina bifida occulta" was first employed by Virchow to denote a condition in which there is a defect in the arches of the vertebræ, such as is found in the ordinary spina bifida, but in which there is no external tumor. It is a condition which has been recognized only within a few years, the first authentic case of the kind, according to a statement of Mr. M. J. Bland Sutton in the *Lancet* of July 2, 1887, being one reported by Virchow in 1875. This case was discovered in the Pathological Institute of Berlin. The subject presented an unusual hairiness in the lumbar region. Examination showed that the hairy patch corresponded to a depression in the spine. The arches of the four lower lumbar vertebræ were incomplete, the resulting fissure being closed by a kind of fibro-cartilage. Virchow thought that the growth of hair was due to local irritation caused by the disturbance during the development of the spinal column. Other similar cases were afterward reported by Fischer, v. Recklinghausen, and Brunner.

In the article above referred to, Mr. Sutton relates an interesting case showing the relation, already noticed by Fischer and v. Recklinghausen, between spina bifida occulta and trophic disturbances. The patient was a girl, eighteen years old, whose foot had been amputated three years before on account of an ulcer of the foot with caries of the metatarsal bones. The affected member was also deformed, being in a position of talipes varus. The patient returned at this time for reamputation of the stump, which presented at its base an ulcer, about a quarter of an inch in depth, with callous edges. The case suggested spina bifida occulta to the writer, who accordingly made an examination of the spine. A deficiency was found in the arch of the third or fourth lumbar vertebra, and pressure at this point caused pain. There was an abundant crop of soft downy hairs in this region, radiating from the site of the deficiency as a centre. The author attributed the ulcer of the foot, the varus, and the ulceration of the stump to the spinal malformation. There were other interesting and important points in this case which we have not referred to.

It is evident that these cases offer a good field for research, for they have as yet received but little notice, and more extended study of them may throw much light on the subject of localized trophic disturbances. And, doubtless, now that Mr. Sutton has called attention to this affection, the number of cases observed will increase, and thus the opportunity for their study will be more widely extended.

ASIATIC CHOLERA AND THE NEW TEST FOR ITS BACILLUS.

The importation of a little cholera into this country just now is one of the minor evils connected with the present Italian immigration. It is too late in the season to fear any serious outbreak of the disease here, even if the quarantine measures were not so carefully carried out as they are. The interest in the cases brought to our port last week is therefore almost purely medical. It suggests the fact, however, that, fortunately, by private enterprise, we have now in this city several laboratories where the culture-test can be applied to any suspicious cases of cholera nostras that may be observed. There may be an opportunity also of testing the new chemical reaction attributed to the cholera-bacillus by Bujwid, and described by him in the *Zeitschrift für Hygiene* recently. Bujwid states that, after the addition of five to ten per cent. of ordinary muriatic acid to a bouillon-culture of the comma-bacillus, there develops in a few minutes a rose-violet color, which rapidly increases in intensity for half an hour. It then continues unchanged for several days. The reaction occurs in bouillon-cultures ten to twelve hours old, and in gelatine-cultures after twenty-four hours. Heat increases the coloring markedly. Bujwid claims that this chemical reaction is a special characteristic of the comma-bacillus of Asiatic cholera, and distinguishes it sharply from other similar forms of bacteria.

ALCOHOL IN HIGH LATITUDES.

In spite of the discovery of so many new remedies and the discussion resulting therefrom, the main battle of argument is still waged about alcohol. Commission after commission has contributed its decisions, and still the question is unsettled. Recent decisive testimony upon one phase of it, however, has been given by General Greely, of Arctic exploration fame, and his recent utterances in the *Forum* are most timely.

The last half-century has witnessed a marked reduction in the amount of alcohol supplied to men engaged in exploration in the high latitudes. The experience of previous years has finally made itself felt in official utterance. In one of the recent British expeditions, Sir Alexander Armstrong, Medical Director of the Navy, expressly counselled against alcohol rations for regular distribution, and advocated in their stead the use of cocoa and tea, but the officers in charge saw fit to allow the men two ounces of rum daily and double that amount during the absence of the sun.

One-fifth of the officers and over one-half of the men suffered from scurvy.

In Greely's expedition the amount of spirits taken was calculated on the basis of four ounces per man weekly. In the long period of exposure to which the latter party was subjected, it was indisputably shown that spirits given on the march impaired resistance to cold. Given in small quantities after the day's work was over, they distinctly stimulated the mental faculties, without any unpleasant effects. This small quantity was generally about two ounces. More than this seemed merely a waste. In the later history of the expedition, it was recorded that one-fourth of an ounce of pure alcohol, diluted with three times its weight of water, had an equally pronounced effect. It seemed to supply food and to have a decided alimentary value.

These results are what have been claimed for alcohol ever since its physiological effects have been critically studied. Their integrity has often been assailed by well-meaning but misguided enthusiasts, to whom anything concerning alcohol savors only of the powers of darkness. Upon them, all argument is wasted.

General Greely's observations are valuable additions to our knowledge concerning alcohol. The facts which they narrate were indeed known before, but they have now received an authentic confirmation, and that, too, under the most trying circumstances.

PSYCHIC MEDICATION.

The subject of hypnotism is one that is being continually brought to public attention, and of late with increasing frequency. We can remember when all the so-called hypnotic phenomena were looked at askance, and those who dealt with it regarded as more or less silly or knavish. The late Dr. Beard, who believed in the reality and scientific value of trance-phenomena, was publicly insulted by certain English physicians for venturing to demonstrate his views concerning the matter; and one of these physicians, Dr. J. Crichton Browne, was subsequently made honorary member of the New York Academy of Medicine.

Now, however, the subject is looked at with different eyes, and is deemed worthy of kindly notice by eminent men in all quarters. The public press has also been dwelling on the matter, and learned editorials upon the remarkable observations made by various foreigners are being emitted.

The investigations abroad, however, have, with one or two exceptions, added nothing to what was observed in this city five or six years ago. M. Luys recently appeared before the Paris Academy of Medicine, and reported the results of his experiments regarding the effects of drugs on the hypnotized patients.

M. Luys' communication, according to a correspondent of *The Lancet*, relates to the action of certain medicines upon hypnotized subjects by radiation, from the inside of hermetically sealed glass tubes. This interesting discovery, which dates, at any rate, from Hahnemann, was rediscovered by MM. Bourru and Burot, and related by them at the Congress of Grenoble, and they have since written a book on the subject. M. Luys has repeated and extended their experiments with eighty-six different substances, and finds that the effects produced upon the hypnotized organism by the action of the stimulating agents are of two orders. In one the subject is silent, and reacts as an automaton; morphine, strychnine, valerian, and sparteine produce phenomena of the kind. In the other the subject enters into the phase of lucid somnambulism, hears, and enters into communication with the outside world. This is effected by Indian hemp, coffee, alcohol, and various odorous substances. In the first series of experiments the subjects are placed in a state of lethargy. The sealed tube containing the medicine is put at the nape of the neck, and in a short time the face expresses a state of feeling—generally that of displeasure. In those who enjoy a dual personality (*sujets dédoublés*) the same substance will provoke an expression of suffering or malaise when applied to the right side of the brain, and a state of joy and expansion when placed on the left. Essence of thyme causes the submaxillary and thyroid regions to swell, the face to become turgescent, and the eyes to protrude. It must be noted that all this is recorded photographically. Morphia placed on the left side of the nape of the neck gives rise immediately to a feeling of terror. If the application is continued, the subject, actuated by the "instinct of protection," expresses the greatest anger. Upon changing sides and placing the tube behind the right ear, this subsides, and the face becomes calm and placid. Strychnia produces convulsions when applied on the left side; on the right, a state of gayety and "jubilation." To quote a last example: Valerian gives rise to emotions having a character of great sadness. "The subject," says M. Luys, "is under the influence of an irresistible impulse to scrape the earth. He kneels down to do so, and the idea comes to him that he is in a cemetery. He performs the exhumation of a beloved friend placing aside the soil with his hands and piously gathering together the remains. He makes a little mound, upon which he places a cross, and goes through the funereal ceremony with groans, genuflexions, crossings, and kissings of the earth!"

All this seems truly absurd. Yet it is stated seriously by a gentleman of scientific standing and undoubted ability.

We must refuse, however, to accept such statements until the experiments have been repeated on a larger number of persons, with every source of error excluded. The remarkable phenomena elicited from Parisian hystero-hypnotics have not been seen here.

EPISTAXIS AND THE LIVER.

Epistaxis is a symptom which has at different times such a widely different pathological significance that few writers attempt to discuss it, as if there were an independent disorder of this name. We find, however, that Dr. Alexander Harkin, of Belfast, Ireland, has put forth an essay in which he appears to find an autonomy and special pathologyuto plain nosebleed ("On the Nature and Treatment of Epistaxis," by Alexander Harkin, M.D., F.R.C.S.).

The author states that epistaxis may be dependent upon errors of circulation, *i.e.*, local anæmia or hyperæmia, or as a symptom of cardiac, renal, hepatic, or febrile disorders.

Very often the malady is indicative of a constitutional

disorder and of a disturbance of the physiological equilibrium of the blood-current. This constitutional disorder is, according to Dr. Harkin, in many cases an organic or functional disorder of the liver. It stands in the same relation to that organ as do hemorrhages from piles; and, indeed, the nose suffers from a kind of "facial hemorrhoids." Or, as it is put in another paragraph, epistaxis is a sign of a blood dyscrasis, itself a secondary result of a disordered liver. The indications, therefore, are to improve the condition of the blood and restore the health of the liver. For this purpose Dr. Harkin recommends chlorate of potassium alone or combined with iron, and large blisters over the liver. The use of blisters in this region for nose-bleed dates back to the time of Galen, and is supported by some French observers. Dr. Harkin himself reports several cases of intermittent epistaxis in which the symptom was relieved, and its return apparently prevented, by the use of the blister.

CONCERNING SOME CONTRIBUTIONS TO THE MEDICAL RECORD.

An esteemed correspondent, who evidently feels that he has a just grievance against The Medical Record, writes us a courteous letter setting forth his grounds for complaint, and asking for an explanation of the seeming discourtesy shown him. As the letter is a sample of many that have been from time to time received, we take the occasion to answer it here, trusting that all those who believe that they have not received the consideration which is due to them may accept it in lieu of a personal reply to their communications.

We will let our correspondent state his case in his own words. He writes: "Twice within the past half-year I have sent papers to your journal, on subjects which, you will pardon me for believing, were fully as important as most of those that you publish. The first paper, a pretty long one, was cut down from perhaps a page and a half to hardly thirty lines. The second one, a short account of a case, has not been printed at all, although four weeks have passed since I sent it to you; and it has not been returned to me either. Now I am a busy man, and don't have much time to myself, and I spent several evenings, when I was tired out after a hard day's work, in preparing those papers, and I was disappointed to see my hard labor thrown away. I have taken The Record almost from the time it first started, and these are the first articles I have ever sent you, and I feel as though you might have shown me a little more consideration. But, perhaps, because I live in the country you thought that what I had to say wasn't worth much. I think, though, if you will pardon me for saying so myself, that it was just as interesting as a good many of the things that the New York men write about in your journal."

We are sorry that our correspondent feels aggrieved; but, while sympathizing with him, we will try to convince him that he has not been unfairly treated. In the first place, if every communication received were to be published in full, The Medical Record would have to be enlarged to three times its present size, and even then there would be room for nothing but so-called original communications. Such a change would, we fear, be anything but gratifying to the masss of our readers. Very many of the communications which we receive, while containing much that is interesting, are too long, and may advantageously be condensed, not only in the interest of the readers, but in that of the author as well. Few men have the time or the inclination to wade through a long paper, unless they may be specially interested in the subject of which it treats; but they will read and profit by a short abstract of the same article. And it is the duty, oftentimes a disagreeable one, of the editor to decide which articles, of the many submitted to his judgment, can best be presented in abstract. When an author sends with his communication a specific request that the paper be published in full or not at all, his wishes are, of course, always respected, and if, in the judgment of the editor, the article is unsuitable for publication as it stands, the manuscript is returned to the author. This rule applies, however, only to papers of some length. We cannot undertake to return short articles which may not be suitable for publication. Again, it is impossible to publish every communication the instant that it is received. Each article must await its turn, and the editor must be allowed to decide upon the time of its appearance. All rejected communications, of any length, are returned as soon as possible after being read, and if an author hears nothing in regard to his paper for several weeks, he may be reasonably sure that it will be published in due time. Manuscripts occasionally, though rarely, go astray in the mails, and for such an accident the editor is, of course, not responsible.

As to the imputation that any discrimination is made against country practitioners, we can only say that the course of The Medical Record from its beginning is a sufficient refutation of such a charge. The country practitioner is apt to be a much more acute observer than his city brother, and his communications are always welcomed in our columns, and are, we venture to affirm, much less frequently rejected than are those written by physicians in New York or other large cities.

And while we are on this subject we may be permitted to say a few words upon the nature of many of the letters sent to the editor. There are many people who bother a journal uselessly with all sorts of questions and comments which are, and can be, of no possible interest to anyone but the writer. We do not now refer to letters of inquiry concerning medical facts or authorities, for a medical journal is supposed to have readier access to the sources of information on such subjects than individual physicians, but to other and wholly irrelevant matters. We not infrequently receive letters of complaint against instrument-makers, druggists, and others whom the writers accuse of having failed to keep their agreement in certain cases. Or, again, a physician will write for an opinion as to the relative standing of various drug firms, or to inquire concerning the reliability of a certain proprietary medicine. A little reflection will suffice to convince anyone that such questions are wholly beyond the province of a medical journal to decide. We sometimes receive elaborate articles, written evidently at the instigation of some enterprising manufacturer, in which some special form of pill or extract is recommended as being the only reliable preparation of the sort in the

market. We cannot, of course, be expected to lend our columns to advertising puffs of that nature. Finally, there are some who seize their pen on the slightest provocation, and write long articles on the most trite subjects, which could not be published without crowding out other more interesting matter, and which would only bore our readers if, as is hardly probable, they should try to peruse them.

We hope that none of our readers will misunderstand us, and suppose that communications from them are not welcomed. On the contrary, we are always glad to receive articles of the right sort from any of our contributors, and we esteem it an honor when they favor us with their communications. THE MEDICAL RECORD solicits good scientific papers from its many contributors, but it desires to be impartial, and is jealous of the interests of its readers as well as of its contributors, and it reserves to itself the right to use the articles with which it is favored (in the absence of directions from the author) in such a way as it deems will best serve the interests of all concerned.

News of the Week.

"LOVE'S LAMPOON."—Under this title, Dr. I. N. Love, in a recent column-interview published in a St. Louis paper, describes in poetic language the social splendors and scientific triumphs of the recent Congress at Washington. He then plays his fancy upon the doctors who, for their sins, have to live a trifle east of the Mississippi. These gentlemen, we are told, are continually expressing thoughts like the following:

"'We are the salt of the earth' and 'no good thing can come out of Nazareth,' the Nazareth in this case being the region west of the Alleghany Mountains. Some few of these provincial gentlemen have gone so far as to boast (among the number, the editor of the New York MEDICAL RECORD) that they have never been west of the range of mountains above referred to, and have no desire to take the trip. They laughingly refer to us as 'hayseed delegates' and as the granger members of the profession."

We have not the pleasure of knowing Dr. Love, but he evidently possesses a copiousness of feeling and a capacity for fanciful statement which promise a great future in the higher walks of fiction. We have never said, or boasted, or heard said, anything of the nature of the above. However, mere questions of fact ought not to be allowed to embarrass a truly epic imagination.

We trust that, some time, Dr. Love will come East, and see for himself how amiable and modest the medical gentlemen of this section really are; though, as to this, we shall cheerfully admit the superiority of our eminent critic.

SCARLET FEVER is epidemic in London.

THE FRENCH ACADEMY OF MEDICINE has made a report upon over-pressure in the public schools. It states that colleges and lycées should be removed to the country; that wide, open spaces should be set apart for games; and that class-rooms should be improved as regards lighting and ventilation. It also desires to see the courses of study simplified, but does not detail what, in its opinion, they should be. It does ask for an increase in the hours of sleep for young children; for all pupils a diminution of the time devoted to sedentary occupations, and a proportional increase in the hours for amusements and exercise. It insists particularly on the necessity of submitting all the pupils to daily exercise in physical training proportioned to their age.—*Sanitary News.*

THE AUTUMN CONGRESS OF THE SANITARY INSTITUTE OF GREAT BRITAIN was held on September 20th and following days at Bolton—the Right Hon. Lord Baring presiding. Dr. Russell Reynolds, F.R.S., presided over the Section of Sanitary Science and Preventive Medicine.

NOTIFICATION OF CONTAGIOUS DISEASES.—The City Health Board have voted to furnish postal cards to physicians of the city, properly inscribed, for the notification of contagious diseases. These will be supplied to physicians on application. All that the medical attendant will have to do on finding a case of contagious disease will be to fill out the card and drop it in the nearest post-office box.

OF THE MEDICAL RECORD'S REPORT OF THE INTERNATIONAL MEDICAL CONGRESS the *American Practitioner and News* says: "Dr. Carpenter, who superintended the work for THE RECORD, performed his task so quietly and unostentatiously that one might easily have concluded that the undertaking had been abandoned. But the full, accurate, and well-arranged reports that have reached us not only dispel any such doubts, but characterize Dr. Carpenter as one of the most capable journalists, medical or secular, in the country."

DR. ST. JOHN ROOSA'S TREATISE ON THE EAR has been translated into German by Dr. Ludwig Weiss, and will soon be published in Berlin by August Hirschwald.

DR. MARY T. BISSELL has been appointed attending physician to the Babies' Ward of the Post-Graduate Hospital.

THE NEW YORK STATE MEDICAL ASSOCIATION held its annual session during the past week. The attend-

having become caught under the head of the drainage-tube. The obstruction was relieved and a longer drainage-tube inserted.

In a third case in which he had introduced a drainage-

in London.

A PERMANENT MEDICAL CORPS.—The Centennial Volunteer Medical Corps effected a permanent organization at their headquarters in the City Hall, Philadelphia Pa., on Monday, September 26th. About thirty members were present, and these officers were chosen: President—Dr. J. C. Cleborn, United States Navy; Vice-President—Dr. T. H. Andrews; Secretary—Dr. G. M. Bradfield; Recording Secretary—Dr. Thomas S. Price; Treasurer—Dr. T. S. K. Morton. A committee consisting of Dr. Brinkman, Dr. Henson, Jr., Dr. Grayson, Dr. Christie, Dr. Coplan, Dr. Ashborn, Dr. Baldy, Dr. Kyneet, and Dr. Hammond were appointed to frame a constitution and prepare bylaws. The object of the organization is to perpetuate the pleasant relations between the members of the corps and to furnish the city with a good medical service in time of need. The Committee on Constitution and By-Laws met on the evening of Tuesday, September 27th, at the same place.

PROGRESS.—The Cooper Medical College now requires for graduation attendance upon three full medical courses. A matriculant examination is also required of those not possessing certain prescribed evidence of general education.

COMMENTS ON THE CONGRESS.—The gentlemen who came from abroad had a right to expect to come to a representative American gathering; and this they failed to find. Sectional as regards residence, scant in men of recognized professional eminence, the American contingent of the Congress was a body of very worthy family doctors. The whole registration, by the Secretary-General's count, was 2,700, which means an actual attendance of between 2,000 and 2,500. The number of foreign members was not far from 150; and of these there were but few of wide fame. As to the papers presented, quantity, not quality, seems to have been the rule.—*Cor. Boston Med. and Surgical Journal.*

In more than one respect was the Ninth International Congress a success. Some of our visiting confrères from Europe say that from a scientific standpoint no Congress ranks higher, and that the proceedings, when published, will reveal a wealth of learning among Americans of which the profession generally in Europe has been entirely ignorant.—*Journal of American Medical Association.*

CONGRESS AT AMSTERDAM.—There is to be a Congress for the discussion of Natural Science and Medicine at Amsterdam, on September 30th and October 18th. There will be four sections: 1. Physics and Chemistry, under the presidency of Professor Vandesande-Buckhuyzen. 2. Natural History and Biology; president, Professor T. Engelman. 3. Medicine; president, Professor Donders. 4. Geology and Geography; presidents, Professors Martin and Kan. This is to be essentially a Dutch Congress, but invitations have been sent to scientists and medical men belonging to the Flemish parts of Belgium.

ONE OF THE DRUGGISTS of the city announces that he [illegible] weeks have passed since I sent it to you; and it has not been returned to me either. Now I am a busy man, and don't have much time to myself, and I spent several evenings, when I was tired out after a hard

IS THIS A SLANDER?—The *Rio News* publishes the following item: "The medical men of the United States will soon have an opportunity to see the celebrated Dr. Domingos Freire, and to investigate his claims as discoverer of the yellow fever microbe. It will be well to ask the doctor for his microscopic slides, preparations, and other proofs, and not accept his statements as proofs of the discovery. There are many people here, and a majority of the leading Brazilian physicians among them, who consider Dr. Freire's discovery a humbug." We believe that Dr. Freire has shown his slides and other preparations, and given evidence of scientific knowledge and technical skill.

ANTISEPTIC CIGARETTES for fumigating the naso-pharynx have been devised by Dr. H. Macnaughton Jones. After some experiments, his chemists prepared four different forms: No. 1, containing eucalyptus and iodoform disguised with vanillin. No. 2, eucalyptus with iodosalicylic acid. No. 3, coltsfoot with eucalyptus and iodoform disguised with vanillin. No. 4, tobacco, eucalyptus, and iodoform disguised with coffee. Each cigarette contains one grain of the active ingredient. Dr. Jones adds that the iodosalicylic acid has not the unpleasant odor of iodoform and other iodine compounds. While it is quite as effective on the lower forms of life, under combustion iodine is evolved. All the cigarettes will be found pleasant to smoke, and the odor of the iodoform well disguised, while its presence in the nasopharynx for some time after the cigarette is used may be detected by its taste. Those made with tobacco, eucalyptus, iodoform, and coffee are particularly agreeable, and the odor is thoroughly disguised; so indeed is it with those made with vanillin, and the coumarin yielding an aromatic vapor which is pleasant rather than otherwise. Half a cigarette is sufficient to smoke at one time. Three in the day are not too many, though the number must be regulated by the prescriber.

A NUTRIENT SUPPOSITORY, of two drachms weight, is equal to three ounces of beef-tea, and is more convenient to use.

THE FOREIGN DELEGATES.—Outside of Great Britain there were sixty foreign delegates to the International Congress. Germany sent seven, France fourteen, Austria two, and Italy four.

MR. STEVENSON'S EULOGIUM OF DOCTORS.—Mr. Robert Louis Stevenson, who has recently come to this country on a visit, and whose remarkable work, "The Strange Case of Dr. Jekyll and Mr. Hyde," has been so successfully dramatized here, is an invalid, and has had a good deal to do with doctors. His recently published book, "Underwoods," is dedicated to "a few out of many doctors who have brought me comfort and help," and he adds a eulogium upon the profession which we think will be read with pleasure. "There are," he says, "men and classes of men that stand above the common herd; the soldier, the sailor, and the shepherd not unfrequently; the artist rarely; rarelier still the clergyman; the physician almost as a rule. He is the flower (such as it is) of our civilization; and when that stage of man is done with, and only remembered to be marvelled at in history, he will be thought to have shared as little as any in the defects of the period, and most notably exhibited the virtues of the race. Generosity he has, such as is possible to those who practise an art, never to those who drive a trade; discretion, tested by a hundred secrets; tact, tried by a thousand embarrassments; and, what are more important, Heraclean cheerfulness and courage. So it is that he brings air and cheer into the sick-room, and often enough, though not so often as he wishes, brings healing." Mr. Stevenson is a nephew of Dr. G. W. Balfour, Vice-President of the Royal College of Physicians of Edinburgh, so well known by his excellent work on "Diseases of the Heart."

A BLOW TO THE PATENT MEDICINE BUSINESS IN GERMANY.—It is stated that the advertising or sale of patent medicines (secret or proprietary preparations) has been absolutely prohibited in the German capital, and sixty-one of them have been publicly denounced on account of disclosures made by chemical analysis.

Reports of Societies.

THE PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, June 3, 1887.

GEORGE F. SHRADY, M.D., PRESIDENT, IN THE CHAIR.

FRIEDREICH'S DISEASE, OR HEREDITARY DEGENERATIVE ATAXIA.

DR. C. L. DANA, in presenting a case of Friedreich's disease, said there had been reported altogether but a few more than one hundred cases, and they were limited to twenty-one or twenty-two families. America had contributed its full quota of that number. Two of the best papers on the subject had been contributed by physicians in this country—Dr. Everett Smith and Dr. Kellogg.

The patient presented was nineteen years of age; his family history was negative. His father was probably a dissipated man. The patient, so far as could be learned, had had no disease until he was fifteen years old. He had had no bad habits; had no venereal disease, and had not indulged in venery. Two years before his symptoms appeared he had had a fall and struck the back of his head.

About two years ago he began to have constant thirst, and to suffer from a feeling of unsteadiness; he reeled in his gait; the speech became somewhat affected. Being in the hospital, he was referred to Dr. Dana four or five months ago by Dr. Gouley.

He found the patient suffering from marked ataxia, and that he reeled a great deal in his walk; could not stand with the eyes closed, and there was some ataxia in the arms. There was a slight amount of weakness of the muscles. At times he was dizzy; his legs felt heavy and numb occasionally. There was no pain. The patellar tendon-reflex was normal. There was a slight degree of anæsthesia on the outer part of the legs. There was some muscular anæsthesia. The patient complained a great deal of thirst. The specific gravity of the urine was 1.002; quantity, one hundred and fifty to one hundred and eighty ounces a day; no sugar. There was no emaciation, no disturbance of the sphincters. There was some tendency to talipes equinus, slight curving of the spine, some oscillation of the head, and a slight amount of nystagmus. The symptoms were those of pronounced ataxia, very slight anæsthesia, polyuria, disturbance of speech, and head oscillation. The speech was somewhat thick, slow, and scanning. The hands and feet were cold and reddish. The boy had improved very much when presented.

The case was interesting, in the fact that it presented some rare features. Polyuria in hereditary degenerative ataxia was a rare thing, although it had been observed in one case at least. The presence of the patellar tendon-reflex was unusual but not unique. The disease resembled very much locomotor ataxia, but differed from it in the absence of severe pain and severe sensory troubles, also in not having much disturbance of the bladder and rectum, nor optic symptoms, except that there was generally nystagmus. This boy had little, if any, nystagmus.

Pathologically there was found in Friedreich's disease sclerosis of the lateral and posterior columns, and the cord was usually less perfectly developed than normal.

In reply to questions, Dr. Dana said that patients with Friedreich's disease sometimes lived thirty or forty years, but after a time there developed more or less paralysis, the legs became cramped and distorted, and there might be complete paralysis.

DR. E. G. LORING remarked that while the patient was waiting he had looked into his eyes, and found that the fundus looked very much as it often did in commencing optic atrophy. The arteries were very small and the veins very large.

DR. V. P. GIBNEY said that in looking over the histories of some cases, in the Forty-second Street Hospital, which used to be called cases of spastic contracture, he found that of a boy whom they called Jumping Jimmy. This was about eleven years ago, and he was then ten or twelve years of age. At that time he had been in the hospital three or four years. His speech was that of ataxia; he had so marked ataxic movements that he could with difficulty walk across the floor. Except that it was more marked, the ataxia was like that in Dr. Dana's case. He suffered no pain, and was unable to give any cause for the disease. He was transferred to Randall's Island Hospital, where, when seen by Dr. Gibney, three or four years ago, he remained in about the same condition.

DR. POLK asked Dr. Dana if he thought there was any relation of the fall, in the case of his patient, and the ataxic symptoms.

DR. DANA thought the fall might possibly have been an exciting cause.

REMARKS ON IMPERFECT DRAINAGE AFTER LAPAROTOMY.

DR. W. M. POLK related three cases bearing on the question of drainage after laparotomy. The first case was one of ordinary pyo-salpinx. No symptoms developing, he removed the drainage-tube at the end of forty-eight hours, but, contrary to his usual custom, he did not follow its withdrawal by a smaller rubber drainage-tube. The recti muscles were unusually taut, and closed the orifice, which ordinarily remains open several days after withdrawing the tube. Accumulation took place, and within twelve hours the temperature rose to 103° F., and the pulse to 120. On the third day Dr. Polk opened the abdominal cavity, washed it out thoroughly with warm water, put in a drainage-tube, and continued the irrigations for a week.

The second case was one in which immediately after the operation the woman began to vomit. This was supposed to be due to the effects of the ether. There was not much elevation of the temperature or pulse, but the vomiting continuing Dr. Polk became convinced there was some obstruction. He therefore removed the drainage-tube, washed out the cavity with a solution of bichloride of mercury, 1 to 10,000, introduced his finger, and tore up all adhesions binding down the intestines. He finally found the point of obstruction, a coil of intestine having become caught under the head of the drainage-tube. The obstruction was relieved and a longer drainage-tube inserted.

In a third case in which he had introduced a drainage-tube, but had failed to irrigate the cavity, the temperature rose, and no discharge took place from the tube. About the third day he took out that tube, introduced his finger to the bottom of the cavity to free obstructions, introduced another tube, and thoroughly irrigated the cavity. It was about two weeks before the patient was beyond danger.

All three of these patients recovered; all three would have died had he not interfered. Still, there was a difference of opinion among gynecologists as to the advisability of reopening the wound under these circumstances and washing out the cavity, some claiming that the washing process was likely to spread abroad the infecting matter and increase the chances of general peritonitis. But his experience in these three cases had been such as to firmly impress him with the advisability of prompt interference in all cases of like kind.

THE PRESIDENT said that, if he remembered correctly, the principle just asserted by Dr. Polk was strongly advocated by Dr. Peaslee fifteen or twenty years ago. As illustrating the marked tolerance of the peritoneum in ovariotomy, he cited a case in which, two years ago, a colloid tumor burst, discharging its contents throughout the abdominal cavity, and he was compelled, in order to

cleanse the cavity thoroughly, to displace all the intestines, making literally an ante-mortem examination. He then introduced a drainage-tube, sewed up the wound, and at the end of ten days the patient was sitting up in a rocking-chair. She made a perfect recovery.

POTT'S DISEASE—A QUESTION OF DIAGNOSIS.

Dr. V. P. Gibney gave the history of a case of Pott's disease, in which there had at times been a question whether the symptoms were due to the disease of the spine or to the morphine-habit. The patient, a woman, now aged thirty-five years, began eight or nine years ago to show signs of Pott's disease. There was pain from concussion during riding, etc., but there was scarcely any deformity. She was then treated with the plaster-of-Paris jacket in this city; her symptoms were relieved, and after three or four months the jacket was removed. From that date until two years ago she had recurring attacks of this kind, lasting a month or two at a time. She was scarcely able to walk because of pain and jerkings in the hamstring muscles. After this period she began the use of morphine. Dr. Gibney saw her in September, 1885. She was at that time taking from three to five grains of morphine, hypodermatically, daily. He hesitated to pronounce the case one of Pott's disease, although from the previous history of the case he thought it must be, and began treatment accordingly. He applied a movable corset, made frequent cauterizations of the spine, gave drachm-doses of the iodide of potash three times a day, etc. She recovered the use of her limbs within three months so that she could walk about the house, but there still remained contraction of the hamstring. He did not succeed in correcting the morphine-habit until the spring of 1886. From that time until a few weeks ago she was not under any special treatment. She had worn the jacket, taking it off, however, when she felt like doing so. She thought she was not getting much better so far as anæsthesia was concerned, and she occasionally had pains. About a month ago, after riding some distance, the pains came on in increased severity, and suddenly she lost the use of her lower limbs, was unable to void the urine, and the bowels were sluggish. There was complete abolition of sensation and motion below the knees on both sides. Even the strongest faradic brush, when applied to the outer side of both legs, caused no feeling. But on the inner side there was slight sensation. There was now a slight knuckle at the level of the second or third lumbar vertebra, together with excessive tenderness and soreness.

THERE WAS CYSTITIS.

She came of a tuberculous family.

All the patient's symptoms at present pointed to an excessive amount of exudation about the lumbar vertebræ, with pressure upon the nerves.

A QUESTION OF DIAGNOSIS.

The President related the following case, which he saw in consultation with Dr. A. M. Campbell, of Mount Vernon, N. Y., and queried as to the diagnosis: Two years ago a young man, twenty-five years of age, of scorbutic habit, had an enlarged inguinal gland on the right side, which suppurated, was opened, and healed in due time. This was followed in the course of a few months by two others, which were treated in the same manner. In the meantime pus was discovered in the urine, amounting to ten or fifteen per cent. by quantity. The specific gravity was 1.025. The urine contained a few waxy casts. The lower limb on that side became contracted. Two months ago a swelling appeared over the trochanter which gave a succussion sound, as if it contained air. There also existed a sinus the origin of which was not evident. Dr. Shrady, with the assistance of Drs. Campbell and Brush, subsequently opened a large, burrowing, fetid abscess of the hip, one portion of which lay in contact with the rectum. Through drainage was established, with relief of all the bad symptoms.

It was a question whether pyo-nephrosis or sacculated abscess of the kidney preceded the difficulty. At the commencement of his illness, two years ago, the patient had passed a urinary calculus.

Dr. Shrady found it difficult to trace a possible connection between the glandular abscesses in the groin, the pus in the urine, and the abscess on the hip. The abscess on the hip might be explained by the burrowing of pus beneath the fascia, but he was unable to understand why it should contain gas. The temperature during the past two months had been 101° F. in the morning and 102° in the evening. The patient had lost considerable flesh. There was no disease of the spine. The liver was normal. There was no unusual dulness in the region of the kidneys. There was contracture at the hip and thigh, which could in part be explained by the patient's forced position during a long illness. The discharge from the sinus did not exceed a teaspoonful during the twenty-four hours.

One surgeon had suggested that the trouble came from the kidney and advised extirpation, but Dr. Shrady opposed it, and said that probably whichever kidney should be removed it would prove to be the wrong one. There was no cystitis.

There was an antecedent condition of some interest. There was a tumor low down in the right hypogastrium, which on percussion gave dulness. It was painful. The surface above was œdematous; the thigh was flexed. These symptoms continued two weeks, at the end of which time the patient had a free evacuation of the bowels, the fecal matter containing a quantity of grape-seeds and pus. There had probably been enterocolitis, due to an irritating substance in the caput coli.

SUDDEN BLINDNESS OF UNCERTAIN ORIGIN.

The President related the history of a case of sudden complete blindness in a lady fifty-four years of age, a sufferer from gall-stones. She was a patient of Dr. Dawes, of Saugerties, N. Y. The blindness occurred suddenly during an attack of vomiting on April 24th. There was no paralysis of any muscles; the pupils were mobile; there seemed to be some confusion of ideas. At the end of three days the perception of light began to reappear in both eyes. The diagnosis was made of intra-cranial effusion or clot located behind the optic chiasm, probably in the quadrigemina tubercula. The patient was able to read with her ordinary glasses at the end of two weeks, and subsequently entirely recovered.

Dr. Loring thought the case was rather a remarkable one, especially as both eyes were affected. The fact that the blindness occurred suddenly during an attack of vomiting would point to hemorrhage either into the sheath of the nerve or about the corpora quadrigemina. If there was hemorrhage into the sheath of the nerve, one would suppose, instead of complete blindness in both eyes, that there would be some limitation of the field. There would also be ophthalmoscopic signs. As to cerebral disturbance, that might have been apparent only. He had seen cases of sudden blindness produce such a marked nervous impression that at first one would have suspected cerebral trouble. He felt quite sure that in Dr. Shrady's case there was not cortical hemorrhage nor a large hemorrhage at the base.

The President remarked that he carefully tested the field of vision, and that a candle was imperceptible in a dark room.

Dr. Dana asked Dr. Loring whether such a condition was ever produced by hysteria.

Dr. Loring replied that it might be hysterical.

A CASE OF VERTIGO DUE TO CHRONIC AURAL CATARRH.

Dr. Samuel Sexton related a case where the aural symptoms were the first to attract attention in a gentle-

man broken down with overwork. The patient was over forty-six years of age, and had been uninterruptedly engaged on a newspaper for over twenty-five years; for a long time as editor of a daily paper, where the literary work was arduous. Being naturally of a strong constitution, the severe mental strain has only told on his health during the past ten years. He has finally become so decidedly neurasthenic during the past three years that he gets through his labors only by a strong effort of the will. Food no longer digests well, and the bowels are sluggish. He was always excitable in disposition, but now is excessively so, the nervous strain fluctuating between great irritability on the one hand and extreme despondency on the other. For the past five years there has been a constant feeling of occipital soreness, and of late, headache, confined to the vertex, has been experienced. Sometimes nervous excitability is so great that an inclination to jump out of the window is felt. The act of coitus is attended with "terrific" excitement and followed by extreme exhaustion. The convivial use of stimulants, to which he was moderately addicted, is no longer tolerated. He thinks that a severe shock occasioned by an accident ten years ago, from which he was unconscious for ten minutes, may have left some permanent effect, though this is by no means certain.

In consequence of this physical deterioration, he has been for the past eight years unable to perform mental labor as before and there has been also a gradually increasing susceptibility to exposure, so that he is seldom free of head-catarrh. On two occasions, once four years ago and again eight months ago, the ears were very much affected by

AN INVASION OF THE CATARRHAL INFLAMMATION,

especially on the left side. He thus became painfully aware of a defective state of the hearing which before had only been suspected. Very distressing subjective phenomena remain in the left ear, the organ feeling numb, the voice and respiratory movements autophonous, while "echoes" and "a noise like a sea-shell" are never absent. Similar symptoms are beginning to be experienced also in the right ear.

Sudden changes in the position of the head, as well as meteorological variations, exert an unfavorable influence in giving rise to these symptoms. Sometimes, by gently inclining the head backward, or by traction on the auricles, auditory tension is temporarily re-established and relief obtained. But on suddenly rising up or stooping down vertigo is experienced, and it often becomes necessary to catch on to something for support.

Hearing, at all times defective, varies with the tension of the transmitting mechanism. Ordinarily he distinguishes a conversational tone in the right ear, at a distance of twenty feet, but with difficulty in the left. It is notable in these cases, where nervous exhaustion is marked, that perception of sound is defective, persons frequently being seen who say they are "slow of hearing."

The general deterioration of the mucous membrane is well shown in the fundus of the ear in these cases—often before attention is attracted to the mucous surface elsewhere. Examination of the drum-heads in this case gave evidence of an advanced stage of aural catarrh. Their brilliancy was gone, as was the normal polish, having given place to the glazed appearance of porcelain. The posterior segment of the right membrane was more opaque than the anterior segment. In the left, however, the changes were more marked, the entire membrane having a somewhat glossy look. The condition of the mucous coat on both sides imparted a humid aspect to the dermic surface and the left drum probably contained fluid which might account for the altered resonance on that side. There was a small area below the umbo on the left side seemingly much thinner than the surrounding tissue, and, moreover, the range of oscillatory movements on this side was much increased.

Dr. Sexton was disposed to think the vertigo was due to the withdrawal of the normal tension of the drum of the ear, whereby

LABYRINTHINE FLUID BECAME SUBJECT TO SUDDEN VARIATION.

This, in a neuropathic subject, like the one under consideration, would seem sufficient to account for the symptoms described.

The patient had obtained no permanent relief from treatment, and the increasing vertigo and nervousness, threatening soon to incapacitate him for business or enjoyment of life, had caused great depression of spirits, not to say alarm.

We can usually make a favorable prognosis in these cases, reassuring them in respect to any fear of serious brain-trouble; and, by means of treatment directed to the aural catarrh, together with proper rest from mental efforts, out-door life, etc., a cure may be confidently expected. Frequent interruptions in work and change of scene are necessarily a part of successful treatment.

Dr. C. L. Dana thought that probably in many of these cases there was hyperæsthesia of the nerves which supplied the semicircular canals, and that the change in the position of the head, which ordinarily did not stimulate these nerves unduly, did so in this state. That, it seemed to him, would be a more plausible explanation than to suppose excessive impact upon the oval foramen, because if, in this condition, excessive impact would cause vertigo, loud explosions ought to do so in the normal condition of the ear.

Dr. Sexton said he did not know exactly what Dr. Dana meant by hyperæsthesia of the nerves. Did he mean of the nerves which took cognizance of sound?

Dr. Dana replied that nerves going to the semicircular canals did not take cognizance of sound alone, but that they also had much to do with equilibrium, or adjusting the body in space.

Dr. Sexton had received the impression from reading the literature of the subject that the ground taken by some that the nerves in the semicircular canals had anything to do with preserving the equilibrium of the body had not been sustained. In respect to the effect of aerial impact from explosions and loud sounds, of course they may give rise to shock in the normal state of the ear, but the transmitting mechanism prevents inward excursions of the drum-head causing this ordinarily.

The Progress of Medical Education.—We desire to return our most cordial thanks to the secretaries of the various medical colleges of this country who have up to this date so kindly furnished us with copies of their several announcements for 1887–88. The announcements for the coming session are quite up to those of past sessions. In some instances, indeed, we observe marked improvement in the typography and the quality of paper employed, and we note with pleasure this evidence of the advancement of the cause of medical education. Let the good work go on.—*Medical Age.*

The Late Dr. Gross on Valentine Mott.—Dr. Gross in his memoirs says: "As a public teacher Mott long occupied a prominent position. His lectures were essentially devoted to operative surgery, and exhibited the results of his rich personal experience, but they were always far in arrear of the existing state of the science. Another feature of them was their egotistical character. He could not help talking about the ligation of the innominate artery, the excision of the clavicle—styled by him his "Waterloo operation"—and other feats, the record of which, however amusing it might have been for a time to young students, could not fail sooner or later to become tiresome, if not offensive. This was Mott's weakness. If he possessed a certain degree of strength as a teacher of operative surgery, he was at fault as a teacher of surgical pathology—a fault shared until recently by most of the professors of this branch of science in our medical schools.

Correspondence.

OUR PARIS LETTER.

(From our Special Correspondent.)

VICHY AND ITS MINERAL WATERS.

PARIS, September 16, 1887.

WHEN a physician settles down at a watering-place, he generally publishes a book on the composition of its mineral waters and the diseases for which they are indicated, notwithstanding the numerous works that may be in existence on the same subject. Each new-comer feels the necessity for producing a work of his own, and this has induced Dr. C. E. Cormack to publish a work of this kind. In the present case the reason given by the author for so doing is, that while a great number of French works have been written upon these waters, there are comparatively few English ones on the same subject; he therefore hopes to render a special service to his countrymen by placing before them, in a work in their own tongue, the great advantages to be derived from these waters. He, moreover, states that, while the number of visitors to Vichy, representing every nationality, has of late years been steadily increasing, the number of English tends to decrease, and is considerably less than it was ten years ago; but why it should be so the author is unable to say. The work is divided into two parts, the first giving a description of the various springs (thirty-one in number) and the diseases in which they are generally found beneficial. The second part gives all the necessary information respecting the means of reaching Vichy, with a description of the town itself, the thermal establishment, and the different places of interest in its environs or within easy reach of it. The author professes to have composed this work, "not so much for the medical profession as for the public," and he adds, "we have endeavored to explain in popular language where the thermal treatment is indicated, and how the waters operate." The desirability, however, of writing on medical subjects for the general public may be questionable, for, however clear and explicit the style may be, they would be calculated to confound rather than benefit the patients who would read them.

The author states that the mineral springs of Vichy are all closely allied in composition; they are alkaline, and contain on an average five grammes of bicarbonate of soda per litre, the difference in the springs consisting in their varying slightly in composition, but more particularly in temperature. He gives the analysis and temperature of each spring, and also the individual indications, and tells us in a general way why the preference should be given to one spring rather than to another in certain diseases, or during certain complications of these diseases; and to the question as to how, if the waters of the various springs are almost analogous in their composition, they should be suited for such a variety of diseases, the author cites M. Lucas, who in writing on the subject says: "The Vichy waters present a far more important difference in their therapeutic uses than one could have supposed from their chemical analysis, and although it is difficult to show *à priori* the reason of these differences, numerous observations, repeated during twenty-three years, leave me without a doubt on this point." The author warns patients against the use of artificial Vichy water, which, he says, "can in no wise replace the genuine water, the only salt it contains being the bicarbonate of soda; and while it may do good to a certain extent, it cannot act as the genuine water does, with its numerous mineral ingredients so intimately connected and in such a perfect state of dissolution. The natural mineral water has all the soda it contains absolutely in the bicarbonated state, whereas this salt in the artificial water is not completely saturated, and is also found as a neutral carbonate and a sesquicarbonate. In a word, the artificially prepared water acts simply as an alkaline solution, and has no connection with the natural water." There is a popular notion, not only among the general public, but also in the profession, that the treatment at watering-places should not exceed twenty-one days. The question why twenty-one days should be fixed upon, and not more or less, has often been asked, and whence the origin of the idea. This the author explains in his book and states that this period is not absolute, as each individual case should speak for itself, and adds that on an average twenty-one days may be sufficient, but that another twenty-one days may be necessary later on in the season.

But, as Dr. Cormack suggests, even then it by no means follows that the treatment is over. As the treatment has to be cautiously commenced, so must it be cautiously dropped. It is usual to have the waters ordered yet for some little time for home consumption, to insure the therapeutic effect of the waters. The cold springs are always those which are recommended. Lists are given in the book of the cold and hot springs. There are two maps with the book, one of the town and the other of the environs of Vichy. The author states that he avoided encumbering the map with too many names, thus taking away from its clearness; and for the same reason omitted the mountain-ranges. The book is also furnished with a good index, and will be found of value, as it gives much useful information respecting Vichy and its waters.

AN INGENIOUS METHOD OF REMOVING NASAL POLYPI.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: All surgeons who have had experience in removing polypi from the posterior parts of the nasal cavities, and from the upper pharynx, must have met with cases in which it was a difficult matter to get the loop of the wire snare in position, especially when the growths were large. An expedient which I employed recently in such a case may prove of value to others. The patient had not breathed through either nostril for eleven months, and when seen by me for the first time the polypus was found, by the aid of the rhinoscopic mirror, to be growing apparently from the right nasal cavity, projecting into the upper pharynx, partly filling it, and lapping over the septum so as to obscure the view into the left cavity. It could not be seen from the anterior nares on either side, even after the use of cocaine. Its site could not be determined with accuracy, but was found afterward to be on the external wall of the right cavity. This was somewhat contracted anteriorly, and the amount of space available in which to work was limited. A four per cent. solution of cocaine was applied, and the platinum-wire loop of a snare-apparatus, connected with a galvano-cautery battery, was insinuated through the nostril, past the growth, and into the pharynx. But the wire was so small and pliable, and the polypus so large, that after trial it seemed impossible to get the loop caught around it. I failed with instruments guided by the mirror, and also with the finger hooked up behind the palate. The difficulty would have been much the same with the steel wire of the cold snare. I then took a rubber tube, two feet long and $\frac{1}{12}$ inch in diameter, outside measurement, and threaded through it a piece of platinum wire of still greater length, leaving some of it protruding from each end. This was doubled, and the loop was pushed through the nasal cavity into the pharynx by means of a small straight throat-brush, the hairs of the brush being parted so as to act as a fork. The rubber tube being much easier to manipulate than the wire alone, owing to its elasticity and greater size, it was not difficult to get the tumor engaged in the loop by the use of the finger. The loop was drawn snugly around the pedicle, one end of the wire was held fast, and the tube was gradually pulled out of the nostril, slipping over the wire and off

the other end, leaving the wire in place. The double copper tubes were then taken from the handle, the short wire previously used having been removed, and the ends of the long wire were passed through them, and the tubes slipped down the wire into the nasal cavity as far as they would go. The handle was attached to the copper tubes, the wire tightened, the circuit closed, and the pedicle cut through in the ordinary way. The polypus was about the size of a large walnut. The presence of an assistant was of value in the manipulation.

KEMP P. BATTLE, JR., M.D.

RALEIGH, N. C.

THE FACILITIES FOR A GOOD MEDICAL EDUCATION IN COLORADO.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Your editorial notice of the "Gross Medical College," of Denver, Col., of July 23d, is hardly correct. You say that Denver is a city of eighty thousand inhabitants, and that the whole State has but two hundred thousand and only two medical colleges. "It plainly needs a third." For fear that your remarks might spur up some energetic doctors to actually start another, permit me to say that the "Gross Medical College" is that third. About seven years ago the Methodist "University of Denver" started a medical branch, which is now in operation. Four years ago the regents of our State University started a medical branch at Boulder, a town of three thousand inhabitants, thirty miles from Denver. This is in operation, and we may say successful operation, for it has never refused a diploma to any person putting in two terms. Its enemies—and what good projects do not have enemies?—point to the report of the joint committee of the last State Legislature, which condemned it and recommended its discontinuance, as being a school whose diplomas would not be recognized; but that report, we are happy to say, had no weight with the regents, over whom the legislature have no control. And that the school has not had a dozen medical clinics since its conception, and has no charts, casts, manikin, skeleton, wet or dry specimens, or, in fact, any other apparatus to teach with, should, we think, not be used against the school, but rather as an evidence of the earnestness of purpose of the regents.

The malicious hints of its detractors, that the school is run to furnish salaries for the brothers, aunts, and cousins of the Board, we are pleased to report is without foundation. It really is a *bona fide* institution, which every tax-payer can prove by the items in his tax-receipts, and that is more than either the Gross Medical or the Denver Medical College can say.

FAIR PLAY.

NOTES ON THE TREATMENT OF TYPHOID FEVER.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Learning from the medical journals that the mortality from typhoid fever in Eastern and foreign hospitals still ranges from six to fifteen per cent., I thought it might not be uninteresting to give a *résumé* of my last ninety cases, treated without a death. This report has been delayed, hoping that the number might be increased to one hundred, but the introduction of artesian water for all purposes, and the improved sanitary condition of the city, have practically stamped out the disease, apparently at least, for the present. My list would already be one hundred, should I exclude two cases of death for which I was hardly responsible. One of these had been ill for ten days before I saw her, and died from perforation of the bowel within twenty-four hours; the other had been ill a few days and had a profuse hemorrhage from the bowels the night before I was called, and died without rallying, from collapse.

The mortality of typhoid fever in Northern Illinois twenty years ago was about twenty-five per cent. under the treatment of quinine, turpentine, and laudanum emulsion, etc., and still remains large when treated by the old methods, but has been reduced to four or five per cent., and even less, by recent methods, and, in fact, cases give us comparatively little trouble or anxiety. I have treated several cases in the country that I was unable to visit more than twice, and some I have not seen at all, where I had recently attended some other member of the family, and they were intelligent enough to report from day to day the temperature, pulse, and general condition of the patient. These cases might be arranged in three series, so far as treatment is concerned, of about thirty each—the first being treated by cold baths or packs with but little medicine; the second by salicylate of soda; the third by antipyrine and antifebrine. As the results, so far as recovery is concerned, have been uniform in each series, and other characteristics and symptoms have been so nearly parallel, I will not take your valuable space in detailing the observations on each series, but deal with them in the aggregate.

Of these 90 cases, 67 were males, 23 females; the oldest male was aged sixty-three, and youngest male aged four; the longest duration of disease (four patients), forty-two days; the shortest duration of disease, fifteen days; number of relapses, six; average duration of relapse, sixteen days; average duration of all cases, twenty-five days. Twenty-four cases began with chills, vomiting, etc., and were prescribed for as remittent cases at first; 69 cases had epistaxis; 5 had slight hemorrhage from bowels before the thirteenth day; 53 cases had diarrhœa (7 troublesome); 5 were ambulant typhoid, never taking to bed (yet with temperature of 103° to 105° F., and duration of three weeks); 67 had sore spots. Those without sore spots were under ten or over forty; 7 were complicated with pneumonia (latent); 17 were complicated with bronchitis; 21 were complicated with albuminuria (a larger per cent. treated with salicylate of soda being affected than with other treatment); 23 required laxatives; 14 had no disturbance of bowels; 37 required hypnotics; 71 had hydrobromic acid for headache; 69 were more or less delirious; 51 patients ate whatever they pleased—three of them relapsed, and seventeen had diarrhœa; 39 had restricted diet, and three relapsed.

Nearly all cases had in the beginning mercurial enough for alterative effect, and quinine to overcome any malarial element. All cases had tr. iodine, gtt. iij.; acid. carbolic., gtt. j.; sol. Fowleri, gtt. iij.; every six hours, unless not tolerated by the stomach; children had diminished doses.

I think (without any special notes) that cases treated with quinine, digitalis, and cold baths got through the disease less debilitated than those treated with salicylate of soda. I have found but little difficulty in keeping the temperature below 103° with antipyrine, salicylate of soda, or quinine, or all three in succession, if required. I now seldom resort to cold baths, but employ frequent spongings.

My patients have nearly all been among the well-to-do class, where everything in the shape of nursing, care, diet, ventilation, etc., desired was obtained.

W. H. FITCH, A.M., M.D.

ROCKFORD, ILL., August 28, 1887.

OUR LONDON LETTER.

(From our Special Correspondent.)

SODIUM FLUOSILICATE AS AN ANTISEPTIC AGENT—PROFESSIONAL ADVERTISING—SIR MORELL MACKENZIE AND HIS FEE—THE HOSPITAL SATURDAY FUND—THE THERAPEUTICAL SOCIETY.

LONDON, September 9, 1887.

NEW antiseptics are now so constantly brought forward that the announcement of yet another fresh one does not excite much comment. Yet if the last acquisition to the list but prove as valuable as its discoverer expects, it will bid fair to take a front seat among these substances.

The body in question is sodium fluosilicate, and it has been introduced to public notice by Mr. W. Thomson, who read a paper on it two days ago in the Chemical Section at the annual meeting of the British Association for the Advancement of Science. Sodium fluosilicate is stated to be not poisonous, to possess no smell, to be sparingly soluble in water, not volatile, and not to be destroyed by oxidation. As it has only a very slight saline taste, it has been suggested that it may be usefully employed for the preservation of food. It has already been tried for surgical purposes, and it has been found that a saturated solution (containing 0.61 per cent.) does not irritate wounds, while possessing greater antiseptic power than a solution of corrosive sublimate containing one part in a thousand. Fluorspar is the source whence the new antiseptic is to be prepared, and the supply of this is ample. As a secondary purpose it has been suggested that the new salt may be of value in sewage irrigation. Its discoverer has shown that it does not destroy grass so rapidly as common salt; so no injurious effects on vegetation are to be feared if it is employed for the purpose suggested.

It is rumored that Dr. Mackenzie received a fee equal to ten thousand dollars for his two trips to Germany to operate on the future emperor. He will probably receive an additional honorarium on concluding his attendance. But this is as nothing to the fees his royal patient will bring him indirectly.

It is announced in the *Court Circular* that Dr. Mackenzie arrived at Balmoral Castle the day before yesterday, and received the honor of knighthood "in recognition of his valuable services to the queen's son-in-law, the Crown Prince of Germany." Sir Morell Mackenzie cannot feel otherwise than satisfied with the phenomenal success he has achieved.

It is estimated that the Hospital Saturday Fund for the present year will amount to about twenty-eight thousand dollars. The Hospital Saturday Fund differs essentially from the Hospital Sunday Fund. The latter is chiefly the result of collections made in various places of worship on a given day (Hospital Sunday). It represents not so much the active sympathies of the various congregations with hospital work as the amount of money which can be raised by judiciously made collections. Probably as much could be raised for any other cause by the same agencies. The Saturday Fund was originally a workmen's fund, and consisted of collections made in various workshops and places of business. Of late years collections in the streets have also been made, and have helped materially to augment the receipts.

A new society has been started, yclept "The Therapeutical." It is as yet hardly well on its legs, but promises well. Some doubts were at first expressed that it might prove to be a quasi-homœopathic gathering, but I believe these have been dispelled satisfactorily. Dr. Sydney Ringer, F.R.S., is announced as the first president.

The Following Formulæ for the Relief of Asthma are given by correspondents of the *British Medical Journal:* 1. Take of daturæ tatulæ, stramonii, cannabis indicæ, lobeliæ inflatæ, āā ʒ ij.; mix with potassii nit. pulv., ʒ ij., and ol. eucalypti, ʒ ss.; burn a teaspoonful in bedroom, and repeat if necessary. (Put on white paper in a saucer it burns well.) Of course, the patient must observe rules of diet, going to bed on an empty stomach, lying with the chest raised, keeping the feet warm, and such like, without which few remedies will be of any avail. 2. Foliæ stramonii, ʒ iv.; foliæ lobeliæ, foliæ belladonnæ, āā ʒ j., to be thoroughly ground in a mill; potassi nitratis, ʒ ij.; tinct. opii, ʒ ij. Dissolve the saltpetre in the smallest possible quantity of hot water, and add the tincture of opium. Thoroughly saturate the mixed and ground leaves with this solution, and dry at a gentle heat. When dry mix well with thoroughly pulverized camphor, and preserve in a stoppered bottle.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from September 18 to September 24, 1887.

Cabell, Julian M., First Lieutenant and Assistant Surgeon. Relieved from duty in connection with the Annual Department Rifle Competition at Bellevue Rifle Range, Neb. Ordered for duty as Medical Officer at the "Rifle Camp for Team of Distinguished Marksmen," Bellevue Rifle Range. S. O. 89, Department of the Platte, September 10, 1887.

Official List of Changes in the Medical Corps of the United States Navy for the week ending September 24, 1887.

Harvey, H. P., Surgeon. Ordered to U. S. S. Mohican.

Cooke, G. A., Surgeon. Detached from the Mohican and ordered home.

Cleborne, C. J., Medical Inspector. Promoted to Medical Director, September 18, 1887.

Walton, T. C., Surgeon. Promoted to Medical Inspector, September 18, 1887.

Boyd, J. C., Passed Assistant Surgeon. Promoted to Surgeon, September 18, 1887.

Tryon, J. R., Surgeon. Ordered to Marine Rendezvous, New York, October 1, 1887.

Field, J. G., Assistant Surgeon. Detached from Marine Rendezvous, New York, and ordered to the Vermont.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending September 24, 1887:

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	49	15
Scarlet fever	25	4
Cerebro-spinal meningitis	5	1
Measles	9	2
Diphtheria	88	31
Small-pox	5	0
Yellow fever	0	0
Cholera	0	0

Dioxide of Hydrogen.—Dr. J. Mount Bleyer, of New York, writes: "In a recent issue of The Medical Record, among the 'Medical Items,' I find reference made by Thomas Latham concerning the dioxide of hydrogen. He found the difficulty of obtaining and keeping a solution of a constant strength for any length of time. I must call his attention to the fact that I have kept some of Charles Marchand's C. P. Dioxide of Hydrogen in my office uncorked, and simply covered with a bladder-skin, pin-holed, for over six months without any appreciable change. The temperature was constantly kept below 65° F."

Dr. Martin on Tubal Disease.—In the course of the past five years Dr. Martin, of Berlin, has collected material for the study of disease of the Fallopian tubes from 287 cases, and a valuable paper recording his researches has been published in the *Zeitschrift für Geburtshülfe*, vol. xiii., part 2. Only 9 of these cases were under twenty years of age; the majority were in the most active period of sexual life; 220 were married;

113 had never borne children; as many as 61 had aborted once or oftener. Almost without exception there were other diseases of the pelvic organs, especially endometritis or pelvic peritonitis. In 147 cases the sources of the disease were chronic or acute affections of the endometrium; in 70, puerperal complications; in 55, gonorrhœa; in 3, recent syphilitic infection; and in 10, tubercle. In no case could Dr. Martin find evidence that the disease spread from the pelvic peritoneum up the tubes, while in 11 he could distinctly trace the extension of the inflammation on to the peritoneum, from rupture in 2 out of 11, from escape of discharges out of the ostium in the remaining 9. The left tube was the most frequently affected, but bilateral disease was very common. Dr. Martin divided tubal inflammation into "salpingitis catarrhalis," or endosalpingitis, where there is small-celled infiltration into the mucous membrane; "salpingitis interstitialis," where the infiltration involves the muscular coat; and "salpingitis follicularis," where to the interstitial infiltration is added the formation of pouches on the surface of the mucous membrane, which gradually riddle the muscular coat. The epithelium is shed, but the pouches or follicles may retain their epithelial investment. Dr. Martin's clinical observations are in accordance with the recent experience of British authorities. He only found radical operations necessary in less than a fifth of his cases, in nearly half of which both tubes required removal.—*British Medical Journal.*

Toxic Properties of the Urine of Different Animals.—At a recent meeting of the Paris Biological Society, MM. Charrin and G. H. Roger made the following communication concerning the toxic properties of the urine of different animals, and the influence of fasting and of a milk-diet thereon: "The urine of rabbits is nine times as poisonous as that of human beings. In twenty-four hours a rabbit eliminates for each kilogramme of its weight enough poison to kill 4.184 kilogrammes. The salts of potassium, which are contained in rabbits' urine in the proportion of 75 to 80 per cent., account for these highly toxic properties. A guinea-pig secretes about 163 cubic centimetres of urine per kilogramme; this urine has a density of about 1,013, and contains 2.16 grains of urea. It causes death when injected into the veins in doses of 28 to 29 cubic centimetres per kilogramme. Of the toxic properties of guinea-pigs' urine, 71 to 80 per cent. is due to the salts of potassium which it contains. Dogs' urine is less poisonous; a dog secretes about 72 cubic centimetres of urine per kilogramme. This urine has a density of 1,030 to 1,031, and contains 4.36 grains of urea. A dog eliminates in twenty-four hours, for each kilogramme of its weight, enough poison to kill 3.317 kilogrammes. Of this poison, 71 per cent. is due to the presence of salts of potassium. In fasting, the toxic properties of urine are considerably diminished, and are about equal in guinea-pigs and rabbits. In twenty-four hours enough poison, per kilogramme, is eliminated to kill 1.7 kilogramme on the first day of inanition; on the second day enough poison is eliminated to kill 1.6 kilogramme, and on the third day about enough to kill 1.5 kilogramme. If the animals be submitted to a milk-diet, the toxic properties of the urine attain a fixed degree, which hardly varies, and is reduced to one-third or one-half of the normal degree. Alimentation has a considerable influence on the difference of the degree of toxicity of human urine. The utility of a milk-diet in affections accompanied by intoxication is universally recognized. M. Bouchard has shown alimentary substances to be the principal cause of intoxication of the organism. In disorders in which the excretory functions are impaired, as in pyrexia, and in slow intoxication, like uræmia, the introduction of toxic substances should be avoided; a milk-diet is, therefore, indicated in such cases." The experiments of MM. Charrin and Roger, in showing the influence of a milk-diet on the toxic properties of urine, have given further proof of its value.—Paris Cor. *British Medical Journal.*

Ziemssen's Two Chief Therapeutic Measures in Typhoid Fever.—The only drug to which we can ascribe a kind of specific action is calomel, perhaps on account of its entire or partial changé, by the chlorine of the sodium chloride in the intestinal juices, into corrosive sublimate. I give calomel in three doses of gram 0.5 in two hours, and then obtain a number of thin grass- or moss-green (calomel) stools and a considerable reduction of temperature, which often goes down to normal and lasts about twelve hours. These are the primary effects of calomel. The secondary effects of the drug consist in a modification of the intensity of the infectious condition, as Liebermeister has shown. Those cases which are early subjected to treatment by calomel generally run a somewhat milder course than those in which it is not used, or only used later; milder both in regard to the fever as well as in the local affection of the intestine. Next to calomel, baths deserve the greatest consideration. On his admission to the hospital, if his condition is not too bad, the patient receives a warm bath to cleanse the skin and remove possible parasites. Then the course of the temperature for twelve or twenty-four hours is determined by hourly measurements, best

others actual cautery and prolonged rest in bed, but all in vain. Of this case, Débove says: "I passed the jet of chloride of methyl over the entire painful surface, from the hip to the external malleolus. A minute later this patient, who until then could not put his foot to the ground, walked around the ward without limping," etc. Since then many trials have been made, and although occasional failures have been reported, the almost uniform success observed is astonishing. Thus, R. D. Santelli,[1] in 1884, collected thirty cases of sciatica treated by this means, all of which were relieved, and, with the exception of one, remained free from pain. Many of these cases were seen after two months, but no relapse had occurred.

Of these, Case I. was a sciatica of fifteen months' standing, accompanied by slight atrophy of the leg. A cure was accomplished in three days. The second case was one of fourteen years' duration, and was cured after two applications. Other severe cases were cured in from one to thirty-three applications.

Soon after Santelli's publication, Dr. Olive, of Nantes, collected four cases of sciatica thus treated, three of which were cured after a single application. At the meeting of the Société Médicale des Hôpitaux, held January 9, 1885, various gentlemen reported their experience as follows:

Rendu: A case of double symptomatic sciatica, ameliorated.

Bucquoy: Three cases of sciatica and one of trigeminal neuralgia treated. Of these one case of sciatica cured, and the other three cases ameliorated.

Sevestre: Old case of sciatica, of six months' duration; cured after several applications.

Legroux: Case of severe old sciatica, cured.

On February 27, 1885, Tenesson[2] read a paper before the same Society upon the use of the methyl for the relief of various forms of pain. He produced 37 observations, embracing 10 cases of sciatica and 27 other sources of pain (not all neuralgic). Of the sciaticas, 7 were cured at once. In the other cases the pain was

Mr. Tait says that the time spent in learning German was wasted. He says (*N. E. Med. Journal*): "A very eminent German surgeon once cross-examined me as to my own notions concerning my exceptional success in abdominal operations. I evaded the real answer as long as I could, but at last, driven into a corner, I replied that I paid a great deal of attention to the cleansing of my finger-nails. He looked at his own and turned away. I do not know if he was a wiser man, he certainly was an angrier one. I have had no more German visitors, and I am being continually attacked in German medical papers." —*American Lancet.*

Electricity in the Infliction of the Death Penalty.—Dr. J. Mount Bleyer, of this city, writes: "In my perusal of your editorial columns of July 23d there appeared a critical review on 'The Infliction of the Death Penalty,' by Park Benjamin. I claim priority to this investigation, and therefore refer you and your readers to the daily papers of May 3, 1887, and since that date to 'The Humboldt Scientific Library' on that subject, where the publication of my investigation will be found. Under the title of 'Capital Punishment by Electricity, Hypodermic Injection of Morphia, and the Consideration of Other Methods as a Substitute for the Hanging in the Execution of Criminals,' I delivered a demonstrated lecture on the lower animals, before a political body, of which some of them were commissioned by the State, on capital punishment, and soon thereafter a bill was passed before the Pennsylvania Legislature, whereby criminals condemned to death will be executed by electricity."

"Christian Science" and "Mind-Cure."—In speaking of the Rev. Dr. Buckley's recent article on this subject, the *Boston Medical and Surgical Journal* says: "It is rumored that Dr. Mackenzie received a fee equal to ten thousand dollars for his two trips to Germany to operate on the future emperor. He will probably receive an additional honorarium on concluding his attendance. But this is as nothing to the fees his royal patient will bring him indirectly.

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The Price of Civilization.—In Dr. Fothergill's recent address on "The Modern Tendency of Disease" (*The Medical Press*, August 17, 1887), the following interesting remarks occur: "While so much brain-work is being demanded something must suffer. We know that in the very early embryo there are three layers. The outer layer, or epiblast, gives the nervous system and the sensitive skin; in other words, the means by which the organism is in communication with its surroundings. The inner layer, the hypoblast, supplies the glandular apparatus of organic life. The middle layer, or mesoblast, furnishes the locomotor apparatus—bones and muscles—and also the vascular system. The mesoblast supplies the nutritive material to the tissue-derivatives of the other layers. In the primitive child the supply to the outer and inner layer is equal. The demands of education upon the nervous system, and specially the brain, as 'the organ of the mind,' disturbs this natural balance. The nervous system requires more than its normal share and the other structures of the body suffer accordingly, and in consequence. The viscera are smaller; the locomotor apparatus is dwarfed. There is disproportion. The brain-culture is impairing the physique. Town populations are bodily smaller than rural populations. The physique is deteriorated. The dentist can bear testimony to the inferiority of modern teeth. The oculist can tell of the increasing demand for spectacles among the young of our day. The human body is paying a price for the advantages of civilization. 'The modern struggle for existence is,' as Sir J. Crichton Browne, M.D., happily puts it, 'no longer fought with thews and sinews, but by the brain.' The brightest brain is the great matter of life to-day. If all this is true in the case of men, how stands it with women in the life of to-day? Instead of growing up a healthy domesticated creature, learned in all matters of the household, taught to ride and hawk and hunt, to be, indeed, the companion of the countryman of rustic ways and little culture, she now is sent to school at tender age; for she is destined to be educated and accomplished! School-life goes on alongside growth, with the same results in the girl as in the boy. But when puberty comes, a new demand is established upon the nutritive powers of the organism. The reproductive organs are derived from the Wolffian body of the mesoblast. In childhood they remain infantile; at puberty the female reproductive organs not only undergo development, but the monthly demand of the menses is superadded to the taxation of the nutritive powers. One of two things must give way. The catamenia are spoken of as 'a surplus wave of nutrition;' and how can a hardly taxed organism afford any surplus wave of nutrition? In the town girl we find frequently that puberty is imperfect. The external generative organs may undergo the adult transformation, but the uterus and its appendages remain infantile. It is no matter of fashion or caprice that so many girls at the present day prefer to earn their own living. They are practically sexless. They have no physiological aspirations to gratify, no ambition to become wife and mother. They contrast with the large-limbed women for whom motherhood is the true station in life. Betwixt the well-grown mother of heroes of the past, and the small, sexless spinster of to-day, there are a myriad blends, combinations, or varieties. The slight, neurotic town girl, bright and attractive, becomes a wife. With what consequences? Perhaps the gynecologist could enlighten us. In rural districts, and especially with women who are much out of doors, working in the fields, female troubles are all but unknown—the reproductive organs are fully developed. They may even be subjected to considerable rough usage with impunity and without injury. Not so the town product. With her, physical exercise has been limited in order to enable her education to proceed. The pelvic muscles are imperfectly developed, and the uterus lacks the usual support. When the reproductive organs are called into play on marriage they reveal their imperfection. The woman with an infantile uterus and ovaries remains sterile and unimpregnated; because she is not capable of impregnation. The highly susceptible nervous system may be an incitement to sexual indulgence in those so inclined, but the undeveloped organs give way under the calls of spousal duty. These are the organisms which are to the gynecologist the very breath of his nostrils. It is their exigencies, indeed, which have called him into being. Thus we see that women as well as men pay a price for civilization."

The Medical Record

A Weekly Journal of Medicine and Surgery

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Original Articles.

THE TREATMENT OF NEURALGIAS BY MEANS OF INTENSE COLD.[1]

BY GEORGE W. JACOBY, M.D.,

PHYSICIAN TO THE CLASS FOR NERVOUS DISEASES OF THE GERMAN DISPENSARY OF THE CITY OF NEW YORK.

THE subject of this paper is not by any means new; cold has been used in the treatment of neuralgias since time immemorial, and many of the good results attained are to be ascribed to this means. We have all made use of ice-applications; some of us have used the various ethers, applied in a spray form by means of a Richardson atomizer; and the menthol cone, whose action is due to the cold produced by evaporation, is also familiar. However, since 1884 our methods of applying cold therapeutically have been, so to say, revolutionized, and this has been accomplished by the introduction of chloride of methyl into our therapeutic armamentarium. Since Débove recommended this agent for the treatment of sciaticas, reports of so many successes with its use have been received from other quarters that we simply cannot avoid paying some attention to the matter. Since Débove's first publication I have, at different times, given considerable attention to the therapeutic action of the various refrigerants, and have finally come to the conclusion that we possess only two which can be easily and practically utilized. These are the chloride of methyl and the fluid carbonic acid, and it is to the employment of these agents that I shall limit my remarks to-day.

Chloride of methyl was discovered in 1834, by Dumas and Peligot, and was produced by them by heating a mixture of sea-salt, methylic alcohol, and sulphuric acid. This process, however, was complicated and expensive, and only of late years has it been obtainable in a pure state and sufficiently cheap to be utilized. This is due to a new process invented by C. Vincent. All the chloride of methyl now used in France is manufactured near Paris, under his special patents, and is used in commerce principally for the extraction of perfumes. His process consists in submitting to the action of heat the chlorate of tri-methylamine, which is obtained from the remnants of beets used in the manufacture of sugar.

The chloride of methyl itself is, at ordinary temperature, a colorless gas of etherous odor and sweetish taste, boiling at 23° Cent. Below that temperature it can be kept in a liquid state only by enclosing it in very strong recipients, in which its tension becomes higher in direct proportion to the external temperature. If now it is allowed to escape into the air it at once returns to the gaseous state, and this return is accomplished only by means of a reduction of temperature to —23° Cent., and even under some circumstances as low as —40° Cent. This is the principle of artificial refrigeration as it has been employed for years by Malassez and Ranvier for congealing histological specimens. As stated, the first therapeutic application of this substance was made by Débove,[2] and the train of thought which led to its employment was as follows: He argued that some of our best successes obtained in the treatment of sciaticas were due to counter-irritation; but that all the counter-irritants thus far employed acted only upon a limited number of nerve-filaments, and that, therefore, congelation of the skin, accomplished in such a manner as to allow of its return to its normal condition, would be the means of producing very extended counter-irritation. After repeated trials, he concluded that this object would be accomplished by the use of the methyl.

The first patient thus treated was one affected with sciatica. Various remedies had been applied, among others actual cautery and prolonged rest in bed, but all in vain. Of this case, Débove says: "I passed the jet of chloride of methyl over the entire painful surface, from the hip to the external malleolus. A minute later this patient, who until then could not put his foot to the ground, walked around the ward without limping," etc. Since then many trials have been made, and although occasional failures have been reported, the almost uniform success observed is astonishing. Thus, R. D. Santelli,[1] in 1884, collected thirty cases of sciatica treated by this means, all of which were relieved, and, with the exception of one, remained free from pain. Many of these cases were seen after two months, but no relapse had occurred.

Of these, Case I. was a sciatica of fifteen months' standing, accompanied by slight atrophy of the leg. A cure was accomplished in three days. The second case was one of fourteen years' duration, and was cured after two applications. Other severe cases were cured in from one to thirty-three applications.

Soon after Santelli's publication, Dr. Olive, of Nantes, collected four cases of sciatica thus treated, three of which were cured after a single application. At the meeting of the Société Médicale des Hôpitaux, held January 9, 1885, various gentlemen reported their experience as follows:

Rendu: A case of double symptomatic sciatica, ameliorated.

Bucquoy: Three cases of sciatica and one of trigeminal neuralgia treated. Of these one case of sciatica cured, and the other three cases ameliorated.

Sevestre: Old case of sciatica, of six months' duration; cured after several applications.

Legroux: Case of severe old sciatica, cured.

On February 27, 1885, Tenesson[2] read a paper before the same Society upon the use of the methyl for the relief of various forms of pain. He produced 37 observations, embracing 10 cases of sciatica and 27 other sources of pain (not all neuralgic). Of the sciaticas, 7 were cured at once. In the other cases the pain was relieved.

F. Rouillon,[3] in his thesis, adduces 25 cases of sciatica thus treated; 4 cases of hyperæsthesia, 3 of which are cited from the *Progrès Médical*, May 9, 1885, one of these of very great severity and long duration, all cured after one application; also 6 cases of intercostal neuralgia cured or relieved after one or more applications; furthermore, 5 cases of trigeminal neuralgia, 4 of which were cured and 1 relieved.

The duration of these last cases had been from three

[1] Read before the American Neurological Association, Long Branch, N. J., July 22, 1887.

[2] Débove: Paper read at the Société Médicale des Hôpitaux, meeting of August 4, 1884. Published in the Gazette Hebdomadaire de Médecine et de Chirurgie, August 15, 1884. No. 33.

[1] Santelli, R. D.: Traitement de la Sciatique par les Pulvérisations de Chlorure de Methyle. Paris, 1884.

[2] Tenesson and Begue: Gazette Hebdomadaire de Paris, 1885, No. 10, p. 155.

[3] Rouillon, F.: De la Réfrigeration par le Chlorure de Methyle. Paris, 1885.

months to fifteen years, and in two both nerve-stretching and resection had been performed without success.

Finally, A. Peyronnet de Lafonvielle[1] adduces 8 cases of trigeminal neuralgia which had existed for a long period of time, and which were all relieved after several applications.

It has always appeared to me that statistics of this kind should be received with a certain reserve, and that they are to be considered as only of relative value. My reasons for this view are that cases of failure are in many instances left to go unrecorded; that for the effect produced upon the pain we must take the patient's own statement, and it is well known that patients often exaggerate the pain in the first place, and the influence of any new mode of procedure in the second.

Finally, cases are often reported as cured which, if observed for a sufficient length of time, would prove not to be at all benefited. Nevertheless, when we are confronted by such an array of facts as are presented here, we cannot well avoid attaching some importance to them.

In the first successful experiments the substance was contained in a thick glass siphon, similar to those used for carbonated waters, and was provided at the top with an attachment-piece which enabled the production of a fine jet. Previously a Richardson atomizer had been employed, but with entire failure. Even the use of the glass siphons proved unsatisfactory, for several explosions occurred, and consequently their abandonment became imperative. Finally, an apparatus of metal was constructed, which, being sufficiently strong to withstand the great pressure, at the same time was easily transportable and of comparatively easy manipulation. This is the apparatus which I now have the honor of showing you. As you see, it consists of a copper cylinder, the capacity of which is about one litre. The upper part is furnished with a strong screw, which, when fastened down, admits of no escape. When unscrewed the fluid escapes through a lateral opening, to which is attached a metallic regulating apparatus furnished with a micrometer screw, and which admits of delicate regulation of the spray. The method of application is as follows: The screw at the top is opened after having ascertained that the screw of the regulating apparatus is closed. The opening of the atomizer is then directed obliquely against the part to be treated, and then set into action by loosening the micrometer screw. The jet is then moved over the entire course of the nerve, also being applied to the surrounding parts. During the entire application the cylinder must be held in the left hand, and the right one must not be removed from the regulating apparatus.

The length of time during which it is admissible to act upon one spot cannot be estimated in seconds, but will depend upon the coloration which the skin assumes. As soon as it grows very pale the jet must be displaced. This occurs in a few seconds, but will vary in different places, according to the thickness or thinness of the skin. The skin must be continually under observation, and the apparatus displaced at the proper time. There is absolutely no difficulty in this, but continuous attention is necessary. As the skin becomes pale it also becomes hard, and the patient complains of a burning feeling. As soon as the entire nerve has been acted upon in this manner the patient is generally free from pain. In the majority of cases the pain returns again, after a few minutes, at certain points. These must be at once treated again, and thereupon the pain will be entirely gone.

Relief after the first application is the rule, but sometimes a second one is necessary. As stated, the spray must be directed obliquely against the skin, and not vertically, for in the latter case the great pressure produces a depression of the tissues, and this depression is the frequent seat of a blister or an eschar. A large surface must also be acted upon, as the success is to a great extent dependent upon this. Sluggishness of circulation, with reduced vitality of the skin, would contraindicate its use. There are certain objections to its use, which, however, are only of relative importance.

The pain produced by the application is rather severe, but it is never as great as that produced by the actual cautery or the galvanic brush.

Hyperæsthesia and redness of the skin remain in some cases for hours, and even for days.

Vesications and eschars may be produced if sufficient care is not taken in the application; but Débove, in 1885, said that he had then used it over a hundred times without producing an eschar. Pigmentation of the skin occurs occasionally, but this passes away after several weeks at the utmost.

Finally, there is one objection to its extended use here, and this is at present the most important of all; I refer to the high cost of the apparatus, and the difficulty of getting it refilled. The cost of the apparatus delivered here in New York is $37.50, and each vessel contains only sufficient of the chloride for four applications to an entire limb, as in a case of sciatica. When empty, the vessel must be sent back for refilling, and although the cost of refilling in Paris is only six francs, the trouble of sending the apparatus over, the time lost in awaiting its return, the possibility of a cylinder arriving minus its contents, and, finally, the difficulty of getting the steamship companies to carry it at all, on account of the supposed danger of explosion, all render its extended use at present almost impossible. Should, however, a sufficiently large demand for it arise, Messrs. Eimer & Amend, of New York, say that it could be manufactured here. On account of this difficulty in obtaining it, I made use of it only for the treatment of trigeminal neuralgias, in which the amount used is necessarily very small. I have thus treated five cases in all—three fresh ones, of from one to five weeks' standing, and two old ones, the one of six months' and the other of two years' duration. There is no necessity for entering upon details of the cases themselves. In all five cases the pain was entirely relieved after the first application. In one of the fresh cases there was no return of the pain. In the two others the pain returned, and a second application was made, with the result of relieving the pain again. In these also there has been no return. One of the old cases was so much ameliorated after four applications that he discontinued treatment, although not entirely well. In the fifth case I was able only to obtain relief from pain after each application, and although six applications were made, there is no sign of permanent improvement.

My general impression from this brief experience is, that *we have in the chloride of methyl a reliable analgesic, which does not affect the general condition of the patient, and that it is invaluable in the treatment of neuralgias for the immediate relief of severe pain.* On account of the difficulty of obtaining the chloride of methyl, I made use of the condensed carbonic acid for the treatment of the cases of sciatica which came under my observation. I was led to the use of this gas by the following considerations:

Firstly, as far back as 1835, Dr. Dewees, of Philadelphia, used it as a local anæsthetic, and this observation was subsequently corroborated by Major, of Geneva; Pereira, James Y. Simpson,[1] Demmé, and Scanzoni.

Demmé[2] showed that this gas, as such, without any reference to its refrigerant qualities, possessed anæsthetic properties. In this article he says: "Upon immersing the arm (in this gas) no effect was for several minutes perceptible, then a slight pricking could be felt or imagined, which soon, however, gave way to a sense of numbness in the hand. The skin of the hand

[1] Peyronnet de Lafonvielle: De la Nevralgie du Trijumeau, et en particulier, de son traitement par les Pulvérisations de Chlorure de Methyle. Paris, 1886.

[1] Simpson, J. Y.: History and Application of Carbonic Acid Gas as a Local Anæsthetic, British Medical Journal, 1858, p. 474.

[2] Demmé, T. A.: The Local Application of Carbonic Acid Gas, Philadelphia Medical and Surgical Reporter, February 26, 1859, vol. i., pp. 379–381; also, 1871, pp. 139–142.

and arm, after being immersed in the gas for about ten minutes, could be violently pinched without causing pain."

Secondly, because of its non-irritating properties.

Thirdly, on account of the great pressure necessary to keep it fluid. Knowing that six hundred pounds of pressure to the square inch are necessary to keep it fluid, whereas the chloride of methyl requires only sixty, I thought that in the liberation I would obtain also a proportionately greater amount of cold.

Finally, the condensed carbonic acid is very cheap, and in metallic cylinders containing ten pounds and more forms a staple article of commerce. I made use of one of these cylinders, and adapted it to my purpose by attaching a long tube of lead to the escape-vent, in order to a certain extent to reduce the rapidity of the evaporation. At the free end of this tube I attached the same arrangement for regulating the spray as is employed with the chloride of methyl apparatus.

My first trials were decidedly unsatisfactory. The objections to its use were found to lie in the heaviness and non-volatility of the fluid gas, and that in consequence its action was confined to a comparatively small surface, the spray produced being very concentrated and not spread out as the chloride of methyl spray. So also the great pressure with which the gas is liberated causes a great depression of the tissues at the point where the gas strikes, and that in consequence of this an eschar was produced at this point.

These objections were finally overcome by allowing the spray to first strike the surface of a piece of curved sheet-tin, and from this it is deflected against the limb. In this manner the spray is spread out, its force broken, and the eschars are avoided. There are still, however, several changes necessary if the cylinder is destined to be used. Firstly, it must be made smaller and more portable; and secondly, a narrow tube must be run inside of the cylinder almost to the bottom, so as to enable fluid to be drawn in the vertical as well as in the horizontal position. At present fluid can be obtained only in the horizontal position; if the cylinder is placed upright gas alone is obtained. These changes will be made by Eimer & Amend, should there be any demand for the gas for therapeutic use.

In all, I have by this means treated ten cases of sciatica, not counting the first experimental cases, and have made about fifty applications. Only once did I produce an eschar, and this was not of any severity. The pain was generally entirely relieved after the first application, but in some cases another and more extended application was requisite. In two of these cases the pain had not again returned after four weeks. In the other cases the pain returned again in from three to twenty-four hours, although not always with the same intensity. After several applications five of these cases were so much relieved that they could attend to their business, although they were not entirely well. Finally, in three cases there was no result at all, beyond the relief from pain after each application.

In short, my conclusions are that the carbonic acid, used as above stated, is, in the absence of the chloride of methyl, able to take its place in the treatment of sciatica. That the pain is relieved very promptly by its use, but that its curative effect is not as great as that attributed to the chloride of methyl by other observers. Repeated and extended trials alone can demonstrate its utility or worthlessness in this regard. If even these future observations should show that in intense cold we possess a remedy which is capable only of *relieving* pain, we still will have very valuable remedies in the chloride of methyl and carbonic acid, remedies which all of us, who have at times found it almost impossible to relieve the intense sufferings of some of our patients, will know how to appreciate. In conclusion, I desire to make a few remarks as to the *modus operandi* of these substances in the relief and cure of pain.

It is not at all probable that either of the substances employed exerts its action through any inherent virtue. The length of time that they remain in contact with the skin is so short that even if they possessed any such virtue the time would be insufficient for their absorption—consequently the action can be attributed only to the intense cold produced, and the majority of observers look upon it in this light, believing that the cold acts as an anæsthetic upon the terminal expansion of the sensitive nerves. In addition to this action the same effect is produced as by the use of any counter-irritant. Thus the temporary relief of pain is easily understood, but why in many cases there is no return of the pain has not been satisfactorily elucidated.

Ever since reading the "Bradshaw Lecture" for 1883, by John Marshall,[1] I have come to agree with this author that in very many cases the neuralgic pain is situated in the nervi nervorum. At that time the existence of these nerves was only surmised by Marshall, but since then Mr. Victor Horsely has satisfactorily proven their existence.

In a paper read before the Royal Medical and Chirurgical Society of London, January 22, 1884, on the existence of sensory nerves in nerve-trunks, Horsely showed that besides the vaso-motor nerves of the vessels of the epineurium, as described by Sappey[2] and Krause,[3] there existed also true sensory nerves concealed by the fat-globules of the epineurium and terminating by end-bulbs on the epineurium. These nerves appear to arise occasionally from the primary bundles of nerve-fibres, but also from the terminal branches given off by these. Their direction is first at right angles to the primary bundles, and then parallel, running as single medullated fibres of medium size in the connective tissue of the epineurium, and terminating in end-bulbs which consist of a connective-tissue capsule and protoplasmic core, close around which the axis-cylinder can be traced. Now admitting, as we must, the existence of these nerves, we can easily understand that they must be acted upon much more intensely by the severe cold than the underlying nerve-fibre itself, and that in many instances they are entirely destroyed, or, at any rate, completely paralyzed.

Thus I account for the cases of permanent cure, which of necessity must also be a rapid one. Certainly I am far from believing that the pain in all cases of neuralgia is in the nervi nervorum, and consequently in those cases in which the seat of pain is in the nerve-fibre itself, this seat not being so accessible to the freezing process, the pain will necessarily return after a longer or shorter interval.

THE EXPULSION OF THE PLACENTA.—Opinion among obstetricians is now pretty well divided into two views concerning the removal of the placenta after labor. The method of expectancy has been pretty well discarded, and there are probably few obstetricians who do not remove the placenta either by traction or expression, or by the two methods combined. Each of these two methods possesses advantages which are clearly understood by most obstetricians; still, it is not uncommon to find partisans who hold to the practice of one method in all cases to the exclusion of the other. To such men we present to their consideration the very concise statement recently made by Dr. A. Auvard, of Paris, who says: "Do nothing during the first period of the third stage when the placenta is separating; interfere, if need be, during the second period by expression through one hand on the uterus and by traction on the cord with the other hand; during the third period keep up traction with the one hand and steady the uterus with the other." Dr. Auvard refers of course to the purely normal stage. In cases of complication the management must differ according to the conditions observed.—*Maryland Medical Journal*, July 30, 1887.

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[1] Marshall, John: Bradshaw Lecture, Lancet, December 15, 1883.
[2] Sappey: Traité d'anatomie descriptive, p. 223. 1872.
[3] Krause: Handbuch der Menschlichen Anatomie.

TEREBENE IN DISEASES OF THE LUNGS.[1]

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Terebene is the result of the action of sulphuric acid upon oil of turpentine. It becomes bland and oily by keeping, and in this condition is best for medicinal purposes. It is clear, colorless, and does not mix with water. Like turpentine, it imparts to the urine a distinct odor of violets. Terebene was first brought into notice, in a short article,[2] by Dr. Murrell, of London. He does not give histories of his cases, and they apparently include chronic bronchitis, emphysema, and phthisis, as well as others that were acute. He reports favorable results in all his cases—one hundred and fourteen in number. In a subsequent notice of cases occurring in the practice of other physicians, and reported [3] by him, the results were not quite so favorable. Dr. Suckling [4] has reported on the use of terebene in cases of chronic bronchitis and chronic phthisis. Seventy-two per cent. of his cases were relieved, and twenty-eight per cent. were not relieved. Many of his patients complained of nausea, of headache, or of thirst; two were troubled with vertigo, one with burning sensations in the stomach, one with frequent micturition, and two were purged.

During the past year I have used terebene frequently, and careful histories of a number of the cases have been kept by Dr. W. L. Carr. They include cases of emphysema, bronchitis, and phthisis. A few histories will be given in full, and a synopsis of the results in the other cases.

Case I. *Emphysema accompanied by bronchitis and pleuritic adhesions.*—M. N——, aged seventy, a sailor; November 4, 1886. No history of lung trouble in the family.

Previous history: Has had trouble with chest since boyhood; been short of breath since he was fifteen years of age; he did not have any cough until fifteen years ago, when it began in the winter-time. It generally came on at night, when he was lying down; seldom in daytime. Expectoration has been difficult; sputa whitish, never much; never any blood in expectoration. Never any fever nor night-sweats.

Present history: He is short of breath on exertion, and on lying down, also in damp, foggy weather; coughs, but most at night. Expectoration is difficult, never much at a time, and white. No night-sweats. Appetite fair. Bowels regular.

Physical examination: Slight bulging over upper part of chest; increased pulmonary resonance; respiration feeble; expiration prolonged; sibilant râles on forced respiration; a few coarse, dry râles at bases of both lungs posteriorly and right interscapular region; vocal fremitus and resonance increased over right side behind. Accentuated pulmonary second sound.

Treatment: Terebene, gtt. x., q.i.d., and cod-liver oil.

November 16th.—Does not cough as much; expectoration easier; sputa thinnish and more watery; breathes easier. Appetite good. Bowels regular. Urine same.

December 4th.—Coughs very little, only at night: respiration easy; expectorates hardly anything.

December 11th.—Continues to improve.

January 22, 1887.—Coughs very little, generally at night; respiration easy. Appetite good. Treatment continued.

February 5th.—Respiration not quite as easy for past two or three days. Cough a little hard for some time. Thinks that he caught cold. Increased frequency of urination. Bowels regular. Appetite good. Increased terebene to gtt. xv.

March 1st.—Very little cough. Expectoration white. No pain. Bowels regular. Urine free; passes it once or twice at night.

June 11th.—Coughs a little at night; not at all during the day. Only short of breath when going up-stairs. Has not required any terebene for the past two months.

Case II. *Asthma.*—J. M——, aged twelve; November 20, 1886. His mother had asthma. He first had asthma in his sixth year. It would come and go; had also a dry cough. Last year he was almost entirely free from it. Has lost in flesh; has night-sweats; no hæmoptysis. Now he is short of breath at night when lying down, on exertion, and on exposure to dust or wind. He coughs day and night; expectoration difficult, yellowish or white, and in large quantity. Appetite fair. Bowels regular.

Physical examination: Increased pulmonary resonance over front of chest; prolonged expiration over both lungs, and sonorous and sibilant râles varying in pitch; puerile respiration. ℞. Terebene, gtt. v., q.i.d. Cod-liver oil and the compound syrup of the hypophosphites were also prescribed.

November 30th.—Respiration easy; not coughing as much; expectoration whitish. Bowels costive.

December 7th.—Slight dry cough; no expectoration. Bowels open once a day. Urine same.

December 23d.—Not much cough. Treatment continued.

January 8, 1887.—Coughs a little in the day; no expectoration; not short of breath at any time, except on severe exertion. Sleeps well. Perspires easily. Appetite good. Bowels regular. Urine same.

Physical examination same as last time, except no sibilant or sonorous râles. Few coarse râles at left base posteriorly.

January 29th.—Cough loose; expectoration hard and yellow; some wheezing at night.

Case III. *Emphysema with bronchitis and pleuritic adhesions.*—D. H——, aged forty-one, engineer; December 9, 1886. His mother died of heart disease; family history otherwise good. Used to be a drinker. Had gonorrhœa thirteen years ago; "chancres" about the same time. They were burnt out and he had no after-trouble. Has had bad cough since February, 1886, with pain on the right side of the chest; would cough most at night and early in the morning on rising. Expectoration difficult; sputa yellowish and thick. Was sometimes short of breath and generally so when first in bed. He could not rest on right side or back, as in either position dyspnœa and cough would be increased. Night-sweats very severe.

In December, 1885, had hæmoptysis, and lost considerable blood. Since then has had four hemorrhages. Occasionally the sputa have been streaked with blood. Weight, formerly, 164 pounds.

Present condition: Coughs most in the morning and at night; expectoration free; sputa generally yellow, sometimes white, always thick. Cannot rest on right side or on back. Has dyspnœa on severe exertion; not much when lying down. No night-sweats nor fever. Appetite good. Bowels open every day. Weight, 130 pounds.

Physical examination: Depression above and below clavicles. Slight bulging over cardiac region. Dulness in right infraclavicular and suprascapular regions and left infrascapular region. Increase of pulmonary resonance over other regions; harsh respiration over both lungs, most marked under right clavicle; in right infraclavicular region and over anterior border of lung inspiration shortened, and expiration a good deal prolonged; expiration a little longer than inspiration over both lungs; a few subcrepitant râles in left infrascapular region. Heart-sounds feeble.

Treatment: Terebene, gtt. x., q.i.d.

December 14th.—Cough bad. Expectoration difficult; sputa yellowish; no blood. Bowels open once a day. Urine about the same. Says that he vomits sometimes

[1] Read before the Medical Society of the County of New York, September 26, 1887.

[2] Murrell, William, M.D.: Pure Terebene in the Treatment of Winter Cough, British Medical Journal, December 12, 1885.

[3] Murrell: Pure Terebene and Terpene, British Medical Journal, February 7, 1886.

[4] Suckling: Pure Terebene in the Treatment of Winter Cough, British Medical Journal, March 20, 1886.

after eating; has feeling of rawness over chest. Short of breath. Thinks that he has caught fresh cold. Increased terebene to gtt. xv., q.i.d.

December 23d.—Feeling better. Sputa whitish. Bowels regular.

January 6, 1887.—Coughs most in the morning. Expectoration easy; sputa yellowish, and not as much as formerly; respiration about the same. "Rawness" over chest. Appetite good. Bowels not always regular.

Physical examination: Increased pulmonary resonance over both lungs in front. Over both lungs, in front and behind, inspiration shortened (least marked in infrascapular regions); expiration prolonged; respiration harsh; a few coarse râles over both lungs in front; coarse râles most abundant and intense in right scapular region.

January 13th.—Has considerable trouble with stomach; vomits about half an hour after meals, and then only when coughing. No difficulty after taking medicine. Passes urine more frequently during the day, but not at night. Sleeps well at night. Drinks a great deal of milk.

January 27th.—Coughing more during the day. Coughs some at night, but rests pretty well. Feels worse on rainy, damp days. Breathing still short. Stomach much better.

February 8th.—Coughing a great deal. Fits of coughing at night. Will only rest for two or three hours. Feels "stopped up" in the morning. Rawness over the chest. Dyspnœa about the same. Easily exhausted. Stomach in not very good condition. Has been out of terebene for past two days, and thinks that his stomach has been in better condition since then.

Case IV. *Bronchitis and pleurisy.*—L. W——, aged thirty-three, painter; December 18, 1886. His family history is good. He has been a painter for thirteen years. Two years ago he had chancres and gonorrhœa; three years ago dysentery. Had painters' colic seven years ago; has not had an attack since. Had slight cough three years ago, but no expectoration, dyspnœa, nor night-sweats at that time. One month ago had a cough and tickling sensation over the sternum, and some pain in left infrascapular region. Coughed when lying down; no expectoration except in the morning; sputa white. No dyspnœa. Now he has paroxysms of coughing once or twice during the day. He has lost in weight. Bowels regular.

Treatment: Terebene, gtt. xv., q.i.d.

Physical examination: Dulness on percussion from second rib to base of right lung in front. Harsh respiration over both lungs. Crepitant râles in abundance at right base in front, and a few over left scapular region. Coarse râles in left infrascapular region.

December 21st.—Cough less; expectoration the same. Pain less. Urine not increased. The crepitant râles have disappeared. A few coarse râles heard where the crepitant râles were previously.

January 11th.—Does not cough at all. No dyspnœa. Bowels regular.

Case V. *Phthisis pulmonalis.*—E. B——, aged thirty-six, fireman; December 23, 1886. Family history is good. Has been accustomed to drink more or less, but not much spirits. Has never had rheumatism or venereal disease. Is exposed to a great many changes in temperature. For the past eight or nine years has had more or less cough during the winter. Never had any pain. No bloody expectoration. Never had night-sweats. On the 27th of September he was in wet clothes for several hours. Since then has had cough, with whitish, frothy expectoration. He expectorates just before going to sleep, and in the morning. Has dyspnœa sometimes when lying down.

Present condition: Has cough, mostly in the morning; sputa generally frothy; not yellowish. Sometimes short of breath when coughing. Can sleep just as well in any position. No night-sweats. Does not feel as strong as he did. Appetite not as good as usual. Bowels move every day.

Physical examination: Right border of heart one inch to right of sternum at third rib; apex-beat just within line let fall from nipple; apex-beat diffused; first sound at apex prolonged and muffled. On percussion, slight dulness at right apex of lung in front; increased pulmonary resonance over both lungs in front; at right apex, in front and behind, bronchial breathing; over remainder of lungs respiration feeble, and expiration prolonged; coarse râles at right base in front and a few over the left lung behind. ℞. Terebene, gtt. xv., q.i.d.

December 28th—Cough much better. Coughs mostly in the morning, seldom at night; sputa whitish and thinner than formerly. Breathing very much easier. Sleeps all night. Bowels regular. Urine same. Appetite is pretty good.

March 31, 1887—Very much improved. Coughs only after a great exposure and when out of medicine. No pain. Appetite good. Bowels regular. Passes urine freely.

Case VI. *Acute bronchitis* in a child ten years of age. She had had cough two days previous to presenting herself for examination.

Physical examination discovered sibilant and coarse, moist râles scattered over the chest in front and behind; coarse, dry rales directly under the ear in the left infrascapular region. She was given terebene, ♏ v., in mixture, three times daily. The cough, dyspnœa, etc., passed away in a few days, and on examination, two weeks after first taking the medicine, the chest was found to be in a normal condition.

An analysis of the histories of eighteen cases shows that eight were emphysema, six bronchitis, three phthisis, and one asthma and bronchitis. Two cases of bronchitis, one of which had lasted for a few days, and the other for a month, were cured. Three cases of chronic bronchitis showed great improvement. One case showed no improvement after taking ten drops of terebene every four hours for five days. In this case the treatment was subsequently changed several times without any improvement occurring in the patient's condition. Seven of the cases of emphysema improved, and most of them to a marked degree. One case was unimproved after taking the medicine for two months. The three cases of phthisis and the case of asthma all improved. The time that the cases were treated varied from a few days to five months. The average length of treatment was fifty-five days. The terebene was given either dropped on sugar or in a mucilaginous mixture, in doses of from ten to fifteen minims, three or four times daily, and occasionally more frequently. In nearly every case the terebene was given without any other drug. Of these eighteen cases only two, or one in nine, were unimproved. In the other cases the dyspnœa was diminished, and usually to a marked degree. In fact, dyspnœa was the symptom upon which terebene seemed to have the most uniform and favorable results. The expectoration was thinner and lessened in quantity. In eight out of sixteen cases the patients said that the urine was increased; in the other eight cases they had noticed no change. In two cases vomiting occurred, but it was after eating or coughing, and the patients themselves did not attribute it to the medicine. In two cases hæmoptysis ceased a short time after taking the terebene. I regret that it has been possible for me to use it in only two cases of hemorrhage, as the result was so favorable as to warrant its further trial.

Terebene in some of its effects resembles turpentine, but is less irritating. In one case a patient took by mistake a teaspoonful every four hours for a week without any unfavorable result (Murrell). In none of my cases were the bowels affected. In those in which the urine was increased, no signs of extreme irritation followed, even when the drug was used for several months.

In addition to the cases already mentioned, I have

used terebene in forty or more cases in which histories have not been kept, but in which the results were equally favorable.

The cases reported in this paper are not, perhaps, a sufficient number from which to draw general conclusions, but taken in connection with those already reported it may be said that we have in terebene a valuable drug. It is useful in acute cases, and in chronic cases of emphysema it seems especially beneficial in relieving the dyspnœa.

THE INCREASE OF THE INSANE, AND SOME PROBLEMS CONNECTED WITH THEIR PUBLIC CARE.

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THERE is much talk about the rapid increase of insanity, and but little exact knowledge in the public mind regarding it. It is easy, from the records of this State, to show just what the visible increase is. What is true here is practically true of the whole country. By visible insane, I mean all who are in asylums.

From October 1, 1880, to October 1, 1886, there has been an increase of 4,001 insane persons in the various asylums in this State, or an average of 666 yearly. The increase for 1886 was 831. In 1870 there were 5,623 insane persons in our State, county, city, and private asylums; in 1880 there were 9,537, and in 1886 they had increased to 13,538. But a small part of these are supported at private expense; they are mostly a public charge. The same rate of increase would give 16,202 to be cared for in 1890, and 22,862 in 1900.

A little further study will show that the insane are increasing in a more rapid ratio than the population. In 1870 there was 1 insane person in the various asylums of the State to every 779 of the population; in 1880, 1 in every 532; and in 1886, 1 in every 406. This last is based upon an estimated population of 5,503,543, in accordance with the known increase from 1870 to 1880. Probably the population is some greater and the proportion a little too high.

While an increase of 666 insane, scattered over the State of New York, is easily assimilated, yet, continued year after year, it makes an increase difficult to care for, and a demand upon State, county, and city.

What a task the State has before it alone in caring for this class of its dependent citizens! It must yearly provide for over six hundred new, though by no means recent, cases of insanity. It is easy to illustrate what this means. The State Asylum at Utica has a capacity for six hundred patients. It reports the value of its buildings and farm to be $670,822. The yearly increase of the insane is greater than the capacity of the Utica Asylum, and if they are to be cared for as they are in that institution, it means an annual expenditure of over $700,000. And practically, unless the insane are to be improperly cared for, and crowded into the county and city asylums, this increase cannot be met by an expenditure of less than $500,000 a year. So that by the year 1900 the State, counties, and cities will be called upon to expend $7,000,000 for this object. Will they do it? Probably they will not, but they *must* do a large part of it.

It is easy to draw illustrations from the past upon which to calculate our future needs and expenses. In 1870 there was but one finished asylum in the State—that at Utica—while the Willard Asylum was just opening its doors. The value of asylum property was $1,725,908. In 1886 there were six asylums, and the value of their property was $5,876,725. It is impossible to estimate the increased value of city and county asylums, but it must be very large.

This large expenditure in the past by no means stops the present demand for more money and larger accommodations. Within two years the State has appropriated over $1,000,000 for buying land, building new asylums, or enlarging and improving its present institutions.

The asylum at Poughkeepsie has been increased by an added capacity for five hundred more patients. The asylums at Binghamton, Willard, and Middletown have been enlarged. The Buffalo asylum is authorized to enlarge for one hundred and fifty more patients The Legislature this year appropriated money for a criminal asylum to accommodate four hundred and fifty, and ordered to be bought at Ogdensburg nine hundred and fifty acres of land, and provided for a new asylum to be erected there. Within this time the county of New York has purchased one thousand acres of land upon which to build a new asylum; Kings County, seven hundred and fifty acres for the same purpose; Erie County has enlarged its buildings, and still sees before it the demand for a larger farm and increased accommodations; Monroe County has enlarged its capacity and hired land. And so, throughout the State, there is everywhere a constant demand for more money to build, more room in which to care for the insane.

It is not within the province of this paper to discuss the causes for this increase. It is a very complex and not well understood subject. There are, however, a few causes easily observed, aside from the increase of population.

1. The large number of foreigners coming into our State that are either insane or possess in themselves or their first generation all the essential elements to produce the disease.

2. The prolonged life of the chronic insane, due to their improved care in the many asylums of the State.

3. The improper and delayed treatment in too many of the county asylums, or in the homes of the insane, during the acute and curable stage.

4. The increase of asylums and their nearness to the people makes them more used.

Of the first cause there can be no reason to look for its limitation of action without efficient laws and active control by the General Government. There is a limit to the action of the second cause, and in the older countries, like England, it is thought to have been already reached. Nothing but strong legislative action, and a watchful Supervisory State Commission with ample powers, can control the third cause. While there are many notable exceptions, too many counties, from false ideas of economy, send their acute insane to their county asylums, or refuse to furnish public aid to send them to State institutions. The fourth cause is in active operation, and, by fixed laws, always exerts an influence in increasing the number of the insane supported at public charge.

It is safe to say that the number of our insane will increase until one in less than every four hundred of our population will be confined in our State, county, city, and private asylums.

It is very much to be regretted that the reports of our asylums do not furnish that information by which two very important questions can be answered. First, are the number of acute and curable cases of insanity increasing in a ratio greater than the increase of population, and to what extent do they add to the chronic class? And second, are those types of insanity which, from the beginning, belong to the chronic and incurable class increasing in a like ratio?

This lesson of the past should be the guide of the State in its future policy. It should be a wise, humane, economical, and settled policy. It should make unstinted efforts to stay this increase, and should afford every means to promote the recovery or improve the condition of each individual insane person. It should rigidly require of those public officials of our counties, cities, and towns, into whose hands all of the indigent and pauper insane first come, to immediately provide for their being

brought under such care and treatment as each case shall need.

It should even be remembered that many of the chronic insane may be so benefited by treatment as to be able to return to their homes, perhaps to help to support their family or themselves, or at least relieve the public from their support.

A short review of the history of the State in caring for its insane will show some of the defects of its present policy. About 1865 the State changed its policy in caring for the insane, and since then it has feebly tried to keep pace with its demanding needs, and now, in 1887, it is required to review its past and provide for the future.

The asylum at Utica was opened in 1843. Prior to that time the public insane were confined in poor-houses, jails, and the lunatic department of the New York Hospital. As the Utica Asylum had a capacity for but six hundred, and was soon full, and as the admissions soon rose to over four hundred a year, the chronic patients were sent back to their respective county poor-houses. By custom the county of New York early began to care for its insane, both acute and chronic, and by the same authority it still continues to care for them. By special statute Kings and Monroe Counties are allowed to care for all their insane.

For years the late Dr. John P. Gray, of the Utica Asylum, urged upon the legislature the evils of improper care of the insane in the poor-houses, and the need of enlarged State accommodations. In 1863 the State Medical Society took the matter up and presented it to the legislature. In consequence of all this agitation Dr. Sylvester D. Willard was appointed a State Commissioner to inquire into their condition and care. It was found to be most wretched, and in consequence of his report an act was passed establishing an asylum for the care of the chronic insane. Dr. Willard having died, it was called after him, and consequently we have the Willard Asylum.

This act established the policy of the State, which, with some modifications, is still continued. It required that all of the indigent and pauper insane should be sent to State asylums; the acute and curable to go to hospitals provided for their special treatment, and the chronic insane to be sent to Willard. It was hoped that all the insane would be removed from county houses, with the exception of New York, Kings, and Monroe counties.

How signally this hope has been defeated, and yet what a great work has been done by Willard, and later by the Binghamton Chronic Asylums. Success and failure stand side by side. In 1870 there were 1,326 insane in one poor-house, in 1886 there were 2,144. That is to say, in spite of all that has been done the insane in our county houses are increasing.

In accordance with this policy the State has now four asylums for the care of the acute insane, and two for the chronic class.

The first break in the Willard act came in 1871, when the State Board of Charities was authorized, in terms that really was compulsion, to allow counties to care for their chronic insane, provided they furnish suitable buildings and proper care. There are now seventeen counties thus caring for their chronic insane. In 1885 they had 1,620 inmates, while other counties not exempt from the act retained 524 in their ordinary poor-houses.

With these remarks the accompanying table will be of interest and easily understood. It is taken from the "Report of the State Board of Charities, 1886," page 131.

Two reasons operated to bring about a modification of the Willard law. First, the State did not furnish accommodations fast enough for the increase of the insane; and second, some counties with large numbers of insane to support were unwilling to pay for their care, which at Willard was at first a little over three dollars a week, but at the present time is but $2.26. The demand for exemption from these low rates still continues, the counties asserting that they can care for their insane at a lower rate.

One of the principal reasons for the Willard Asylum was "the aggregation of numbers, in order to divide the cost of support, so that the average cost might be reduced." The standard of care at our State asylums for the chronic insane is equal to that of our best asylums anywhere. It is idle to claim that our poor-houses with asylums (?) attached, caring for a few tens, or at the most a few hundreds, under the charge of an elected "keeper," can attain the Willard standard, and at the same time *lower* the cost of support. No one knows what it costs to support the insane in these county asylums, for there is no separation of accounts from the ordinary pauper department. Dr. Stephen Smith, the State Commissioner in Lunacy, thinks, all things considered, it costs the counties more in the end to keep these insane than to send them to Willard.

TABLE SHOWING THE NUMBER OF THE INSANE IN THE CARE AND CUSTODY OF THE INSTITUTIONS OF THE STATE.

Institutions.	October 1, 1885.	Total.
In State Asylums (acute).		
At Utica	568	
" Poughkeepsie	388	
" Middleton (homœopathic)	355	
" Buffalo	371	
		1,682
State Asylums (chronic).		
At Willard	1,810	
" Binghamton	751	
		2,561
In the Criminal Asylum (Auburn)	179	
" " Emigrant Asylum	29	
		208
In City Asylums.		
New York	4,040	
Brooklyn	1,360	
Poughkeepsie	4	
Monroe County (Rochester)	244	
		5,648
In County Asylums, exempt from the Willard Act	1,441	
" County poor-houses (not exempt)	570	
		2,011
In private asylums	597	
		597
Total		12,707

There are two great objects to be gained in caring for the chronic insane, aside from furnishing the merely physical comforts. Among them there are always some who will recover, and many more who can be greatly improved by proper treatment. But the tendency of chronic insanity is to greater physical, moral, and mental degeneration. The two great objects of care should therefore be to promote recovery or improvement, and to hold in check those influences that tend to lower the mental condition of the insane. Only the highest standard of care can accomplish these results. Do our county houses furnish such care? To prove that they do not, it is not necessary to go back to 1865, but to quote from the last published report of the State Commissioner in Lunacy.

He says: "The policy of creating small county asylums is wrong, both to the insane and to the tax-payers, . . . when it is remembered that fully one-half the cost of caring for the insane in the best asylums is charged to the account of attendants. . . . The greatest defect in county asylums is always found in the number and qualifications of attendants; . . . they curtail to a degree of absolute penuriousness in providing attendants. No defence of criticism is more common than the allegation that employment of more attendants would cost the officer his next election. . . . The coarser foods are well supplied, yet there is seldom discrimination of the varieties of food the insane demand. For months in the summer fresh meats are not supplied,

salt meats being the substitute; at other seasons the more common vegetables are deficient. . . . Bathing is not practised with regularity. . . . The moral tone is generally indifferent or low. Sabbath services are occasional, entertainments rare."

He gives notes of his visits to all exempt asylums, and proves his assertions, as a few quotations will show. "In one asylum," he says, "two patients are bathed in one water; C—— is confined to bed, which is not made up to-day and is wet, and patients are not bathed for three weeks for want of water." In another, "three and six are bathed in one water," and "restraint is left to the discretion of attendants." Of another he says, "that the day was hot, and the yard having neither shade-trees nor grass, was not a pleasant place for resort." Of another, that a woman with a child had charge of a ward, and in one ward he records five filthy patients found, and eight soiled beds made up.

It has been the writer's pleasure to know many keepers of county asylums, and he knows them to be warm-hearted and humane, and desirous of the welfare of their charge. As a rule, they acknowledge their ignorance of the care needed by the insane, and that they come into office without any special fitness by training, and they condemn a system it is not within their power to improve. Fancy a system that provides for the election, every three years, of a keeper of a poor-house, having a department containing 375 insane persons, and yet this is a part of the system and policy of our State.

The State should consider all the insane as its wards, whether confined in State, county, city, or private asylums, and require that they shall receive such care and treatment as will promote their comfort, recovery, or improvement.

County care should not be extended. If possible, the present small asylums should be broken up. All acute and curable cases should be sent to State asylums, and the right of New York, Kings, and Monroe counties in this particular should be taken away. All county asylums should be placed under local, non-partisan boards of managers, with the same powers that belong to managers of State asylums. All asylums of one hundred patients or over should have a resident medical superintendent. A certain sum of money should be appropriated for support by the County Boards of Supervisors, proportioned per capita to the number cared for. This rate should, in some way, be fixed by the State, and in no case should be less than that charged at Willard. No more asylums should be built or enlarged upon poor-house farms. Association with paupers is often painful to the insane, while the atmosphere of pauper management permeates the asylum.

The causes for the increase of insanity should be intelligently and scientifically studied, and efforts made to hold it in check.

The system successfully in practice in Scotland, and begun in Massachusetts, of placing the chronic and harmless insane to board in private families, should at once be begun in this State. It would in time give relief to our overcrowded asylums, and in a measure relieve the demand for more accommodations.

Dr. Smith thinks there are two thousand in our asylums that could be thus cared for. I would suggest that many of these cases could be cared for in their own homes, by families too poor to burden themselves with these insane relatives. Of course, to do this would require new legislation and careful State supervision.

In building new asylums and enlarging old ones the State should have a settled policy. Heretofore it has gone too much by hap-hazard, and often controlled by local influences. The extravagance of the past is likely to be matched by the parsimonious spirit of the present. Both are to be, and will be, regretted. In 1870 asylums were projected costing several thousand dollars a bed, and now the State is building for $250 a bed. The asylum at Willard, with a capacity for eighteen hundred patients, cost for land, building, furnishing, etc., $827 per patient. An asylum built so as to be pleasing to the taste, comfortable, and economical of management, and made permanent in its usefulness by thoroughness of construction cannot be built for less money. Asylum construction is undergoing great changes. The old plan of a continued block of buildings is giving way to the idea of a central building for the more disturbed class, and, scattered over the farm, detailed buildings, many of them small and home-like, for the quieter class.

To properly care for the insane there must be intelligent State supervision. Every insane person should be seen at least twice a year by a State Commissioner. All asylums should be frequently visited and thoroughly inspected. The State has outgrown its present system. One man cannot begin to do all that is required. To be sure, he is ably assisted by the State Board of Charities, but the care of supervising the insane is only one of its many duties. Besides, its members are not paid, and cannot give all their time. The surprise is, to those who know their work, that they do so much.

The State Commission in Lunacy should be increased to five, and certainly should not consist of less than three members. There should be at least two medical members familiar with the care of the insane, a lawyer, and a layman. Their term of office should be long, and their pay liberal. Competent men will not leave a practice or business and give all their time to the State without sufficient inducement. The appointment of such a commission should rest with the Governor and Senate. While it is too much to expect that political influences would have no weight in making these appointments, yet it is fair to suppose that other motives would influence the Executive; that the commissioners would not represent one political party, and that they would engage in no political management of the asylums.

With singular uniformity our governors have disregarded political considerations in appointing members of the State Board of Charities and managers of asylums. To this honorable example our present Executive is no exception. The appointment of Commissioners in Lunacy can, therefore, with safety, be left where it now, by the Constitution, belongs.

This is hardly the place to discuss at length the powers of such a commission. The English commission may well serve as our guide. They have done more than all other causes combined to place the English asylums in the front rank of the world. They possess visitorial and advisory powers only, and, after years of service, declare they can do more good with these than though possessed of compulsory power.

Our State asylums are controlled by a board of managers appointed by the Governor and Senate. These boards are, therefore, the peer of any body so appointed. Control would not be necessary over them. But the commission should have the utmost liberty of visitation, and power to gain any information desired of the manner of conducting State asylums, and only as a last resort have power to exercise command and control. Over county, city, and private asylums, uncontrolled as they are by the State, the commission should have the power to make rules and regulations for their administration, and to enforce them.

They should have an oversight of the individual patient to correct abuse, and attend to matters of commitment or unwarranted detention. They should possess a record of every admission, transfer, discharge, or death, so at any time they could tell where an individual patient could be found.

Thus briefly we have sketched the increase of insanity in our State, and discussed some of the problems of their future care. The time seems to have arrived when the State shall again fix its policy for caring for the insane, which should be a wise, humane, economical, and settled policy.

SOME COMPLICATIONS OF CHRONIC ENDARTERITIS.[1]

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THE diagnosis of endarteritis chronica deformans, at its onset, is perhaps made only when a sudden complication makes it too apparent. As to its probable cause—whether gout, syphilis, chronic lead-poisoning, abuse of alcoholic drinks, chronic narcotism, etc.—we are often unable to speak with certainty for a single one. In its varied course and insidious approach, chronic endarteritis makes itself known by the hardness, inelasticity, and tortuousness of the superficial arteries, slowly creeping on from centre to periphery of the vascular system; or, its progress backward to the heart may cause another train of symptoms. In the latter case the sclerosis of the aorta becomes a

Sclerosis of the aortic valves, and the attention is attracted by a systolic or diastolic murmur heard over the aortic area, and by an enlarged left ventricle. In the great majority of cases the important etiological factor in acute endocarditis is acute articular rheumatism, and, indeed, so often is this the case, as we know, that one of the first questions asked of a patient with valvular trouble is, if acute rheumatism has ever preceded this attack of heart disease. But the two important points in the diagnosis between endocarditis from acute rheumatism and endocarditis from endarteritis is that in the former the mitral valve is by preference affected, and in patients generally under forty years of age; whereas in the latter case chronic endarteritis attacks those over forty, and spreads by contiguity from the aorta to the nearest valve, the aortic, and even if the mitral valve is here affected, it is in company with the aortic valve, whereas after acute rheumatism the mitral is often alone affected.

Another complication is an affection of the aortic valve, due to sudden over-distention of the heart. Peacock[2] made the first important communication on this point. He reported cases of incompetency of the valves from hard work, stretching the valves, as well as cases of direct injury from sudden strain. Albutt[3] and, later, Myers[4] published papers on the same subject, from cases observed among soldiers. In many treatises, monographs, and works on diseases of the heart, this subject has received scarcely more than a mention. Seitz,[5] Foster,[6] Fraentzel,[7] Da Costa,[8] Flint,[9] Quain,[10] and a few others have given more or less detailed accounts of this affection, but it was not until this past year, when Leyden[11] published his painstaking and interesting article, that the subject has been exhaustively treated. He says that the connection between arterio-sclerosis and bodily overexertion has not been proved, but it is very probably true.

The working-classes are particularly prone to this, and the men naturally more than the women. In this case the stiffness and incontractibility of the sclerosed vessel offers too much resistance to the column of blood thrown on it during a violent exertion, and the blood being forced back into the already full left ventricle, causes a sudden distention, with rupture of the aortic valves. In this case we find insufficiency, and occasionally stenosis, of these valves.

A third and frequent complication of arterio-sclerosis is aneurism. This complication may be a sequela of the preceding one. The aorta is atheromatously degenerated, and the left ventricle is hypertrophied. In this condition of things a powerful effort of the hypertrophied left ventricle forces the blood through the aortic valves and upon the aorta, thus causing an aneurism. And even before the sclerosis has extended to the heart, a sudden and violent exertion, as in the majority of cases, causes an aneurism in the atherosed aorta in that part which, by virtue of its position has the greatest strain brought upon it.

The exact definition of the term aneurism is not always clear. Richet[1] says that many aneurisms are due to a dilatation of the vessel without a pathological change in the coats, and that the destruction of the sac does not take place until a long time after the distention.

Cornil and Ranvier,[2] on the other hand, carefully point out that it is not the result of a single mechanical action upon a healthy vessel which caused the distention, but that these aneurisms are always developed in vessels which have been for a long time the seat of inflammation. Dr. Wilks[3] considers the terms "aneurism" and "dilatation" as expressions of degree, and also seems to be of the opinion that the larger vessels are generally first diseased and then distended, and this without any reference to the number of coats involved.

The microscopical examination of the aneurismal walls of the aorta does not always give satisfactory results. The three coats are supposed to take part in the formation of an aneurism. Ranvier and Cornil,[4] however, have stated that an aneurism of the aorta consisted of the interna and adventitia only, the media having entirely disappeared. I have noticed in specimens that the three coats could be recognized in that part of the artery bordering on the aneurism, but in the aneurism itself the separation between the coats was not clearly marked, notwithstanding the fact that in one specimen the aneurism had just begun to form, the patient having died of an intercurrent disease. Birch-Hirschfeld[5] says that on the border of an aneurism of the aorta the three coats can be distinguished, but toward the middle of the tumor the media disappears first and then the interna and adventitia cannot be distinguished, and, indeed, there is often only a hyaline layer in place of the three coats.

Having once found a pulsating tumor of the chest, the diagnosis of aneurism is not so difficult, as a non-aneurismal tumor of the chest is extremely rare. The difficulty is to find out its exact site. Da Costa[6] says we can do little more than conjecture the position of a thoracic aneurism, because a tumor within the chest leads to such displacements that its relations to the surrounding parts cannot be clearly ascertained during life. The most valuable information we can obtain is from a study of the physiological changes from the symptoms of disturbed function. Indeed, the correctness of our conclusions will depend almost entirely upon that of our interpretation of these symptoms

The following case, which came under my care, is interesting on account of some of the signs and symptoms noticed. The meagreness and incompleteness of the history, however, is due to the fact that the patient failed to reappear, and thus escaped an inevitable post-mortem, which would have confirmed or corrected the diagnosis:

Mrs. B——, aged forty-seven, a pale, spare woman, rather under-nourished, came to me complaining of inability to use her voice, and wished to have a supposed

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[1] Read as an admission paper before the Baltimore Academy of Medicine, April 19, 1887.

[2] Peacock, Thos. B.: On the Prognosis in Cases of Valvular Diseases of the Heart. London, 1877.

[3] Albutt, Thomas Clifford: Ueber die Folgen der Einwirkung von Gewalt und Ueberanstrengung auf das Herz und die grossen Blutgefässe. London, 1873.

[4] Ueber die Häufigkeit und die Ursache von Herzkrankheiten bei Soldaten. London, 1870.

[5] Seitz, J.: Die Ueberanstrengung des Herzens. Berlin, 1871.

[6] Foster, Balthazar: Clinical Lectures on Rupture of the Aortic Valves from Accident, Medical Times and Gazette, December 13, 20, 1873.

[7] See American Journal of the Medical Sciences, January, 1886, p. 97. Quoted by Delafield.

[8] Da Costa: Memoirs of United States Sanitary Commission, p. 372, American Journal of the Medical Sciences, 1871.

[9] Flint: Practice of Medicine.

[10] Quain: Lumleian Lectures, Medical Times and Gazette, 1872, p. 352. Quoted by Delafield.

[11] Leyden, E.: Ueber die Herzkrankheiten in Folge von Ueberanstrengung, Zeitschrift für klinische Medicin, Band XI., S. 105.

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[1] Richet, Jaccoud: Nouv. Dictionnaire de Med. et de Chir prat., t. ü.

[2] Cornil et Ranvier: Manuel d'histologie pathologique, t. i. Paris, 1884.

[3] Fagge, Charles Hilton: Principles and Practice of Medicine, vol. ii., p. 840 ff. Philadelphia, 1886.

[4] Ranvier et Cornil: Contributions à l'hist. norm. et path. de la tunique interne des artères et de l'endocarde, Archiv de Physiologie, t. i., p. 553.

[5] Birch-Hirschfeld: Lehrbuch der pathologischen Anatomie, Band II., S. 98.

[6] Da Costa: Medical Diagnosis, fourth edition, p. 388.

laryngitis and bronchitis treated, which she said she had had for some length of time. She complained of pain in the left side of the chest and left arm, and said that her heart "fluttered" very much and seemed to rise up in her throat when she was excited. She was decidedly short of breath, and spoke scarcely above a whisper. On examination a pulsating tumor was observed at the left sterno-clavicular articulation, and was very perceptible to the eye and hand. The tumor, she said, came suddenly after exerting herself during a convalescence from typhoid fever. The following points were obtained: Pain over the cardiac region, especially on pressure, dyspnœa, dysphagia, occasionally œdema and want of sensibility on the left side, displacement of the trachea to the right side. There was also dilatation of the left pupil, almost complete absence of the right radial pulse, and absence of aneurismal bruit in the right carotid and subclavian arteries, which bruit, however, was audible on the left side. The diagnosis of aneurism was at once made, but the exact site could not with certainty be determined. On palpation and percussion the heart was found to be higher than normal, the apex being in the fourth intercostal space and to the right of the left nipple, near the sternum, that is, directly above its normal position. There was apparent to the eye and hand much palpitation. Percussion was extremely painful. On auscultation the heart-sounds seemed to be much quickened, but otherwise normal in character. She had complained for some time of a dry cough and of hurried respiration after the slightest exertion. On questioning her, she said that by her first husband she had had two miscarriages and one child, since dead. She had had sore throat (a not unusual occurrence), and her hair had been coming out. She did not remember having had rheumatism. Although there may not be sufficient proof that her trouble was of syphilitic origin, still, without making a diagnosis as to the cause, iodide of potassium with syrup of the iodide of iron were exhibited in gradually increasing doses. After several weeks under this treatment the mydriasis disappeared, the swelling was apparently reduced in size, and her voice returned for a short time.

The history of the case, unfortunately, stops here, as she passed out of my care while I was absent from the city, and has probably succumbed long since to the aneurism, the exact position of which can be conjectured only. Before reviewing the symptoms and signs present in this case, it might be well to glance at some of the statistics on aneurism.

The following figures from Lisfranc [1] give the number of cases collected by him for the different ages:

Age, Years.	Number of Aneurisms.
13	1
15 to 20	3
20 to 30	17
30 to 40	29
40 to 50	37
50 to 60	17
60 to 70	3
70 to 80	3

Much more numerous are the statistics for the different vessels. Thus, Hodgson [2] reports the following cases:

Ascending aorta, arch, and innominate artery	21
Descending aorta	8
Carotid	2
Subclavian and axillary	5

Of the 551 cases of Crisp [3] there were of the

Thoracic aorta	175
Abdominal aorta	59
Subclavian artery	23
Carotid artery	25
Popliteal artery	137

[1] Lisfranc: Article Aneurysme, du Nouveau Dict. de Méd. et de Chir. prat., t. i.
[2] Hodgson: Treatise on the Diseases of Arteries and Veins. London, 1815.
[3] Crisp: Diseases of the Blood-vessels. London, 1847.

These were in part distributed as follows:

Age, Years.	Number of Aneurisms.
20 to 30	71
30 to 40	198
40 to 50	129

In the London Museum [1] the collection of aneurisms is as follows:

Thoracic artery	207
Abdominal artery	42
Popliteal artery	50
Subclavian artery	12
Carotid artery	9

In Sibson's [2] collection there were 880 aneurisms of the aorta, 703 of which were of the thoracic aorta and distributed as follows:

Ascending aorta (including 87 at the valves of Valsalva)	193
Arch	120
Descending aorta	72

Lancereaux,[3] Baillu,[4] Hayem,[5] and others all agree that the thoracic aorta is most frequently the seat of aneurism. Crisp [6] also says that the anterior and right side of the aorta is most frequently affected, and that the cause is a sudden and violent contraction of the heart. All authors agree that men are more liable than women to this form of aneurism, and naturally, on account of their occupation. The proportion may be stated as about one woman to eight men.

In reviewing the different signs and symptoms, in the endeavor to interpret them, some light may be thrown on the situation of the aneurism.

Pain.—The pain was felt on the left side and down the left arm. It was probably due to the pressure of the aneurism on branches of the brachial plexus, and also to pressure caused by general œdema.

Dyspnœa.—This might be due to several causes: (1) simply to a diminution in the size of the thoracic cavity; (2) to pressure on the left bronchus or trachea; (3) to pressure on the recurrent laryngeal nerve of the left side, in which case we should have a neurotic dyspnœa. As no laryngoscopic examination was made, it might be supposed that the three causes were present. From her manner of breathing and the size of the aneurism, I am inclined to think that the last two causes were present.

Œdema.—This was undoubtedly caused by pressure on some venous trunk, most probably the innominate vein.

Mydriasis.—The mydriasis was caused by pressure upon a branch of the cervical sympathetic (cilio-spinal). This agrees with several other points in the history which go to show that the aneurism had not grown to a very large size. The fact that the pupil on the left side was dilated would tend to show that the fibres of the cervical sympathetic going to the musculus dilatator pupillæ were simply irritated and not destroyed, in which latter case the pupil would be contracted, since the oculomotorius and sphincter pupillæ would have no opponent. The cases reported recording an affection of the pupil generally refer to a contraction, and not to a dilatation, of the pupil. Gairdner [7] reported a case of aneurism of the aorta which projected up into the neck, causing a contraction of the pupil on the affected side. But on further noticing this case it seems that the patient was taking large doses of opium, which certainly could not fail to have an effect on the pupil. Robertson [8] reports a case of division of the cervical sympathetic, with contraction of the pupil on the affected side. Dr. John Reid [9] was the first to point out this inequality of the pupils in case of tumors of the neck interfering with the cervical sympathetic.

[1] London Museum Reports.
[2] Sibson: Medical Anatomy. London, 1869.
[3] Lancereaux: Traité historique et pratique de la Syphilis. Paris, 1866.
[4] Baillu: Morbid Anatomy.
[5] Hayem: Medical Dictionary, 1839.
[6] Crisp: Loc. cit.
[7] Gairdner, W. T.: Edinburgh Medical Journal, July, 1855, vol. i.
[8] Robertson, Argyll: Edinburgh Medical Journal, February, 1869.
[9] Reid, John: Edinburgh Medical and Surgical Journal, 1841.

Hurried respiration.—This was caused by pressure upon the left pneumogastric nerve, which pressure also caused the increased rapidity of the heart-beat.

Dysphagia.—This may be explained on the same ground as the pressure on the trachea.

Want of sensibility on the left side.—This was probably due to the œdema, as well as to the pressure on the sensory nerves.

Almost complete absence of right radial pulse.—This is the most difficult sign to understand. Generally the radial pulse on the affected side is indistinct or absent, and in this case we must either record this sign as an exception which may possibly occur, or try to show that the aneurism extended in some way over to the right, or was actually situated on the right side of the thorax, in spite of all the apparent proofs to the contrary. Crisp [1] says, if there is an obstruction to the circulation in the subclavian or innominate artery, there is usually a difference in the pulse of the two sides of the body, the radial pulse of the affected side being less distinct. If, however, the arteries contain no fibrinous deposit, and their calibre be not diminished, the pulsation on the affected side may be stronger.

The condition of the heart.—The valves were found to be normal, and the ventricles apparently not hypertrophied. This is a rare condition in case of an aneurism of the aorta, especially of the ascending and arched portions. In many of such cases reported, the aortic valve was affected. Key,[2] in speaking of the reaction of aortic aneurisms on the heart, says he has not yet met with a case in which an aneurism of the aorta produced a hypertrophy of the muscular substance of the left ventricle, and in another report [3] he found an aortic insufficiency in four cases out of seventeen, and no case of stenosis; and his deduction was that if the valves were healthy the aneurism exerts no influence on the heart.

This review of the signs and symptoms, together with the age of the patient, her history, and the above statistics, would point to an aneurism whose probable seat was in the aorta. As an aneurism at the valves of Valsalva produce so few symptoms, and so easily escapes detection, this part may be eliminated. The ascending aorta may be excluded, because an aneurism here would in all probability be on the right side; and even if an aneurism of the ascending aorta were present, and the aneurismal sac pressed over upon the left side of the heart, causing the symptoms related, there would be a bruit or throb in the right subclavian or carotid, which the history shows was absent. The descending aorta may also be excluded; and as the left side was principally affected, it was most probably (unfortunately it is not certain) an aneurism occurring at the anterior and inferior portion of the left part of the arch, opposite to where the left carotid and subclavian are given off. Of course such a diagnosis can be based upon hypothesis alone.

In looking at the etiology of this case, it would not be right to deduce that, because the iodides caused a general improvement, therefore the cause was specific. That the iodides do cause an improvement in many such cases has been witnessed lately by Huchard,[4] of Paris. He records a number of patients suffering from atheroma of the arteries and chronic arteritis, as well as valvular trouble from atheroma, in all of which amelioration and recovery were brought about by the use of the iodides, and particularly of the iodide of sodium. He says these were true cases of organic heart trouble in patients not anæmic. He also particularly affirms that the iodides, in his experience, are not efficacious in every form of valvular disease, but only in chronic so-called sclerotic inflammation of the lining membrane of the heart and the arteries.

NOTE.—Since writing the above, an article by Beverley Robinson, M.D., on this subject, has appeared in THE MEDICAL RECORD, February 26, 1887.

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[1] Crisp: loc. cit., p. 129.
[2] Key, Axel: Medical Times and Gazette, June 4, 1879, vol. i.
[3] Ibid.: Hygeira—Proceedings of the Swedish Society of Physicians, p. 285.
[4] Huchard, Henri: Bulletin Général de Thérapeutique, t. cxi., p. 302.

A SUBSTITUTE FOR THE ORTHODOX PESSARY.[1]

BY W. GILL WYLIE, M.D.,

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HAVING no paper to read, I will substitute a few remarks upon a subject that I have often wished to bring before the Society, as it has been of much practical benefit to me—viz., the abuse of the pessary. I am entirely satisfied that in the text-books too much stress is laid upon the matter of displacements as being the cause of uterine disease. I mean, that I think it is a mistake to regard simple displacement of the uterus as a disease. It is very frequently associated with serious disease, but, as a rule, if the disease is cured, the displacements are of little consequence.

I never did adopt the use of the stem pessary, having felt satisfied that it is of little practical value, and that it is risky.

I recognize the fact that retroversion is often a serious complication, especially when the uterus is large or when the parts are very much relaxed; or when the uterus prevents the free egress of the fecal matter. But it is not a disease.

It seems to me that there will be a radical change in the teaching of the text-books upon this subject. The thing has been entirely overdone.

Long ago I was convinced that the pessary was only a helping instrument; that if it relieved the patient, it simply relieved her, and that its use alone was not good practice. Some years ago Dr. Sims introduced glycerine as an agent to be used in the vagina, with the view of producing a watery discharge. He also found that if it was left there forty-eight hours it would very frequently undergo some kind of ferment or change resulting in a vaginitis, and do more harm than good. He also mixed with it alum, and found that alum increased the tendency to the watery discharge.

A number of years ago I took up the subject, but accomplished little until boro-glyceride was brought out.

A standard formula that I use with great success in my practice is, one ounce of boro-glyceride and enough pure glycerine to make a pint, and one ounce of sulphate of alum (if I want an astringent; if not, the acetate of aluminum).

Then I found, if I took cotton in a soft, fluffy bunch, tied it with a string, saturated it with the solution, and put it up against the uterus, that, often in six hours, that piece of cotton would be rolled into a ball which would rest against the urethra and set up an irritation. I saw then that this would not do, and it occurred to me to take the cotton and roll it up over a rubber tube; after it had been rolled to the size desired, I tied the end of it firmly with a string. That answered very well. Later I secured some borated cotton of Eimer & Amend, which comes in flat sheets. I found that by rolling this firmly into a roll about one inch in diameter and two inches long, and tying it with a good flax string at the end, that I had cotton in such shape that, if it was thoroughly saturated and put into the vagina, it would retain the shape for four days. It would stay where it was put, and in four days it would be almost in the identical position. I also found that, for the first twenty-four hours after its introduction, there would come away a profuse watery discharge, from four to eight or nine ounces, in proportion to the congestion of the uterine vessels.

The method of introduction is as follows: Place the patient in Sims' position, then introduce Sims' speculum; after saturating the cotton thoroughly, pull back the perineum and push the cotton against the cervix, letting the cervix rest on the anterior part of the cotton. Hold the cotton in that position and remove the speculum.

[1] Remarks made before the Northwestern Medical and Surgical Society of New York, April 27, 1887.

The anterior portion would then lie in the direction of the pubic bone.

It acts as a pessary, except with more certainty, because the perineum, springing up against the cotton, keeps it in place.

The action of the boro-glyceride is to prevent any kind of ferment or change. It has a good effect in catarrhal conditions, and it does not interfere at all with the action of the glyceride and alum in producing the watery discharge. I am satisfied with this as a means of keeping the uterus in place, and at the same time as tending to cure any uterine congestion. I leave it in the patient for twenty-four to seventy-two hours; then wash out the coagulated mixture, and on the third or fourth day make a second application. If there is much of a dragging sensation, I tell the patient to wear it two or three days.

The manner in which this acts as a curative agent, it seems to me, is perfectly plain. The watery discharge which comes from the glands of the mucous membrane, not only of the vagina but of the uterus itself, forces a rapid circulation through the pelvic vessels; it acts in the manner of a very hot poultice, by getting up an active circulation through the tissues, thus bringing fresh and healthy blood into the tissues; and in that way it helps to eliminate disease.

You can theorize about this as much as you please, but practically it is a very great success.

I can take a case of subinvolution of two or three months' standing, with the dragging sensation and more or less leucorrhœal discharge, and in from three to six weeks I will reduce the uterus to its normal size, using nothing else but this cotton. It has enabled me to do almost entirely without pessaries. I use this treatment in cases where Dr. Emmet recommends hot water and iodine. It is very much quicker in its action than the latter method, and instead of the patient being kept in bed she is enabled to go about.

I often use bismuth on these pledgets, as it is a good antiseptic; also other substances, such as iodoform, balsam of Peru, etc.

ON THE USE OF PILOCARPIN MURIATIC IN YELLOW FEVER.

ABSTRACT OF A PAPER BY E. HABERSMITH, M.D.,

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SOME years ago I had an experience with pilocarpin in beriberi, in the San Francisco Marine Hospital, that caused me to resolve that if ever I came in contact with yellow fever again I would give the drug a fair trial in that disease. The first refugees arrived on July 11th; on the 15th there was a death with black vomit, and another death—a relapse—on the 20th. Neither of these cases afforded fair opportunity for trial, but on the morning of the 16th I found a man, sixty-four years of age, in the beginning of an attack—temperature, 104.3°. I put him between blankets and administered one-fourth of a grain of pilocarpin hypodermically. In a few minutes water was pouring out of him. In the course of an hour he had three copious evacuations of the bowels. Evening temperature, 101°; pulse, 92. Next morning, temperature, 99.4°.; pulse, 80. Evening temperature, 96.1°; pulse, 72—*a fall of* 8½ *degrees*. Next day his pulse and temperature were normal, and he would have left hospital if I had permitted it.

The next case occurred on August 1st, and was a repetition of the first. Surprised and delighted at the success of my experiment, I said to myself, This cannot be yellow fever, and reported both cases as malarial paroxysms.

Then occurred a curious incident. I was temporarily absent from the station, and on the morning of August 4th a hospital attendant was taken sick with fever. He was immediately put upon the orthodox calomel, castor-oil, and mustard foot-bath treatment, and developed as perfectly a typical case of yellow fever as ever was seen—spongy, bleeding gums, albuminous urine, fever lasting four days, great prostration, pulse in convalescence as low as 54 beats; and I asked myself what would have been the history of the case had he been treated as the other two men were treated.

I soon had light. On August 12th there arrived, two days from Key West, a family—man, wife, and six children. Parents both sick with fever—taken sick the morning of arrival. I hurried them into hospital and put them under pilocarpin treatment, with the result of having them both convalescent within forty-eight hours. Then a child, aged ten, was taken, on the morning of the 14th. Temperature, 102°; pulse, 120; administered one-eighth grain. Evening temperature, 104.3°; pulse, 140. Dose of pilocarpin not large enough; repeated it, giving about one-third larger dose, causing free emesis as well as profuse diaphoresis. Next morning her temperature was 99.2°, a fall of over five degrees; her pulse, 120. During the day they both became normal, and that was the end of her fever and sickness. Pilocarpin should be used in the first stage, in doses sufficiently large to produce a decided effect—either emesis or catharsis, preferably both. My theory of the *modus operandi* is not that the drug has any specific effect, like quinine in malaria, but that it sets every excretory function in the whole body actively at work, and the enormous flow of water from the skin reduces the fever on precisely the same principle as the temperature of the water in a water-monkey is reduced—namely, by rapid evaporation.

The treatment is thoroughly scientific and rational, the result of much thought and observation, and applicable to the whole range of Southern bilious fevers. They can be broken by pilocarpin, promptly administered; that, followed by quinine, to prevent recurrence, will surprise and delight both physician and patient.

It has long been known that pilocarpin, given at the commencement of an ordinary paroxysm of intermittent fever, would stand the paroxysm on its head, so to speak—that is, it brings the sweating stage to the front, and there is little or no fever. I believe I am the first to demonstrate the great value of the drug in yellow fever; indeed, judging from my cases here, yellow fever becomes a very trifling matter.

DIET IN DISEASE.—The relation of food to certain abnormal states is well known, to disregard which would be fatal to the success of any method in therapeutics. There are conditions, in fact, in which diet, and not medicine, is the leading indication of treatment. We have repeatedly cured chronic flatulence, occurring in aged persons with enlarged livers, by eliminating sugar from their dietary. All know the superiority of lean meat and skimmed milk over any form of medicine in diabetes; the benefit of a milk and farinaceous diet in catarrhal affections of the stomach; of cooked milk (boiled half an hour or more) in enteritis and ulceration of the mesenteric glands; of fresh vegetables in scurvy; of fruit, and bread made from unbolted wheat-meal in chronic constipation, etc.—*Ed. N. Y. Medical Times* (liberal homœopathic).

THE WORK OF THE CHOLERA IN FRANCE AND SPAIN.—M. Mahé has published in the *Annales d'Hygiène* an elaborate statistic of the recent cholera epidemic. In France the number of deaths from the affection in 1884–85 exceeded 13,000, which gave 1 death in 3,000 inhabitants. In Italy 30,000 persons succumbed, or 1 in 900 of the population. Spain gave a much higher mortality, 180,000, or 1 in 100. Thus it is computed that the three countries lost 220,000 inhabitants out of 600,000 attacked during those two years, and the material loss in one way or another exceeded twenty millions sterling.—*Providence Medical Journal.*

found embedded in the fæces. During the time of its stay in the alimentary canal the child had complained slightly a few times of pain in the stomach, but outside of this no symptom was produced, and the spoon passed through the anus without causing pain. The spoon was very much discolored from sulphur."

Progress of Medical Science.

Salix Nigra as a Sexual Sedative.—In the *British Medical Journal*, July 30, 1887, Dr. Hutchison, of Glasgow, writes: "In many women pain in the ovarian region is a constant attendant upon the menstrual epoch. In some this is due to organic disease, but in a large number it is one of the manifestations of the neurotic temperament. Such cases are met with in all degrees of severity, from a slight amount of discomfort along with indications of globus hystericus, up to hystero epilepsy in its most pronounced forms. It has always been a slur upon our profession that, when a method of treatment becomes popular or fashionable, other methods are entirely discarded. At present, massage and isolation from relatives is the popular mode of treatment, and drugs occupy a secondary place, if, indeed, they have any place at all. Pecuniary difficulties, however, stand in the way of isolation or massage ever reaching the masses, and drugs will always be in employment. Several drugs are in daily use against the ailment, but with only partial success, and it is with the view of bringing before the profession a remedy which in my hands has produced results which I never had before while I was employing the bromides, valerian, assafœtida, etc., that I have sent this short notice. Salix nigra, or the pussy-willow, is a tree growing from fifteen to twenty feet high. It is met with along the streams in the Southern States of America, and is credited with possessing tonic, carminative, and stimulant properties, besides being an astringent and antiperiodic. In the 'Transactions of the Texas State Medical Association,' Mr. Pain reports many cases treated successfully with the drug. He prescribed it in cases of ovarian hyperæsthesia, uterine neuralgia, etc., and also in spermatorrhœa and nocturnal pollution. His verdict upon the drug is that it is a powerful sexual sedative, similar in its action to bromide, but without its depressing qualities. I obtained a supply of the fluid extract, and have been employing it for some months. The most numerous class of cases in which I exhibited the drug were women of a nervous temperament, in whom the nervous irritability reaches its height at the menstrual period, when, along with the general *malaise*, is added a very decided pain in one or other ovary. They also suffered from hemicrania, the pain being situated above the left eyebrow, and resembling the feeling as if a nail were being driven into the skull (clavus). Many of them, too, complained of a pain underneath the left breast, and extending round to the back. On one or two occasions I have noticed patients complaining of the above symptoms, and in only a moderate degree, under favorable ventive medicine; 5, example, long-continued anxiety, gr and the discovery of new remedies; 5, abdominal (antiseptic?) surgery; 6, diagnostic art.

It appears to us that neither of the distinguished gentlemen referred to above has answered the question very completely. If Sir William Hamilton had taken the trouble to peruse the writings of Hippocrates and physicians of his time, he would have been a little surprised at many of their therapeutical ideas. If Sir William, for example, having a quinsy, could have called in Hippocrates, the learned professor would have been bled in the arm and sublingual veins, he would have been purged, given warm gargles, his head shaved, had a way stronger. I have also given the drug in two cases of nocturnal emissions with marked benefit. The pollution ceased entirely while the drug was being taken and for several months thereafter. Virile power and passion were not much, if at all, diminished, but the relief from the ailment gave them great satisfaction."

A Peculiar Condition of the Tongue resembling Beef-steak.—In the *Australian Medical Journal*, Dr. Henry records three cases seen by him during the last few months, where the tongue was of a deep red color, fissured in every direction, and bearing the most striking resemblance to a piece of raw beef-steak. The surface of the organ seemed to be completely denuded of epithelium and papillæ, there being no sign of fur or coating. In each case the condition was chronic. The patients were females, and were all brunettes, who suffered from dyspepsia in an aggravated form. According to the author, this condition is generally associated with a good deal of nervous irritation and very great debility, with prostration. The treatment is not easy, but by paying attention to the general health and correcting any irregularities, and especially of the female genital organs, a good deal may be done toward curing a very rebellious condition.

Surgical Scarlatina.—In a recently published lecture on surgical scarlatina, Dr. Hoffa, of Würzburg, has reported two instances of this affection, the rash having appeared in the first of these cases after extravasation of urine, and in the other after a wound of the perineum. After full recognition of the facts that English surgeons were the first to direct attention to this association, Dr. Hoffa points out that it will be seen, on looking over the numerous recorded cases of so-called surgical scarlatina, that in many of these there is no evidence of true scarlatinal infection. These cases, it is stated, may be analyzed and arranged under four categories. In the first the rash was nothing more than erythema, due simply to vaso-motor disturbance, an analogous condition of the local congestion on the surface of the skin, which is often observed, appearing early and vanishing rapidly after delivery or some minor operation. The second class is made up of instances of toxic erythema, occurring in the course of from twenty-four to forty-eight hours after some cutting operation, and after injury with or without wounding of the skin. This rash, in its mode of onset, its course, and its clinical significance, resembles any erythematous medicinal rash. It comes on without any premonitory signs, and is accompanied by gastric disturbance and high fever. The rash occurs in the form of fine red points, or large isolated patches, with intervening clear spaces of healthy skin. It is met with only on the trunk and extremities. As a rule it disappears spontaneously within twenty-four hours, and is not followed by desquamation. It is very probably caused through the absorption of wound-secretions, or the presence of crushed tissue in the circulation, and, in some instances, may be due to the action of fibrin-ferment. A similar rash is sometimes observed in the neck and trunk after the administration of chloroform, and also in cases of general poisoning by carbolic acid and corrosive sublimate. The rash in the third group is the result of septic or pyæmic infection, and of much more serious import than in the previous groups. It usually occurs in the form of a disseminated erythema, affecting simultaneously or successively different regions of the surface of the body. The nature of this rash is usually very evident, as the erythematous patches are often associated with miliaria and pustules, with purpuric spots and with ecthyma. There is one form of pyæmic rash which it is very difficult to distinguish from true scarlatina. On the third, fifth, or seventh day after the first attack of rigors this rash usually appears at the wound or open surface, and in the course of the two following days spreads as a bright and evenly diffused redness, often limited to one side of the trunk. This rash disappears

for a moment under digital pressure, and is usually accompanied by œdematous swelling of the skin. It vanishes in the course of the fourth or fifth day, and is often followed by desquamation, and sometimes by purulent infiltration of the subcutaneous cellular tissue. This variety of exanthem is probably due to capillary embolism through micro-organisms. Besides these three groups of rashes, all of which have been wrongly regarded as instances of surgical scarlatina, there is a fourth variety which comprises cases in which the rash is really the result of the infection of the organism with the poison of scarlatina. Dr. Hoffa says that the diagnosis of scarlatina can be accepted only when, in addition to the characteristic exanthem, there is present at least one of the other morbid conditions that go to form the group of symptoms of the eruptive fever, these morbid conditions being angina, swelling of the submaxillary glands, desquamation, and nephritis. The diagnosis will, of course, be rendered absolutely certain if other persons become infected with scarlatina through contact with the subject of the case in question. Although in a very large proportion of the reported cases of true surgical scarlatina the infection had taken place before the date of the injury or operation, a sufficient number of instances have been observed to prove that such infection may be of subsequent occurrence. There are two modes in which this may occur. Either the subject of the wound may, through proximity to some other person who is suffering from scarlatina, acquire the disease in the usual way, by infection through the digestive or respiratory tract, or the infection may start in the wound, the rash first appearing at the margins of the open surface, and spreading without interruption to other parts of the surface of the body. Reference is made to a number of cases which prove that infection must have taken place by an open surface. With one exception, the subjects of these cases were adults, and such persons as were likely to have been previously often exposed to the contagium of scarlatina without having been infected. This fact would lead to the conclusion that the presence of a wound must constitute a predisposition to become susceptible to the poison of scarlatina. It is held by English pathologists that any local inflammatory process may also constitute such a predisposition, and that this predisposition depends on certain changes in the nervous system set up by the wound or local inflammation. The author believes that the tendency of the subject of an open wound to contract scarlatina is due to the ability of the scarlatinal micro-organisms to enter by this wound in such numbers as to overcome the resistance of the tissues. He accounts for the previous immunity of such patients by assuming that the micro-organisms either fell upon sound, unbroken skin, or entered the body in too small a quantity to overcome the resistance made to their development by the elements of its tissues. In reference to the statement of Sir James Paget, that in cases of scarlatina in the subject of a wound the incubation period is usually shortened, Hoffa, while pointing out that such a fact would support his view, asserts that this period is sometimes prolonged in cases of surgical scarlatina. In surgical cases the characteristic symptoms of scarlatina, such as the rash, the angina, the desquamation, and the nephritis, are often much modified, and one or more of these conditions may be absent. But, it is added, there is a great tendency, in ordinary cases of scarlatina in which there is no wound or external surgical lesion, to deviate in many ways from its typical course. The name of surgical scarlatina should be applied only to those cases in which the scarlatinal affection starts from a wound.—*Volkmann's Sammlung Klinischer Vortrage.*

Alkaline Mercurial Soap as an Absorbent.—Dr. Svetukhin, chief of Professor Lashkevich's clinic in St. Petersburg, states that various preparations have been recently employed in the wards for the purpose of promoting absorption of pleuritic effusion. Iodine ointment is too mild and too slow in its action to answer the purpose, and the odor of iodoform ointment is so strong that it interferes too much with the comfort of the other patients, and so is found to be unsuitable for hospital practice. It was found that iodine ointment could be advantageously supplemented by soft-soap (sapo kalinus viridis) inunctions, or by rubbing in unguentum hydrargyri. The most valuable of all applications for this purpose was, however, found to be a preparation called sapo kalinus hydrargyrosus, which is made by mixing in certain proportions metallic mercury, unguentum hydrargyri, caustic potash, and olive-oil, so that the resulting soap contains a third of its weight of mercury, the unguentum hydrargyri of the Russian Pharmacopœia containing half its weight of mercury. This is agitated with hot water so as to form a good froth and lightly rubbed into the skin. It has the advantage over unguentum hydrargyri in being much more easily rubbed in, in not irritating the skin and thus causing eruptions, and, lastly, in not so rapidly setting up stomatitis or salivation. From half a drachm to a drachm of this mercurial soap is used for each inunction. After from six to ten applications some diminution may be detected in the effusion, and after twenty inunctions the whole is usually found to have disappeared. Of course, favorable results can only be looked for in cases of simple effusion; they cannot be obtained in empyema.—*The Lancet.*

The Skin Affections that Accompany Malaria.—Dr. Retiwzew gives the following statistics, taken from the observation of 2,000 cases of malaria (*The London Medical Record*): 1, Roseola occurred in 2.5 per cent. cases, chiefly in the first eight days of the disease; 2, an erythema in large spots in three per cent.—it came in small and large patches, accompanied with itching and burning, and lasted from a few hours to two days; 3, urticaria in 4.5 per cent. of the cases—frequently it accompanied erythema; 4, herpes facialis in twenty two per cent., mostly on the lips and nose; 5, herpes zoster occurred only once in 2,000 times; 6, petechiæ were frequently found in severe and long-standing cases; 7, purpura simplex often accompanied malarial cachexia.

Cannabis Indica in Diarrhœa.—Drs. Bond and Edwards draw attention to the value of cannabis indica in cases of summer diarrhœa or cholera morbus. The formula generally employed for an ordinary adult is: Tincturæ cannab. ind., ♏x.; liquor morph., ♏v. to x.; spirit. ammon. arom., ♏xx.; sp. chloroformi, ♏xx.; aq., ad ℥j. To be repeated every one, two, or three hours, according to circumstances. No food should be taken for several hours, and only a little brandy-and-water to drink. By this treatment rapid relief is given. The great depression, frequent stools, vomiting, and cramp-like pains quickly disappear, and in two or three days the patient is quite well. The cannabis appears to act by increasing the astringent and anodyne properties of the morphine, by its stimulating effect on the nervous system, improving the general tone, and enabling the system to quickly overcome the depression. This drug is also very useful in cases of subacute gastro-enteritis, but it has not been found very good in cases of tuberculous diarrhœa.—*The Practitioner.*

of fruit, and bread made from unbolted wheat-meal in chronic constipation, etc.—*Ed. N. Y. Medical Times* (liberal homœopathic).

The Work of the Cholera in France and Spain.—M. Mahé has published in the *Annales d'Hygiène* an elaborate statistic of the recent cholera epidemic. In France the number of deaths from the affection in 1884–85 exceeded 13,000, which gave 1 death in 3,000 inhabitants. In Italy 30,000 persons succumbed, or 1 in 900 of the population. Spain gave a much higher mortality, 180,000, or 1 in 100. Thus it is computed that the three countries lost 220,000 inhabitants out of 600,000 attacked during those two years, and the material loss in one way or another exceeded twenty millions sterling.—*Providence Medical Journal.*

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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HAS THE PRACTICE OF MEDICINE IMPROVED?

AT the last meeting of the British Medical Association, Professor Gairdner, of Glasgow, set himself the task of answering the old query of Sir William Hamilton: "Has the *practice* of medicine (the art as distinguished from the science) made a single step since Hippocrates?" In the last issue of the *Asclepiad*, Dr. Benjamin Ward Richardson presents an epitome of the great advancements in practical medicine, preventive and curative, by the physicians of the Victorian era. The title of Dr. Richardson's review itself shows that he would answer Hamilton's query very emphatically in the affirmative. Professor Gairdner, who gives a similar affirmative answer, gives, nevertheless, a very meagre catalogue of the achievements. They are, he says:

"1. The increased value attached to hygienic remedies, and the recognition of the fact that the insanitary conditions which produce disease tend to its continuance and retard recovery; 2, the abolition of frequent and routine venesection, which has gone hand in hand with a greater trust in the self-healing processes in acute diseases—*vis medicatrix naturæ*; and, 3, a more rational treatment of epidemic fevers, easily digestible foods having been allowed to replace alcoholic stimulation, which had itself displaced copious venesection and other depletory remedies." He contends also that, in general terms, there is a greater "stability" in medical practice, a stability which will in the future prevent extensive revolutions in practice by ill-considered theories.

Dr. Richardson answers the question by enumerating six distinct "advancements," here presented in chronological order: 1, The treatment of the insane; 2, preventive medicine; 3, anæsthesia; 4, therapeutical changes and the discovery of new remedies; 5, abdominal (antiseptic?) surgery; 6, diagnostic art.

It appears to us that neither of the distinguished gentlemen referred to above has answered the question very completely. If Sir William Hamilton had taken the trouble to peruse the writings of Hippocrates and physicians of his time, he would have been a little surprised at many of their therapeutical ideas. If Sir William, for example, having a quinsy, could have called in Hippocrates, the learned professor would have been bled in the arm and sublingual veins, he would have been purged, given warm gargles, his head shaved, had a cerate and fomentations put to the neck, and given water and "the juice of ptisan" ("Regimen in Acute Diseases," vi.). If he had had dropsy, he would have received a draught of cantharides; if he had had dysentery, boiled beans and madder shoots, etc. In addition to this, whatever his complaint, if acute, he would have been treated on an erroneous theory of coction and crisis. Indeed, no one who has read Hippocrates would ever ask so foolish a question as that propounded by the late Scotch professor. We have more than advanced in our art—we have created it.

THE OPENING OF THE COLLEGE OF PHYSICIANS AND SURGEONS.

THE exercises attendant upon the opening of the new building of the College of Physicians and Surgeons last week were simple, but dignified and impressive. The story of the College's long career of usefulness was told by the President of the Faculty, and the promise, with its new equipment, of doing a greater and better educational work was appropriately dwelt upon. There can be no doubt that medical education in this country will make vastly greater strides, simply through the fact that at least a few institutions are now able to teach students in the very best manner. The people are learning that there are doctors and doctors, and the best taught get a quicker recognition, and, other things being equal, soon distance their competitors. The magnificent endowments of the College of Physicians and Surgeons place New York easily first among the great teaching centres of the country.

BORACIC ACID AND LEUCORRHŒA.

WE have already referred to the successful results reported by Dr. N. F. Schwartz (*St. Louis Courier of Medicine*, June, 1887), in the treatment of leucorrhœa, by packing the vagina with boracic acid. Leucorrhœa is an indefinite term, but it probably means, in most cases, that there is a catarrhal condition of the vagina and endocervix, either, or both. For these states, the standard prescription is injections, or injections combined with local applications of iodine, carbolic acid, etc., to the cervix. The results are generally fairly good when the patient can be persuaded to carry out the treatment faithfully. But American women do not take kindly to the system of elaborate gymnastics necessary for proper douching; consequently leucorrhœas are more often not cured than otherwise. Dr. Harold N. Moyer, who has tried the boracic-acid method, states (*The Medical Standard*) that the discharges can be stopped with from two to three applications of the acid. He says:

"The method advocated by Dr. Schwartz is substantially that followed in suppurating otitis; it was the success of the treatment in this latter affection that led him to apply it to the vaginal cavity. The method recommended, and the one followed by the writer, is first to irrigate the vagina with water as hot as can be borne; then a speculum is introduced, and the walls of the vagina are carefully dried with pledgets of absorbent cotton. Sufficient boracic acid is then poured through a cylindrical glass speculum to fill and completely distend the vault of the vagina and surround the vaginal portion of

the cervix. I greatly prefer the larger crystals, as they dissolve slowly and the effect is more prolonged. The crystals are held firmly in place by small tampons of absorbent cotton, supported by a large aseptic wool tampon."

Two cases are reported, illustrating the application of the method.

News of the Week.

Dr. Lefferts' Dinner to Mr. Lennox Browne, of London.—Dr. George M. Lefferts, of this city, gave a dinner and reception at Delmonico's, Monday evening, October 3d, to Mr. Lennox Browne, F.R.C.S. Ed., of London, the well-known laryngologist. Dr. William Ord, F.R.S., of London, shared the honors with Mr. Browne. The dinner was, as usual with the host, everything it should be. Twenty-eight representative medical men were present, and vied with the genial host in makthe occasion a thoroughly enjoyable one.

Vermont Medical Society.—The seventy-fourth annual meeting of the Vermont State Medical Society will be held in the New Court Room, State House, Montpelier, Vt., on Thursday and Friday, October 13 and 14, 1887.

Some of our Chicago Medical Colleges are energetic, at least. The College of Physicians and Surgeons of that city accompanies its opening with a column and a half notice of the school and the various members of the faculty, illustrated with cuts. The Rush Medical College, also, celebrates at equal length and with similar richness of illustration. If they are faithful presentments of the distinguished teachers, we lament the decay of manly beauty in Chicago. The practice of using the teaching institutions for purposes of personal advertisement, as is done in the two notices referred to, is pernicious and likely to lead to grave results. The general practitioner asks himself why he should not be able to advertise with impunity also; and a tendency to lax practices is encouraged—practices which, if carried to their logical and legitimate end, degrade the profession to the level of quacks, or, at the best, to that of mercenary and enviously competing tradesmen.

Homes for Medical Students.—The Middlesex Hospital College has had erected a building designed expressly for affording to medical students a comfortable home in close proximity to their work. The building is under the charge of a warden and steward. The usefulness of such an institution is very apparent, and it would be a matter of great congratulation if some of our colleges here would undertake a similar work. Medical students are, as a rule, obliged to live in cheap boarding-houses, without such comforts or social surroundings as best promote their health, happiness, or their manners.

A Death from Cerebral Embolism during Administration of Ether.—A patient of Dr. D. Hayes Agnew died while under the influence of ether. The heart beat for three-quarters of an hour after respiration ceased. An autopsy by Dr. Formad showed pachymeningitis, with atheromatous arteries. There were minute blood-clots in many of the cerebral vessels, one of them being situated in the medulla, involving the respiratory centre.

At the Opening of one of our large medical colleges, on September 29th, the learned orator is reported as follows: "He devoted a good deal of time to impressing on his audience the importance of chemistry, and, in an atmosphere that was positively stifling owing to the absence of any ventilation, he paid a very glowing tribute to the laws of hygiene and the necessity of a higher appreciation of improved sanitation."

Opening Exercises of the College of Physicians and Surgeons.—The College of Physicians and Surgeons celebrated the opening of its new building with a banquet, September 29th, and appropriate exercises at the College. The dinner was as large as Delmonico's banquet-hall could accommodate. Dr. C. R. Agnew presided, and speeches were made by Mr. Depew, Mr. Cornelius Vanderbilt, Dr. William Pepper, and others. The exercises at the College opened with prayer. Dr. Dalton then made an address, giving the history of the College. In 1806, he said, the Medical Society of the County of New York, in order to promote the advancement of medical science, asked for the incorporation of a medical college, and in the year following this was accomplished. The first lectures were given in a building on what was then Robinson Street, now Park Place. Fifty-three students attended the first session, 76 the second, and 82 the third. The second year the College was removed to Magazine Street, now 553 Pearl Street. Nicolas Romeyn was the first President. The College removed to Barclay Street, and then to Crosby, where its usefulness became very great. In 1826 all the professors resigned and formed another institution, which lived only four years. Fifty years after its founding the College became the medical department of Columbia. In 1856 the building at Twenty-third Street and Fourth Avenue was secured. It had been arranged that Joseph H. Choate should deliver the inaugural address, but owing to sickness in his family he was unable to be present. Dr. William H. Draper took his place. He referred to the superiority of medical instruction and opportunities for medical investigation in Europe during the past, but believed that, with the increased interest in science and the help of private gifts, great advances were now being made here without government help. Dr. Draper presented the bronze bust of William H. Vanderbilt, the gift of Trustees and Faculty. Mr. Vanderbilt had been sitting for this on the day that he died. The bust is by J. Q. A. Ward. It is placed in the main hall, where it can be seen by the students as they enter the building. Portraits of Drs. Hosack and Mitchell were also presented, and one of Dr. John C. Dalton, the present President of the College. The building, which is the best equipped in the world, is a brick structure, designed to facilitate that combination of didactic instruction with laboratory work which is essential to a modern scientific training. It consists of a southern wing, measuring 140 by 43 feet, along Fifty-ninth Street; a northern wing, 76 by 43 feet, along Sixtieth Street; and a middle portion, 96 by 55 feet, connecting the other two.

The southern part contains the administrative department, with conversation, reading, and smoking rooms, and a room where disarticulated skeletons are kept. On the second and third floors are professors' recitation and demonstration rooms, a laboratory, and the Swift Physiological Cabinet. The top floor is devoted wholly to work upon the cadaver. In the evening it will be lighted by electric lights. It contains thirty-six tables, at which one hundred and eighty students can dissect at once. The northern portion of the building is given up to laboratory purposes. In the middle building are two large lecture rooms, which will hold four hundred and fifty students each. The remaining space is taken up with work-rooms in the various departments.

The Vanderbilt Clinic, at Sixtieth Street and Tenth Avenue, is connected with the main college by a covered passage-way. It was built and the land provided by the sons of Mr. William H. Vanderbilt, as a memorial of their father, and provides a fully equipped dispensary service for the sick poor. It also contains a theatre for clinical lectures, and small rooms for instruction and examination. The Sloane Maternity Hospital is at Fifty-ninth Street and Tenth Avenue. It is a lying-in hospital with thirty beds, given by William D. Sloane, whose wife, a daughter of William H. Vanderbilt, has made its beds free in perpetuity.

The Distinguished Dermatologist, Professor Unna, while in New York City, is said to have been called in consultation over the case of a well-known and wealthy lady here. The fee received, $6,000, is probably one of the largest ever obtained by a dermatologist.

Gleditschine—not Stenocarpine—as the name of the new anæsthetic has been finally determined, ought to be at once adopted in place of the incorrect term "stenocarpine." The drug, we learn, is as yet very expensive and somewhat difficult to get.

Mr. Richard Quain, one of the editors of "Quain's Anatomy" and "Quain's Atlas," author of the "Anatomy of the Arteries," and the oldest surgeon in London, died on September 15th. Mr. Quain was long known as a successful surgeon, teacher, and author, and the "Anatomy" which he assisted in editing is still the best text-book which we possess on this subject in the English language. Mr. Richard Quain is not Dr. Richard Quain, author of "Quain's Dictionary," and a gentleman still very much alive.

Death of Professor von Langenbuch.—This distinguished Berlin surgeon died last week. For several years he had retired from the active duties of his professorship, but had continued to take an interest in surgical and scientific matters. Not long ago he was made a baron in recognition of his long and remarkable services to surgery and education.

A Permanent Emergency Corps.—The medical corps organized for emergency and ambulance service during the Constitutional Centennial at Philadelphia has formed itself into a permanent body. Its constitution declares the object of the association to be the rendering of free aid as a corps to the municipality in public emergencies requiring medical or surgical assistance, through or under its medical director. The association is to be divided into three classes, the first consisting of the active members, or emergency corps, the second of honorary and associate members, and the third of the lady patronesses.

Country Doctors and Experimental Work.—Dr. N. Senn began practice as a country doctor in Wisconsin, but has managed to do as much experimental surgery as anyone in the country. It is not the opportunity always, but the man.

The Baneful Influence Locally of Medical Colleges.—The editor of the *American Lancet* thinks that the influence of medical colleges upon the profession, in the towns in which they are situated, is bad. He refers, we presume, to cities of 200,000 inhabitants or less. The effect upon the fee-lists is shown by a comparison of that in Cleveland, where there are three medical colleges, with that of New Jersey, a State distinguished by having no medical college. He says: "In Cleveland, an office visit is twenty-five to fifty cents, in New Jersey one to ten dollars. In Cleveland a visit from the family physician is one dollar, no extra charge for an hour or two detention, no charge for prescription to other members of a family. In New Jersey a visit from the family physician is from one to ten dollars, a dollar extra being charged for every hour's detention."

Baths, Gymnastics, and Mountain-climbing are measures for the treatment of heart disease which largely occupy the attention of German physicians interested in these diseases. An intelligent study and exposition of such measures is needed on this side of the water.

Both Sydenham and Boerhaave, great names in medicine, asserted that acute pneumonias were rarely cured without the abstraction of forty ounces of blood. This treatment was pretty successful also.

Health Board Doings.—The following resolutions have been passed by the Board of Health:

Resolved, That on and after October 1, 1887, the consideration of all diseased animals coming under the jurisdiction of this Department be and is hereby referred to the Division of Contagious Diseases of this Department.

Resolved, That on and after October 1, 1887, Dr. Cyrus Edson be and is hereby transferred from the position of Chief Inspector of Food and Chemical Analysis to that of Chief Inspector of Contagious Diseases, and that his salary be increased to $3,000 per annum.

Resolved, That on and after October 1, 1887, the position of Chief Inspector of Food and Chemical Analysis in this Department be abolished, and that Mr. E. M. Martin, the chemist of the Board, be given charge of the duties of that office, and that his salary be increased to $2,000 per annum.

Resolved, That on and after October 1, 1887, Mr. E. M. Martin be and is hereby directed to report to this Board, a plan of action which shall contemplate a careful scrutiny of all food and drink commodities of this city, for the purposes of detecting the existence of diseased or adulterated conditions of them.

The late Dr. J. C. Hutchison.—At a meeting of the medical staff of the Brooklyn Hospital, September 24, 1887, the following minute was adopted: "The long and active connection of our friend and associate, the late Dr. Joseph C. Hutchison, with the Brooklyn Hos-

pital, was characterized by earnest and unfaltering devotion to its interests. His pre-eminent professional skill, his conservative and accurate judgment, his large and varied experience, his genial manner, and the inspiration of his native kindness and Christian manhood were ever ready for his professional associates as well as for those who sought the shelter of this institution for help, and were ever intent on all suggestions that served to keep the Brooklyn Hospital first and most liberal among the charitable institutions of the city. Contributing as he did by his dignified presence and his many graceful accomplishments to the adornment and advantage of the enterprise, culture, and benevolence of the city, the Brooklyn Hospital was nearer to his heart than any other, and to it were given his utmost care and the best of his gifts.

"D. E. KISSAM, *President.*

"ARTHUR R. PAINE, *Secretary.*"

THE LATE DR. ALONZO CLARK.—At a meeting of the Board of Managers of the New York Society for the Relief of the Widows and Orphans of Medical Men, held September 21, 1887, Dr. Gouverneur M. Smith presiding, the death of Dr. Alonzo Clark, a late associate and benefactor, having been announced, it was

Resolved, That this Board has heard with sincere sorrow of the death of Alonzo Clark, M.D., LL.D., and, in view of his eminent service to the medical profession as scholar, instructor, and counsellor, deems it fitting to place on record an expression of its appreciation of his eminent ability, singularly upright professional and private life, and of his zeal and ability as an investigator and lecturer.

Resolved, That the medical profession owes to him much of value in the advancement of medical science, while his ever loyal devotion to those needing his help and advice make his name one to be honored both by personal and professional friends.

Resolved, That while there is in his death a sense of bereavement to those who knew him best, there is also the satisfaction of a long and honorable life, filled with results capable of accomplishing much of good to his fellow-men.

Resolved, That a copy of these resolutions be sent to the family of Dr. Clark, and that they also be inscribed in full upon the minutes of this Board, and be published in the medical journals.

(Signed,) WILLARD PARKER, M.D.;
JOHN H. HINTON, M.D.;
ELLSWORTH ELIOT, M.D.,
Committee.

At a special meeting of the Board of Trustees of the College of Physicians and Surgeons, held on the 20th day of September, 1887, the following resolutions were passed:

Whereas, We have been called upon to deplore the death of our late associate, Dr. Alonzo Clark, a former President of the College of Physicians and Surgeons, and for more than thirty years a distinguished professor in the institution; therefore,

Resolved, That we hereby record our eminent regard for the dignity and influence of Dr. Clark's personal character and our high appreciation of his attainments and distinction as a teacher.

Resolved, That the College of Physicians and Surgeons is largely indebted to Dr. Clark, as one of the most learned and skilful physicians of his time, for its high reputation as a school of medicine, and that it is both appropriate and gratifying for us, as trustees of the institution, to express our sense of the obligation. Also,

Resolved, That we offer to the family of the deceased the assurance of our respectful sympathy in their deep affliction.

Resolved, That the foregoing resolutions be inscribed upon our minutes; that a copy of them, signed by the President and Registrar, be transmitted to the family of the deceased; and that they be furnished for publication to such medical journals as the Registrar may elect.

At a regular meeting of the Medical Board of St. Luke's Hospital, held Wednesday, September 24th, the following sentiment was ordered to be entered upon the minutes.

It has pleased the Master to call to his reward our late associate, Professor Alonzo Clark, M.D., who early in the history of St. Luke's was appointed consulting physician, and for many years was president of our medical board.

We, his associates, feel that we cannot allow him to depart from among men without formally recording our high appreciation of his character and example.

Of impressive stature and dignified presence, he commanded attention and inspired respect.

Throughout his long professional life he was a teacher of great influence, and did much to elevate and improve the standard of medical instruction.

A man of broad and liberal culture, he frowned upon pretence and quackery, so that those who practised such arts shrunk away abashed from his presence.

We, who have known him long and well, feel keenly his loss, and sympathize in the grief of those near and dear to him who have been left to mourn, but "not as those without hope."

GEO. A. PETERS, M.D.,
Pres. Med. Board.
A. BRAYTON BALL, M.D.
ALBERT A. DAVIS, M.D.

THE LATE DR. JARED LINSLY.—*Whereas*, The New York Society for the Relief of the Widows and Orphans of Medical Men has recently been bereaved by the death of one of its benefactors and its former President, Dr. Jared Linsly;

Resolved, That the Board of Managers desires to place on permanent record its appreciation of his private and public virtues, of his distinguished medical career, and of his exemplary Christian character.

Resolved, That by his pecuniary contributions, as well as by his counsels, he has ever shown such a liberal spirit that he has been among the foremost in promoting the benevolent objects of the Society.

Resolved, That a copy of this preamble and resolutions be entered upon our minutes and be sent to the family of the deceased with an expression of our sympathy in their great bereavement, and be sent to the medical journals.

(Signed.) ISAAC E. TAYLOR, M.D
WM. N. BLAKEMAN, M.D.
W. C LIVINGSTON, M.D.

Reports of Societies.

NEW YORK STATE MEDICAL ASSOCIATION.

Fourth Annual Meeting, held in New York, September 27, 28, and 29, 1887.

TUESDAY, SEPTEMBER 27TH—FIRST DAY—MORNING SESSION.

THE fourth annual meeting was held at the Hotel Brunswick, the opening session being called to order by THE PRESIDENT. The first business was

THE REPORT OF THE COMMITTEE OF ARRANGEMENTS,

which was read by DR. CHARLES A. LEALE, of New York. The speaker extended a warm welcome to the members.

THE PRESIDENT'S ADDRESS

was then read by DR. ISAAC E. TAYLOR. The speaker referred to the past success of the Association, spoke of the bright prospects of its continued success, urged upon his associates the necessity of discharging to the best of their ability the duties devolving upon each of them, and expressed in feeling terms the sorrow occasioned by the death of a number of worthy and prominent members.

He then entered upon the main subject of his address—

LUPUS SERPIGINOSIS OF THE CERVIX UTERI AND GENITALIA OF WOMAN.

The speaker described a case which had come under his observation, and exhibited a cast of the external genital organs. The case was first seen by him in 1885. The disease began in the cervix. Its course was interrupted for a time by a period of comparative health. The morbid process then renewed its activity, extending to the vulva, and involving the clitoris and urethra, where it appeared in the hypertrophic form, and finally resulted in the death of the patient.

The speaker then dwelt upon the rarity of this affection occurring in the female genital organs, the fact of its existence being doubted by some, and spoke of the differential points from cancer, tubercular disease, etc. The question as to whether the disease was due to a special organism was still unsettled. There was as yet no fixed method of treatment, which varied according to the views of the individual physician, and according to the indications present in each case. The chief point to be borne in mind was not to inflict injury upon the healthy tissues beneath and around the diseased part. In this case nitric acid had been the substance employed.

The first paper, entitled

THE USE OF HOT WATER IN SURGERY,

was read by DR. THEODORE R. VARICK, of Jersey City. The author had already read two papers, before different societies, on this subject, and his object now was to reply to criticisms, and to give further statistics in support of the method. He used water of a temperature only a little below the boiling point. It was brought directly from the kettle, and was applied by means of a clean sponge or linen cloth. By the time it reached the wound it was probably of a temperature of about 183° F. Its effect was to coagulate the albumen, and to hermetically seal the blood-vessels, thus preventing the entrance of pathogenic germs. As long as bleeding continued there was little danger of septic infection; but when the oozing had ceased, if the vessels were patent, this danger became real. Another advantage in the use of hot water was that it was a cardiac stimulant, and tended to avert the danger of the shock which was present in greater or less degree in all major operations.

The author then presented the statistics of amputations, collected from various sources, in upward of six thousand cases, which showed an average mortality of a little over thirty-two per cent. Of fifty-three amputations performed by him since 1879, in which he had used his hot-water method, there had been only three deaths, or a mortality of less than six per cent. Most of these were cases of railroad injuries. In one, death was due to angina pectoris, in another to secondary hemorrhage, and in only one to septicæmia. In this case, Dr. Varick believed, the septic poison had gained entrance through a wound in the other foot, which had not been operated upon.

DR. JOHN D. MCGILL had used hot water in twelve cases of amputation, and had not lost a single patient. It was not sufficient to apply simply warm water, as some who failed to understand the principle of this method had done, but the water should be at a temperature very near the boiling point.

The next paper was read by DR. CHARLES S. WOOD, of New York. It was upon

BICHLORIDE OF MERCURY: ITS USES AND ABUSES.

The speaker feared that this poison would do more harm to the human race than good, unless great caution were observed in its employment. Some years ago, before much was known of the germicidal properties of corrosive sublimate, he had employed it in certain cases of phthisis, with, he believed, good effects. While he did not believe that the drug was efficient in medicinal doses to destroy the bacillus tuberculosis within the human organism, he thought it probably exerted a beneficial influence in counteracting the poisonous effects of the ptomaines secondarily developed.

Another class of cases in which the author had seen benefit from the use of bichloride of mercury were those of Bright's disease. In several cases he believed the drug had caused relief of the urgent symptoms, and had materially prolonged life, enabling the patient to pursue his ordinary duties with comfort. Dr. Wood cautioned his hearers against the too frequent and careless use of bichloride of mercury, not only in internal medication, but in surgical dressings as well. It could never arrest any acute or infectious disease, when given internally, for doses of sufficient size to destroy the micro-organisms would first kill the patient.

DR. NATHAN JACOBSON, of Onondaga County, followed with a communication entitled

A CONTRIBUTION TO THE STUDY OF HIP-JOINT DISEASE.

The author was of the opinion that hip-joint disease was usually a result of traumatism, and that the occasional accompaniment of pulmonary tuberculosis afforded no proof that the hip disease was primarily tubercular in origin. He reported two cases. In one of them there had been signs of pulmonary tuberculosis which disappeared after the joint symptoms were relieved by operation; but whether the pulmonary trouble was secondary to the affection of the joint, or whether the two were concomitant but independent affections, the author was unable to decide, although he was convinced that the disease of the lung was largely influenced by the joint disease. He maintained that the existence of tuberculosis of the lungs should not be considered a contraindication to operation in hip-joint disease.

AFTERNOON SESSION.

The order for the afternoon session was a

DISCUSSION ON THE MANAGEMENT OF COMPOUND DISLOCATION OF THE ANKLE-JOINT.

DR. E. M. MOORE, of Monroe County, opened the discussion by a paper in which he showed that writers from the time of Astley Cooper down to the present had now and then advocated the adoption of more conservative methods of treatment in compound dislocations of the ankle joint. He, however, believed that, even at the present day, surgeons were less inclined toward conser-

vatism than they should be. He presented a brief report of five cases which had come under his observation, in none of which had he found it necessary to perform primary amputation, and in none had there been a fatal issue. Four recovered with useful limbs; in one the dressing had caused some strangulation of the tissues, gangrene resulted, and necessitated amputation. A perfect result was obtained, by a friend of the writer, in the case of an elderly lady. The patient recovered with a perfect limb and was able to walk without a limp. He would never perform a primary amputation except in an extreme case.

Dr. Uri C. Lynde, of Erie County, discussed the first question, viz.:

WHEN SHOULD AMPUTATION BE PRACTISED, AND WHEN SHOULD OTHER METHODS BE EMPLOYED?

As a result of his own experience, the speaker had been led to divide these cases into two classes. If there were simply contusion in connection with the dislocation, and if that contusion involved only a limited area on one side of the ankle, he would not amputate, even though it was possible that sloughing might occur. But if the contusion were extensive, covering both sides of the ankle, and especially if there were extensive injury of the bones, it would be necessary to amputate at once. In case of rupture of the posterior tibial artery, if the injury to the bones was not extensive, the wound should be treated conservatively. But if the bone-injury was marked, the astragalus being comminuted, rupture of the artery would suggest the propriety of amputation. The same rule would apply in cases of rupture of the anterior tibial artery. Rupture of the nerves might in a particular case lead to an unfavorable result, but this accident by itself was not a sufficient indication for amputation.

Primary amputation, even at the present day, was not a perfectly safe procedure, though it was fair to say that the advances being made in modern surgical methods would do more to lessen the dangers of amputation than it had, or could, toward rendering the conservative method safe. But if conservatism failed to save the foot, there still remained a resort to secondary amputation. If the surgeon must err at all, it would be far better to err on the side of conservatism.

Dr. Joseph D. Bryant, of New York, then discussed briefly the second point,

IF AMPUTATION IS TO BE PERFORMED, AT WHAT POINT SHOULD IT BE MADE TO RENDER THE STUMP MOST USEFUL, THE RISKS TO BE ENCOUNTERED BEING EQUAL?

He thought the choice of operation lay between Syme's amputation, and amputation at the junction of the middle and lower thirds of the leg. Syme's amputation should be preferred whenever the condition of the soft parts was such as to warrant a hope that a serviceable stump could be procured by the usual flap-procedure. If, in amputation of the leg, the bones were divided just above the malleoli, the stump would not be oval, but would terminate in a bulbous extremity upon which an artificial limb could be fitted only with great difficulty. Pyrogoff's amputation was objectionable for this reason.

Dr. Charles W. Brown, of Chemung County, discussed the third question,

SHOULD THE LUXATION BE MERELY REDUCED, OR SHOULD SOME BONY TISSUE BE REMOVED, AND IF SO, HOW MUCH?

He favored removal when the bone protruded considerably and could not be replaced without inflicting additional injury upon the soft parts, and also when a portion of the periosteum had been destroyed, or when the head of the bone had been crushed or broken. As to the amount of bone to be removed, much would depend upon the nature of the injury. If the articular surface of the bone had forced its way through the soft parts, the safest plan is to saw it off. But if the joint were simply open, the dislocation being incomplete, the wound should be thoroughly cleansed and dressed antiseptically, no portion of the bone being removed.

The last point proposed for discussion was,

WHAT DRESSING AND AFTER-TREATMENT WILL CONDUCE TO THE BEST RESULT WITH LEAST RISK TO THE PATIENT?

This was discussed by Dr. Frederic S. Dennis, of New York, who premised his remarks by assuming that the question of amputation had been considered and that it had been decided not to amputate. He believed that it was consistent with real conservatism to perform a partial resection with the view of rendering the wound aseptic. The entire limb, from the toes to the knee, should be washed, shaved, scrubbed, and irrigated with an antiseptic solution preparatory to the examination of the wound. The original wound should then be enlarged, the interior of the joint thoroughly explored, and a counter-opening made. All loose pieces of bone and cartilage, and any foreign bodies which might be present, should be removed. All the severely contused or shreddy soft parts should be cut away, and the joint the thoroughly irrigated with a warm bichloride solution. A rubber drainage-tube should be carried directly through the cavity. The joint being thoroughly cleansed, the parts should be enveloped in wet towels, wrung out of bichloride solution. If it was found impossible to reduce the dislocation, because of the resistance of the tendons, they should be divided subcutaneously. The selection of the splint employed should be governed by the special indications in each individual case. In most cases, the author preferred the plaster-of-Paris bandage. The danger of its being applied too tightly could be avoided by the use of cotton. After a final irrigation, iodoform should be sprinkled over the parts, a thin strip of iodoform gauze be put over the wound, and a wet bichloride bandage, folded double, should be wrapped around the ankle and leg. The plaster-of-Paris bandage could then be snugly applied over a layer of borated cotton. Four sheet-iron strips might be inserted, with the object of strengthening the plaster splint. A fenestrum should be cut at the side of the drainage-tube at the end of the third day, and when the tube was withdrawn it should be done under continuous irrigation.

The speaker thought that this form of dressing possessed many and great advantages over any other.

Dr. Nathan Bozeman, of New York, then read a paper entitled,

THE TREATMENT OF CYSTITIS BY COLPO-URETRO-CYSTOTOMY, IRRIGATION OF THE PELVIS, OF THE KIDNEY, AND INTRAVAGINAL DRAINAGE.

He described a new instrument, devised by himself, by means of which the urine passing through a vesico-vaginal fistula could be conducted directly to the receiving vessel, thus avoiding irritation of the vaginal mucous membrane. By means of this instrument he had been able to pass a rubber catheter up through the ureter into the pelvis of the kidney, and thus obtain irrigation of that organ. The procedure was not difficult, was painless, and safe. He had repeatedly practised irrigation in this manner, and had allowed his patients to return to their homes immediately afterward. The method, he believed, opened up a new field in the treatment of diseases of the kidneys, as it was free from the objections pertaining to nephrotomy and nephrectomy.

Dr. Henry D. Didama, of Onondaga County, then read a paper on

METHODS OF APPLYING COLD.

He first reviewed the ordinary methods, and then described his own, which, he claimed, possessed the advantage of being effectual, comfortable to the patient, and inexpensive.

He laid a rubber sheet on a mattress, and on one lateral half of this a folded cloth wrung out of cold water and a pillow. Over these were placed another rubber sheet and an ordinary sheet, on which the patient was to lie. When it became necessary to renew the cold, cloths wrung out of cold water should be placed between the rubber sheets on the other side of the bed, and the patient could then be lifted over by wooden bars attached to the edges of the upper sheet.

Dr. Robert H. Sabin, of Albany County, then presented a communication on

GALL-STONES.

The author spoke with authority, as he was himself subject to gall-stones and biliary colic. He took the ground that gall-stones were formed only when the fluids of the organism were in an alkaline state, as indicated by the alkalinity of the urine. The speaker related the case of a woman who occasionally passed large numbers of gall-stones the size of hulled peanuts, and closely resembling them.

Wednesday, September 28th—Second Day—Morning Session.

Dr. Uri C. Lynde, of Erie County, read a paper on

DISLOCATIONS OF THE ELBOW-JOINT.

The author had met only with neglected cases of this dislocation. When the dislocation was allowed to remain unreduced, there was not only great deformity but also considerable impairment, if not loss, of the function of the joint. Dr. Lynde first discussed the reduction of recent dislocations of the forearm upon the arm. In cases in which the brachialis anticus muscle was uninjured, it was the chief reliance of the surgeon in his efforts to effect reduction. There were but two indications in the reduction of the dislocation—the first being to raise the coronoid process from the olecranon fossa, and the second to aid the brachialis anticus muscle in drawing this process forward. There were two methods—the one by over-extension and traction; the other by flexion and traction. By the first method the coronoid is *lifted* from the olecranon fossa; by the second it is *rolled* out of it. In both methods, traction from the wrist is practised to aid the brachialis anticus in drawing the humerus into normal position. Should this muscle be torn, traction will be aided by the biceps. In cases of very recent luxation, the patient is himself able to reduce it; but after some weeks or months reduction is very difficult.

Dr. Lynde deprecated the practice of over-extension in old cases, for he believed that the integrity of the vessels was thereby endangered. Flexion, however, was sult of his observations was that terebene is a valuable remedy in these affections. He had given it in doses of ten to fifteen drops three or four times a day.

Dr. Douglas spoke of the good effect produced by the use of terebene in tubercular laryngitis.

Dr. Wallian thought that if the influence of the drug was due to the peroxide of hydrogen set free, larger doses would be necessary. He did not regard the danger to the blood-vessels and nerves as very real.

Dr. Carman, of New Haven, thought it unnecessary to put the knee in the bend of the elbow while practising reduction of this joint, just as it was needless to insert it in the axilla in order to reduce a dislocation of the shoulder. The thumb, he maintained, answered equally as good a purpose as the knee.

Dr. John W. S. Gouley, of New York, followed with

AN ADDRESS ON NOSOGRAPHY.

The speaker reviewed the work of nosographers in the past, and criticised at some length many of the terms employed in the nomenclature of disease, and especially of disease of the male genito-urinary organs. Among other faults, Dr. Gouley spoke of the term "genito-urinary system," for which he contended the phrase "genito-urinary apparatus" should be substituted. He did not present a complete nosographical system, but said that the object of the essay was rather suggestive. He urged the general adoption of a nosography founded upon a rational basis, and hoped that teachers might be brought to a realization of the necessity of a better system of nomenclature.

The address was referred to a committee consisting of Drs. A. L. Carroll, of Richmond County; E. M. Moore, of Monroe County; and J. Cronyn, of Erie County.

Afternoon Session.

The order for this session was a

DISCUSSION ON TYPHOID FEVER.

Dr. Alfred L. Carroll, of Richmond County, opened the discussion with a paper in which he propounded seven questions. The first question was,

DOES THE TERM "TYPHOID FEVER" PROPERLY INCLUDE ALL THE VARIETIES DESCRIBED BY OBSERVERS; OR ARE THERE OTHER STILL UNDIFFERENTIATED, CONTINUED FEVERS COMMONLY GROUPED UNDER THIS HEAD?

In discussing this question, Dr. Carroll thought that some of the varieties of typhoid fever, as described by observers, differed from each other as widely as the general group differed from typhus fever. The general experience of the profession was that implicit reliance should not be placed upon any one clinical symptom in diagnosticating the disease, for even the autopsy did not always clear up the diagnosis. He thought we were justified in speaking of a specific exanthematous fever with local lesions in the intestinal glandular apparatus, apparently developed only from changes which took place in the excreta of a previous existing case. Until a clearer idea of the pathology of this disease was obtained, he thought it might be entitled enteric fever.

Many well-authenticated cases of adynamic fever had occurred in isolated rural districts, where no connection with a previous case could be discovered, but it remained to be proven that we were justified in classing such cases as enteric fever. Adynamic fevers, resembling typhoid or enteric fever in the clinical history, could be traced to filth-fermentation.

Speaking of

THE PROPHYLAXIS OF TYPHOID FEVER,

he said the most common source of danger was the water. We could not always rely upon the filtering power of the soil, for this might be, and often was, overtaxed. Artificial methods of purification were not reliable, but the simplest way was to boil the water for at least half an hour. As regarded the water-supply of communities, the only wise rule was to see that there was no possibility of contamination of the source of the supply by drainage.

Dr. Carroll then referred briefly to

THE INDICATIONS FOR TREATMENT OF TYPHOID FEVER.

He insisted that pure air, pure water, and a pure soil were as essential in the treatment as they were in the prophylaxis of the disease. Nutrition should be maintained. Cold baths might be useful in certain cases, but he did not favor their routine adoption, and he was doubtful also concerning the utility of antipyrin in the long run; at least it might be questioned whether relapses did not occur more often after this drug had been employed.

Dr. E. G. Janeway, of New York, discussed the first question, which, however, he changed as follows:

DO WE ENCOUNTER IN THIS STATE A FORM OF CONTINUED FEVER NOT DUE TO TYPHOID POISON, AND LIABLE TO BE MISTAKEN FOR TYPHOID FEVER?

The author admitted having had doubts, as must every physician of experience, regarding the nature of

the poison which had excited the fever in certain cases. Typhoid fever was no more bound in its course to rigid rules than were pneumonia and other diseases. The speaker had seen in the course of a single year as many as twenty cases of typhoid fever which had been called remittent, typho-malarial, and simple continued fever. He did not think types had changed so much as had the diet and the treatment. He thought that the diminished frequency of diarrhœa was largely due to this latter fact. The firmest believers in the view of the divisibility of the cases of typhoid fever into many types were those whose practice was such that it was difficult to get an autopsy. Many cases of true typhoid fever in isolated places were looked upon as malarial, typho-malarial, etc. As regarded the latter, he was of the opinion that a large proportion of the cases seen in this latitude, and diagnosed as typho-malarial, were cases of pure typhoid fever. He knew of no reason why one should admit the existence of a typho-malarial cause of an acute or separate disease process, but thought that this supposition was based upon certain cases of typhoid fever in which the course of the disease had been modified by a previous malaria. It would be wiser to stick to the nomenclature of typhoid fever and look upon the malarial element as a complication.

He then took up the second question,

IS TYPHOID FEVER ALWAYS THE PRODUCT OF A SPECIFIC CONTAGION FROM A PRE-EXISTING CASE; OR MAY IT ARISE, DE NOVO, FROM FILTH-FERMENTATION?

He admitted that typhoid fever was caused by a micro-organism, but when the question was asked, Did it always arise from a pre-existing case, we were met by doubts and questions. That it had often arisen from previous cases could readily be proven; but it was difficult to prove that it was always so caused. There were but very few cases on record in which the disease had developed in such isolated surroundings as seemingly to preclude the possibility of contagion from another case; and in none, he thought, had the proof been altogether beyond question. He was willing to admit the possibility of its arising *de novo* from filth-fermentation, but he could not admit that this was more than a possibility.

Dr. Hermann M. Biggs, of New York, discussed the third question,

WHAT PART IS PLAYED BY MICRO-ORGANIC FERMENTS IN THE CAUSATION OF ENTERIC FEVER?

He said that he had found in cases of typhoid fever a peculiar, short, thick bacillus in the spleen, mesenteric glands, Pyer's patches, and sometimes in the liver and kidneys. All attempts to produce typhoid fever in the lower animals have failed, although no other bacillus has been found in the internal organs of uncomplicated cases of this disease, and this peculiar bacillus has never been found in any other condition. This bacillus, as present in the stools of typhoid-fever patients, has been found, in a few instances, in the water which has been the source of the disease.

D. E. Salmon, D.V.S., of Washington, discussed the fourth question,

IS THERE A DISEASE OF THE LOWER ANIMALS TRANSMISSIBLE TO MAN AS TYPHOID FEVER?

The speaker said that all his observations were made upon the lower animals, and were necessarily of a one-sided character, for he rarely saw cases of typhoid and other infectious diseases in man. No facts had ever come under his observation to lead him to believe that there is a specific disease in animals which produces in man a specific disease characterized by the presence of the bacillus of typhoid fever. The bacillus of hog cholera seemed to be identical with the bacillus just described as peculiar to the typhoid fever of man, both in its microscopical appearances and in its ability to live and be reproduced in drinking water. But in spite of the frequency of hog cholera in this country, no facts had come to his knowledge to show that it had produced a specific disease in man. He hoped that in the future we should be able to isolate the different ptomaines produced during the growth of the specific virus of the different contagious diseases, and, by using these, be able to produce a degree of immunity equal to that produced by one attack of the disease.

He thought that for the good of science there ought to be more sympathy of work between those who made a study of the diseases of man and those who studied the diseases of animals.

Dr. Charles A. Leale, of New York City, discussed the fifth question,

WHAT MEDIA OF CAUSATION OR TRANSMISSION OF TYPHOID FEVER ARE TO BE GUARDED AGAINST IN PUBLIC OR PRIVATE SANITATION?

He called attention to the importance of the disposal of sewage on garden-farms, and referred to the work done in this line by Dr. Carpenter. He expressed sympathy for the overworked hospital interne, who was peculiarly disposed to contract typhoid fever when exposed to the poison.

Dr. Everard D. Ferguson, of Rensselaer County, discussed the same point, and sketched the history of two epidemics of the disease in Troy. In the first epidemic the disease was traced to the water-supply from wells which tapped a superficial underground basin. In the second the source of the fever was thought to be in both the water and the air at the time of an overflow.

Dr. Charles G. Stockton, of Erie County, discussed the seventh question,

WHAT ARE THE INDICATIONS FOR TREATMENT; AND ARE RELAPSES OR UNTOWARD COMPLICATIONS FAVORED BY SOME ANTIPYRETIC MEASURES?

He said that the diet was a matter of the greatest importance; and as only a limited amount of food could be assimilated, it should be peptonized in order to bring it to the most easily digested form. Although he believed that the injurious effects of antipyrin and similar drugs were doubtless often due to their abuse rather than to the fact that they were contraindicated, yet he preferred cold sponging to reduce the temperature. The hygienic surroundings were most important—an airy, sunny, quiet room, a large single bed, and a good nurse were of prime importance.

(To be continued.)

AND INTRAVAGINAL DRAINAGE.

He described a new instrument, devised by himself, by means of which the urine passing through a vesico-vaginal fistula could be conducted directly to the receiving vessel, thus avoiding irritation of the vaginal mucous membrane. By means of this instrument he had been able to pass a rubber catheter up through the ureter into

with what facility the alcohol dissolves the diphtheritic exudation in the throat, lowers the temperature, and calms the pulse, showing its destructive action upon the germs of the disease, which have been absorbed by the glands and gained access to the blood. This remedy has been used by us in the treatment of diphtheria since 1873, during which time no case of the disease has slipped through our hands except in one solitary instance, and that case was in *articulo mortis* before the remedy was given. The remedy is also prophylactic to the disease, as we have found in many instances where it has not been expedient to quarantine the patient. For this purpose, it is only necessary for exposed persons to use the remedy, diluted as above stated, as a gargle and to swallow a little of it three or four times a day.—*Ed. N. Y. Medical Times.*

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, September 26, 1887.

F. R. S. DRAKE, M.D., VICE-PRESIDENT, IN THE CHAIR.

THE following nominations were made for

OFFICERS FOR THE ENSUING YEAR:

For President—Drs. Orlando B. Douglas,[1] Laurence Johnson, and Andrew H. Smith; *For Vice-President*—Dr. L. Bolton Bangs; *For Secretary*—Dr. Wesley M. Carpenter; *For Assistant Secretary*—Dr. Charles H. Avery; *For Treasurer*—Drs. Wendell C. Phillips and Alexander S. Hunter; *For Censors* (five to be elected)—Drs. R. Van Santvoord, John S. Warren, William E. Bullard, Daniel Lewis, Laurence Johnson, and William Stevens.

DR. J. OSCROFT TANSLEY then read a paper on

NASAL DIFFICULTIES IN EAR DISEASES,

in which he spoke of polypi, deviation of the septum, hypertrophy of the pharyngeal tonsil, post-nasal hypertrophies, bands seemingly cicatricial, atrophic or cicatricial rhinitis, simple secretive catarrh, adenoid growth in the pharynx, etc.

DR. O. D. POMEROY, in discussing the paper, spoke of the importance of treatment of the naso-pharynx in ear affections, of otitis produced by efforts to cleanse the nostrils by blowing the nose, of the deleterious effect produced by a too patulous opening of the Eustachian tube, and of the absence of stricture of the tube according to his observation.

DR. O. B. DOUGLAS spoke of the effect of stoppage of the middle and upper passages through the nose.

DR. WEBSTER had succeeded in treating the acute and subacute cases of otitis media without much reference to the naso-pharynx. He mentioned that he saw Politzer, during the last summer, treat two cases of what he called stricture of the Eustachian tube by means of bougies; he also saw him inject *warm* fluid into the middle ear, with the statement that it did no harm. He had not seen ear disease produced by adenoid growths in the naso-pharynx.

DR. A. S. HUNTER spoke of the effect of cocaine in restraining hemorrhage in nasal operations.

DR. TANSLEY said that he had plugged the nostrils much more frequently for the arrest of hemorrhage after the use of cocaine than before that drug came into use. He had not seen stricture of the Eustachian tube, and would not dare pass a probe into it for purposes of dilatation.

DR. D. M. CAMMANN then read a paper (see p. 476) on

TEREBENE IN DISEASES OF THE LUNGS,

in which he gave his experience in the use of this remedy in emphysema, bronchitis, and phthisis. The general result of his observations was that terebene is a valuable remedy in these affections. He had given it in doses of ten to fifteen drops three or four times a day.

DR. DOUGLAS spoke of the good effect produced by the use of terebene in tubercular laryngitis.

DR. WALLIAN thought that if the influence of the drug was due to the peroxide of hydrogen set free, larger doses might be used with advantage.

The discussion was continued by Drs. Wesley M. Carpenter and John C. Peters, after which the Society adjourned.

VICARIOUS MENSTRUATION THROUGH THE EAR.—A young woman on board a steamer coming from Algiers suddenly felt blood flowing from her ear without having previously felt ill. About a tumblerful escaped. Careful examination of the middle ear disclosed nothing abnormal. A day or two subsequently menstruation took place by the natural channel, and nothing further occurred. In commenting on the fact, Dr. Pirondi states that of the 200 cases of supplementary hemorrhage cited by Puech only 6 came from the ear.

[1] Since declined.

NORTHWESTERN MEDICAL AND SURGICAL SOCIETY OF NEW YORK.

Stated Meeting, April 27, 1887.

A SUBSTITUTE FOR THE ORTHODOX PESSARY—DISCUSSION OF DR. WYLIE'S PAPER (see p. 483).

THE subject being open for discussion,

PROFESSOR ISAAC E. TAYLOR said: "I am pleased to hear Dr. Wylie speak as he does against the pessary. It is very seldom I resort to it. I do not think that I have used the Hodge pessary more than two or three times. There is a very important remedy which was employed as far back as 1843, viz., bichloride of mercury. I have seen patients benefited largely by its use. For some time I have used the formula which Dr. Wylie recommends."

DR. J. H. FRUITNIGHT said: "It will be conceded by all that the pessary does not come up to expectation. I do not think that in itself it should be considered as a curative agent. I regard it merely as an auxiliary. Most of the cases of uterine displacement are attended by more or less physical debility, and I think that constitutional treatment has a great deal to do with their cure.

"In cases of simple prolapsus, for instance, the general building up of the system is quite as essential as the use of the pessary; and yet, in those cases, I would not discard the pessary, because one supplements the other.

"I have been in the habit of using the tampon saturated with glycerine and alum, in the way suggested by Dr. Wylie, and have seen cases of subinvolution of three to six months' standing benefited by this treatment."

DR. W. M. MCLAURY said: "Several years ago I was in the habit of using something in that way; but latterly I have used simple tar applied to a compress of cotton, in the same way as Dr. Wylie has mentioned, and with the happiest results."

DR. M. BLUMENTHAL said: "In a practice of about thirty-five years, I have not used the mechanical pessaries, which were so much in vogue some years ago, more than a dozen times, because they did not commend themselves to my judgment. I believe they did as much harm as good. At first I used small sponges, and as the sponge absorbed the fluid, it spread and exerted considerable force in sustaining the uterus. For the past fifteen or sixteen years I have not used sponge, but, instead, a cotton tampon with a solution of glycerine. My experience with it has been very satisfactory, while with the mechanical pessary it has been quite the reverse. The incidental fact alluded to by Dr. Wylie, of the abstraction of congesting fluids from the diseased organ, is an important one. While the cotton tampon supports the organ, it also relieves it of the excessive weight; and, in conjunction with warm water and rest, it commends itself as being the best treatment."

DR. C. S. WOOD said: "I have used pessaries in some cases with satisfactory results, but am much less in favor of them than I was years ago. I would like to have heard from Dr. Wylie regarding the effect of his application in cases of laceration of the cervix. I have been in the habit of using tampons with glycerine and tannin, and have often allowed them to rest for three days without any resultant trouble. By keeping up the use of these tampons for a certain length of time in connection with hot water, I have found that although these lacerations were not closed, yet they were so nearly well that they gave the woman no further trouble; and she could go on for years, perhaps, without any special difficulty."

DR. A. M. JACOBUS said: "The exposition given by Dr. Wylie of his treatment has been unusually clear, and, having been more or less associated with him, I have been much pleased to hear it presented so well. I would like, however, to mention a point in connection with boro-glyceride: There are many patients who cannot bear glycerine. If each gentleman will touch his finger to this boro-glyceride, and then to the glycerine itself, he will feel the difference. The boro-glyceride is smooth,

like oil, and the other is keen and sharp. I think it must have the same feeling in the vagina. It is my opinion that almost all displacements are due to new-growths or inflammatory disease, and if the disease is cured the pessary will not be needed. I have found that wads of cotton are very distressing to some women, even if applied light and loose. I have not yet tried the antiseptic sheep's wool as suggested recently, but presume that it is much more elastic than cotton, and that it might take its place to a large extent. The question is whether wool would be more irritating than cotton, on account of its peculiar formation.

"With reference to alum, I have found that with many of my patients it could not be used, and I therefore keep the alum in a separate solution, so that it can be used only when practicable.

"Glycerine is far preferable to hot water. As employed in private practice hot water is of no use, except that it cleanses the vagina. Warm water with a little borax in it will answer just as well; then let the woman use the glycerine tampons. In simple displacement the patient should assume the knee-chest position daily for about five or ten minutes, and if she would then lie upon her stomach for half an hour, I think it would do much to relieve the pelvic distress.

"In the treatment of erosions of the cervix, calomel is as good a remedy as iodoform, which smells badly and is very disagreeable to patients. I have seen cases, which would not yield to tincture of iron, iodine, nitrate of silver, or iodoform, yield quickly to calomel dusted on freely."

Dr. E. S. Peck observed that glyceride and alum had been successfully introduced into ophthalmological practice as a disinfectant and astringent. Glycerine has long been in use as a detergent in collyria. It happens occasionally, however, that a patient shows an idiosyncrasy against the local use of glycerine in conjunctival diseases.

Dr. P. C. Cole said: "I have been much pleased with the statements made by Dr. Wylie. I have not been in the habit of using the pessary to any great extent. Some years ago my attention was drawn to the use of cotton pessaries in a systematic manner, and since that time I have employed them with a great deal of pleasure to myself and comfort to my patients. I have never used the special preparation of boro-glyceride and alum, but almost any of the preparations which are in ordinary use are good. I have never dared to leave a tampon in longer than twenty-four hours."

Dr. Henry L. Taylor said: "I would like to call the attention of the Society to the fact that general practitioners, and even specialists, in female diseases must meet with a great many cases where local treatment is not altogether successful. I often see cases of that kind which are ordinarily classed as uterine, or semi uterine; many of them having been through many hands and subjected to a great variety of treatment. In such cases I find special benefit in the use of a general hygienic plan in which systematic exercises play a considerable part. I have generally observed that, in such cases, the interest of the surgeons seems to be localized, and the patients treated more particularly in regard to the generative apparatus than as persons, and if the speculum revealed an improved condition the case was considered to be satisfactory; whereas little interest was displayed in following up the cases for a considerable time afterward, in order to observe whether the symptoms of which the patient complained had really disappeared. The symptoms would often come back, and, as a matter of fact, I know many who submitted to treatment for uterine displacements, and were not cured of the symptoms of which they complained. It is just that class of cases which is so successfully treated by a systematic plan of general hygienic exercises."

In closing the discussion Dr. Wylie said: "In bringing this tampon forward I do not claim that its main object is the holding of the uterus in position. It is really the action of the remedies upon the circulation of the pelvis which is so beneficial. Ordinarily, if you procure this mixture in a drug store, you will get something which will disappoint you. This is boro-glyceride, and not boro-glycerine. It is the presence of the boro-glyceride in the mixture which enables the cotton tampon to be retained in the vagina for so long a time. Impure glycerine is very irritating, but pure glycerine is not. If I find that alum is too astringent, I often use as a substitute acetate of aluminum. I do not know that boro-glyceride has any irritating qualities at all, but it is a very powerful antiseptic. I could not successfully treat a good many cases that come to me except by this simple means. It improves all conditions of the pelvis where there is congestion."

The Society then went into executive session.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

PAST AND PRESENT STUDENTS OF MEDICINE—ATHLETICS—POST-GRADUATE CLASSES—SPECIAL TEACHING—SOME RECENT DEATHS—MR. QUAIN, F.R.S.—MR. BLOWER—DR. CUMING—DR. BARR MITCHELL.

London, September 20, 1887.

With the near approach of the winter session all the complicated machinery of medical education is being set in order again, and will soon once more be working at full speed. Nor does the annual throng of those who seek to join our ranks suffer any diminution in spite of the increased difficulties in their path. The increased and increasing complexity of medical studies, combined with augmented stringency of examinations, have rendered the career of a medical student much more thorny. He has to work now—not spasmodically, for a few months before each examination, but regularly, throughout his allotted term of study, if he wishes to succeed. He has also to pay more dearly for his privileges. Within the last few years most of the medical schools have raised their fees, and the conjoined scheme of examination is also accompanied by increased examination fees. Yet medicine is as popular a profession as ever—perhaps more so. Although not yet accorded the position to which it is entitled, it can scarcely be denied that medicine, as a vocation, now occupies a higher position in public esteem than it did a generation ago. The social position of its practitioners has also distinctly improved, though pecuniarily the average doctor has unfortunately not advanced much. A more enlightened public now recognize more generally the claims of the profession, and to this the great stride taken by preventive medicine has materially contributed. Within the last few decades the type of medical student has undergone considerable evolutionary changes. These can easily be perceived even by those who can cast their memory back only ten or fifteen years. Those who can mentally retrace their steps for some thirty years see still more clearly the change for the better which has come over the youthful disciples of Æsculapius. The medical student of to-day is not the beer-loving, pipe-smoking, knocker-wrenching individual of by-gone days, and bears but scant resemblance to the delineations of his class to be found in the pages of Dickens. We do not now find a circle of smokers round the dissecting-room fire with a poker kept red-hot wherewith to light pipes, nor does the beer-can travel to and from the nearest tavern. Many students are both non-smokers and total abstainers, and to be one of the latter is now no longer a mark of reproach. Yet although the present-day student is usually quiet in demeanor and of gentlemanly habits, he is not by any means a milksop. Athletics flourish as vigorously as

ever among students of medicine, and a cricket or football match will draw a large audience, including very frequently many members of the staff. Indeed, many still go in freely for athletic sports even after entry upon the cares and toils of actual practice. England's chief cricketer, W. G. Grace, is a medical man, and his brother, Edward Mills Grace, of equal renown with the bat, is also in actual practice. Cycling counts many adherents from among us, among whom I may specially mention Dr. B. W. Richardson, F.R.S., who is an enthusiast on the subject, and does his best to recommend it both by personal practice and earnest advocacy by tongue and pen.

While so much is being done for the embryo practitioner, comparatively little is being done for the higher education of those already qualified. A post-graduate course was held last session at one of the metropolitan medical schools, and was moderately successful. One is announced for the coming session at another hospital (Charing Cross), and the smallness of the fees (two guineas inclusive) ought to prove an attraction. For those interested in bacteriology, some special courses are announced at King's College, under the direction of Professor Crookshank, who is untiring in his devotion to the subject. The arrangements made for systematic and practical instruction in the subject seem very complete.

At Edinburgh, Dr. Hunter Mackenzie commences today a post-graduate course in laryngology and rhinology, at the Eye, Ear, and Throat Hospital, but it is "a far cry" from the banks of the Thames to "Auld Reekie." At a few of the special hospitals teaching is made a feature. It is probably carried out most thoroughly and extensively at the Royal Ophthalmic Hospital, Moorfields. The chief drawback is that it is not sufficiently elementary, but only adapted to students who have made some progress and have had some practice with the ophthalmoscope. Those who have already obtained some proficiency in ophthalmology may learn a great deal. The hospital contains one hundred beds, and in the course of a year twenty-five thousand patients attend the out-patient department. The active staff consists of one physician, five surgeons, and four assistant surgeons—all of them willing and eager to teach.

Several medical men of note have recently passed to their rest. Foremost among these I must name Mr. Richard Quain, F.R.S., the eminent surgeon, who died on Thursday last. He must not be confounded with Dr. Richard Quain, the learned editor of "Quain's Dictionary of Medicine," who is also a Fellow of the Royal Society (F.R.S.), but is still living. Mr. Quain was for many years surgeon to University College Hospital, and at the time of his death was Surgeon Extraordinary to the Queen. He had served the office of President of the Royal College of Surgeons, and formerly represented that body in the General Medical Council. He was the author of several works. His elaborate work on "The Anatomy of the Arteries of the Human Body, with Its Applications to Pathology and Operative Surgery," is generally regarded as his chief work. It consists of an atlas (quarto), with an accompanying letter-press of commentary. His mental activity was undiminished, even in extreme old age; and three years ago, at the patriarchal age of eighty-four, he published a handsome volume of clinical lectures, sumptuously illustrated by forty plates, many of them being beautifully colored, and giving very faithful portraitures of various diseased conditions. Mr. Quain was very tenacious about the proper style of address, and to anyone who addressed him orally as "Dr.," instead of "Mr.," he would testily reply: "Don't call me Doctor, sir; I'm not Doctor."

Two other octogenarians have also lately quitted our ranks. The death of Mr. William Blower, at Bedford, after an illness of twenty-eight years, will be marked with regret by many. The name of Blower has been medically associated with the city of Bedford for nearly a century, and Mr. William Blower himself practised there upward of thirty years. In the sister isle Dr. Thomas Cuming, of Armagh, lately departed at the advanced age of eighty-nine years, sixty-seven of which had been spent in practice.

Another death of note is that of Dr. Barr Mitchell, which recently occurred. A man of much education and culture, he had visited many lands, and was interested in many. History was one of his favorite studies. Among his scientific pursuits, that of disinfectants occupied a prominent place, and he was for some years associated with Mr. Bollmann Condy in business in connection with Condy's Fluid. At the time of his death he was much interested in the question of salmon culture. He was not in practice.

OUR PARIS LETTER.

(From our Special Correspondent.)

DR. NACHTEL, AND THE AMERICAN SYSTEM OF AMBULANCES—THERAPEUTIC PROPERTIES OF ANTIPYRIN—LEFT-HANDEDNESS AND RIGHT-HANDEDNESS—ANTISEPTIC PRECAUTIONS IN DUELLING.

PARIS, September 23, 1887.

It is now more than six years since Dr. Henri Nachtel endeavored to introduce the American system of ambulance for cases of accidents in the streets of Paris. This fact has more than once been brought to the notice of your readers; and if I refer to it again, it is to inform you of the complete deception our confrère has met with regarding his project, which, after having been most favorably entertained, and almost adopted, has been set aside, and another organized in its stead under the auspices of the Prefect of Police. After this long period of bureaucratic procrastination, during which time Dr. Nachtel was buoyed up with hopes that his project would be realized, and after having sacrificed his time and personal interests for the cause he had so much at heart, he received an official notification that "his quality of a foreigner interdicted the French functionaries from concluding any affair with him." As above noted, that a French ambulance has been introduced, which, if not the exact copy of Dr. Nachtel's conveyance, he unquestionably deserves the credit of having given the French authorities the idea of providing for such a long-crying desideratum in their country.

About the beginning of August, Professor Germain Sée made a communication to the Academy of Sciences on the therapeutic properties of antipyrin, and about a fortnight ago he read a paper before the Academy of Medicine on the same subject. In this paper he treated of the various therapeutic applications of this new drug. He thinks he has found in antipyrin a medicament of great therapeutic value, and it may be considered a panacea for almost all affections that the human being is subject to—not that it possesses a curative power in all diseases, but for the relief of that most important element, pain, it is unequalled, in which respect it resembles opium, but it has none of the inconveniences of the latter. The learned professor employs it in all cases where pain is the predominant symptom, whether this be attended with or without fever, though he has found it more applicable to apyretic cases. It is true that when antipyrin was discovered it was freely used for lowering the temperature in fevers, but it does so in so sudden a manner that Professor Sée thinks that this result cannot be produced without danger to the patient. He has found it most useful in cephalalgia, megrim, and facial neuralgia; also in gout, rheumatism, sciatica, tabetic pains, hepatic colic, nephritic colic, dysmenorrhœa, cardiac pains, angina pectoris without sclerosis and without ossification of the coronary arteries. For rheumatism, however, it is only when the heart is affected that Professor Sée employs antipyrin, but in all other cases of this affection accompanied with fever he still gives the preference to the salicylate of soda.

In localized rheumatism, in apyretic rheumatism, in hydrarthrosis, antipyrin has proved most efficacious. Antifebrin produces almost analogous results, but it is a dangerous remedy; and although it has a curative effect in the above cases, yet from its toxic influence it should be discarded—the patients become blue, the oxyhæmoglobin of the blood is transformed into metahæmoglobin, and the respiratory faculty of this liquid is arrested. There is, therefore, no advantage in subjecting the patient to such dangers; whereas antipyrin, which gives the same therapeutic results as antifebrin, is, moreover, absolutely inoffensive.

As for salol, it is very inferior to all the preceding drugs, and particularly to the salicylate of soda. It is now much less employed internally, and it is only used in surgical cases on account of its antiseptic properties. Professor Sée administers antipyrin by the stomach and by hypodermatic injections. In the former case it is given in doses of from thirty to fifty centigrammes, to the extent of two or three grammes per day. In injections he employed, at first, a solution of fifty centigrammes of antipyrin to the same quantity of water, but finding that these injections caused pain, he added one centigramme of cocaine to each injection, or in some cases he only increased the quantity of water to one and a half gramme.

In the "Journal des Connaissances Médicales," Dr. Galippe studies the subject of left-handedness and right-handedness, as to whether these conditions are the results of education or of heredity. As Dr. Galippe has a predilection for dentistry, he naturally prosecuted his researches in that direction, and based the results principally on dental anomalies. Thus, of 64 cases of these anomalies observed by him, allowing abstraction of the numerous cases in which the anomalies were symmetrical, he found 41 anomalies on the left side, and 23 on the right; and even here 3 cases of the right should be deducted, as they happened to be left-handed. The works of other investigators show the same frequency as regards anomalies of the left side. In a work by Dr. Magitot, he has shown that anomalies of form and direction are more frequent on the left side than on the right. Dr. Gaillard, writing in 1881, stated that the frequency of anomalies was twice as great on the left side as on the right. The canine teeth would perhaps form an exception in a heterotopic point of view. From what precedes, the deduction is that in right-handed persons the left maxillary constitutes a seat of election for the anomalies, whereas in the left-handed it is the right maxillary which presents this particularity. Left-handed persons are relatively rare. According to Delaunay, there is one in forty individuals; according to Galippe, they belong to the degenerate class. They are frequently the subjects of nervous heredity.

A great many epileptics are left-handed. Of 363 lunatics (males), 4.13 per cent. were found to be left-handed; and of 117 female lunatics, 4.27 per cent. were left-handed. On the other hand, as regards sensibility, Drs. Amadeï and Tonini have found, of 90 lunatics, 73 individuals in whom sensibility was more marked on the left than on the right side. Moreover, according to Marro, it is found that among criminals there are three times more left-handed persons than among those who have not committed any crime or misdemeanor. From these researches Dr. Galippe concludes that left-handedness is not particularly due to habit or education; it is more rational to suppose that we are right-handed by atavism, and left-handed by morbid heredity.

If duels are not often fatal to the combatants in France, it is said to be due to the adoption of pre-antiseptic measures. In a recent duel between two French literary characters, in which both the combatants were wounded, their wounds healed up in a very short time. This happy and prompt result was attributable, not only in a great measure to the youthful age of the combatants, but to the precautionary measure taken in dipping the swords in a solution of carbolic acid. This idea was imported into France by Dr. Pozzi, a well-known Parisian surgeon, who attended a duel about two years ago in Hungary, where he had seen for the first time that the swords used for the occasion were smeared over with carbolated oil. It would appear that this practice has since been in usage in France, but the French are rather piqued at the idea of its having originated in Germany.

HIGH FEES IN VENEREAL DISEASE.

To the Editor of The Medical Record.

Sir: Referring to Dr. P. L. Myers' inquiry as to why we should take a retainer in venereal disease, I would respectfully submit that *I* take a retainer in these cases because experience has taught me that, in these cases, if I don't take my pay in advance I am not likely to get it at all. My reasons for asking a higher fee than in non-venereal cases is, that the diseases are usually disgusting in their nature, and always communicable, so that the physician runs a risk of inoculation and ought to be paid in proportion to his risk; and, besides, if a man can find funds to pay for *getting* these diseases, he can find funds to pay for getting rid of them. Yours truly,

Geo. E. Blackham, M.D.

Dunkirk, N. Y.

THE HEALTHFULNESS OF CONTINENCE.

To the Editor of The Medical Record.

Sir: In your comments on the fee for treating venereal diseases, you say, or imply, that sexual desire should be controlled much as if it were an appetite for something injurious. Is it not true, with some exceptions perhaps, but still as a rule, that if a man, from his youth up, refrain entirely from having sexual intercourse, he will have emissions from time to time, at first with lascivious dreams, but after the lapse of years insensibly; that his testicles will become gradually flattened, and that, sooner or later, probably in middle life, he will find himself incurably impotent? Is it not also true that the second change of life comes quickly to virgins, frequently before their thirtieth year; and that few men or women go without coition and reach middle life perfectly robust and well?

Many physicians, perhaps from lack of physiological information, are inclined to treat the subject of sexual intercourse solely from a moral point of view. But this is exactly the view which, professionally, does not concern them. We go to physicians, not for spiritual advice, but for science. If it be better for us physically to have coition regularly, say once or twice a week, than to go without such indulgence, it seems to me that the physicians to whom we pay our money are in honor bound to tell us so.

S. B.

New York, August 23, 1887.

[I. It is not true, as a rule, that men who are continent till middle age are then incurably impotent.

II. It is not true that the climacteric comes to virgins frequently before their thirtieth year.

III. On the whole, spinsters are as healthy a class as the married women of to-day.

IV. There is a difference between what is necessary for health and what is simply the best. The physician takes an enormous responsibility in advising fornication, and there is justly a strong feeling against it among the great majority and the better class of the profession.—Ed.].

New York College of Veterinary Surgeons.—Dr. Frank Grauer delivered the introductory lecture to the students of this institution on Thursday evening, September 29th.

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Original Articles.

AN APPRECIATION OF THE MODERN METHOD OF TREATING SYPHILIS BY HYPODERMIC INJECTIONS.[1]

BY PRINCE A. MORROW, M.D.,

CLINICAL PROFESSOR OF VENEREAL DISEASES, IN THE UNIVERSITY OF THE CITY OF NEW YORK.

AMONG the notable papers presented at the last meeting of the British Medical Association, the most remarkable was the "Address in Medicine," by Professor Gairdner, in which he undertook to answer the somewhat cynical question of Sir William Hamilton, "Has the *practice* of medicine, that is, the art as distinguished from the science, made a single step since the days of Hippocrates?" In his comprehensive and scholarly survey of the field of modern medicine, the distinguished orator found many signs of progress, and indicated numerous diseases in which the methods of medical practice had been entirely revolutionized, and placed on a simpler, sounder and more scientific basis.

With reference to one department of practical medicine, however, the treatment of syphilis, the question may be very pertinently asked, "are we better than our fathers?" in other words, is the treatment of the present day a material advancement over that practiced four hundred years ago? Certainly, with respect to the means employed for the cure of the disease, the answer must be in the negative. While our therapeutical resources against the later manifestations of syphilis have been supplemented by the addition of one important adjuvant, iodide of potassium, mercury still remains, as it was then, the basis of all special curative treatment. The treatment of syphilis in the nineteenth century differs from that employed in the fifteenth in modification of method and detail rather than in essential nature.

This fact constitutes the reproach as well as the boast of syphilography. The reproach, because while immense advances have been made in our knowledge of the natural history of syphilis; of its varied, complex, and far-reaching etiological and pathological relationships, science has discovered no remedy superior, or even equal in efficacy to that employed in 1495.

But, on the other hand, if *stability* be recognized as the true test of the value of a treatment, then may the specialist, with perfect propriety, boast that the very permanence of mercurial treatment, stamped as it is with the seal of professional approval after four centuries' experience, constitutes the highest testimonial, as well as the positive proof of its superior value.

While mercury still maintains its supremacy as the sovereign remedy in syphilis, the traditional methods of its therapeutic application have been essentially modified, and the principles of treatment established on a more rational and scientific basis. With a clearer appreciation of what may be accomplished by specific medication we have also learned to recognize its limitations. We no longer attempt to expel the syphilitic virus from the recesses of the economy by therapeutic violence; on the contrary, we regard any treatment which seriously disturbs the physiological functions as positively pernicious.

[1] Read before the New York Academy of Medicine, October 6, 1887.

The genius of modern mercurial medication is in the direction of *attenuation;* instead of overwhelming the syphilitic diathesis with a metallic mass, the treatment has been drawn out, or extended, to correspond to the natural life term of the malady.

Professional opinion, based upon large experience and observation, seems to have settled down to the conviction that the therapeutic specificity of mercury in syphilis is best developed by its administration in small doses during a long period. However efficient mercury may be in syphilis, its most ardent and enthusiastic advocate would hardly contend that it fulfils all the conditions of a perfect remedial agent. To say nothing of the merited disrepute into which it has fallen from time to time on account of its abuses, even its most judicious employment is often attended with inconvenient and ill effects.

A multitude of agents drawn from both the mineral and vegetable kingdoms have been brought forward as succedaneums, but, after a more or less ephemeral notoriety, they have fallen into disuse. The investigations of recent years have not been directed to the development of new therapeutical agents, but rather to improvements in the methods of administering mercury, with the view of obviating its disadvantages while availing ourselves of its incontestable efficacy.

The hypodermic employment of mercury constitutes the most recent innovation upon the older and classic modes of introducing this drug into the system. It may be properly designated a modern method of treating syphilis, since its introduction dates back but little over twenty years. The term does not necessarily imply a new means of cure. With our present knowledge of the agents best adapted to combat the disease, mercury forms the backbone of every system or method of treatment.

It is not merely novel in the method of mercurialization it proposes, but if the claims of its more enthusiastic advocates be substantiated, it revolutionizes the principles of treatment. It not only exalts mercury to the rank of a specific antidote to the syphilitic virus, energizing its action, and widening the range of its specific influence so as to include the lesions of the tertiary stage, but it overturns the general belief in the necessity of a continuous and prolonged treatment, and singularly modifies the prevailing conception of the quantity of the drug required to effect a cure.

A priori and from a theoretical point of view, the hypodermic method has much to commend it to favor. Certain advantages are obvious. It combines accuracy and precision of dose with greater rapidity of action and increased effect from a minimum quantity. It is not so liable to produce stomatitis and gastro-intestinal disorders, as when the drug is given by the stomach. Compared with the dermic method with which it has most analogies, the inunction treatment is inaccurate, unscientific, and uncleanly, prone to produce ptyalism, liable to determine dermatitis of various degrees of intensity, which often compels its suspension. Certain claims which may be considered as yet *sub judice*, are that the hypodermic use of mercury increases its potentiality, enabling it to triumph over refractory lesions which resist ordinary methods of treatment, and that its action is more permanent, as shown by the comparative infrequency of relapses.

If these claims could be verified and the process be freed from certain disadvantages and ill effects which

have thus far proved inseparable from its use, the modern method would represent the ideal treatment of syphilis.

The subject of the hypodermic treatment of syphilis has for a long time engaged the earnest attention of the profession abroad. Its relative advantages and disadvantages, compared with the older methods, have been the theme of the liveliest discussions before learned societies and through the medical press. I have thought the subject of sufficient interest and importance to bring before this Academy with the view of eliciting the experience and views of our own specialists as to its therapeutic worth.

My personal experience with this method has been comparatively limited. During the past summer, however, circumstances favored me with an opportunity of studying the results of hypodermic medication on a large scale in the male and female Syphilitic Hospitals of Paris—the Loureine and the Du Midi—of witnessing its effects both upon the disease and upon the patients—of freely discussing its merits and demerits with the operators, so that my observations have somewhat of the value of personally conducted experiments.

Before attempting a critical appreciation of the true value of the hypodermic treatment of syphilis, it may be well to indicate its present status in professional confidence, and give a brief resumé of its history.

This method, after passing through the vicissitudes common to any departure from traditional practice; after being extolled and adopted by leading authorities, condemned and rejected by others, it has made of late years decided progress in professional favor in Italy, Germany, Sweden, Finland, Russia, and France. In England it has been experimented with to a limited extent, but has not made any headway. In this country it has not been largely employed, and with results so unfavorable that of late years it has been practically disregarded as a means of cure.

It is not my purpose to give a complete history of the hypodermic method, or even a complete list of all the compounds of mercury which have been tried subcutaneously. The refinements of the chemists' art have been brought into requisition in order to provide preparations which should combine facility of absorption with freedom from irritation: Amides, chlorides, cyanides, iodides, oxides, chromates, nitrates, sulphates, and even metallic mercury have been experimented with, but most of these have fallen into disuse.

At the present time, the bichloride, the formamide and the ammoni-peptonate, representing the group of soluble salts, and calomel and the yellow oxide, the insoluble salts, are most generally employed.

The former are introduced in a soluble state and in a condition favorable for immediate absorption; the latter are injected in the insoluble state, and, by a process of slow chemical reaction, are rendered soluble and gradually absorbed. The supply of the former must be frequently renewed once or twice a day, on account of the rapidity of its absorption and elimination, which is ordinarily effected within twenty-four hours. The latter is introduced in a relatively small quantity, and at long intervals; its slow absorption and elimination insuring an impregnation of the system during a long period. Traces of the mercury thus introduced, it is claimed, may be found in the saliva and urine after the lapse of six months to a year, and even longer. Although there has been a synchronous development of these two procedures, it will be seen that they are essentially distinct in the mode of mercurialization, and it will be convenient to consider them separately.

The honor, by some considered doubtful, of introducing the bichloride into the system subcutaneously belongs to Hunter and Hebra. Their experiments were so unsatisfactory that they were soon abandoned, and the results never published.

Later, Lewin reviewed the use of the sublimate injections, and his results, published in 1867, gave a fresh impetus to the prosecution of experiments in this direction. He used a solution of the salt in distilled water, the quantity injected each time representing about one-eighth to one-sixth grain of the bichloride. He claimed remarkable results, but the pain and local accidents which were produced at the points of puncture constituted serious objections to its employment. These inconveniences were sought to be corrected by changes in the menstruum, and the addition of various agents, such as albumen, peptone, glycogoll, with a view of dulling the caustic edge of the sublimate salt. The ammonio-peptonate of mercury probably represents the least objectionable soluble preparation which has as yet been devised. M. Martineau assured me that he had used it in 6,000 cases of syphilis, making in all 200,000 injections, on an average about 30 to each patient, without a single accident. From my personal observation I can assert that it is by no means painless, as has been claimed. The lateral posterior parts of the back are chosen as the seat of the injections. A fold is pinched up and the needle plunged obliquely to its full length. After it is withdrawn, friction is made over the surface with the view of facilitating absorption. One injection, representing 10 milligrams, is made each day.

The pain, eschars, and abscesses, formerly quite frequent, have been much diminished by improvements which have been made in the preparation used, the technique of its application, and the seat of the injections. Jullien, the distinguished Lyons authority, declares that he has used sublimate injections in thousands of cases, without a single accident. He plunges the needle in the muscles of the buttocks. As indicating the comparative rarity of inflammatory accidents, Smet gives the following statistics.

Lewin used 300,000 injections with only 20 abscesses; Paikert, 5,000 injections, without accident; Sigmund treated 631 patients with only 5 abscesses; Smet, 900 patients without any local accident whatever.

The average quantity of the bichloride requisite to effect a cure of syphilis is fixed as twenty-five to thirty centigrammes for males, a slightly less amount for females.

The hypodermic use of an insoluble salt of mercury in the treatment of syphilis, was introduced by Scarenzio, in 1864. He was led to employ calomel on the ground that it was less irritating to the tissues, and that it would be gradually converted into the bichloride by a chemical reaction with the alkaline chlorides of the system. He calculated that forty centigrammes of calomel represented the quantity of the bichloride requisite to effect a cure. This amount suspended in glycerine, for which he afterwards substituted mucilage, was injected in two different places, or at two different sittings. As the seat of the injections he chose the extremities and lateral sides of the chest. The effect of these upon the syphilis was most favorable, but in every instance an abscess formed at the seat of the injection. This result was for a long time regarded as an inseparable condition of the employment of calomel injections. His second series of experiments were more successful. By reducing the quantity of calomel introduced at each seance, and greater care in the technique of the operation, he obtained better results with fewer abscesses.

Scarenzio's method was taken up by numerous experimenters in Italy, Germany, and elsewhere, most all of whom attested its remarkable efficacy, but had to deplore its unfortunate concomitant in the shape of local accidents, which rendered its general use impossible.

In 1882, Smirnoff, who had experimented largely with Scarenzio's method, made certain modifications which largely reduced the proportion of abscesses. He found by injecting small quantities of calomel into various parts of the trunk and extremities, that in all cases he produced abscesses which either opened or had to be incised; the other points of injections were tumefied half the size of an egg, sensitive and painful. He injected much larger quantities of calomel in each buttock with the re-

sult that abscesses occurred much less frequently, and the inflammatory reaction was less painful and severe.

The method of Scarenzio as modified by Smirnoff, consists in the injection of ten centigrams of calomel in the buttock; this injection to be repeated two or three times at intervals of eight to fifteen days, according to the effect upon the symptoms.

Smirnoff asserts that this method constitutes the most simple, convenient, exact, and efficacious treatment of syphilis. It is well-supported by children and pregnant women, and is applicable to all stages of the disease. He gives statistics of one hundred and thirteen cases of tertiary syphilis treated exclusively by calomel injections, and in only sixteen were there relapses. He admits that relapses occasionally occur after this treatment in the secondary stage—usually upon the mucous membranes. All experimenters agree that the efficacy of injections is less marked in the case of mucous patches; here local treatment is necessary. He fixes the exact dosage of the amount of calomel necessary to cure syphilis when used hypodermically as follows: in the first years of infancy at twenty-four to thirty-six milligrammes: from fifteen to sixteen years about the same quantity as in adults. He computes that forty to fifty centigrammes, four or five injections, is sufficient for the complete cure of secondary syphilis including its relapses; while twenty to thirty centigrammes, two to three injections, represents the average dose necessary to cure the symptoms of tertiary syphilis. It would appear then, that the quantity of calomel required to effect a cure of syphilis at all ages and in all its stages, admitted of definite mathematical expression.

Within the past year injections of the insoluble compounds of mercury have been experimented with on a large scale in the Paris special hospitals, by Balzer at the Loucine, Du Castel at the Du Midi, and Besnier at the St. Louis. Balzer substituted the oil of vaseline for glycerine, as an excipient both for calomel and the yellow oxide of mercury. Great care is taken that the preparation of mercury should be perfectly pure. It is finely pulverized, washed in boiling alcohol, dried and suspended in the vaseline in the proportion of 1.50 grains of calomel to 15 grains of vaseline, 1 cubic centimetre of the fluid representing 10 centigrammes of the active agent; the yellow oxide is combined in the proportion of 10 centigrammes to 1 gramme of vaseline.

Balzer has the patient lying upon the face, the operator's hands are washed in an antiseptic liquid; the place of injection, in the central depression of the buttock, is wiped off with salicylated cotton, dipped in the antiseptic solution. The needle, which should be of large calibre, is introduced vertically downward into the subcutaneous tissues, and the fluid slowly forced out. The needle is withdrawn, pressure being made against it to prevent escape of the fluid along its track and the consequent formation of a canicular abscess, and the point of puncture antiseptically dressed. No massage or friction of the parts is practiced. The patient usually maintains the recumbent position three-quarters of an hour, and then goes around as usual. The operation is repeated in from eight to fifteen days, and the patient receives on an average four injections.

Smirnoff, whom I met in Paris, demonstrated to me his method of making the injections, which is slightly different. The point of the injection should be 3 centimetres behind the posterior border of the great trochanter, and the needle should be introduced horizontally into the subcutaneous tissues. If a second injection is to be made in the same buttock, it should be at least 3 centimetres above or below the first. When the injections are thus made he claims that even should intense inflammatory reaction supervene, there is no pressure upon the inflamed parts when the patient is sitting or lying down.

The immediate pain from the injection is trifling and almost nil. In a few days, generally within forty-eight hours, there is observed an inflammatory engorgement of the part, more or less extensive, and quite painful. It may attain the size of an egg or larger, and then gradually undergo involution in the course of ten or fifteen days, or the inflammatory reaction may proceed to suppuration. Resorption of the pus sometimes takes place, or the abscess may have to be opened. In his first series of experiments, comprising 107 injections, Balzer had 15 abscesses; in the second series of 84 injections, there were only 3 abscesses. He does not attach much importance to this complication, regarding it only as an inconvenience interfering with an early repetition of the injection.

An examination of a large number of statistics shows that there has been a progressive diminution in the occurrence of this complication. In Scarenzio's first series of cases it occurred in one hundred per cent. of the injections. Still later it was reduced to twenty-five per cent., and now it occurs only in a small proportion of cases, four to six or eight per cent.

The marked diminution in the frequency and inflammatory character of the local accidents is no doubt due to the greater care observed in the preparation of the injection, insuring its freedom from impurities, carefully cleansing the needle before introduction, so that the solution does not come in contact with the derma, and in the selection of the place of injection.

Besnier's practice is to carry the injection down into the muscular tissues. Abscesses and other local accidents, it has been observed, are incomparably more frequent in women than in men, and in fat than in lean persons generally. This may be explained by the greater thickness of the adipose covering in this region, and the relatively more superficial seat of the injection.

Although the tendency of the formation of abscesses has been in a great measure corrected by improvements in the technique of the operation, yet the inflammatory nodular induration seems to be an inevitable concomitant of calomel injections. The inflammatory reaction varies in extent and degree of severity, sometimes causing considerable swelling. In other cases the induration may be felt rather than seen, and is exceedingly sensitive and painful to the touch.

I had an opportunity of examining a number of these nodular masses which Balzer had removed from the buttocks of a patient who had died from phthisis. In each specimen, representing a small cellulo-adipose mass, there was a blackened foyer or centre of necrosed tissue. This necrotic process was supposed to be due to the intensity of the chemical reaction which occurs in the transformation of the mercurial salt into the bichloride.

The question whether necrosis takes place in every instance would seem to be settled in the negative by the observation of Du Castel. In a post mortem of a patient who died one month after an injection he found neither necrosis nor any trace of the mercury, showing that complete absorption had taken place.

Incidentally it may be said that pain and local inflammatory phenomena are much less pronounced from the injection of the yellow oxide. Neither Balzer nor Du Castel have ever had an abscess develop from its use. This corresponds with the experience of Schadek, Watraszewki and others, although a greater efficacy is imputed to the calomel. Complications of a general nature, such as ptyalism and diarrhœa are very infrequent from calomel injections. They may be caused by repeating the injections after too short an interval. Constitutional peculiarity or idiosyncrasy, as a presupposing cause, should not be overlooked. I observed two cases of stomatitis, one extremely severe, after a second injection—the other was provoked by a single injection. The more pronounced symptoms of hydrargyrism have never been developed by calomel injections.

From his somewhat extended experience, Balzer regards the curative effects of calomel and the yellow oxide injections as something marvellous. He does not

hesitate to declare that it constitutes the best method known at the present time for the treatment of syphilis. Du Castel, while testifying to its remarkable efficacy, is more reserved in his expressions as to its superior value. He regards it as essentially tentative as yet. Besnier has practically abandoned the method as a means of cure. According to him its use should be restricted to cases in which digestive intolerance is marked, or where the determinations of syphilis show themselves rebellious to ordinary procedures.

As regards the relative disadvantages of the two classes of preparations, so far as immediate effects are concerned, the pain caused by the soluble salts is more intense, while the secondary reactionary phenomena are much more severe, and of longer duration from the insoluble salts.

Salivation is more common after the injection of the soluble salts; but its frequency has been much diminished by greater care in the dosage, and the judicious use of chlorate of potash and other corrigents.

As regards their relative efficacy it would appear that the immediate curative action of the soluble salts is much more pronounced, while the effect of the insoluble salts is more continuous and lasting. All experimenters testify to the remarkable rapidity and energy of the action of mercury when introduced hypodermically.

Independent of clinical experience, the relative value of the soluble and insoluble salts would depend upon the theoretical consideration whether rapidity or slowness of elimination should be the proper measure of the degree of efficacy. In other words, whether the therapeutic specificity of mercury may be best developed by a momentary but energetic action, or by a continuous and prolonged effect. Views differ as to whether an accumulation of mercury in the system acts as a hindrance or help in the cure.

Taking as a point of departure the generally accepted view that the best results are attained in syphilis by keeping the system under specific influence during a long period, medication with the insoluble salts would seem to better fulfil this indication. In fact if mercury acts by sterilization of the tissues, thus preventing the germination of the syphilitic virus, its continued presence in the system would seem to be a necessary condition. The proposal to cure syphilis by the introduction of a supply of the antidote, which, through a process of slow absorption is appropriated by the system as the necessities of neutralization of the virus may demand, may be very ingenious and seductive, but the theory does not rest upon an adequate basis of clinical facts.

Statistics there are in abundance to show that its immediate impress upon the symptoms is most satisfactory. It suppresses manifestations, and hastens their involution. But statistics, we all know, are very elastic and susceptible of a misleading interpretation. The statistics which have been brought forward in support of the much greater permanence of action of mercury hypodermically introduced are valueless on account of insufficient observation.

The experience of Balzer, that patients who have been treated by calomel injections do not return for a repetition of the treatment, while patients who have been treated by ordinary methods return on account of relapses, may be interpreted in two ways—instead of demonstrating the non-necessity of farther treatment, their failure to return may be due to dissatisfaction with the method of treatment. Patients must be kept under surveillance during a number of years, and take no other treatment before the results can serve as a basis for the appreciation of the value of this method.

The claim that 25 centigrammes of the bichloride introduced in quantities of 8 to 10 milligrammes a day for 30 days, or that 40 centigrammes of calomel inserted in 10 centigramme doses at a week's interval, *cures* syphilis, can only be received with incredulity, or the term *cure* must be used in a very loose sense. If we imply by the cure of syphilis what is meant by the cure of psoriasis, viz., a disappearance of the eruption, the characterization may be proper enough; but if it means the definite and absolute cure of the diathesis, the claim is absurd.

Such a result is opposed to our knowledge of the natural history of syphilis, and the limitations of the curative power of mercury as developed by long observation and experience. In the course of the ordinary treatment of the active stage, successive crops of accidents may continue to recur even when the patient is under the full influence of mercury. After the most careful, intelligent and prolonged treatment the conscientious physician cannot give his patient a clean bill of health, or guarantee him absolute exemption from further manifestations of the disease.

In the ordinary conception of the necessities of mercurial treatment, no matter how small the dose, whether the treatment be interrupted or continuous during a period of two to four years, as is generally recommended, a simple mathematical computation will show that a considerable quantity of the drug must of necessity be received—a quantity besides which 6⅔ grains of calomel must appear infinitesimal, even admitting that it is all absorbed. The hypothesis, then, that the introduction of such a relatively small quantity of mercury undergoes some mysterious multiplication of power, which not only suppresses the accidents of syphilis, but makes a permanent impression upon the diathesis, is too severe a tax upon our credulity. It is what Besnier has termed "the romance of mercurial treatment."

One feature of this method, which entitles it to favorable consideration, should not be lost sight of. Its comparative freedom from gastro-intestinal complications, allows us to utilize the gastric functions solely for the reception and assimilation of tonics and reconstituent remedies, and thus enables us to counteract the anemiating and debilitating influence of the diathesis. In the rational treatment of syphilis this class of remedies is scarcely subordinate in importance and value to specific treatment itself.

In endeavoring to appreciate the therapeutic worth of the modern method of treating syphilis, we are confronted by a mass of confusing clinical statistics, as well as a crowd of contradictory statements upon the part of the experimenters, some bearing testimony to its superior efficacy, others depreciating its value and condemning it as obnoxious and impracticable.

A careful weighing of this clinical testimony, balanced by my own observation and experience, justifies the following conclusions:

The hypodermic use of mercury, in simplicity, convenience, scientific accuracy, rapidity of action and the development of a maximum effect from a minimum quantity, constitutes a decided improvement over the ordinary modes of introducing this drug into the system.

The hypodermic method is not so liable to cause salivation, gastro-intestinal disorders and other toxic symptoms of hydrargyrism.

There is a remarkable unanimity of opinion as to its efficacy in suppressing the active manifestations of the secondary stage, and hastening their involution.

The claim that the hypodermic use of mercury increases its potentiality and widens the range of its curative action, enabling it not only to subdue refractory secondary lesions which resist ordinary treatment, but also the tertiary lesions of syphilis, may be considered as yet *sub judice*.

The claim that it endows mercury with a greater permanence of action, preventing relapses and preserving the patient from manifestations of the diathesis for a long period, is not proven.

The more pretentious claim that the hypodermic injection of twenty-five centigrammes of the bichloride, or forty centigrammes of calomel, *cures* syphilis, must be rejected as extravagant and absurd.

The irritant action of mercury introduced subcutaneously, manifest in the production of pain and local accidents, renders its general employment in the systematic treatment of syphilis impracticable.

Until these objectionable features be modified or overcome, the proper position of hypodermic medication in the therapeutics of syphilis is in the category of adjuvants.

Its employment is indicated where the necessities of the case demand a rapid and intense mercurialization. In certain emergencies, when, for example, the integrity of an important organ is threatened, its prompt and energetic action renders it superior to other modes of mercurialization.

In exceptional cases, marital syphilis, for example, where the exigencies of the situation demand secrecy in treatment with the speediest possible suppression of the symptoms, this method is to be recommended.

In cases where gastro-intestinal irritation is so marked as to forbid the introduction of mercury to the stomach, it constitutes a most efficient reserve treatment.

In tertiary syphilis, where the iodine idiosyncrasy is so marked as to preclude the use of iodide of potassium, the hypodermic use of mercury should be substituted.

My own impression is, that while the hypodermic method will never supplant the classic modes of employing mercury, yet it constitutes a decided acquisition to our therapeutical resources against syphilis, too valuable to be ignored or practically disregarded, as has been the case in this country.

66 West Fortieth Street.

SOME POINTS IN THE DIAGNOSIS OF CHRONIC PYELITIS.[1]

By HENRY C. COE, M.D.,
of new york.

Sir Henry Thompson, in discussing this subject from a surgical standpoint a few years since, said: "I have long sought for some sign that should indicate the presence of extensive pyelitis and dilatation, but in vain." Although medical writers do not take quite such a despairing view of the matter, they display a singular unanimity with regard to the difficulty of recognizing chronic inflammation of the renal pelvis, especially when associated with catarrh of the bladder. Only those who possess absolute faith in their ability to positively localize lesions in the urinary tract by examinations of the urine, speak confidently of their power to recognize the existence of secondary pyelitis by the microscope. By "secondary pyelitis," to quote from Ultzmann,[2] "we understand either those forms which have arisen by extension from another part of the urinary canal somewhere below the pelvis, or else such forms as occur from disease about the kidneys, or near the pelvis or bladder." By limiting ourselves to the variety thus defined, we exclude acute inflammation of the pelvis, as well as that due to calculi, tuberculosis, morbid growths, and acute infection; in short, we consider just that form which is most obscure in its inception. This affection possesses more of a surgical interest than it did formerly, since nephrotomy has become quite a common operation, and it is important to ascertain whether we possess any certain means of diagnosticating "pyelitis without a tumor."[3]

I may state at the outset that I shall dwell particularly upon the character of the urine, not only because the positive subjective symptoms are few and indefinite, but by reason of the fact that my personal observations have been confined rather to the former line of investigation.

Certain points in the history are of importance, especially the fact that there has long existed a chronic cystitis. It is impossible to assign any definite period within which we can affirm that the inflammation extended from the bladder to the ureter and pelvis, since the process is essentially gradual and progressive; in other words, although both processes spread by direct continuity, it would be entirely improper to compare the lighting up of a pyelitis with the extension of a catarrh of the bronchi to the bronchioles and air-cells, since in the latter cases the symptoms undergo a sudden and alarming change. The extension of inflammation in the urinary tract is not marked by any such striking phenomena, at least at the beginning. Pain, localized over the region of the kidney, is a later symptom, and is most common in primary calculous pyelitis, when there is usually a history of nephritic colic. "Pain or tenderness, on pressure in the small of the back," says Ultzmann,[1] "is very often mistaken for pain in the kidney." This pain is frequently due to uterine affections, disease of the prostate, etc. As a rule, the vesical trouble entirely absorbs the patient's attention. To cite an illustration: A young woman was under treatment in the Woman's Hospital for three years for intractable cystitis. Cystotomy was performed, and the bladder was washed out systematically through the artificial opening. She was under my daily observation for a year and a half, during which time I examined the urine frequently, with results to be mentioned subsequently. The vesical trouble did not improve, and each time, when the bladder was irrigated, the patient was in great agony; the condition of the organ was such that closure of the fistula was out of the question. At no time, when she was under my care, did I note any symptoms, either subjective or objective, that suggested a renal complication. There was no pain in the loins, and the usual evidences of pus-formation were wanting. The patient's general condition was always bad, but it was to be ascribed to years of suffering rather than to septic infection. She was always able to walk about, and to assist the nurse. A few months later she began to have pain over the left kidney, and when examined under ether an enlargement could be imperfectly made out in that region. Subsequently nephrotomy was performed at the New York Hospital with a fatal result, the diagnosis being confirmed by the removal of a moderately enlarged kidney, the pelvis of which was filled with pus, while the parenchyma was riddled with abscesses. The opposite organ was healthy. I could mention several other cases of chronic cystitis in females in which well-marked pyelitis and pyelo-nephritis were found at the autopsy, although their presence had not been recognized during life, owing to the greater prominence of the vesical symptoms. The cause of death was septicæmia, a condition which was clearly evident from the final symptoms.[2] But the absence of positive evidences of secondary inflammation of the pelvis is by no means confined to females, in whom pelvic complications may readily divert our attention from the renal affection; stricture and hypertrophy of the prostate are frequently followed by inflammation high up in the urinary tract, but "pyelitis," under these circumstances, is milder in character, does not occasion any severe symptoms, and goes, for the most part, unnoticed by patient and surgeon.[3] Among the physical signs I know of none (in the absence of an actual tumor) which is at all definite, except pain and tenderness over the affected kidney, and this is more often absent than present.

Such being the unsatisfactory result of our efforts to discover evidences of pyelitis from the history and examination of the patient, we are forced to the conclusion that whatever positive information there may be must be furnished by the urinary analysis. Yet, in the form of pyelitis which we are considering the analysis is often negative, because the urine "bears the stronger impress of the vesical, prostatic, or urethral disorder."[4] In my

[1] Read before the North-Western Medical and Surgical Society, at Stated Meeting, June 15, 1887.
[2] "Pyuria"—Dr. Robert Ultzmann, translated by Platt, p. 54.
[3] Roberts—Urinary and Renal Diseases, p. 467.

[1] Op. Cit., p. 56.
[2] This has been termed "urosepsis."
[3] Van Buren and Keyes—"Genito-urinary Diseases, etc., p. 363.
[4] Robert's: Loc. cit.

experience this "stronger impress" is frequently noted during the examination of sediments, and is a most perplexing factor, obscuring the true condition in cases of well-marked renal disease. Nor is this true only of the acute form of the affection under discussion. In an exquisite case of acute pyelitis following a gun-shot wound of the right kidney, in which, by repeated examinations, I was able to follow the course of the healing process quite easily, although the first few specimens showed under the microscope the typical appearances described in the text-books, a vesical catarrh speedily developed which obscured the original condition, so that a chance observer would doubtless have failed to detect in the urine evidences of an acute process in the renal pelvis. After the inflammation of the bladder had subsided, it again became possible to recognize the pyelitis. It is usually stated that in chronic pyelitis the amount of urine passed in twenty-four hours is increased, while the specific gravity is low. This polyuria is explained in part by the presence of cardiac hypertrophy, and in part by the disturbance of the normal osmosis when the disease has extended to the medullary portion of the gland. Doubtless we often imagine that the amount of urine is greater because the patient is obliged to urinate frequently in consequence of vesical irritation. Since the proportion of the normal constituents is commonly unaltered, the presence of an excess of uric acid or phosphates (especially of a considerable crystalline sediment) might properly awaken the suspicion that there was a renal calculus. As regards the general appearance of a given specimen, I should be inclined to regard the presence of a thick deposit of pus, without an excess of mucus, as quite important, especially where there was only moderate catarrh of the bladder, since if an equal amount of pus came from the bladder *alone*, there would be a large quantity of thick, ropy mucus, which would adhere to the bottom of the vessel. I have found this negative point of considerable value in obscure cases, especially when the urine was neutral or only slightly alkaline, since a strong alkaline reaction would be significant rather of chronic cystitis; the presence of the latter condition, of course, usually renders both of these tests nugatory. Ultzmann[1] insists that "albumen appears constantly in greater amount than corresponds to the contained purulent sediment." It rarely exceeds one-fourth of one per cent. It is difficult, if not impossible, to determine this point when pus is present in excess. Diminution in the relative amount of urea is sometimes noted in advanced cases, and is to be regarded as of serious import. Pascallucci[2] calls attention to the fact that in pyelitis nitrate of urea crystallizes in feathery forms not in rhomboidal shape as in cystitis. The sediment is essentially purulent, and the amount and manner of appearance of this pus are important. It sometimes diminishes in amount for a short time, and then there comes a sort of gush as if an abscess had ruptured, although there has been no evidence of such a condition. In case of doubt it is well to adopt Thompson's plan of washing out the bladder thoroughly and then introducing a soft catheter, which is allowed to remain *in situ* until a small amount of urine has flowed through it. If this specimen contains a large amount of pus, and a second washing of the bladder brings away an insignificant amount, we may infer that the pus came from higher up in the tract.[3] This separation of the pelvic and vesical urine is readily accomplished in the case of a patient now under observation, from the fact that a fine catheter can be passed directly into the pelvis of the kidney through a uretero-vaginal fistula. This is an unusual opportunity to study the different appearances of the excretion in pyelitis, cystitis, and also when the two specimens are mingled. I must acknowledge that the differences have not been as striking as I could wish for the sake of deducing rules for exact diagnosis. Thus one specimen of urine withdrawn directly from the pelvis was similar in all respects to one from the bladder, except that vesical epithelium was absent. The sudden discharge of quantities of pus was noted in the case of artificial vesico-vaginal fistula to which I alluded, but in this instance there was such an aggravated cystitis that it was seldom possible to obtain a specimen which did not deposit a thick, ropy sediment. As regards the presence of blood, I need only add that when it is really derived from the pelvis, as may be determined by Thompson's test, it should awaken the suspicion that the pyelitis is not simple, but is associated with a morbid growth or calculus; the latter may, of course, be *secondary* to the pyelitis. When, as in a specimen which I examined, there is present a considerable quantity of fresh unchanged blood, we must infer that it is derived from some point lower down in the ureter, possibly in consequence of catheterization of that duct.

As regards the microscopical appearances, I must confess that I have found many of the descriptions at fault. There are some writers who seem to base the diagnosis of pyelitis entirely upon the presence in a given specimen of a few caudate-cells such as are known to line the pelvis and calyces; others even profess to be able to recognize the extent of the inflammatory process by noting whether this transitional epithelium came from the superficial or deep layer. Now, applying the same principle here as we do in inflammation of any mucous membrane, it is evident that the stage of desquamation is that of acute catarrh, while after the process has become general and necrotic, the epithelial lining is destroyed. "Epithelial cells," says Ultzmann, "are very sparingly present in chronic pyelitis; and if the suppuration is very severe, they may be entirely wanting, since they apparently by endogenous cell-formation break up into pus-corpuscles." I have found large flakes of pelvic epithelium in a case of secondary pyelitis, where the next half-dozen specimens contained only here and there a cell. How unscientific it is to locate an inflammatory process in the urinary tract by finding three or four characteristic epithelial elements in a single slide! "One swallow does not make spring," and one cell does not furnish us with a perfect mental picture of the pathological process which is taking place in the region from which it came, even if such a process is present. Strange to say, we admit that constant exfoliation of cells is taking place in all the other mucous passages, yet in the case of the urinary tract the appearance of a few leucocytes and pelvic cells in the urine is regarded as proof positive of pyelitis. We may safely assume, then, that, while the presence of large numbers of pelvic epithelia furnish us an important aid in the diagnosis, their absence is by no means an argument against the existence of chronic pyelitis. The pus-corpuscles themselves are worthy of careful study. They are more apt to be arranged in sheets or masses, than is the case when they are derived from the bladder. Ultzmann has described and figured "purulent plugs of the ductus papillares," which he regards as peculiar to this condition; these sometimes contain cells from the tubules. Renal epithelium is commonly found, and by its amount we can estimate roughly the degree of disturbance in the medulla. In decomposed urine from a diseased bladder the finer objects may be obscured by an excess of amorphous urates. In like manner the presence of crystalline phosphates, bacteria, etc., will possess no special significance. But if such a sediment was deposited from a specimen of urine drawn directly from the pelvis (as in the case of ureteric fistula), it would point to a decomposition occurring within the kidney, when a secondary calculus might readily be formed. But since our opportunities for catheterizing the renal pelvis are rare, we are obliged to base our diagnosis upon the appearance of the urine as it is withdrawn from the bladder; and if the latter is the seat of chronic inflammation, it can be readily inferred that even an expert in urinaly-

[1] Analysis of the Urine, Trans., p. 227.
[2] Il Morgagni, quoted by Da Costa ("Medical Diagnosis," p. 652).
[3] Skene: Diseases of the Bladder and Urethra in Women, pp. 142.

sis would be unable to give a positive opinion from the examination of a single specimen.

In the presence of such a complication, and knowing nothing about the history of the patient, I should be inclined to lay most stress on the relatively large amount of pus and albumen and the small amount of mucus. If pelvic and renal epithelium is present in considerable amount, so much the better.

In conclusion, I shall quote from a well-known authority on diseases of the kidney:[1] "The upper urinary passages are likely to be involved when the quantity of pus is very great—two or three ounces, or more, per day; when, with a large discharge of pus, the urine is only feebly ammoniacal; when the loins are painful on pressure, and the febrile movement and the decay of strength seem out of proportion to the vesical or urethral mischief; lastly, when the latter has been in existence for several years."

ANEURISM OF THE INNOMINATE ARTERY, TREATED WITH LIGATURE OF THE RIGHT CAROTID AND SUBCLAVIAN ARTERIES.[2]

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SURGEON BUFFALO GENERAL HOSPITAL.

The following case, although not of very rare occurrence, is of sufficient importance to deserve mentioning. The patient is a married woman, fifty-four years of age, who consulted me in May, 1887, on account of increasing dyspnœa, difficulty of swallowing, palpitations of the heart, and a pulsating tumor of the jugulum.

She belongs to a healthy family, has had seven children, of which four died in infancy. She has never had syphilis, but years ago had several attacks of inflammatory rheumatism. She lost a daughter five years ago, and worried for a long time over her loss; was sleepless, and commenced since then to complain of palpitations of the heart. Her periods ceased, and for three years she suffered from continual diarrhœa, became weak and emaciated, losing thirty pounds in weight. The diarrhœa stopped a year and a half ago, and she noticed then rheumatic pains, and a heating on the right side of the neck, just under the sternal end of the clavicle. At the same time the palpitations of the heart grew more severe, and she complained of occasional faintness and dizziness, and increasing dyspnœa. It became, little by little, more and more difficult for her to swallow her food; and she noticed a small, pulsating, painless tumor in the jugulum, which slowly grew larger, exerting pressure on the adjacent organs, and causing pain of a gnawing and pressing character.

For six months before the consultation she was unable to lie flat on her back, from pressure of the tumor on the trachea, and at times she found it hard to breathe and swallow. By the least exertion the tumor beats with increased violence. Her appetite was fairly good. At the examination she looked congested and bluish in the face. On the chest were seen a number of large veins, pulsating synchronous with the pulse.

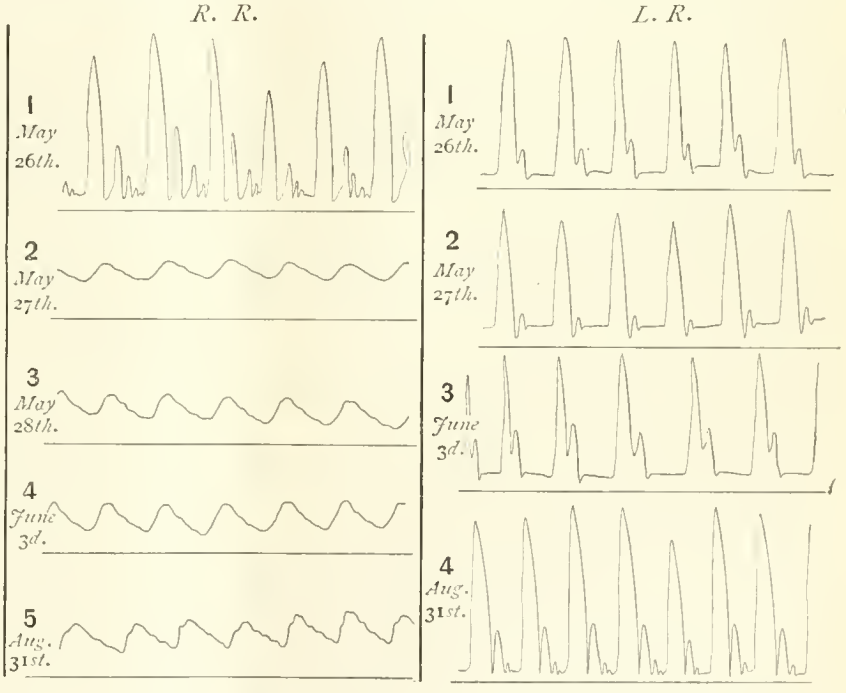
In the interclavicular space, extending upward behind the sterno-mastoid muscle, a pulsating tumor was seen, as large as a large walnut, which expanded synchronous with the pulse. It was rather soft, and by pressure could be made smaller. It was not painful upon pressure. The heart was enlarged, the impulse of the apex being outside the papillary line. A systolic murmur was heard over the whole heart, increasing upward. To the right of the sternum an aortic obstructive and regurgitant murmur was heard. A diastolic anæurismal murmur was heard over the tumor, extending upward into the carotid and outward into the subclavian arteries. A vibratory thrill could be felt synchronous with the heart-impulse. Two inches above the tumor the carotid artery pulsated, seemingly normally, and the artery appeared of normal size.

The laryngeal examination showed the larynx to be normal, with no paresis at the nasal cords.

Pulse, 90; soft, and easily compressible. She was ordered rest in bed, restricted diet, large doses of iodide potash, and a dessert-spoonful of infusion of digitalis three times a day. She did not improve during the next fourteen days; the dyspnœa increased till it was almost unbearable; the aneurism grew slowly larger; she was sleepless and rapidly losing ground. I, therefore, advised immediate operation, and she entered the General Hospital for that purpose, on May 25, 1887.

May 26th.—Operation under ether-narcosis, a large number of physicians being present. Under strict antiseptic precautions, the common carotid, and the subclavian arteries were ligated with heavy catgut, the carotid in the middle, the subclavian in its third division, outside the scalenus anticus muscle.

The wounds were sutured with catgut, having first been irrigated with corrosive sublimate (1—1000), and a complete sublimate bandage applied, under which union by first intention took place.



May 27th.—A faint pulse returned in the radial artery this evening, and a sphygmographic trace was taken, which shows a mane, but without arterial tension. The patient rallied well, right arm and right side of face, colder than on left side, and feels numb.

May 30th.—Patient comfortable, temperature normal, pulse on left side 88°, strong and full.

June 2d.—The wounds are dressed for the first time, and are found closed by first intention, without a trace of matter. The aneurism is smaller, harder, and the pulsation has considerably decreased. There is seen and felt considerable pulsation of the arteries from the thyroid axis, especially the inferior thyroid, and the transversalis colli.

[1] Roberts—op. cit., p. 468.

[2] Read before the Buffalo Medical and Surgical Association.

No pulsation can be felt on the distal side of the ligatures; the right radial pulse scarcely perceptible to the finger, but the sphygmograph shows a mane. She can lie down flat on her back without trouble, has less dyspnœa, and swallows with greater ease.

Surface thermometer shows 1-2 degrees less on the right side.

June 6th.—Patient allowed to sit up pulse in right radial has more volume.

June 15th.—Patient discharged.

August 31st.—Patient has since felt pretty well, and is able to do some light house-work, can walk a considerable distance (half a mile,) without difficulty. No trace of the aneurism is found, but the innominate artery can be felt pulsating, and seems a little larger and firmer than normal. The pulsation of the arteries from the thyroid axis is seen only occasionally, after excitement. The pulse of the right radial is felt but weaker than on the left side; no pulse yet in the right temporal artery.

She eats with appetite, and swallows without any trouble, has no dyspnœa worth mentioning, sleeps well, and can lie on her back, and may be considered cured, as far as the aneurism is concerned.

This operation, if not very rare, is of infrequent occurrence, and is justly considered a formidable undertaking. Dr. Rosenstern, of San Francisco, has lately published in the *Archiv für Klinische Chirurgie*, Band 34, 1887, a monograph about aneurism of the arch of the aorta and of the innominate artery, in which he has gathered together ninty-nine cases, all operated and divided into several sections.

In simultaneous ligatures of the carotid and subclavian arteries, he has found thirty-eight cases, of which sixteen were cured, five improved, six not improved, and eleven died. With my case and one cured by Professor Ashhurst, of Philadelphia (reported in the *Medical and Surgical Reporter*, July 16, 1887), we have eighteen cures in forty cases, or 45 per cent. of recoveries, a rather favorable showing for so serious a lesion.

In ten cases the carotid artery was first ligated, and sometime after (from two days to two years), the subclavian, and of these one recovered, six improved, two not improved, and one died, the recoveries being 10 per cent.

The right carotid was ligated alone in thirty-one cases, of which five recovered, two improved, two not improved, and nineteen died, being 16 per cent. of recoveries.

The right subclavian was ligated alone in five cases, of which two recovered, one improved, one unimproved, and one died, being 40 per cent. recoveries.

Lastly, the left carotid artery was ligated alone in ten cases, of which two recovered, four improved, one unimproved, and three died, being 30 per cent. recoveries.

Of course, the number of cases in three of these divisions is too small to base reliable statistics upon. It must be remembered, too, that a number of these cases were operated upon before the antiseptic period, and before catgut was used as material for the ligature; and it is more than probable that the percentage of recoveries will increase with our improved modern methods. Anyway, the simultaneous double distal ligature shows by far the highest percentage of recoveries, and is the most successful.

Of other methods, several deserve mentioning. Tufnell's method is the old Valsalva method, less the venesections, the patients being kept on their backs for months on a very restricted diet.

Balfour does the same, but adds large doses of iodide potash. Both mention cures, but authors differ in their opinions in regard to these methods, although recommending them, if there are no absolute indications for immediate operation.

Moore was the first to introduce antiseptic coils of wire or catgut into the sac to favor coagulation, and the operation has been repeated a few times both here and abroad; the method produces, besides coagulation, an inflammation of the sac, and is not without danger, both from embolus, suppuration and rupture of the sac. In thoracic and abdominal aneurisms, which can be treated in no other way, this method may now and then be found of advantage. The same may be said of electro-puncture, which has been tried in a number of cases, mostly on the descending aorta, with some recoveries. The operation had to be repeated often, and several patients have died shortly after the performance. The danger of embolus would, of course, be much greater if performed upon an aneurism of the innominate artery. Rosenstirn thinks electro-puncture might be of use following the ligation of the carotid and subclavian.

In regard to diagnosis, Rosenstirn thinks it almost impossible to distinguish between aneurism of the innominate and the arch of the aorta, and that both are present in the majority of cases.

The paresis of the laryngeal muscles, if present, is of diagnostic value, and possibly the sphygmographic traces. If the left recurrent nerve is the affected one, it shows that the transverse or descending aorta is affected. If the ascending aorta is primarily affected, the right recurrent nerve alone will suffer, but generally rather late in the course of the disease, after the tumor has appeared at the root of the neck.

In aneurism of the arch of the aorta pressure-symptoms come early in the disease, and are more severe than in the innominate aneurisms; absorption and ulceration of the costal cartilages are not infrequent. The innominate aneurism generally appears above the sternum, either between the two heads of the sterno-cleido-mastoid muscle, or in the interclavicular notch. There is always some difference in the pulse, recognizable at least in the sphygmographic trace of the two arms, while in aorta aneurism the pulse is alike, unless the innominate is compressed. A new symptom of thoracic aneurism has lately been pointed out by Dr. Drummond, of Newcastle, and reported in the *Medical Press*. If a patient suffering from thoracic aneurism is made to draw a long breath and then close the mouth and expire slowly through the nose, short puffing expiratory sounds are heard on the trachea synchronous with the systole of the heart, and, according to Dr. Drummond, due to the sudden systolic expansion of the sac expelling air from the chest.

Lastly, I wish to call the attention to the accompanying sphygmographic traces, taken by Dr. Henry Hopkins, who saw the patient with me in consultation. From them we get some important information both in regard to diagnosis and prognosis, although they are blended on account of the existing severe valvular heart-trouble. The first traces of both radial arteries, taken the day before the operation, show great elasticity of the arterial walls by the steep and high upstroke, excluding arteriosclerosis with rigid walls, and probably excluding a dissecting aneurism, which generally depends upon arteriosclerosis.

The steep and abrupt down-stroke, going farther down than usual, is the result of the insufficiency of the aortic-valves, by which the blood is allowed to churn backward and forward under the influence of the elastic recoil, and consequently shows greatly decreased arterial tension. The dicrotic wave is much larger in the right radial than in the left radial artery.

The dicrotic wave is generally described as a wave of oscillation, reinforced by a wave of expansion from closure of the aortic valves, and is, according to Foster's "Physiology," favored, 1, by sudden strong ventricular systole; 2, by low tension; 3, by elasticity, and consequently extensibility of the arterial walls, the three conditions we have in this case.

The difference in the dicrotic wave, it being larger on the right side, may possibly be pathognostic of aneurism of the innominate artery, and may be the result of the contraction of the aneurism during diastole, by which an

increased amount of blood is circulating through the right subclavian and its branches, giving increased arterial tension, and greater arterial expansion on this side.

The sphygmographic trace shows no perceptible difference on the left side after the ligature, and especially no higher arterial tension, which we might have expected, considering that the two large arteries were cut off from the circulation, while the amount of blood was the same; of course the valvular heart-trouble may be the cause of it. The pulse jumped immediately after the operation from 88 to 102, increased during the next day to 114. It commenced then gradually to decrease again until the fifth day, when it again was, and afterward continued to be, 88.

The increased frequency of the heart-beat, of course, compensated the cutting off of the two important arteries from the circulation. The traces numbers two, three, and four of the right radial artery, taken after the ligation, are simple undulations without any character, yet showing gradually increased arterial tension, especially pronounced in number five, and characterized by the sustained and gradually descending downstroke. That the arterial tension has gradually increased on the right side I consider the result of the ligation of the subclavia, as the valvular heart-lesion is unable to produce its influence on the radial artery through the circuitous route of anastomases, made necessary by the subclavian ligature.

I will add that the conclusions I have drawn in this case from the sphygmographic traces, are entirely at variance with the rules laid down in text-books. Barmell, for instance, in the "Encyclopædia of Surgery," vol. iii., p. 525, asserts that the sphygmographic trace "shows a sloping and low upstroke and an absence of tidal and dicrotic waves, so that, for instance, in an aneurism of the innominate, or of either subclavian, the line may represent a mere succession of even and shallow undulations." The whole subject of sphygmography is yet in its infancy as applied to aneurisms, and contributions on this subject, therefore, may deserve some attention.

Acute Hepatic Cirrhosis.—The varieties of hepatic cirrhosis are very numerous, and the tendency is rather to increase their number, while the desire must surely exist to put this seeming chaos into order. Much light has yet to be thrown on the acute forms of cirrhosis, with which we seem to be becoming more and more familiar. M. Debove has published an account of an interesting case (*The Lancet*). The whole duration of the clinical history was not more than five months, and for the first three of these the woman, aged thirty-four, merely complained of some general symptoms not specially referable to the liver, the first symptom of affection of which organ was marked jaundice. On admission to the hospital it was found that the liver extended five fingers' breadth below the margin of the thorax. Fever, jaundice, hemorrhages, enlargement of the spleen, diarrhœa, and but slight ascites, were the principal symptoms. Three weeks before death the liver progressively diminished in size, till at the necropsy it was found to be level with the edge of the ribs. The cirrhosis had chiefly affected the periphery of each hepatic lobule, and was in this sense allied to the mono-lobular form of Charcot, for the amount of connective tissue increase was about sufficient to replace that of true liver tissue, so that the volume of the organ was not far from normal. Further examination showed, however, that a peri-cellular sclerosis had also taken place, and that the connective tissues around the portal system as well as around the hepatic veins were increased; the surface and section of the organ were granular. The remaining true liver-cells were either fattily degenerated, recalling the fatty cirrhotic type, or else granular and atrophied. Debove believes that neither alcohol nor syphilis was operative in the causation of the disease, which he was unable to explain.

A QUESTION OF PRIORITY CONCERNING A NEW THEORY OF THE ETIOLOGY OF CONGENITAL CLUB-FOOT.

By HENRY W. BERG, M.D.,

NEW YORK.

To *The Lancet* of June 29, 1887, R. W. Parker, of London, contributed a paper, which was published under the head of "Original Articles," entitled, "On Congenital Club-foot." Anxious, however, that the readers of *The Lancet* might not be misled by the title, the author states in the opening paragraph that he will make the observations a sort of "criticism on a paper published *two years ago* (the italics are mine) by Dr. H. W. Berg, of the New York Orthopædic Hospital, in 'Seguin's Archives of Medicine' (vol. viii., No. 3, pp. 226–248), now defunct, in which this author raises most of the points in dispute."

The pleasure I should have taken in perusing an "original article" devoted to a "criticism" of my paper, was marred by a very important misstatement in this introductory paragraph above quoted, namely, that my article appeared only "two years ago." The blunder is the more unpardonable in that the reference (vol. viii., No. 3, etc.) is absolutely correct. A little more of the scholarly exactitude here displayed would have shown that the date of the issue corresponding to this reference is *December*, 1882, more than *five and a half* years previous to the publication of Dr. Parker's "original article" in *The Lancet*. Mr. Parker subjects himself to the risk of suspicion that the error was a wilful one, when it is known that in conjunction with Mr. Shattuck he published and widely circulated an original article on the "Pathology and Etiology of Congenital Club-foot," the reprint of which bears the date 1884, almost two years subsequent to the monograph entitled the "Etiology of Congenital Talipes Equino-varus," which has excited the attention of Dr. Parker at this late period.

In the *American* (not at that time the *International*) *Journal of Medical Sciences* of July, 1886, this paper of Drs. Parker and Shattuck received what Mr. Parker calls a "friendly notice." This "notice" consisted in a polite intimation that many of the views advanced in the paper had been promulgated by myself some two years earlier, and expressed surprise that *no reference to my paper* was made by Drs. Parker and Shattuck. The critic further continues: "The American contributor has carried his observations, repeated with the most striking similarity by Drs. Parker and Shattuck, a step in advance of the authors, and followed them to their legitimate logical conclusions, which for some reason Drs. Parker and Shattuck have avoided."

It is this "friendly notice" which has called forth the original article, or rather criticism, in *The Lancet*, with which Dr. Parker has honored me.

My paper, as I have already stated, had appeared in Professor Seguin's *Archives of Medicine*, a bi-monthly of excellent standing, to the discontinuance of which Dr. Parker so elegantly refers, and although I had not scattered reprints abroad, yet reference to recent literature should have revealed to Drs. Parker and Shattuck the existence of a monograph, the title of which showed its purpose to be identical with that of the paper they were projecting. Had the two papers, however, been simply similar in title, neither the American critic whom I have quoted, nor my medical friends, nor myself, could or would have complained at the apparent neglect to refer to my paper. But the points of similarity in the two papers were numerous, and to me almost startling. Of course, I refer here only to that part of Drs. Parker and Shattuck's paper, and it is by far the chief portion of their work, which refers to the etiology of congenital club-foot, my own paper being concerned only with this portion of the subject.

In both papers the method of study adopted to arrive at the etiology of club-foot was the same. This was the

more remarkable in that no other observer before myself had worked by this method. I had applied embryological data obtained from the recent researches of eminent embryologists to the study of fœtal specimens in the museums of New York and Bellevue Hospitals, to which I referred by number as catalogued, and had arrived at results which, to the best of my belief, I thought original. Two years later Drs. Parker and Shattuck apply the same embryological data, without reference to the authorities from whom they were obtained, to the study of fœtal specimens in the museums of Guy's, St. Mary's, St. Bartholomew's, and St. Thomas' Hospitals, to which they refer as catalogued, and arrive at similar results. In my paper I premise the results obtained by myself by a *resumé* of the generally accepted theories of the etiology of talipes. Drs. Parker and Shattuck very properly, as I think, do the same. Indeed, occasionally the similarity of the two papers is sufficiently close to justify me in the following parallel quotations :

DR. BERG'S PAPER, PUBLISHED DECEMBER, 1882.	DRS. PARKER AND SHATTUCK'S PAPER, PUBLISHED MAY, 1884.
Page 227.	Page 10.
"Orthopædic writers may be divided into two classes as regards their views concerning the causation of congenital talipes equino-varus. 1. Those who consider the deformity the result of a mechanical force acting upon the fœtus in utero. 2. Those who consider it the result of disease (intra-uterine), whether of the osseous, muscular, or nervous systems."	"Causes which are usually invoked to explain the production of talipes. These causes may be classed as, 1. Nerve causes, leading either to paralysis or spasm of certain muscles. 2. Bone causes. 3. Mechanical causes (interlocking of parts, pressure due to environment,) etc."
Page 233.	Page 11.
"Finally, to reason that because talipes occurs with the above conditions " (neuroses, anacephalous monsters, hydrocephalus, etc.) "these conditions are necessarily the cause of all cases of congenital talipes, is illogical."	"It is argued that because talipes ensues after certain recognized nerve-lesions, a nerve-lesion must therefore be the cause of those forms of talipes which are congenital," etc.
Page 234.	Page 11.
"First, a mere objective examination of a case of congenital talipes and one of infantile paralysis reveals various points of difference. In the first the leg is fat, well-nourished, and of normal surface temperature, showing no signs of the muscular atrophy and cold surface which are characteristic of the second."	"In cases of infantile paralysis . . . when talipes does supervene there are other unmistakable signs of nerve-lesion, viz., general atrophy of the limb, with lowering of temperature." "If we contrast these atrophic conditions with the well-nourished, warm limb of the majority of cases of congenital talipes," etc.
Page 238.	Page 17.
"It will here, then, be instructive to study the main facts in the process of the development of the lower extremities, dwelling upon those points only which are of importance in the present discussion."	"With a view, therefore, to further elucidate this subject we have turned our attention to a consideration of the positions of the lower limb during its development and growth, considering also some of the morphological questions thus raised."

Then follows, in both the American and London papers, an account of the changes which the extremities, particularly the lower, undergo in the course of their development, my own account being far more complete and extensive. Space will not permit me to quote *in extenso*. I can only feel flattered at the accord between my views and those of Drs. Parker and Shattuck, published two years later. This agreement, however, is not maintained throughout; for in my paper, I am careful to specify that I consider club-foot the result of the prolonged maintenance of the position of the lower extremity proper in the early months of uterine life, into the later months of uterine life; rotation inward of the lower extremity not having occurred, or having occurred too late to overcome the talipes, which was the result of the early uterine position, and which was normal up to a certain period of uterine life. Drs. Parker and Shattuck, however, while accounting for the occurrence of club-foot in exactly the same manner as I do, explain the non-rotation inward, or retarded rotation inward of the lower extremities, on the theory that it has been prevented by some *mechanical* cause, such as the interlocking of the feet of the fœtus, or pressure of the uterine walls when the liquor amnion is deficient in quantity, preventing the further rotation inward of the lower extremities; which, after all, places them in the group of those "who consider the deformity as the result of a mechanical force acting upon the fœtus in utero." In speaking of these, I say: "Apart from the fact that the fœtus in utero is not an inert mass, but a living being which moves about in its surrounding fluid and does not maintain its feet in any fixed position, the theory has this objection—that other parts of the body which, under similar circumstances, should be subjected to a similar position, are not found with equal frequency to have acquired their false position. How long would interlocking of the feet, for instance, be maintained by this active fœtus? I do not find it necessary to conceive the fœtus as subjected to sufficient pressure to prevent use of its joints, in order to account for the non-occurrence of the inward rotation of the lower extremities. On the contrary, the fœtus stretches its joints to the full extent possibly in the early outwardly rotated condition of the limb. But since, in this condition, the foot is for the most part maintained in the position of equino-varus, as a study of my embryological specimens will show, it will, if not rectified by the later inward rotation of the leg, result in a club-foot at birth. To quote again from my paper: "Here I wish to call attention to the fact that no extraordinary amount of intra-uterine pressure is necessary to produce this deformity, its cause being not pressure, but, as we have seen, a retarded rotation inward of the lower extremities.

"This I maintain, in spite of the accidental occurrence of pressure-marks on the feet of a few club-foot children, and notwithstanding the observation, in an equally small number of cases, that the birth of a child with pes-equino-varus was accompanied by a deficiency in the amount of liquor amnii, while such deficiency is more common with normal fœtus.

"*Every* case of congenital equino-varus will show evidence of the condition to which I have ascribed the deformity—namely, non-rotation inward of the lower extremities." In the large majority, and perhaps all, of the children with congenital equino-varus, the knee will be found looking outward and only slightly forward.

A careful consideration of *all of the points* raised in my paper, even at this late date, will, I am convinced, make Mr. Parker an entire, instead of partial, convert to the "retarded rotation theory," if I may call it such, of the production of club-foot. I use the word "convert" advisedly.

We have positive proof that as recently as May, 1880, the importance of the non-occurrence or retardation of the inward rotation of the lower extremities at the proper period of fœtal life, as an etiological factor in the production of talipes, either in whole or in part, had not even dawned upon the mind of Mr. Parker. For in the "Transactions of the Lond. Path. Soc.," vol. xxxi., page 370, May 4, 1880, we find that Dr. Parker presented the pathological specimens of two cases of club-foot, one a case of congenital talipes-varus from an "anacephalous fœtus which died at birth, and a second of congenital talipes calcaneus from an otherwise normal fœtus, which also died at birth. *Apropos* of these two specimens, although presented chiefly as an "interesting contribution to the pathology of congenital talipes," Dr. Parker said a few words concerning his views as to the etiology of talipes. He says: "Various views have been expressed as to the causation of such deformities. I venture to think that these two specimens show how malposition in utero is probably the real predisposing cause of the congenital forms of the disease. Given a faulty position of the limb, the result of a jolt, or a fall, or a blow sustained by the mother, or of some irregular mus-

cular contraction of the uterus, and we have all that is necessary to bring about this deformity." So plain a statement of the old mechanical theory of the causation of club-foot, a theory so old that it has become fixed in the minds of even the laity, induced me to refer to Dr. Parker in my own monograph, as being one of those who believe in this rather antiquated mechanical theory, although I might well have been pardoned for overlooking Dr. Parker's views entirely, since this contribution consisted of only a few paragraphs, and was only of importance as presenting two pathological specimens. Although we thus see that in May, 1880, Dr. Parker's views were entirely different from those of 1884, yet in *The Lancet* criticism, Dr. Parker refers to the few paragraphs of 1880 as his "first paper," and to what is really his only paper, as his "later, more detailed and illustrated monograph."

In the "original article" which Dr. Parker devotes to a criticism of my paper, he says: "We can both afford to say nothing about priority. Moreover, *our* interpretation of club-foot rests not so much on individual work as may well be seen from the rich bibliographical references contained in Dr. Berg's paper, as on the application of that of many workers in the various branches which constitute scientific medicine."

From what has been said as to the dates of publication of our respective papers, there is no doubt that Dr. Parker can well "afford to say nothing about priority," and to the intelligent reader it is hardly necessary that I should say anything about priority; the facts speak for themselves. Nor do I claim to have developed the whole subject of human embryology. I am not too proud to be a disciple of such observers as Professor Humphrey and Albert Kölliker; and if one is able to apply any of the abstract scientific facts which their genius has elucidated, to a practical point in the etiology of disease, I consider that some credit for originality is due. Wherever I have thus taken scientific facts, I have invariably stated the source where they were derived, so that the reader is not misled. Eschricht's work I did not refer to, for the reason that I was entirely ignorant of it until Dr. Parker mentioned it in the criticism to which this article is an answer. If, however, Dr. Parker considered this writer to have advanced many of my views, and therefore many of his, as far back as 1851, I am surprised that Dr. Parker does not mention him or his paper in this monograph. Dr. Parker, although calling my attention to Eschricht's paper, entitled "Ueber die Fœtalkrümmungen, namentlich in Bezug auf die Bedeutung der angeborenen Verdrehungen der Bauchglieder," unfortunately did not give me the reference. My friend, Dr. Gibney, however, with his extensive bibliographical knowledge, came to my aid, and sent it to me. The reference is, *Deutsche Klinik*, Bd. iii., November 1, 1851, p. 467. I found the article in the New York Hospital Library, and upon reading it regretted that I had not seen it soon enough to save some labor. The portion of the article which refers to club-foot is only about half a column in extent, but it is sufficient to show that Eschricht, together with Geoffry St. Hillaire and Wagner, whom I quote in my monograph, was one of those who were aware that the fœtus at a certain period of its existence (third to fourth month, Wagner; sixth to seventh week, Geoffry St. Hillaire) is club-footed.

"In exactly what changes"—I quote from my monograph—"the normal process of development consisted, and how the foot gained its normal position, they did not understand." I believe that this would be true of Eschricht also, unless his original publications, which, being in Danish, I am unable to read, should prove to be more extensive.

In conclusion, I would assure Dr. Parker that I should have replied to his *Lancet* "criticism" sooner, had I not been prevented by the press of general practice

A NEW METHOD OF EXCISION OF THE ANKLE-JOINT WITH REMOVAL OF THE ASTRAGALUS.

By JOHN A. WYETH, M.D.,

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The success of the operation to be described depends upon: 1. The careful removal of all diseased tissues in the field of operation.

2. The cleanliness (asepsis) which is obtained by the careful and judicious employment of sublimate-irrigations and dressings.

3. The accurate adjustment of pressure, together with the employment of position to prevent oozing after the tourniquet has been removed.

Operation.—The leg and foot of the diseased extremity should be carefully washed with soap and warm water, cleanly shaved, and the foot immersed for five minutes in a vessel containing a 1-to 3000 warm sublimate solution. When sinuses exist, they should be cleansed by irrigation with the same solution. The foot should now be elevated to allow the blood to gravitate to the centre, and while in this position the Esmarch bandage applied, commencing at the toes, proceeding as far as the diseased tissues, then skipping over the joint, and continuing to above the knee, where the tourniquet should be adjusted, after which the rubber bandage is removed. The field of operation should be again washed with sublimate solution, and then with ether.

Commence an incision on the internal surface of the tibia, about two inches above the tip of the inner malleolus, and carry it directly down to this point and thence forward from one inch to one inch and a half along the tarsus in the line of the metatarsal bone of the great toe

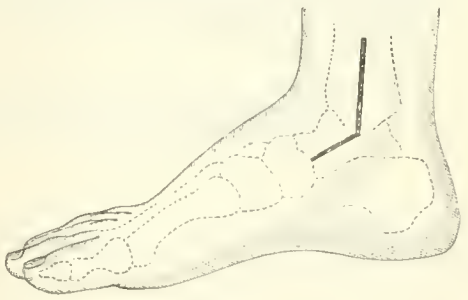

Fig. 1.

(Fig. 1). This incision extends a little anterior to the astragalo-scaphoid articulation. A light L-shaped incision is made upon the fibular side of the joint (Fig. 2). With

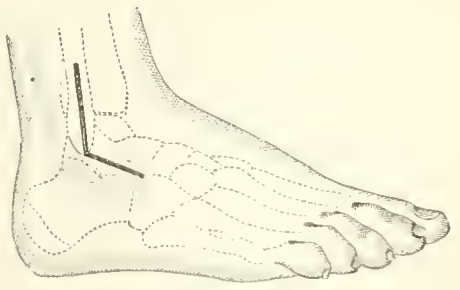

Fig. 2.

the Sayre periosteal elevator, lift from the diseased portions of bone the periosteum (with its attachments to the superjacent soft tissues undisturbed). Expose the outer malleolus and fibula as high as it is deemed necessary to remove this bone, and divide it with the exsector or chisel. As soon as the piece is removed, the joint is thoroughly exposed to view. Now, in the line of the tibial incision, further lift the periosteum of the tibia and tarsal bones, and, by forcibly bending the foot inward, dissect the tibia and inner malleolus outward through the wound on the fibular side. The diseased surfaces of the tibia and fibula may be sawn off with an ordinary saw, or

with the exsector. The line of section should be at a right-angle to the axis of the shafts of these bones, and should first remove the articular cartilage. Should the disease extend higher than this, an additional slice of bone may be removed, or any small sinuses thoroughly scraped out with Volkmann's spoon, and sponged out with 1 to 1000, sublimate. The astragalus is now removed and the upper surface of the calcaneum sawn or chiselled off, so that a smooth and freshened surface is left (Fig. 3). The

Fig. 3.

cartilage should be scraped from the posterior articular face of the scaphoid. All of the soft tissues involved in the disease should be dissected away. The os calcis and tibia are now brought together, and if the sawn surfaces fit snugly with the foot at a right-angle to the leg they are ready to be fastened.

To accomplish this, one of my drills (Fig. 4), will answer. With the foot held in proper position as above, select a drill of suitable length, attach it to the handle,

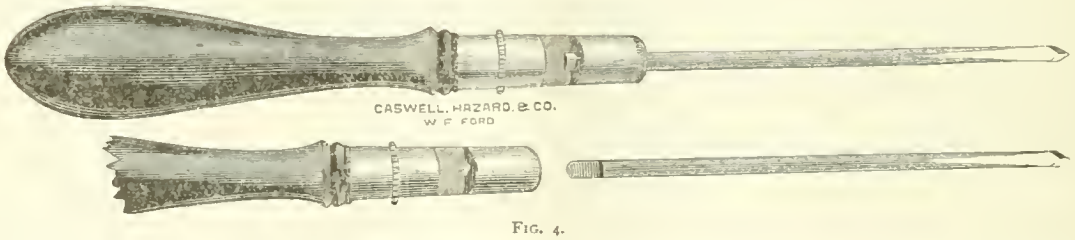

Fig. 4.

place the point one inch above the line of section of the tibia, and note how much of the drill projects below the surface of the sole, for the instrument is to go no deeper than this. With a bistoury make a small puncture through the sole, and force the drill through the calcaneum and directly up through the centre of the tibia to the depth already indicated. The handle is unshipped from the drill, which is left in position. By this method the foot is firmly fastened to the leg (Fig. 4). After securing with catgut ligatures any vessels which have been divided, a small rubber drainage-tube is inserted on either side and the wound closed with catgut sutures. A thorough and final irrigation with 1 to 3,000 sublimate follows, and a moist sublimate gauze dressing is applied with a layer of absorbent cotton and protective, held firmly in place by a gauze roller. A straight splint should be laid along the base of the leg and thigh to prevent motion. An attendant should remain by the patient until consciousness is fully restored, in order to prevent any movement that would disturb the position of the foot. In controlling bleeding, I rely almost entirely upon compression with the ordinary cheese-cloth bandage over the cotton and gauze. The foot should be kept well elevated for twelve hours after the operation. The dressing should not be opened before the third week, or later, when the drill should be removed about the thirtieth day. The drainage-tube should be gradually withdrawn—coming away entirely when the discharge ceases.

If the steel drills are not at hand a steel nail or a clean iron nail may be used, but, as in excisions at the knee, the drills will be found most suitable.

The great advantage of fixation with the drill here, as in excision of the knee-joint, is the perfect coaptation and immobility of the bones, which obviates the plaster-of-Paris dressing.

Case I.—Timothy H——, twenty-one years of age, married, laborer, Ireland, was sent to me by my friend Dr. Josephine Walter, and was admitted to Mount Sinai Hospital, August 26, 1886. Three years prior to this date, patient sprained the right ankle, which has been more or less weak and swollen ever since. A week before admission it became so painful he could not bear any weight upon the joint. He denies all venereal disease, has had rheumatism, and has the look of a tubercular patient. Appetite good; bowels regular; temperature, 99°6.

September 24th, pus was found by aspiration, and was evacuated by incision; sublimate irrigation and drainage-tube. The pus was dirty and grumous in character.

October 15, operation as above given, under other narcosis. The lower ends of the tibia and fibular were diseased, as was the astragalus. The section through the long bones entirely removed the articular cartilages. The astragalus was removed entire, and the upper surface of the os calcis chiselled off. The articular surface of the scaphoid was also scraped away. The same surfaces of the tibia and calcaneum were then united as shown in Fig. 2, and the wounds dressed as above described.

October 23d, temperature has been normal ever since the operation. November 16th, wound dressed for the first time. Tubes slightly withdrawn. Dressing again changed on November 28th, December 5th and 8th.

January 14th, 1887, patient allowed to go about on crutches. Improving. February 3d, small sinus persisting in track of one of the tubes, scraped under cocaine with Volkmonn's spoon. In April and May this was repeated, after which the wound entirely healed. At this date, October 1, 1887, the patient is entirely well, and has a sound and useful foot.

Case II.—Sophia D——, thirty-one years of age, married, housewife, United States, came under observation through the courtesy of my colleague, Professor A. R. Robinson, in June, 1885. Three months ago she had had a miscarriage, followed two days later by chills and fever, pain and swelling in right ankle-joint. Right knee also affected in same manner. The swelling in knee subsided, but that of the ankle increased, and a few weeks later, after poulticing, it opened spontaneously, discharging a good quantity of pus. A sinus persisted for some weeks, from which a thin serous fluid was discharged.

On July 6th, she was admitted to Mount Sinai Hospital. Beyond the swelling at the knee and ankle which followed the miscarriage, she had had no sickness, and gave a good family history. At this time there were two openings near the outer malleolus, through which dead bone could be felt. Joint movements painful and limited. Was put to bed with tonics and extra diet, and prepared for operation, which was done as above detailed, on July 13th. Some slight hemorrhage occurred after the patient retched, necessitating a change of the dressing and greater pressure with the bandage. The drill was not employed in this case, the bones being held in place as well as possible by the dressing and the friction box. On this account the recovery was slow, but eight months after the operation the sinuses closed, and at the end of twelve months she could bear her weight on the foot.

She is now perfectly well, uses one foot as well as the other, and has about one and a half inch shortening which is corrected by a thick cork sole.

In order to ensure success in these cases, I consider it essential that the patient should go on crutches for one year after operation, and should not be permitted to put any weight upon this side for this length of time.

Progress of Medical Science.

Hyoscyamine in Dyspnœa and Asthma.—In a communication to *The Lancet* (August 20, 1887), Dr. Walker calls attention to the action of hyoscyamine in asthma, and indeed in the treatment of spasm of involuntary muscular fibre, wherever existent—whether in the bronchi or hollow viscera (stomach, bowels, bladder). Given in the dose of half a milligramme ($\frac{1}{130}$ gr.), according to the urgency of the case, every half-hour or hour, until the spasm disappears, it is rare for the patient to be unrelieved after two or three doses. In cases of great urgency the first dose may be in the form of a hypodermic injection for quicker absorption. When relief is afforded, it may be given less frequently (two or three times a day), and gradually left off. Dr. Walker has never been disappointed with its action: it relieves the spasm promptly and efficiently, and the patient has no dread of an immediate recurrence of the dyspnœa. A young woman who is subject to occasional attacks of asthma came to him on June 7th, and was quite relieved in twenty-four hours. She did not, however, continue the remedy at longer intervals for some days, as she should have done, and so had a recurrence three weeks later. She was, however, quite cured after four or five days' treatment, and has since remained well. Her previous attacks occurred in March, 1887, May, 1886, and December, 1885, when the same treatment was equally, and as quickly, successful; so that the intervals of immunity vary from three to ten months. Dr. Walker usually gives with the hyoscyamine small doses of strychnine (the arseniate or sulphate), in half-milligramme doses, as a tonic, and to counteract the tendency to adynamy. In spasm of the stomach or bowels, in dysentery, in strangulated hernia, and in retention of urine due to spasm of neck of bladder, hyoscyamine in small and frequent doses is invaluable, and will be the first remedy thought of by anyone who once gives it a trial in these affections.

The Early Signs of Locomotor Ataxy.—Dr. Max Karger has published, as a graduation dissertation in the University of Berlin, an account of a number of observations made on 117 cases of locomotor ataxy in Professor Mendel's clinic, with the view of detecting the early symptoms of this disease; for, as he says, the great hope of a really rational and satisfactory method of treatment lies in the recognition of the existence of the disease in its earliest stages (*The Lancet*). The history given by the patients established a connection between syphilis and locomotor ataxy in fifty-three per cent. of the cases. In the earlier stages he found symptoms affecting sensation, lancinating pains, numbness, especially of the lower extremities, cord-like sensation round the waist, retardation of the rate of conduction of sensations, and, what he looks upon as especially important, being almost always present, the so-called Romberg's symptom, *i.e.*, the inability or great difficulty of balancing the body when the feet are placed parallel and close together, the eyes being shut—which, however, he does not consider is due to the ataxy, but thinks it is an abnormal condition of sensation. With regard to ophthalmic symptoms, he finds that at the commencement of locomotor ataxy there is a diminution in the acuteness of vision, and a concentric contraction of the field, amblyopia, and amaurosis, which were due in thirty-five per cent. of the cases to atrophy of the optic nerve. Then there were slight and transitory paralyses of the eye muscles. Insensibility of the pupil to light was found in sixty-six per cent. of the cases, and was due sometimes to a paralyzed condition of the sphincter, and sometimes to disturbances of reflex action. With reference to the patellar reflex, the author thinks it has been considered to be absent rather too universally. He found it in 8 of his 117 cases. The bladder reflex was often diminished, so that chronic vesical disease, the cause of which is not to be made out, ought to lead a medical man to think of tabes. Impotence was much more common than any increased sexual reflex. Very rarely gastric and cephalic crises and joint affections were noted. The author suggests that complaints of a vague nature, such as nervous pains, eye or bladder troubles, should lead the physician to make a thorough examination with special reference to the want of patellar reflex, Romberg's symptom, and the want of reaction of the pupil, as these objective signs do not necessarily give rise to any subjective symptoms.

The Recognition and Significance of Renal Albuminuria.—From a study of this somewhat hackneyed subject, Dr. Ferguson, of Troy, N. Y. (*Gaillard's Medical Journal*, September, 1887), draws the following conclusions: 1. It is usually, but not always, possible to determine whether albumen is of renal or extra-renal origin. 2. If the urine be turbid, special care by acidulation and filtration may be necessary before deciding on the presence or absence of a small quantity of albumen. 3. Negative results in acid urine, particularly when the specific gravity is low, should only be accepted as final after repeated and varied tests have been tried. 4. Heat and nitric acid, Tanret's test, and the ferrocyanide of potassium test, when it may not be convenient to apply heat, used with the precautions before noted, will usually serve all practical purposes. 5. The microscope may be necessary in differentiating the source of the albumen. 6. Cases of renal albuminuria admit the possibility of a complete recovery in a certain proportion, except chronic diffuse nephritis, in which full recovery is doubtful. 7. It is possible that other sources of turbidity are occasionally accepted as albumen, notably mucin. 8. As simple as the process of testing for albumen usually seems, it is occasionally a chemical procedure of considerable difficulty, and the published results in cases admitting of doubt only become of value when all the facts have been stated. 9. Reports of cases of functional albuminuria, in order to be of value, require special care in describing the measures used to avoid errors of observation.

Traumatic Tetanus Treated by Chloral and Bromide.—Dr. Mayer has published a case of traumatic tetanus, which he treated successfully by fifteen-grain doses of chloral hydrate and bromide of potassium, given alternately every hour for fourteen days (*The Lancet*). By that time the opisthotonos had ceased, but some rigidity of the muscles of the chin still remained. The chloral was then discontinued, the bromide being given as before for a month longer. The patient was then cured, but was too weak to resume his employment till six months later.

Gastric Movements.—Dr. Grundzach has observed some cases of catarrh of the stomach where the glandular elements were considerably atrophied, and where the gastric juice existed only in very small quantity, and contained scarcely any hydrochloric acid. Notwithstanding this, the gastric movements were normal, so that the food did not remain longer than usual in the stomach, thus proving, according to the author's views, that the acidity of the contents of the stomach is not, as many physiologists teach, the cause of the gastric movements.

The Medical Societies.—All the Medical Societies of the city are now in working order; the attendance of members is reasonably large.

THE MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

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PHOSPHORUS IN THE TREATMENT OF RACHITIS.

IT is now about four years since Kassowitz published his first report, noticed in these columns at the time, of cases of rickets treated by the exhibition of phosphorus in small doses in solution in cod-liver oil. This report was of the most encouraging nature, and, allowance being made for the enthusiasm of the writer, was apparently so conclusive of the value of this remedy as to lead many others to give it a trial in their private and hospital practice. The medical journals since that time have been filled with the reports of these experiments, and with the more or less conflicting opinions as to the efficacy of the drug in this disease.

One of the first to adopt this treatment was Guidi, of Florence, who reported a number of cases in which excellent results were obtained by the employment of phosphorus. After him came Sigel, Boas, Betz, Escherich, Hagenbach, Soltmann, Toeplitz, and many others, all of whom were loud in their praises of this mode of treatment. Petersen, of Kiel, reported upward of two hundred cases of rachitis treated with phosphorus. The cases were followed up for a long time by means of personal observations and correspondence with the parents, and in none of them did he fail to obtain a cure of the malady. Canali, of Parma, has also treated a number of cases after this plan with almost uniformly good results. The results obtained by these observers were very striking. There was a marked improvement in the general condition of the children; the diarrhœa was in many cases speedily checked, dentition was accelerated, the attacks of laryngismus stridulus became less frequent, and soon ceased entirely, the bones became firm, and the patients were soon enabled to stand erect and walk, where before their weakened limbs had refused to support them.

All the reports, however, are not of this favorable nature. Weiss, Monti, Baginsky, Torday, Schwechten and others have reported negative results, and even injurious effects from the employment of phosphorus in rickets. The unfavorable symptoms said to be caused by the administration of this drug are chiefly diarrhœa and digestive troubles. The weight of evidence, however, is thus far strongly on the side of the advocates of phosphorus.

An explanation of the want of uniformity in the results obtained may possibly be found in the difficulty of making a satisfactory and stable solution of the drug. The solution in cod-liver oil, as was first proposed, becomes worthless after it has been kept a certain time. Other menstrua which have been used do not make a perfect solution, so that at one time the patient may be taking absolutely no phosphorus, while at another he receives a dangerously-large dose of the drug, and unpleasant or even alarming symptoms are produced. Hasterlik has proposed a solution in bisulphide of carbon, which is said to be very stable and reliable. But possibly phosphide of zinc would give equally as good results as phosphorus, and, if so, it would be far preferable, since the dose could be regulated perfectly, and all sources of error and danger could be eliminated.

DAILY JOURNALISM AND SHAM INSANITY.

A USELESS and silly sensationalism seems to be a necessity of life to our great modern dailies. And nothing could be much more useless or sensational than the recent alleged attempt, under newspaper direction, of a young woman to pass herself off as insane, and get admission to the Blackwell's Island Insane Asylum. It is not at all difficult for an intelligent person to sham insanity and indigence, as this person did. She was taken to the Insane Pavilion at Bellevue, where she pretended an apathetic condition, loss of memory, and delusions of persecution. Perhaps more careful and longer watching would have detected her imposture, but it is not assumed by medical experts, at reception hospitals, that people brought there are shamming craziness, and the mistake, if it was one, in this case was natural. Indeed, if one were to go there at any time, and adhere consistently to a story of loss of memory and utter homelessness and friendlessness, there would hardly be anything else to do but commit them for further examination.

It is quite possible that an experience such as "Nellie Brown" gave herself might be made useful to the public and to the insane, if it were afterwards related truthfully and without exaggeration. But the accounts given out are, so far, sensational and grossly exaggerated, not to say actually untruthful. The Insane Pavilion at Bellevue is under the care of trained nurses, and is, we believe, conducted carefully and humanely.

THE CAUSES AND PREVENTION OF DEAF-MUTISM.

DR. A. BARKAU has published a report based upon the examination of 158 cases of deaf and dumb, and of blind inmates of the Berkeley Institution for such sufferers at Oakland. The results of his work, while coinciding in most respects with those of other investigators in this line, present some new points, which are deserving of much attention. One of the first questions studied was naturally the cause of deaf-mutism. This was inquired into with great care in 122 cases. Dr. Barkau shows that the trouble was congenital in about thirty-six per cent. of the cases, not including thirteen per cent. in which the cause was unknown, but probably dated from birth. These figures stand about half-way between Roosa's (thirty-three per cent.) and Hartmann's (sixty-five per cent.).

In 97 out of 122 cases, or eighty per cent., there was

neither ærial nor bone conduction on either side, a proportion greatly in excess of that of Dr. Roosa (sixty-two per cent.), who, however, is quoted as stating that when the patient said he felt the vibrations of the tuning it was recorded as bone conduction.

The examination of the mental capacity of the deaf and dumb showed that ninety-seven per cent. were of average or more than average development in this respect. Certainly this is a good showing for the deaf-mute class.

The hereditary or rather family element in causation was found to be an important one. In thirty-seven per cent. of cases deafness existed in some other member of the family. But direct inheritance of deafness is evidently rare (Bell's percentage was 29.5). Consanguinity did not seem to be a powerful element, there being only nine cases illustrating it. Dr. Barkau directs attention to what he regards a new observation in the etiology of congenital deaf-mutism, viz., the existence in twenty-three per cent. of cases of Hutchinson's teeth, showing, as he believes, that inherited syphilis plays a very important rôle in this matter. In Wines' table of causes syphilis is mentioned in only 2 out of 9,209 cases.

The number of originally curable cases is put down at eighteen or fifteen per cent. Dr. Barkau rightly insists upon the importance of most careful attention to patients suffering from purulent obitis occurring in scarlatina or measles. He believes, as others do, that prompt and judicious treatment of such cases by the attending physician might prevent the superventionof at least six to serious deafness. He also urges the need of specially skillful medical men to examine all cases of deaf-mutism in institutions.

ANOTHER HOSPITAL NEEDED.

It seems almost ungracious to plead for another new institution, when we consider how many have recently been established, but we cannot shut our eyes to palpable needs. The rapid growth of New York has left charity far behind, and there are large sections of the community without that hospital accommodation for which municipal aid is necessary. We have especially in mind the region above the Harlem River—the so-called annexed district. Its population is about seventy-five thousand. Its residents claim to pay nearly a million dollars in taxes and rents to the municipality every year. Yet the authorities have thus far turned a deaf ear to all appeals for at least an emergency hospital.

This district presents the usual spectacle of a growing city. New buildings are being erected, excavations and blasting are constantly going on. All these evidences of material progress mean a certain number of accidents, and those, too, of a serious nature. The nearest institution is the Harlem Hospital—on the river, at one Hundred and Twentieth Street. The surgeons here do the best they can, but the two ambulances in service are entirely inadequate to attend to the needs of the vast region. It takes often two or three hours to get a patient from the extreme limits to the hospital after the call has been received. Of course, the local physicians and the police do all in their power to aid the injured, but it has been fully demonstrated that a small receiving hospital, with a well-equipped ambulance service, is the best means for caring for the new sections of a large city. A city of seventy-five thousand people without hospital accommodations in a central locality would seem an anomaly, and yet almost this state of things exists within our own city limits.

As the city grows, its hospital centre—if we may use the phrase—is gradually creeping northward. If the present rate of increase should continue for ten years longer, there would be need of a large general hospital north of the Harlem, which should be for that region what Bellevue is to the central belt of the island now.

PHTHISIS AND THE HOUSE-FLY.

The mosquito's share in the economy of nature has always remained a mystery, except that it seems to bring out an interesting cutaneous eruption, and reduce the price of board in certain districts of New Jersey. The house-fly, however, has been credited with some general usefulness as a scavenger. This important function, if it really exists, is offset by facts now accumulating which show that the fly is, at times, a carrier of contagion.

MM. Spillmann and Haushalter, in particular, have recently shown at the Académie des Sciences, the important rôle which the house-fly may play in the dissemination of tuberculosis. The intestines of flies that have fed on phthisical sputum, and the excreta of these insects, are found to contain the bacilli of tuberculosis. Flies that have fed on such infected matter, may deposit the bacilli on windows, tables, food, and indeed, may spread potential infection everywhere throughout an apartment. When the fly dies, its body desiccates, setting the bacilli free and still capable of growth. The house-fly has thus an immortal part in the shape of pernicious microbes.

The idea that this insect may carry contagion is not a new one. The contagious ophthalmia of Egypt has been believed to be spread largely through the flies. Bacteriologists have noticed how readily cultures may become infected by flies, and Koch admits that these insects may be the vehicles for the distribution of cholera. Yellow fever has been spread, it is thought, by mosquitoes and perhaps, also, by flies.

Facts are accumulating to show that the fly may be not only an annoying but a dangerous factor in a household.

INDEX CATALOGUE OF THE LIBRARY OF THE SURGEON GENERAL'S OFFICE, U. S. ARMY. AUTHORS AND SUBJECTS. VOL. III. LEGIER - MEDICINE (NAVAL). WASHINGTON, D. C. 1887.[1]

It is perhaps only necessary to allude to the appearance of another volume of the "Index Catalogue" to bring to the minds of our readers the general character of a work which is everything that could possibly be desired in completeness and systematic arrangement. The best vindication for the existence is the fact that it is more and more appreciated as the scheme is developed and the aims of the work are elaborated. It would be more than a pity that anything should interfere with its progress toward completion. The present volume includes 13,405 author-titles, representing 5,307 volumes and 13,205 pamphlets. It also includes 12,642 subject-titles of separate books and pamphlets, and 24,174 titles of

[1] Vol. viii. of the Index Catalogue.

articles in periodicals, aggregating, we believe, a larger number of references than have appeared in any previous volume. It is a treasure to any library, and its indefatigable editor, Dr. Billings, worthily maintains his reputation.

News of the Week.

Dr. Weir's Dinner to Dr. Felix Terrier of Paris.—Dr. Robert F. Weir gave a dinner on Thursday evening, October 6th, to Dr. Felix Terrier, of Paris, the talented editor of the *Revue de Chirurgie*, and surgeon to the Hôpital Bichat. The following gentlemen were also present: Drs. H. B. Sands, T. G. Thomas, W. M. Polk, James B. Hunter, W. T. Bull, Robert Abbe, J. Magnin, and George F. Shrady.

The "Revue Internationale Scientifique et Populaire des Falsifications des Deurées Alimentaires" is the title of a new bi-monthly journal, edited by Albert de Lange, of Amsterdam, and published at Stockholm. The contents are partly in French, partly in German, and are scientific and instructive in character. It is a comment on the times, when a large and carefully edited jonral is called for, devoted to the subject of adulterations in commercial foods and drinks.

The Carcinomatous Uterus has been extirpated 60 times by Professor Fritsch, with only ten per cent of deaths; 20 patients had gone from 6 months to 7 years without recurrence.

Avulsion of the Trigeminus as a remedy for tic douloureux is strongly recommended by Mr Victor Horsley, who reports three successful cases.

A Wonderful Larynx.—The Wild West Show, in London, has been a continuous source of scientific, as well as spectacular, interest to our medical brethren abroad. The latest feature which brings out comment is the enormous vocal power of the orator, Frank Richmond, who often has made himself heard by an audience of 30,000 persons in the open air. This beats even Mr. Gladstone's record, and it is a pleasure to learn that in pure voice power America is, as usual, ahead. The *British Medical Journal* furnishes, through the help of Dr. Myles, a description of the larynx: The vocal cords are of ordinary length, and not much above the average in breadth, but the vocal processes at once strike the observer by their extraordinary development. They project inward toward the middle line like two large spurs when the glottis is open. The great leverage thus given to the laryngeal muscles allows them to act to the best advantage with a minimum of effort. The larynx itself is of a large size, and the pharynx is exceptionally roomy and well-developed, while the mucous membrane covering it is remarkably free from granulations and roughness of any kind. The "Orator's" vital capacity is not above the ordinary standard, but what breath-power he has he utilizes to the utmost with the art of a trained elocutionist.

The New York Cancer Hospital.—Two graduates in medicine, one of whom must have had a hospital service, will be appointed as house-surgeon and assistant of the New York Cancer Hospital, at Eighth Avenue and 105th Street, about December 1, 1887. The term of service of the house-surgeon will be six months, and that of the assistant one year. Apply in person to Dr. A. B. Ball, secretary, 42 West 36th Street.

Festina lente.—The Turks have a saying: "Hurry is the devil," which our esteemed contemporary, *The Lancet*, translates: "All violent or strenuous effort is bad." However put, the sentiment deserves the notice of Americans.

The Epidemic of Scarlet Fever in London continues. There were, at last reports, nineteen hundred cases in the hospitals.

Hydrophobia in Russia.—Six of the fifteen Caucasians bitten by a mad she-wolf, and for the last few weeks under treatment at the Odessa Bacteriological Hospital, have now succumbed to the disease of hydrophobia.

The Chatauqua System applied to Medicine.—Everyone knows of the success attained by the Chatauqua courses of reading. It has been proposed to adopt a similar system for the medical profession. Each member will be expected to read a certain amount each day. The books, monographs, etc., are to be carefully selected by those directing the enterprise. Such a method might stimulate study in those who are desirous to learn, but who cannot, or will not, pursue any definite methods.

The International Congress of Hygiene.—Some indication is shown of the tendency of the times in the fact that the International Congress of Hygiene just held at Vienna, was better attended than the International Congress. Early in the week, 2,400 persons had enrolled as members, and the number reached 3,000 before the congress adjoined. Distinguished men from every country were present, Virchow, Brouardel, Ludwig, Pettenkofer, Spencer Wells, Professor Humphrey being among the number.

The German Congress of Physicians and Naturalists, and Virchow's Latest Address.—According to the *Lancet* the most notable address dellivered at this Congress, which closed on September 22d, was Virchow's on "Transformismus." Its tenor may be inferred from the following brief indications. The law of heredity, in spite of all reservations, must be admitted to be universally shared by all beings endowed with life—a law on which, beyond doubt, depends the continued existence of the living world. But science will always yearn to know how life, as a whole, has originated, though attempts to satisfy this longing through the dogma of the eternity of the living world have hitherto invariably broken down. There remain only the dogma of creation and the dogma of self-production (*Urzengung*). Neither of these can be an object of research, for never yet has a living being, or even only a living element, been found of which it could be said, "This is the first of its kind." Professor Virchow proceeded to show that from whatever point the question is approached it invariably eludes the grasp. He announced himself as the friend, not the opponent, of transformism—as having at all times approached the "immortal Darwin" not aggressively, but amicably. He has always, however, observed a practical distinction between the friend and the follower. As a friend he could welcome and support a scientific hypothesis even before it has established its truth by facts;

but until these are forthcoming and conclusive he could never fall into the ranks as a follower. Whoever, he said, can teach us how to grow a "Spaltpilz" out of a "Schimmel-pilz" will have achieved more than all the heralds of the genealogical tree of man.

The Mouth contains seventeen distinct species of micro-organism, according to M. Vignal, who has of late succeeded in isolating and cultivating them, and testing their action on foods. Of these organisms, 7 dissolve cooked albumen; 5 swell it, or render it transparent; 10 dissolve fibrin; 4 render it transparent, or swell it; 9 dissolve gluten; 3 transform starch, but only 1 acts with some energy; another seems to live upon it, but without transforming it; 7 coagulate milk; 6 dissolve casein; 9 transform lactose into lactic acid; 7 intervert cane sugar; 7 cause glucose to ferment, and transform it partially into alcohol. All these actions are more or less energetic. Six of the buccal organisms were found in the fæces. Vignal concludes that micro-organisms play an important part in the digestion of food.

A Believer in Pasteur.—One of Pasteur's associates or followers was bitten by a rabid guinea-pig. He at once began a course of preventive treatment, which he continued, chiefly from motives of scientific curiosity, for more than six months. He underwent no less than 209 inoculations, without the slightest injury to his health, which is still perfect. He received 7 inoculations of 14 days; 10 of 13 days; 14 of 12 days; 12 of 11 days; 16 of 10 days; 12 of 9 days; 15 of 8 days; 12 of 7 days; 28 of 6 days; 12 of 5 days; 24 of 4 days; 6 of 3 days; 22 of 2 days; 19 of 1 day; in all, 209 inoculations, containing virus from at least 71 actively infected spinal-cords. Pasteur now writes that it is important to commence treatment as early as possible.

The Annals of Gynecology is the title of a new monthly journal, edited by Dr. E. W. Cushing, of Boston, and published in that city. The editor has secured several distinguished collaborators, and the first issue promises well.

Physicians to the Theatres.—The Municipal Government of Paris has enacted a law that all theatres shall have a physician in attendance during the time of the performance, who shall be prepared to treat any emergency. This is a very superfluous measure.

Louisville has no public medical library, a state of things which is a decided reproach to a place so justly celebrated for its medical learning and skill. A movement is on foot to start such a library, and it ought to be made to succeed.

The Pennsylvania Hospital has recently purchased about five hundred and twenty acres about twelve miles from Philadelphia, upon which it is proposed to place the insane department of the institution.

Cholera has reappeared in three cities of Chili.

Therapeutical Value of Some Recent Additions to the Genito-Urinary Pharmacopoeia.—Mr. E. Hurry Fenwick, in the *Lancet*, reports the results of three years' use of a number of new drugs. He employed them in the Out-patient Department of St. Peters' Hospital. The following are some of the notes made:

Kola (Sterculia acuminata).—A powerful stimulant; contains 2·3 per cent. of caffeine, also theobromine. In the form of chocolate I found this drug to be of great value in tertiary syphilis, where large doses of potassium iodide have to be administered. The cases of syphilis in which the chocolate was first tried were often of the worst and most neglected type, being drawn from the neighborhood of the London Docks. Later work has proved its value in the well-fed. Patients were able to take doses of thirty grains to sixty grains of the iodide without inconvenience as long as the kola was administered with it. It is now prepared in the form of a paste —"kolatina"—like cocoa paste, as it is found more effective in the liquid form. From one drachm to two drachms makes a breakfast-cupful; where this is inconvenient, the stick kola-chocolate is eaten. Dose, one drachm to two drachms.

Salix Niger (Black Willow).—A sexual sedative of decided value; useful in ovarian hyperæsthesia, also in prostatorrhœa, spermatorrhœa, excessive seminal emissions, and enforced continence. In the latter disorders its action is good, but inferior to potassium bromide. This is, however, somewhat counterbalanced by its non-depressant qualities. Dose, one-half drachm to one drachm. Finding it of value in those wearisome cases of urethral neuralgias following gonorrhœa, I began to substitute soda salicylate for it. I was impressed by the relief this latter afforded. In cases of urethral pain in the adult, I first eliminate stone, stricture, urethral granulations, and over-acid urine, and then prescribe soda salicylate five grains to eight grains, with a gratifying result.

Piché (Fabiana imbricata).—Of undoubted value in lithiasis and renal stone. One patient obtained so much relief from the hæmaturia and pain that he obtained the plant direct from Peru every mail, and made the infusion himself. In my hands it has failed in chronic cystitis. Dose, fluid extract, one-half drachm to one drachm; infusion, a wineglassful.

Papaw, *Papyotin*, *Papaine* (Carica papaya).—Of marked benefit in syphilitic ulcers of the tongue and throat, especially when mixed with cocaine. The surface of the ulcers and the white patches (secondary syphilis) rapidly clean and begin to skin over. Lozenges have been made which are most useful (papaine, one-eighth grain; cocaine, one-eighth grain; potass. bicarb., one-quarter grain). Mix papaine with a small quantity of glycerine and water, so as to form a thin paste, add a little bicarbonate of potash, and brush ulcers with the same thrice daily. Whatever its position may be, as a digestive ferment papaine is worthy of trial as a preventive and reducer (?) of renal calculi. Dose for renal stone, one grain to three grains, or more, in pill or powder; to be taken with meals.

Naphthaline ($C_{10}H_8$).—A derivative of benzol and allied to phenol. Given with benefit in fetid urine. The micrococci speedily disappear, and the urine becomes sweet. The large doses recommended (fifteen grains) are unnecessary, and produce vomiting and abdominal pain. Dose, three grains, cautiously increased. Note: Urine of patients taking naphthaline smells of phenol, and may remain exposed for some days without change.

Reports of Societies.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, October 6, 1887.

A. Jacobi, M.D., President, in the Chair.

The Statistical Secretary, Dr. A. B. Judson, officially announced the deaths of Dr. Jared Linsly and Dr. Alonzo Clark.

The Library Committee reported large additions to the library during the summer vacation.

The President then delivered an

INTRODUCTORY ADDRESS,

in which he spoke of the continued prosperity of the Academy, the work of the sections, and the notable increase in its roll of members. He paid a worthy tribute to the memory of the late Alonzo Clark, M.D., LL.D., who was an ex-president. Reference was made to the new building for the Academy and the work of the committee, which would soon be announced in a more formal manner. The decadence of the Section on Public Hygiene was deplored, and the President thought that "an army might as well be without a flag as the Academy without a Section on Public Health." He favored the division of the Section on Obstetrics and Diseases of Women and Children, and the creation of two new sections, one on Gynecology and the other on Diseases of Children.

Dr. Frank P. Kinnicutt, on behalf of a committee of the friends of the late

THOMAS A. M'BRIDE, M.D.,

presented an excellent oil portrait of the deceased, which was accepted by the President, who returned the thanks of the Academy for the beautiful gift.

The President then presented a large number of

AUTOGRAPHS,

which he had obtained of distinguished medical men in this country, England, Germany, Italy, and France, and spoke of the desirability of like contributions for the library.

Dr. Prince A. Morrow read a paper [see page 501] on

THE MODERN METHOD OF TREATING SYPHILIS.

The discussion was opened by Dr. E. B. Bronson, who first spoke of the attractiveness of the method by hypodermatic injections of mercury, and of its advantage, especially with regard to precision of dosage. The affinity of mercury for the albuminates, however, was so great that it had been difficult to overcome, and rendered it almost impossible to introduce the remedy directly into the tissues. The method had advanced slowly, because of this difficulty, and also because of the great liability of producing local inflammatory troubles.

It was generally admitted that the mercury, in whatever form administered, finally became the bichloride. The preparation which he had used hypodermatically was the bichloride, with an equal quantity of common salt; that is, three or four grains of each dissolved in an ounce of distilled water, and the results of the method, on the whole, were satisfactory, although he was not an enthusiast concerning its employment. The great objection had been the production of local inflammatory troubles, which were liable to be prolonged. His experience in the use of calomel had been exceedingly slight.

And the results obtained by the hypodermatic method had not, in his hands, been sufficiently favorable, on the whole, to justify him in continuing it. To deposit a certain quantity of mercury in the body for the system to draw from, for the cure of a disease, seemed to him to be too commercial in character to be accepted as a rational and scientific method of treating syphilis.

Dr. R. W. Taylor began the study of the treatment of syphilis, by the hypodermatic use of mercury, in 1869, with Dr. Zinsser, who became an ardent advocate of the method, and he only ceased to practise it when he found that he was becoming the object of opprobrium among the patients who visited the public institutions with which he was connected. However, he drew the conclusion that there were some advantages in the method, and had occasionally resorted to it up to the present time, a period of eighteen years. From his experience in the use of the method during that period of time he had concluded:

1. That it was a useful method, but one of limited application. It was for emergencies rather than routine treatment.

2. That it might be used any time in the secondary period.

3. That it rapidly cured neuroses and cachexia.

4. That it had no advantages over any other method in the treatment of mucous patches, condylomata, or affections of the nervous system and bones.

5 That used at the same time with iodide of potassium internally, they were often beneficial in the tertiary stages, when the lesions were not of an ulcerative character.

6. That the method afforded the advantages of small dose, rapidity of action, and absence of systemic and local effects of mercury, such as stomatitis, diarrhœa, gastric disturbance, etc.

He believed that there was no preparation as good as a solution of the bichloride in distilled water, ten drops containing one-eighth of a grain. An injection every second day was usually sufficient. It might be pushed to one and two injections a day.

7. That the time for the disappearance of the lesions varied from two weeks to two months.

8. That relapses were as frequent, as rapid, and as severe as with any other method.

9. That it had the following objections: *a*, The injections were painful, either transitory or permanent in the form of soreness and tenderness; *b*, they produced indurated nodules, or plaques, which were sometimes chronic; *c*, they produced abscesses, which, however, might be reduced to a minimum by great care.

10. That the patients should be both intelligent, and impressed with the gravity of the disease, otherwise they would not submit to the treatment.

11. That in hospitals and dispensaries the method might be used, but otherwise frequent repetition of the injections and consequent expense were obstacles to their use.

IN THE SECONDARY PERIOD,

where rapidity of action was required, as in a case recently treated; where the healing of an initial lesion was desirable; or, where the rapid involution of secondary lesions in exposed parts was demanded, this method might be adopted. So, also, in early neuroses and cachexia.

When mercury acts as a depressant, and where its internal use, or fumigations, or inunctions were contraindicated by reason of their irritant action on the gastro-intestinal tract, mercury might be employed hypodermatically.

His experience was entirely in favor of giving the injections in the *anterior* wall of the abdomen; it was entirely inappropriate to give them in the legs.

On the whole he regarded it as a method of utility and emergency, and not one for general routine use. He regarded it as irrational to lodge purulent foci in a patient under the impression that by so doing a cure had been effected.

The bibliography of the subject, in this country, consisted of an article published by Professor Hammer, of

St. Louis, in 1867 or 1868. In 1869, Dr. Wigglesworth, of Boston, wrote on Lewin's plan. In 1871, Dr. R. W. Taylor read a paper before the New York Dermatological Society, which was published in the Medical Gazette, May 13, 1871. In 1872, a translation of Lewin's book appeared, and also in 1882, an article by Dr. J. V. Shoemaker, of Philadelphia.

Dr. F. R. Sturgis had resorted to the hypodermatic method several years ago, and used both the bichloride and calomel, and later he had employed the bichloride in albumen. His experience had been that the bichloride injections produced intense pain, abscesses, and decided discomfort for a long time. The calomel injections were less painful than the bichloride, but the effects were not so rapid and certain. From one-tenth to one-eighth of a grain he had found were larger doses than were usually necessary, and he obtained nearly as good results from smaller quantities, and they gave the patients very much less discomfort. The method undoubtedly had a decided advantage in clearing off the skin more rapidly than did other methods. According to his experience, stomatitis was not infrequent. One great obstacle to its use had been that the patients protested against the method. He did not believe that it prevented relapses more than other methods of treatment. It might be of service under certain circumstances, as, for instance, in the army and navy. But for civil service it did not present sufficient advantages to warrant its general use.

Dr. L. D. Bulkley employed the method long ago, and abandoned it, and he had not been tempted to renew it by any recent reports on the subject. He had succeeded satisfactorily in the treatment of syphilis by the use of mercury administered by the mouth, by inunction, or by fumigation, the iodide of potassium, and the necessary adjuvants, as iron, nitric acid, etc.

The President had used calomel injections, and should not do it again. Corrosive sublimate injections he had used extensively. He had found that for a large number of people, the solution of four grains to the ounce of water was too strong, and, when reduced, it had done much better.

He had used the hypodermatic method with special advantage in a particular class of cases, namely, of hereditary syphilis in which

THE CHILDREN WERE BORN WITH SCALY PALMS AND SOLES,

where it was necessary to produce as speedy effect as possible. To these children he had administered $\frac{1}{50}$ to $\frac{1}{30}$ of a grain of bichloride once a day, and he believed he had seen a number of them recover in a limited period of time.

He also spoke of the prompt benefit that can be obtained sometimes, by the free external use of iodide of potassium dissolved in glycerine or lanolin. Lanolin facilitates the entrance of the iodine, so that it can be detected in the urine within one to three hours.

Dr. Morrow said it was chiefly towards the improvement in the method that he wished to direct attention. There was no doubt of the superior efficacy of the method in accomplishing certain ends, although some of the claims made for it did not accord with his own observation. He thought there was sufficient evidence to show that mercury administered in this manner had an influence on the tertiary lesions. In cases in which the patients had an idiosyncrasy with regard to iodide of potassium, this method might be available. The value of the method was so great that no one could afford to be unfamiliar with it, and he thought that the gentlemen had made a mistake in discussing the subject in the light of observations made years ago, for the technique had greatly improved. Injections could now be made without producing abscesses; and the method could be employed without subjecting the operator to ostracism by his patients. He thought that as a general mode of treatment it was impractical; but that it was a method of remarkable efficacy.

Dr. Taylor remarked that the last time he resorted to this method was only last week, and that he did not get up to air any antediluvian experience.

Dr. Francis M. Weld's resignation was accepted, and he was made a non-resident Fellow.

The Academy then adjourned.

BRITISH MEDICAL ASSOCIATION.

(Special Report to The Medical Record.)

SECTION IN OBSTETRICS.

First Day's Session.

Dr. Arthur V. Macan, of Dublin, Master of the Rotunda Hospital, and President of the Section, made

THE ADDRESS IN OBSTETRICS.

After thanking the Section for the honor done him by electing him president, after welcoming the members to Dublin, and inviting them to make themselves at home at the Rotunda Hospital—all done in a manner and with a politeness and heartiness possible only to an Irishman—the president proceeded to tell in what ways the practice of the Rotunda Hospital differed from similar institutions elsewhere. First, the use of abdominal palpation in every case of labor, together with the practice of external version whenever necessary. Second, our time-honored, and now almost universally adopted, method of conducting the third stage of labor. Third, the application of antiseptics to midwifery. This I know has been done with success in several other places, and as it will be embraced by one of the subjects fixed on for discussion, I need not here mention it. In regard to gynecology, our practice differs from that of most of the teaching centres in this kingdom, in the systematic employment of bimanual examination, the patient lying on her back instead of on her side; the washing out and curetting of the uterus without previous dilatation of the cervix; and, lastly, the theories held as to the normal position of the uterus, and the treatment of displacements of that organ which follow.

To begin, then, with the systematic lateral palpation of the abdomen in every case of labor. There are probably few in this company who have not experienced a feeling akin to despair at the difficulties to be overcome before the child's position, even in the least complicated cases, could be determined by vaginal examination. If the labor was protracted and a caput succedaneum was formed, the diagnosis became almost impossible. I believe that a large number of even experienced practitioners used to content themselves with diagnosing whether the head presented or not, and never troubled themselves further. The position was too often that the woman was lying on her left side, the practitioner standing behind her, and the child placed upside down in the woman's abdomen. This made the mental process very complicated, so much so that the students were recommended by some text-books to cut the figure of an imaginary pelvis out of paper to assist them. All this is now changed, and any person with ordinary abilities can learn to make out the child's position after a very short apprenticeship. If, then, they are called on to deliver artificially, they can do so intelligently. We can not only make out the position of the child, but we can also generally determine whether the child be large or small, what the quantity of the liquor amnii is, and whether the birth be plural or single, and, probably the most important of all, we can determine whether the head be proportionate to the pelvis or not, by the projection of the head over the pubes, and the extent to which it can be made to enter the brim of the pelvis by firm pressure, applied externally. Finally, there is no such school for

learning the palpation of abdominal or other tumors as the palpation of the pregnant uterus.

I may mention that we can often feel the arm of the child going out from the shoulder, while occasionally the elbow may be made out. In one case a hydrocephalic head was readily distinguished, in another the probability of the fœtus being an encephalic was foretold: while in one case the cord has been felt crossing the child's back, and quite recently we have thought that we have made out the placentic site by the fingers being lifted off the child and the outlines being undeveloped.

To resume briefly, the points that can best be determined by the lateral examination are: First, the fact of pregnancy; second, the period of pregnancy; third, size of child; fourth, condition of bladder; fifth, axis of the uterus; sixth, condition of abdominal wall; seventh, abnormalities of the ovum, such as twins, hydrocephalus, anencephalus, hydatid mole, and frequently the life or death of the fœtus. Further, it directly leads to the practice of external turning, renders the finding of the fœtal heart simple, and generally enables us to estimate whether the pelvis be contracted or not. In these latter cases we also made out a low, continuous murmur like the uterine souffle, over the supposed placental site. Of course, cases in which the placenta can be palpated will always be rare. To make them possible the placenta must be planted on the anterior abdominal walls, and the condition of the wall of the uterus, etc., must be favorable to palpation.

The step from the accurate diagnosis of the position and posture of the child to external turning is an almost imperceptible one. We can sometimes turn the child by the pressure of a couple of the fingers of one hand on the head. Such cases are exceptional, however, and the difficulty gradually increases with the tension and thickness of the abdominal walls, the fixation of the presenting part in the pelvis, and the passiveness of the patient, till we come to cases when we must first mobilize the presenting part by drawing it out of the pelvis from the abdomen, or pushing it upward by the finger in the vagina; and, finally, to such cases where external turning, even under chloroform, is impossible. The cases in which we have found external turning of most importance, besides the mere rectification of a breech or transverse presentation, are cases of funis presentation, where, by turning, the funis may be carried up with the part presenting. Also, in cases of head presentation with antero-posterior contraction of the pelvis, when we wish to extract by the feet. With the head on the perineum and delayed labor, we can use a very great amount of force by pressure on the abdomen. In fact, we can get the whole weight of the body, almost, to bear on it. Suppose that much of this weight is lost by mal-direction, we still have enough to very materially aid the progress of the case and lessen the number of forceps cases. Schroeder has shown that it is want of power in the abdominal walls that delays the expulsion of the child. If the expelling force is a little less than the combined resistance, the child must, so to speak, remain forever in the same position. In such a case the addition of a single pound may be sufficient to expel the child. Further, the experience learned by palpation is a great help in the conduct of the third stage of labor. As it is much easier to rectify mal-position before strong uterine pains have set in, it is advisable for the woman to be examined some time, say a fortnight, before the estimated confinement. If a first pregnancy, we can determine not only the presentation, but also, by the degree by which the head has entered the pelvis, whether there be any disproportion or not. If there is much liquor amnii and the child is very movable, we can expect mal-position, and should watch that we have the head well into the brim before the membranes rupture. The same may be said of prolapse of the cord. Having determined the position of the child, we find the auscultation of the fœtal heart very much easier.

Next, as to the third stage of labor. As soon as the child's head is born, the hand is placed on the fundus of the uterus, the ulnar side looking toward the vertebral column, the palmar toward the axis of the uterus. The child's eyes are then carefully wiped, and a finger passed into the vagina to see if the cord could be around the child's neck. If the uterus does not expel the child, or it should make any exertion at respiration, pressure is made on the uterus which is generally sufficient to cause the expulsion of the child. This subject was discussed *in extenso*.

The following quotation explains itself:

"Following down the uterus with the hand, as the fœtus is being born, and keeping up a pressure until the placenta is expelled and the binder applied, has been the course pursued in the Dublin lying-in hospitals since the mastership of Joseph Clarke (1786-1793), and is now almost universally followed by all educated practitioners." (McClintock's edition of "Smellie's Midwifery," vol. i., p. 236.)

In looking over Dr. Charles Johnson's ward-book, bearing date of 1843, I see noted, after numerous cases, the terse statement, "placenta pressed out." This was such common practice as to need no further explanation. If we consult Spiegelberg, we will find that he accurately discriminates between the Dublin method, and the then lately introduced method of Crede, and gives his verdict entirely in favor of the former. Schroeder also accurately describes the two methods, and adopts entirely the Dublin method. We have then the curious fact that, whereas in Germany the highest authorities are in favor of the Dublin method, in the latest English text-books the writers recommend Crede's method. Or rather, I should say, while describing and recommending the Dublin method, call it Crede's. As an Irishman, and the present master of the Rotunda Hospital, I cannot but hope that, after this meeting of the British Medical Association, we may find this mistake corrected, and in the future the method may be known after the town in which it first saw light, as the "Dublin Method."

The President then devoted some few words to the bimanual examination, strongly favoring the dorsal, as compared to the lateral, position. Such assertions as that this position was brutal or indecent he strongly denied.

The subject of

THE PREVENTION OF PUERPERAL FEVER

was introduced by W. S. Playfair, M.D., F.R.C.P., LL.D., Professor of Obstetric Medicine at Kings College Hospital.

The subject which I have the honor to introduce to you for discussion cannot fail, I think, to interest all upon whom the responsibility falls of attending women in labor. The prevention of the scourge of midwifery practice, septicæmia, is one of our most important duties. In the short space of a quarter of an hour allotted me, it will be impossible to do more than lay down a few general rules which should guide us. In lying-in hospitals, since the revolution of antiseptics, a marvellous change has been effected. I am more particular today to insist on the prevention of puerperal disease in private and domiciliary practice. In the well-conducted lying-in hospital of to-day, a woman is actually as safe, if not safer, than if confined at home in a large house, and surrounded by all the comforts money can procure. The great Rotunda Hospital of this city, and the lying-in institutions of London, Paris, and St. Petersburg, as well as other continental cities, prove what I have said. There is nothing in the history of medicine more remarkable than the change in these institutions since the adoption of the

LIFE-SAVING PRINCIPLES OF LISTER.

I doubt if such a thing can be found now as a hospital for lying-in in which antiseptic rules have not been introduced, and in which similar good results have not

followed. Though recognized and followed in public practice, I doubt if, even yet, antiseptic midwifery is at all general in private practice. Called to see septic cases as a consultant, I very seldom find that the practitioner in attendance has followed out the rules in so general use in lying-in hospitals. Perhaps, when the younger class of practitioners get more into the work, it will be different, but with the bulk of men now in practice, no special care is taken. In civil practice, similar care and precautions to those practised in institutions—a matter of no real difficulty to practise—should almost wipe this scourge out of existence.

Fritsch daily dressed a putrid wound in the person of his brother for a whole year, and at the same time daily performed two or three obstetric operations, and by a vigorous antisepsis, has not had a single case of septicæmia during the whole time. To show how simply this may be done, and to elicit your views on this subject, is my object to-day. I have no time for argument, and must perforce be brief and content myself with dogmatic statements. To prevent puerperal fever we must have an intelligent idea of what it is, how it originates, and how it may be conveyed to the patient. Unless we are agreed on these points, we are not likely to come to any conclusion of value. I take it to be now almost universally admitted that puerperal septicæmia is practically the same thing as surgical septicæmia. A disease caused by a poison absorbed through the genital tract into the system, which poison may either originate *de novo* or be conveyed to the patient from without by septic matter being brought in contact with her. We should manage her so as to reduce the chance of absorption to a minimum, by closing as much as possible the channels through which the septic matter is to be absorbed by thorough and permanent contraction of the uterus, and by lessening absorptive surfaces offered by perineal lacerations and the like. How customary it is to find the binder hurriedly applied, with the uterus imperfectly contracted, remaining large and flabby underneath it, distended with clots which frequently breed mischief. I practise and teach never to remove the hand from the uterus for at least twenty minutes after the removal of the placenta, keeping up a continous, though not rough, rubbing or kneading. I believe it also good practice at this time to administer a large dose of ergot, and if contractions do not set in, to make a hypodermic injection of ergotine or ergotinine. Personally, I have never seen any harm result from the routine administration of ergot.

AS TO PERINEAL LACERATIONS,

I think the rule should be absolute that the perineum should be inspected after labor, and that every tear more than a slight laceration of the fourchette should be closed with catgut or wire suture, first cleansing thoroughly with the bichloride-of-mercury solution, and subsequently dusting with iodoform night and morning. Thus any chance of absorption through the bared perineal surface is avoided, and complete healing is insured.

Most important, however, are the

ANTISEPTIC PRECAUTIONS,

by which we are to prevent the poison being introduced from without. This, indeed, is the essence of the whole matter. The vast majority of cases of puerperal septicæmia, to my mind, arise directly from poison carried to the patient from some preventable accident. This is an unpleasant fact, but we must look unpleasant facts in the face. The nature of the medical man's work brings him constantly into contact with septic matter. There is no avoiding this. What we have to do is to take the precautions happily at our disposal to avoid the risk, or reduce it to a minimum. The obstetrician, if he has much gynecological practice, is especially in danger of infecting his patient. He has, in constant vaginal examinations, to imbue his fingers with vaginal discharges which may be of the utmost possible virulence, such as of uterine carcinoma. Many have infected themselves in this way through punctured wounds of the finger, and why not infect others?

If I dwell on unpleasant subjects such as these, my only object is to secure a thorough appreciation of their danger and its avoidance. The nurse has often, and justly too, the blame to bear. She is constantly handling the genital organs, at all hours, for many days. Many of the older class of nurses persistently set themselves against the antiseptic precautions as "new fangled fads which they don't hold with." If they are positively ordered to carry them out, they are apt to do so in the most perfunctory way. The tips of the fingers are just dipped into the antiseptic lotion. A sponge is used to wipe the genitals, and is put away, unwashed or most imperfectly washed, on a hot summer day. Quite recently I had occasion to use a catheter, and the nurse produced one belonging to her. I fished out of the eye a decomposing blood-clot which had been lying there for days or weeks. Again, not long since, I saw a most intense case of septicæmia; the nurse answered me that she had been most careful, and yet I found an undersheet unchanged for four days, saturated with decomposed lochia, on which the patient was lying. In a hundred unsuspected ways such as these death may be conveyed to the patient.

If, however, efficient antisepsis is to be carried out, the rules must be such as the nurse can understand, and not too complicated and troublesome to put into execution.

The following is a copy of the card I give every nurse in attendance on cases under my charge:

ANTISEPTIC RULES FOR MONTHLY NURSES.

"1. Two bottles are supplied to each patient. One contains a solution of perchloride of mercury, of the strength of one part to one thousand of water, tinted with litmus (called the 1 : 1,000 solution), the other carbolized oil (1 : 8).

"2. A small basin containing the 1 : 1,000 solution must always stand by the bedside of the patient, and the nurse must thoroughly rinse her hands in it every time she touches the patient in the neighborhood of the genital organs, for washing or any other purpose, before or during labor, or for a week after delivery.

"3. All sponges, vaginal and rectal pipes, catheters, etc., must be dipped in the 1 : 1,000 solution before being used. The surface of slippers, bed-pans, etc., should also be sponged with it.

"4. Vaginal pipes, enema tubes, catheters, etc., should be smeared with the carbolized oil before use.

"5. Unless express directions are given to the contrary, the vagina should be sponged twice daily after delivery with warm water, with a sufficient quantity of Condy's fluid dropped into it to give a pale pink color.

"6. All soiled linen, diapers, etc., should be immediately removed from the bedroom.

"N.B.—These rules are for the protection of the patient from the risk arising from accidental contamination of the hands, sponges, etc. It is therefore hoped that they will be faithfully and minutely adhered to."

There is nothing complex in these rules. The details may be varied considerably as to the form of antiseptic employed. It is the principle of antiseptics more than the details which is important. I prefer the perchloride of mercury to any other antiseptic, not only because of its acknowledged potency, but because it is bland and unirritating to the skin and capable of being carried in a concentrated form, and the solution made at a moment's notice. Nurses will not use a carbolic lotion, or use it inefficiently, because of its tendency to injure the hands, while I have never known one to object to the mercurial solution. I do not recommend it for vaginal injections after labor, because of a few cases of mercurial poisoning that have been reported to follow its use in this way.

There are a few precautions to be used during the labor for the physician himself:

1. Before making any examination, or using the antiseptic lotion, he should thoroughly cleanse his hands with soap and water, being specially careful about his nails, under which septic matter may easily lurk.

2. At an early stage of the labor, the vagina should once be thoroughly syringed with the antiseptic lotion, and the vulva sponged with it.

3. When the head is distending the perineum, the external genital should again be sponged with the solution.

4. Cold cream, lard, etc., should not be used for lubricating the fingers, but carbolized oil or vaseline employed instead.

5. When possible, sanitary towels should be used to receive the lochial discharges in preference to diapers, as they may be burned when soiled. All risk from imperfectly cleansed diapers is thus avoided. I do not think these suggestions impose a grievous burden upon the practitioner who has the welfare of his patient at heart. There are many other points on which I might dwell if time allowed. One which seems particularly important is the duty of satisfying ourselves of the sanitary condition of the house in which our patient is to be. It is but seldom, however, our opinion is asked on this point. Unfortunately, the public believes it is the duty of the profession to cure disease when it arises, not to prevent it. Meddling with such matters beforehand would be too often considered an unjustifiable interference. I am fully convinced that if a careful sanitary inspection were instituted before parturition, a great step would be taken toward attaining the object of this paper, "the prevention of puerperal fever."

Second Day.

Dr. Robert Barnes read a paper on the subject,

THE CAUSES, INTERNAL AND EXTERNAL, OF PUERPERAL FEVER.

A clear understanding of the nature and causes of puerperal fever is the rational antecedent of a rational system of prevention. What is puerperal fever? What are its factors and constituents?

There is not one cause, but a plexus of causes. Failure to comprehend this truth is especially conspicuous in the German school. By a short and arbitrary process of synthesis, this school has formulated the dogma that puerperal fever is puerperal septicæmia, the result of septic infection from the genital canal, thus overlooking important constituent factors. Starting from the state of gestation, we find it specially marked by exalted nervous and vascular tension. An acute process of building up is going on.

Parturition puts to the supreme test every tissue, every function. We have the combined source of altered blood: 1, That derived from gestation; 2, that arising during labor; 3, that arising from the disintegration of the superfluous tissues, built up during gestation. Labor completed, a process is started the very reverse of that which prevails in the gravida. The high vascular tension subsides. The tide turns. The blood is invaded by waste stuff which has to be cast out of the body. This is done mainly by the excreting glands; liver, kidney, skin, intestines, lungs are all called upon for active work. They must discharge the waste stuff as fast as it is received into the circulation. If this waste stuff be not duly excreted, it accumulates and acts as a fever-causing poison. Cases of thrombosis and phlegmasia dolens are mainly the expression of the loss of balance in the process of disintegration and elimination.

This is the simplest, the fundamental, form of puerperal fever, but it is the compound of three forms of altered blood: 1, The blood of the gravida; 2, the blood of the parturient; 3, the blood of the puerpera. This is purely auto-genetic. I call it endosepsis. The conditions arise entirely within the patient's system.

Another group of symptoms which disturb the orderly course of puerpera are influences which retard the secretions and excretions, as chills, malarious conditions, errors of diet, among which insufficient diet is one, bad hygeinic surroundings, and emotions.

Meteorology controls these secretions largely, and, I believe, has no little effect on the frequence of puerperal fever. I show here a number of charts. The first shows, according to the Royal Meteorological Transactions, the general temperature and rain fall for thirty years—1845 to 1874. No. 2 shows the deaths from scarlatina, fevers, erysipelas, and puerperal fevers for the same period. No. 3 shows the total births and deaths for the same period. The second series I have constructed on the same plan. It consists of the history for ten years—1875 to 1884, the months and weeks of each year are cast together so that "January" represents the sum of thirty Januaries, and each week shows the sum of thirty weeks, corresponding. In the second series we get the curves for the following ten years. The separation of ten years can be compared with the preceding thirty years. The general similarity of the curves is remarkable. It affords strong evidence of the universal prevalence of the causes. The tables exhibited showed the relation of the seasons and atmospheric conditions to fevers, puerperal and others, and illustrates a law which has been widely recognized—that zymotics are most fatal in the winter. This I believe is true. The damp from the cellars, charged, it may be, with foul water, but noxious in any case, is sure the be sucked up into the house, and seeks, by preference, the warmest spot. This is the lying-in room, the heat acting as a relative vacuum in the highly heated and poorly ventilated room. This source of danger is distinct from the ordinary drains or sewerage of the house; either may act alone, or they may act together, intensifying the danger.

This damp foul air drawn into the lying-in room may be contaminated with specific poisons, as of typhoid, scarlatina, or of erysipelas, but the contamination is not necessary to work mischief in the puerpera. This evil, that the lying-in room is chiefly supplied by air from the lower regions in winter, need hardly be felt in summer, as fresh air is brought directly from the outside. Pressure then works against the up-current, pure air is gained, foul air is repelled. (Here the author showed a model house to prevent this suction of foul air.) During the past winter, an unusually inclement one, I have been called to attend an unusual number of cases of childbed fever. I rarely failed to find sufficient cause for the trouble in the sanitation. I would enforce emphatically the old rule to move the patient to another room, preferably the drawing-room, which is generally the healthiest, most airy in the house. Sewer-gas, if not carrying zymotic germs, may cause fever. The poison, however, must be kept up. Hence the advantages gained from moving the patient out of her surrounding influences.

As to

DECOMPOSING MATTER IN THE GENITAL TRACT,

we should first close the gates against the entry of the enemy by securing firm contraction of the uterus, and prevent the suction action of the abdomen. The next step is to give ecbolics, as quinia, cinnamon, nux vomica, ergot, and digitalis. Some combination of these medicines should be given in every labor. We should then eject the enemy and prevent the gathering force by washing out the uterus. Uterine irrigation is especially useful in the auto-genetic forms in which noxious matter is taken up from the genital tract. It is not frequently necessary in the hetero-genetic or zymotic forms.

The women of the laboring classes go through childbearing more safely than their pampered and delicate sisters. It is because they are not subjected to and en-

feebled by excessive cultivation of the emotional and intellectual elements.

THE DAUGHTER OF LUXURY

never knows a day's labor till she is taken in labor; while the woman of the working classes labors every day.

Lactation is evidence of glandular capacity. Failure to produce milk, presumptive evidence of glandular incapacity. Fever prevents or diminishes secretion. In some cases, at least, failure to secrete milk is a primary, not a secondary, condition.

Fever declares itself because the glands cannot do heir duty.

From what precedes it follows, that to insure the fullest security to the puerpera, to put her in the best position to go through the transition from the puerperal to the ordinary state, we must do what we can to keep every organ, including the glandular system, in good working order; and to guard against all known agencies which may disturb the healthy action of the organs.

THE RELATIONS OF METEOROLOGY TO PUERPERAL FEVER,

is a point to which I wish to call especial attention. We see by the tables that puerperal fever, like other fevers, prevails most fatally in winter. To what extent can we control the pernicious influences of winter weather? Domestic meteorology is greatly under our control. We must inquire what are the external conditions which favor excretion. The excretory force of the lungs is increased in value in the puerpera. Under ordinary conditions, in the non-pregnant, they gave off watery vapor, carbonic acid, sometimes ammonia, and a minute quantity of organic matter. It is certain the capacity of the lungs increases after labor, so it is probable the quantity of carbonic acid exhaled is increased, and certain the exhalations of organic matter increase. The "gravis odor puerperii" is partly due to this increase. In some cases, verging closely on endosepsis, the lochial discharge is absorbed. In these I have noted a sallow aspect and a degree of febrility, and I have taken this as an indication for irrigating the cavity of the uterus.

To get rid of the excess of aqueous vapors, of carbonic acid, and organic excreta by the lungs and skin, a constant supply of pure air is required. It must be dry and comparatively rare. There are two principal modes by which gaseous matter, including germs or bacteria, are carried: 1, By diffusions; 2, by currents of air. Active diffusions are especially valuable so long as they bring nothing noxious to the patient, but if foul matter comes with the air it will tell against the case, hence the great importance of a supply of pure air, and the removal of all impediments to free circulation. I am disposed to believe the most injurious of all meteorological conditions is damp, in the forms of saturated air, fog, and mist. Wind, rain, and sun are the great purifiers of the atmosphere—movement of the air promotes diffusion, sunshine works chemical changes, and the rain scours or washes away impurities. All this, of course, is familiar knowledge, but it is not superfluous to ask if it is fairly applied to the regulation of the sick-room. Let us consider how far we may bring the meteorology of the bedroom to the conditions of healthy external meteorology. 1. Let the lying-in chamber face the south. 2. To combat external damp, a fire is best in an open fire-place, the open grate serves as a ventilator to carry off impurities. Among the abominations of self-styled sanitary engineers, I feel called upon to denounce heating by hot water pipes. They are too often effective means for the culture and diffusion of noxious germs. It is possible, also, to wash the air by air admitted by a Dobin tube, by a shower of water falling into the tubes.

The modification of the air by chemical agents, with the mechanical addition of vapors and gases possessing medical virtues, has many recommendations.

In the early morning hours, between two and four o'clock, is the time when the wind is the lowest and the meteorological conditions the worst. At this time the ventilation of the room should be attended to with greater care than usual.

All precautions resolve themselves into one word, cleanliness. All antiseptic precautions are but a part of the general scheme.

The meteorological conditions I consider to be of primary importance, though far from underestimating other causes.

While protecting the citadel from the foe without, we should take care that mutiny does not break out within.

JOHN W. BYERS, M.A., M.D. (Belfast), read on

THE PREVENTION OF PUERPERAL FEVER IN PRIVATE PRACTICE.

After giving some statistics showing the great mortality of puerperal fever, the writer said it was impossible to take measures for its prevention until we had clear ideas as to its causation. He discussed the various views, and gave his reasons for believing it was blood-poisoning, analogous to septicæmia met with in surgical practice. Taking this view, he believed there were three sources by which the poison might be introduced into the system of a lying-in woman.

1. Sewer-gas, as in unhealthy homes.
2. The nurse.
3. The accoucheur.

Under the first head, he recommended the inspection of a house before the confinement took place, to see if it was in a proper sanitary condition. He gave rules for the guidance of the practitioner and nurse. He advised the strictest cleanliness, thorough washing of the hands in an antiseptic solution (1 to 1,000 perchloride of mercury), few examinations, a proper and careful management of the third stage, the keeping of the patient on her back for a time after confinement, and antiseptic douches.

He drew attention to the cases in which a decomposing blood-clot or placenta might be the source of the disease, but believed that even in these the decomposing mass in the uterus only acted as a nidus, in which the poison from without found a suitable soil.

He discussed the question of how a physician should act with reference to obstetric practice, if he came across cases of scarlatina or foul surgical wounds, and said he believed by baths, changing the clothes, and strict antiseptic washings, he need have no fear in attending a confinement. He said if those who attended women in labor would act as if each one were likely to develop septicæmia, they would take thorough antiseptic precautions, and thus such cases would be reduced to a minimum.

The whole essence of the prevention of puerperal fever was:

1. To prevent the poison entering the system.
2. To destroy the poison, if it got into the genital tract of a patient, before it entered her tissues and blood.

DR. ROBERT BARNES, of London, said that we all agree in what Dr. Playfair has said, and it is of extreme value to us to have it put so well. It will be well for us to follow out antiseptics, but antisepsis is not the whole prevention of puerperal fever. I do not think with Dr. Playfair, that it is the same as surgical fever, but that it may also be caused by cold, chill, exposure, fever, meteorological conditions, or accidental causes. This fever is far more common in winter than in summer. There is something before septicæmia. There is a puerperal constitution which makes the poison doubly dangerous. I hope Dr. Playfair will go a little farther back and look a little at the patient.

DR. GEORGE H. KIDD, of Dublin, considered further the question of the nature of septicæmia. Dr. Burdon Sanderson has said there was a time when we were obliged to fight with all our might to make believe there was such a thing as septicæmia. This is not the trouble now. The danger is that we put too much stress on an-

tisepsis. He believes that attention to the patient previous to labor has much to do toward preventing the septicæmia. Dr. Collins, when master of the Rotunda Hospital, delivered eleven thousand women in that institution in four years, and had not one case of septicæmic fever. We must not overlook the natural history of the disease, the fact that it comes in epidemic waves.

Dr. Lombe Atthill, of Dublin, said he was a

FIRM BELIEVER IN SEPTICÆMIA.

The term puerperal fever he abhorred. It is caused by septicæmia. I was the first master in the Rotunda Hospital to require antiseptic precautions, which were then very imperfect. I had to undergo great opposition. Especially was this so with the nurses. It was indeed an effort to get them to part with their old, black, dirty dresses and put on the uniform. They thought to be compelled to wear such dresses as those in winter was nonsense. I consider a relaxed condition of the uterus to be a common cause of septicæmia. I well remember one patient who came into the Rotunda in labor. No physician was present at the time, but the nurse saw there was something the matter with her, and put her in a private ward separate from the other patients. I was soon called, and found the patient to be suffering with erysipelas. She could not be put out of the house in labor, but after delivery she was sent to another place, only remaining in the hospital fifteen hours. There had been no case of puerperal fever for months before, yet there was one before twenty-four hours, and this was followed by several others, then gradually disappearing. I think, however, these were due to atmospheric conditions, and not to the presence of the woman in the hospital. I think contamination in that case hardly possible under the conditions. I believe that the preliminary treatment of puerperal fever will prevent puerperal fever in many cases. I do not believe ergot given in a single dose will produce any effect. It should be given frequently.

Dr. M. T. Molony, Arklow, Ireland, said that in his city of six thousand inhabitants there had been an epidemic of scarlet fever for six months. During this time there was no case of puerperal fever and no approach to one. The scarlet fever was of a mild type, yet some cases were quite malignant. We had many cases of sore thorat, some of them malignant, and some tonsillitis, etc. The town is the most unsanitary place on earth. As medical officer I attended most of the cases of childbirth, and used no antiseptics.

Dr. C. H. F. Routh, of London, thought that women in an unhappy state of mind, those who had been seduced, as has been shown by Dr. Barnes, are much more likely to suffer from puerperal fever.

Dr. John W. Byers, of Belfast, was a thorough believer in the septicæmic view of puerperal fever. How can the gentlemen maintaining the views of other causes of puerperal fever explain the

RESULTS OF ANTISEPSIS IN HOSPITALS?

Our nurses should be firm believers in antisepsis. Opinion is now, I think, going in the direction that the number of cases which are auto-genetic are diminishing. The doctor then quoted from a paper by Dr. E. G. Zinke, of Cincinnati, read before the American Medical Association in 1887, and published in the New York Medical Record, where the question of "how soon after exposure to infection can you attend a woman in labor" was discussed, and the opinions of prominent authorities were quoted. These opinions were at great variance. It was a question he would wish answered.

Dr. Samuel Sloane, of Glasgow, said that antiseptics in the hospital at Glasgow, has reduced the mortality very much. They cannot do without antiseptics. We should look more to antiseptic measures than we do. I think close rooms in winter are more productive of puerperal fever than chill.

Dr. Moorman, of Edinburgh, thought the plan to stamp out puerperal septicæmia was an Utopian idea. How can we stamp out atmospheric conditions, lochial discharges, etc.? The patient should be prepared beforehand. She should be given the chloride of iron, quinine, potash, etc.; also ergot, in small doses before labor is innocuous and acts beneficially. In the prevention of puerperal septicæmia, look to the functions of the nurse more than of the doctor. It is not at all above the dignity of the obstetrician to look after the nurse. He closed by recommending uterine injections.

Mr. Lawson Tait, with Lombe Atthill,

ABHORRED THE NAME OF PUERPERAL FEVER.

The practitioners in his neighborhood had been giving him the opportunity to open the abdomen in cases of puerperal septicæmia, which operation had been followed by good results. There are two kinds—one is systemic, and medicine and surgery are powerless; the other is local, the patient can be saved. He had recently been called into the coroner's court to testify in a case where sixteen cases of puerperal fever had occurred in the practice of one man, all of which died. He inquired and found that the most elaborate antiseptic preparations had been made and carried out. He did not inquire too closely, fearing to find out too much, but after the trial, remembering that all the cases of puerperal septicæmia had been forceps cases, he asked him what precautions he had taken with his forceps. He replied none. There was the whole secret.

Dr. M. Cameron, of Glasgow, had seen five cases of puerperal septicæmia in one man's practice. He found that he had not been in the habit of disinfecting his forceps. He advised him to disinfect his forceps and burn his leather bag.

Dr. W. H. Humiston, Cleveland, O., said: If, as one gentleman has stated, puerperal fever is an epidemic disease, and occurs in waves without any assignable cause, why does it not now occur in the lying-in hospitals at Dresden, Prague, and Vienna? In these very same institutions, prior to the adoption of strict antiseptic precautions, the mortality from puerperal septicæmia was appalling, ranging from ten to eighteen per hundred.

It has been my privilege to visit these institutions, and study and observe their methods of conducting their obstetrical cases. They are most careful, and insist on the highest degree of cleanliness obtainable by frequent washing of hands and instruments with soap and water and antiseptic solutions. When Professor Leopold took charge of the Dresden lying-in hospital the mortality was eighteen per cent.; by strict antiseptic precautions it was brought down to nil, and has so remained for several years, not a case occurring within its walls.

One gentleman has asked, how soon after having come in contact with septic material is a physician justified in attending a case of obstetrics. I answer, at once, allowing time for change of clothes and thorough washing with reliable antiseptic solutions.

In Carl Brown's wards in the lying-in department of the general hospital at Vienna, the assistant has charge of the wards and takes personal charge of all complicated cases. At the same time he is daily giving operative courses upon the cadaver to students and practitioners, and I have seen him summoned from the operative table in the pathological building to make a forceps delivery. He would remove his protective coat, and go through with most careful washings of the arms and hands. I never saw septic trouble arise in cases so managed.

One important point, which is original, and I hope will be found reliable by you in your future practice, is the indication that the specific gravity of the urine gives in foreshadowing coming trouble. If before, and soon after, delivery the specific gravity of the urine is markedly below 1,020, look out for breakers ahead; for with the great amount of effete matter to be carried out of the system the urine, if the elimination be sufficient, will be of high specific gravity.

Dr. R. Y. Dill, of Belfast, advised the washing of the hands under a tap, instead of scrubbing dirt into them with a brush. Mind your nails. Always give two or three doses of ergot during the last two or three severe pains of labor. The mechanical arrangement of the beds should be such that the foot can be elevated in case of flooding and the head elevated to assist drainage of clots.

Dr. Corley, of Cork, favored the semi-erect position, but did not favor the immediate suture of the perineum.

Dr. Wallace, of Birmingham, favored antiseptics, but favored still more absolute cleanliness. He dips his forceps in boiling water and nothing further is necessary. He cleans out the uterus in the early part of the disease, and swabs it out with the tincture of iodine. As to abdominal section, when you have absolute purulent septicæmia nothing helps. When local, help can be obtained.

Dr. Shaw had practised in London for thirteen years and had 1,000 cases of labor. He never washed out a vagina, disinfected his forceps, nor lost a case from puerperal septicæmia.

Dr. A. V. Macan, of Dublin, said that we are all agreed that sepsis is a great danger after delivery. What is the relative danger of sepsis and other causes? If antisepsis reduce the cases so enormou sly the great majority must be caused by sepsis. The remainder we will present to those who think there are other causes. It is a small present. Even in the hetero-genetic sepsis must be introduced. I must say that allowing a nurse to go out to follow the calling after a three weeks' training, as is the case in London, I think to be a disgrace to civilization. Here in the Rotunda we think six months little enough.

Dr. Playfair, in closing the discussion, said: Puerperal fever was not used in the paper, yet that term was heard again and again in the discussion. Cold and chill may produce a puerperal disease, but not puerperal septicæmia. No one is more fully possessed than I with the idea of preparing a patient against puerperal septicæmia. As I said, my allotted time was far too brief to allow me to go over the whole ground; I must omit something. I think there never was an epidemic of puerperal septicæmia; it does not come in this way. It is totally different from cholera and that class of diseases. This is a most dangerous theory. Puerperal septicæmia may be introduced through the atmosphere. The statement of Dr. Humiston is one of the most remarkable statements I ever heard. That the assistant can, and does, do this goes to show what can be done by antisepsis. This would be dangerous teaching, however, because others might not carry out the antiseptic precautions properly and thus do much harm.

Dr. G. Apostoli, of Paris, France, read a paper on

his treatment of fibroid tumors of the uterus by electricity, with complete statistics of all cases treated from July, 1882, to July, 1887.

Dr. Routh, of London, said he felt greatly interested in Dr. Apostoli's paper, especially after seeing his demonstration that morning. It was a method he himself had applied with success, but that success was not constant, and the wounds made were sometimes troublesome to heal. The use of potter's clay and the galvanometer, as devised by Dr. Apostoli, put the whole process on a different basis, and entitled him to the highest praise.

About 1850 he had tried electricity on a case of painful induration of the breast occurring in a lady at the menopause, whose mother had died a year or two before of cancer of the breast. There was also cancer in other branches of the family. He placed an exactly fitting plate of copper on one breast and one of zinc on the other breast, both being covered with lint dipped in a strong solution of vinegar. After two or three months the tumor disappeared and that patient is now alive and well, though over eighty years of age. He did not say it was cancer, but it looked very like it. He had used it on two other women while physician to the Samaritan Hospital in London. In one the tumor was as large as a child's head, in the other as large as a *man's* head. The sound was placed in the cavity of the uterus, the vaginal portion being isolated. A large wet pad, consisting of metal covered with lint, was placed in one case on the belly, in the other on the back, and severally connected with a powerful Daniel battery, which was used in the hospital for actual cauterization. In both wounds were made which were long healing, but both tumors disappeared; one he saw a year after, the tumor being about the size of a mandarin orange. In the other no trace of tumor existed.

Now, Dr. Apostoli stated that in his process the time of operation should be limited to five or ten minutes, and that it was not to be carried to the extent of giving pain. Dr. Routh had found, with English women at least, that if inspired with any prospect of success, they were quite willing, nay, even desirous of having it to the fullest extent, and he had kept them repeatedly with active suffering from twenty minutes to half an hour at a time. Where would be the disadvantage in so doing if the patient was willing and if thereby were certainty of cure?

Again, Dr. Routh wished to know what plan Dr. Apostoli would follow in cases of extra-uterine fibroids, especially if attached to a pedicle. He had not ventured to apply puncture here, as several Americans had done, because some deaths had occurred.

Lastly, Dr. Apostoli had stated that it was not desirable to apply a current so strong that it caused the tumor to move. Now, Dr. Routh had used it to that extent, and it was a source of great joy to the patients, as they saw and felt that a large tumor, fixed and heavy, had become smaller and mobile, and so justified their satisfaction.

The battery he had used acted differently in the same person at different times, sometimes producing great pain with few cells, sometimes none with very many. He would wish to know if this was due to a penchant of the patient, or to a difference of power in the action of the battery.

Dr. Playfair, of London, had no doubt that we had in this mode of treatment great possibilities. As to its hæmostatic properties, I am absolutely satisfied. I have tried it on two cases at Kings College, and with good results. In one of them, a hæmophilic, who had been bleeding from the uterus fourteen days out of every twenty-eight, I gave her three sittings previous to her last expected period, and it lasted but four days. In the other case, of bleeding fibroid, the result has been quite favorable.

Sir Spencer Wells also spoke favorably of the treatment, and related what he had seen at Apostoli's clinic. He saw one hundred women several months or a year after treatment; saw and heard from their own lips of their improvement. Not one complained of pain or discomfort. The health improved, and I saw on the disappearance of the tumor the deposit of fat take place.

Dr. William Duncan, of London, had treated numbers of cases after this method in Middlesex Hospital, where they have abundant electrical apparatus. He reported the case of a young girl who came in blanched with bleeding from a fibroid, and was saved by Apostoli's method. He thought the abdominal electrode of potter's clay rather mussy and awkward. He had tried one of several thicknesses of blotting-paper, but found the patient could bear but 150 milliemperes, which gave excessive irritation and redness to the abdominal wall. The same patient could bear 500 with the potter's clay, and have no irritation. The great point is that we can use such an exact measurement. We should not go too strong. The report from America of the use of 1,008 milliemperes I think is false.

Dr. W. E. Stevenson, of London, had his electrodes made of platinum. In 1883 he had great difficulty to get practitioners to send him patients. Dr. Apostoli has popularized the treatment to such an extent that we now

get many cases. I am using it with good results in St. Bartholomew's Hospital. I have used the steel needles of which Apostoli speaks. I think it impossible to use 1,000 milliemperes as reported from America. I have to thank Apostoli for the potter's clay electrodes, by which we are able to use much higher power.

Dr. Skene Keith, of Edinburgh, reported his experience. His results were quite good, but time enough had not yet elapsed to know whether or not they were permanent. He had visited Apostoli at Paris, and found much of interest and benefit there. In one case, a woman aged sixty, tumor no smaller in March and June than for years before. Five applications after Apostoli's puncture, brought the tumor from a probable eighteen or twenty pounds to a probable twelve pounds. In a second case, after two applications without puncture, a young woman felt much better, when the treatment was obliged to be discontinued. Third case in a bad condition, but now much improved. We have eleven cases of fibroid tumors now, and fourteen other cases in all; we have made one hundred and twenty applications, and had no bad results. I hope this system has rid us of an operation I am not at all sorry to part with.

Dr. Macan, of Dublin, thought if the results can be obtained without a most fatal operation, we are all to be congratulated. The treatment is more applicable to persons of long purses, as it must continue over a considerable period.

He was quite struck this morning with the exhibition at the Rotunda by Dr. Apostoli of his treatment. It will be repeated to-morrow.

Dr. M. Q. McCallahan, of Brailsford, read a paper on

A MONTH'S ABDOMINAL SECTIONS BY MR. LAWSON TAIT.

This consisted of a brief report of thirty-five abdominal sections—of course all recovering, some of them almost snatched from the other world. Several were for septicæmia.

Mr. Tait, who was present, said that the reports just read would show how he selected his cases. This cry about the selection of cases is an absolute falsehood. I care not who says it. One case reported here was one I would certainly have been excused from operating. The woman was brought in, in a state of collapse, almost dead. I had done three hundred laparotomies with but two deaths, and I did not care, I assure you, to add another. I confess it was a temptation to refuse, but I thought I must give the woman a chance for her life, slight as it might be. The result was wonderful. Suppose some of our

"TRAMP VISITORS"

had come along and seen this case. He would have gone away saying, "Lawson Tait is the most reckless operator I ever saw."

Dr. Robert Barnes, of London, expressed unqualified admiration of Mr. Tait and his results. He thought the surgery of the abdomen and the brain were epochs in surgery. He was glad to know that they were British productions, and that we are not indebted for them to the Germans.

Dr. W. H. Humiston, of Cleveland, O., said he was one of those "tramp visitors" who was excluded by Mr. Tait. He had heard Mr. Tait abused and called a liar in Germany, but it was done by those "tramp visitors," scamps, and scalawags, who went once or twice, and went away to criticise. If you want to study a man's methods go and stay long enough to know something about them.

Mr. Tait: The "tramp" does mischief in more ways than one, and

I'LL 'AVE NOTHING MORE TO DO WITH HIM.

He is doing mischief on the other side of the Atlantic. There are two kinds of doctors in America as well as in England. Some know something, others do not. I have had doctors come from America, bring their wives and families, and stay six months. I taught them all I could. Others came once or twice, went away, and knew more than those who had been there six months.

No case of puerperal peritonitis ought to be left to die without the abdomen being opened, and I believe the day will come when we will make a large number of operations in the median line for hernia.

Several other speeches laudatory of Mr. Tait and his methods were made. The speakers all expressed faith, hope, and charity.

Dr. Murdoch Cameron (Glasgow) read a paper on "The Pathology of Abortion;" Dr. T. More Madden (Dublin) on "The Treatment of some Forms of Sterility;" Dr. W. J. Smyly (Dublin) on "The Diagnosis and Treatment of Diseases of the Endometrium;" Dr. Robert Barnes (London) on "The Theory and Treatment of Placenta Prævia." Several other papers were read by title; the session having devoted the most of its time to the papers on the first part of the programme.

Session adjourned.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from September 25 to October 1, 1887.

Smith, A. K., Lieutenant-Colonel and Surgeon. Granted leave of absence for one month and fourteen days, to take effect upon his being relieved from duty at U. S. Military Academy. S. O. 223, A. G. O., September 24, 1887.

Johnson, R. W., Captain and Assistant Surgeon. Granted leave of absence for twenty-one days, to be taken advantage of so that he will return to his station at latest by the middle of October, 1887. S. O. 204, Division of the Atlantic, September 23, 1887.

Duty, W. D., First Lieutenant and Assistant Surgeon. Leave of absence extended one month. S. O. 223, A. G. O., September 24, 1887.

Knudler, William L., First Lieutenant and Assistant Surgeon. Ordered to accompany Light Battery F, Fourth Artillery, from Fort Snelling, Minn., to the International Military Encampment at Chicago, Ill. S. O. 97, Department of Dakota, September 20, 1887.

Official List of Changes in the Medical Corps of the United States Navy for the week ending October 1, 1887.

Means, V. C. B., Assistant Surgeon. Ordered for examination preliminary to promotion.

Derr, E. Z., Passed Assistant Surgeon. Detached from Navy Yard, New York, and ordered to the Nipsic.

Ashbridge, Richard, Passed Assistant Surgeon. Detached from Naval Academy, Annapolis, Md., and wait orders.

Russell, A. H., Passed Assistant Surgeon. Ordered to the Naval Academy, Annapolis, Md.

Herndon, C. G., Passed Assistant Surgeon. Detached from Naval Dispensary, Washington, D. C., and ordered to the Enterprise.

Arthur, George, Passed Assistant Surgeon. Detached from the Museum of Hygiene, Washington, D. C., and ordered to the Naval Dispensary.

Griffiths, S. H., Passed Assistant Surgeon. Ordered to the Museum of Hygiene, Washington, D. C.

Spear, J. C., Medical Inspector. Leave of absence granted until July 1, 1888, with permission to leave the United States.

Medical Items.

The Two Aspects of Phthisis.—In dealing with phthisis we are always prone to regard it mainly either as a true lung-disease or as a constitutional malady, with a pulmonary lesion as its most constant, and usually most important, local expression. The former is the tendency of the student and young practitioner, who are apt to think that through the stethoscope may be learnt most of what is worth knowing about the disease; the latter becomes more and more the view which arises from a wide experience of phthisis, and gradually impresses itself upon us as vitally important, especially with regard to prognosis and treatment. Dr. H. G. Sutton puts this strikingly in his recently published and profoundly suggestive lectures on "Medical Pathology." He says: "In considering phthisis and the treatment of phthisis, do not think of the lungs so much, for it is simply harassing to one's self, and leads to the death of the patient, and no one benefits by it. How can a lung be repaired if there is not sufficient blood going through it? The one object in the treatment of phthisis is to get more blood through the lung to repair it; hence the importance of rest, food, and fresh air." All the main principles in the treatment of phthisis now generally adopted, namely, liberal dietary, tonics, open-air life, change of climate, etc., aim at the improvement of the constitutional condition; the assumption underlying these measures being either that the local condition is inaccessible to therapeutics, or else that it may be confidently expected to improve with the improvement in the organism generally. No doubt since the discoveries of Koch, patient and enterprising efforts have been made to strike at the real origin of the disease by measures directed to the destruction of the tubercle-bacillus. Hence has arisen the wide adoption of antiseptic inhalations, and more recently the injection of sulphuretted hydrogen, carbonic-acid gas, etc. Without seeking to prejudge the results of experiments still in progress, it must, we think, be owned that the net result of this local therapeusis in phthisis has hitherto been very small. Inhalations do good unquestionably, but in what class of cases? Chiefly in old cavities filled with putrid secretion, where the *rationale* of their action is too obvious to require demonstration; but we are still without evidence of their utility in incipient phthisis; in other words, their influence in checking the development or limiting the activity of the bacillus is still an unproved hypothesis. It is to be feared that Koch's discovery, whatever may prove its ultimate value, has done mischief in the department of therapeutics by tending to obscure the view put forward so bluntly and yet so truly by Dr. Sutton, that in the treatment of phthisis we should think of the organism, and not of a single organ. Local measures of another kind have had a wide popularity and a certain utility in phthisis. We refer to counter-irritants, the efficacy of which has been particularly insisted upon by Professor Jaccoud. No one can try them patiently without being convinced of the resulting benefit. They relieve cough, and enable us to dispense with anodynes, but it seems doubtful whether they have any other beneficial action whatever. Many years ago it was proposed to treat early cases of phthisis by strapping the apex, after the fashion adopted so usefully in pleurisy. It may be doubted whether this practice is now ever adopted, and there can hardly be a doubt that the proposal was based upon a radical misconception of the nature and requirements of the disease. All our knowledge now tends to show that phthisis arises from inactivity and not from over-action of the lungs; and so far from endeavoring to limit the play of pulmonary function, one of our chief aims, apart from the actual presence of hemorrhage, is to promote it. While the constitutional view of phthisis is, for the present at least, much the more useful with a view to treatment, Dr. Sutton would, no doubt, be the last to deny the indispensable value of a correct estimate of the local signs. Especially is this so in diagnosis. We may strongly suspect the existence of phthisis before the lungs yield any sign, but we can hardly get beyond the point of mere suspicion. Asthenia, emaciation, night-sweats, and febrile disturbance may combine, with a bad family history, to make us view a case with the gravest anxiety, although the stethoscope yield no abnormal indications; but, while the lungs remain free, we always continue to hope that our suspicions may prove unfounded. Again, the extent of the local lesion is always a very vital point. A patient with a cavity in one apex, while the rest of his lungs is sound, is in a very different position from one in whom we find evidence of disseminated tubercle throughout a large area of the pulmonary substance. The progress of the local lesion, which only local investigation can determine, is also a point of cardinal importance. There is the most radical difference between a case of phthisis in which the local signs remain quiescent for months or years, and one in which they creep steadily onward. The former case allows an opportunity for treatment, and permits a more or less favorable prognosis; the latter case is sure soon to terminate fatally. It is evident that in phthisis it is essential that the relation of the local and the constitutional condition be correctly estimated and steadily kept in view.—*The British Medical Journal.*

Dangers Attending the Oertel Treatment of Obesity.—Professor Rosenfeld (*St. Petersburger Med. Wochenschrift*) argues that Oertel's method of treating obesity is not without danger. The deprivation of liquids tends to augment the relative quantity of uric acid excreted, and thereby may provoke parenchymatous nephritis, with albuminuria. Strict supervision is, he thinks, always necessary. Directions relative to mountain-climbing and to abstention from liquids ought to be followed with prudence by persons whose habits have previously been opposed to this regimen; they should cease the treatment immediately upon the appearance of dyspnœa, vertigo, and other symptoms indicative of cardiac incapacity. The attention of the physician ought to be directed to the heart, the stomach, and the urine.

Precocious Children.—The precocious child is constantly saying things so epigrammatic and brilliant as to call out the wonder of admiring parents and relations; and oftentimes these strange, unnatural utterances are made the subject of remark in the presence of the child, and some newspapers often devote a column to this bright and abnormal child-talk. Nothing could be more harmful than such encouragement of a condition that is out of all harmony with healthful mental and physical growth. As a rule, the precocious child is of a strumous or scrofulous diathesis, with a fair, brilliant complexion, blue eyes, and golden hair, beautiful to look upon according to popular standards. He is delicately sensitive to mental impressions, and alive to the conversation of persons much older than he. He generally goes on in his unique career, outstripping his brothers and sisters, as well as his schoolmates, in the committing of tasks at school, as well as in the reading of books far beyond their comprehension. This generally goes on until the age of puberty, when he begins to falter. The hectic flush is seen upon the fair cheek, the eye becomes more brilliant, and the finer and the spiritual elements come out with almost supernatural intensity. By and by a slight cough arrests the attention; and, before the fond parent is aware, phthisis tuberculosis has laid the foundation for premature death. Now, what shall be done to save such children, and make them develop into healthy men and women? First, we would say, Let them severely alone. By this we mean, do not encourage the precocious development by pushing the child ahead and showing the foolish weakness of exhibiting the child to visitors, or displaying him at the performances of Sunday-school concert or public-school exhibitions.

We always pity the poor victims of such scenes, who come before audiences and recite standard poems or sing *cavatinas* to astonished crowds in heated rooms, amid the glare of gas-lights and dressed in tawdy finery, irrespective of the climate or weather. When we look upon their pale faces and attenuated legs, we wish we had the power to send them home and put them to bed. Second, be simple with such children; keep them young, and encourage them to talk child-talk, to read child-books, and to play with other children. Do not let them remain in the house in company with the older folk, when the bright sun is shining, and the other children are romping upon the green with all the glorious freedom of childhood. Of paramount importance is the physical training of the precocious child. From the very nature of the case, all undue excitement must be avoided. The full quota of sleep must be insisted upon. No late hours should be allowed, full of the amusements that are such a strain upon the nervous system. The diet should be of the simplest character, consisting of food containing all the elements of nutrition, like milk, bread, and soups. Confections, condiments, and fancy dishes should never be set before children. Give fresh air in abundance, and insure the child to go out of doors in all kinds of weather.—*Popular Science Monthly.*

Differential Diagnosis of Ulcers of the Face —

LUPUS.	RODENT ULCER.	EPITHELIOMA.	SYPHILIS.	STRUMA
In young people.	In elderly patients.	In adult life.	In children.	In children.
Attacks skin of ala of nose.	Favorite position—the skin of lower eyelid.	Attacks junction of skin and mucous membrane—lips, nose, eyelids.	Affects corners of mouth and margins of nose with deep scars.	Superficial eczematous ulceration, with crusting on lips and nose, leaving no scars behind.
Commences in a discolored tubercle.	Commences often in a brown horny patch.	Commences as a small, irregular tubercle.	Commences often in vesicles or blebs.	
Ulceration superficial and slowly spreading across the cheeks, healing at one part and breaking down at another.	Spreads steadily with no induration. No tendency to heal.	Infiltrates from first and extends rapidly.	In adults. Superficial, more or less circular multiple ulcers about any part of face, with scars of healed ones; or, deep, unhealthy cavities from breaking down of gummata.	
No glandular affection.	No glandular affection.	Glands involved		
Not usually painful.	Not painful.	Painful.		

Christopher Heath, London.

A Discussion on Pachydermia Laryngis, at the Berlin Medical Society, took place on July 27th. Professor Virchow said that his researches and those of Rainer had shown that there is a certain analogy between the mucous membrane of the larynx and the skin, and there are therefore diseases of this region which have great similarity to diseases of the skin. Two processes must be differentiated: one of them affects the mucous tissues mostly; the other, the epithelium, and renders it similar to a thin skin. Both diseases are chronic inflammatory processes. The latter was called by Virchow, *pachydermia.* There are two kinds of pachydermia, the *diffusa* and the *verrucosa.* The parts most liable to diffuse swellings are those where there is not so much connective tissue, especially the processus vocales of the arytænoid cartilages. Here frequently occur swelling and epidermic hypertrophies which may be looked upon as cancerous. It is not right to call such neoplasms "papillomata;" they must be called epitheliomata, and a distinction must be made between *hyperplastic* and *heteroplastic* epitheliomata. The microscopical difference between these forms is often difficult, and is dependent on the nature of the basis of the neoplasm. If in the basis is epithelium, especially of alveolar structure, there is a carcinoma; but if the basis is of normal structure, the neoplasm is benign, and the same if the surface is covered with papillæ. Such papillary growths are found not only on the vocal bands, but also in the interarytænoideal space, the epiglottis, and also on the pharynx and uvula. Such growths must not be viewed as fibromata. Virchow illustrated his lecture with specimens and sketches. Such growths can easily recur, but it must be allowed that by energetic treatment they can be finally perfectly destroyed. They can also disappear as spontaneously as cutaneous warts will do. Waldeyer could positively state that wherever there is a pavement epithelium there are also papillæ, and he does not believe that the epithelial growths occur without papillary growths also. Virchow stated that in his case he had not seen papillæ. Waldeyer maintained that very much depended on the direction of the cut. If it is parallel to the vocal bands, it can easily be between the papillæ; but if it is a cross direction they are always seen. Lewin agreed that he always found pavement epithelium combined with papillæ.

Salicylate of Soda in Whooping-cough and Migraine.—The remedies recommended for the treatment of whooping-cough are as varied as they are generally unsuccessful. However, to the long series another has been added, which we are assured gives speedy relief. The remedy in question is salicylate of soda. Forty grains are given in three or four doses in the afternoon, with the result that the fits of coughing diminish rapidly, and vomiting disappears altogether. I have never tried salicylate of soda in such cases, so I cannot vouch for the benefit that might be derived from it, but for migraine or sick nervous headache, salicylate of soda is an absolute specific. Its action is very speedy, for one hour after taking it all trace of pain is gone, so that persons who are habitually laid aside for the whole day with migraine, and only finding relief in a prolonged sleep, can be sure of being quit of it in the early morning, and consequently the mid-day meal can be thoroughly enjoyed, and business pursuits can be as freely as ever indulged in. The dose is twenty grains in a little peppermint-water on rising, or when the pain commences, and in half an hour after a similar amount. At the end of an hour, as I have already said, the pain has disappeared completely. — Dr. Hastings Burroughs, *Providence Medical Journal.*

Bone Hemorrhoids.—Under this title a correspondent of the *Cincinnati Lancet-Clinic* reports the following suggestive case: Mrs. H. had been suffering for a great many weeks from a lateral swelling of the rectum, which gave her severe pain continuously, and was highly augmented during the act of defection. She applied to a prominent specialist for examination. He promptly diagnosed hemorrhoids, and instituted treatment by injections which he gave fortnightly for a period of two or three months without benefit. The patient becoming discouraged, applied to another specialist for treatment, whose diagnosis was the same as that of Specialist No. 1. After first treatment from Specialist No. 2, the pain became so severe that she was obliged to resort to means of relief to reduce it. Accordingly, he was called, the specialist not being at hand, and made an examination, and found protruding from the right side of the rectum a tumor conical in shape and livid in color, and very sensitive—indeed, so much so that the least touch would cause her to scream and writhe with pain. In the centre of the cone-shaped extremity of the protuberance was an aperture from which pus was discharging very scantily. After painting the region with four-per-cent. solution of muriate of cocaine every two or three minutes for a quarter of an hour, he introduced a probe, and without difficulty came upon a hard substance, which upon being extracted proved to be a beef-bone, pyramidal in shape, about one inch long and three quarters of an inch wide at the widest part. The patient made a complete recovery within two or three days, with only one treatment, "without severe pain, knife, or ligature."

The Proper Method of Examining the Breast.—Dr. Gross says that to examine properly a woman's breast, she should be lying on her back. If examined in other position, it can be so manipulated as to convert it into any tumor. When on her back, examine by pressing the tips of fingers back through the breast against the chest-walls, and not by pinching the structures up between the fingers.—*College and Clinical Record.*

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Original Articles.

A PHYSIOLOGICAL BASIS FOR AN IMPROVED CARDIAC PATHOLOGY.[1]

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I.

AFTER having been engaged for some years past in continuous investigation of the physiology of the hearts of animals, it occurred to me to inquire what new light these investigations, and those of others of a similar kind, might throw on the pathology of cardiac disease. On comparing the best articles of recent date in standard works, and also recent utterances in the form of special courses of lectures, I became satisfied that a conviction, deepened more and more during the course of my investigations, was well founded, viz.: That with our present physiological knowledge, the usual explanations of pathological conditions of the heart are too *mechanical*. This has probably to be credited to physiology, however; for with the progress made in experiment by means of complicated apparatus, we seem to have got into a mechanical way of viewing physiological processes; in other words, our thought smacks of the workshop—the laboratory. But nature refuses to be interpreted by any one rigid method. To have a just idea of her *modus operandi* in an organism we must combine all possible methods of observation, and even then humbly admit that we see but a small portion of the truth. But in asking the reader to consider what I have to present, it is but right that I should not only give him the grounds on which my opinions are based as evidence, which he can weigh for himself, but that I should candidly tell him of the paths I have been treading, and leave him then to judge of the value of the opinions advanced. Well, then, during the past three years I have studied, by the comparative method, the hearts of the water-tortoise, the sea-turtle, the alligator, the fish, menobranchus, and the snake. The safe method of direct observation with the use of simple apparatus has been employed, and the heart has in all cases been left *in situ* and kept in good condition as to nutrition, or the relation between the latter and the result has been noted. These methods are not the ones most fashionable with physiologists at the present day; they are very laborious and time-consuming, but, in my opinion, they give results which, so far as they go, are reliable; and they teach a thousand things which to the physician are fraught with instruction. One's opinions on any subject are determined not alone by what he can clearly put into words, but also by much that only the individual immediately engaged can ever appreciate; and the value of conclusions, therefore, must always depend a good deal upon the mind that forms them, as well as the methods by which they are reached. I shall, then, in this paper, endeavor to give a basis for the views I advance, at once clinical,[2] pathological, and physiological, or, in some instances, rather biological. It will be borne in mind that almost all the knowledge which I purpose to use, so far as the cardiac nerves themselves are concerned, has accrued from the investigations of the last half-dozen years, and especially the last three or four. I propose, in this paper, to attempt to substitute for mechanical explanations as applied to cardiac pathology, neuro-trophic ones; to show that what has in many cases been denominated the cause of such and such an affection, has really only been the *occasion*. It will be impossible to cover the whole ground of cardiac pathology, so I must endeavor to make the character of the explanations I would apply, clear, rather than to furnish detailed solutions for each case.

It will be found that writers on cardiac diseases have been accustomed to lay great stress on sexual excess as a causative factor in various affections, including the so-called irritable heart; and many writers[1] are of opinion that "heart-strain" is a real cause of break-down in athletes; but explanations of this result are either wholly wanting or are mostly of that mechanical kind, the validity of which I shall call in question. I have not the least doubt that these views, as to the actual connection of break-down with the factors associated with it, are correct in fact: and the explanation I would submit is to this effect: In every living organism there is a possible maximum of vital force. In organisms with a nervous system there is a certain similar maximum of available nervous energy; the amount depending on the condition of the animal at the time—just as with a Daniell's cell there is only so much electricity generated, even when in the best possible condition—which may be very much less if the conditions of the battery's action are not perfect. If a portion of this electric force be diverted along one conductor, there is so much less left for other possible channels; thus it is with the nervous system. To apply this, first, to sexual excesses and their consequent effects on the organism, the heart included.

When the sexual orgasm—well so called—is regarded physiologically, it is seen to involve the most violent discharge of nerve-force that ever takes place in a normal animal. It is, in fact, comparable to a pathological convulsion. It is physiologically justifiable only when there is a surplus of nerve-force; and then it may produce that equipoise of forces after which nature seems everywhere to be striving. But except under these conditions it is a drain upon the store of vital force incomparably the greatest known to us. What happens in the oft-repeated sexual act is well illustrated by the functional action of electric fishes. The electric discharge is correlated in these animals with a corresponding nervous discharge, the physiological relations of which are now well understood. But after a certain number of discharges and in a very short space of time the fish is exhausted, and requires rest before there can be a functional repetition. Sexual excess implies that there is loss upon loss. It remains now to show how this is related to enfeeblement and disease in organs distant from the nervous system.

I propose to attempt to show that there is *continually* flowing out from the nervous centres, along the nerves, influences *essential* for the nutrition of the tissues: and that every functional act implies a corresponding nervous outflow, not only as a part of the connected chain of events for the manifestation of that function, but for the

[1] Read in abstract at the meeting of the Canadian Medical Association, August 31, 1887.

[2] Unless otherwise announced, my authority for clinical and pathological statements will be the articles on cardiac diseases in the Am. System of Medicine (Pepper), in the first series of which, especially, there is a determined effort evidenced to place the views advanced upon as good a physiological basis as the knowledge then available permitted.

[1] Am. Syst. of Med., vol. iii., p. 629 et al.

actual healthy nutrition of any tissue to which nerves are supplied. I propose to go further, and show that the functional action of a tissue (*i.e.*, an aggregation of cells) is but one of a series of changes which are closely bound up, if not identical, with the nutrition of that tissue.

The meaning of this will be clearer after the citation of a few facts—clinical, pathological, and physiological. That constant worry, grief, and the whole class of depressing emotions are associated with impaired appetite and nutrition is a matter of the commonest observation; and that the opposite class of emotions leads to contrary effects is equally well known. But what has not been at all clear is the *rationale* of this really wonderful connection.

Both pathology and physiology assist in the explanation. The most remarkable results have followed the secondary suture of nerves, accidentally divided long before. Thus in a case in the Montreal General Hospital, in which Roddick[1] sutured the sciatic nerve that had been divided seventeen months previously, the healing of two troublesome ulcers followed immediately. To what else could this possibly be due, if not to influences passing along nerves from centres of nerve-force—we might say, of vital force? Such cases make more clearly, perhaps, for the view I am advocating than others in which the anatomical pathological changes in the nerve-centres have been well known.[2] The dependence of paralysis on localized central nervous changes has long been recognized, though the meaning of the connection has not been hitherto clearly pointed out. The fact that in some forms of paralysis (hysterical) there is not wasting, goes far to establish the view I entertain of a nutritive influence *constantly* passing along nerves. A skeletal muscle degenerates after section of its nerves; and if the result is delayed when electricity is used, it is, I would suggest, because this agent simulates nerve-action, though imperfectly. There are physiological experiments which are more definite if not more convincing than the pathological evidence. Bernard,[3] more than twenty years ago, and Heidenhain[4] somewhat later, showed that, after section of the nerves of the salivary glands, a flow of saliva followed, which soon reached a maximum, and declined as regeneration of the nerves took place. This so-called "paralytic" flow of saliva is not an evidence that secretion is independent of nerve-influence, but rather of the view I am aiming at developing in this paper—that in a gland secretion is only a manifestation of the healthy life of its cells, an *essential* part of their nutritive history. When the nerves of a gland, after section, are not regenerated, such gland undergoes degenerative changes (Heidenhain). As is well known, the changes in the cells of the digestive glands dependent on nerve-stimulation can be observed microscopically, even in the living gland. As to whether there are separate[5] nerve-fibres concerned in the various processes which constitute the cycle of changes in gland-cells is, for my present purpose, a minor consideration. That there should be division of labor in nerve-fibres, as elsewhere, seems *a priori* probable. But it is important to have it clearly understood that the changes effected are directly dependent on nerves, and not necessarily on blood-pressure or the blood itself. The well-known fact that there may be secretion of saliva in a decapitated animal, on appropriate nerve-stimulation; and that on stimulation of the sciatic nerve in an animal already dead, as I have myself demonstrated in the cat, there may be sweating of the corresponding foot, shows clearly that while the blood supplies the crude pabulum, the real life of the tissue is absolutely dependent on nerve-influence; and be it noted that unless this *functional* life is maintained the tissue, as a tissue, whatever it be, gland, muscle, or what not, degenerates. Not to multiply instances, I think it will now be clear that the ground I have taken as to the constant outflow of nerve-influences on all the tissues being essential to their welfare and functional integrity is well supported by different kinds of facts. The reason that functional activity is bound up so closely with the *highest* welfare of a tissue is, that more of the vitalizing nerve-influence is called forth under such circumstances. I wish especially to insist that the functional activity of an organ is in reality but little more than an exaggeration of its resting state. This is shown by the chemical products of muscular metabolism being only increased, not different, whether the muscle be at rest or in action.

I do not forget that there are groups of animals in which no nervous elements of any kind have yet been recognized; but, in the first place, the nerve-horizon, like the palæontological, is being pushed lower and lower by our improved methods and instruments; and, again, such organisms are of the simplest kind, and their co-ordinations are few and uncomplicated. In mammals, and especially in man, the nervous system is the sovereign—a somewhat considerate one, however, ready to listen to the slightest prompting from any tissue however humble, but one whose subjects have so long been dependent on him that now they are absolutely unable to take care of themselves, or even subsist without him, however abundant the nutritive pabulum may be.

Granting this position to be sound, it is not difficult to understand why sexual excesses, with their enormous drain upon the nerve-forces, should leave a residue inadequate to meet the demands of the various tissues and organs. The heart is constantly in need of nerve-support; and when that is not forthcoming, the various evidences of imperfect nutrition manifest themselves, such as irregularity, dilatation, etc. The cause of the "irritable" heart is thus patent. The sudden and marked alterations in blood-pressure, in the rate of the heart-beat, and other disturbances owing to nervous overflow, effects manifest, *e. g.*, in the respiratory system, through its own centre—are all causes, or rather occasions for the cardiac disturbance; but, as I view the condition of things, quite subordinate to the general loss of nerve-force—the emptying of the reservoirs of life, as this view will warrant denominating the nerve centres.

Testing the question of athletic strain from this standpoint, we proceed to ascertain how the facts harmonize with the theory. It is notorious that some men cannot successfully undergo training at all from the athletic point of view. They every now and then break down somewhere, if not generally; they "go off training," as the expression is. The meaning of this is, simply, that the organization of these men is such that it cannot bear the nutritive strain demanded by the excessive muscular exercise; and if nutritive capacity is dependent largely on the supply of central nerve-force, it is easy to understand the condition. The break-down of athletes is often in the digestive organs. Force has been unduly diverted to the muscles, and insufficient is left for the other tissues. Consider what happens with an average college racing crew. Such men are supposed to do some study for at least a portion of the year; they do not understand their capabilities like old professionals; and, above all, the circumstances in which they are placed, with the eyes of a whole college, and, as they feel, perhaps, of an entire country upon them, they are the subjects of nervous exhaustion, owing to undue emotional excitement, for weeks before the contest. Often they sleep badly for days prior to the final event, and enter the boat conscious that they are not at their best. But they are determined to win or die; and with corresponding results in not a few cases.

I am persuaded that we are justified in assuming the existence of what I shall denominate *residual nerve-force*. On this, Nature does not usually call, even when a man

[1] Canada Med. and Surg. Journal, January, 1877.

[2] Graham, of Toronto, reported, at a recent meeting of the Ontario Medical Association, a fatal case of herpes of the face, in which lesions had been traced microscopically in the ganglion of the nerves of the affected region.

[3] Robin's Journal de l'Anat. et de la Phys., i, p. 511.

[4] Breslau Studien.

[5] Journal of Physiology, vol. vi.

makes powerful efforts; but under extraordinary excitement, even this last resource is drawn upon, and invariably with the result of leaving the organism more or less bankrupted.[1] Such happens often, I believe, in the boat-races of amateurs. One of the most famous oarsmen in the world informed me that for two or three days before a race he exercised very little, slept more than usual, and in various respects allowed his organism to have its own way, so to speak. Being of an equable mind and a model physically, with especially fine circulatory organs, he never seriously broke down. He economized his forces, which gathered head before the excessive demand was made upon them. One thing is certain, a man cannot use his mind actively and be an athlete at the same time; which is plain enough, according to the views I am maintaining, but is not explicable, so far as I can see, on any other grounds.[2]

Physiologists, as a class, have paid little attention to comparison of results obtained from the study of different groups of animals (the morphologists have been wiser in their generation); while individual differences have, too generally, either been ignored or eliminated as the evidences of unsuccessful or undesirable experiments. In gaining accuracy, they have lost in breadth and depth of vision. Being convinced of the dangers surrounding, if not necessarily incident to, such a course, the comparative method has pervaded all that I have myself worked out in cardiac physiology. H. C. Wood,[3] also, has pointed out that in certain races of hunting dogs and in wild rabbits the vagi are capable of exercising unusual control over the heart, etc. He infers that a similar difference may exist in successful athletes. My own papers abound in recognitions of individual differences of every kind. Physiology must recognize such, if ever it is to explain facts fully for the physician.

There are some remarkable facts in connection with heart disease which have never been adequately explained, but which seem to follow almost as corollaries from my theory. Let us examine hypertrophy and dilatation in the light of these explanations. Hypertrophy occurs when the heart does increased work—when the intra-cardiac pressure is augmented. The obstruction leading to this is not the real or efficient cause of the hypertrophy; nor is the increased flow of blood to the muscular tissue, during and after contraction, the real cause, any more than increased feeding is the cause of unusual growth in an organism as a whole. The growth depends on the assimilative capacity which resides in the tissue itself, and which is dependent on the vitalizing nerve-force (neuro-trophic influence) sent to it from some centre. How is it that there is failure of compensation in hypertrophy? How is it that such failure is sudden in some persons? How is it that under circumstances when the mechanical strain on the heart is approximately equally great for each person (racing crew), only one may suffer from any form of cardiac failure? How is it that dilatation may occur suddenly from some emotional strain, and be recovered from? These and many other apparent puzzles become clear enough if we suppose that the neuro-trophic influence, necessary for the maintenance of every tissue in health, is not forthcoming. I wish especially to insist that in this respect the heart is not exceptional. It falls under one broad law which applies to the whole vital economy. There are, of course, cases in which the failure—be it local softening, myo-carditis, or one of various other lesions—is clearly owing to deficient pabulum, the blood not passing freely into the coronary arteries. Such cases find a ready explanation.

It is pleasing to notice that we are beginning to realize that there may be serious disease apart from any changes in a tissue recognizable by the microscope. Medicine is emerging from the dominancy of anatomy, with its grosser conceptions. Niemeyer,[1] quoted by Osler,[2] who assents to his view, held "that it is not possible by means of the microscope to recognize all the alterations of the muscular fibrillæ which diminish the functional power of the heart." I have myself elsewhere[3] drawn attention to serious physical changes having been experimentally *demonstrated* in arteries, with at the same time no changes of their coats, even microscopically recognizable and have suggested some important questions for consideration. If we but once thoroughly realize that the most pronounced functional changes of an organ are not necessarily connected with other than molecular changes, I am convinced we shall be in harmony with the best teachings of science, and be prepared for advances both scientific and practical. A good deal of interest has been manifested in mimic aneurisms, so-called. Osler[4] has very recently directed attention to a case in which there was dilatation of large arteries with no visible lesions. This also finds its explanation under the neuro-trophic theory which I advance. Such dilatations may be temporary (mimic aneurisms); they usually occur in nervous persons; and they are probably due to molecular changes in the vessel-wall, under the influence of the nervous system, in some way not yet clear as to details. That some molecular change takes place in the nervous centres themselves as a consequence of sexual excesses is evident, when we consider the impairment of mental power, and especially of memory, that follows, and which is gradually recovered from in favorable cases after a complete correction of the habits. The fact that the changes are molecular at first in many, if not all diseases, has encouraging aspects to it. What the nervous system has done under worry, etc., it may undo. I would point out, by the way, that the Weir-Mitchell method of treatment *practically* recognizes the neuro-trophic theory; were it not so, the feeding part might do more harm than good. If my views are correct, it is possible to make exercise a remedy for cardiac and other diseases—in fact, such follows as a natural sequence to the theory. But, above all, the question must often be, "Canst thou minister to a mind diseased?" The very fact that such ministration has been successful is also in itself an additional confirmation of what is now advanced. Flint[5] has well pointed out that in recruits there is often much mental disturbance; otherwise the merely mechanical strain on the heart would probably be, in many a case, quite insufficient to induce the "irritable heart."

It is a singular fact that in some maladies of the heart the left ventricle is more affected than the right. There are reasons for this beyond those that appear upon the surface, such as increased mechanical strain of this ventricle, which is, of course, from my point of view, only the occasion, not the real cause, which is increased nutritive strain. I submit some other facts for consideration. In the evolution of the heart in the animal scale we have a series of graded complexity: First, a simple pulsating tube, as in worms, gradually getting more complex, till, in the lower vertebrates (fishes), we have the *sinus venosus* and the single auricle and ventricle; in one group of fishes (dipnoi) a second less perfect auricle is found; in the batrachians two auricles, both well developed; in

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The effort that sacrifices the constitution may be a mental one. The following incident will illustrate this: A clergyman, when crossing the Atlantic, a disaster having overtaken the ship on which he was a passenger, found himself suddenly in the midst of panic-stricken fellow-travellers and crew. The officers had lost all control. This man by superhuman efforts restored order; but the task bankrupted his vital (nervous) forces, and he was never afterwards capable of anything in which serious responsibility was involved. I relate this incident on the authority of a well-known clergyman of the same denomination as the unfortunate hero himself. In a minor degree I think we may see the principle often illustrated. For example, it throws much light on the evils of competitive examinations.

[2] I speak, in the matter of athletism, both from observation and experience. Some years since I did a good deal of hard rowing, though I never felt warranted in entering upon competitive trials. The only occasion on which I noticed marked irregularity of my own heart was on rowing in the evening of a day spent in close mental application. This experience conveyed a practical lesson to me upon which I have acted ever since.

[3] Quoted by Osler in Am. Syst. of Med., vol. iii., p. 632. Article: Dilatation of the Heart.

[1] Text-book of Medicine, vol. i., Am. ed.

[2] Am. Syst. of Med., vol. iii., p. 633.

[3] Journal of Comp. Med. and Surg., vol. viii., No. 2.

[4] Canada Med. and Surg. Journal, July, 1887.

[5] Am. Syst. of Med., vol. iii., p. 702.

the turtle-tribe a partially divided single ventricle; while it is not till the alligator is reached that we have the five chambers separate and complete. After watching the hearts of the various cold-blooded animals I have studied, through all their different phases of nutrition, I was able to determine the relative vitality of each part of the heart, and to reduce the results to the form of a general law,[1] viz.: That the part of the heart soonest to die, the conditions of nutrition being equal, is the ventricle—and of this the right moiety, when the chamber is not completely divided off; or, if there be two ventricles, the right has the greatest vitality. Invariably the *sinus venosus* is the last to pulsate. The hearts of the higher mammals also conform to this law. I have seen the great veins at their junction with the heart (representing in part the *sinus venosus*) pulsating, in a rabbit, long after the whole of the rest of the heart had ceased to beat. The reason of the greater vitality in mammals of the parts indicated is clear only on the principles of evolution. It is scarcely a metaphor to say that man carries in his bosom something of the fish, tortoise, snake, etc., and well for him he does, otherwise his years would probably be fewer than threescore-and-ten. The left ventricle is a late and special development to meet the needs of an exceedingly complex organization. It must be highly sensitive, to respond to the countless adjustments required of it; but that very sensitiveness exposes it to disease.

It is not possible to understand in a broad sense the relations of cardiac diseases in man, without bearing in mind the enormous and disproportionate development of his cerebral lobes. The cerebrum is constantly interfering with the action of lower centres and modifying the whole life of the animal. Witness reflex fainting by vagus-inhibition effected through afferent nerves from the eye, the ear, etc. (appalling sights, evil tidings); but the countless inhibitions or other interferences, less striking, pass unnoticed by us, though not unfelt in the heart's nutrition. Man is essentially a worrying animal; fortunately he is also the most susceptible to emotions that are replete with health-restoring energy, which can be readily understood in the light of my neuro-trophic theory. In this connection the cases recently alluded to by Broadbent[2] in his Croonian lectures are most suggestive, and are confirmative of these views.

I wish to bring to the notice of philosophic physicians certain observations and experiments which deserve to be better known. Kronecker has drawn attention to a certain peculiar and (in the dog) fatal behavior of the heart, which consists in an unco-ordinated fibrillar action of the ventricles, wholly beyond vagus-control. It may be induced by needle-puncture, electricity (and when the heart is much exhausted, even by manipulation), applied to a certain region (regions?) of the heart. Kronecker thought it due to injury of a hypothetical co-ordinating centre; but from my own study of the hearts of the cold-blooded animals, as well as from what I have seen of it in the dog, I am inclined to attribute the phenomenon to the independent action of the muscular fibres themselves when their nutrition is bad; or, at all events, not through any action of ganglion-cells, though possibly the nerves of the cardiac substance may be concerned. Some stimulus is, of course, required—often but a slight one, to induce the result. Kronecker thought this behavior of the heart explained why very slight wounds of this organ sometimes proved fatal; while at other times larger ones seemed of little consequence.[3] I would suggest that this peculiar action of the heart in lower mammals, etc., throws much light on the behavior of the heart of man in certain ill-understood conditions, as in angina, especially when fatal, and, perhaps, in thrombosis of the coronary arteries; indeed, in any condition in which there is defective nutrition of a well-pronounced character. I have elsewhere[1] called attention to certain experiments on ligating the coronary artery which deserve special mention in connection with the pathology of those affections referred to above. Flint[2] and others have argued well for ischæmia as a cause of angina; and the experiments just referred to, as well as Kronecker's and my own, lend strong additional support to such a view. I would, however, substitute *mal nutrition*, of which ischæmia may itself be the chief cause, as a conception of the cardiac condition more in harmony with the most recent physiological views. The nervous element must not be left out, for certain attacks of angina (as in Hunter's case) are directly traceable to emotion. The possible effects of vasomotor nerves must also be taken into the account, and largely, too.

Before passing on to the second part of this paper, I may remark that there are many points either referred to or developed in the recent lectures of Macalister, and also of Warner,[3] on allied subjects, which tend to strengthen the theory of nutrition I am maintaining in this paper, but to which the limits of space will not permit me to refer.

II.

It now remains to indicate: (1) Which nerves constitute the channels by which nervous forces reach the heart and affect that organ; (2) what the manifestations of such influence really are. It is especially on this part of the subject that my own and others' researches on the cardiac nerves have thrown a new light. It will be necessary, however, to deal with this portion of the work much more briefly than, perhaps, might be desirable. But those who are inclined to look more carefully into the matter will probably be willing to consult the original papers.[4]

The depressing action of the vagus-nerve was that chiefly regarded by physiologists, till very lately. As will be seen, this depressing action is but a part of the whole, and the less important part by far. After the most careful examination of the action of the pneumogastric nerve on the heart in the water-tortoise[5] (Slider Terrapin), under every conceivable condition of cardiac nutrition, I was led to conclude that this nerve was essentially bound up with the best welfare—the highest nutritive interests—of the heart. I found, further, that a comparison of hundreds of experiments justified the law I then laid down, viz.: *That the beneficent action of the vagus was in direct proportion to the needs of the organ at the time.* When I discovered this connection, which all my own subsequent investigations, as well as those of others, have only tended to strengthen, I felt that there must be a world of physiological meaning in it, and a significance of the highest moment for medicine. Instead of dwelling on multitudinous details, I shall refer to a single experiment which speaks volumes in itself. In a tortoise that had been the subject of experiment during two successive days, the sinus and auricles were beating but slowly and feebly; the *ventricle, with the exception of a few fibres, had ceased.* After a series of stimulations of the vagus, the rhythm was more than doubled, and the ventricle, which at first responded only to every two or three beats of the auricles, *then pulsated after each beat* of the auricles. It will be noted that similar though less marked good effects have been witnessed as a result of vagus-stimulation in all the animals examined by me; and I have seen no exception to this,

[1] The Rhythm and Innervation of the Heart of the Sea-turtle. Journal of Anatomy and Physiology, vol. xxi.
[2] British Medical Journal, March and April, 1887.
[3] The writer has given an account of this phenomenon in the Medical News for July 9, 1887.

[1] Canada Med. and Surg. Journal, February, 1887.
[2] Am. Syst. of Med., vol. iii., p 758.
[3] British Med. Journal, 1887.
[4] My own researches on the cardiac physiology of the Sea-Turtle (first paper, the Slider Terrapin, the Fish, and Menobranchus, have appeared in the Journal of Physiology, vols. v., vi., vii., and on the alligator, the Sea-Turtle (longer paper), in the Journal of Anatomy and Physiology, vols. xx., xxi. My paper on the heart of the snake is to appear in the October number of the Journal of Anat. and Phys. for the current year.
Most of the papers by others on the innervation of the heart will be found in the Journal of Phys. A paper on the heart of the frog by the German physiologist Heidenhain appeared in Pflüger's Archiv, bd. xxvii.
[5] Journal of Phys., vol. vi.

though I must have stimulated the vagus thousands of times during the past three years. But the sympathetic accelerator fibres and the sympathetic main stem have appeared in a new light also. The sympathetic cardiac accelerators have now been pretty thoroughly worked out both anatomically and physiologically, by others and myself, for several cold blooded animals.[1] When working on this subject in the terrapin certain remarkable, puzzling, and hitherto unobserved effects were noticed. Thus, not only did stimulation of the part of the main sympathetic cord (in which the accelerator fibres run upward to the ganglia, from which they finally proceed as isolated branches to the heart) produce augmentation of the force and acceleration of the rate of the beat; but as I pointed out, for the first time, this primary effect was followed by slowing and irregularity of the heart. It was thus seen that the vagus and sympathetic had a physiological resemblance; and what I wrote then, "The vagus is a sympathetic with inhibitory fibres, the sympathetic a vagus without them," has proved true. I had noticed[2] that the immediate effects of stimulating that portion of the main sympathetic stem in which the cardiac accelerating fibres run had, in one instance, produced effects as remarkable as those cited above for the vagus. It was observed that both nerves had the power of augmenting the heart's activity; with the vagus it was an after-effect, with the sympathetic a primary one. In the case of the vagus the slowing, irregularity, or arrest is primary; with the sympathetic it is secondary. The nerves were thus seen to be physiologically similar, and yet different. Gaskell,[3] by stimulation of the sympathetic fibres, which run in the vagus trunk, while still separate within the cranium, in the frog, got purely depressing effects; and I found irregularity and other evidence of a depressing influence on similar intra-cranial stimulation in the terrapin.[4] The evidence was thus accumulating to give a substantial basis to Ransom's[5] conception that there might prove to be in the vagus true inhibitory fibres which tend to increase *constructive* cardiac metabolism, and sympathetic fibres which favor *destructive* metabolism. Gaskell[6] has, in a more recent paper, further elaborated this theory; so that now we may feel warranted in regarding the vagus as being demonstrably a vago-sympathetic nerve. It therefore follows that those influences of a nutritive character which reach the heart pass by three different avenues: (1) As conservers, constructors of cell-tissue, by the vagus in its inhibitory fibres proper. (2) With the reverse action, by sympathetic fibres in the vagus itself and in the main sympathetic stem, finally to emerge as accelerator (augmentor) nerves. When the vago-sympathetic nerve is stimulated, the inhibitory fibres have apparently the predominant effect; that they continue to do so to the very end of the chapter I am, however, by no means certain. It is true, these conclusions are founded chiefly on the study of cold-blooded animals; but it is likely that so general a law holds in the main for mammals, including man. In making the applications to pathology it may, first of all, be remarked that it is within every observer's experience that events may take place in the cerebrum which inhibit or otherwise influence lower centres. Witness the cessation of labor-pains on the entrance of the accoucheur; the behavior of the sexual centre; the inhibition of the defecating centre by mental preoccupation at the usual period of its action.

Hewan,[7] reporting his own case, states that after intense study his heart-beat fell from 72 to 28 in the minute. It is possible to interpret this result either by the increased action of the inhibitory fibres or deficient influence from the sympathetic fibres. At all events, there was cardiac disturbance, plainly traceable to the nerve-centres.

What is the mechanism of cardiac acceleration? Usually Marey's law holds that "the rate of the beat is in inverse ratio to the arterial pressure." In disease, however, the heart has often to choose between two alternatives, either to contract against undue resistance or not to contract at all. Normally, as Sewall[1] has shown, the depressor nerve (rabbit) acts as a reporter to the cardio-inhibitory centre, indicating the degree of intra-cardiac blood-pressure, and thus the heart in health conforms to Marey's law. In a case of dilatation, following, say, an athletic contest, it is possible to understand that the destructive metabolism, brought about by the accelerating sympathetic fibres, was so far in excess of the constructive effected through the vagus inhibitory fibres, that molecular changes take place which are the real cause of the dilatation. The latter, as I view it, implies essentially molecular changes in the cardiac tissue. We must not conceive of the heart as of so much leather stretching under obstruction. When a skeletal muscle acts against a certain opposing force it does more work; but when that force is increased beyond a limited point the muscular elasticity is lost for a time. This can be shown experimentally on excised muscles. The loss of elasticity indicates molecular changes; but the case of the heart is not precisely parallel with that of an excised muscle. It has the choice of being stretched or not, so to speak, and it does not elect the former *so long as the balance of nerve-force is maintained*. This balance is preserved or lost according as the influences which reach it through the inhibitory fibres of the vagus exceed or fall short of those by the sympathetic.

The present state of cardiac physiology enables us the better to understand such forms of disease as Basedow's; how, for example, the mental state can influence the heart for good or ill. Many German writers,[2] Bartholow[3] and others, have stated that galvanization of the nerves (sympathetic) has proved valuable in the treatment of Basedow's disease. It is well known that the conductivity and irritability of a nerve may be lowered by the passage of a constant current through it. As this effect is temporary, we may suppose it due to some molecular change; but from this result we can understand the good that follows the use of electricity, whether the undue irritability in this and other diseases be referred to the muscle, the nerve, or the discharging centre.

Perhaps the time is not yet ripe for us to determine in a special case whether the vagus-fibres proper or the sympathetic fibres are at fault; but it must be clear that we now know enough to enable us to adopt theories less mechanical, more fundamental, and more in harmony with the ascertained facts, not only of medicine but of other sciences. In connection with these considerations, what has been insisted upon in the earlier part of the paper must not be forgotten. After all, the condition of the nervous *centre* is the main thing in most cases. It is not to be forgotten that nerves are but conductors, which may, however, be diseased. I think I can myself foresee how such views as I have endeavored to present in this paper must lead to a wiser prognosis and a more rational treatment.

It seems desirable that we should endeavor to form some definite conception of why and how the heart happens to beat at all. This problem I attempted to solve, as best the evidence we now have would allow, in a paper[4] published a few months since; and I present here for consideration the summarized conclusions of that study.

1. The factors entering into the causation of the heart-beat of all vertebrates as yet examined are: (*a*) a

[1] See the various papers previously alluded to in the foot-note on page 25, especially those in the Journal of Phys., vols. v. and vi., and Journal of Anat. and Phys., vol. xxi.
[2] Op. cit., p. 268.
[3] Proceedings of the Brit. Phys. Soc., Journal of Phys., vol. v.
[4] Op. cit., p. 275–277.
[5] Journal of Phys., vol. v.
[6] Journal of Phys., vol. vii.
[7] London Med. Times and Gazette, March, 1875.

[1] Journal of Physiology, vol. vi.
[2] Am. Syst. of Med., vol. iii., p. 767.
[3] Medical Electricity.
[4] Causation of the Heart-beat, etc., Canada Med. and Surg. Journal, January, 1887.

tendency to spontaneous contraction of the muscle cells composing the heart; (*b*) intra-cardiac pressure; (*c*) condition of nutrition as determined directly by the blood, and indirectly by the nervous supply of the organ.

2. The tendency to spontaneous contraction of muscle cells is most marked in the oldest parts of the heart ancestrally considered. I have shown (*Jour. of Anat. and Phys.*, Vol. XXI) that in the Sea-turtle the last segments of the ventricle to pulsate are on its extreme right; while the right auricle outlasts the left, and the sinus and great veins beat much longer still. The same has been noticed in several other groups of animals. The most recently acquired parts of the heart always are the first to lose functional activity. These are but extensions of Harvey's observations, seen in the light of evolution.

3. In all hearts examined, intra-cardiac pressure is a factor of considerable importance; in some, as that of the Fish, Menobranchus, etc., it is apparently the controlling factor. The same may be said of the molluscan heart.

4. The power one contracting cell when in action seems to possess of initiating a similar state in others, is of great significance.

5. The influence of the nerves of the heart appear more and more as we ascend the animal scale. They seem only indirectly concerned in the causation of the beat by their influence over nutritive processes; but as the heart is being so frequently modified in its action, their influence in highly developed hearts becomes an almost constant factor, and of a degree of importance which our knowledge of the relation of nerve to muscle enables us but inadequately to appreciate, but which the pathological changes ensuing on nerve section illustrate.

6. It almost follows from the above that one part of the heart having contracted the other parts must follow. This is probably the explanation of the rapid onset of the ventricular after the auricular systole in the mammal. It will be remembered, too, that even in the mammal contraction begins in the great veins entering the heart.

The basis of all these explanations is found, in reality, in the *natural contractility of protoplasm*. A heart in its most developed condition still retains, so to speak, the inherited but modified Amœba in its every cell.

JAUNDICE IN TYPHOID FEVER.

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The variety of this complication has induced me to give the following history, and the paucity of its literature is my excuse for the apparently unnecessary minuteness of detail.

Mr. Geo. W——, aged sixty-four, came under the care of Dr. J. Tripp of this city, August 31st. Was of billious temperament, with a history of jaundice when a young man, and of repeated "billious attacks" since. Was taken sick Sunday, August 28th. Had a chill, epigastric pain and vomiting, but treated himself with home remedies until Wednesday, August 31st, when Dr. Tripp was called. At this time the pulse was 90, temperature 101.

The disease advanced through the regular stages of typhoid (the evening temperature at no time being higher than 102 1-2) until September 10th, when the fever gradually subsided, and by September 14th a sub-normal temperature was reached and convalescence apparently established. On the evening of September 19th, after taking a small drink of lemonade, the patient was attacked by vomiting; this lasted a short time, but was followed by a rise in temperature and pulse. The temperature and pulse gradually became higher from that time until September 24th, when it reached its highest point 102 3-4. The pulse, 80 on September 19th, had gradually risen to 120.

The vomiting, which began the evening of the 19th, was followed by nausea and several slight attacks of vomiting, which culminated in a free emesis of bile—a half teacup full—on the evening of the 20th.

During the entire sickness there had been absent any abdominal symptoms that were serious. At no time had there been any tympanitis or tenderness to any extent.

The bowels had moved twice a day with a gradual increasing consistency, and return to normal color.

The urine had been very plenty, and during the last five days before death over-abundant. Bile was first noticed in the urine September 23d (the day before death).

The face was slightly colored the 22d, but not enough to excite suspicion.

On the afternoon of September 23d, I was called in consultation with Dr. Tripp, and found the patient with a face slightly jaundiced, skin elsewhere not discolored.

The urine abundant, albuminous and filled with bile. Pulse 130, temperature 101¾, respiration 30.

The heart's action, though rapid, was regular, and no weaker than would have been expected after a fever of three weeks' duration. Both sounds distinct, and no murmurs.

Abdomen not tender or tympanitic. Hepatic dullness somewhat lessened, and spleen enlarged. Tongue moist and slightly coated. Senses normal. Skin cool. No apparent disturbance of the nervous system.

By 7 A.M. the next day (September 24th) a startling change had taken place.

The face was a deep yellow, conjunctiva and sclerotic discolored, and entire body a light yellow. Abdomen not tympanitic, but tender on percussion over liver at lower border. Had had no passages for the past twenty-four hours, contrary to previous habit. Liver and spleen the same as before. Temperature 102¾, pulse 140, respiration 35. Pulse intermittent; at this time the sounds of the heart could not be distinguished from each other. Mild delirium and subsultus tendinum.

10 A.M., respiration 40, temperature 101¾, pulse 148.

2 P.M., respiration 48, temperature 101, pulse 154.

5 P.M., respiration 52, temperature 100, pulse 150.

At 8 P. M., the heart's action seemed stronger and the sounds could be readily distinguished for the first time during the day.

Resp. 40, temp. 100, pulse, 135.

At 10 P. M., respiration became impeded, ran up to 68–72, and death took place from pulmonary obstruction at 1.30 A.M., the heart's action remaining almost unchanged until midnight. No post-mortem was allowed.

The symptoms of hepatogenic jaundice, as observed in this case, seems to differ materially from those in cases on record, and are contrary to some almost accepted facts in regard to bile absorption.

Landois says, "the heart beats are generally diminished, *e. g.*, to 40 a minute. This is due to the action of the bile salts, which at first stimulate the cardiac ganglia, and then weaken them. There is slowing of respiration and diminution of temperature.

Lowitt, after injecting bile into animals, "observed phenomena, referable to stimulation of the respiratory cardio-inhibitory and vasa-motor nerve centres."

Leyden noticed an increase of 15–24 beats to the quarter after injection of bile.

Legg says, "In my own experiments on the frog I invariably noticed a slight rise from 9–11 beats in the quarter minute, and these experiments were made without disturbing the heart, by the injection of bile acid solutions under the skin."

Traube says, "If this system (regulating system) be active there is seen after injections of the bile acids a lowering of the blood pressure, with a considerable rise in the number of the pulse.

Flint, Sr., says, as follows: "Bile in the blood acts as a sedative on the circulation and nervous system. The heart's action is usually diminished in frequency. Pulse frequently falls to 50–40 or even lower in cases in which the jaundice is not associated with fever; and if thus associated, the frequency of the pulse is lower than if jaundice did not exist.

Numerous other authorities seem to agree on the fact that absorption of the bile retards the circulation and lowers the temperature. It is however certain that such was not the fact in this case. Possibly the blood pressure lowered by the paralyzing effect of the poison on the vasa-motor system, causing an increase in the pulse rate.

The literature on this subject is very scanty.

Immerman gives a history of one case of hematogenous jaundice following a moderately severe case of typhoid, treated by quinine. The first appearance of the jaundice was noticed in the fifth week. In this case, although the urine was black no bile pigment was found, the bile passing off with the stools. A post-mortem revealed a liver in the early stages of cirrhosis.

French gives two cases; in one the jaundice began the second day after admission to the hospital. Death took place in eight days. In this case the temperature and pulse were both lowered, a beginning fatty degeneration of the liver was found at the post-mortem.

In the second case, the jaundice was noticed after a severe chill on the twenty-first day of the fever. No record of temperature or pulse. Death occurred on the third day from pulmonary œdema. An autopsy found softened spots in the liver with absence of normally formed granular cells.

Murchison gives nine cases, all of which were fatal except one.

Griesinger reports ten out of six hundred cases of typhoid.

Hoffman reports 250 fatal cases of typhoid, in 10 of which jaundice occurred. In the majority of these cases jaundice was not seen till late in the disease.

Fischermeister met with it six times in 1420 cases.

Zenner and Legg never saw the complication.

Jas. H. Hutchinson says: "I have never seen this complication, and am inclined to think it rare in this country."

Wood, although giving no report of any case, says: "There is another class of cases more rapid and violent, in which the prominent symptoms are those of gastric or hepatic disorder. Along with the characteristic symptoms of enteric fever we have much nausea and vomiting often of bilious matter, and not unfrequently yellowishness of skin. They are apt to run their course rapidly, and sometimes terminate fatally before the rose colored eruption has appeared."

The noticeable features of the present case are:

1. The insidiousness of the attack, the pulse respiration and temperature gradually rising for five days without apparent cause.

2. The action of the absorbed bile, apparently contrary to that met with by other observers. the pulse and respiration in this case being increased to the end.

3. The prompt interference with respiration when nervous symptoms intervened, and the rapid lowering of the temperature.

4. The rapid progress to a fatal issue.

5. The lack of apparent cause for the complication, the fever having been extremely mild throughout.

It has occurred to me that the latter symptoms in this case bear a striking resemblance to those of acute yellow atrophy, and it is not only possible but also probable that the pathological conditions are similar. In addition to the changes in the liver structure, the albumen in the urine—in this case—would suggest degeneration of the kidneys.

Treatment offers no encouragement.

If, as the writer believes, the jaundice is only the external manifestation of the extent of the internal destruction, treatment seems futile.

Nourishment, stimulants and possibly the mineral acids are the remedies from which we would naturally expect the best results possible under such circumstances.

The gravity of the complications, however, cannot be over-estimated.

SUBMUCOUS INJECTIONS IN CHRONIC THROAT AND NASAL DISEASES.

By W. F. CHAPPELL, M.D.,

NEW YORK.

So much has been written on the methods of treating these diseases, that, were it not for the frequent negative results obtained in a large percentage of cases, I would hesitate to add to the already long list of methods and remedies.

In submucous injections I believe we have a very important means of aiding recovery, especially in Naso-pharyngeal Catarrh, and Follicular Pharyngitis.

A curved pointed needle is used for the throat, and will fit most hypodermic syringes. At each sitting I select three or four of the largest groups or tries of vessels seen in the mucous membrane, chiefly on the posterior wall of the pharynx, and the anterior pillars of the fauces and uvula, and introduce the needle into the main trunk of each cluster, and inject one drop of a solution of equal parts of carbolic acid and glycerine. A whitish appearance is immediately noticed at point of injection; in three or four days the entire cluster will be less distinct, and eventually disappear. This method diminishes the vascular supply, secretion, and hypertrophied condition of the mucous membrane, and leaves it in a paler and more natural condition.

In follicular pharyngitis each hypertrophied follicle is hooked up with the needle, and one drop of the carbolic solution injected. This is followed by a reduction of the hypertrophic conditions without any cicatrix or perceptible change in the membrane. In making the injection, some practice is necessary to lodge the drop in the membrane without its escaping where the needle is withdrawn. To effect this. the puncture must be from above, downwards. Cocaine is rarely necessary.

The straight needle is for submucous injection of nasal hypertrophies, and has given me more effectual and permanent results than other methods.

I have experimented with several acids, but up to the present have had the best results from monochlorecetic, saturated solutions.

After spraying the part with Dobell's solution, I apply cotton saturated with an eight per cent. solution of cocaine, and allow it to remain about six minutes. I then charge the syringe, dip the needle in vaseline, and introduce it beneath the mucous membrane, on the free surface of the hypertrophic, and inject one or two drops of the acid, then withdraw the needle and cleanse syringe in an alkaline solution.

The injection is followed in most cases by some pain and hemorrhage of short duration.

Fourteen to twenty-one days is the time required to complete the change in the hypertrophic; a second injection is rarely necessary, excepting in very large growths.

The needle must not be introduced at the base of the hypertrophic nor deep into its substance, or it may result in an unnecessary loss of tissue and œdema of the face, which, however, soon disappears. Care should also be taken that the opening in the point of the needle is beneath the membrane, otherwise the acid may be lodged in the throat.

I find that some cases of elongated uvula will atrophy when injected with carbolic acid.

22 EAST 42ND STREET

PERIODICALLY RECURRING OCULO-MOTOR PARALYSIS,—A DESCRIPTION OF A PAROXYSM, WITH AN ATTEMPT AT LOCALIZATION, AND WITH SUGGESTIONS AS TO THE PATHOLOGY OF THE DISEASE.

By ALFRED HINDE, M.D.,

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As a preamble to this supplementary description of a paroxysm in the patient, T. S.———, referred to in other papers on "Periodically Recurring Oculo-motor Paralysis," read before the Chicago Medical Society, June 20th, 1887, and published in the N. Y. Medical Record Sept. 24th, 1887, we may state that the case was irregularly under observation during a period of six to eight weeks, during which time she was taking a mixture of the Iodide of Potassium and Bichloride of Mercury. Whether this had any influence on the ptosis of the left upper eyelid is questionable, yet the power of the levator palpebræ superioris returned sufficiently to permit a palpebral fissure, on voluntary effort,—of about 3‴ at its widest part. No gain was apparent in the other third nerve muscles in or out of the eyeball.

Nothing more was seen of the patient until the onset of this attack, and the present seizure is the first since March last.

August 8th.—9.30 A.M. Twenty-four hours ago menstruation commenced, and was accompanied by the usual slight pelvic pain, which lasts during the first twenty-four hours of each period. Last evening she retired in her usual health, and awoke during the night with a sensation of choking and with marked vertigo. This morning, about 4.30, she experienced a pain around the left eyeball, which almost immediately extended backward into the left half of the cerebrum, and did not involve the superficial tissues of the left side of the head. The pain rapidly increased in intensity, and was associated with nausea and vertigo, and about 7.30 A.M. she vomited. It is now, and has been from the commencement very severe, always present, of a sharp, shooting, stabbing character, and markedly paroxysmal. The paroxysms recur every three to five minutes, and last one to two minutes. Their approach is announced usually by the patient exclaiming: "The pain is coming again!" and immediately she commences to moan and toss around as if trying to find a place of rest. As the painful paroxysm eases off, so do the moaning and restless symptoms disappear, and in the intervals between the attacks she remains comparatively quiet. The nausea and vertigo, though continuously present, are very much aggravated during the paroxysms of pain, and in one of the latter she fainted completely away. The pulse was 78 and did not change in any particular during the pains. The temperature was $98\frac{2}{5}$.

The left palpebral fissure at its widest part measured about 3‴ when most open. The movements of the superior, inferior, and internal recti muscles were absent. The left pupil was dilated ad maximum, and was immobile. The eyeball was turned outward, and the movements of the external rectus were normal.

The tension of the left eyeball was natural, the fundus was normal apparently; the cornea was pressed upon with a pinhead, and the latter was scarcely felt. There was no injection of the conjunctiva, and no evidence of ocular inflammation. A freshly halved onion, and each half held equally near to the open eyes and with the same exposure, resulted in a marked reddening together with intense and lasting pain, and with profuse lachrymation of the left eye; whereas, in the right eye the only effect was a slight and transient smarting and no evident injection or lachrymation.

The sense of smell was found greatly impaired on the left side;—each nostril was tested separately, the left one first, and the fluids used were, oil of rose, assafoetida, and oil of mustard, and the odors were recognized only on the right side. Taste was tested with a saturated solution of Bromide of Potassium (for salt) dilute hydrochloric acid (for sour), and with tincture of Quassia (for bitter), and the left interior half of the tongue was first tested, and could not recognize the different tastes, whereas these were named when the right half of the tongue was touched with them. Hearing was tested and found to be alike and normal on both sides; she stated, however, that occasionally during the painful paroxysms she had transient tinnitus in the left ear only.

The cutaneous sense was also tested by stroking, pinching, pressing, pricking, and with a heated metal disk, and invariably the left upper quarter of the body, the left upper extremity to the finger tips, and the left half of the head and face were markedly anæsthetic. There was no cutaneous anæsthesia, however, present at this testing in the lower left trunk and the left inferior extremity.

To touch, the left half of the head and face felt hotter than the right, and it also looks somewhat redder.

The tongue was projected in the median line, and the grasp of the hands was strong and equal.

This observation extended over nearly one hour's time, and the changing phenomena did not vary in any particular.

At the patient's request she was sent to the Cook County Hospital, and was assigned to the service of Dr. D. G. Moore, and he courteously permitted me to continue my observations. I saw her at 3.20 P.M., and her condition was without change, save as follows: Her face looked blanched, and she appeared to be much depressed. Her pulse was 64, temperature $97\frac{3}{5}$° F., and she was vomiting frequently. The palpebral fissure was about 2‴ at its widest point. The paroxysms of pain were very frequent and severe, so that she scarcely had time to stop moaning, and rest between them.

At 6 P.M. the interne took her temperature with another thermometer, and found it to be $96\frac{6}{10}$° and the pulse 56.

9th.—3 P.M. Temperature $99\frac{1}{2}$°, pulse 56, and bounding. The paroxysms continued throughout the night, but with increasing intervals and decreasing severity, and kept up until 9 A.M. From that time until 3 P.M. there was no recurrence. During this observation, however, all at once she ejaculated: "The pain is coming again!" and so it did, and after moaning slightly and tossing momentarily, she was quiet once more—the pain was gone. This was the last paroxysm of pain, though a continuous pain in the head, sharp and stabbing in character, still remained. The special sense anæsthesia was unchanged, the left cornea was the same, but the cutaneous anæsthesia now involved the entire left half of the body, and ptosis of the left upper lid was complete. The vomiting stopped with the paroxysms. She said that the pain in the head was increased by raising the upper eye-lid of the left eye, and that she had noticed that, frequently toward the close of a painful paroxysm, tears flowed over the left cheek, but never from the right eye.

The latter observation we did not witness save in the onion test already mentioned.

10th.—3.45 P.M. Temperature $99\frac{3}{5}$°, pulse 52 and of fair tone. Pain in left half of cerebrum was still present but less severe. Left hemianæsthesia—special sense and skin was the same as before noted, and the left eye was also unchanged. No signs of hemiplegia were perceptible, heart and lungs were found to be normal.

11th.—1.45 P.M. Temperature $99\frac{1}{5}$, pulse 58 and good. She had some shooting pain in the left eyeball, which lasted about twelve hours, but otherwise there was no suffering—the continuous pain in the head having also ceased. The hemianæsthesia was the same as before noted. To-day for the first time appeared a marked difference in the grasp of the two hands, the left one being much the weaker of the two, and she said that in walking she noticed a weakness in the left lower extremity. The tongue was projected in the median line, yet she said

that there were times when she had great difficulty in formulating her thoughts and in expressing them—she "wants to talk but she cannot remember what to say," and her tongue seemed to be thick."

12th.—1.15 P. M. Temperature 98⅘, pulse 70. She was up and dressed, and said she felt much stronger though still very weak. Since admission to the hospital she slept none, and had only partaken of milk and iced-water. Her bowels moved daily, she said, and her menstruation had passed along without incident. Paræsthesia of the left half of the body have been present in the form of "numbness and wormlike crawling sensations in the skin." The cerebral-hemianæsthesia of the left half of the body was still as evident as ever, and the condition of the left eye was unchanged. The motor paresis of the left hand grasp was much less marked than on the 11th, and she walked stronger on the left leg. She considered herself well enough to leave the hospital, and asked to do so.

On the 15th she visited my office, and though her general strength was much improved the ptosis was still unchanged and the other third nerve muscles,—in and out of the eye—were completely paralysed. There was also an amaurotic condition of this left eye that no lens could improve, and she could not read any of the types. On ophthalmoscopic examination the two eyes were alike, and there was no perceptible disease of the left. On pressing the left eyeball backwards she complained of it hurting her, and said she felt a pain shoot clear back into her brain. The tension was still normal, and there was no injection of the ocular conjunctiva. The right eye was normal in every respect, and could read the finest type at the regular distance. The cutaneous hemianæsthesia and the special sense anæsthesia were still present on the left side, as was also the slight motor paresis, but the latter was even less worked than when last noted. On the following day she commenced her usual work as a laundress.

It had been her custom, in previous attacks to go to bed at once on their onset; but this time she did not do so, and to this she attributes the increased severity of the over previous seizures.

The case, however, appears to be following the usual course of the disease—viz., one of steadily increasing severity of attack and greater permanency of the sequelæ—and agrees fully with previous observations.

The pathology of recurrent oculo-motor paralysis is as yet an unknown quantity, for in the three recorded autopsies little can be learned, and no definite conclusion arrived at.

We may venture to account for the symptoms of our own case, and endeavor to localize the seat of lesion, but what may be the exact pathology cannot be definitely outlined, and our remarks may be considered as suggestive, and as an effort merely towards the solution of a comparatively new and interesting problem. The main features of the attack were its sudden onset, the great preponderance of sensory phenomena, the presence of angio-neurotic signs; and, lastly, the ptosis and the slight and transient hemiplegic symptoms, together with the amaurotic condition of the left eye.

The pain, so distinctly paroxysmal and so peculiarly neuralgic, lasted nearly thirty-six hours, and was among the earliest symptoms. So also was the anæsthesia of the left side, yet the cutaneous impairment did not affect the entire left half of the body until about the thirty-sixth hour of the attack. The ptosis became complete at that period also, but the hemiplegic symptoms were not observed until the fourth day of the disease; and the amaurosis appeared still later.

With the nausea, vomiting and occasional tinnitus aurium the entire phenomena of the attack were unquestionably central in origin, involving the sensory tract early and mainly; later the third nerve connections; and lastly, and to a very limited extent, the motor pathway.

In any attempt at localization the partially defined course of the sensory pathway must be considered, and in that portion of the latter above its junction with the fifth nerve (upper part of the pons) and its termination into the cortex is the situation where the pathological process in our case had its seat. Was it located in the pons and crus, in the internal capsule, or in the cerebral cortex?

We doubt that its course in the pons and crus was affected; possibly the pathway through the posterior third of the posterior limb of the internal capsule, the "sensory crossway"—was somewhat involved, yet instead of an hemianopsia of the same side (left), we found present an amaurosis,—a crossed amaurosis, we presume,—and probably a higher point is the more likely seat. Moreover, the sensory tract in the pons, crus and capsule occupies so circumscribed an area that disease so nearly limited to it, as shown in our case, and of so gradual an onset, is not easily imagined. Therefore, to the cortical terminations of the sensory pathway we look mainly for our pathology. Above the internal capsule the sensory tracts are divided up and scattered toward the "motor," parietal tempero-sphenoidal and occipital regions of the cerebral cortex; and mainly to the middle outer region of the cerebrum—that portion underlying the parietal bone. Gowns[1] writes "clinical evidence, as well as facts of anatomy, points to the outer part of the hemisphere in the middle region as being the part concerned in sensation," and he refers to the recorded case of Demange,[2] which "shows that the indication is correct, and places the conclusion" (as above given) "beyond doubt." This case, the main facts of which are almost the same as those of our own, came to autopsy, and the latter showed "an extensive area of cortical softening involving a large part of the outer surface of the right hemisphere and subjacent white substance; the inner surface of the hemisphere, central ganglia and internal capsule were unaffected," and he considers that "this case affords a crucial demonstration of the correctness of the indications afforded by the anatomical researches of Flechsig."

A lesion of the right cerebral cortex, commencing in the parietal portion,—clearing up the third nerve paralysis, the hemianæsthesia and special sense anæsthesia;—and with a steadily increasing area, spreading backwards to the occipital lobe,—explaining the amaurosis:—and reaching forwards to and including the anterior and posterior central convolutions and paracentral lobule,—thus interpreting the slight, transient and probably inhibitory hemiplegic symptoms; would seem to best explain the clinical facts of our case.

In the vascular supply of this extensive cortical region was the initial pathology, and the nervous element most probably affected was the ganglionic cell.

Of the arteries the middle cerebral is the most important, and especially the fourth branch of the same; for it supplies the convolutions around the posterior limb of the fissure of Sylvius–supramarginal, and angular and hinder part of the superior parietal and the first temporal.

The second and third branches mainly supply the greater portion of the "motor" cortex. The posterior cerebral supplies the occipital cortex. The paracentral lobule and the highest part of the ascending frontal convolution—part of the leg centre—are supplied by branches from the anterio-cerebral artery.

We can only guess at the pathology; "the picture looks like a very severe attack of hemicrania with paresis of sensation and motion thrown in to complete the background. A hemorrhage or embolism we cannot think of as a probable cause. An angio-neurosis is the possible key, associated with extra-vascular exudation and consequent compression of the surrounding nerve cells and fibres. From the early history of our patient the latter pathology would best account for the temporary motor-

[1] Lectures on Diseases of the Brain, 1885, p. 16.
[2] "Revue de Med." May, 1883, p. 391.

oculi paralysis. The earlier the history the less severe the seizure, and the more transient the results.

Of late years, however, the sequelæ have become more and more permanent, and we could imagine that what was in the early attacks merely an exudative pressure cause has latterly had the added factor of a localized degeneration.

The latter condition would seem to have impaired most markedly that portion of the third nerve's cortical connections from which spring the fibres supplying the recti and the intra-ocular muscles, but that portion of the centre from which the levator fibres spring is not as yet completely destroyed as shown by the partial restoration of function between the seizures. There would seem to be no anatomical change in the nerve structure of the motor area as yet, for the paresis is only transient and due to the enlarging zone of the pathological locality. Whether there is any permanent organic change in the sensory path can only be decided by further observation of the case, yet we suspect it on account of the constant condition of the hemianæsthesia—with the exception of the left lower quarter of the body.

The apparent hyperæsthesia of the secretory fibres of the left fifth nerve supplied to the conjunctiva and the lachrymal gland would seem to show fibres of separate and distinct function, together with irritation, or, more probably, diminution of cerebral inhibition of the same; whereas, the other sensory fibres of the fifth were subjected to paretic influences.

16 Laflin Street.

VARICOCELE. A SIMPLE OPERATION FOR ITS CURE.

BY HUBBARD W. MITCHELL, M.D.,

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The dilated and tortuous condition of the spermatic veins of the testicle, usually known as varicocele, is a disease that is met with not unfrequently. The dull, aching pain in the testicle and cord, and in the back, and the occasional melancholic symptoms it gives rise to, often render the sufferer incapable of attending to the active duties of life, and lead him sooner or later to seek advice of the surgeon. Horseback riding and outdoor labor aggravate this state of things, and present a complete bar to entrance into the military or naval service. Patients with varicocele suffer pain after coition, and hence often believe it leads eventually to impotence. Varicocele occurs more frequently upon the left side than upon the right owing to the anatomical disposition of the veins. The only effective *treatment* is a radical operation for the obliteration of the dilated veins.

A glance through the surgical text books, and medical journals written during the past twenty-five years, will show that a great number of operations have been advocated for the radical cure of varicocele. Many of them were ingenious, some positively barbarous, and every one capable of great improvement. It is now generally admitted that the best and safest method of radically curing varicocele, is by the *subcutaneous ligation* of the enlarged veins. To show how to do this in a very simple and easy way is the object of this paper.

During the past 15 months I have done this operation twelve times in private practice. The first six cases were done by the aid of a small needle, threaded with silk or catgut, or with a long needle and a silk loop. While the results were good, the method of operating was extremely unsatisfactory. The desire to simplify the operation and render it expeditious, and easy to perform, led me to devise a new varicocele needle, which is shown in the accompanying cut.

While there are other needles already in use similar to this, yet this possesses some new features, and decided advantages over any that have so far come under my notice.

It has a long and slender shaft, and a flattened oval-shaped point. The point, and sides, as far as the eye, are ground to an exceedingly fine sharp cutting edge. The eye is large and long, to readily allow the threading of the ligature. The handle is octagonal, and tapering, to permit a firm hold upon it, and flattened on the sides to correspond with the flattened side of the point, so that when the point is buried in the tissues, we can tell how to guide it.

By the aid of this little instrument, the operation for the subcutaneous ligation of the spermatic veins is extremely simple, and may briefly be described as follows:

The hair on the affected side of the scrotum may be shaved off front and back and the parts perfectly cleansed. A few minims of cocaine 4 per cent. sol. are injected under the skin at the seat of the operation.

The patient may stand up (if he is resolute enough), or, better still, lie down on a bed, sofa, or table. The operator now isolates the vas deferens, and holds it with his left hand to the inner side of the scrotum. With his right hand he takes the needle threaded with a sufficiently long silk ligature (previously boiled to make it antiseptic) the two ends of which he holds firmly with the handle. Holding the flattened point perpendicularly he plunges it quickly through the scrotum, the point with the ligature sticking out behind. He can now let go the vas deferens, and draw one end of the ligature out of the orifice of exit, and out of the eye of the needle. He now withdraws the needle, *back to, but not out of the orifice of entrance.* The point of the needle is now carried *subcutaneously* around the veins, and made to emerge *exactly* at the orifice of exit. Here the ligature is quickly and easily threaded into the *large eye*, and both withdrawn through the orifice of entrance. Carefully wash away any drops of blood that may ooze out, and tie a tight firm knot, which if properly done will completely occlude the veins. The ends of the ligature may be cut short, and the knot allowed to sink into the wound out of sight, where it remains permanently. A bit of adhesive plaster over the minute wounds completes the operation, and the patient may remain for a few days in bed. All this is done so simply, quickly and easily that the operation requires less time than the description. My last six cases were done with this instrument, and so far I have every reason to be satisfied.

The especial points of this needle to which I desire to ask attention are the oval-shaped point, and cutting edge, with the *large eye*. This large, elongated eye renders a silk loop unnecessary, as the ligature can be easily threaded into it at the second step of the operation.

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The Dyspnœa of Asthma, and the Influence of Nitrites upon it.—Dr. Thomas R. Frazer, of Edinburgh, in *The American Journal of the Medical Sciences*, for October, records a clinical study of the cause of asthma, and the influence of nitrites upon it. He establishes the view that the dyspnœa of asthma is caused by spasm of the bronchial muscles, and points out the value of the nitrites in its relief, and that the best therapeutic effects are not obtained by the inhalation of nitrites, but by their administration through the stomach. The facts seem to justify the assertion that their administration in this manner in asthmatic dyspnœa or orthopnœa is entitled to rank as one of the most valuable applications of pharmacology to the treatment of disease, an application at least as valuable as that in the painful angina of aortic disease, to which nitrites are at present almost restricted.

Progress of Medical Science.

Absorption by the Skin.—Dr. Ritter has given the question of absorption of lanolin through the skin a careful experimental trial. He found that when a ten per cent. ointment of potassium iodide and sodium salicylate in lard was rubbed into the skin, these substances were not absorbed, while through an application of an ointment of salicylic acid the characteristic reaction by chloride of iron could be proved in the urine (*Berliner klinische Wochenschrift*). This different effect Ritter explains by the fact that salicylic acid injures the continuity of the skin and is thus absorbed. A similar result was obtained when lanolin was used as a constituent of the ointment. According to Ritter, Liebreich's experiments are not convincing, because Liebreich only used such substances as led to absorption by injuring the continuity of the skin. By further experiments on the absorption of fluids, he came to the conclusion that it only takes place when the continuity of the integument has been interfered with.

The Endometrium in Disease of the Uterine Appendages.—Dr. Czempin has recently published some observations on the relation of the uterine mucous membrane to diseases of the appendages. He compares primary disease of the endometrium, set up by gonorrhœal infection or puerperal sepsis, which enter the uterus from without, with secondary disease, the result of chronic affection of the appendages (*The British Medical Journal*). In physiological processes a strong relation between the tubal and uterine mucous membranes can be observed, as in the formation of a uterine decidua in tubal pregnancy. A direct extension of inflammation from the tube to the uterus cannot be so readily proved during life. In relation to this subject, the sudden attacks of hæmorrhage observed in diseases of the appendages must be considered. The diseases where metrorrhagia is frequent are, first, chronic inflammation of the tubes and ovaries, often without symptoms until some circumstance causes aggravation of the disease; secondly, an exacerbation of old exudative parametritis; thirdly, pelvic irritation, especially such as may occur in the cicatrices of the pedicle after ovariotomy or salpingotomy; and fourthly, slow-growing tumors of the appendages, particularly pyosalpinx, and sarcoma or carcinoma of the ovary. Dr. Czempin rightly denies that endometritis must necessarily exist in all the cases, and must be the cause of the metrorrhagia. Clinical evidence shows that in many such cases no uterine symptoms existed before the other disorders were diagnosed. Brennecke traced the reflex hyperæmia and hyperplasia of the endometrium near the climacteric to the disturbance of ovarian functions. In cases under Dr. Czempin's observations, not far from the climacteric, however, where this symptom existed, metrorrhagia existed where the ovaries were healthy, and the tubes or broad ligaments diseased. Dr. Czempin distinguished special characters in the metrorrhagia, which accompanied chronic disease of the appendages. It was preceded by and commenced with very violent pain, on the cessation of which it continued to a moderate degree for some days. In all such cases inflammatory changes are found in the ovaries, tubes, or parametrium. On proper treatment of the primary cause the hæmorrhages disappeared; on the other hand, metrorrhagia from irritability of an operative cicatrix in the broad ligament, though more copious than the normal menstrual flux, was seldom preceded by any pain. Dr. Czempin traced this metrorrhagia to reflex congestion of the endometrium, due to irritation of the cicatrix, and did not believe that it was compensatory, in favor of the general organism, to menstruation, even after the removal of both appendages. The same observer discovered uniform thickening of the endometrium removed by scraping in cases of pyosalpinx, solid ovarian growths, and chronic oöphoritis, where the uterus was distinctly enlarged. In other cases the thickening of the endometrium was very slight; in others again there was no such change, though much metrorrhagia was present. In the latter the blood must have come from the hyperæmic tubal mucous membrane. The important researches of Dr. Czempin will throw some light on to the puzzling questions in relation to the direction in which inflammatory diseases of the female organs proceed. They must either be due to infection passing from the vagina through the uterine cavity and the tubes on to the surface of the ovary and into the peritoneum, or to infection entering the wound in the vagina or uterus and reaching the ovaries through the connective tissue, the peritoneum, or even the tubes being affected after the ovaries; or lastly, to some agency which causes primary inflammation of the ovary, the morbid process spreading from that organ to the tube, peritoneum, parametrium, and uterus. The subject is extremely intricate, and can only be solved by concomitant pathological and clinical study.

Contusion of the Abdomen, with Rupture of the Intestine.—The operative treatment of traumatic peritonitis, and of the injuries which cause it, is a subject of universal interest at present. In the October issue of *The American Journal of the Medical Sciences*, Dr. B. Farquhar Curtis, of New York, has studied the general subject by the aid of a series of 44 experiments upon dogs, and an analysis of 116 cases of rupture of the intestine, and of 33 cases of contusion of the abdomen terminating in recovery. Special attention was given to the symptoms of the first hours after injury, in the hope of rendering an early diagnosis possible, and to indicate the most promising methods of treatment. The practical results of the inquiry may be summed up as follows: The treatment of contusion of the abdomen should be purely expectant in the early stage, until symptoms of internal injury have appeared, or until the full extent of time in which they may be expected has passed. Explorative laparotomy at this time is admissible. When symptoms of uncontrollable internal hemorrhage or serious visceral injury appear, laparotomy is indicated; but, when the diagnosis is uncertain, the operation should always be begun as an exploration. Great collapse is an absolute contraindication to all operative interference. When rupture of the intestine is found, the best method of treatment is to secure the injured gut in the abdominal wound, and form an artificial anus. This can be easily relieved by a later operation, when the patient has recovered his strength.

Diagnosis of Beginning Carcinoma of the Cervix-Uteri.—Dr. Stratz, in an article on this subject, says that the perfected technique of the operative treatment of cancer of the uterus has rendered its cure possible, provided it is seen at a sufficiently early stage. It is, therefore, important to be able to make a diagnosis early. Even if certain symptoms, as profuse menstruation, leucorrhœa, pain, hemorrhage following coition, with the exclusion of other causes point to carcinoma, still the difficulty of distinguishing beginning cancer from erosions will always exist. Ruge and Veit recommend the excision of a piece of the erosion for microscopical examination, and by this means making a diagnosis. But even microscopically, it is possible to recognize certain characteristic appearances which are peculiar to carcinomatous erosions. He gives four particular important signs: 1. The diseased surface is everywhere sharply separated from the sound tissues; it nowhere gradually changes from one to the other. 2. A difference in level between the diseased part and the healthy can always be recognized. 3. The cancerous portions have always a yellowish tint. 4. The malignant spots show small, yellowish white, glistening raised points, at least in certain places.—*The Boston Medical and Surgical Journal*, September 1, 1887.

Viewing the Cavity of the Bladder.—From an article on tumors of the bladder by Dr. Davis, of Holyoke (*Boston Medical and Surgical Journal*), we learn that Dr. Nitze, of Berlin, has devised a method of exploring the cavity and inner surface of the bladder by the sense of sight. This is made possible by an ingeniously arranged electric light, so introduced that it may be said to be combined with an endoscope, the inner surface being as distinctly seen as though it were examined piecemeal by the light of day after removal from the body. The bladder is made to contain a certain quantity of transparent fluid, thus opening the folds of the mucous membrane, and presenting all portions of the mucous surface to view. The field at once visible is as large as a silver dollar, and is described as much resembling the image of the fundus of the eye when seen with the ophthalmoscope. By changing the position of the mirror in this instrument or kystoscope, as named by Nitze, the entire surface is readily and quickly seen, and any abnormal condition easily recognized. By the use of cocaine its use is rendered painless, and no other anæsthetic is necessary. The danger from heat resulting from the lamp in use is overcome by the circulation of a current of cold water. Nitze cites cases where his method of examination has succeeded in discovering tumors which were removed, and he is confident its more general use would make earlier diagnosis possible, and so save valuable time. At the Medical Society of Berlin, Professor Von Bergmann reported a case of tumor of the bladder, describing its symptoms, diagnosis and removal. In this case Nitze demonstrated to the satisfaction of Von Bergmann the practical working of his instrument, the latter speaking of it in terms of much praise, as being easily introduced and not distending the urethra or neck of the bladder more than a large-sized catheter, and in this case not occasioning any hemorrhage. If we accept the statements of Nitze and Von Bergmann, we shall be forced to believe that most incisions and severe proceedings for purely diagnostic purposes are soon to be laid aside, and the kystoscope is to reveal to the eye of the diagnostician the actual state, the size and shape of stones or tumors being readily seen and appreciated.

Hemorrhages from the Unimpregnated Uterus.—Dr. Hirton has made a study of this subject, which has led him to publish the following (*The Glasgow Medical Journal*): He believes the uterus and Fallopian tubes, including their fimbriated extremities, are erectile under excitement—the uterus under sexual excitement as well as menstrual, and the Fallopian tubes under ovarian excitement or during ovulation. In the majority of the lower mammalia there is no bloody manifestation at the menstrual period, but in many the uterus is relieved at times by the secretion of clear Nabothian mucus. Civilization has indirectly something to do with this. Some of the lower domesticated animals have bloody menstruation, as, for instance, rabbits kept in a warren for several generations and fed on rich food; also the sow and elephant for similar reasons. Again, some tribes of monkeys in India and elsewhere menstruate pretty frequently during the warmer months. In the colder countries of Europe, where the inhabitants lead quiet, unexciting lives, the females often do not menstruate until about eighteen, and sometimes not until many months after marriage, or even until after the birth of the first child. In South Africa, at a latitude where the winters involve comparatively cold weather, there exists a race inhabiting pits or excavations beneath the surface of the ground, and whose habits and intercourse generally differ little from those of the lower animals. The females of this race have only irregular periods of menstruation, and at the first blush of womanhood give out only abundant mucous secretion, as in the lower animals. It is only when indiscriminate intercourse has taken place for some time that blood appears, and then merely in comparatively small quantities. The menstrual flow cannot be said to be the direct effect of ovulation, inasmuch as it may be induced by other causes—*e.g.*, strong emotions, more especially those of joy; sexual excitement in the newly married; a day or two after operations in the abdomen, etc. The flow is also liable to be arrested by nearly as many and varied causes. The more you study the uterus as regards its hemorrhages, the more you are convinced that it behaves exactly like an erectile organ. Excessive joy may arrest the menstrual flow for some hours, to be succeeded in a few hours by a corresponding increase. As long as the influences that act upon the uterus are emotional—that is, act through the nervous system—the disturbance of its circulation is only attended by temporary evil results, but if along with these, or apart from them, you introduce other elements of disturbance of the circulation, you then have pathological hemorrhage. These other elements are divided into two classes—(1) those of disturbance to the egress of blood from the uterus, and (2) those conducive to obstruction to the venous return. It is this latter class that the author chiefly alludes to. Taking into consideration the anatomy and structure of the uterus and the ovaries, especially regarding their vascular supply, it is evident that their vascularity is subject to a wide range of tension. The veins of the venous plexus around the cervix, and especially below the ovaries, are unsupported throughout their course. They are also practically without valves, and their walls are very thin. In the upright position there is considerable resistance to the return of blood through these veins, whereas in animals the horizontal position favors the return. If, in addition to this, there is disease of the liver, heart, or lungs, the tension on the venous plexuses is markedly increased, and it is easy to understand that rupture of one or other of them should occasionally take place. Indeed, it is marvellous that it does not happen more frequently than it does. The main contention among various authorities regarding these hemorrhages is, whether the blood is exo-peritoneal or endo-peritoneal in its first instance. Of course the blood is endo-peritoneal in cases of rupture of the uterus or Fallopian tubes, as in tubal pregnancy. In cases of uterine hæmatocele, however, formed during labor, the author has determined that the peritoneum is capable of considerable tension and elasticity, and that the blood was exo-peritoneal.

Primary Malignant Degeneration of the Kidney in Infancy.—Primary malignant degeneration of the kidney is most frequently met with at the two extremes of life, infancy and old age. To the study of it as it appears in the first period, Dr. Longstreet Taylor, of Cincinnati, contributes an article, based on the study of 144 cases, in *The American Journal of the Medical Sciences* for October. Eminent authorities, both in America and Europe, have expressed the opinion that it is unjustifiable to remove degenerated kidneys in infants, but these same authorities for the most part advise the removal of sarcomatous kidneys in adults, their conclusion being based upon the statistics of the operation. A critical examination of the cases of this operation is, therefore, in place, in order to determine whether or not their verdict should be final. After a careful consideration of this question Dr. Taylor expresses himself as decidedly in favor of the operation, and thinks that if made when the tumor is still small, its results in the percentage of permanent recoveries will compare very favorably with those of malignant degeneration of other organs. It has so far succeeded in lengthening the lives of ten children, and of saving some of them. There is every reason to hope that in the future early diagnosis and early operations will show a much larger percentage of cures. As in all other malignant tumors, an early removal is necessary to success, but even late operations may lengthen life and possibly save it. He advises that explorative incisions be made whenever it is possible. And if extensive adhesions or visible metastastic growths forbid further interference, then desist from the operation.

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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INFECTION AND CONTAGION FROM A NEW POINT OF VIEW.

THE work of the bacteriologist and pathologist is greeted with favor, for one reason at least, because it gives us clearer and simpler conceptions of the nature of disease. It may be that, in later years, we shall see a decadence of the micro-organism in its relation to this subject; but at present it is certainly firmly intrenched, and he is no pathologist who attempts to ignore it. Besides, our present working hypotheses are the better for it. We are particularly grateful to the micro-organism for simplifying the current ideas regarding contagium, miasm and infection. Medical text-books, as a rule, teach that there are three classes of infectious diseases—the contagious, the miasmatic, and the miasmatic-contagious. In the first, the specific poison or virus develops in the body, and, in its active state is eliminated and passed on to another body, exciting in it disease. Measles, scarlet-fever, and small-pox illustrate this type. In the miasmatic diseases, the virus develops outside the body, and either does not multiply in the flesh, or at least is not eliminated from it in a state capable of producing infection. Malaria illustrates this type. In the miasmatic-contagious diseases, such as cholera and typhoid fever, the poison multiplies in the body; when eliminated, however, it is not at first active, but requires time and suitable conditions for the development of the specific infectious principle. The hypothesis of miasmatic-contagious disease was framed to suit the natural histories of cholera and typhoid. It has never had any solid evidence in its support; and Dr. Wm. H. Welch, in a very able and suggestive address delivered before the Medico-Chirurgical Faculty of Maryland, at its last meeting, shows the weakness of the current argument used in support of it.

First of all, it has been found that the class of micro-organisms to which the cholera and typhoid germs belong do not undergo any transformations in virulence, and do not acquire in growth any infective properties not originally possessed. On the other hand, bacteriologists generally regard bacteria as especially potent when fresh from the bodies of infected animals. Even the theory that the morbid symptoms are produced by ptomaines does not help, for fresh stools ought to contain the largest amount of these products.

The great argument in favor of the miasmatic-contagious view, however, is that persons do not catch cholera or typhoid as they do small-pox or scarlet-fever. It is inferred, therefore, that the germ is discharged in an inactive form. But it is not necessary to assume this. Dr. Welch calls attention to the fact that the germs of cholera and typhoid have different modes of life to those of variola, etc. The cholera germ, for example, is eliminated only by the intestines; hence, however active, direct contagion can only occur through the stools. But bacteria are, as is known, never lifted by currents of air from the surface of fluids or from moist surfaces generally. Hence one might be in the closest proximity to the infected dejecta with perfect safety.

Cholera bacteria can only invade the air in a dry condition; but dry air quickly kills them. Again, the germs must be taken into the alimentary canal in order to cause infection, and here again special conditions are necessary. It is, therefore, perfectly easy to account for the apparent inactivity of choleraic or typhoid excreta without assuming that the germs are obliged to undergo a development. On the other hand, the view that these germs are active explains many cases in which direct and immediate infection has occurred, while it does not militate against the known facts that epidemics of the so called miasmatic-contagious diseases do not as a rule spread by direct contagion. Their mode of spreading, however, is dependent upon the peculiar life history of the germ, and its mode of exit and entrance into the body, not upon its inactivity when first eliminated.

The new view of this subject from the bacteriologists' standpoint, therefore, involves an abandonment of the terms miasmatic and miasmatic-contagious. Every infectious disease has a contagium. In some this contagium multiplies in the body, is thrown off by various channels, and is taken into the system of others by various channels. These are the contagious diseases, as ordinarily described.

In other cases the contagium is both taken into the body and eliminated, only by one, or at most two channels; hence such diseases, as a rule, do not cause direct infection, they form the so-called miasmatic-contagious diseases.

In still other cases the contagium invades the body, but apparently is not eliminated at all, but is destroyed; these form the so-called miasmatic diseases, of which malaria is the type.

Following out this view of the matter we should have the following rearrangement:

1. Infectious diseases having a germ which enters the body and is eliminated by several channels, equivalent to the old contagious disease-class. 2. Infectious diseases having a germ entering and eliminated by a single channel, the so called miasmatic-contagious class. 3. Infectious diseases having a germ which is destroyed in the body, the so-called miasmatic class.

It will be seen that the old terms lose all their significance by this new interpretation of the pathogenesis of infection. The classification may be retained for convenience sake, but new names for the classes are needed.

THE PHYSIOLOGY OF DECAPITATION.

The physiological study of decapitation is truly the grimmest and most repulsive of all departments of inquiry. The experiments of Brown-Séquard upon the heads of dogs showed that, by injecting arterial blood, the muscles reacted, the eyes moved, and evidence of sensation was present. Brown-Séquard's statement, that a similar revival of consciousness could be brought about in man, was almost realized in April last, by experiments made on the head of the murderer Gamahut. Under the influence of transfused blood, the face regained its color, the eyelids partly opened, and the lips quivered for a few seconds, as if trying to express some emotion. The inference was drawn that consciousness remained, or would return to the decapitated head as long as there was a sufficient supply of blood. Some further experiments were recently made by MM. Paul Regnard and Paul Loye (*Gazette des Hôp.*, July 3, 1887) upon the head of a criminal executed at Amiens, June 15th. In this case the head was obtained and examined within two seconds after decapitation. The face still preserved its color, the features were immovable, the eyes widely open, the mouth convulsively closed. For five seconds, by touching with the finger the exposed cornea, a quick closing of the lids could be brought out. This was the only reflex obtainable, and this disappeared at the end of five seconds. A bright light before the eye did not cause any movement of the pupil, nor did pinching or pricking the skin cause any change in the physiognomy. Direct stimulation of the cut spinal cord did not cause any movements either in the head or trunk. At the end of four minutes, the closed jaws began to relax, and the eyelids to droop. At the end of twenty minutes an autopsy was made. The heart was found to be still beating, and the pulsations continued for five minutes more in the ventricles, and for ten minutes in the auricles. After decapitation, therefore, the human heart may continue to beat for half an hour.

The experiments in this case only go to show what was already known, that in decapitation consciousness ceases entirely with the blow on the neck. The shock itself of the section is sufficient to cause this, while the immediate draining away of blood prevents a return of consciousness.

THE DOCTOR'S GIG.

We all admit that medicine is the most progressive of sciences. But the reason for this, though simple, is not so generally known, and we shall take pleasure in unfolding it now, with some attention to detail. The physician spends one-sixth of his life in his carriage, and it becomes simply impossible that there should not be steady intellectual advance along with so much corporeal progression. This is easily shown to be the case. The doctor grows wiser with years beyond other learned classes. In the medical cult age always receives recognition; for the doctor who has practised twenty-five years, and ridden his one hundred thousand miles, has, just by reason of such extensive locomotion anteriorly, gained not only physical vigor but mental expansion, to say nothing of gluteal callosity and experience with wagons and the ways of the world. It is, no doubt, more than a coincidence that to the doctor's equipage there has gradually come to be applied the term "gig." Now, Johnson defines gig as a wanton girl, but the ordinary uses of the word are different; and, so far as applied to things medical, we believe its true etymology to be from the Greek *gignosco*, to know.

It has been said by historians and orators that medicine made little progress until seventy-five years ago, and it was about this time that medical men began to adopt the gig, which is another evidence of its motive power in human progress. Hippocrates had to make his calls on foot, hence his limitations. If his genius had been supplemented with an office-boy and a modern conveyance, medicine now would be luminously beyond its present state.

All of the foregoing reflections are pertinent to a sober consideration as to what is the best kind of carriage for the doctor's use.

In England, where the roads are good, a considerable variety of vehicles seem to be adopted by the profession. On the Continent, a two-wheeled gig, with hood, is in much favor among country doctors. In earlier times it was known in New England as a chaise. "This sort of chariot is affected," says a writer, "by a kind of pitching movement to and fro across the axle, which well entitles it to the name of a 'noddy.'" "To ride in such a carriage," he adds, "cannot be numbered among the things that appertain to glory; but I have no doubt it may be useful in liver complaint. Thence, perhaps, its wide popularity among physicians."

This chaise or "noddy" has been very generally abandoned in this country, for, though agreeable to the rider, it is hard upon the horse. The popular and almost universal vehicle is the buggy with a top, which has been christened improperly a gig. The doctor's gig, so-called, is not a handsome vehicle, and no one drives in it for the purpose of illustrating the sensuous side of the carriage-builder's art; but it seems to be generally accepted as suiting the purpose. The physician who desires true elegance and comfort in the city uses the brougham.

But the ideal vehicle for the physician has yet to be evolved. He owes it to his profession to adopt something less shoppy and inartistic than the gig, which should be given over to builders, plumbers, drummers, and the cold world of business generally. In its place we need a something which shall show more than the hard lines of a purely utilitarian conveyance. We trust that some genius will discover a substitute for the present doctor's gig.

THE CONDITION OF THE CROWN PRINCE OF GERMANY.

Dr. Robert C. Miles, clinical assistant of Sir Morell Mackenzie, sends the following cablegram to The Medical Record:

"The present scare concerning the Crown Prince of Germany is quite unfounded. He had an attack of subacute laryngitis, occasioned by a cold while at Tobloch. He has now entirely recovered, and there has been a steady improvement in his condition since his arrival in Italy.

News of the Week.

To Secure Longevity.—A little while ago it was distilled water and phosphoric acid, now it is common salt that surely leads to centenarianism. Dr. Burggraëve, of dosimetric fame, has, says the Paris correspondent of the *American Practitioner*, just published a work on human longevity in which he indicates the means by which a human being may live beyond a hundred years. It consists simply in the "rational employment" of common salt, which, according to this author, is the preservative against all diseases. It lengthens life by keeping off disease. The dose necessary in ordinary times is 3 v. daily. Burggraëve himself uses additional means to prolong his life. He takes every night on going to bed, as a prophylactic measure, one dosimetric granule of digitaline and one granule of arseniate of strychnine, one milligramme of each, which he repeats once or twice more in the twenty-four hours, according to how he feels. Besides these granules he takes every morning a small dose of granulated sulphate of soda, by which means the bowels are kept free and the blood relieved of its acridity. By the daily ingestion of the granules above mentioned the vital force of the organism is duly kept up. Dr. Burggraëve is now over eighty years of age, and still looks strong and hale. He enjoys a good table and makes use of the best of wines.

A Midwife Practicing Medicine.—Bertha Brown, a New York midwife, was arrested on complaint of an agent of the Medical Society of the City of New York, for practicing medicine without a diploma. The Special Sessions sentenced her to pay a fine of $250, or go to jail for 250 days. She appealed, and her appeal was allowed on the ground that by the new medical law of April, 1887, all persons were allowed until October 1st to file their diplomas.

The Automatic Apothecary, and the Real One.—Some ingenious druggist has utilized the popular craze over automatic machines for weighing and selling wall articles, etc. A machine is so devised that, by dropping in the proper coin, one can take out a remedy for his constipation, corns, biliousness, or other minor ailment. The possibilities of automatism in the treatment of human ills thus seem to loom up in very large proportions, and the automatic doctor may be one of the creations of the future. The worst enemy to such perspective simplifications of medical art, however, will be the druggist, who is bound to prescribe with more frequency, though perhaps with less intelligence than any mere instrument made of weights and springs.

Another Cure for Phthisis.—A month rarely passes without some new cure for consumption being offered. Among the latest is that advocated by M. Garcin, before the Paris Academie de Medicine. His method consists in the inhalation of fluorhydric acid. The patient remains for an hour daily in a cabinet of six cubic metres capacity, the air of which is saturated with fluorhydric acid. Among 100 phthisical patients, 35 are reported cured, 41 improved, 14 stationary, 10 dead.

The Diagnosis of the Case of the Late Gov. Bartlett, of California.—Dr. M. E. Zakrzewska, of Boston, writes, as a friend of Dr. C. Annette Renkel, that Dr. Renkel never made a diagnosis of Gov. Bartlett's illness from abscess of the kidneys as reported in the papers, but of a growth in the bladder. An autopsy was not thought necessary to confirm this diagnosis.

Medico-Surgical Society of French Canadian Physicians.—As the result of a Convention of French Canadian Physicians of New England, held in Worcester, Mass., on the 15th and 16th ult. at which forty Physicians were present, a "Medico-Surgical Society" was founded with the following officers: President, V. Mignault, M.D., of Lawrence Mass; 1st Vice-President F. D. Fontaine, M.D., of Worcester Mass.; 2d Vice-President, F. St Germain, M.D., of Warren, Mass; Recording Secretary, E. Sirois, M.D., of Three Rivers, Mass.; Corresponding Secretary, J. H. Palardy, M.D., of W. Gardner, Mass.; Treasurer, Benj. Fagnant, M.D., of Springfield, Mass.; Librarian, F. R. Patoël, M.D., of Holyoke, Mass.; Assistant Corresponding Secretary, N. Malo, M.D., of Danielsonville, Conn.

The death of Dr. G. W. Mason, of Bloomington, Ill., Oct. 11, 1887, occurred in consequence of an earnest devotion to the duties of his profession. He returned from the International Congress somewhat fatigued, and suffering from a slight rhinitis. While in this condition, he went September 29th to perform intubation, in a case of diphtheritic croup. On Saturday, Oct. 2, he again performed intubation on another case. The following day, diphtheritic membrane was visible in his throat, and he died of malignant diphtheria, Saturday, Oct. 8th. Dr. Mason was an able and scholarly man, and but thirty-seven years of age.

Discovery of the Specific Germ of Texas Fever.—Dr. Frank Billings, of the Patho-Biological Laboratory of the Nebraska State University, states (*American Lancet*) that he has certainly discovered the germ of Texas cattle fever. He says: This germ belongs to that class of septic germs represented by our swine-plague, the "wild seuche" and "schwino-seuche" of Germany, and rabbit septicæmia. It is a bacterium. It colors at its poles, and has a clear or non-coloring middle piece to its body. Like the H. C. germ it has motility in hanging drop cultures and also in the blood serum from the original blood of a diseased animal. It cannot be distinguished from the H. C. germ under the microscope, or in its growth on agar-agar, but differentiates itself very sharply by its growth on potatoes, having a delicate straw color, while the H. C. germ has a muddy coffee color—"boarding-house coffee color" a friend suggests. In gelatin I have not yet tested it on account of the obstacles of the prevailing temperature.

Death from a Skunk Bite.—Dr. Geo. W. Howard reports (*Nashville Journal of Medicine and Surgery*) the case of a boy of eight who was bitten slightly on the hand and face by a skunk. A month later he developed symptoms of pharyngeal spasm, and died.

The Treatment of Puerperal Convulsions in the Vienna Hospital.—The method of treating this complication is to keep the woman under the influence of chloroform and to promote copious perspiration by a full-length hot bath. They know nothing of elaterium or

other drastic cathartics with which we reduce the dropsy, and carry, in some cases at least, the woman along to safety.—*Cor. Maryland Medical Journal.*

We regret to have to chronicle the death, on the 7th ult., of Dr. James A. Gray, of Atlanta, Ga., one of the editors of the *Atlanta Medical and Surgical Journal.* Dr. Gray was only 37 years old.

The methods of cleansing the hands in the obstetrical wards at the Vienna Hospital are described as follows by Dr. C. W. Earle(*Maryland Medical Journal*:) In Spaeth's wards, one's hand's are cleansed by the use of a powder made by grinding up bitter almonds, both shells and kernel. It seems to possess great cleansing and absorbent properties. In Prof. Braun's touch course, before all examinations, the hands are scrubbed with a brush in soap and water, then dipped in a solution of permanganate of potash, and finally into a solution of muriatic acid.

The French and the next International Medical Congress.—It is not easy to please everyone in arranging International Congresses. A correspondent of *L'Union Médicale* thus expresses his feelings in regard to visiting Berlin in 1890: "Before adjournment the International Congress decided to hold its next meeting in Berlin. Although possibly the German delegates to the Congress did not outnumber the French, yet they found in America a number of partisans in their favor in Americans of German origin. At Copenhagen the protestations of French delegates, especially of MM. Trélat and Verneuil, were opposed to Berlin as the place for the next meeting; this obstacle did not exist this year. As but a small number of Frenchmen were at Washington, the capital of Germany was chosen by necessity. Will we go to Berlin in three years? I admit that I should prefer to go there in such a peaceful manner, rather than be obliged to traverse a route strewn with the bodies of German and French soldiers. But do not ask me my real desire."—*Medical News.*

From another quarter we have a similar expression of opinion.—It is greatly to be regretted that our French brethren take the matter so badly. The *Progres Medical* expresses great disappointment and chagrin, sentiments in which *L'Union Medical* seems fully to share, while the *Journal de Medecine de Paris* says that Berlin was chosen through the influence of Professor Martin, and that the choice is a "veritable insult" to France. The wish of the French physicians to have the meeting in Paris in 1889, was especially strong, because at that time the International Exposition is to be held there. There was certainly no slight intended in this matter, and we trust that all ill feeling will have disappeared when the time of meeting comes.

Dr. Milton Josiah Roberts has resigned the professorship of Orthopedic Surgery and Mechanical Therapeutics in the New York Post Graduate Medical School and Hospital.

Chronic Recurrent Fever—An Alleged New Infectious Disease.—Professor Ebstein recently read (*British Medical Journal*) before the Göttingen Medical Society a paper on "A Case of Chronic Recurrent Fever: a New Infectious Disease." The illness began in the patient, a youth aged nineteen, without any distinct cause, and the time of onset was not clearly marked. The only symptom of the disease was the fever. The patient has feverish attacks, which cease after a certain time, and recur after a definite interval, so that pyrexia and apyrexia alternate with a regularity which is not seen in any other disease. Each attack lasted on an average from thirteen to fourteen days, the apyrexia from ten to eleven days, so that from the height of one attack to the corresponding period in the next the interval was about twenty-four days. The temperature rose gradually in each attack above 40° C., sometimes to 41° C., and even higher, then it gradually fell below normal. The blood was normal, showing no increase in the number of white corpuscles and no bacteria. The lungs and the digestive organs seemed to be quite healthy. There was neither albuminuria nor glycosuria. The spleen was enlarged. Arsenious acid, quinine, and antifebrin were given, together with brandy as a cardiac stimulant, but treatment had no effect. P. K. Pel, in Amsterdam, has seen one case of the same disease. He at first thought it was phthisis, then an irregular form of typhoid fever. The patient died in the fourth attack. The *post-mortem* examination showed that the spleen and the retroperitoneal, mesenteric, and bronchial glands were enlarged. He therefore believed the disease to be pseudoleukæmia. Professor Ebstein, however, thinks that we give the same name (pseudoleukæmia) to two different diseases, of which one has a febrile course, while in the other there is either no fever or an irregular one. Typically only the latter should be called pseudoleukæmia; the former he proposed to call "febris recurrens chronica," and places it in the category of infectious diseases.

The Birth rate in France.—The French population returns for 1886 have just been issued. The births exceeded the deaths by 52,560, the smallest excess known of late years.

The Misuse of Marriage.—Under this title a London author has written a book, the chief object of which is to show the dangers of marriage between elderly men who have led immoral lives, and young girls. There are moral, physiological and pathological reasons which fully support the view taken by this author. And the physical evils which may result are sometimes transmitted to the children. Fortunately, we believe that such misuse of marriage is not common in this country.

The Babies of this City are likely to be well looked after this winter. Besides the Babies' Ward, at the Post-Graduate School which has been in successful operation for several winters, a Babies' Hospital is being organized at a house up-town.

Venous Murmurs and Anæmia.—Dr. A. Weil in his work, "Auskultation der Arterien und Venen," claims that venous noises are valueless as evidences of chlorosis and amæmia. Apetz, in a recent article on a similar subject in *Virchow's Archives*, comes to nearly the same conclusion. The venous murmurs in the internal jugular veins, for example, he finds to be dependent mainly upon the youth of the patient. A venous hum in the neck of a person under twenty may be perfectly physiological.

Reports of Societies.

NEW YORK STATE MEDICAL ASSOCIATION.

Fourth Annual Meeting, held in New York, September 27, 28, and 29, 1887.

(Continued from page 496.)

THURSDAY, SEPTEMBER 29TH—THIRD DAY—MORNING SESSION.

THE TREASURER, in his report, said there was a balance of $240 in the Treasury, in addition to a building fund of $465.

THE ADDRESS ON MEDICINE

was then delivered by DR. JOHN CRONYN, of Erie County. The orator took a general view of the field of medicine, and referred to the part played by the specialists in bringing the science to its present degree of perfection. He said that those who commenced the study of medicine should be previously fitted for their work by a good general education, they should be imbued with a reverent love for their profession, and should have an ever present lively sense of its great responsibility resting upon them.

DR. B. L. HOVEY, of Monroe County, then read a paper with the title

COLD AS A THERAPEUTIC AGENT.

He first alluded to the history of therapeutic measure. He had found it especially serviceable in the management of asthenic fevers, but he thought it was a dangerous remedy unless great caution were taken in the selection of proper cases. The temperature of the bath, when this method is employed, should, as a rule, not be less than 65° or 70° F., and the patient should not be kept in it longer than from seven to ten minutes. Among the affections in which he had employed cold in one form or another, were typhoid fever, sun-stroke, gastritis, hæmatemesis, and other forms of hemorrhage, Bright's disease, etc.

DR. NELSON L. NORTH, of King's County, followed with a communication entitled

THE SMALL-POX IN BROOKLYN; DEFECTIVE ISOLATION AND DEFECTIVE VACCINATION.

He said that the late epidemic of small-pox in Brooklyn, extending over a period of more than a year, had started from one concealed case in the person of a Polish immigrant who had landed at Castle Garden. He did not criticise the system of vaccination and isolation, as practised in Brooklyn, because it was necessarily worse than others, but simply because he knew more about it. He spoke more particularly of the interference of politicians with sanitary matters. He suggested the passage of more definite laws giving power to the health officers to control of patients suffering from contagious diseases, as well as the more rigid carrying out of the laws and ordinances already in force. He looked upon the small-pox hospital as a remnant of barbarism, and believed that there could be isolation without removal. He urged the employment of good nurses and good physicians who could take care of their patients and treat them rationally, and not leave them to live or to die as the case might be. The records showed that a greater proportion died of those sent to the hospital than of those who remained concealed at home.

It was a popular belief that many were sent to the hospital who had not the disease, but contracted it there. It was no wonder, therefore, that the friends tried to conceal their sick from the health officers. In closing, the speaker referred to the necessity of thorough vaccination, and the importance of using only fresh and pure vaccine.

DR. HENRY C. VAN ZANDT, of Schenectady County, then read a paper entitled,

SPECIALISTS,

in which he condemned the tendency of physicians to limit their practice and their knowledge to a single class of diseases. The general profession, he said, was made to suffer for the errors of the specialists. He insinuated that it was apt to be the unsuccessful general practitioner who became a specialist.

THE COMMITTEE ON NOMINATIONS

then made their report, in accordance with which Dr. John Cronyn, of Erie County, was elected president.

DR. THOMAS MANLEY, of New York, then presented a paper entitled,

EPITHELIOMA OF THE VULVA.

The speaker said that, although little mention was made of this affection in the books, he thought it could not be very rare, for he had seen two cases within five years. In both he had operated, with the result of arresting the progress of the disease.

AFTERNOON SESSION

The order for this session was a

DISCUSSION ON PLACENTA PRÆVIA.

DR. GEORGE TUCKER HARRISON, of New York, opened the discussion. He first spoke on the importance of a knowledge of the changes occurring in the cervix in the latter part of gestation, and during labor. The former belief on this point seemed to rest on a solid basis, but the arguments recently brought forward by Randel certainly appeared to overthrow these in a measure. The uterus was divisible into the thickening and contracting upper part, and thinning and expanding lower uterine segment, including the cervix. During labor the lower uterine segment was essentially passive, the upper part exhibiting active contractions, the boundary between the two being denominated by Schroeder as the ring of contraction.

The important symptom of placenta prævia was, of course, hemorrhage, the source of the bleeding being the placental site, and the cause being the separation of the placenta. The main indications in treatment were to guard the patient against the two dangers of hemorrhage and sepsis. The special liability of women who were the subjects of placenta prævia to septic infection was explained by the fact that the placental site was lower, and also that lacerations were frequently a result of the measures employed in treatment, the agent of infection being the examining finger of the accoucheur. Anæmia further favored septicæmia.

The author advocated the bipolar method of version introduced by Braxton Hicks, as the best means of answering the indications. Zweifel's method of avoiding perforation of the placenta in central implantation was especially commended. He hoped that in the near future some means would be devised to prevent the great infant mortality resulting from this complication of labor. Zweifel's method might be of service here; and doubtless much good would come from improvements in antiseptic procedures, which would enable the accoucheur to use the vaginal tampon, and rupture the membranes without perforating the placenta.

The first question proposed for discussion was:

IN CASES IN WHICH THE PLACENTA IS PRÆVIA, WHAT ANATOMICAL AND PHYSIOLOGICAL FACTS EXPLAIN THE HEMORRHAGE OCCURRING DURING PREGNANCY, AND WHY IS HEMORRHAGE UNAVOIDABLE DURING MISCARRIAGE OR LABOR?

The discussion on this question was opened by DR. CHARLES C. FREDERICK, of Erie County.

The speaker reviewed briefly the anatomical and phys-

iological facts which were supposed to account for hemorrhage in placenta prævia. He did not believe that hemorrhage was unavoidable during labor or miscarriage.

Dr. Isaac E. Taylor, of New York, said the obstetrician based his views upon the teachings of the anatomists and upon what he learned by touch during delivery. He had already expressed his views on this subject in a brief paper read before the New York Academy of Medicine in 1862. He demonstrated by touch alone that the cervix uteri did not coalesce with or become absorbed into the body of the uterus during the progress of gestation. The cervix had no special physiological function as had the body; it was passive, and remained so until the time of labor. It was prepared physiologically to dilate and expand in order to permit of the delivery of the child, just as the body of the uterus was prepared to contract and thus accomplish the delivery. He had held these views for the past thirty-five years, and had expressed them in the paper alluded to. They did not, however, receive the attention which they deserved at the time, and now they had recently been revived by Hoffmeier. All acknowledged that the cervix is anatomically distinct from the body; the placenta is therefore not physiologically related to the circulation of the cervix. The body of the uterus is the only proper place of attachment for the placenta during gestation. The hemorrhage which takes place during labor in cases of placenta prævia occurs during the relaxation of the uterus and not at the time of a pain.

Dr. Darwin Colvin, of Wayne County, discussed the second question, viz.,

IN THIS ANOMALY, WHAT IS THE SOURCE OF HEMORRHAGE, AND WHAT IS THE MECHANISM OF ITS ARREST?

The speaker referred to the difference of opinion entertained by authors as to the source of the hemorrhage. He said that he formed no definite opinion on the subject, and would not, therefore, devote much space to its consideration. He had had five cases of placenta prævia, and from his experience had come to the conclusion that the proper treatment was to induce labor at once, and not risk the life of the mother with the possible hope of saving the child. The responsibility was too great to temporize. He believed the life of the child was entirely secondary to that of the mother, and that an effort to save both by delaying the induction of labor would often result fatally to mother and child.

Cor. S. B. Wylie McLeod, of New York, said that, in his opinion, the source of the hemorrhage was the placenta, the uterine sinuses, or branches of the uterine artery or vein, or both, or all combined. Authors, however, were not agreed in their views on this subject. As to the means best adapted for its arrest, he would confine himself to a few measures only. The first and most essential thing was to convert partial separation of the placenta into total separation, and the hemorrhage would then generally cease. This gave an opportunity to the uterus to contract, and thus close the openings of the sinuses. Cold, ergot, etc., might occasionally be of service. The tampon could only temporarily delay the bleeding.

Dr. William T. Lusk, of New York, then discussed the question:

IF PLACENTA PRÆVIA BE DIAGNOSTICATED DURING PREGNANCY, IS THE INDUCTION OF PREMATURE LABOR INDICATED?

He thought that the accoucheur should proceed to deliver, if pregnancy had advanced to the seventh month, for the next hemorrhage might prove fatal. Abortion usually resulted from hemorrhage occurring before the seventh month, and the management of this does not differ from the management of abortion occurring from other causes. If hemorrhage begins before the child is viable, there is little hope of saving it by delay. In most cases the first hemorrhage is slight, but it should serve as a warning, and if the accoucheur's suspicions are confirmed, he should then not leave his patient until the delivery is accomplished. The practical results of the induction of labor in the hands of its advocates demonstrate its value. Strict antisepsis is a condition of success. Version is to be deprecated as it is attended by serious loss of infantile life.

Dr. Rollin L. Banta, of Erie County, opened the discussion on the fourth question.

DURING LABOR, WHEN THE PLACENTA IS PRÆVIA, WHAT MODE OF TREATMENT BEST SUBSERVES THE INTERESTS OF THE MOTHER AND CHILD RESPECTIVELY? IS THAT PLAN OF TREATMENT WHICH BEST CONDUCES TO THE PRESERVATION OF THE MOTHER'S LIFE INCOMPATIBLE TO A CERTAIN DEGREE WITH THE CHILD'S INTERESTS?

The speaker favored the method of Braxton Hicks, which, in his experience, most often proved effectual in saving the life of the mother. He had found less danger from hemorrhage than from infection, although he had always observed antiseptic precautions.

Dr. John Shrady, of New York, in continuing the discussion, said that he believed the percentage of maternal deaths which had been given as one in three, was too high, while the percentage of the infantile deaths had been under-estimated. The latter was much nearer 80 per cent. than it was 65. He could recall but four cases in his own practice, but they were not cases of central implantation. The watchword, deliver at all hazards, seemed, in the days of his pupilage, to have been passed all along the lines of the profession. The best chances of the mother, he believed, were in immediate delivery. But, still, it should be remembered that, in a certain number of cases of cervical lateral attachment the hemorrhage may cease spontaneously. In any case, he believed, the interests of mother and child did not, in any sense, conflict.

Dr. John G. Orton, of Broome County, discussed the last question, viz.:

AFTER CHILDBIRTH, IN PLACENTA PRÆVIA, WHAT THERAPEUTICAL MEASURES WILL MOST CERTAINLY GUARD AGAINST THE DANGERS OF HEMORRHAGE AND SEPTIC INFECTIONS?

In which he called particular attention to the benefit derived from friction over the nipples in the arrest of uterine hemorrhage.

Dr. William H. Robb, of Montgomery County, also discussed this point. He said the attendant should remove pillows from under the patient's head, secure firm and continued contraction of the uterus, and give at once fifty minims of the fluid extract of ergot, by hypodermic injection; if this failed, hot carbolized water should be injected well up into the uterus. In two cases the only means by which he had been able to maintain firm contraction of the uterus was by faradization. In such a case he would suspect laceration of the cervix, and, if the patient's condition admitted he would repair it at once. The uterus should be completely emptied and firm contraction should be secured as the best means of preventing infection. It might be necessary to inject hot carbolized water, and after that to throw iodoform up to the fundus. All lacerations should of course be disinfected.

Dr. James C. Hannan, of Rensselaer County, then read a paper on

ACUTE MANIA.

He repeated the history of a case in which there had been unusual difficulty in arriving at a diagnosis. The patient was a young man, and had rheumatic symptoms in addition to the cerebral manifestations.

Dr. Charles S. Allen, of Rensselaer County, then related

A CASE OF INTRA-RECTAL LARVÆ, WITH GASTRITIS, IN AN INFANT.

The author described in detail the patient's symptoms. Peculiar objects were found in the stools which, on microscopical examination, resembled the larvæ from the blowfly. He thought the food must have been the means through which the larvæ were introduced.

The session was then adjourned.

BRITISH MEDICAL ASSOCIATION.

(Special Report to The Medical Record.)

SECTION OF SURGERY.

Thursday, August 4th.

Mr. Laffan, of Cashel, read a paper on

THE TREATMENT OF SPINAL ABSCESS.

He said that in nearly all cases spinal abscesses were either opened or opened spontaneously. Authorities differed as to the advisability of opening them. Mr. Treves' plan was referred to, but Mr. Laffan said Mr. Treves did not propose to employ his method in disease of the dorsal vertebræ. He himself desired to extend it to them and to use it earlier in point of time. He would cut down on the bone before an abscess had had time to form, and provide for drainage. He described a case in which he had operated on a patient with abscess in the iliac fossa. He believed that the only chance of dealing with spinal cases was by "direct treatment" and by extending its use to suitable cases. It was not necessary to cut through the bodies of the vertebræ, but simply toward them, so as to provide for suitable drainage.

Mr. Illingworth, of Clayton-le-Moors, objected to the danger of the proposed method. He referred to the value of aspiration and described a successful case. He deprecated very early opening. In a case of his own he had aspirated ten times—each time withdrawing less pus. An abscess eventually formed in the thigh, but it was treated as an ordinary cold abscess and the patient recovered.

Mr. Walsham said Mr. Laffan advocated a very serious procedure. If the patient were kept at rest in the great majority of cases no abscess would form.

Mr. Frere referred to cases in which pus had been absorbed.

Dr. Gibney, of New York, preferred to let such abscesses severely alone. It was not an uncommon experience to see abscesses of large and small size disappear. It was safe to let such abscesses alone—certainly for general practitioners. He would open a certain number of a certain size.

Sir Spencer Wells, of London, then read a paper on

COMPARISON OF THE CÆSAREAN SECTION WITH PORRO'S OPERATION.

He said that formerly the comparison was between craniotomy and the Cæsarean section. Beattie, Montgomery, and others had argued the question. Ten years before his own student days that remarkable man, James Blundell, had (in 1828) said that the dangers of the Cæsarean section might be greatly lessened by the removal of the uterus, but it was not till 1869 that the operation had been performed (in New York). Porro had performed it in 1876. In 1884 Dr. Godson had brought forward a case of his own (successful as regards both mother and child), and had given particulars of several others in a paper read before the annual meeting of the British Medical Association. Of Porro's operation 152 cases were on record. Sixty-six women had lived and (excluding those who only lived a few hours) 96 children, thus making a total of 162 lives saved. Sir Spencer Wells said his own experience was limited to one case, which he described. He thought the danger to the mother was much less with Porro's operation than where the empty uterus was left, whether the opening in the uterus were closed with sutures or not.

Dr. Imlach, of Liverpool, said Sir Spencer Wells had wisely left the question open. We had gone on by a process of inversion. It was a wonder that the surgeon who removed Cæsar from his mother's womb had not done Porro's operation. He had done two himself; one child had lived. The same remark applied to myoma of the uterus. He thought we should in both cases be able to come to the Cæsarean section. Where, however, the condition of the organs would necessitate a repetition of the operation, no object was gained by leaving the reproductive organs.

Sir Spencer Wells dissented from the view that the Cæsarean section was more difficult than Porro's operation. He thought enucleation of a fibroma was very unsatisfactory.

Mr. Taylor, of Birmingham, then read a paper on

A CASE OF CHOLECYSTOTOMY FOR GALL-STONES, WITH REMARKS ON THE TREATMENT OF THE BLOCKING CALCULUS.

He remarked that one great difficulty in the operation of cholecystotomy was the removal of the stone. In the case he now described, there were several stones. One was wedged in the cystic duct, and he could only break off a piece from it. He did not venture to crush it from the outside. He stitched the gall-bladder to the edges of the wound, and washed it out with warm water. A rubber drainage-tube was employed. In fourteen days the stone returned into the gall-bladder. He subsequently found it loose in the gall-bladder, and quite soft. When grasped by forceps it broke down, and was readily removed. The three points to which Mr. Taylor desired to call particular attention were: 1, the use of warm water, which had been suggested to him in this case by its use in removing foreign bodies from the external auditory meatus; 2, the fact that some large calculi undergo changes and become soft; 3, the advantages of employing a special kind of forceps, which he exhibited.

Mr. Allingham, Jr., of London, then read a paper on

INGUINAL COLOTOMY; ITS ADVANTAGES OVER THE LUMBAR OPERATION, WITH SPECIAL REFERENCE TO A METHOD FOR PREVENTING FÆCES PASSING BELOW THE ARTIFICIAL ANUS.

Mr. Allingham remarked that the peritoneum was no longer held in awe. Inguinal colotomy possessed the advantage that respiration was not interfered with during the performance of the operation. The intestine also did not fall away from the abdominal wall, as it did from the loin in the side position. The passage of fæces below the artificial anus was obviated by the formation of a spur. In an early case he did not appreciate the importance of the spur, and consequently the fæces passed below.

Mr. Barker, of London, said the difficulties of the operation in the groin were nothing compared with those of the lumbar operation, and the dangers were not great with antiseptics. The spur was not always necessary. A case was described in which Mr. Barker had performed the operation mainly for the relief of the pain caused by fæces passing over a diseased rectum. Where the fæces were fluid, it was an advantage to aspirate and thus prevent them from passing over the wound. In one case he thus drew off ten pints.

Mr. Mayo Robson said he was astonished that the difficulty of finding the bowel in cases of lumbar colotomy was not more dwelt on in text-books. The peritoneum was frequently opened, and, he believed, without harm. In case of any difficulty in finding the bowel, his own plan was to open the peritoneum, introduce one finger through the slit in it to find the uncovered portion of bowel, and, having found it, to stitch up the other little

opening. He did not think the inguinal operation was particularly useful in acute obstruction of the bowel, as the bowel was then often much distended by gas or fluid, and where so distended it was difficult to avoid the entrance of its contents into the peritoneum. In chronic cases, however, the inguinal operation offered advantages.

Mr. Laffan referred to a published case of his own.

Sir Spencer Wells spoke of the importance of bearing in mind the distinction between right and left colotomy. In performing left lumbar colotomy we often came down upon a diseased part of bowel. He referred to four cases in which he had performed right lumbar colotomy—or rather made an opening in the cæcum—and all but one did well.

Dr. Ball approved of performing the operation at once—not in two stages—as the mere fact of inserting sutures would produce a certain amount of strangulation which would cause difficulty in the second stage. He had devised a special clamp to hold the intestine to the abdominal walls.

Mr. Allingham agreed that where the gut was much distended, it was advisable to perform the operation in the lumbar region.

Dr. Hector Cameron, of Glasgow, read a paper

ON SUTURE OF THE PATELLA, WITH A NEW SUGGESTION IN REGARD TO DEALING WITH A SHORTENED RECTUS MUSCLE.

He said the necessity for interfering with chronic cases with wide separation of the fragments was admitted. But in recent cases with good fibrous union the need was not so obvious. He justified the operation for recent fractures by the fact that the uniting ligament had a great tendency to lengthen or become ruptured. We rarely got bony union without operation. Two cases were exhibited on whom Dr. Cameron had operated. One was sutured fourteen days, the other fourteen years, after fracture. In the first of these cases he had adopted drainage as Lister did, but in his later cases he had found it unnecessary. In one of the cases he now exhibited, considerable difficulty had been experienced at the time of the operation. The bone was so soft that the holes for the sutures became converted into longitudinal slits.

Mr. Keetley said he had sutured eleven patellæ and two olecranons. Experience had led him to have strong views from what he had seen of patellæ which had been fractured and not sutured. The results of the ordinary treatment for fractures of the patellæ were far less satisfactory than books would lead us to think. Many such cases came for knee-caps to a society to which he was surgeon. He had never seen but one who said he could walk up-stairs easily, and that one he had no opportunity of testing.

Such patients were debarred from work. The dangers of the operation were altogether septic. Antiseptic surgery was not at present fully developed. In two of his cases a bystander came and put his finger (not aseptic) into the wound during the performance of the operation. In every one of his own cases he had found what Macewen had described, viz., the appearance of aponeurosis between the fragments. There was a difficulty in disposing of the wire. In some cases he had had to withdraw it, and others had had to do the same. An American plan, of which he approved, was to dispose of the ends of wire between the fragments. He would operate early and drain the tissues *outside* the joint. He had a strong theoretical objection to shortening the muscle, but had no practical experience of the operation. It was a question of the relative length of the bone and the muscle, and he suggested osteotomy as an alternative.

Professor Thornley Stoker had treated a large number of fractured patellæ, but had never seen such a result as a patient rendered unfit for the duties of active life. In one case a man with two inches separation gained a laborious livelihood as a pedler.

Mr. Foy, of Dublin, spoke of the dangers of the operation. He did not think that osteotomy, as advised by Mr. Keetley, in preference to division of the muscle, would commend itself.

Mr. Mayo Robson said that with the use of antiseptics he had never had any bad results with fractured patellæ. There need be no hesitation in dealing with compound fractures, but as to other cases, he would reserve the operation for old cases in which the limb was useless. He mentioned a case in which the patient broke his patella by falling from a mast. He was operated on, but shortly afterward fell again from the mast. His patella was again fractured, but in a different place.

Mr. Nicholson, of Hull, agreed that ordinary methods should first be tried. If these were insufficient we might then proceed to the more serious operation.

Mr. Barker observed that the operation had not been done in University College Hospital more than once during the last nine or ten years. They could get very good results in other ways.

Mr. Gowans, of South Shields, said he thought the operation was safe and justifiable.

Mr. Thompson, of Curragh, said he always undertook the operation with great precautions.

Dr. Macewen, of Glasgow, said he had cases which had not been operated on, and in which the limbs were most useful.

Dr. Cameron then replied. He said he admitted that good results often followed ordinary treatment, but an immediately excellent result was no argument. Many of the cases on which he had afterward operated had had very good results at first from ordinary treatment.

Dr. Phillippi, of London, then gave a practical demonstration of Professor Unna's method of treating chronic ulcers of the leg.

Friday, August 5th.

Dr. J. K. Barton, of Dublin, read a paper

ON OPERATIVE TREATMENT OF MORBUS COXÆ.

Dr. Barton spoke of the good results following excision of the hip-joint in such cases. In one case he had performed the operation on a patient who was in a very reduced state, and with good results. He maintained that when performed in the final stage of hip-joint disease it could save both life and limb. Shortening of the limb was frequently lessened by the operation, and in some cases by the formation of fibrous bands. Six months after the operation the patient might be restored to perfect health. Two living patients were shown on whom the operation had been performed, and in both there was very fair movement of the joint. In one of the cases there had been disease of the spine, and Pott's curvature was present.

Mr. R. J. Godlee, of London, then read a paper

ON A CASE OF HEPATIC ABSCESS, WITH REMARKS ON STITCHING THE PLEURA.

The abscess was not at first diagnosed as hepatic, owing to its unusual position, and was opened, finally, through the pleural cavity, the two layers of the pleura being stitched together to form a channel for the pus to pass through without entering the general cavity of the pleura. The patient did well. There was slight dulness in the back, but no signs of pneumothorax. A similar case, published by Mr. Knowsley Thornton, was referred to.

Professor Kocher, of Berne, then read a paper on

CACHEXIA STRUMIPRIVA AND MYXŒDEMA.

He had, he said, performed the operation of thyroidectomy in twenty-nine cases, and seen three cases of others. Six patients died, two of them being cases in which the operation had been performed for carcinoma; in one case recurrence took place, in the other it did not. All the six showed signs of cachexia before death. Of those

who lived, twenty showed marked signs of cachexia and six more or less slightly. He concluded that where cachexia had not followed the operation the latter had not been one of total excision. Partial excision was, in his opinion, excellent, but there was no case on record showing that *total* excision was harmless. Within four years fifty-six cases of cachexia strumipriva had been published. We must not forget that the enlargement of the thyroid in goitre was not due to increase of normal gland tissue. He suggested the term cachexia thyroipriva, *i.e.*, by loss of function of the thyroid gland.

Since 1883 observers had come to the following conclusions: (1) that a small part of the gland might do the function of the whole organ; (2) the influence of the thyroid on the blood might be a direct or an indirect one; (3) there was plenty of evidence that the gland was not a blood-forming organ. He referred to the researches of Professor Linski on the examination of lymph from and of blood going to and from the thyroid body.

Mr. Godlee referred to the inquiry now being conducted by the Clinical Society, and said that although the statistics were not yet complete, he believed they would show very few cases of myxœdema following total removal of the gland. Professor Kocher said, that where total removal had been performed, and myxœdema had not followed, accessory parts of the gland had been subsequently found. If myxœdema always followed total removal of the gland, we must discard *total* excision. He asked the plan now practised by Dr. Kocher.

Professor Thornley Stoker described two operations which he had performed in 1882. In one case the gland had reached an enormous size and hung down to the level of the umbilicus. He removed two-thirds of it and subsequently the remaining third. The patient died a week later from pulmonary thrombosis. In the other case he divided the isthmus, and later removed the enormous right lobe together with the isthmus. The patient was now in perfect health, and there was no cachexia. He had no doubt that, as Professor Kocher had said, a piece of the gland was as good as the whole for the performance of its functions.

Mr. Jessop (Leeds) described a case.

Mr. Gowans asked whether Professor Kocher had found cachexia strumipriva and myxœdema identical. Had he found low temperatures in both?

Dr. George Stoker (London) said, that Professor Kocher had set at rest the question of the desirability of removing the thyroid. It was difficult to believe, though, that the thyroid had the elaborate functions attributed to it. He compared it with the spleen, the functions of which were much modified when it was enlarged. Yet the thyroid did not exhibit any change of function even when enlarged to thirty times its normal size.

Professor Kocher replied that the enlargement of the thyroid was not due to hypertrophy of normal gland-tissue. Moreover, in patients with very large goitres we did see an alteration in function, which might be due to the compression of the gland by the abnormal tissue, the normal gland-tissue having almost disappeared. In Switzerland persons with goitre often showed many of the signs of myxœdema. He thought the thyroid was not a blood-forming organ, but one giving off noxious matters from the blood. We might remove one kidney, and it had no effect on the body. So we might remove a part only of the thyroid. Every patient from whom the thyroid was removed had cachexia, except when a small part was left, and then a small goitre came again. He thought division of the isthmus good. His practice was now, in the case of a large goitre causing urgent symptoms, to excise half. The trachea could then go to one side and escape compression. On the other side, if any further operation were necessary, he performed enucleation of the abnormal tissue. It was not so nice an operation as excision, in which there was often but little blood lost. He had found the post-mortem appearances in cases of cachexia strumipriva and myxœdema identical.

Mr. Wheeler then read a paper on

TREPHINING IN MASTOID AND TYMPANIC DISEASE.

He advised trephining on a level with the centre of the external auditory meatus and in front of a line extending to the tip of the mastoid process. Several sections of skulls with the brain *in situ* were exhibited, showing the parts reached by the operation.

Mr. Barker agreed with Mr. Wheeler as to the selection of site, viz., over what had been called the mastoid antrum. He did not agree with the advisability of trephining there for disease of the temporo-sphenoidal lobe, but preferred another site when the bone was healthy.

Dr. Drummond (Newcastle) thought Mr. Wheeler's area not desirable in cases of cerebral abscess. He described a case of the latter. To a patient he had seen several times, with vague ear symptoms and aphasia, he was called in one day suddenly and found him comatose. There was pronounced optic neuritis. He diagnosed cerebral abscess, and as aphasia was the only feature to aid in localization, he suspected pressure on the inferior frontal lobe. The ear disease was on the left side. He suggested trephining over the upper part of the temporo-sphenoidal lobe, about an inch and a half above and slightly behind the meatus. A hypodermic needle introduced through the trephine hole, an inch into the brain, drew off pus. A second opening was made close to Mr. Wheeler's point and no pus found with the needle, so the wound was drained from the first opening. The patient only lived three days, as red softening came on, but speech and consciousness returned. Had the opening been over the mastoid process, it would have been difficult to reach the abscess without penetrating a considerable distance.

Mr. Jessop drew attention to the origin of disease in the mastoid bone, and said it was no use removing the pus unless you could reach the seat of the disease in the bone.

Mr. Pratt said the operation was a favorable one, but trephining the skull in two positions was more serious than doing it in one. If there were disease in the mastoid process, by trephining high up you either left the disease without drain, or had to trephine again. He therefore preferred to trephine over the mastoid, even if a deeper incision had to be made. Being lower down, drainage was also better.

Mr. Walsham then read a paper on

LITHOPLAXY IN MALE CHILDREN.

Several successful cases were referred to, and Mr. Walsham said that to his mind the superiority (for male children) of lithoplaxy over both the supra-pubic operation and lithotomy was established. He had not himself met with a child in whom, after incision of the meatus, a No. 5 or 6 lithotrite could not be passed. Mr. Cadge, however, had met with one. The unusual sensibility of the urethra in children had been much overrated. He had met with children who preferred being sounded without chloroform.

Dr. Ward Cousins (Southsea) agreed as to the suitability of the operation for young children.

Dr. Austin Meldon (Dublin) then read a paper on

THE TREATMENT OF TETANUS.

Dr. Meldon said various methods of treatment had been advised. When he first had a case of acute tetanus he consulted his colleagues, and everyone advised differently from the others. He had collected particulars of nine hundred and thirty-seven cases variously treated. He now urged the value of hyoscyamus, belladonna, and conium given in combination. Under this treatment he had had thirteen recoveries out of seventeen cases. Since the introduction of antiseptics into the Dublin hospitals tetanus had almost disappeared.

Mr. Swan (Dublin) then read a paper on

THE INFLUENCE OF PERIOSTEAL SECTION AND BONE DRAINAGE IN ARRESTING CERTAIN DISEASES OF JOINTS.

The knee-joint was selected as an example, and some cases given. After operation rest was maintained until pain on passive motion had ceased.

Dr. Gibney (New York) remarked that the object was to convert a chronic into an acute disease, and then to treat the same by appropriate means.

Mr. Illingworth then read a paper on

A NEW FORM OF SPLINT FOR THE TREATMENT OF FRACTURES INTO, AND IN THE VICINITY OF, THE ELBOW-JOINT.

The ordinary rectangular splint employed in such cases often led, he said, to deformity, viz., an outward projection of the elbow. By reference to the skeleton, he showed that the arm and forearm naturally formed an angle at the elbow (the latter pointing inward) in the supine position. In pronation of the forearm it was more nearly in a line with the arm. He accordingly suggested that the forearm should be extended and pronated and (the limb being allowed to hang down by the side) straight splints applied. Œdema was prevented by careful bandaging. He had had several successful cases.

Dr. Hall contended that in many cases treated with rectangular splints there was no deformity.

Dr. Ward Cousins read a paper on

TREATMENT OF RETENTION OF URINE BY ASPIRATION THROUGH A CAPILLARY CATHETER.

He exhibited his instrument, which was half catheter, half bougie, the bougie portion being passed in first. It was mainly designed for use in obstinate cases of stricture, and Dr. Cousins said the great secret of success was to distend the urethra well with oil.

Mr. Steele (Clifton) then read a paper on

RADICAL CURE OF VARICOSE VEINS.

The veins which were to be operated on being marked out first on the surface by nitrate of silver, his plan was not simply to divide the vein between two pins, but to cut out a piece altogether. He thought it an advantage to cut in the course of the vein—not across. He had latterly not employed cutting, but seized the vein with torsion-forceps and twisted it till it broke across. It was often, said Mr. Steele, extremely difficult to find the veins when empty. Raising the foot of the bed by two bricks was an aid to after-treatment. His patients had been able to walk about in three weeks.

SECTION IN THERAPEUTICS.

In the Therapeutical Section a paper was read on

THE CLIMATIC TREATMENT OF PHTHISIS-PULMONALIS,

by Professor Charteris, of Glasgow. Professor Charteris said that inquiries should be fairly weighed before deciding on recommending a climatic change to a patient suffering from phthisis. The most important of these was the history of the case and the length of time required for residence abroad. If the history of the case revealed recent and repeated attacks of hæmoptysis, then there was great risk in ordering a removal to a place where the distance is great and where a sea-voyage of any length is necessary. The sea air is markedly exciting to the system, and if sea-sickness also occurs, there is great possibility of hæmorrhage recurring in an aggravated form. The next question is the time necessary for climatic treatment. It should be remembered that one of six months is not sufficient to effect a cure, and that coming back to this country, with its variable and humid atmosphere, is always attended with risk. Two or three years must, as a rule, be spent abroad before a return home can be contemplated with any safety. Moreover there can be little doubt that a permanent residence in the country, where health has been regained, is the best means of obviating relapse. In many European resorts it is out of the question to think of earning a livelihood, *e.g.*, Davos Platz, or the Mediterranean. Fortunately in our colonies places may be found of great benefit to the consumptive, where he may recover and live in health, and be busy. He narrated the case of a patient, aged forty-five, a watchmaker, who crossed to America with him, and who nearly died of hæmoptysis on the voyage. He went on to Colorado, and had been able to start in business there. A young lady, aged nineteen, went to Davos, and remained there a winter. When she returned she was greatly better, but took too much exercise, had a relapse, and died. The great desideratum in consumption was the expansion of the lungs out of doors in pure air. That is just what has been found useful in the ascent at Davos and Malaga, and on board ship. These means practically destroy the far-reaching inference of the bacillus discovery of Koch. No one doubts that Koch's bacilli nestle and multiply on the tubercular bed, but that they originate phthisis, and force the conclusion that tubercles can only come from bacilli, is contrary to the experience and observation of the great majority of the profession. We must believe that phthisis is hereditary, and tends to show itself in the growing maturity of youth, and certain conditions may evoke or originate the disease. We know that some whose means permit of a climatic change, will yet regain health, provided they will discard literary or social pleasures, and spend their lives out of doors. But there are others for whom such prospects can never be. He therefore advocated the formation of convalescent homes where poor consumptives could live in pure air and enjoy the fresh breezes out of towns. In this way their constitution might rally and a cure be effected.

Dr. C. R. Drysdale, of London, read a paper on

THE CLIMATIC TREATMENT OF CONSUMPTION.

The author said that in 1,000 deaths occurring in Paris weekly, 200 were from phthisis and 25 were from external tuberculosis. Dr. Thouvenin has shown that 65 per 1,000 of the deaths among the rich were caused by it, while 230 per 1,000 among the poor succumbed to the disease. Many years ago the celebrated Dr. Stokes had told a friend that in all his experience only two persons had recovered from phthisis, but of late years all who paid much attention to the disease had heard of a great many spontaneous recoveries. He himself had been accustomed to make inquiries at the meetings of the British Medical Association, and he had heard of upward of a hundred medical men who had recovered from the disease. He held that phthisis was a virulent and inoculable disease and, in all probability, the sputum of a consumptive, if subcutaneously inoculated, would produce the disease in a healthy person, as it did in the lower animals. He did not, however, adopt Koch's view that phthisis was often caused by the inhalation of dried sputum. He rather adhered to the view that the bacillus was an external parasite existing in all parts of the world, and chiefly in damp and sunless abodes, and that delicate persons, with or without any hereditary proclivity, inhaled its germs gradually. He doubted whether phthisis was contagious in any way like syphilis or small-pox, for at Davos, where he was last year, it never seemed to spread to the people in the valley, and persons residing in consumptive hospitals were particularly exempt from the disease. With the exception of some able Italian physicians, no one at present seemed to find much use of drugs in the treatment of the disease. They used iodoform as a germicide, and spoke of very good results having been obtained, which he was personally unable to confirm. In the meantime, then, the only chance was hygiene, and climate was *par excellence* the mainstay in

consumption. He had noticed that patients got well in all sorts of circumstances; but certainly suitable climates appeared to aid considerably in effecting a cure. His own estimate of the value of altitude in the treatment of consumption, since he had seen greater good obtained from residence at Davos, or some other "air-cure" in Switzerland or in North or South America than in any other place, although the shores of the Mediterranean and long sea-voyages in comfortable berths in good ships were extremely curative. When he visited Davos, in 1886, he found that the peasantry in the valleys of equal altitude round about the place said distinctly that people did not die of consumption among them; and, naturally, one could not help thinking that this must be due to the absence of germs in the flora of such elevated spots capable of producing the disease. Patients should go to Davos in May, and stay there until they get well, if they can afford it, with occasional trips home in midsummer, and this would cure many. So would a long sea-voyage to New Zealand or Tasmania and back by the Cape, returning by Cape Horn at suitable periods of the year in a roomy sailing-vessel. Those who have to make their living by work should be sent to the Cape of Good Hope, to Colorado, or to the Andes of Peru, which are splendid sanitaria, and where they might work at some trade. In this way many persons might escape from the early death which still falls upon such hosts of young people in all civilized countries.

Dr. Samuel Walker, of Middleboro, said that as Dr. Drysdale had asked to be furnished with the names of medical men who had seen phthisis arrested, he would give the case of a medical student, I. T——, who, at the age of twenty, was found to have phthisis when studying medicine at Edinburgh. He had a cavity at one apex. He lived nearly two years at Davos, with the result that the cavity healed and he was apparently restored to health, and was alive and well.

Dr. Garrett Anderson preferred the climate of the elevated situations of Europe or the continent of America to long sea-voyages, on account of the confined air of the cabins and of the berths.

SECTION IN PUBLIC HEALTH.

In the Public Health Section, Dr. Thorne Thorne in the chair, a paper was read on Friday by the Registrar-General of Ireland, Dr. Grimshaw, on "Class Mortality Statistics."

In the population of Dublin, containing 346,603 persons, a division was made into five classes, as follows: Professional and independent (30,129), middle class (56,781), artisan class and petty shop-keepers (106,142), general service class (147,625), and inmates of workhouses (6,036). The different classes had, first, 2,247 children under five years in the ranks of Class I.; 6,188 in Class II.; 12,895 in Class III.; and 16,111 in Classes IV. and V. This gives the various percentages of children under five years as 7 in I.; 11 in II.; 12 in III.; and 14.5 in IV. and V., thus following the law that the poor are much more prolific than the rich. The death rate for the various classes above cited, is as follows: In Class I. it was 13.4 per 1,000; in Class II., 27.3 per 1,000; in Class III., 22.3 per 1,000; and in Classes IV. and V. it was 33.7 per 1,000.

Dr. C. R. Drysdale, of London, read a paper on

THE INFLUENCE OF EARLY CIRCUMSTANCES ON LONGEVITY.

The author said that Villermé, of Paris, was one of the first to show that comfort prolonged life greatly, by showing that between the ages of forty and fifty years persons in good circumstances, in Paris, had a death-rate of 8.3 per 1,000 against one of 18.7 per 1,000 of persons of similar ages among the poor; and he also found that in Paris, between 1817 and 1836, 1 in 15 of the population of the poor arrondissement died annually, against 1 in 65 in the second, or rich, quarter. Mr. Chadwick had shown that in London there were some sub-districts of the wealthy classes where the death-rate did not exceed 11.3 per 1,000 annually, while there were localities (slums) where it rose to 38 per 1,000. In 1843, when the general London death-rate was 24 per 1,000, that gentleman found, in Bethnal Green, that the mean age at death of the gentry and professionals was forty-four years against twenty-two years among the artisan class; and recently, when the death-rate among the gentry was about 55 in England and Wales, that of the artisan class in Lambeth was 29.5. In 1874, Mr. C. Ansell, of the National Insurance Company, found that only eight per cent. of the children of the upper classes died in their first year, against nineteen per cent. in the general population of Liverpool, and thirty-three per cent. in the slums of that and other large cities. Ansell had concluded that, whereas there died in England and Wales, in 1874, 368,179 persons under the age of sixty years, if the mortality had been equal to that of the rich, only 226,040 would have died, so that poverty in one year had killed 142,139 persons. Dr. Thouvenin had truly remarked that with the exception of cotton-beating, dividing and carding silk cocoons, white lead, and grinding, there are scarcely any trades necessarily dangerous to life; but he found that the deaths from consumption were nearly one-fourth of all deaths among the poor, and only, or about, one-eighteenth of all deaths among the rich. Dr. Edward Smith's statistics at the Brompton Consumption Hospital of London, which he had verified at the North London Consumption Hospital, showed that his patients had been the offspring of parents who, on an average, had produced seven children each, and, as such children were ill-fed, they succumbed more easily to that disease. In the wealthy parishes of Kensington, London, with 186,584 inhabitants, Saint-George, Hanover-Square (88,176), Hampstead (53,758), Saint James, Westminster (28,178), had, in 1886, collectively, 7,779 births, and 5,614 deaths; *i.e.*, a birth-rate of 21.8 and a death-rate of 16 per 1,000; while the poor parishes of Shoreditch (125,508), Bethnal Green (129,895), Whitechapel (68,345), and St. George-in-the-East there was, in 1886, a birth-rate of 38.3 and a death-rate of 24.4 per 1,000. Thus, the poor in London had nearly twice as many children as the rich, and consequently their death-rate was to that of the rich as 3 to 2. The high death-rate of Dublin (26.5) was now explained by Dr. Grimshaw's statistics to be due to poverty, for the richer classes in that city have an annual death-rate of 13.4 per 1,000, against the artisan class, which has 33.7. The percentage of children among the rich in Dublin was seven, and among the poorer classes nearly fifteen, below the age of five years. The low death-rate of the Champs Elysées, at Paris, as compared with the poor twelfth arrondissement, is understood when we know that in the poor quarter children under five years existed to the amount of 957, against 397, in the rich quarter, per 10,000 inhabitants. In 1887, when he, Dr. Drysdale, was vice-president of one of the sections of hygiene at Paris, he found that 100 medical men in Paris produced only 174 children, whereas the average number of children in the poor quarters of Paris in a family, according to M. Haussonville, was 6, and in Paris he had found 7.20. The great economist, Mr J. S. Mill, said that "little improvement could be expected in morality until the producing of large families was regarded in the same light as drunkenness," and all enlightened hygienists would re-echo that sentiment. For his, Dr. Drysdale's, part, he was convinced that the health of the poorest classes would never be satisfactory until they were prevented, by public opinion, or, better still, by statute law of some kind, from engendering such enormous and unfortunate families. And if he was right in this opinion, what would the Section say to the conduct of the Fellows of the Royal College of Physicians of Edinburgh, who, in February

last, had threatened one of their members, Dr. Henry A. Allbutt, of Leeds, with expulsion from the list of members of the college, because he had explained, in a sixpenny pamphlet to the poor, the simple and harmless methods, now known to all enlightened citizens, whereby they might restrain the number of their children within the powers of their industry to rear them? It was a disgrace to a body of educated men to be so silly and so inhuman, and he sincerely trusted that they had already repented, and would ask the pardon of Dr. Allbutt.

In the discussion which followed the reading of these papers, Dr. Tatham (Salford) said he had no means in Salford of testing Dr. Grimshaw's statistics; but he had divided the population according to the class of houses they inhabited, and his figures tallied well with those of Dr. Grimshaw. One fact astonished him in Salford, and that was that there seemed to be seven times as many cases of scarlet fever among the poor as among the rich in that town. Dr. Grimshaw had grouped several years together in this first attempt; but after this he would give the yearly averages, which would be most useful. In England such a plan was not yet in vogue; but then Dr. Grimshaw was a physician, while the English Registrar General was only a layman.

Dr. Thorne Thorne asked whether the new statistics would keep up the enumeration of trades.

Dr. Grimshaw said that there still existed a house classification; but there were many so-called first-class houses let out in tenements with fourth-class accommodations. Dr. William Fare was the great founder of vital statistics in England. The classification by trades was not interfered with.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from October 2 to October 15, 1887.

Hall, William R., Captain and Assistant Surgeon. Ordered from Davids Island, to Fort Custer, Mon. Ter. S. O. 232, A. G. O., October 5, 1887.

Price, C. E., Captain and Assistant Surgeon. Ordered from Fort Custer, to Fort Du Chesne, Utah Ter. S. O. 232, A. G. O., October 5, 1887.

Suter, William N., First Lieutenant and Assistant Surgeon. Ordered from Washington Barracks, to Fort McKinney, Wyo. Ter. S. O. 232, A. G. O., October 5, 1887.

Weisel, D., Captain and Assistant Surgeon. Ordered from Fort McKinney, to Fort Sill, Ind. Ter. S. O. 232, A. G. O., October 5, 1887.

Horton, S. M., Major and Surgeon. Ordered from Fort Riley, to Fort Adams, R. I. S. O. 232, A. G. O., October 5, 1887.

Bache, D., Major and Surgeon. Ordered from Fort Adams, to Fort Riley, Kansas. S. O. 232, A. G. O., October 5, 1887.

Kimball, J. P., Major and Surgeon. Ordered from West Point, to Fort Elliott, Texas. S. O. 232, A. G. O., October 5, 1887.

Newton, R. C., Captain and Assistant Surgeon. Ordered from Fort Elliott, to Davids Island, N. Y. Harbor. S. O. 232, A. G. O., October 5, 1887.

Heizmann, C. L., Major and Surgeon. Ordered from Fort Ontario, to West Point, N. Y. S. O. 232, A. G. O., October 5, 1887.

Carter, E. C., Captain and Assistant Surgeon. Leave of absence further extended fifteen days. S. O. 231, A. G. O., October 4, 1887.

Cabell, J. M., First Lieutenant and Assistant Surgeon. Relieved from further duty in connection with the competition of "Team of Distinguished Marksmen," at Bellevue Rifle Range, to take effect October 1st, and will return to his station, Fort Omaha, Nebraska. S. O. 95, Department of the Platte, September 27, 1887.

Cabell, J. M., First Lieutenant and Assistant Surgeon. Will be relieved from duty at Fort Omaha. Assigned to temporary duty with Battalion, Sixth Infantry, in the field. S. O. 98, Department of the Platte, October 1, 1887.

Border, W. C., First Lieutenant and Assistant Surgeon. Will be relieved by officer commanding troops, upon arrival of Assistant Surgeon Cabell, and will return to his station at Fort Douglass, Utah. S. O. 98, Department of the Platte, October 1, 1887.

Alexander, Charles T., Lieutenant-Colonel and Surgeon. Relieved from duty as attending surgeon and examiner of Recruits at St. Louis, Mo., and ordered for duty at Fort Meade, Dakota Ter. S. O. 235, A. G. O., October 8, 1887.

Cunningham, T. A., Captain and Assistant Surgeon. Died October 12, 1887, at Fort Lewis, Colorado.

Official List of Changes in the Medical Corps of the United States Navy for the week ending October 8, 1887.

Martin, William, Assistant Surgeon. Detached from Hospital, Norfolk, and granted sixty days leave.

Bates, N. L., Medical Inspector. Detached from Naval Dispensary, and ordered to Examining and Retiring Boards.

Price, A. F., Surgeon. Ordered to the Naval Dispensary, Washington, D. C.

Waggener, J. R., Surgeon. Ordered to the Receiving Ship, Minnesota.

Fitzsimmons, Paul, Surgeon. Detached from the Minnesota, and ordered to the Morion, October 15th.

Atler, Louis W., Assistant Surgeon. Detached from the Receiving Ship, Vermont, and ordered to the Morion, October 15th.

Rush, W. H., Passed Assistant Surgeon. Detached from the Coast Survey Steamer, Blake, and ordered to the Navy Yard, New York.

Berryhill, T. A., Assistant Surgeon. Detached from the Minnesota, and ordered to the Blake.

Drennan, M. C., Surgeon. Detached from Naval Academy, and wait orders.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending October 15, 1887:

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	51	7
Scarlet fever	61	9
Cerebro-spinal meningitis	6	5
Measles	18	0
Diphtheria	96	31
Small-pox	1	0
Yellow fever	0	0
Cholera	0	0

The Fate of Extravasated Blood.—The object of a recent research by Dr. William Hunter was primarily to determine the share taken by the liver, the spleen, and the bone marrow in the disposal of extravasated blood (*British Medical Journal*). The method of research was the transfusion of large quantities of blood into the peritoneal cavity, the blood being in all cases derived from an animal of the same species. The animals used

were the rabbit and dog. I. Local Fate.—1. The part taken by cells in the local changes going on around extravasated blood is of the greatest importance; the cells being of two kinds—those of leucocyte, and those of connective-tissue origin. 2. The formation of blood-pigment from the red blood-corpuscles is mainly a "cellular" process, being effected through the agency of cells, either by enclosure of the corpuscles bodily within them, or by disintegration of the red corpuscles and then enclosure of their fragments. 3. In the process of so-called "organization" of blood-clot both varieties of cells play an important part; but while both leucocytes and connective-tissue cells are concerned in the disintegration of red corpuscles, the former, in addition, effecting the removal of the *débris* from the seat of extravasation, the connective-tissue cells alone are concerned in the process of formation of fibrous tissue by which ultimately the clot becomes replaced. II. Absorption.—4. The absorption of extravasated blood applies not only to the serum of the blood, but also to the great majority of the red corpuscles which remain unentangled amidst coagula or the surrounding tissues. 5. This absorption is extremely rapid, both from the subcutaneous tissues, but especially from the larger serous cavities. 6. In the case of the peritoneal cavity the absorption of the serum and red blood-corpuscles is effected almost entirely through the lymphatics of the diaphragm. 7. Under such circumstances the increase in the number of corpuscles within the circulation is observable one hour after injection, and steadily rises till it reaches a maximum about the second or third day, the time varying according to the quantity injected. 8. Extravasation *per se* does not affect the vitality of the red blood-corpuscles; if absorbed back into the circulation within a day or two, they continue to live as before. 9. Their longest duration of life under such circumstances (in the rabbit) varies from two to four weeks, this duration applying naturally to only a few of them. 10. The probable life-duration of the red blood-corpuscle in man is about three weeks. III. Ultimate Fate of the Absorbed Corpuscles.—11. The three great seats of blood destruction within the body, under pathological as under physiological conditions, are the liver, the spleen, and the bone marrow. 12. The nature of the process of destruction in the liver differs essentially from that in the spleen and bone marrow. 13. In the latter the process of blood destruction is mainly a cellular one, comparable in all respects with, although much more rapid and complete than, the similar processes taking place locally at the seat of extravasation; in the former the destruction is much more rapid than in the spleen and bone marrow. 14. After increased destruction of blood-corpuscles within the body the local evidences obtainable are, in the case of the liver, increased richness of its substance in iron, and the presence of granules containing free iron within the liver-cells; in the case of the spleen and bone marrow, increase in the amount of pigment containing free iron found within these organs. 15. In health a definite relation is maintained between the amount of blood destruction which takes place in the liver on the one hand, and in the spleen and bone marrow on the other. 16. Any disturbance of this relation on the part of the liver is of much greater consequence than on the part of the spleen or bone marrow. 17. The former is, in all probability, the pathological change which lies at the root of progressive pernicious anæmia, as the latter is the probable cause of the anæmia of leucocythæmia. 18. The rapidity with which blood-corpuscles introduced into the circulation become destroyed is very great, a number equivalent to about four or five per cent. of the animal's own blood being destroyed daily. 19. The small quantity of blood transfusible into the organism in the case of man is therefore entirely removed from the body in a few days at most, probably not longer than three or four. 20. Transfusion of blood in the human subject in cases of pernicious anæmia, with the object of increasing the number of corpuscles, is devoid of all physiological basis, and is simply adding fuel to the flame, since the fault in this disease is not one of defective formation of blood-corpuscles, but one of excessive destruction of those already present.

The Practice of Medicine on the West Coast of Africa.—Dr. Ralph St. J. Perry, of Indianapolis, sends us an interesting account of his experience as a medical missionary in Liberia, which was not of a nature to incite to a wholesale emigration of ambitious young physicians to that land. Dr. Perry writes: "My first hint to one intending to resort to a semi-civilized tropical country would be: Don't go; you will find the United States a much pleasanter, healthier, and safer country for you. That is why I came home. If you go, make a special study of the diseases and surgery of the country and take an outfit suited accordingly. Take plenty of drugs, as you cannot buy them when away from America or Europe; your surgical outfit should be full and of the best make. Three-fourths of your work will be surgical, and the man with the best tools usually gets the most work. All instruments, whether nickelled, gold- or silver-plated, or made of pure silver, must be kept anointed with vaseline, and cleaned every week whether used or not, otherwise they will become rusted and clogged with dirt or insects. Perishable goods, as silk catheters, bougies, and like instruments, must be kept in air-tight tin cases; the ants will destroy them if they are exposed, for the white ants of the tropics are terrors. Keep all your instruments under lock and key; the native of the tropics loves a pretty knife, and will appropriate one, or anything else, should the opportunity offer. In general practice you will have very little to do; the people will look upon you as a foreigner who knows little or nothing of the local fevers and other diseases, and they will trot off to some native medicine-man and take his "bush herbs," teas, and other de- and con-coctions. It will be well for the physician to look up the native remedies of his new location. If the place is of any commercial importance he will have some practice among the foreign population, and if he is able to rattle off a mass of information about the native remedies, he need not fear native competition. Beyond several cases of apoplexy and constipation, I encountered no medical work. Only one obstetrical case came to me—one in which instrumental assistance was thought necessary. I proposed forceps, but objection was made; a native obstetrician arrived, greased his hands, squatted between the woman's thighs, braced his heels against her buttocks, slipped both hands up into the vagina, gripped the head, and with a steady pull soon brought it to view. For this service he received one chicken and a pint of rice. Gynecology is practically an unknown science in Africa, because of the absence of such diseases, and of religious prejudices and ignorance. Skin diseases of every class are abundant; not only do you meet the purely tropical diseases, but also those of the temperate zone much aggravated. Leprosy, elephantiasis, molluscum, yaws, and numerous others as interesting, are met with daily. Plenty of opportunity is offered for study in this line. Venereal diseases are of frequent occurrence. During ten months' active practice in Liberia, covering a territory of six thousand square miles, inhabited by ten million people, I never saw a case of bubo, chancre, chancroid, or advanced syphilis. However, gonorrhœal pus flowed freely from about one man in every twenty-five, stricture occurred in about one in fifty men, and hydrocele in one in ten. The women, from some unknown cause, seemed much freer from venereal troubles than the men. Tubercular disease of the testicles is common, but the men decline to have it treated. I found that men would much rather suffer from a disease of the testicles than to have them removed. Being Mohammedans, they adhere strictly to the law as laid down in Deuteronomy—that no one injured in his privy parts shall enter the temple of the Lord. As I remarked before, three-fourths of your work

will be surgical, you will find the people ignorant, and they will leave everything to your judgment; you will have no one to consult with, and you will have to depend upon yourself; it is good training for a young man. Many severe cases of ulceration, gangrene, elephantiasis, and other diseases demanding amputation, will come to you and you will have to do the work without trained assistants. Herniæ will cross your path often, and I would advise you to operate for a cure whenever possible, as a reliable truss is hard to get, unless you are mechanic enough to make one yourself. Umbilical hernia will often be found in children, and in men who have strained themselves, but it is not looked upon as anything dangerous. Since my experience with dozens of these cases I am inclined to look upon umbilical hernia as something the danger of which is greatly exaggerated. Much trouble may be experienced in the use of ether and chloroform, the natives refusing to take it, they believing that a person under ether is dead, but is afterward resurrected. I have performed many severe operations without an anæsthetic, solely on account of this superstition. Drugs and chemicals should always be packed in impervious tin or glass containers, as the dampness of the tropics, coupled with the ravages of insects, will destroy most anything. Above all, look out for your own physical welfare; it will be necessary for you to become acclimated, and not a few succumb while going through their first fever. Take a supply of remedies for your personal use, and *use them* upon the slightest provocation. Dress warmly; don't think that because you are in a torrid climate you can go half naked. Bathe night and morning, and eat fresh food; canned goods cause more deaths in the tropics than anything else. Don't be ashamed to come home if you get sick. I would rather be ridiculed as a live man than mourned for as a corpse. Another point: don't have a wife to accompany you in your venture; Northern women do not bear pregnancy well in the tropics, and I would suggest that you wait until you see whether you can stand the climate yourself before exposing a more delicate constitution to the strain. Subscribe for two or three good medical journals and see that you get them—the mail agents often throw papers away as unworthy of carriage. As a rule, very few physicians in the tropics take any medical journals, and if you keep up with the times you can get ahead of your competitors. A pharmaceutical journal will materially assist you in purchasing supplies, and will keep you informed concerning new remedies."

Cataract Operations without Iridectomy.—On this point, now much discussed by ophthalmologists, Dr. Frank T. Smith says (*American Journal of Ophthalmology*): "In looking over the whole subject, it would seem that there is a wide difference of opinion in reference to the relative value of the different operations. It is generally conceded that to operate with an iridectomy is as safe as any method that has been suggested. The various other operations are still on trial. It will take some time to determine their value. One would naturally think that Von Graefe and other eminent ophthalmologists knew what they were about, when they abandoned the method without an iridectomy. The main objection to the latter operation is the tendency to iritis after the operation. This has been reported by most observers. With this is the danger of adhesions to the capsule. There is also danger of prolapse of the iris. This has occurred in some cases several days after the operation. The method that gives the best average results is the one that commends itself to conservative surgeons, not the one that is the most brilliant in a minority, or even in a majority, of cases. If in a minority, the effects are below the average by the other method. It is better that ninety-five per cent. should be able to see to get about than that seventy-five per cent. should be able to read the finest print, and twenty per cent. not be able to find their way. Judged on these principles, the von Graefe method seems to hold its place as the standard operation. By this method the best operators lost two or three per cent. by suppurative processes. It can hardly be expected that these results can be excelled. If they can be equalled by any method that leaves the iris intact, it will be an improvement.

Is there Want of Progress in the Healing Art?—Every now and then the old question is revived, "Are we better than our fathers?" This is particularly true in regard to the practice of medicine. The latest revival is furnished by Professor Gairdner, in his recent address on medicine, delivered at the Dublin meeting of the British Medical Society. He says that undoubtedly there are some points of detail which have not varied, for which even modern physicians are indebted to the sagacity and foresight of the ancients (*The Lancet*). But have we departed from the tradition of their work? Are we really so much in advance as we boast ourselves? In other words, Has medicine yet emerged from empiricism? Has it ceased to pin its faith to vague theories? Is it, as Professor Gairdner puts it, really more *stable* than it was a century ago? This, after all, is the real test of advance in the healing art; and, tried by these questions, there are, it must be confessed, many signs of absolute want of progress. In truth, there is no physician who will not confess that, in spite of the very notable achievements in the building up of the science of medicine, and in basing our practice upon the firm foundation of observed facts, there are yet wide regions in which we are still groping in the darkness, where we rely upon the "art" that clings to us from the past. It is slow and weary work, this casting off of old traditions and searching for the surer ground of fact; but it is being done, and that with increasing energy and hope. Professor Gairdner, in his calm and impartial survey, showed us what comfort we may glean from such reflections, and we may confidently look forward to a time when rational medicine will prevail; this, too, in spite of the many disheartening indications we see around us of the spread of quackery among the public. For it is not only the medical man who has to be imbued with the new spirit; his patients also sadly need enlightening upon the subject. The old faith in medicine as a mysterious and well-nigh miraculous power has not yet died out, and it is fostered by the unscrupulous, who trade on ignorance and folly. But how is it with ourselves—we the legitimate heirs of Hippocratic medicine? Are we really worthy of the laudation we are so apt to indulge in, and have we wholly thrown off the shackles of tradition? It seems to us that Professor Gairdner supplied an answer to this question, and, indeed, the only possible answer. He showed that, strictly speaking, we have no data of comparison between the medical practice of our day and that of Hippocrates or Galen. We have their dicta and their principles, but we have no clinical records sufficiently detailed to contrast the efficacy of their methods with that of our own. No one can deny the great service rendered by "the Æsculapian priest who first emancipated the art of medicine from the trammels of priestly control on the one hand, and of philosophic dogmatism on the other," and, wide as is the interval between his days and ours, there is still much in the Hippocratic tradition that remains unshaken. Contrasting earlier times with the present, Gairdner sought for evidence of a greater stability in medical doctrine now than then. He surveyed the field of modern medicine, and showed that in some respects, especially in the overwhelming rush after new remedies, we have not much to boast of. There is no gainsaying that in some directions medicine has attained as great a stability as it is possible to conceive, but the problems are so vast and numerous that we cannot marvel at the uncertainty in which we often still remain. Happily, however, we are no longer dominated by any theoretical system of universal application,

and we are daily striving to rid ourselves of all that is empirical in practice. We have this advantage over the time of Cullen, that we are learning more of the nature of disease and of the action of remedies than was known to him, and our practice is becoming simpler and sounder in proportion as that knowledge widens. Among the hopeful signs of an increasing stability in medicine, Professor Gairdner adduced the advance of sanitation, the recognition of the self-healing powers in acute disease, the banishment of venesection (or rather its rational restriction) as a remedial measure, and the more enlightened practice of feeding the fever patient rather than bleeding or overstimulating him. These are, indeed, great signs of progress, and separate us from the practice in vogue long after Cullen's day by an immeasurable distance. Up to that time it might have been questioned whether Sir William Hamilton's query, whether the practice of medicine had made any advance since the days of Hippocrates, was not justified, but no one dare assert it now. The Hippocratic tradition has been broken in its strongest link. Professor Gairdner himself has been the witness of this revolution, and has taken no small part in furthering it. There is no doubt that in these respects at least we have gained wisdom, and it has come to us not through the adoption of any theory or as a revulsion from "orthodox" practice, but as the outcome of that patient investigation of natural phenomena of the healthy and diseased body and its environment which forms the basis of scientific medicine. That the gain is a substantial one is to be seen in the instance, cited by Professor Gairdner, of the treatment of fevers; for although the precise value of antipyretic methods is not fully proved, there can be no question of the gain derived from the change from lowering to restorative methods, and the substitution of easily-assimilated food for excessive doses of alcohol. There still remain many branches of medicine in which art lags behind science, and there are prejudices and traditions, both among the laity and the profession, to be eradicated before we can be satisfied with real progress.

Neuralgic Headaches with Apparitions of Unusual Character.—Dr. S. Weir Mitchell reports in *The American Journal of the Medical Sciences*, five peculiar cases of migraine which must be very rare, since with his large opportunities he has seen but four examples. In the cases he describes the ordinary subjective images of zigzag lines or rotating wheels were replaced by more definite shapes, so as sometimes to induce the belief for a time, on the part of the patient, that a ghost had been seen. In two cases the vision came as the only visual phenomenon of severe headaches. Now and then the apparitions were various, at times followed the common zigzags, and at others occurred in the intervals between a succession of exasperating headaches.

The Mental Differences between Men and Women.—Our social system hinges so much upon the relative interests, claims, and capacities of men and women that too much assiduity cannot be employed in endeavoring to mould public opinion upon a question whose issues are so vital and far-reaching. The Mahommetan regards woman as probably soulless. Needless to add, he makes her a slave. The modern movement for promoting the higher education of women would have been impracticable but for the steady growth in the public mind of a conviction that this enlarged culture was not only feasible but an obvious duty. The miserable travesty of education which was formerly thought good enough for young women—the scraps of history and mythology, the music, dancing, and deportment, so long the staple pabulum at "finishing" schools for young ladies—could have been tolerated only by a generation which had accepted without question or examination the low views of female intellectual power prevailing in a former epoch. Hence, such questions as those handled so ably by Mr. Romanes, in his paper recently published in the *Nineteenth Century*, are no mere academic discussions, but problems pregnant with conclusions of immense practical importance. Mr. Romanes cannot be reckoned as a partisan of either side. He sums up, as he himself admits, "with almost brutal frankness," the various intellectual deficiencies of women, real or supposed, but adds that "these elements of weakness are in chief part due to women as a class not having hitherto enjoyed the same educational advantages as men." We are glad of this admission, which has a very vital bearing upon current controversies. The opponents of the higher education of women are singularly unfortunate in their line of argument when they dwell with apparent satisfaction upon the superiority of men in depth of insight, comprehensiveness of view, originality, creative faculty, and judgment. Granted that in these respects women are, as a class, somewhat inferior to men, the legitimate deduction is not that feminine culture is useless or futile, but rather that it should be encouraged by every means in our power, in order that women may, as soon as possible, make up the lee-way consequent upon centuries of apathy and of neglect of their intellectual claims. We are somewhat surprised that Mr. Romanes should attach such paramount importance to the fact of the female brain weighing on the average about five ounces (one-tenth of the whole) less than the male. We are hardly prepared to admit either of the premises upon which an argument can be founded for regarding this deficiency as a necessary sign of intellectual inferiority. These premises are, first, that size of brain is a fair gauge of mental power; and, secondly, that the difference of size between the brains of men and women is greater than might be expected from the difference between their bodies. As regards the first point, cerebral physiology is still in too nebulous a condition to enable us to say more than that, as a general rule, idiots have small brains and men of distinguished capacity large brains. When we put aside the *monstra*, either of excess or defect, it is by no means clear that the possession of a few ounces of brain-matter above the average is a fair gauge of intellectual pre-eminence. Further, the remarkable conclusions of Ferrier and his school have established a surprising closeness of relation between the brain-substance and the muscular system, while they have shed very little light upon the *nexus* between cerebral matter and intellect. It is a very fair question for investigation whether the smaller brain of the woman is not in large part due to her comparative muscular inactivity. As regards the second point, namely, whether the smaller brain of the woman is not simply part and parcel of her smaller body, we are by no means satisfied with Mr. Romanes' rather dogmatic statement that the deficiency of five ounces is "proportionally a greater difference between the male and the female organisms, as a whole." It is a very open question whether the body weight of the average man does not exceed that of the average woman by fully one-tenth. The progress of female education during the brief period in which it has been intelligently and thoroughly cultivated is surely very striking. Women are everywhere justifying the hopes of their champions, and disappointing the gloomy vaticinations of their opponents. Their university successes have exceeded the most sanguine anticipations, and such a brilliant achievement as that of Miss Ramsey, at Cambridge, this year, is enough to cause grave questionings to believers in the natural and inherent intellectual inferiority of women. While we thus take exception to some of Mr. Romanes' lines of argument, we are thoroughly with him in his condemnation of the fatuous notion of some feather brained reformers that there is no such thing as sex in mind; and that, granted an identity of training and environment, men and women would be in all respects mentally alike. We cannot give space to discuss this theory, and must rest content with the statement that biology and psychology alike emphatically repudiate it. We doubt whether woman is necessarily and essentially inferior

mentally to man; we are quite sure she is mentally dissimilar. The great maternal function alone could not operate without gradually inducing intellectual differences which are perpetuated by sexual transmission. All experience tends to show that woman shines in intuition, man in judgment; that woman is strongest when impelled by emotion, man, when impelled by will; that man is creative, woman administrative; that woman is greatest in self-sacrifice, man in conquest and achievement. Be these differences inherent in sex, or the outcome of evolution, their existence can hardly escape any observer who does not start with some preconceived theory.—*The British Medical Journal.*

"Stooping Forward."—Everyone knows that stooping forward, particularly after rising quickly from bed in the morning, when the stomach is empty and the heart has less than ordinary support from the viscera below the diaphragm, is very apt to occasion a form of faintness with vertigo not unlike that which occurs in seasickness. We do not at the moment speak of the faintness and giddiness from cerebral anæmia, which are directly consequent upon suddenly assuming the erect, after long continuing in the recumbent, posture; but of the more alarming sensation of being in the centre of objects which are rapidly passing away, usually from left to right, with loss of power to stand or even sit, and an almost "nightmare" feeling of inability to call for help or do anything to avert a catastrophe, while throughout the experience the sufferer retains painfully acute consciousness. This, we say, is familiar as one at least of the effects not uncommonly produced by stooping forward under the special conditions indicated. With many other varieties of the vertigo consequent upon heart weakness or cerebral anæmia observation or experience has made us all acquainted. We cannot, however, help thinking that the consequences of even partial compression of the veins of the neck, offering an obstacle to the return of blood from the head, with its important organs, are not so well recognized. The peculiar form—or, more accurately, the several forms—of headache distinctly caused in this way when the head is long bowed forward on the chest, bending the neck on itself, cannot fail to occur to everyone; nor will the high tension of the eyeball, the turgid and heavy eyelids, the snuffling nose, the deafness, with buzzing or throbbing in the ears, the heavy breathing, and the puffed and perhaps flushed or darkened color of the face, resulting from the obstructed venous circulation through the bended neck, be forgotten. There are other and more perilous, though secondary, effects of leaning forward when the heart is weak, or the blood-vessels are not so strong as they ought to be, which should not be overlooked. Beyond question the extra strain thrown upon the apparatus of the circulation by anything that impedes the free passage of blood through almost any part of the venous system is more severe and dangerous than a *physically* equal strain thrown on the arteries. At least this is so in adult life, and, without going further into details in connection with the *modus operandi* of the mischief to which we point, it may be permissible to urge that the subject is one to which attention may be usefully directed. The weakly, and those who are not unlikely to have hearts readily overburdened, and blood-vessels easily stretched beyond recovery, or even ruptured, should be warned quite as earnestly against suddenly assuming, or too long retaining, postures which do—however slightly and partially—impede the return of blood through the veins. We know how prolonged sitting may cause the veins of the legs to become distended, and either give way or permit the extravasation of their contents. When this sort of thing happens, even though in comparatively trifling degree, in the case of vessels directly connected with such delicate organs as the eye, the ear, and the brain, it is easy to see that the results may be very serious in their character: and probably few postures commonly taken up by persons who lead somewhat sedentary lives are so prone to do mischief unnoticed as that of "leaning forward," as at work at a table which is not sufficiently high to insure the head being so raised that the veins of the neck may not be in any way compressed, or the return of blood from the head embarrassed or delayed. We see reason to believe that if this apparently small matter were more generally understood there would be fewer head and heart troubles, and we will go so far as to say that some lives now lost would be saved.—*The Lancet.*

Membranous Enteritis Followed by Intestinal Perforation from Ulcus Rotundum.—Dr. Rothmann has described the case of a patient with intestinal perforation, who during life had passed those fibrinous masses usually described as characterizing membranous enteritis. The patient, who had been under observation for several years, suffered from intestinal obstruction, and had had for nine years bleeding hemorrhoids, for which he had been successfully operated upon. Soon after this, he was attacked with colicky pains accompanied with vomiting. He complained of pain in the left hypochondrium. The heart showed nothing abnormal. The pain passed off with a sensation as if fluids and gases were passing through a constricted spot in the intestines. At the same time with such sensations fibrinous masses always appeared in the dejections. Two years before, for the first time, there appeared evacuations of dark blood, which ceased after the use of ice and acetate of lead. After a considerable time they ceased, and appeared for the last time in January of the present year. The patient then rallied and looked well. No tumor was to be felt in the abdomen. On the night of June 16th, he was suddenly seized with the severest pain, became very pale and had a small and quick pulse. For the first time vomiting of blood occurred. The abdomen was hard as a board. There was a smothering sensation referred to the sides and the lower abdomen. The symptoms were clearly those of intestinal perforation. Operation was out of the question on account of the marked collapse. Death occurred in twenty hours. Post-mortem section showed a round ulcer of the duodenum, and rupture *in loco*, adhesion to the colon at the lower part of the ulcer, while the tear took place at the upper part of it. In the colon was a slight stenosis which evidently corresponded to the place the patient had described as feeling narrowed. There was no other lesion in the colon.—*Boston Medical and Surgical Journal.*

The methods of some of the "Christian Scientists" are thus depicted by a lady patient of mine who was beguiled into a séance: After I was seated opposite the faith-healer, she asked: "Do you believe on the Lord Jesus Christ?" "Oh, yes." "Well he can relieve you!" Then putting her hand over her eyes she sat for about fifteen minutes repeating rapidly in a low voice: "Jesus Christ, Jesus Christ, Jesus Christ, Jesus Christ, Jesus Christ, Jesus Christ, Jesus Christ—two dollars, please." And I paid it willingly, thinking I had learned what a fool I was very cheaply.—*Kansas City Medical Index.*

Iodoform.—Dr. John A. Wyeth, of N. Y., writes: "In regard to your editorial in the Record of October 1st, reviewing the various contributions to surgical literature, on the aseptic and antiseptic properties of iodoform, I beg to differ with one of your conclusions, namely that "practical surgical experience continues to favor it."

For two years past I have abandoned it in dressings, and have never had better results—I am forced to conclude that it is an unnecessary complication the to aseptic dressings, to say nothing of its persistent and offensive odor. The employment of the weaker sublimate solutions for irrigation 1 to 3000, and 1 to 5000, the sublimate gauze dressings applied moist and kept so by protective will secure in my opinion as perfect asispsis as is possible.

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FIFTY CASES OF CROUP IN PRIVATE PRACTICE TREATED BY INTUBATION OF THE LARYNX, WITH A DESCRIPTION OF THE METHOD AND OF THE DANGERS INCIDENT THERETO.

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IN estimating the value of any method in the treatment of disease, we are compelled to rely chiefly upon statistics, unsatisfactory though they often may be. A plausible theory is very seductive, but it will not cure disease. Theories, indeed, may and often do lead up to the adoption of certain methods of treatment, but there their office ends, and henceforth the therapeutic measures based upon them must be judged by a comparison of their results with those of the older established methods.

These are the considerations which have led me to prepare the following table, giving a summary of the results obtained in my first fifty cases of intubation of the larynx in private practice.

Prior to the time covered by this report, that is from Jan., 1880, to Dec., 1885, or during the experimental stage of intubation, I operated on sixty-five cases of croup, sixty of them being in the New York Foundling Asylum, and had but nine recoveries, or not quite 14 per cent.

I have never resorted to intubation until the symptoms of laryngeal obstruction were so urgent as to plainly indicate impending suffocation, unless the child were relieved by operation. These symptoms were marked recession of the supra-clavicular and episternal regions, restlessness and absence of respiratory murmur over the lower posterior portion of the lungs. Persistent cyanosis was also present in many of the cases, but this comes too late, and is too uncertain a symptom to wait for. Some cases of croup die without any marked cyanosis, and others, in whom this evidence of toxæmia has existed for some time, do not rally even after the dyspnœa has been relieved. Temporary cyanosis, which subsides with the disappearance of the glottic spasm which produces it, is of no special significance.

During the period of time covered by these statistics (from December, 1885, to December, 1886) I was called upon to operate in four additional cases of undoubted diphtheritic croup, but did not consider the symptoms urgent enough to demand interference. They all recovered without operation. In two instances I was sent for a second time, which is an evidence that the attending physicians regarded the symptoms as sufficiently grave to call for interference. I mention these cases particularly to direct attention to the advantage from a statistical point of view of early operation, whether intubation or tracheotomy, and to emphasize the fact that the cases embraced in the following table were desperate ones, and such as, in my opinion and in that of the attending physicians, would have died of suffocation, unless relief to the laryngeal stenosis had been afforded. Out of the 24 cases from which the urine was obtained for examination, albumen was found in 19 of them. The cause of death was due in 18 cases to extension of membrane to the bronchi, in 5 cases to exhaustion, in 5 cases to nephritic complication, in 4 cases to pneumonia, in 3 cases to sepsis, in 1 case to œdema of the lungs, in 2 cases not stated, as they were not seen after operation. Total, 38 cases. In the twelve cases that recovered, the tube was retained on an average of 5 days and 7 hours. The 38 cases that died, lived on an average of 2 days and 7 hours after intubation. The duration of the laryngeal symptoms before intubation averaged 3 days and 6 hours in those that recovered, and 2 days and 6 hours in those that died.

No autopsies were obtained, and it is quite probable that broncho-pneumonia, not revealed by the physical signs, existed in a much larger number than given above.

Method of practising intubation of the larynx.—A set of intubation instruments consists of five tubes[1] of different sizes, an introducer, an extractor, a mouth gag, and a scale of years. Each tube is supplied with a separate obturator which serves the double purpose of attachment to the introducer, and of filling the lower extremity, and rounding it off into a probe-point, so as to prevent injury to the tissues, and scraping off of membrane while the tube is being inserted. The numbers on the scale represent years. The smallest tube, when applied to the scale, will reach the first line marked 1, and is suitable for children of one year old and under. I have occasionally used this size in children of two years of age, but, while there is no danger of its slipping into the trachea, it is very liable to be coughed out. The second size will reach the line marked 2, and is intended for children between one and two years of age. The third size, marked 3–4 on the scale, should be used between two and four years. The fourth size is for the next three years, and the largest is for children from eight to twelve years of age, who have not yet reached puberty. If used in older children, a string should be left attached and passed around the ear, to obviate the danger of its slipping through into the trachea, owing to the rapid increase in the size of the larynx, which takes place at the age of puberty.

In selecting the tube to be used, some allowance should be made for the fact that the male larynx in children, as in adults, is larger than the female. Also for the size of the child compared with its age. A small delicate girl of three and one-half years might require only a two year size, while a large boy of the same age will sometimes require the five to seven size.

After selecting the proper tube, a thread about eighteen inches long, preferably of braided silk and not too thick to wedge the obturator too tightly in the tube, nor so fine that it will cut or break, is passed through the small hole near the anterior angle, and the ends tied to prevent its being accidentally pulled out, either in removing the instrument from the mouth, or by the patient getting the hands free and seizing one end of it. The obturator is now screwed tightly to the introducer, to prevent its rotating while being inserted, which would be liable to bring the posterior projecting portion of the flange under the epiglottis. When the tube is attached to the introducer, and ready for use, the obturator should project sufficiently from its lower extremity to make a probe-point. If it does not enter far enough to accomplish this, it will be found either that the thread is too

[1] I have ordered a sixth and larger tube for older children where the largest one as at present made, is not retained.

Number.	Date.	In consultation with.	Sex.	Age.	Duration before intubation of Croup.	Duration before intubation of Pharyngeal diphtheria.	Urine.	Cause of death.	Complications before intubation.	Result.
	1885.									
1	Dec. 5	Own case.	F.	3 yrs. 3 mos.	2 days.	1 day.	Not exam.	Extension to bronchi.	.....	Died 2 days after intubation.
2	" 7	Drs. B. E. Hayes & J. L. Smith.	F.	14 months.	.....	Several days	"	Exhaustion.	.....	Died 6 hours after intubation.
3	" 10	Drs. Stuhenbord & Winters.	M.	18 months.	1 day.	4 days.	"	Extension to bronchi.	....	Died 7 hours after intubation.
4	" 30	Dr. Northrup.	F.	3 yrs. 4 mos.	5 days.	4 days.	Albumen.	Extension to bronchi.	.....	Died 2 days 10 hours after intubation.
	1886.									
5	Feb. 1	Dr. J. Lewis Smith.	M.	2 yrs. 3 mos.	3 days.	None.	"	Nephritis.	.....	Died 8 days 3 hours after intubation.
6	March 23	Dr. J. J. Reid.	M.	5 years.	3 days.	3 days.	"	Uræmic convulsions.	....	Died 1 day 9 hours after intubation.
7	April 6	Dr. W. A. Hawes.	M.	3 yrs. 1 mo.	2 days.	7 days.	"	Suppression of urine.	.....	Died 4 days 1½ hour after intubation.
8	" 22	Dr. J. Lewis Smith.	M.	2 yrs. 5 mos.	1 day.	Several days	Not exam.	Exhaustion.	.....	Died 36 hours after intubation.
9	May 1	My own case.	F.	3 yrs. 9 mos.	1½ day.	None.	Albumen.	Septicæmia.	.....	Died 6 hours after intubation.
10	" 14	Drs. L. L. Bradshaw & F. Lange.	F.	3 yrs. 2 mos.	1½ day.	Next day.	Not exam.	Pneumonia.	.....	Died 5 days 8½ hours after intubation.
11	" 17	Dr. Alex. Hadden.	F.	6 years.	2 days.	Several days	No albumen.	Exhaustion.	Following scarlet fever.	Died 5 days after intubation.
12	" 18	Drs. M. M. Dunton & J. D. Bryant.	F.	7 years.	3 days.	Not noted.	Not exam.	Pneumonia.	Pneumonia when tube was inserted	Died 18 hours after intubation.
13	" 24	Dr. J. R. Cypert.	M.	3 yrs. 3 mos.	4 days.	1 week.	"	.....	.....	Recovered. Tube worn 4 days.
14	" 25	Dr. J. Oppenheimer	F.	18 months.	2 days.	Several days	"	Extension to bronchi.	.....	Died 2 days after intubation.
15	June 5	Dr. Hodgman.	F.	3 yrs. 6 mos.	2 days.	"	"	Convulsions.	.....	Died 1 day 8 hours after intubation.
16	" 11	Dr. W. E. Bullard.	M.	2 yrs. 6 mos.	1 day.	Few hours.	"	Extension to bronchi.	.....	Died 2 days 6¼ hours after intubation.
17	" 24	Dr. W. A. Hawes.	F.	2 yrs. 6 mos.	1 day.	2 days.	"	Convulsions; Sepsis.	.....	Died 1 day 8 hours after intubation.
18	July 1	Dr. W. A. Hawes.	M.	4 yrs. 2 mos.	1 day.	3 days.	Albumen.	.....	.....	Recovered. Tube worn 4 days 18½ hours.
19	" 7	Dr. J. R. Cypert.	M.	23 months.	1 day.	1 day.	"	Extension to bronchi.	.....	Died 3 days 7 hours after intubation.
20	" 16	Dr. C. J. Macguire.	M.	5 yrs. 6 mos.	2 days.	Next day.	"	Exhaustion.	.....	Died 2 days 10½ hours after intubation.
21	" 19	Dr. H. E. Sprague.	M.	4 years.	2 days.	Several days	"	.....	.....	Recovered. Wore tube 5 days 6 hours.
22	" 22	Dr. B. Hughes.	M.	7 years.	7 days.	4 days.	Not exam.	.....	.....	Recovered. Wore tube 3 days.
23	" 23	Dr. E. B. Burton.	F.	4 yrs. 6 mos.	2 days.	Several days	Albumen.	Uræmia.	.....	Died 1 day 22½ hours after intubation.
24	" 26	Dr. R. B. Burton.	F.	3 yrs. 1 mo.	2 days.	4 days.	"	Extension and pneumonia.	.....	Died 7 days after intubation.
25	Aug. 19	Dr. John Gleises.	M.	4 yrs. 8 mos.	2 days.	2 days.	Not exam.	Extension to bronchi.	.....	Died 2 days after intubation.
26	Sept. 19	Dr. Hermann.	F.	2 years.	26 hours.	Several days	"	Extension to bronchi.	.....	Died 13 hours after intubation.
27	" 19	Dr. C. W. Bohnfalk.	M.	5 yrs. 10 mos.	1 day.	2 days.	"	Exhaustion.	.....	Died 1 day 14½ hours after intubation.
28	" 26	Dr. H. J. Boldt.	F.	4 yrs. 4 mos.	3 days.	5 days.	"	.....	.....	Recovered. Wore tube 4 days 8 hours.
29	Oct. 10	Dr. J. P. Nolan.	F.	3 years.	2 days.	None.	Albumen	Extension to bronchi.	.....	Died 2 days 9½ hours after intubation.
30	" 12	Dr. J. M. F. Egan.	F.	6 yrs. 7 mos.	2 days.	"	"	Pneumonia 25 hours after removal of tube.	Bronchitis.	Died 3 days 20 hours after intubation.
31	Nov. 6	Dr. Daniel Lewis.	F.	3 yrs. 2 mos.	2 days.	Several days	"	Nephritis; œdema of lungs.	.....	Died 4 days 22½ hours after intubation.
32	" 8	Dr. S. Hemingway.	M.	2 yrs. 11 mos.	36 hours.	None.	None.	.....	.....	Recovered. Wore tube 5 days.
33	" 11	Dr. J. R. Cypert.	M.	5 yrs. 6 mos.	3 days.	4 days.	Not exam.	.....	.....	Recovered. Wore tube 68 hours.
34	" 15	Dr. T. Brickerton.	F.	18 months.	12 hours.	2 days.	"	Extension to bronchi.	.....	Died 15 hours after intubation.
35	" 23	Drs. Offenbach & I. Adler.	F.	4 years.	1 day.	1 day.	None.	.....	....	Recovered. Wore tube 10 days 6 hours.
36	" 26	Dr. Berghaus.	F.	6 yrs. 11 mos.	4 days.	7 days.	Albumen.	Sepsis.	.....	Died 1 day 4 hours after intubation.
37	" 26	Dr. Jos. Winters.	F.	20 months.	4 days.	3 days.	Not exam.	.....	....	Died 36 hours after intubation.
38	" 28	Dr. R. B. Burton.	M.	2 yrs. 11 mos.	3 days.	5 days.	Albumen.	Extension to bronchi.	.....	Died 2½ days after intubation.
39	" 29	Dr. J. W. Ranney.	F.	15 months.	6 days.	9 days.	Not exam.	.....	Measles.	Recovered. Wore tube 9 days.
40	" 28	Dr. J. Lewinthal.	F.	20 months.	1 day.	3 days.	"	Extension.	.....	Died 2 days after intubation.
41	Dec. 1	Drs. R. G. Wiemer & L. Conrad.	M.	11 years.	2 days.	4 days.	Albumen.	Œdema of lungs.	.....	Died 12 hours after intubation.
42	" 3	Dr. M. J. Fleming.	M.	5 years.	2 days.	None.	"	.....	.....	Recovered. Wore tube 6 days.
43	" 4	Dr. W. A. Ewing.	M.	2 yrs. 6 mos.	7 days.	"	.....	Broncho-pneumonia.	.....	Died 2 days after intubation.
44	" 5	Dr. J. Lewis Smith	M.	2 years.	3 days.	6 days.	.....	Extension.	.....	Died 1 day 20 hours after intubation.
45	" 5	My own case.	M.	3 yrs. 5 mos.	1 day.	2 days.	None.	Extension.	.....	Died 2 days 9 hours after intubation.
46	" 7	Dr. A. H. Fridenberg.	M.	3 yrs. 2 mos.	7 days.	7 days.	.....	....	.....	Recovered. Wore tube 6 days 19 hours.
47	" 8	Dr. B. Hughes.	F.	10 months.	1 day.	2 days.	Not exam.	Extension.	.....	Died 1 day 14 hours after intubation.
48	" 10	Dr. W. G. Robinson.	M.	6 yrs. 2 mos.	7 days.	3 days.	"	Extension.	....	Died 19½ hours after intubation.
49	" 14	Dr. R. J. O'Connell.	M.	8 years.	36 hours.	3 days.	None.	.....	.....	Recovered. Wore tube 2 days 9 hours.
50	" 16	Drs. Pierson & Elsner.	M.	4 years.	2 days.	4 days.	Albumen.	Extension.	.....	Died 2 days 22 hours after intubation.

In making out this table a case seen with Drs. Perry and J. L. Smith, February 3, 1886, was overlooked.

NOTES.

Case 3. Very little relief was afforded, in this case by the introduction of the tube, most of the dyspnœa being probably due to extension of membrane to the bronchi. The respirations were from seventy-five to eighty per minute soon after intubation.

Case 5. Died from uræmic convulsions two days after the removal of the tube and the disappearance of all laryngeal obstruction. The urine upon being boiled became almost solid.

Case 7. Died from exhaustion, due to persistent uræmic vomiting, four days after intubation. Urine scanty and bloody; no dyspnœa.

Case 8. Had a pulse of over two hundred per minute when the tube was inserted, and never rallied.

Case 9. Was septic and had a temperature of 106.4, pulse of 190, when intubated. Died quietly six hours later.

Case 11. Was an imbecile. This attack of diphtheria was preceded by scarlet fever, and at no time could she be induced to take nourishment in any form. Death was due to exhaustion.

Case 12. Was suffering from pneumonia several days before intubation was done. Bronchial breathing still present over greater portion of right lung posteriorly. Death took place from exhaustion. No dyspnœa.

Case 16. The disease in this case began in the larynx, and subsequently spread to the pharynx. Forty-eight hours after intubation the dyspnœa returned, and upon removing the tube its lumen was found almost obliterated by tenacious mucus. While cleaning the tube and preparing it for reinsertion the child became blue and almost asphyxiated. Although such a rapid return of the dyspnœa after removal of the tube is very rare, it is well to be prepared for such an occurrence by having another tube attached to the introducer ready for reinsertion.

Case 17. Was a bad septic case, and hopeless from the beginning. The swelling of the surrounding tissues was so enormous that the cavity of the larynx was obliterated, and could be located with difficulty; and the epiglottis was so distorted that it was by no means easy to insert the tube.

Case 23. Died comatose and without dyspnœa. Persistent uræmic vomiting. The urine gelatinized upon heating, and there was complete suppression for thirty-six hours before death.

Case 26. In this case the dyspnœa returned eleven hours after the insertion of the tube. It was removed, and being found clean was reinserted. Membrane was pushed down before it at each introduction, and it was therefore left out. Death,

thick, or that it is not in the groove corresponding to the hole in the tube.

The child is held upright on the lap with its head on the left shoulder to prevent interference with the gag, the arms are secured by the sides, either by wrapping a towel or a sheet around the body, or by being grasped firmly below the elbows, and held until the tube is inserted and the string removed. Neglect of this precaution will often necessitate a repetition of the operation, as the child invariably seizes the string as soon as it can liberate its hands. The gag is then inserted well back between the teeth, in the left angle of the mouth, and opened as widely as possible without using undue force. An assistant, standing behind the patient, holds the head, with the chin somewhat elevated, by placing one hand on either side, the fingers of the left hand overlapping the gag. If the head is carried too far back, the tube will come in contact with the anterior wall of the larynx or trachea, and some resistance will thereby be offered to its passage.

The operator, holding the introducer in the right hand, inserts the index finger of the left well back towards the œsophagus, and in bringing it forward raises the epiglottis and locates the cavity of the larynx. To the uneducated finger, the cavity of the larynx is a better landmark than the epiglottis, for if the latter is in a comparatively healthy condition, it is not easy to distinguish it, while if the cavity of the former is entered by the tip of the finger, the epiglottis must be in front of it. While fixing the epiglottis the finger is kept as far to the patient's right as possible in order to give room for the tube to enter beside it. In the beginning of the operation the handle of the introducer is held close to the patient's chest, and elevated as the tube approaches the glottis. Very little force is necessary to overcome any form of acute stenosis of the larynx, and if the tube does not enter easily it should be withdrawn and another attempt made. When the tube is supposed to be in the larynx, it is detached from its obturator by pressing forward the button on the upper surface of the handle of the introducer; and in removing it, the movements required for its insertion are reversed. While doing this it is necessary to keep the finger in contact with the head of the tube to prevent its being also withdrawn. Before detaching the tube it should be carried well down in the larynx, otherwise the lower aperture will be left open and liable to strip off membrane, as it is subsequently pushed down with the finger.

As soon as the tube is inserted the gag is removed, but the thread is allowed to remain long enough to be certain that the dyspnœa is relieved. In some cases very little irritation follows the introduction of the tube, and in such it is well to leave the string in position for ten or fifteen minutes in order to excite more cough to get rid of the accumulated secretions, and overcome any collapse of the lungs that may have taken place. In removing the string it is necessary to reinsert the finger to hold the tube down, but it is rarely necessary to use the gag for this purpose as most children will readily open the mouth to get rid of the string.

In removing the tube the child is held in the same position, and the extractor is passed along beside the finger which is brought in contact with the tube, and then pressed towards the patient's right in order to uncover the aperture, and allow the instrument to enter in or near a straight line. Continuous pressure with the thumb is then made on the lever above the handle of the extractor while it is being withdrawn.

The small size of the opening in the tube compared with that of the larynx renders this part of the operation the more difficult. No force whatever is necessary in removing a tube from the larynx, and if any resistance is felt it will be found that the extractor is not in the tube, but is caught in the surrounding tissues.

In cases that progress favorably the tube should be removed on or about the fifth day. In the twelve recoveries reported in this paper the tube was retained, on an average, five days and seven hours. In the youngest of these, aged fifteen months, it was worn nine days, and had to be reinserted on the eleventh day, but was retained then only two hours. The age therefore must be considered in determining the time the tube should be removed. It can, as a rule, be dispensed with earlier in cases of slow, than in those of rapid, development. If loose membrane exist below the tube, which is indicated by a flapping sound with a somewhat croupy character to the cough, it should be left in position until this has had time to dissolve and disappear.

The tube should be removed whenever urgent secondary dyspnœa occurs, as it is often difficult to say whether the obstruction is in the tube, or lower down. A fair respiratory murmur, or numerous râles, over the posterior portion of lungs is the best evidence that there is no serious obstruction in the tube, one-half the calibre of which is sufficient for comfortable breathing.

Not unfrequently a spasmodic dyspnœa occurs soon after the removal of the tube. This is due to contact of the inspired air with the eroded and inflamed mucous membrane which had been so long covered up. It will be more likely to happen where the larynx has been very much irritated by repeated attempts at extraction.

It usually subsides in about an hour, especially if aided by an anodyne. In a recent case of this kind, urgent dyspnœa returned soon after the removal of the tube on the fifth day, and I reinserted a smaller size with the hope that it would not be retained long. It was coughed out

which was certainly hastened by the removal and reinsertion of the tube, took place an hour later.

Case 27. This boy was moribund, with scarcely perceptible pulse. The dyspnæa was relieved, but he never rallied.

Case 30. The development of croup in this was preceded by a severe attack of bronchitis. She died from broncho-pneumonia twenty-five hours after the removal of the tube, and without any return of the obstruction in the larynx.

Case 32. This case is unique as regards my practice, being the only one in which the tube has been swallowed after being expelled from the larynx. It occurred during the night, and probably during sleep, as the cough was noticed to be croupy early the next morning. The tube was passed per rectum on the third day. Although a croupy cough may be caused by loose membrane above or below the tube, it is usually sufficient proof that the tube is not in the larynx. I recall a case where the tube was supposed to have been coughed out and swallowed, but later on was expelled from the larynx; and another case where the tube was believed to have been swallowed, but was found in the pocket of one of the other children.

Case 36. Was moribund when the tube was introduced, and never rallied. The urine was loaded with albumen, and shortly before death the whole surface was covered with a petechial eruption.

Case 39. This was apparently a hopeless case. It was only fifteen months old, and post-nasal, pharyngeal, and laryngeal diphtheria, following measles. Temperature was 105. At the time the tube was inserted it had broncho-pneumonia, from which it recovered. The tube was removed permanently on the eleventh day. The convalescence was slow, but the recovery was complete.

Case 41. This case is of interest from the fact that the dyspnœa was relieved for two days, although the tube was retained only two hours after its first introduction (the operation was performed by Dr. F. Lange). I reinserted the tube on the recurrence of the dyspnœa, and it was retained probably because the patient did not have sufficient strength to cough it out.

Case 42. No membrane appeared in the pharynx at any time, but pieces and shreds were expectorated. The laryngeal symptoms followed immediately on exposure to cold, walking in the snow without covering on the feet. It would be regarded as a typical case of membranous croup by those who believe in such a disease.

Case 45. Coughed out tube on second day, filled with a cast of the trachea. The dyspnœa rapidly returned, and in three hours the tube was reinserted. Death took place from extension to the bronchial tubes.

No.	Age. Years.	Age. Months.	Recoveries.	No.	Age. Years.	Age. Months.	Recoveries.
1	0	10	0	1	3	6	0
1	1	2	0	1	3	9	0
1	1	3	1	3	4	0	2
3	1	6	0	1	4	2	1
2	1	8	0	1	4	4	1
1	1	11	0	1	4	6	0
2	2	0	0	1	4	8	0
1	2	3	0	2	5	0	1
1	2	5	0	2	5	6	1
3	2	6	0	1	5	10	0
2	2	1	1	1	6	0	0
1	3	0	0	1	6	2	0
2	3	1	0	1	6	7	0
3	3	2	1	1	6	11	0
2	3	3	1	2	7	0	1
1	3	4	0	1	8	0	1
1	3	5	0	1	11	0	0

Males, 27; females, 23. Total 50. Recoveries, 12. Average age, two years and nine months.

It will be observed that 18 cases with 2 recoveries were under three years of age; 12 cases with 2 recoveries, between three and four years; 7 cases with 4 recoveries, between four and five years; 5 cases with 2 recoveries, between five and six years; and 8 cases with 2 recoveries, between six and eleven years.

in twelve hours, and there was no return of the obstruction. I have tried cocaine spray in two such cases without benefit. Giving an antispasmodic about an hour before the intended removal of the tube will tend to lessen this difficulty, and to allay the persistent, irritating cough which sometimes follows the removal of the tube, and which nothing so promptly relieves as its reinsertion. Coating the upper part of the cannlar with gelatine containing a large percentage of cocaine would probably fulfil the indications better than anything else. I tried this plan in two cases of croup on the first introduction of the tube, but found it objectionable from the fact that it diminished the cough, which is so essential to get rid of the secretions. I am now using the gelatine, applied in this manner, medicated with Boric Acid which combines mild astringent with antiseptic properties. It must be remembered that this form of application is a continuous one, extending over not only hours but probably days, and consequently that the drug used should be mild. I was forcibly convinced of this about eighteen months ago when I tried powerful astringents, applied in a similar manner (see article on Intubation of the Larynx in Wood's Reference Handbook of the Medical Sciences vol. IV.)

Gelatine swells considerably as it absorbs moisture, and will produce painful dilatation if the tube is coated too thickly with it. I took advantage of this quality in a recent case of stenosis of the larynx, in an adult, due to syphilitic subglottic swelling of the mucous membrane, with excellent result. It was so applied that the pressure was exerted only on the swollen tissues. This method of making applications to the larynx, not only in croup, but in other forms of stenosis is worthy of an extended trial.

There is no doubt that, after intubation, some of the fluids swallowed enter the tube, while solids do not. The explanation of this is found in the property of fluids to press equally in all directions, and when forced downwards by the muscles of deglutition the epiglottis is lifted, no matter how accurately it covers the aperture of the tube. There is no danger of vomited matters entering the air-passages in this manner, as there is no resistance offered to their escape from the pharynx. There is, consequently, no objection to the use of emetics, if indicated while the tube is in the larynx, except that it is more likely to be expelled by vomiting than by coughing.

One of the greatest objections urged against this operation is the alleged danger of exciting pneumonia from the entrance of food or medicine through the tube. Although pneumonia is not an uncommon sequel of intubation of the larynx, and of tracheotomy, I believe the principal factor in its causation after both operations is the impairment of the expulsive power of the cough from inability to close the glottis, and the consequent retention of the irritating secretions in the bronchi, and not the entrance of extraneous substances through the tube. The first part of the act of coughing is accompanied by complete closure of the glottis which retains the air until it has undergone sufficient compression to give it frictional or expulsive power. With a tube in the larynx or trachea, any considerable degree of compression is impossible, as it is equivalent to coughing with an open glottis. But no one who has seen both operations will deny that there is more power to expel secretions through the laryngeal than through the tracheal canula. This, I believe, is due principally to the smaller calibre of the former, which prevents the air from escaping so rapidly, aided, probably by the epiglottis, pillars of the fauces, etc. Atelectasis and congestion from extreme stenosis of the larynx, or from plugging of some of the bronchial tubes with pseudo-membrane, is another not uncommon exciting cause of pneumonia in croup.

In the great majority of the autopsies that I have witnessed in this disease the cause of death after operation was extension of the croupous inflammation to the bronchi, and pneumonia could not be demonstrated without the aid of the microscope. The lungs, as a rule, presented the gross appearances of simple collapse with an abnormal amount of blood, and responded perfectly to the inflation test. Emphysema of the anterior borders, sometimes interstitial, existed in almost all. Acute general emphysema, due to expiration being more obstructed than inspiration, either in the larynx or by loose membrane lower down, acting as a valve which permitted the air to enter more freely than it could escape, was present in only a few.

It would be useless to enter into any discussion of the question as to whether pneumonia is more or less common after intubation than after tracheotomy, while there exists such a wide difference of opinion as to the frequency of this complication following the latter operation, some authorities claiming that it is rare, others that it is extremely common. Steiner, for example, who writes the article on croup in Ziemssen's Cyclopædia, found pneumonia only fourteen times in seventy-two autopsies. Peter found it in three-fourths, and others in as many as five-sixths of their cases.

A similar difference of opinion also exists in regard to the percentage of recoveries after trachiotomy in croup. Those who have not seen much of the operation themselves, accept the published reports as indicating about the average results obtained. These I know from my own experience with the operation, extending over several years, and from conversations with a large number of physicians on the subject, to be far from the truth.

For several years past there have been, from seven hundred to one thousand deaths in this city annually from croup, and if tracheotomy were resorted to in only one-fourth of this number, which is a very low estimate, it would give an average of about two hundred cases a year, without the recoveries. Every careful reader of the medical literature of this city knows that only a small fraction of this number ever finds its way into print, and I believe there is only one explanation for it, viz., that, with rare exceptions, only the few operators who have good results publish their cases, which is a mere bagatelle compared with the whole number operated on.

With a view to obtaining more reliable statistics on this subject, if all those who practice intnbation of the larynx in the treatment of croup will report their results whether good or bad, and at the same time give the results they have had with tracheotomy, in a few years a sufficient number of cases will have been accumulated to give something like a true estimate of the percentage of recoveries from both operations, and render a fair comparison of their merits possible.

Dangers of the operation.—Some of the following accidents that occur in practicing intubation of the larynx are avoidable, and are due to want of previous practice on the cadaver. These will diminish as the operation grows older, and a greater number acquire proficiency in performing it. Nothing could be more erroneous than the prevalent opinion that it is an easy matter to place a tube in the larynx or remove it, and I am satisfied that a single trial will serve to convince most persons of this fact. Only the few who possess an unusual amount of dexterity, combined with coolness, will succeed on their first attempts without inflicting unnecessary suffering on their patients, and doing much injury to the larynx as well.

The first accident liable to happen is apnœa from prolonged efforts at introduction. There is very litttle danger of this if the time occupied in such attempt be not more than ten to fifteen seconds.

2. The anxiety to succeed quickly will tempt the operator to use force, thereby running the risk of making a false passage. I was present at the autopsies on two cases in which such an accident occurred. In one, the tube was forced through one of the ventricles and down through the cellular tissue on the outside of the trachea. In the other it was passed through the anterior wall of the œsophagus between it and the trachea, compressing the posterior membranous wall of the latter, and giving

rise to asphyxia. The suspension of respiration in these cases was supposed at the time to have been due to pushing down membrane, as the operators were not conscious of having used force. To avoid this accident the introducing instrument should be held lightly between the thumb and fingers, with the thumb resting on the upper surface.

3. Injury to the larynx in removing the tube by passing the extractor down on the outside of the latter, opening it widely and removing it with force. During practice on the cadaver I have thus seen the cricoid cartilage completely cut through, and the glottis so much increased in size as to permit the tube to slip through into the trachea. If the extractor is in the tube, no resistance whatever is felt in removing it. To obviate this danger as much as possible I have added a regulating screw to this instrument, so that the distance the blades will open can be graduated according to the size of the tube.

4. The most serious of the unavoidable accidents liable to occur is pushing down membrane before the tube in sufficient quantity to produce asphyxia. This has happened to me several times on reinserting the tube, on account of secondary dyspnœa. But in the one hundred and thirty-six cases thus far operated upon, this accident has occurred but once, and that quite recently, on the first introduction. The tube was immediately removed when a cast of the trachea was expelled, and the dyspnœa still remaining, it was reinserted with complete relief.[1]

5. Coughing out the tube before the stenosis has been permanently relieved is seldom attended with any danger, as the dyspnœa is usually relieved for several hours afterward.

6. Blocking up of the tube with masses of pseudomembrane too large to pass through has happened in only two of my cases, and in each the tube filled with membrane was expelled. A case has recently been reported where death took place from this accident. Where masses of membrane are suspected to exist low down in the trachea it would be safer to use a smaller tube than the one indicated by the scale of years, as this would be more readily expelled if occluded. I have had short tubes of large calibre constructed for such cases, and also an instrument for removing membrane from the trachea, but have not yet had occasion to try them.

7. The lumen of the tube sometimes becomes slowly but seriously encroached upon by adhesion of the tenacious secretions in those cases of croup that are called dry, particularly if there is very little cough. In such cases the tube must be removed for the purpose of cleaning. I have often given undiluted whiskey or a mixture containing carbonate of ammonia to excite cough in such cases. Those that cough the most, provided they get sufficient sleep, as a rule do the best.

If vomiting occur while attempting to insert or remove the tube, which seldom happens except as the result of recently administered emeties, the operation should be suspended and the gag removed, to avoid the danger of some of the contents of the stomach entering the air-passages.

Treatment of Eye-diseases at Professor Von Hipples' Clinic at Giessen, Germany.—The modified Graefe is the accepted operation for cataract enucleations by the German method, scissors and forceps alone being used to remove the eye-ball. Strabismus operations are done by the Graefe method, dilatation of strictures of the lachrymal canal with Bowman's probes, small size. Tattooing of the cornea is done at one sitting. Ulcers of the cornea are treated with ung. hydrarg. ox. flav., gr. ½ to 3 j. and atropia, and the actual cantery, probably the best and most efficient way of treating this disease.—*Correspondence Medical and Surgical Reporter.*

A New Disinfectant used by Esmarch is creolin. It is said to be much superior to carbolic acid.

[1]This article was written last May.

PREDISPOSING CAUSES OF DISEASE IN EARLY LIFE.[1]

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It has been my custom for some time past, in examining sick infants and young children, to look carefully for certain underlying conditions, that, if present, will modify both prognosis and treatment. I have been surprised, in so doing, to note how frequently constitutional states may alter the duration and severity of diseases in early life. Young protoplasm is quickly recuperative, and when the source of irritation is removed should speedily return to a healthy condition after inflammatory action. If this do not happen there must be some vice of system to explain a delayed recovery. The very existence of some of the diseased conditions in early life seems to depend largely upon systemic changes. Reference is here made to a perverted or morbidly arrested growth and development. Defective tissue-formation with malnutrition affords a favorable ground for pathological activity. According to my observation, the commonest predisposing factor to disease in infancy and early childhood is a condition of incipient rachitis. This is very different from the severer type of disease, when bony deformity has ensued, and the nature of the disturbance is plainly apparent. I would emphasize the fact, already noted by a number of observers, that a mild form of rachitis is exceedingly common among all classes, and its pernicious effects are especially seen in predisposing to disease and modifying its action. Before dwelling more upon this point, it will be well to glance at the symptoms pointing to a condition of incipient rachitis. A restless, fretful baby, whose sleep is uncertain, but yet who presents no marked evidence of disease, is often alike puzzling to mother and physician. Inquiry will probably reveal the fact that it is almost impossible to keep the suitable coverings on at night. As they are kicked off it will be found that while the body is hot and dry the head and neck are moist with perspiration. A young child should always sleep quietly at night; if it do not, there is some source of irritation. It may be a temporary indigestion, but if such a state continue, there is probably a rachitic condition present. Fretfulness during the day is especially noticeable when the child is moved or handled. If let alone, it is tolerably quiet. This is an evidence of a general tenderness, which is probably located principally in the muscles. If this is very marked, the infant will make no effort to walk at the proper age, and such disinclination may even simulate paralysis. I have in a number of cases known such a condition to be confounded with ordinary infantile paralysis.

Dentition is delayed, perhaps, until nine, twelve, or eighteen months, and the teeth, when they do appear, are apt to be badly developed. Delayed dentition, even with an absence of other symptoms, means almost surely a rachitic condition. I have met with a few instances in which infants, undoubtedly, rachitic, got their teeth quite early. A persistent, subacute indigestion, with loose bowels, is both a cause and effect of this trouble. The earliest bony change, and in incipient cases often the only one noted, is some enlargement at the costochondral articulation. As a result of even slight softening of the ribs, the chest may be somewhat distorted, and any subsequent disease of the lungs be rendered graver and the prognosis more uncertain. It is not necessary to describe the well-known bony changes of more advanced rachitis, as we are now dealing only with an early stage of the trouble. Dr. Gee considers that thirty per cent. of sick children under the age of two years are rickety. In such cases the tissues are in a state of irritability, from the presence of lactic acid or some other

[1]Read before the Clinical Society of the New York Post-Graduate Medical School and Hospital.

noxious agent in excess. Heitzmann, in artificially producing rickets in the lower animals by the administration of lactic acid, noticed catarrhal inflammation of the conjunctiva, of the mucosa, of the bronchi, the stomach, and the intestines, with emaciation and convulsive movements of the extremities.[1] If the irritating agent be not in such excess as to seriously attack the bones, through the epiphysial cartilages and periosteum, it is very apt to produce a disturbance of the mucous membranes. The slightest exposure of a rachitic child usually results in bronchitis. Such an attack is very likely to prove obstinate to treatment. Collapse of air-tubes, with collection of muco-pus, may eventuate in a pneumonia, or, at any rate, render the prognosis grave. If there is deformity of the chest, preventing free expansion of the lungs, a simple pneumonia may become chronic, and death result. Even a slight bronchitis occurring in a rachitic child should receive early and careful treatment. All exposure must be rigorously avoided, and a more guarded prognosis given than would otherwise be thought necessary. Pertussis is an unfortunate accident for a rachitic child, as severe pulmonary trouble is liable to develop. Any intercurrent disease, particularly such a one as measles, will probably be severe. Persistent indigestion with diarrhœa results from the irritable condition of the mucous membrane of the gastro-intestinal tract, and is often difficult to treat. Great care will have to be exercised in withholding food that readily ferments, as an over-acid condition of the intestinal tract is so generally present. While this exists it is almost impossible to give these cases much relief. The nervous system of these children is in a condition of very unstable equilibrium, the worst effect of which is seen in the tendency to convulsions upon the slightest irritation. A cause that in a healthier child would have very little effect may produce a severe or even fatal spasm in a rachitic child. I recently had sent to me from out of town, a boy six years of age who had had four or five convulsions at intervals of several months. It was doubtful whether the case was one of epilepsy or not, but as the child presented evidences of rachitis, with a history of occasional attacks of acute indigestion, I think the convulsions can be thus explained, and the case does not justify heroic and prolonged doses of the bromides, but rather treatment aimed at his general health.

Another common condition of early life that causes great susceptibility to disease is scrofula. The tissues here possess an especial liability to a low grade of inflammatory action characterized by cell-proliferation and a tendency to cheesy degeneration. This state may exist from birth, or apparently be induced by some intercurrent disease. As is well known, cutaneous and mucous surfaces are very often affected by scrofulous inflammations. The neighboring lymphatic glands undergo hyperplasia, which remains after the primary source of irritation has subsided. Tracheo-bronchitis, either primary or secondary to measles and pertussis, often becomes very intractable in scrofulous subjects. Pneumonia will readily ensue, and if so, the chances of caseous degeneration are greater than usual. I have seen such cases neither die nor get well, but drag on for months, perhaps eventually undergoing a partial recovery with a crippled lung, but more probably succumbing finally to exhaustion, induced by the disease. Entero-colitis is readily contracted, and apt to be obstinate to treatment. Vaginitis is likewise rather common. Hypertrophic tonsils usually develop in scrofulous children. I cannot help thinking that some of the symptoms for which they are held responsible are really due to the faulty nutrition of the child coexisting with its scrofulous condition. It is not necessary in this connection to touch upon the affections of the special senses induced by a scrofulous state. Congenital syphilis is a condition that will predispose an infant or young child to disease, especially of the viscera. The manifestations of specific trouble in early life may be exceedingly irregular and puzzling to the physician. In many cases the poison does not appear to be present in sufficient intensity to produce any pathognomonic lesion. Its action is then manifested in the line of certain developmental changes with defective nutrition. I have often suspected syphilis in watching cases of faulty growth, and occasionally an undoubted specific lesion has confirmed the suspicion. Sometimes an infant suffering from this taint may be plump and well-nourished, but any intercurrent disease will quickly reveal a vice of system. I have recently seen a fleshy baby with a large mucous patch in the mouth which developed after some local irritation. Dr. Moncorvo, in a paper read at the recent International Medical Congress, stated that in an extensive practice in Rio de Janeiro and the province of that name he believed hereditary syphilis furnishes sixty per cent. of the cases of infantile disease. He regards it as the most important factor of infantile mortality, either directly or by the severity which it imparts to the diseases of children.

We have, then, in mild cases of rachitis, scrofula, and syphilis, where these affections present no very marked specific lesions, conditions that derive their principal importance from predisposing to disease and enhancing its severity. The importance of clearly appreciating this truth is seen in the fact that appropriate specific treatment must be added to the management of the local disease in order to be successful. If this were done, many diseases of early life would not drag on to such a weary duration. Illness might likewise be prevented by extra care.

There is not a little in common in some of the lesions and the faulty nutrition induced by these conditions. Exact differentiation is sometimes extremely difficult. Scrofula and syphilis often seem very closely allied, and hard to clinically separate. Rachitis and infantile syphilis may coexist; M. Parrot even considers that the former is a manifestation of the latter condition. Dr. Moncorvo states in his paper that more than two-thirds of the rickety children in his practice show signs of syphilis, and it is rare to find an hereditary syphilitic child whose bones are not deformed by rickets. In this country we fail to find such a close connection between the two diseases. While the exact relation of these systemic vices is not certainly known, the common resultant of defective growth and nutrition will be such an important factor in modifying disease that the slightest taint must be carefully sought. Such investigation should form part of the routine in the investigation of children's diseases.

27 West Fifty-first Street.

[1] J. L. Smith: Diseases of Children.

An Old-time Prescription.—In the *Medical and Surgical Reporter* for July 9, 1887, Dr. Harrison Allen calls attention to a number of classical prescriptions which seem to be in danger of being forgotten. The first of these was published in Dr. Chambers' lectures in London, 1865, and is as follows:

℞ Tincturæ ferri sesquichloridi, ʒ ii;
Strychninæ hydrochloratis, gr. ss;
Tincturæ digitalis, ʒ i;
Misturæ camphor., ʒ x.
Fiat mistura.
Sig.—Two tablespoonfuls twice daily.

Dr. Chambers states that he administered an ounce of the mixture twice a day, in a case of anæmia in which the eyeballs were prominent, and he dwells upon the significance of this form of anæmia seen in young women in whom there is excitement of the heart's action, retarded development of the sexual functions, and enlargement of the thyroid gland.

TRAUMATIC HÆMATOMA OF THE LARYNX.

By J. W. GLEITSMANN, M.D.,

PROFESSOR OF LARYNGOLOGY AND RHINOLOGY IN THE NEW YORK POLYCLINIC.

HEMORRHAGES of the larynx are not of rare occurrence, but they are generally either preceded by a catarrhal affection, or brought on by undue exertion of the vocal apparatus. Injuries of the larynx followed by bleeding, are in most cases the result of severe lesions, f. i. incision through the soft parts, fracture of the cartilages, etc. The following case of traumatic injury to the larynx is presented, on account of its unusual ætiology, and on account of some peculiar features concerning the extent of the hemorrhage.

The patient, a short-set, healthy, laboring man, forty-nine years of age, returned home from work in the evening, June 14th. While quietly walking along, he passed a group of negroes who spoke to him. Not noticing them, he was followed by a tall, burly fellow, who sprang upon him and dealt him a violent blow right on the throat with his fist. The patient reeled, fell down on the pavement, and was unconscious for several minutes. Immediately afterwards he began to spit blood, and on arriving home found that he had lost the power of speech, and felt severe pains in the laryngeal region.

He continued to spit blood intermingled with saliva during the following night, after which time an intermission took place till the 16th, when he expectorated a rather firm lump of coagulated blood in the afternoon of that day. Deglutition was extremely painful, and his nourishment during the first three days consisted entirely of liquid food. The patient complained of a sensation of a foreign body in his throat, which interfered with his swallowing. After six days this distressing condition was materially relieved, and at the same time the voice began gradually to come back. On the 23d day of June he still felt a slight impediment in the throat when eating, and his voice was still hoarse and rancous.

The patient presented himself for treatment June 15th, the day after the assault. As a medical friend of mine happened to be present, we began the examination by carefully palpating the larynx from the outside, but were unable to detect any fracture of the cartilage. At the laryngoscopic examination the first object to be seen was a large, dark red tumor of the shape of a tongue, the broad basis of which originated on the outer portion of the posterior laryngeal wall towards the right. Gradually becoming smaller, it covered the right arytenoid cartilage, extended over the inter-arytenoid space into the interior of the larynx, and terminated with a tongue-like point on its posterior wall. The extravasation was beneath the mucous membrane, and no blood could be seen anywhere on its surface.

The interior of the larynx was normal on the left side. The right ventricular band appeared as an indistinct, dark red body, which almost completely covered the vocal cord. The latter was, during phonation, only visible as a small, red line. Morgagni's ventricle could not be distinguished. The movements of the larynx during respiration and phonation were very feeble on the right side; there was no actual paresis, however.

This condition remained almost unchanged during the first three days. After the patient had coughed up a lump of coagulated blood, June 16th, the swelling appeared considerably smaller, and did not encroach upon the interior of the larynx, extending only to the height of the interarytenoid space. The suffusion of blood into the ventricular band was less, and a large part of the vocal cord visible.

The final examination, on June 23rd, showed continuous improvement, the swelling having disappeared, the interarytenoid space being free. The extravasation was confined to a space of the size of a pea on the posterior lateral surface of the right arytenoid cartilage, and extended outwardly towards the pyriform sinus. In this region there seemed to be a fissure in the mucous membrane, and it is to be assumed that the initial lesion occurred in this place.

The interesting feature of the case is the simultaneous extravasation of blood into the external posterior as well as the interior right part of the larynx.

This will admit of the following explanation. The blow directed against the larynx first caused a fissure of the mucous membrane at the posterior exterior surface of the right arytenoid cartilage, producing hemorrhage. At the same time the pressure of the parts against the spinal column produced a contusion of the larynx, from which resulted an extravasation of blood through the whole thickness of the ary-epiglottic fold, making its appearance on the exterior and interior of the larynx.

The treatment was necessarily of an expectant nature, and consisted mainly in the application of resolvent and slightly astringent sprays.

Since the writer's papers on a similar subject,[1] in which he endeavored to give a complete bibliography of laryngeal hemorrhage, only a few publications could be found in the literature. They are by

E. C. Morgan: Submucous laryngeal hemorrhage, Medical Record, March, 21, 1885.

P. Masucci: Un caso di laryngo-tracheite emorrhagica Gior. internaz. d-sc. med. Napoli, 1885, VII, p. 562–567.

P. Struebing: Die laryngitis hæmorrhagica. Wiesbaden, Bergmann, 1886.

J. Garel: Quelques remarques sur un cas de laryngite hemorrhagique. Rev. meno. de laryngologie, May, 1887.

C. E. Bean: A case of recurring hemorrhage of the vocal cord. New York Medical Journal, September 24, 1887.

THE ÆTIOLOGY AND COURSE OF PULMONARY CONSUMPTION, AS INFLUENCED BY THE CLIMATE AND SOIL OF EASTERN NEBRASKA.[2]

By F. W. MILROY, M.D.,

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PULMONARY consumption is a disease whose fatality is so great that no excuse is necessary for any attempt to cast an additional ray of light upon it. In recent years constantly increasing attention has been given to its climatic treatment, the profession being driven to it perforce by the comparative failure of all other therapeutic measures that have been employed. Extensive and valuable studies have been carried on by the American Climatological Association, which was organized for this express purpose, and by others, and still much remains to be learned upon the subject.

The writer, having been a resident of Omaha for two and one-half years, has been strongly impressed by the apparent immunity from consumption of the residents of this city, and by the favorable course that many cases under his observation have taken upon coming to Omaha from other places.

For my own information I began to look carefully into the matter, and I present to-day the results of my investigation, hoping they may prove to be of interest to others.

In the current periodical literature, one continually sees clinical reports and climatic studies from various parts of the country—east, west, north and south—but I am not informed of any publication, of any extent, concerning the great central territory of the Missouri valley, in its relation to the disease, or group of diseases known as consumption. About a dozen years ago, a report on Climatology and prevailing diseases was submitted to this society by Dr. James H. Peabody, chairman of

[1] Laryngeal Hemorrhage, American Journal of Med. Sciences, April, 1885.

[2] Read before the nineteenth annual meeting of the Nebraska State Medical Society, May, 1887.

the section ; but at that time the data upon which to base a conclusion were very meagre, and generalizations almost impossible. In the present investigation I have taken as a basis the mortality records of Omaha from April, 1879, at which time the ordinance creating these records was first enforced, to January, 1887, a period of a little less than eight years. By a comparison of these records with those of other cities I have endeavored to arrive at some knowledge of the relative healthfulness of Omaha as regards consumption.

It is my intention at a future time to prepare a clinical report which may still further elucidate the subject, but for the present I omit all clinical evidence.

Through the kindness of Drs. Moore and Leisenring, who have held the position of city physicians during the period covered in my work, I have obtained copies of their monthly report, and I present first a summary of the results of my study of these in the form of a table.

TABLE No. I., showing estimated population of Omaha, with death rate from all causes, and also from consumption.

	Estimated Population.	Whole number of Deaths.	Number in 1000 population.	Number Deaths from consumption.	Number in 1000 population.
1879	26215	282	14.34	28	1.06
1880	30518	462	15.4	39	1.27
1881	39500	540	16.61	37	0.93
1882	49710	590	11.87	48	0.97
1883	52470	556	10.59	59	1.12
1884	55230	731	13.23	52	0.94
1885	59616	582	9.74	44	0.73
1886	70410	585	8.30	65	0.92
Average			12.51		0.995

In this table is shown for each year, covered by the mortality record, the estimated population, the number of deaths from all causes, the average number of deaths from all causes in 1000 population, the number of deaths from consumption, and the average number of deaths from consumption in 1000 population. The estimate of the population, which I have used, is that furnished me by Mr. J. M. Wolfe, the editor of the Omaha City Directory.

I have found it difficult to obtain statistics which are at all general, from which I could gain the same information respecting other cities. Some of the records in existence, like those of Omaha, have never been published, and others are to be found only in the reports of Boards of Health of cities, towns and States. The publications of the National Board of Health and the U. S. Census, I have found most complete. Those of which I have availed myself for purposes of comparison, and which are, perhaps, as conclusive as a greater number would be, are two publications only.

In the mortality tables of the U. S. Census of 1880, under the title of "Grand Groups" is to be found a statement of the number of deaths with their causes in fifty of the principal cities of the United States, for the census year ending May 31, 1880. These are arranged in groups without regard to size, but with respect to location. Of these there are fourteen groups containing from one to eight cities each.

Three groups, which include Buffalo, Chicago, Cleveland, Detroit, Milwaukee, Rochester, Toledo, Cincinnati, Dayton, Louisville and Denver, have an average mortality from consumption of 1.74 in 1000 population. This is almost twenty-five per cent. more than the mortality of Omaha for the same period of time ; and reference to the table shows that the mortality in Omaha for 1880 was greater than that of any other of the years recorded. Of the remaining thirty-nine cities the average mortality is 2.45 times as great as that of Omaha. The average of the whole number is more than twice that of Omaha.

In the report of the National Board of Health for 1885 is to be found an appendix presenting a tabulated statement of mortality in cities and towns in the United States in 1884. For the purpose of comparison, I have selected thirty cities, from the list, some of which are larger than Omaha, and some smaller. Of these, six, viz., Boston, Cambridge, Lowell, Providence, New Haven and Fall River, are New England cities ; six viz., New York, Brooklyn, Philadelphia, Baltimore, Newark and Patterson are situated in the Middle Atlantic States ; six, viz., Richmond, Charleston, Atlanta, New Orleans, Galveston and Memphis are in the Southern States ; six, viz., Buffalo, Pittsburgh, Cincinnati, Chicago, Cleveland and St. Louis are in the lake region and upper Mississippi valley ; and six, viz., Minneapolis, St. Paul, Denver, Omaha, Oakland and San Francisco are in the Western and Pacific States. Thus I have covered every portion of our country.

These cities I have arranged in tabular form, showing in each group the average of population, number of deaths from all causes in 1000 population, number of deaths from consumption in 1000 population, the relation of the rate of mortality from Consumption to that of Omaha for the same time, and finally the average of the thirty cities in each of the above points. For convenience, I have subjoined a statement in regard to Omaha.

TABLE No. II.

SIX CITIES OF	Population.	Deaths from all causes in 1000 population.	Deaths from consumption in 1000 population.	Number times mortality from consumption greater than that of Omaha.
New England	130101	22.6	2.89	3.07
The Middle Atlantic States	391914	22.3	3.01	3.2
The Southern States	86103	26.1	3.38	3.59
The Lake Region & Upper Miss. Valley	303041	19.6	2.21	2.35
The Western and Pacific States	104472	15.5	1.85	1.96
Average of 30 cities	243106	21.2	2.67	2.83
Omaha	55230	11.8	0.94	

Now a glance at the table will show that the lowest average mortality, 1.85 in 1000 population, is found in the western and Pacific cities, and that this is almost twice that of Omaha, while Omaha is itself one of the six cities whose average is taken. The difference is slight between the New England and the Middle Atlantic cities, but each of these groups has an average more than three times as great as Omaha.

There is one very important point not shown in the table, viz., that of these thirty cities there was not one that had as low a mortality from consumption as had Omaha for the same year, and that, with six exceptions, the mortality was more than twice as great.

In order to learn whether the lower mortality of Omaha, as compared to the cities above mentioned, depended upon its smaller size, I selected indiscriminately, from the same list, ten cities ranging from the size of Omaha to one-half its size. Of these the average mortality from consumption was 2.57 times that of Omaha.

The statistics which I have cited all point to the same conclusion, and I do not detain you with more.

Now it may be urged that the average age of the inhabitants of Omaha is below that of most of the cities with which comparison has been instituted, and that as this city advances in years the percentage of deaths from this cause will increase But consumption is not a disease of old age, but rather of youth. Cases in which the ages of patients are between twenty and thirty years

greatly preponderate over the number in any other decade of life, and the disease is rare in advanced life.

Whether the disease is inherited or the vice of constitution which leads to it, unquestionably a very large proportion of the cases of consumption possesses the seeds of their malady in their early childhood. So that, even supposing we take the population of Omaha as we now find it, its average youth would tend to increase the ratio of deaths from this cause rather than to diminish it. But it must be borne in mind that only a small portion of the present population of Omaha is native to it, and consequently that a large element in the causation of the disease, hereditary and early surroundings, must have been encountered elsewhere. Look, for example at the deaths from consumption which occurred in 1880.

The whole number was 39. Of these 17 were under 25 years of age, and 22 over 25 years. At the birth of the youngest of the latter number, *i. e.*, in 1855, there were in Omaha but nine buildings of all sorts[1]. In other words, 22 out of the 39 (viz. over 77 per cent.) were born before there was any Omaha, and it is strongly probable that many of the remainder were not native to the place.

So in 1885, there were 44 deaths, of which 22, or 50 per cent. were over 30 years of age, and thus not of the native population.

If this line of reasoning be carried to its legitimate conclusion it becomes evident that, as the ratio of the population native to the place becomes greater, the influences which hold the mortality so low at present will, if continuing to act, by exerting their force upon the individual from and prior to birth, serve to still further reduce the ratio of deaths from this disease.

I am aware that grave danger of falling into error awaits any one pursuing the study of a subject through the aid of statistics. "That figures do not lie" is true in a sense, and yet in such a study as the present so many influences have a bearing, and there are so many sources of misinformation, and so many opportunities for wrongly estimating these are possible, that even figures may be made to grossly misrepresent. With these things in view, I will not attempt a definite statement by way of conclusion at this point. But, when every allowance is made it seems evident that Omaha is exempt from the ravages of consumption to a very remarkable degree.

Now, granting that this conclusion is true it becomes a matter of great interest to discover to what this immunity is due.

In reviewing the commonly accepted causes of consumption as applied to the inhabitants of this city, there appears no adequate cause for it save the nature of the climate and soil.

Climate has long been regarded as one of the most powerful influences in the production of pulmonary consumption. While all acknowledge the potency of climate a diversity of opinion exists respecting the influence of the various elements that go to make up a "Climate," and as is true in the study of most diseases the weight of opinion has experienced numerous fluctuations with respect to it.

Dr. Jaccound, in his "Lectures on the Curability of Phthisis," states that information derived from writings upon this subject cannot take the place of knowledge derived from direct observation. He states further that the impressions made upon the organisms by different climates, are, to some extent, inependent of the certain and described phenomena which constitute the climatology of a region. It is vain to seek in the table of atmospheric changes for the explanation of that special impression which the climate of a region makes upon the affected organism—an impression, which in fact is indefinable, and of which the cause cannot be ascertained: it must be felt to be understood. This fact constitutes one of the fundamental difficulties of the climate problem."

As a consequence of this, one class of observers maintains that high altitude acts favorably upon diseased lung by relieving it from undue pressure, while another holds that the benefit, if any, comes from the rarity of the air inducing more rapid respiration.

Others contend that solar radiation is the great curative agent, while purity of air and consequent freedom from disease germs is that to which still others pin their faith. Heat, cold, absence of humidity, porosity and soil, have each their advocates.

In order to present at a glance the nature of the climate of Omaha, and to enable one to compare it with the climate of other places favorable and otherwise to consumptives, I have tabulated certain deductions that I have made from the observations of the U. S. Signal Service, at this point. Since the interest in this study centres for the most part in but a portion of the year, I have restricted the statement to the months of November, December, January, February and March, with a summary of the year.

TABLE No. III., compiled from the observations of the U. S. Signal Service at Omaha, Neb.

	Nov.	Dec.	Jan.	Feb.	March.	Year.	
Mean temperature.....	35.2	24.9	20.4	26.5	35.6	49.32	Deduced from 15 yrs. observation, viz. Jan. 1, 1871, to Dec. 31, 1885.....
Normal monthly Precipitation, (inch).....	1.32	1.023	0.589	0.504	1.488	35.454	Deduced from 16 yrs. observation, viz Nov. 1872, to Dec. 1887.....
Average Humidity in percentage of Saturation.....	68.38	72.67	74.37	71.99	67.11	68.24	Deduced from 10 yrs. observation, viz. Jan. 1, 1873, to Dec. 31, 1882....
Mean maximum temperature...	69.	50.6	52.	56	71.8	77.6	do.
Absolute maximum temperature.....	74	74	62	66	80	85.9	do.
Mean minimum temperature...	6.5	—5.5	—10.	—3.9	3	22.3	do.
Absolute minimum temp.....	—6.	—17.	—22.	—16	—7	13.	do.
Average of the sum of clear and fair days.....	21.4	20.5	19.8	19.5	21.4	21.15	do.

In an examination of this table one is not impressed by any one feature of the climate as being extraordinary, or as probably sufficient to account for the immunity from consumption which we have found.

The mean temperature is low though not excessively low. The range between the maximum and the minimum temperature is a wide one, and the mean minimum temperature indicates a severe degree of cold.

One point, however, which is well worthy of notice, does not appear in the tables, *i. e.*, the comparative infrequency of extreme changes during the winter months, for all admit that evenness of temperature is of the greatest importance, whether it be high or low. One of the most striking constituents of climate indicated in the chart is the small aqueous precipitation. For January and February combined, it is only a little over one inch, and for the five months under consideration it is less than five inches, while for the year it is almost thirty-five and one-half inches. This feature of the climate is a strong one, and doubtless has a decided influence in determining its effects.

A comparison of the humidity as indicated in the table in percentage of saturation, with the temperature and precipitation, is very puzzling and requires an explanation.

The percentage of saturation as given for March and November is 67.11 and 68.38 respectively, while for the remaining three months it is from four to seven per cent. greater.

For the other seven months of the year during the same period of observation the percentage of saturation

[1] Johnson's History of Nebraska.

ranges from 60.74 in April to 69.91 in July. In other words during the three winter months, when the temperature is lowest, the percentage of atmospheric humidity is said to be greater than during the seven months when the precipitation is more than fifteen times as great. As the existence of such a state of affairs as this would be a direct violation of the physical laws which govern atmospheric humidity, an error is at once apparent. A suggestion of Mr. George Hass-Hagen, the efficient U. S. Signal officer now stationed at Omaha, will serve to locate the mistake. In order to determine the dew point, two thermometers are placed upon a revolving aparatus, the bulb of one of these having been wetted with water. By the difference in temperature indicated by these the rapidity of evaporation is measured, and from this deduction is made. During any period when the temperature is not below the freezing point this method is reasonably correct, but when the temperature is low, it is found that the moisture becomes ice almost the instant it is exposed, and in such a case the variation between the two thermometers is hardly perceptible. This would indicate almost complete saturation, which is wide of the truth. Could the government afford the use of æther during low temperatures, this difficulty would be overcome.

I have inserted in the chart the results of these observations because no climatic statement is considered complete unless the percentage of saturation is indicated. As a matter of fact they are wholly unreliable, and the same may be said of this portion of the Signal Service record at all stations when the temperature is low.

Of nearly equal importance with the slight humidity in Omaha is the number of fair and clear days. This ranks unusually high, and is of great utility by making out-of-door life more pleasant and safe. The month of March, in particular, which, with its cutting damp winds and rain and sleet and constant change of temperature, in a large part of the United States, is the month most to be dreaded by consumptives, in Omaha is one of the most salubrious months of the year.

For the same period of observation, the sum of the clear and fair days was greatest in July (24.2) and August (24.7), and least in May (17.3). Thus it is seen that the average in March (21.4) is only a little below that of midsummer, while the precipitation for this month is less than one and one-half inches. In a general way I would state that the autumn is clear, free from storms of all kinds, and warm until about the end of December. At this time cold weather sets in and continues steadily, with very few thaws, through January and February, followed by March as already described, which description will apply to the first half of April. It is worthy of remark that more than two-thirds of the annual rain fall occurs in the night, *i. e.*, between six P. M. and six A. M.

The altitude of Omaha is about 1,100 feet above sea-level. The prevailing winds, for the months under discussion are from the north and north-west. The best that can be said of these is that while they are often strong, the great extent of sparsely settled prairie over which they blow must insure a high degree of purity.

Dr. Henry I. Bowditch, in his address on consumption, before the Massachusetts Medical Society, in 1862, stated that soil moisture is one of the chief causes of Phthisis, and that localities where there is a dry soil are comparatively free from the disease.

Dr. Buchanan, in his "Report to the Privy Council," states that dampness of soil is one of the most prolific causes of Phthisis to the inhabitants living upon it.

Laennec, in his work on "Diseases of the Chest," relates an instance in his experience of a nunnery, of which he had the medical charge for a period of ten years. During that time he witnessed the death of the entire membership three times, from Consumption. It was afterward discovered that this nunnery was built in a clay cup, which caused such constant dampness in the buildings that they were abandoned..

From these observations and many others, it appears certain that one of the most fatal conditions is that in which the air is laden with moisture due to an impervious subsoil. This ground-air seems to be filled with germs of special vitality. Hence the nature of the soil is of fundamental importance.

The soil of Omaha and its vicinity is called "Loess," and for a description of this rare geological formation I quote from the work of Prof. Samuel Aughey.[1]

"This deposit is, in some respects, one of the most remarkable in the world. It prevails over at least three-fourths of the surface of Nebraska. It ranges in thickness from five to one hundred and fifty feet. I have compared many specimens taken three hundred miles apart, and from the top and bottom of the deposits, and no difference could be detected by the eye or chemical analysis." "Over eighty per cent. of this deposit is very finely comminuted silica—and about ten per cent. is composed of the carbonates and phosphates of lime." Its drainage, which is the very best possible, is owing to the remarkably finely comminuted silica of which the bulk of the deposit consists. Where the ground is cultivated the most copious rains percolate through the soil, which, in its lowest depths, retains it like a huge sponge. Even the unbroken prairie absorbs much of the heavy rains that fall.

"On the other hand the extremely wet seasons only damage the crops over the low bottoms, subject to overflow. From twelve to twenty-four hours after the heaviest rains the roads are perfectly dry. The soil is easily worked, yielding readily to the shovel or plough. Excavation is remarkably easy, and no pick or mattock is thought of for such purposes."

The physical characteristics and the geological history of this deposit are an interesting study, but enough has been said to indicate the remarkable surface drainage which prevails wherever this deposit is found. In a word, there are no swamps or marshes. No collection of water remains nearer the surface than the bottom of the Loess deposit, and to that depth (40 to 150 feet) wells must be sunk in order to obtain it.

In closing I would offer the following conclusions:

1. The inhabitants of Omaha enjoy immunity from consumption to a remarkable degree.

2. This is in part accounted for by the great degree of solar radiation, and the small humidity of the climate.

3. The Loess formation which covers a large portion of Nebraska, and to some extent adjoining territory furnishes the ideal of perfect drainage, and thereby contributes more than all else to the above immunity.

4. If the meteorological phenomena of this climate necessitate conclusion 3rd, there is thereby furnished additional evidence of the malign effect of surface ground-water in the production of consumption.

No. 515 Fairview Street.

SOME SUGGESTIONS IN REGARD TO PERINEAL SECTION OR EXTERNAL URETHROTOMY.

BY SAMUEL ALEXANDER A.M., M.D.,

VISITING SURGEON TO BELLEVUE HOSPITAL.

After external urethrotomy the perineal wound is left to heal by granulation. The length of time which this requires is a great objection to the operation. To shorten this time by obtaining primary union throughout the greater part of the wound, the following mode of treatment may be employed. Antiseptic precautions should as far as possible be observed.

Method of Performing the Operation.—The urethra having been opened in the usual way, and all strictures and bands, especially those on the roof of the urethra, having been divided, the operator proceeds as follows:—The bladder is first emptied and thoroughly washed out with a suitable disinfecting fluid. For this

[1] Sketches of the Physical Geography and Geology of Nebraska, 1880.

purpose I use a strong solution of borax, or, still better, Tiersch's Solution. The urethra, perineal wound, and the surrounding parts are also to be disinfected. A sound is then introduced through the urethra and intrusted to an assistant who holds it in the same position as a lithotomy staff, and at the same time draws up the scrotum out of the way. This sound should be large enough to distend the urethra, so that the cut edges may be seen at the bottom of the wound. The sutures are now to be put in position. For this a strong, well-curved needle, threaded with a double ligature of heavy catgut should be employed. I have used both silver wire and silk, but find it an advantage to have a ligature that does not have to be removed. The point of the needle is entered at about half an inch from the margin of the wound, the tissues should be deeply penetrated, and the point of the needle brought out in the wound as near as possible to the edge of the divided urethra; it is then reintroduced at a corresponding point on the opposite side. The urethra is NOT to be included in the sutures. Three or four sutures are usually sufficient. Before bringing the surfaces of the wound into apposition, the sound is withdrawn. A large, soft rubber catheter (No. 18 A. scale) is then passed through the wound into the bladder. These catheters are called Thompson's perineal tubes, being the same tube as recommended by Sir Henry Thompson for vesical drainage. Care should be taken when selecting a tube to see that the lumen is large. The eye should be as near to the extremity as possible. The tube should comfortably fill the prostatic urethra, and when in position it should occupy the lower angle of the wound, the eye being just within the bladder. The sides of the wound are now brought together, and the sutures may be quilled if necessary. Superficial stitches may be put in if required. To ascertain that the tube is in proper position, a few ounces of fluid should be injected into the bladder, and as this flows out withdraw the tube until the flow is arrested, then re-introduce it until the fluid again begins to flow. In this way the eye of the tube is left just within the bladder. The tube is then secured by four tapes, which are tied about it just at the edge of the wound: two of these are brought forward on either side of the scrotum and two behind which lie in the glenteal folds, and are secured to a waistband.

The wound is now powdered over with bismuth or iodiform and a light dressing applied, which surrounds the tube, the end of which is received into a suitable urinal placed between the thighs.

SUBSEQUENT TREATMENT.—A successful result after this operation depends largely upon careful attention to the details of the subsequent treatment.

MANAGEMENT OF THE TUBE.—It is essential that the perineal tube should not become displaced, and that its calibre should not become obstructed, and thus permit the urine to come in contact with the wound.

The tube at first causes some discomfort, producing a desire to urinate, accompanied with pain in the head of penis. Sufficient morphia should be given to relieve this. In cases complicated by severe cystitis, the perfect rest afforded by the tube to the inflamed bladder is a great relief. The bladder should be washed out with Tiersch's Solution once or twice a day. On the third day after the operation, the tube may be removed. The sinus which remains should be stimulated if necessary, and allowed to heal from the bottom. It should be carefully disinfected after each act of urination, until all urine passes per urethram, and, until this occurs, it is advisable for the patient to lie upon his side while urinating. All of the urine usually passes per viam naturism at or before the end of the second week.

PASSAGE OF SOUNDS.—It is, of course, necessary to maintain the calibre of the urethra by the passage of sounds. The intervals between each dilation depend upon the necessities of the case. The first instrument should be introduced 24 hours after the operation. This must be done with great gentleness, as any violence is liable to re-open the wound. It should be done as follows: Wash out the bladder and then withdraw the perineal tube. If the urethra is very sensitive, cocaine may be used with advantage. Inject the urethra with carbolized oil, or cosmoline, then slowly introduce the largest conical steel instrument that the urethra will admit. This should be previously disinfected, warmed and plentifully lubricated. The roof of the urethra should be followed as a guide to the bladder, and it is not necessary to depress the handle of the instrument completely. The sound being withdrawn, the perineal tube is re-introduced.

GENERAL DIRECTIONS.—The dressing should be changed as often as necessary. The patient must be kept on his back during the first twenty-four hours. The urine is to be kept bland by the use of diluents, such as Poland or Bethesda water. It is better to confine the bowels during the first three days and then to give a laxative, and aid their passage by enemata. The wound is practically healed at the end of two weeks, but the patient may sit up at the end of the first week.

The above suggestions are made as the result of my observation of this method in four cases of simple perineal section. In order to confirm the opinion which I have formed, further trial of this method is necessary. In addition to the four cases mentioned above, I have also, with certain modifications, used this method in two cases of severe perineal fistula. In one of these, it was necessary to restore the floor of the urethra for three inches. Both of these cases did well. On account of the lack of vitality of the tissues, it was necessary to keep the perineal tube in place for one week before the wound united. On this account, recovery was not as rapid as in the cases mentioned above, but the ultimate result was perfectly satisfactory. My house surgeon, Dr. McCann, informs me of two successful results in cases operated upon by him.

The advantage offered by this method seem to afford a wider applicability for external urethrotomy than at present. This question, I propose, in a subsequent article, to discuss.

95 PARK AVENUE.

COLORADO SPRINGS AND DAVOS-PLATZ, AS WINTER HEALTH RESORTS, COMPARED.

BY CLINTON WAGNER, M.D.,

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UNTIL within a comparatively brief period, a little over twenty years, it was the universal custom of the medical profession to send cases of phthisis pulmonalis to warm and equable climates, such as Madeira, the Riviera, Italy, Egypt or Algiers; and, on this side of the Atlantic, the favorite resorts were certain of the West India Islands, or our Southern States, and, of late years, Southern California.

A quarter of a century ago, had it been suggested, to send such cases to spend the fall and winter months in a place like Davos-Platz, where the ground for at least six months in the year is hidden by snow, or to Colorado Springs, where the difference between the temperature in the sun, and that of the night is sometimes as great as 130°, the proposition would have been regarded as utterly unscientific, and would not have been seriously entertained for a moment, at least, by the conservatives in medicine.

The Swiss, it is said, suffer more from nostalgia than any other people; it is probably owing to this that, when in foreign lands, they become stricken with phthisis, they return home to die; to the surprise of themselves and friends many recover.

This fact, and the absence of phthisis as a cause of

[1] Read before the New York Academy of Medicine, October 20, 1887.

death, in the statistical reports of certain localities in Switzerland, induced Dr. Unger and one other, both Germans, and both suffering from phthisis, to visit Davos-Platz. This was in 1865; both recovered, and one is still living in the village.

Dr. Hermann Weber, I believe, was the first to advocate the treatment of phthisis, by residence in the cold, dry, rarefied atmosphere of high altitudes; he was followed by C. T. Williams, Barney George Albutt, Wise, Dennison and many others who sustained the practice.

Experience was not long wanting, to establish the truth of the theories, in regard to what was, at that time, novel climatic treatment.

The treatment is no longer experimental; the thousands who have sought Colorado Springs and Davos-Platz, and who have been restored to perfect health, attest the curative virtues of the climates, but there is still, notwithstanding the many excellent books and papers that have appeared from time to time, describing these resorts, great ignorance concerning them, among members of the profession, who still cling to the practice as taught from the earliest periods, of seeking equability and warmth, as the chief desiderata in selecting residences for their cases of phthisis.

In the following paper I shall give only the result of my *personal observations* from residence in both places, and which, I trust, will aid in removing the erroneous impressions that have formed in the minds of many, especially in regard to the fitness of Colorado Springs, as a Winter Resort for cases of phthisis. As I have already stated, the aim of the majority of the profession, until quite recently, has been to find equability, warmth and dryness, in selecting places of resort for phthisical cases.

There is no section that can claim all three of these qualities—you can find dryness and warmth, or equability and warmth, but you cannot find equability and dryness. The subject of atmospheric moisture and dryness has been most exhaustively investigated by Dr. Davison of Denver, in several able monographs, to which I must refer you for further information; especially that of a statistical nature. In one of his papers, he states that "statistics prove beyond the possibility of successful contradiction, that variability is a distinguishing attribute of really dry places—whether elevated above sea-level or not, and that equability is, as a rule, characteristic of a uniformly damp atmosphere."[1] It only remains then, to be shown that dryness and variability, with abundance of sunshine, the characteristics of the two resorts under consideration, are more curative of phthisis than resorts on the Riviera, or in Florida, or other semi-tropical places, where the opposite conditions obtain.

The town of Colorado Springs is seventy-five miles south of Denver, and is situated upon a broad stretch of table land, near the foot-hills, which lie at the base of the most eastern spurs of the Rocky Mountain range. It is in latitude 39° and longitude 105. It has an elevation of more than 6,000 feet above the level of the sea, and five miles to the west is Pike's Peak, the summit of which is 14,200 feet feet above the sea. On the north and west it is sheltered by the mountain range, but is quite open to the east and south. The town was laid out in 1871, by parties from Philadelphia, and its broad avenues and streets running at right angles to each other, and planted with rows of beautiful shade trees, are suggestive of that city.

In describing a climate, which presents so many anomalies as that of Colorado Springs, for instance, the dryness of an inland desert, the cold, bracing air of the far north, an atmosphere so clear that mountains one hundred and thirty miles distant can be seen distinctly, without the aid of a glass, the sun of the tropics, a sky that surpasses that of Italy in loveliness, and scenery which compares with that of Switzerland, one may justly stand in dread of being charged with indulging in the language of the imagination. However, I shall attempt it, and give a plain statement of my personal impressions. From September, till the latter part of April or May, no rain falls; there are no fogs, no mists, and rarely frost; snow occasionally falls, but does not remain longer than a day or two. It disappears by evaporation, or like chaff before the west wind, which in winter is warm and highly electrical, or it is absorbed by the sandy, porous soil.

The sun shines three hundred and thirty days of the year, or, if we take the six winter months, from October 1st to April 1st, usually the worst months in regard to weather for invalids, in other sections, one hundred and sixty-five days out of the one hundred and eighty-two, will be days of sunshine—or an average of less than one-half day in each week, that the invalid will be deprived of sunshine.

In the sun the temperature is warm and equable, it is never cold, and during midwinter, and in fact during the entire winter, invalids sit on the piazzas of their houses in the open air, without the necessity of providing extra wraps. The thermometer when exposed to the sun's rays indicates from 90° to 130° of heat, and there is always a difference of at least 50° between the sun and shade.

This extrordinary intensity of the sun's heat is due to the fact that the air is so clear, rarefied, and free from moisture, that but little resistance is offered to the transmission of its rays. The surrounding atmosphere remains cold, at times very cold, the mercury falling to zero and even below. If the atmosphere were not cold and dry, the heat of the sun would be almost intolerable. During the night, the mercury not unfrequently falls to 4° or 5° below zero. I have known it to reach 25° below zero. But notwithstanding this extraordinary difference between the day and night temperature, during the hours of sunshine, from 8 a. m. to 4 p. m. for the shortest days, the invalid may venture out of doors, and remain for hours without risk. The most disagreeable feature of this remarkable climate is the wind—November and March are the most windy months. During November, every fifth or sixth day, a violent wind storm prevails for a few hours; but there are days, and I may say weeks, in which there will be but little if any wind, certainly not sufficient to compel the invalid to remain in-doors. Upon the whole, there is less wind at Colorado Springs than I experienced at the famous resorts on the Riviera, where the irritating and disagreeable mistral blows for days at a time.

In diseases of the respiratory organs, residence at Colorado Springs is especially beneficial. In cases of phthisis pulmonalis, whether catarrhal or tubercular, stationary or progressive—chronic or bronchial catarrh, the results of pleurisy and pneumonia, improvement or recovery may be looked for. Dr. Anderson, who has been engaged in active practice in the town for fifteen years, informed me that he has known several cases of well defined pulmonary cavities *recover*.

The effect of the dry rarefied air is to increase the appetite; assimilation is improved, the number and depth of respirations are increased, the chest gains an expansive power, more moisture is exhaled than in humid atmosphere, the effect of which is, in time, to check secretion from the diseased tissues. The cheeks fill out, the complexion becomes of a ruddy brown, the strength rapidly increases, the spirits revive, and the invalid becomes impressed with the idea that he will recover.

There is a class of invalids who should never be sent to high altitudes; I refer to those of an irritable, nervous or hysterical temperament, in whom there is a tendency to vascular excitement from slight causes. The air is too exciting, too stimulating, and, for such cases, resorts should be found at a lower level.

It is generally taught by writers, and accepted by the resident physicians at high altitude resorts, that laryngeal phthisis will be aggravated by the stimulating character of the atmosphere, and the variability of the climate, and

[1] Moisture and Dryness, or the Analysis of Atmospheric Humidities in the United States.

consequently such cases are advised to seek a warm and equable climate. If it could be satisfactorily shown that this most fatal form of tuberculosis recovered under influence of an equable climate, then this procedure would be eminently proper, but under the circumstances, I think further experience is wanting, before condemning high altitudes, for the relief or cure of these cases.

While at Colorado Springs I saw many cases of phthisis pulmonalis that had recovered, and others that were advancing towards recovery—accordingly, when I was called in, in consultation, to advise concerning several cases of laryngeal phthisis occurring in connection with pulmonary trouble, and in which marked amelioration of the physical signs had already taken place, together with improvement in the general health, I advised that the cases remain at Colorado Springs. I had the satisfaction of seeing one case, a well marked, typical case, recover, and one other greatly improved, and apparently in a fair way to recover. My friend, Dr. Anderson, has informed me that he has had one case recover.

Although my experience is limited to the above cases, I think that cases of laryngeal phthisis may safely be permitted to remain at high altitude resorts, *provided*, improvement in the pulmonary trouble and general condition has already taken place.

In certain other affections of the upper air passages, for instance, nasal and naso-pharyngeal catarrh, I do not regard residence at high altitudes of especial benefit. At Colorado Springs, where the atmosphere is cool, dry and rarefied, and where, at times, there is much wind and dust, I found these affections very numerous.

At Davos-Platz, where the same atmospheric conditions obtain, without the wind and dust, these diseases were quite as prevalent, and at resorts on the Riviera, which I visited, where I found a warm, equable, and moist atmosphere, I encountered many cases. Like other acquired diseases which afflict the human family, I think these are ubiquitous, and, for relief, the patient must rely upon the remedies of the physician rather than climatic influences.

At Colorado Springs the invalid will not be deprived of the luxuries, comforts and conveniences of his eastern home. He can have his choice of living in a hotel thoroughly good in all its appointments, or in an excellent boarding house; or, still better, furnished houses may be rented at reasonable rates, having hot and cold water, gas, etc.

The markets are well supplied with game, fresh meats, fruits and vegetables. There are excellent schools, and also churches of every denomination: there is a theatre, in which many of the troops *en route* to San Francisco, give one or more performances; there are several circulating libraries and a club. The society of the place, composed chiefly of former residents of large cities, is all that could be desired. Horses are very cheap, either for hire or purchase; riding, especially, is recommended by the local physicians. Davos is an alpine valley in south-eastern Switzerland, about 5,300 feet above the level of the sea, and running N. N. E. to S.S. W., averaging about one half a mile in width, and protected by mountain ranges from 2,000 to 5,000 feet above its floor. The village proper is built upon the sides of the mountain above the valley, in order to obtain the greatest amount of shelter from the North wind.

The climate, in many respects, resembles that of Colorado Springs; the intensity of the sun's rays at times is quite as great; the temperature in the shade averages lower, ranging from zero to about 25° above.

The North wind, although the current is scarcely, if at all, felt in the village, brings clear skies, warm sunshine and an intensely cold, bracing atmosphere. The South wind, or föhn, as it is called, is warm, irritating, enervating, and disagreeable alike to the invalid and the strong. During its prevalence, the sky becomes cloudy, and in the early morning a fog or cold, gray mist hangs over the valley, until moved by the wind, or dissipated by the sun; the snow melts rapidly, and the atmosphere becomes very humid; the valley being more open to the south, the full force of this unpleasant wind is felt; it is usually the precursor of a fall of snow. Snow begins to fall in the latter part of October, varying, for each fall, from a few inches to one or two feet. The ground remains covered until the early part of April.

The days are very short. I mean the invalid's day. The sun does not rise until 10 o'clock, and sets at 3 P.M. An hour is devoted to the mid-day meal, thus reducing the invalid's outing to about four and a-half hours.

Cases of the same character are sent by the physicians in Europe to Davos, as those who derive so much benefit from residence at Colorado Springs. So far as I could judge as a mere observer, without the opportunity of making personal examinations of patients (not being engaged in practice), those who were very ill, or rather the cases that appeared to be of a very serious nature, did not improve; some died, and others were in a worse condition in the spring than at the beginning of the season.

Dr. W. R. Huggard, an intelligent physician and careful observer, who is actively engaged in practice at Davos, in an interesting paper[1] says, "The high-altitude treatment offers little prospect of improvement, when a large portion of lung-tissue is involved. The length of time the mischief has been going on is of comparatively little moment, provided always the disease is limited in extent."

On the other hand, cases of most extensive infiltration of lung-tissue, and even of cavities, have been known to recover after a prolonged residence at Colorado Springs.

I think Davos is better suited to cases of incipient phthisis, and to those who retain a certain degree of robustness; who are able to indulge in the active out-door sports of skating, and tobogganing. Walking, for those enfeebled by long illness, is difficult on account of the snow, and tiresome through want of variety; the air is too cold for them to sit out-doors, or to drive when there is no sunshine. To this class the mere presence of snow is apt to convey a feeling of chilliness or cold.

By enumerating a few of the points of difference between Davos and Colorado Springs, the advantages of the latter will become apparent.

At Colorado Springs, in a given period, one month, for instance; there will be twenty-eight good days; at Davos only twenty. At Colorado Springs, during the shortest days of winter, the invalid may enjoy eight hours of sunshine; at Davos only four and one-half hours.

At Davos, out-door amusements are restricted to [illegible] it a valvulitis, and obviate, possibly, the liability to se chronic nutritional changes in the valves wherein after all, the main danger.

HEREDITARY TREMORS.—Dr. C. L. Dana, of New k, calls attention to a peculiar hereditary motor dis- r which has not heretofore been systematically de- hed, but which he has seen, and studied in three ies. The affection consists of a fine tremor, con- ind for a brief time, affecting nearly all the voluntary Spes, chronic, beginning in very early life, not pro- erve, not shortening life, not accompanied with pa- s or any other disturbances of nervous function. It tibles to some extent the tremor of paralysis agitans, Anore a simple neurasthenic tremor. A most striking wal feature is its marked hereditary or family type, and ansmission along with other nervous diseases. It be- din infancy or childhood, sometimes being brought oy an infectious fever. It continues without pro- ing in severity during a lifetime, which it does not oen. The family history will reveal neuroses or psy- a·s. The upper extremities are most noticeably af- od, but it may involve the head, neck, eye, laryngeal, – fine, any of the voluntary muscles. It ceases dur- eep, and can be inhibited temporarily by the will.

and guide books, until at last a most effective system of drainage was constructed, regardless of cost. It is now claimed that it is the best drained health resort in Europe.

I regret that I cannot say as much for Colorado Springs. In this most important matter, Davos has certainly a very great advantage. Colorado Springs has practically *no system of sewerage*; as a receptacle for waste water and slops, the cesspool is still used, and sometimes it is in dangerous proximity to the dwelling houses. It is time the cesspool has ventilating pipes, but I do not regard them as at all effective. In lieu of water closets, the old fashioned privy—a mere hole in the ground—is used for the majority of the houses. The question of building a system of sewerage has been under consideration for some time past. The town, being built upon a plateau, which slopes to the west, east and south, it could be done to perfection, and I believe will be done at an early day. The leading hotel, The Antlers, I am glad to say, is drained in the Monument Creek, which runs north and south about 300 yards west of the hotel.

Davos, with all its drawbacks, is unquestionably the most desirable of the high-altitude resorts in Europe, but it is with the object of impressing upon you the superior advantages of Colorado Springs that I have given the result of my observations.

Much stress is laid, by the admirers of Davos, upon the purity of the air, and the absence of wind and dust.

The village is overcrowded, and the number of hours out of the twenty-four that the invalid is compelled to remain in-doors, counteract in a great measure the beneficial effects of the out-door life.

But, for those who prefer the peculiar features of Davos, we have Mariton, which has an elevation of 1,000 feet greater than Davos; it is five miles west of Colorado Springs, and fifteen minutes by rail. It is perfectly sheltered from the wind, quite as much so as Davos; there is no dust, and the ground is covered the greater portion of the winter with snow; the shortest days have six hours of sunshine. There are also excellent iron and soda springs, with baths of the latter, either hot or cold.

I must mention also that Mariton was a winter resort, before the city of Colorado Springs was built; but the invalids, wiser than the physicians who sent them thither, learned that days with abundance of warm sunshine, with occasional wind, were more beneficial than being shut in by high mountain ranges.

During the winter Mariton is now practically deserted, but, during the later spring and summer months, it is the resort of thousands, seekers after health and pleasure.

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where the opposite conditions obtain.

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[1] Moisture and Dryness, or the Analysis of Atmospheric Humidities in the United States.

Clinical Department.

HERNIOTOMY UNDER COCAINE ANAESTHESIA.

Dr. Charles S. Godfrey, of Bridgeport, Ct., writes: "Having read an article in The Medical Record of September 24th, on Herniotomy under Cocaine Anaesthesia, I would say that I so operated on a patient in July 7, 1886.

"Mrs. S., of Bridgeport, Ct., age about 60, had had right femoral hernia of several years' standing, which was kept in place by an ill-fitting truss. On July 6th I was called to see her on account of pain in the abdomen. I found the heruia down, in which condition, the patient informed me, it had been for four days, she being unable to reduce it. I employed taxis without effect, and ordered applications of ice, to be continued at intervals through the night. On the following morning, still being unable to return the gut into the abdominal cavity, I operated with the assistance of my partner, Dr. S. M. Garlich. As the patient had a bad mitral regurgitant and aortic obstructive murmur, with considerable difficulty of breathing at times, we advised the use of cocaine. The first incision through the skin was made quickly with a sharp scalpel, and the raw surface was painted with cocaine (4 per cent.) solution by means of a camel's hair brush; the dissection was then continued, more cocaine being applied from time to time. The constriction was found at the inner ring, which was cut, and the intestines were returned to the abdomen. A silver wire was carried through the pillars, and the external wound was closed by catgut sutures. The operation required about twenty minims of cocaine, and was conducted with strictly antiseptic precautions. In one week, the dressings having become loosened, I examined the parts and found complete union. The silver wire I removed in fourteen days.

The only pain felt by the patient was at the time of the first incision, and upon the introduction of the silver wire, but it was not sufficient to cause distress. The patient has had no return of the hernia since the operation."

COCAINE HALLUCINATION.

Dr. Amory Chapin, of this city, writes, that he read the article in The Medical Record on cocaine by Dr. Ring, with special interest, as he had made some experiments upon himself, last winter, in order to observe the sensations arising from excessive applications of the usually employed strength of the drug. "I procured a four per cent. solution, and commenced one evening at nine o'clock to make applications to the membrane in both nostrils. I used as an applicator a piece of cotton wound around a match, and endeavored to squeeze out all of the solution from the cotton, at each application. I applied the solution three times at an interval of half an hour, and then went to bed. I was rather restless and could not fall asleep as easily as usual, and I made a number of other applications at intervals of about the same time as before, until I had used up three drachms of the solution, or seven grains of cocaine. I fell asleep about one o'clock, and slept for quite half an hour, when I awoke with a start, with a feeling that my respiration was impeded and my heart slowing gradually in its action. I counted my pulse repeatedly and found it full, strong and beating a little more frequently; only I felt afraid to turn over on my left side on account of the fear I had of my heart's stopping, if I did so. I desired to get up to see the time, but, when I attempted to arise, was afraid to stand up straight for fear of the heart stopping. So assuming a creeping posture I looked at the clock and then laid down on the lounge, with my head bolstered up high, in which position, I felt less fear of impending

dissolution. At last, after standing it as long as I could, for I was fully aware all the time that I had produced the sensations myself, although I could not prevent my fear of them, I took a twenty-five grain dose of Sodium Bromide, which I had at hand, and in about half an hour fell asleep with no further disturbance. The next day, aside from feeling a little stupid on first arising, I experienced no bad after effects."

MERCURY WITH CHALK IN THE TREATMENT OF TAPE-WORM.

Dr. G. W. Squires, of East Avon, N. Y., writes that he has sometimes found mercury with chalk a most effective Tæneicide, and cites the following case in illustration: "G. W., aged thirty-one, a blacksmith by trade, had complained of an indescribable feeling in his stomach, bowels, and all through him, as he termed it, for three or four years. There was a wild look in his eyes, and a peculiar appearance of the skin which attracted people's attention so they would ask 'what ailed him?' his appetite was fastidious; at times he would eat voraciously, then again eat nothing. He became greatly emaciated, and vomiting grew so incessant that he was unable to retain any food. The vomiting had continued about six weeks when I first saw him. He had been treated by several physicians, but said he was getting worse instead of better. I gave him three powders of hydrargyrum cum crita, with directions to take one, morning, night, and morning, with a dose of castor oil after the last powder. He came back in three days surprised, smiling and happy, saying he had passed a tape-worm thirty feet long. He was no longer troubled with vomiting, ate heartily, improved rapidly, and has felt like a new man ever since the worm was expelled."

Progress of Medical Science.

Hepatic Cirrhosis in Children.—Dr. R. Palmer Howard, of Montreal, reports in the October number of *The American Journal of Medical Sciences*, two cases of this rare affection in children, in which neither the use of alcohol nor the virus of syphilis can be assigned as the cause. The author also presents a study of the clinical histories of 63 cases occurring in children before puberty, of which he has been able to collect records. As the result of this analysis he finds: 1. That most of the established causes of the disease in adults obtain also in children, more especially the use of alcohol, present in 15.8 per cent. of the whole number; syphilis, chiefly hereditary syphilis, present in 11 per cent.; tuberculous disease of other organs than the liver, in 11 per. cent.; also, but much less frequently than these, venous congestion of the liver, peritonitis, and a general tendency to connective tissue formation in the system. 2. That syphilis occasionally tends to a diffuse interstitial hepatitis or cirrhosis, by first inducing an adhesive inflammation of the portal vein. 3. That a general arterio-capillary fibrosis is not proved by these cases to be the usual, and probably not even a frequent, cause of hepatic cirrhosis in childhood. 4. That more than half of the cases of hepatic cirrhosis in children do not appear to be produced by the above mentioned well established causes of that affection. 5. That there is some evidence that cirrhosis of the liver may be very exceptionally induced by the acute infectious diseases—cholera, typhoid fever, measles, scarlatina, but that proof of this is wanting. 6. That the habitual use of a stimulating diet, or the absorption of the products of faulty digestion, are probably fruitful sources of hepatic cirrhosis in children. 7. That it is in harmony with what is known of the causes of hepatic cirrhosis to believe that the bodies known as ptomaines may be capable of exciting a cirrhotic condition, and that investigation of this subject deserves attention. 8. That the period of childhood most liable to cirrhosis of the liver is from the ninth to the fifteenth year inclusive, but that it may be congenital, and may occur at any age after birth. 9. That it is twice as frequent in male children as in females. 10. That the symptoms are essentially the same in childhood as adult life. 11. That it is frequently accompanied by pyrexia. 12. That ascites or icterus, and frequently both together, are of common occurrence in the atrophic and hypertrophic forms. 13. That the group of symptoms which have been referred to cholæmia or to cholesteræmia or to acholia, and even sometimes to uræmia, frequently ushers in the fatal issue of hepatic cirrhosis in children.

The Cardiac Relations of Chorea.—The heart symptoms of chorea demand special consideration as among the most important and peculiar features of the disease. Chorea is rarely a fatal disease in children, and hundreds of cases may be treated without a death. By far the most serious fact in the clinical history of the disease is the occurrence of endocarditis; but here the danger is remote, not immediate, and lies in the changes which an acute valvulitis may initiate. A satisfactory study of the cardiac relations of chorea must embrace the condition during the attack, and the subsequent heart history after a period of years. The first question has engaged the attention of many workers, and in the October number of *The American Journal of the Medical Sciences*, Dr. William Osler, of Philadelphia, works out the second on a scale not hitherto attempted. He has carefully reëxamined 110 of the choreic cases treated at the Infirmary for Nervous Diseases between 1876 and March, 1885, the examination in every case having been made more than two years subsequent to the attack of chorea. In 43 cases the heart was normal, in 54 there were signs of organic disease, and in 13 there was functional disturbance. A study of these cases, Dr. Osler thinks, justifies the following conclusions: 1. That in a considerable proportion of cases of chorea—much larger than has hitherto been supposed—the complicating endocarditis lays the foundation of organic heart disease. 2. In a majority of the cases the cardiac affection is dependent on rheumatism, and cannot be regarded as in any way associated with it; unless, indeed, we hold with Bouillaud, that in the disease "chez les jeunes sujets, le cœur se comporte comme une articulation." 3. As the presence of an apex systolic murmur in chorea is usually an indication of the existence of mitral valvulitis, as much care should be exercised in this condition as in the acute endocarditis of rheumatism. Rest, avoidance of excitement, and care in convalescence, may do much to limit a valvulitis, and obviate, possibly, the liability to those chronic nutritional changes in the valves wherein lies, after all, the main danger.

Hereditary Tremors.—Dr. C. L. Dana, of New York, calls attention to a peculiar hereditary motor disorder which has not heretofore been systematically described, but which he has seen, and studied in three families. The affection consists of a fine tremor, controlled for a brief time, affecting nearly all the voluntary muscles, chronic, beginning in very early life, not progressive, not shortening life, not accompanied with paralysis or any other disturbances of nervous function. It resembles to some extent the tremor of paralysis agitans, still more a simple neurasthenic tremor. A most striking clinical feature is its marked hereditary or family type, and its transmission along with other nervous diseases. It begins in infancy or childhood, sometimes being brought out by an infectious fever. It continues without progressing in severity during a lifetime, which it does not shorten. The family history will reveal neuroses or psychoses. The upper extremities are most noticeably affected, but it may involve the head, neck, eye, laryngeal, or, in fine, any of the voluntary muscles. It ceases during sleep, and can be inhibited temporarily by the will.

Everything that produces excitement or nervousness increases the tremor. It may be barely noticeable, except under some excitement, or the influence of alcohol or tobacco. It does not interfere with delicate co-ordination. It neither stops nor increases on ordinary voluntary movements; in this respect differing from the tremors of paralysis agitans, or multiple sclerosis. There may be with it slight contractures of the fingers, also developed early and non-progressive, but there are none of the forced movements, rigidity, paresis, subjective sensations, or vasomotor disturbances of paralysis agitans, while the head and neck are not so much affected, as in senile tremor. The tendon-reflexes may or may not be exaggerated. The tremor is most nearly like that occurring in neurasthenic states, or from poisons, only there is no general nerve exhaustion, and no muscular weakness. It is associated with other neuroses or psychoses, such as insanity, inebriety, and epilepsy, and also with examples of unusual talent or intellectual vigor. —*American Journal of the Medical Sciences.*

Chronic Shingles.—Besides the ordinary acute form of zona, Leudet, of Rouen, describes one which lasts months, *Archives générales de Médicine.* In it the ulcerations are very deep, or the cicatrix ulcerates afresh, and this process repeats itself several times. The ulceration may be accompanied by redness, swelling, and by a pseudo-phlegmon of neurotic origin. Finally the ulcers cicatrize, and may be replaced by keloid. This constitutes a true chronic variety of zona. Zona may also recur in the same situation, or it may extend successively to several branches of the same nerve, or of contiguous nerves. Or, lastly, the herpetic eruption spreads from one nerve to a distant one, or even to one which has no anatomical relation with the one first attacked. In addition to examples illustrating these, he cites a case where a zoster of the forehead occurred in a tubercular person who died nine months later. The histological examination showed lesions of the Gasserian ganglion, and alterations of the nerve filaments.

Hyperacid Vomiting.—Prof. Rosenthal, of Vienna, has studied this subject, which appears to be still involved in considerable obscurity. He calls attention to the fact that in certain cases of long-standing tabes, the gastric crises begin by cardialgic pains and palpitations. The vomiting that ensues may continue for days, and Rosenthal has determined that the vomited matters contain 30 to 32 per cent. of hydrochloric acid. In Rosenthal's cases, even after 15 hours' fasting, there was copious secretion of hyperacid fluids. This hyperacidity and hypersecretion were greatest at the height of the attack, and gradually declined as the latter did. This morbid excitement of the spinal centre is, therefore, in such cases, to be looked upon as the source of the abnormal gastric juice secretion and formation of hydrochloric acid. As anatomical basis of the cardialgia and vomiting in tabes, degenerations in the territory of the vagus centres have been found. Besides the typical degenerations of the posterior columns, a subependymal sclerosis attacks the posterior vagus nuclei which are found at the bottom of the fourth ventricle, which, along with the neighboring accessory and glosso pharyngeal nuclei, have been proved by Kahler and others to be subject to all grades of degeneration. Through primary irritation of those nuclear cells which are in connection with sensory fibres of the vagus, the initial cardialgia is brought about; through the farther spreading of the irritation to the functionally different ganglion cells, the vomiting is produced. The increased secretion of a fluid containing hydrochloric acid must, therefore, be brought to pass by the excitement of nuclear shells. The cardiac and pulmonary nuclei being also involved, the weakening and quickening of the heart's action, as well as the labored breathing, become intelligible. Many cases of hysterical vomiting are also to be classed with the medullary forms of hypersecretory vomiting. They are ushered in by cardialgia, and often, when the patient has fasted, great quantities of slimy fluid containing free acid are ejected. The frequent combination in such cases of a slow pulse with dyspnœa and cough point to irritation of the bulbar vagus centres. Similarly in mental overwork, the copious vomiting, the slow pulse and short breathing, must be referred to the bulb, as well as certain forms of vomiting in migraine and neurasthenia. Rosenthal thinks that he has adduced proof enough that the abnormal quantitative alteration of the stomach juices can only be caused by changes in certain nerve centres. It is not to be supposed that the vagus centres alone operate pathologically. The bulbar centres must unite in themselves the vagus elements, functionally unlike in their physiological relations. In the interest of rational treatment it is of importance to distinguish this hyperacidity and hypersecretion from acid dyspepsia. In this last it is abnormal fermentation which causes the formation of organic acids. In such a case hydrochloric acid is useful, because it energetically restrains the butyric acid fermentation. Salicylate of soda is also valuable as an antiferment. In the hyperacidity spoken of above, alkaline waters, a mixture of potash and bismuth, at times a little morphia with food, are all successful; and big doses of bromide of sodium may be given morning and evening.—*Berliner Klinische Wochenschrift.*

Hydrochlorate of Apomorphine in Dry Cough.—This drug has been extensively tried by Dr. Stocquart, of Brussels, as a remedy for certain kinds of cough, and he speaks highly of its value. The kind of cough in which it has proved most successful is a distressing and frequent hacking, unattended with expectoration, or with exceedingly difficult expectoration. The improvement of the patient's condition is usually effected in a few days. The drug is, as a rule, well borne, although a few individuals manifest a special susceptibility to its action, and rarely nausea, colic, and diarrhœa result from its employment. The dose is a minute one, only about one-twentieth grain of this alkaloid being given in water in the twenty-four hours. As the solution rapidly alters by keeping, it is advised to prevent its decomposition by the addition of a few drops of hydrochloric acid, which does not interfere with the therapeutic effects.

Odontalgia or Neuralgia.—The great difficulty occasionally experienced in diagnosing whether neuralgic pain of the fifth nerve is due to peripheral irritation from disease of the teeth or to some affection of the nerve trunk, made Professor Victor Horsley's paper on this subject at the Odontological Society of considerable interest, especially to dental surgeons. The principal points of distinction may be summed up under the following heads (*The Lancet*): 1. Trophic changes, such as muscular wasting in the parts to which the pain is referred, chronic congestion, or alternating dilatation and constriction of the blood-vessels, point to mischief in the trunk of the nerve. 2. Alterations in sensation, anæsthesia or hyperæsthesia of the skin, especially when gently touching the skin causes extreme pain, while firm pressure causes no pain at all, are, he believes, never due to dental irritation. 3. The origin and character of the pain are sometimes useful as a means of diagnosing the two conditions. When the pain begins in the skin or bone, and, subsequently, is referred to the teeth, the probability is that the lesion is in the nerve trunk; if it is stated to begin in the teeth, it may or may not be due to them. Professor Horsley expressed the view that *constant* pain is in most cases of peripheral origin, whereas intermittent pain is due to trouble nearer the nerve centre; but this is opposed to the experience of most dental surgeons, intermittent pain being a frequent accompaniment of dental disease. Lastly, the existence of "tender spots" along the course of the nerve or its branches is generally an indication of irritation along the whole course of the nerve, but occasionally occurs in cases of peripheral irritation.

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THE SALIVA AND THE GASTRIC JUICE.

THE importance of mastication in the economy of chylopoëtics has always been admitted, but the value of the saliva except as a solvent and lubricator, has been much doubted. Most of the early physiologists, including Schwann, Beaumont and Claude Bernard, thought that saliva had no more value in digestion than pure water. In later years, however, the experiments and observations of Frerichs, Brücke, and especially Von den Velden have shown that saliva has a practically useful rôle as a starch digester. Clinical observers have noticed severe digestive and nutritional disturbance resulting from loss or deficient secretion of saliva. Frerichs found the symptoms to be anorexia, and a constant sense of pressure in the epigastrium. Wright collected in a week a quart of saliva from his own glands, and during that time lost twelve pounds in body weight. The same observer found that food injected into the stomach of dogs digested imperfectly when saliva was kept from the stomach by ligating the œsophagus.

The generally accepted view is now that which was first solidly established by Von den Velden: viz., that the saliva after being taken into the stomach with the food acts for a time upon starchy matters, turning them into glucon. After ten or twenty minutes, the acidity of the gastric juice has so increased as to stop the amylolytic action, and only proteid digestion begins. Dr. George Sticker, who, in conjunction with Dr. Curt Hübner, has made some experimental studies on the physiology of secretions (*Leitich, f. Klin., Wed. Bd.* XII hft. 1 n. z. 1887) has recently published an article (*Klinischer Vorträge* No. 297) in which still more is claimed for the saliva than a purely amylolytic power. He believes that this secretion taken into the stomach assists in the formation and secretion of pepsin, and thus indirectly assists in proteid digestion. A suspension of salivary secretion suspends largely that of peptic secretion also. He cites the case of a woman who suffered from an almost complete suspension of the salivary function.

There was indigestion of meats as well as of carbohydrates. The re-establishment of the salivary flow by means of infusion of jaborandi, relieved the stomach trouble also. Sticker performed several curious experiments to test the capacity of the stomach to digest food without the help of saliva. In one case, after twelve hours' fast, the person experimented upon had his stomach carefully washed out, and was then given the whites of four eggs. The saliva was then expectorated or carefully absorbed by a sponge placed in the mouth. After two hours the stomach contents were carefully removed, and the egg-albumen was found to be only slightly digested. The gastric juice was tested, and found to be weak in proteolytic power and in acid. In the central experiment the albumen was found digested, and the gastric juice fully up to the normal in acidity (.25 per cent. HCl), and peptic power. Four experiments of the kind indicated were performed, and all leading to the same result. The view of Sticker includes more than the commonly accepted opinion that the alkaline saliva stimulates the flow of gastric juice. He believes that saliva actually assists in the complex process by which the active constitutents of the gastric juice are formed. His work, at any rate, will emphasize the practical importance of the thorough mastication and insalivation of food. The victims of the gum-chewing habit will find some physiological justification in Sticker's "Wechselbeziehungen Zwischen Speichel und Magensaft."

THE PROGRESS OF PNEUMOTOMY.

WE have been at some pains to keep our readers informed regarding the progress of pneumotomy and of thoracic surgery in general.

As is well-known, the abdominal cavity has had to yield to modern science, and the peritoneum with the organs it envelops has become but a plaything to the expert laparotomist. The cranial cavity is also being successfully invaded; but as yet no great progress has been made in dealing surgically with affections of the lung.

Dr. G. Foubert (*Archives general de Medicine*, October, 1887,) has recently collected the cases of pneumotomy so far reported, and analyzed them, with somewhat instructive results. The total number of cases is eighty, with forty-seven cures and thirty-three deaths. As will be seen by the record given below, however, the high percentage of cures is due to the hydatid cases, in which the operation is often very simple.

The success, however, with gangrenous cavities, and in bronchiectasis and abscess, is fairly good if the reports indicate in any measure the true proportions. The summary is as follows:

1. Tuberculous cavities, in which there was incision made either with or without a resection of the rib, seven cases. In one, that of John Hastings, recovery is said to have occurred; in another case, the patient lived for some time; in the remainder, the patients died.

2. Abscess of the lung, fourteen cases, with nine cures and five deaths. In two of the fatal cases, death could not be attributed to the operation.

3. Hydatids of the lung and pleura, thirty-four cases with twenty-nine cures. Probably in some of these cases the hydatids were pleural. These figures relating to the hydatids were collected for the most part by Dr. J. Davie Thomas, and it is noticeable that the most of them (twenty-five) refer to Australia. Only one, pneumotomy, for hydatids, had been reported in American literature up to 1885.

4. Gangrene of the lungs, eighteen cases, with nine cures; two ameliorations and seven deaths.

5. Bronchiectasis, twelve cases, with four cures.

The above figures require little comment. They show fairly good results for pneumotomy in gangrene, abscess, and hydatids; but for tuberculous disease surgery has as yet done nothing.

THE CHOLERA SCARE.

An opportunity has been offered to the secular press within the past few days for discussing the probability of Cholera becoming epidemic in this city. From the present outlook, however, the argumental pyramid, from the sensational standpoint, has been, as usual wrong side up. While it is always proper to be on the alert against possible danger, there is no necessity for any alarm. It is well known that the Cholera germ is distributed primarily by the evacuations of persons affected with the disease; and, secondarily, by contaminated clothing, utensils, food and water; that no amount of filth, heat or moisture will propagate the disease without the presence of the specific poison; that the disease is not contagious in the sense of being communicable by contact, and that an intelligent quarantine, vigorous sanitary measures and thorough sequestration will serve to stamp out even an epidemic of the disease. Although the quarantine regulations are not as strict for this port as they might be, to prove that quarantine as such is worth anything, we have still the comforting assurance that under the pressure of medical and lay opinion all the other necessary precautions are being taken to prevent the spread of the malady. And these latter give the only guarantee of safety, quarantine being only one of the means to such an end. The suggestion regarding the improvement of the quarantine buildings for the better accommodation of patients is a very proper one, and needs only to be acted upon by our next legislature to make assurance doubly sure against the possibility of the spread of the disease at any future time.

ABUSE OF MEDICAL CHARITY.

The *Evening Telegram* and the *Standard* have been agitating the Medical Charity question with a great deal of spirit. It is a trite story, but repetition may yet bring about reform. The public hardly needs to be told that the physicians of dispensaries and hospitals are grossly imposed upon. The evil is increasing every year. The people are not so much to blame as at first appears. There are too many doctors who are thirsty for clinical material, and coax their consciences for interesting cases. Besides the managers wish to pose as great philanthropists, and there are too many of such angels who carry their charitable trumpets under their wings. So the multiplying dispensaries must have custom, and the young doctors must be without it.

THE ABANDONMENT OF QUARANTINE.

England's commercial interests have always led her to doubt the need and distrust the efficacy of quarantine. She has held what she is pleased to consider the "common-sense view," viz., that though theoretically quarantine may succeed in keeping out disease, practically, in any large country, it amounts simply to an irrational derangement of commerce." England has long since, says the *British Medical Journal*, discarded quarantine as a means of preventing cholera, and now places her trust in the security afforded by purity of local surroundings—of soil, air, and water—on land; and a system of watchful medical inspection of shipping at her seaports. The success of this policy, continues our contemporary, has been complete, and there are not wanting indications that this success is exercising a beneficial effect on public opinion abroad. It is added that at the recent International Hygienic Congress, at Vienna, opinion seemed to be turning against quarantine. Italy and Austria, in particular, are wavering in their allegiance to the older methods.

News of the Week.

The Yellow Fever at Tampa, Fla., at last accounts was not abating. On October 21st, there were thirteen new cases and three deaths reported.

Two Cases of Small-Pox have appeared in Brooklyn.

Typhoid and Malarial fevers are reported to be unusually prevalent in Cincinnati, and the cause is believed to be the drinking water.

The Hospital for Contagious Diseases of Richmond County, Staten Island, is reported to be badly constructed and badly managed in every way.

The Crown Prince.—The *Independence Belge* of Brussels, publishes a letter from Dr. Sigismunde, a prominent American, and a friend of Dr. Mackenzie, correcting the popular errors regarding Crown Prince Frederick William's health. In the letter, Dr. Sigismunde states that the Crown Prince's voice would have been lost forever if he had been treated by the German physicians.

The International Medical and Surgical Synopsis is the title of a new journal published monthly in St. Louis, and edited anonymously.

Medical Society of the County of New York.—At the Eighty-second Annual Meeting, held October 24th, 1887, the following officers were elected for the ensuing year; *President*, Laurence Johnson; *Vice-President*, L. Bolton Bangs; *Secretary*, Wesley M. Carpenter; *Assistant Secretary*, Charles H. Avery; *Treasurer*, Alexander S. Hunter; *Censors*, Daniel Lewis, John S. Warren, R. Van Santvoord, Wm. E. Bullard and Wm. Stevens. At the conclusion of the Treasurer's report, the following resolution was unanimously adopted:

Resolved, That this Society hereby returns its most sincere thanks to Dr. Orlando B. Douglas, its retiring treasurer, and extends to him its high appreciation of the faithful manner in which he has discharged the duties of his office.

The Report of Dr. Daniel Lewis, appointed by the *Comitia Minora* to superintend the publication of The Medical Directory, showed that the book had been published with a balance in favor of the treasury of the Society. A vote of thanks was given to Dr. Lewis for the efficient manner in which the work had been performed. The Society ordered the publication of the Directory to be continued, and referred its publication to the *Comitia Minora* with power.

The Report of the Board of Censors, read by Dr. Wm. E. Bullard, Secretary, showed that the work of prose-

cuting illegally qualified practitioners in the City of New York had been vigorously and efficiently pushed by the Counsel of the Society, W. A. Purrington, Esq. The new law will enable the Society to do its work in this direction with greater facility and rigor than heretofore.

The Report of the Committee on Hygiene included a special report on *Cholera at Quarantine*, made by Dr. John C. Peters, in which it appeared that the buildings upon Hoffman and Swinburne islands, in the lower bay, while dingy, are remarkably clean, that no new cases have developed recently, and that the danger of the disease spreading had probably passed. In the opinion of the reader of the report, the law should be amended so that $5,000 yearly be expended annually from the fees of the Health Officer of the port in keeping the quarantine buildings in the lower bay in proper condition, to meet promptly the invasion of infectious and contagious diseases. He thought that Philadelphia had stolen a march on New York in making microscopical and biological investigations of cholera in the port of New York. The report gave rise to some discussion, which was participated in by Dr. Daniel Lewis, the President, and Dr. Peters.

It was voted that the *Annual Dues* for the ensuing year be *three dollars*. After the transaction of other routine business, the Society adjourned to meet on the fourth Monday in November at 8. P. M.

Football Mortality.—A student in the seminary at Cazenovia, N. Y., while playing football, accidentally collided with another student. The concussion is thought to have produced the rupture of a blood vessel. At any rate the victim died in twenty-four hours.

The Connecticut Hospital has received a gift of $7,000, from Mrs. Henry Farnum, for the purpose of erecting an operating pavilion.

Dr. Francis J. Quinlan, of this city, has been appointed Instructor in the Department of Diseases of Throat and Nose in the New York Polyclinic. Dr. Quinlan has been associated with the Polyclinic for nearly three years. He likewise holds positions in the New York Eye and Ear Infirmary, Northern Dispensary, and is the assistant of Prof. Lefferts at the College of Physicians and Surgeons of this city.

American Public Health Association.—The fifteenth annual meeting of this Association will be held at Memphis, Tenn., Tuesday, Wednesday, Thursday, and Friday, November 8, 9, 10 and 11, at Young Men's Hebrew Hall. The West Shore Railroad has established a special rate for members from New York; $37.20 being charged for the round trip.

Gynecological and Obstetrical Society, Baltimore, Md.—At the meeting of the Gynecological and Obstetrical Society, of Baltimore City, held on October, 11th inst., the following officers were elected: President—Dr. H. C. P. Wilson; First Vice-President—F. E. Chatard, Jr., M.D.; Second Vice-President—John Morris, M.D.; Secretary—Chas. O'Donovan, Jr., M.D.; Treasurer—Robt. T. Wilson, M.D.

New York Post-Graduate Medical School and Hospital.—The following new appointments have been made by the Directors of this Institution: Dr. Robert Abbe, Professor of Clinical Surgery: Dr. A. M. Phelps, Professor of Orthopedic Surgery; Dr. Henry D. Chapin, Professor of Diseases of Children; Dr. J. H. Girdner, Instructor in Clinical Surgery.

The late Dr. Joseph C. Hutchison.—At the regular meeting of the Board of Regents, held this day in the rooms of the Long Island College Hospital, Brooklyn, N. Y., the following proceedings took place, and were entered on the minutes:

The members of the Board, having learned with unfeigned sorrow and regret of the death of Joseph C. Hutchison, M.D., President of the Collegiate Department, are deeply impressed with the great loss the Institution under their care has sustained by being deprived of his counsel and aid. Dr. Hutchison was an industrious worker, an eminent surgeon, and a good citizen. He was a thorough scholar, and a successful teacher; he was highly esteemed by his professional brethren, and was loved and respected by all who knew him. He brought to the advancement of the interests of the College a mature mind, a ripe judgment, and a steady, faithful and sincere application, that promised much for the future, thus fulfilling the highest hopes of his fitness for the place he occupied. On motion it was

Resolved, That a copy of the foregoing minutes be signed by the President and Secretary, and sent to the family of Dr. Hutchison, and that copies be also supplied to the press for publication.

Thomas H. Rodman, *President.*
Wm. T. Osborne, *Secretary.*

Dr. Edwin Hutchinson, of Utica, one of the leading physicians and ophthalmologists of New York State, died on October 19th, aged 47 years, after a long illness.

The Percentage of Sterility Among Men.—Kehrer, of Heidelberg, has examined 96 men, as follows: Impotent, 3; having semen containing dead spermatozoa, 29; deficient spermatozoa, 11; excessive spermatic secretion, 53. The percentage of sterility is thus 33.32. —*Wiener Presse*, July 10, 1887.—*Med. News.*

A Cause for Diphtheria.—There is considerable diphtheria in various parts of New Jersey, and the Secretary of the State Board of Health, Dr. Hunt, thinks it is largely due to damp cellars which are suddenly heated in the Fall. This theory has been verified for several years by reports from various places where the disease has raged. It is claimed that during the summer in many cellars a good deal of vegetable matter is allowed to decay, and when the fires are started in the fall this decayed matter is stirred up and mingled with a peculiar dampness which must be in the cellar, and it pervades the entire house.

Colleges in Good Standing.—At the quarterly meeting of the Illinois State Board of Health, held July 8, 1887, the following resolution, offered by Dr. Clark, of the board, was adopted: *Resolved*, That the phrase, "medical colleges in good standing," in the first section of the Act to Regulate the Practice of Medicine, approved June 16, 1887, is hereby defined to include only those colleges which shall, after the sessions of 1890–91, require four years of professional study, including any time spent with a preceptor, and three regular courses of lec-

tures, as conditions of graduation, and shall otherwise conform to the Schedule of Minimum Requirements heretofore adopted by the board.

Homœopathy and the Cook County Hospital.—Dr. M. J. Bliem, of Chicago, ex-*interne* of the Cook County Hospital, writes us with reference to the respective mortality rates among patients on the regular and homœopathic departments of the Hospital. This (the lower rate in the homœopathic side) can not, he says, be due to any difference in the character of the cases, because the examining physician sends every fourth surgical and every fifth medical case to the homœopathic wards, and no other distinction is made. Our correspondent, however, appears to have a very childlike faith in the Rhadamanthine justice and discretion of the examining physicians, who, he admits, are regulars. It is most likely, we fear, that a perhaps unconscious bias produces a selection of the more interesting and, as a rule more old cases for treatment by rational medicine.

Owing to stress of competition abroad, many physicians in Germany will make a professional visit for half a mark (about 10 cents), and Prof. Hegar has said that unless something is done to put a stop to the present rush of men into medicine, the profession will become "a veritable *proletariat*."

A case of Thoracic Aneurism, cured by external application of the strong galvanic current is reported by Dr. S. Balp, in *Revista Clinica*, June, 1887. The applications were made daily for several months.

Bequest to a Medical College.—Mr. Richard Quain, F.R.C.S., F.R.S., has bequeathed almost the whole of his fortune, amounting to about £75,000, to University College, London, subject to certain annuities to family connections. The College will, we are informed, at once benefit to the extent of £60,000, which sum is left to four trustees, to apply the annual income in "the promotion and encouragement in connection with University College, London, of general education in modern languages (especially the English language and composition in that language, and in natural science."

Another Cure for Sea-Sickness.—Dr. W. W. Skinner, late a ship surgeon of considerable experience, is convinced that he has discovered remedies which cure sea-sickness.—*British Medical Journal.* These are atropine, strychnine, and caffeine; the two former are administered simultaneously, the latter alone. Sea-sickness may be cured either by atropine associated with strychnine, or by caffeine held in concentrated solution by salicylate or benzoate of sodium. These substances are all administered hypodermically. This mode of administration was chosen for the following reasons: the frequent vomiting in naupathia, by which the agents employed would be lost; the difficulty of their absorption from the stomach in this affection; and also the retaining and destructive action of the liver upon these alkaloids when absorbed from the gastro-intestinal tract (Heger, Schiff, Lantenbach, and others). The dose of atropine and strychnine for adults is 1 milligramme of each. It would, perhaps, be better to give a little less of atropine, and the double or triple of strychnine. The following, however, is the formula employed: Atropinæ sulph., strychninæ sulph., ãã 0.04 gramme; aq. menthæ, 40 grammes. One gramme o this solution contains 1 milligramme of each of the alkaloid salts. In warm climates the solution must be frequently renewed. If after two hours the patient is not cured, a second injection of one gramme of the mixture may be given, but it would be imprudent to repeat this dose of atropine too frequently. The following is the formula employed in administering caffeine to adults: Caffeine, 4 grammes; sodii salicyl., 3 grammes; aq. destill., q. s. ad 10 cubic centimètres. Dissolve by gently heating. Each cubic centimètre contains 0.40 of a gramme of caffeine. A single hypodermic injection of 0.30 of a gramme of caffeine completely cured in seven hours a patient who had been suffering intensely from sea-sickness during three days. Another patient was cured in five hours. Certain disadvantages of the method exist, but are not of great importance. Dryness of the throat is sometimes caused by the atropine, and young children may present an intense redness of the skin; amblyopia caused by this alkaloid is occasionally observed in adults.

Atropia was recommended for sea-sickness by Dr. Beard in 1880.

Massachusetts and Habitual Criminals.—Massachusetts has followed the example of Connecticut in dealing with habitual criminals. By a law passed by the last Legislature any criminal convicted of a State prison offence, who has previously served two terms of more than three years each, must be sentenced to twenty-five years' imprisonment. This means practically that habitual criminals are to be sequestered for life. It is a wise provision, based both on science and on sense.

Obituary.

JAMES KNIGHT, M.D.,

NEW YORK.

Dr. James Knight, Surgeon-in-Chief of the Hospital for the Relief of the Ruptured and Crippled in this city, is dead. Dr. Knight was born at Taneytown, Frederick county, Maryland, on Feb. 14, 1810. He was the son of Samuel Knight, a manufacturer of military implements, and graduated from the Washington Medical College, Baltimore, in March, 1832. From 1842 to 1844 he assisted in the orthopedic treatment of patients, attending the public clinics of the Medical Department of the University of the City of New York. The formation of the New York Society for the Relief of the Ruptured and Crippled was due to his endeavors, and has been under his direction since its start. In 1870 the Society erected the building at Forty-second street and Lexington avenue. Dr. Knight was a member of the Medico-Chirurgical Faculty of Maryland, the District Medical Society of Ohio, the County Medical Society of the City of New York, the Medical Journal Association of the City of New York, President Fellow of the New York Academy of Medicine, a life member of the New York Society for the Relief of Widows and Orphans of Medical Men, and also of the American Museum of Natural History, an honorary member of the New York Historical Society, and a Fellow of the Academy of Design. He published a work on "The Improvement of the Health of Children and Adults by Natural Means" in 1868, and one entitled "Orthopedia, or a Practical Treatise on the Aberration of the Human Form," in 1874.

Reports of Societies.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, October 20, 1887.

A. JACOBI, M.D., PRESIDENT, IN THE CHAIR.

THE CORRESPONDING SECRETARY reported the receipt of valuable volumes on Dermatology and Syphilis, donated by Mr. Berman Cushman, from the library of his son, the late Dr. Joseph Cushman. The books had been placed in the Library, and the thanks of the Academy would be returned to the donor by the Librarian.

THE STATISTICAL SECRETARY reported the deaths of Dr. Woolsey Johnson, and Dr. Morris Leo Wolf, one of the founders of the Academy.

THE PRESIDENT acknowledged the receipt of several *Autograph Letters*, and again spoke of the value of similar contributions to the Library.

DR. CLINTON WAGNER then read a paper on

COLORADO SPRINGS AND DAVOS-PLATZ, AS WINTER HEALTH RESORTS,

in which he fully described each place, and compared the two. The comparison was very favorable to Colorado Springs, and the paper was an endorsement of the view that the conditions most favorable to exert a curative influence on phthisis pulmonalis could be found at high altitudes. His conclusions were based upon personal observations as a resident in the two places named.

He believed that cases of laryngeal phthisis could be allowed to remain at high altitudes, provided that improvement in the pulmonary phthisis and general condition had already taken place.

Davos-Platz is an Alpine valley, and probably one of the best drained towns in Europe. The drainage of Colorado Springs, at present, is not especially commendable.

DR. A. L. LOOMIS said that Dr. Wagner's paper had brought up some of the most interesting points in connection with the climatic treatment of pulmonary phthisis, whose hold upon the profession was becoming stronger and stronger. The point of special interest was that of the climatology of high altitudes. Not having had time to carefully prepare a paper, such as the subject was worthy of, he would simply give some of the results of his own observations and the impressions which he had derived from them. Several years ago he read a paper on the Climatic Treatment of Phthisis before the American Medical Association, in which he took the ground that the custom of sending phthisical patients to a warm climate was wrong, because the most important factor was a stimulating atmosphere which would enable the patients to take regular exercise in the open air. Since that time his study of the climatic treatment of phthisis had led him to believe that there was no single locality which was preferable to all others, but that there were

TWO ELEMENTS WHICH ARE ABSOLUTELY ESSENTIAL

if the atmosphere of any locality is to exert a curative influence in this disease.

First, the air must be pure, aseptic if you choose, which could be taken into the lungs, on the same principle that antiseptics were used externally in the treatment of surgical affections. Cavities in the lungs could not be washed out with antiseptic solutions, and he doubted whether such solutions could be applied by inhalations, so as to destroy the cause of the morbid processes going on in the lungs. But if the lungs could be bathed constantly with aseptic air, all was done that could be in the way of local treatment of pulmonary phthisis.

As a rule, the atmosphere at a high altitude was aseptic, when unaffected by conditions of soil, foliage, and the aggregation of human beings. Doubtless the air of Colorado Springs and Davos had been aseptic, but probably as soon as these localities become thickly populated, it would no longer remain aseptic, and they would be abandoned as health resorts for this class of patients. That the air of high altitudes was curative, he did not believe, nor was an equable climate.

Second, the atmospheric conditions must be such as favor spending most of the daytime out of doors. If patients were not able to be out of doors, they were not in a condition to be sent to a health resort. That was the prominent reason why patients in the first stage of phthisis were benefitted by climatic change, whereas the life of patients with cavities in their lungs was generally shortened by these changes.

Pure air could be found in other localities than Colorado and Davos, but between these two, the increased amount of sunshine made the former preferable to the latter. But there was an objection to sending patients to either of these places, namely: if they did not remain there for two or three years after recovery was complete, the disease was almost sure to redevelop within one or two years. When, however, they were sent to regions where pure air could be obtained at a lower altitude, the recovery when obtained, was more likely to be permanent.

DR. R. P. LINCOLN wished only to emphasize a few of the points which had been brought out by Dr. Wagner, some of which had been referred to by Dr. Loomis. He had watched patients who had lived in these localities, and believed that the advantages offered by Colorado were superior to those of Davos. The larger amount of sunshine in Colorado was decidedly in its favor when compared with Davos, the day being—from sunrise to sunset—nine hours long in Colorado, against five hours at Davos. There was also less moisture at Colorado than at Davos, and the soil of Colorado favored dryness. Cloudy days in Colorado were very infrequent.

As to laryngeal phthisis being benefitted by going to the mountains, there had been a change of opinion on that point within a few years, as some of these patients did very well in high altitudes.

DR. BEVERLEY ROBINSON sent a letter which was read by the Secretary. In it he urged the importance of aseptic air in the treatment of pulmonary phthisis, and expressed the hope that Colorado Springs would prove to be the beneficial winter health resort which it promised to be.

DR. KRETZSCHMAR said that Hermann Brehmer, in 1852, first directed attention to the curability of phthisis pulmonalis in high altitudes. According to Brehmer's statistics the aseptic air of high altitudes did not become contaminated by increase of population, as in Görbersdorf the rate of mortality had diminished rather than increased, although the number of phthisical patients there annually had increased by many thousands.

The conditions which made any locality most beneficial were the following, but it must not be expected that all of them could be found in one place. Any place that came nearest to including them all, should be regarded as

THAT OFFERING THE GREATEST ADVANTAGES

for the cure of phthisis pulmonalis.

Elevation and immunity from phthisis. Absence of moisture. Sunshine. Absence of fogs, of rapid changes of temperature, and of dust. Accessibility and distance from large cities. Constant supervision of an intelligent physician. Best of nourishment. Moderate use of wines. Perfect hygienic arrangement of dwellings.

One objection to Davos was the admixture of pleasure seekers and patients, much to the detriment of the latter. The dust of Colorado Springs also was objectionable.

Patients with cavities in their lungs, or with phthisis complicated with emphysema, cardiac disease, or Bright's disease, and patients with irritable nervous temperament, should not go to Davos. As a prophylactic, he believed Davos to be almost the ideal.

The President said that when comparison was made between the reports of physicians and travelers concerning any health-resort, considerable difference would be found to exist. As a rule, the reports of resident physicians were rather overdrawn. These and many other factors must be taken into account in estimating the value of any health-resort. When Dr. Noeggerath returned from Davos, a few years ago, almost no words he could use expressed his contempt for the place; it was the most unhealthy locality a man could live in; there was not a decent water-closet in the whole place, etc. Improvements doubtless have been made, but in all places improvements were apt to be followed by retrogression.

There were, doubtless, places of immunity in the high altitudes of Germany and Switzerland. But, on the other hand, there were facts which showed that the immunity was only apparent, because phthisis was abundant in other localities with an equal elevation.

It was, therefore, not altitude nor immunity alone that was to effect cure in phthisis, but cure involved to a very great extent mode of living. All agreed that certain hygienic and atmospheric conditions must be present, in order that any locality might be beneficial. One of these elements had not been mentioned—namely—ozone, which seemed to exert a favorable influence in these cases, and ozone was produced by sunlight. But it could also be obtained in localities other than those of high altitude. Some phthisical patients did well at sea.

Dr. Loomis had no doubt that the air of Colorado was aseptic, but he doubted if if could remain so without the antiseptic emanations developed in the locality, as from evergreen forests, etc. In the lack of these natural antiseptic agencies the air might be rendered impure by emanations from the soil, etc.

Dr. Westerbrook asked concerning the character of the laryngeal phthisis mentioned by Dr. Wagner.

Dr. Wagner said that his experience in laryngeal phthisis in Colorado was limited, having seen only two cases. There was thickening and infiltration of the epiglottis in one case, and in the other the usual appearances were well-marked.

He saw no reason why patients who could not take exercise in the open air, should not go to Colorado, for they could lie in a hammock in the sunshine, and after a time be able to ride and walk, as was the case with a member of his own family.

In Davos, however, they must take exercise to keep warm when out of doors.

The President remarked that Brehmer claimed that the air in all his rooms at Görbersdorf was changed completely three times an hour.

The Academy voted to establish a Section on Diseases of Children, after which it adjourned.

FRENCH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

Sixteenth Annual Session, held in Toulouse, September 22 to 29, 1887.

(Special Report to The Medical Record.)

Thursday, September 22nd—First Day.

The first session of the Association was held in the hall of the Théâtre du Capitole, under the presidency of Dr. Rochard.

AN ADDRESS OF WELCOME

was delivered by the Mayor of Toulouse, who extended a cordial greeting to the members and guests, the latter coming from all parts of Europe and even from "marvelous America."

THE ADDRESS OF THE PRESIDENT

was then delivered by Dr. Rochard, the title of the address being

THE FUTURE OF HYGIENE.

The speaker deplored the fact that the science of hygiene was even yet regarded as of so little importance, and that its teachings received so little encouragement in the way of money grants from the state. Yet in spite of the many drawbacks, the study of hygiene was making good progress in France, and the orator predicted a brilliant future for this young science.

Dr. Schlumberger, the secretary general, then read an

HISTORICAL SKETCH

of the work of the Association, in its various branches, during the year just past. Other reports were presented by the different officers, and the general session was then adjourned, the members repairing to the places of meeting of the different sections.

Friday, September 23rd—Second Day.

A communication was received from Dr. E. Brémont, upon the

EUTROPHIC ACTION OF THE TURPENTINES

in chronic catarrhal affections of the respiratory passages. He employed the substances in the form of inhalations. The effect was an almost immediate improvement in the general nutrition. It was chiefly in non-tubercular troubles that these effects were obtained.

Dr. Carre, of Avignon, reported a case of

LAPAROTOMY IN TUBERCULAR PERITONITIS.

The patient had had ascites, for the relief of which she had been tapped. Following this there had been gradually increasing obstruction of the bowels, until finally an obstipation lasting two weeks led to the adoption of radical measures. When the abdomen was opened it was found that the intestine, at the junction of the ascending transverse portions of the colon, was strangulated by an omental band. It was found impossible to free the intestines, and an artificial anus was made. There was no trouble on the side of the peritoneum, but the operation seemed to light up pulmonary disease, for the patient died within two weeks of acute phthisis. The speaker did not think that this operation was contra-indicated in cases of tubercular peritonitis.

Dr. Andre, of Toulouse, reported a curious case of

CHROMIDROSIS.

The patient, a man 22 years old, presented a pinkish exudation on the two wrists and under the nails. Examination of this exudation showed it to consist of little pink granules mingled with epithelial cells. The patient presented no hysterical symptoms.

Dr. Arnaud then read a paper entitled

THE SIGNS OF DEATH.

The speaker seemed to believe that life might still be present even when all the usual signs of it were absent. He said it was not sufficient to determine whether the respiratory and circulatory organs were in a state of action, but it was necessary to ascertain whether or not they had actually lost their power of being revived.

Dr. Thirair reported a case of

SARCOMATOUS DEGENERATION OF THE TESTICLE.

The diseased organ was one which had been retained in the abdominal cavity, and was removed by laparotomy. Although it had been necessary to make a large incision in the bladder, the patient nevertheless made an excellent recovery. In view of the frequency with which a retained testicle becomes the seat of some form of new growth, the speaker suggested the propriety of early castration in such cases as justifiable prophylactic measure.

M. Gosse then read a paper on

DEATH BY HANGING,

in which he related some experiments performed upon himself. They were not as complete, however, as he would have liked, for on one occasion he had lost conscious-

ness, and his wife then vetoed any further experiments of the kind.

Dr. Duplouy then read a paper on

AMPUTATION AT THE KNEE JOINT,

in which he took the ground that the prejudice against this operation was in great measure unjust. He showed a patient whose leg he had removed at the knee joint sixteen years before. There was a good stump, and the man was able to walk many miles every day without the slightest discomfort. Out of sixteen cases of knee-joint amputation performed by French surgeons, ten had a perfect stump, five were not able to bear their weight on the stump, and one had died. He thought that, whenever the soft parts were healthy, it was far perferable to disarticulate at the knee than to amputate either through or above the condyles.

In the discussion following the reading of this paper, M. Pamard and Maréchal reported three more cases, one successful and two resulting in the death of the patients.

Dr. Monod reported three cases of

ABORTION INDUCED BY KRAUS' METHOD.

which consists in the introduction of an ordinary elastic sound, leaving it in position until it is expelled along with the ovum by the uterine contractions. The operation was necessitated by narrowness of the pelvis. All the cases recovered. Antiseptic precautions were observed in every instance.

Dr. Jeannel reported a case of

TUBERCULAR PYO-SALPINGITIS,

which had been mistaken for an ovarian cyst. It was removed by operation. The patient subsequently died of a tubercular pelvic abscess. The speaker referred to the difficulty of making a correct diagnosis in such cases.

Saturday, September 24th—Third Day.

Dr. Bergeon contributed a paper on his method of treating phthisis by

GASEOUS ENEMATA.

The speaker referred to his later experiments, the results of which, he said, only confirmed the belief which he entertained concerning the utility of the method. He now made use of a simplified apparatus. He insisted that those who made a trial of this method should follow strictly his directions in every respect; for if they did not it would be unfair to attribute their failures to imperfections in the method. He expressed his gratification at the numerous trials of his procedure which had been made, especially by American physicians.

Dr. André related two cases of

ANEURISM OF THE AORTA,

treated by sodium iodide. The first case resulted in a cure, and the second, one of multiple aneurism, was so greatly benefitted as to be practically cured.

Dr. Moure read a paper on the

VOCAL TROUBLES ASSOCIATED WITH LARYNGITIS.

He endeavored to prove that these were caused more by paresis or paralysis of the laryngeal muscles than they were by changes in the mucous membrane. The muscles chiefly affected were the arytenoid and the thyro-arytenoid.

Dr. Stoeber read a paper in which he discussed the

CONVERGENCE OF THE EYES,

caused by the necessities of binocular vision, and explained the mode of measuring the degree of convergence by means of Landolt's opthhalmodynamometer.

Dr. Gillet presented a communication on two rare forms of

KERATITIS.

The first form consisted of numerous minute sub-epithelial abscesses, which produced an appearance of little stars. This stage was, however, so evanescent that it had hitherto escaped observation. The second form, which he called "trabecular," was due to the infiltration of lymphatic cells into the corneal tubes, giving them the appearance of little needles. This form might be primary or secondary, occurring with special frequency after keratotomy.

Dr. Burot related a case of

ECHOLALIA AND COPROLALIA

combined with motor inco-ordination. The patient was a girl, 19 years old, very intelligent and of good social position, who suffered from convulsive attacks involving the face and upper extremities. At these times she would give utterance to inarticulate cries and obscene words. She also imitated all noises and gestures which were made in her presence. When not suffering from these attacks she was very nervous, starting at the least sound. She also seemed to be incapable of doing what she wished, and when she commenced any action would often be compelled to do just the opposite. Hypnotism had been tried in this case, but it had been found impossible to induce that state. The speaker had then tried the effect of persuasion, telling the patient that she had the power to do what she willed if she would only exert it, and urging her to be calm and to trust to herself. She was now greatly improved, and he had every reason to hope that a definite cure would eventually be obtained.

Dr. Duplouy reported a curious case of what might be called

CONVULSIVE BARKING,

occurring in the person of a young officer. The patient would throw his arm quickly forward by an involuntary movement, at the same time having a convulsive movement of the pharyngeal muscles by which air was expelled with a barking sound. These attacks occurred most frequently when the young officer was about to address one of his superiors, and the latter would be astonished to receive a blow and hear a bark or some unseemly words proceeding from the mouth of his subordinate. The patient improved gradually as he advanced in years.

Dr. Grasset followed with a communication upon the significance of

JERKING INSPIRATION

synchronous with the movements of the heart. The jerking inspiration is heard usually along the left border of the sternum in the second and third intercostal spaces, and is sometimes accompanied by two faint systolic murmurs heard at the end of expiration. The inspiratory sound is broken by three distinct jerks. The speaker did not regard this sign as necessarily indicating either tuberculosis or cardiac trouble. He believed that it was a pulmonary sound indicative of respiratory weakness.

Dr. Gross, of Nancy, then read a paper on the

TREATMENT OF HYDROCELE.

He sought to differentiate between the various forms of this affection, laying down rules for the treatment of each. He favored antiseptic incision of the sack in cases of congenital hydrocele, in cases of relapse and in those which had proved rebellious to other methods, in a very large or a multilocular hydrocele, and when the tunica vaginalis was thickened. In cases of simple hydrocele of moderate size he had recourse to injections of iodine.

Dr. Régis presented a communication on

DUPUYTREN'S CONTRACTION

of the palmar aponeurosis, in which he accepted the views of those who regard this affection as one of a gouty

nature rather than as a consequence of traumatism. He related a case of this contraction occurring in a patient with general paralysis, which he thought was confirmatory of this theory.

Dr. Mossé read a paper on the use of

COLD IN THE TREATMENT OF CHOLERA,

especially during the algid stage. His plan was to rub the patient with ice, giving him at the same time rum ice internally, and hypodermic injections of ether. He had been very successful in the treatment of cholera by this method.

Dr. Henrot reported a number of cases in which a diagnosis of

CANCER OF THE STOMACH

had been made from the fact that a tumor was present in addition to the other physical signs of this affection. The tumor, however, subsequently disappeared, and the patients were apparently restored to health.

Dr. Cunéo had seen cases of simple

ULCER OF THE STOMACH,

in which a tumor had been caused by the cicatrization of the ulcer.

Dr. Thiriar spoke of the

DIFFERENTIAL DIAGNOSIS OF BENIGN AND MALIGNANT TUMORS OF THE STOMACH,

from the quantity of urea in the urine. When the daily excretion of urea was less than one hundred and eighty grains the tumor was probably malignant.

Dr. Duplouy related a case seeming to point to the

CONTAGIOUSNESS OF CANCER.

He had a patient with cancer of the womb, and a few months after she had come under treatment, the speaker operated on her husband for cancer of the penis.

Dr. D'Ardennes spoke of the good effects he had obtained in

PAINFUL AFFECTIONS OF THE STOMACH,

from the use of extract of coca, in doses of one hundred and fifty grains per diem. The best results were obtained in cases of simple gastralgia not associated with lesions of the mucous membrane.

Dr. Bezy gave the history of

AN EPIDEMIC OF TYPHOID FEVER

occurring in a small town near Toulouse, in which the source of the contagion had been traced to a ditch used as a sewer. The specific typhoid microbe had been found in the water of this ditch.

NEW YORK NEUROLOGICAL SOCIETY.

Meeting held Tuesday Evening, Oct. 4, 1887.

Dr. C. L. Dana, in the Chair.

ARTHROPATHY OF TABES.

Dr. Wm. H. Porter presented a specimen of the cord and knee-joint from a case of tabes. The patient was a female, 32 years old. The family history was good. There was no alcoholism and no history of rheumatism in the case. In May of the present year, ovariotomy had been done, and, with the exception of a ventral hernia, the patient had made a good recovery. The cord affection dated from five months previously, and in February last a general increase in the size of the knee had been noted. As early as Dec. 15th, however, the patient suffered pain, and partial luxation had made standing difficult. Examination showed the right knee painful but not swollen. The left presented subluxation, some fluid and enlargement of the lower portion of the femur. There was some dyspnœa and some headache. The patient also suffered with external hemorrhoids, but the urine was negative and the co-ordination good. The right knee measured 18 inches, and the left 21 1–2. The patient was a large woman weighing 300 pounds. The enlargement and the riding of the patella upon the joint were all of the positive symptoms in the case, and it was transferred to the surgical ward. There continued to be a great deal of boring pain in the knee, but no puffy feeling in the feet, no anæsthesia and no ocular trouble. The joint was excised with an apparently good result, but three weeks later, on August 10th, discoloration of the skin on the buttocks and of the small of the back appeared, and in the course of a day or two the part sloughed. The woman died apparently of sepsis from the slough. At post-mortem examination the viscera were found healthy, with the exception of the liver, which was pockmarked with cicatricial depressions. The right knee joint was found in a good condition. Moderate changes of interstitial thickening were found in the cord, especially in Burdach's columns. The question was whether this should be considered a case of ataxia, the only positive symptom being the boring pain. The supposition of tuberculosis was entertained, but the excised joint had failed to show tubercular tissue or bacilli, and erosion of the bones had been the only discoverable change.

Dr. Dana added that the cord in this case was now being examined, and there was no doubt that the posterior columns, particularly the postero-external columns or columns of Burdach, were affected.

Dr. W. A. Hammond suggested that articular affections with locomotor ataxia were infrequent in this country compared with France. He had never seen a case, although many cases of locomotor ataxia had passed under his notice. According to Charcot they were very common, resembling in this the grand hysteria which also seemed limited to France, and even to the wards of the Saltpetrière hospital.

Dr. Porter stated that during the past year he had made post-mortem examinations in four cases of locomotor ataxia. In two of these there were joint affections, and in two, none.

Dr. Hammond asked whether the joint affections were recognized during life. Dr. Porter replied that they were recognized only in one of the cases. He had never seen the condition before this year.

Dr. Weber referred to a case which had been presented the day before at the German Society. He had seen others but not such as would answer to Charcot's descriptions. Rosenthal, of Vienna, also had described severe joint affections in locomotor ataxia, but not in such great numbers. The speaker could point to a few cases out of 70 or 75, but as a rule the affection was not destructive. It was acute. It would come and go, and complete restitution might occur. He referred to two cases. In one there was diabetes and locomotor ataxia, and in the other there was sclerosis of the cervical region of the cord. In this case it looked as though the cartilage and bone were invaded, as there was crackling and change in form. A case like that referred to as presented the day before, with intracapsular fracture and such extreme mobility, he had never seen before in this country.

Dr. Dana had seen only two cases of tabetic arthropathy. He thought that these cases did not under all conditions mean the same. A patient of his own, a case of tabes of ten years standing, slipped and fell, nearly dislocating a joint already loose, so as to present a typical arthropathy of this disease.

MELANCHOLIA DUE TO THE PROLONGED USE OF MORPHIA

Dr. S. B. Lyon presented the history of a case of melancholia due to the prolonged use of morphia for the relief of cardiac pain. The patient was a female of 50 years, who for three years had suffered from a condition diagnosed angina pectoris which morphia only relieved. From two to seven grains had been taken during the day. She had subsequently suffered with terrors and delusions similar to those of the morphia habit, but more persistent. Relief was obtained after withdrawal of the

drug and removal to an asylum away from the unwise attentions of her friends. The cure was sudden, complete banishment of her terrors and delusions occurring in a single day. A curious double consciousness characterized this case. While dominated by her delusions she preserved her ordinary consciousness, thus appearing to inhabit in thought both a real and an unreal realm.

While insane this patient was free from her cardiac pain. This subsequently appeared, but yielded to electrical applications.

Dr. Putnam Jacobi considered the case very interesting. The conception of the Ego as a simple unit is childish. Undoubtedly there may occur changes in the groupings which go to form the consciousness of which the Ego is made up. In this case there was destruction of the ordinary linkings of consciousness and the replacement of the ordinary normal impressions by the formation of a new sphere. The aberrations produced by morphia and other toxic influences could be similarly explained. The suddenness of the recovery in this case further demonstrated that the forced paths of association had ceased to be travelled and the old ones resumed. A process which might be likened to the switching of an engine from one track to another.

Dr. W. A. Hammond objected to the term double consciousness in connection with the case. On true double consciousness so-called the patient was not at the same moment in both conditions, but at different periods led separate lives, during the one condition knowing nothing of what occurred during the other condition, and *vice versa*.

Dr. Spitzka thought that the reader of the paper had used the term with the meaing of the French. The case was assuredly not one of double consciousness, as the term is used by alienists. In double consciousness there is really a double Ego with alternate consciousness.

Dr. Lyon recognized that the case was not one of double consciousness, as Dr. Hammond and Dr. Spitzka had used the term. The patient had, however, a double consciousness in an ordinary acceptation of the word, with a real and an unreal aspect, the latter dominating.

DISCUSSION UPON THE USE OF ANTIPYRINE AND ANTIFEBRIN IN NERVOUS DISEASES.

Dr. T. S. Robertson opened the discussion. He had used antipyrine first in general practice, in acute rheumatism where it had appeared not only to reduce the fever, but to control the pain. This led him to try it in a case of migraine which had resisted aconitia and chloral. He had subsequently given it in over 100 unselected cases of neuralgic troubles. In 90 per cent. of these, relief was obtained in 15 to 45 minutes. He gave it without a stimulant, and diaphoresis was the only ill effect which he had seen.

In the severe pains of tabes he had given 10 to 20 grains hypodermically, or 20-30 by the mouth with a resulting diminution in frequency. In insomnia the sleep was better than that obtained by chloral. The speaker had never seen heart failure. In hyperæxia he gave 40 grains in a dose, and had himself taken 120 grains during 24 hours without any unpleasant result.

Dr. E. Wonitzfelder had had an experience somewhat similar to Dr. Robertson's, but gave the drug with a stimulant, having found nausea and vomiting common where this was not used. He had given antipyrine in 20 indiscriminate cases of headache, obtaining relief in about 50 per cent. He had directed its use in the epileptic ward on Blackwell's Island about three months ago. It had been thoroughly tried but without any appreciable effect. He had used it for the pains of locomotor ataxia, but while the patient had improved he did not attribute this to the drug.

Dr. W. A. Hammond used antipyrine, and his experience had been entirely negative. He had given both antipyrine and antifebrin, both singly and combined, in neuralgia, the pains of locomotor ataxia, insomnia, vertigo, and in headaches both of the anæmic and hyperæmic variety. His method of administration has been in 15 grain doses three times a day, continued for from two to three weeks. A new drug was not needed to shorten an attack of migraine. A hypodermic injection of morphia would do it, or 100 grains of bromide of sodium, or 1-100 grains of glonoin, according to the variety. In a case of tuberculous meningitis in a child of two years he had given 4 grain doses of antipyrine for the relief of pain, and had signally failed. He had given it in epilepsy without result.

Dr. Dana asked whether Dr. Hammond had given antifebrin in epilepsy. Dr. Hammond had given both antipyrine and antifebrin in 15 grain doses with similar results, sometimes combining the two. He referred to the insolubility of antipyrine, making administration difficult.

Dr. Geo. W. Jacoby thought it serviceable to hear the other side of this question. His own experience had resembled that of Dr. Hammond. Antipyrine gave some relief in migraine, at least following the first or second administration. It sometimes cut short insomnia, but that about limited its usefulness in this field. It was not without danger. He had seen collapse from a dose of 20 grains.

Dr. Putnam Jacobi has given antifebrin in the Infirmary to a child with pleuro-pneumonia, and with lowering of the temperature relief from pain also was obtained, although the physical signs remained unaltered, and defervescence occurred in a typical manner upon the sixth day.

Dr. Sachs believed that antipyrine could be recommended only in migraine. Possibly also in headache of a neurasthenic type. Cases should be followed for a number of months. The results from two or three administrations should not be relied upon. He had given it in a dozen cases of migraine with relief within 20 minutes of its first exhibition, and in no case had it been necessary to repeat the dose more than two or three times at intervals of an hour. The only unsatisfactory cases had been those of the spastic type. The paralytic type had been in every case relieved. In one case, that of a man of 32 years, the condition had resisted all previous treatment. The patient every four weeks had to go to bed from 12 to 36 hours, and was incapacitated for work for several days. Antipyrine does not entirely relieve the headache in this case, but the patient is able to continue his business during the paroxysm. In the speaker's experience about 20 per cent. of the headaches of neurasthenic origin would be relieved. In headaches of anaemic and gastric origin the treatment has been unsatisfactory. In insomnia with and without migraine, antipyrine has appeared to act as a true narcotic. Sleep of 9 1–2 to 10 hours followed the administration of 20 grains. He had used it in the lightning pains of locomotor ataxia and in peripheral neuralgias, particularly trigeminal and, sciatic, without result. Antipyrine was not a panacea, and the speaker thought that it should be used carefully. He had met no bad results himself, but from the reports of others it was evident that such results could occur.

Dr. Dana expressed surprise that Dr. Hammond had been so unsuccessful in the use of antipyrine, and suggested that he keep a closer watch upon his clinical assistants. One of them he knew to have been relieved of a most violent migraine by antipyrine, and this gentleman, he understood, was freely prescribing it in Dr. Hammond's clinic at the post-graduate school. In the treatment of epilepsy, antipyrine could only be used empirically. Antifebrin, on the contrary, has been shown to act as a spinal depressant, and hence could be rationally prescribed. He had seen it produce a marked effect in one case.

Dr. Robertson closed the discussion with the remark that he had found antipyrine soluble in Vichy. He considered a dose of 20 to 30 grains safe. He had not

claimed that it cured, but that it acted as a palliative in the conditions named.

In the absence of Dr. Starr, Dr. Sachs exhibited a papier maché model of the human brain.

The Society then adjourned.

Correspondence.

OUR PARIS LETTER.

(From Our Special Correspondent.)

ALCOHOLISM AND ITS EFFECTS IN PARIS. THE PROGRESS OF CREMATION IN FRANCE.

Paris, October 14, 1887.

Owing to the prevalence of alcoholism in this country, the French Government and scientific bodies have taken up the question, and are prosecuting researches as to the best means of suppressing this national calamity. According to one of the writers on the subject, the term alcoholism is a misnomer, as that pathological condition is ascribable not so much to the ingestion of pure alcohol, but to the ingredients with which the latter is adulterated, or it may be that the alcohol is impure. This is the case with all alcohols employed for the manufacture of spirituous liquors. These alcohols are found to contain furfurol in variable quantities, and particularly in those of grain, such as oats, rye and barley. It is obtained by the action of sulphuric acid on oatmeal or on bran, or by the action of this acid on a mixture of sugar and starch, with binoxide of manganese. In this connection, it may be interesting to give an account of the principal liquors commonly in use in this country, and the ingredients with which they are generally adulterated. "Absinthe," a favorite liquor among the French, is almost always manufactured with alcohols of industry, ill rectified, rendered green by the addition of the sulphate of copper, and saturated with resin, so as to give it the beautiful greenish-white precipitate produced by pouring water on it, and which drinkers so much admire. "Vermouth," another favorite liquor, is adulterated with hydro-chloric or sulphuric acid, in order to give it a pungent taste. "Kirsch" is extracted from the leaves of the cherry-laurel, and contains as much as twenty-two centigrammes of prussic acid per litre, instead of five or six centigrammes. Rum is manufactured always with alcohol distilled from beet-root, to which is added ether and formic acid. The "bouquets" of brandies are manufactured by the action of sulphuric acid on castor oil. The coloring matters employed are extracted from logwood, the elder, sorrel, fuschine and coal. Such is the trash which is daily consumed by the Parisians, and the same author makes the following useful remarks: Ethylic alcohol, that is to say, pure alcohol, renders the greatest service to medicine. Taken in moderate doses, it hastens digestion in promoting the production of hydrochloric acid, which is an essential element of the gastric juice. Alcohol being greedy for oxygen, it draws the latter from the blood globules, and thus slackens combustion, instead of promoting it, as is generally believed. Alcohol, even that which is the most inoffensive, penetrates into the organs which it alters, producing fatty degeneration.

The kidneys, the liver, the stomach, the muscles, the nervous system, nothing escapes its work of disaggregation. It engenders pneumonia, tremulousness of the limbs, weakness or perversion of the power of sensation, hallucinations of the sight and of the hearing, paroxysms of lypematic insanity or monomania, delirium tremens, which is an acute stage of chronic alcoholism, to end in general paralysis and death. It is in the Scandinavian provinces where a great quantity of brandy distilled from potatoes is consumed that alcoholism attains its maximum. In France crimes have augmented in proportion to the use of industrial alcohols. Alcohol produces the effects of anticipated old age, which scarcely lasts beyond ten years. Nearly half of the crimes proceed from alcoholism, 13.41 per cent. being suicides, 14 per cent. mental affections. The offspring of persons addicted to drink are subject to hysteria, epilepsy, tubercular meningitis, phthisis, without taking into account that they inherit from their ascendants an irresistible propensity for strong liquors.

The Crematory of Paris is announced to be opened next month. This building, which is situated in the north of the cemetery of Père La Chaise, has the form of a parallelogram, and is three storeys high, surmounted by two chimneys in white stone. The façade is in black and white marble, over which are three domes, and a large vestibule has also been erected. Dr. Brouardel, in a report which he has drawn up on the working of the Crematory, estimates that the furnaces will be able to consume 4,500 bodies annually, which is said to be about the average number of corpses leaving the hospitals in Paris during the year. The Chamber of Deputies has passed the bill authorising Cremation, which however is only optional, and it only remains for the Senate to sanction it before it can be adopted by the public, but it is doubtful if this mode of disposing of the dead will become popular among the French. *Apropos* of cremation, a scientific writer makes the following remarks: The Parisians do not appear to be in the least hurry to deliver their bodies to the flames to be reduced to ashes, notwithstanding the great facilities which are offered them for so disposing of their dead at a trifling expense, and facetiously adds, that in this century of hurry, where every one is breathless and nervous, it would appear that, after having lived by steam, we must necessarily die at the same rate, and it is now proposed that the bodies should be disposed of by electricity, or by what cremationists term electric cremation. Electric or not, or whether the furnace is fed by wood, coal, or coke, is of little consequence, the system will never be in favor except by a few fanatics, for the law of the Church absolutely opposes incineration. The propagators of the crematorial idea wish to support their thesis on the grounds of public hygiene. With the incineration of bodies they say, there will be no more infectious emanations which are set free in the cemeteries, or their infiltration under the soil to corrupt the water of rivers and springs, to the great detriment of the public health. To this, science has responded that the soil is still the best and the most energetic of disinfectants. In the bosom of the earth the work of decomposition of bodies takes place slowly, and by a particular chemical process. To affirm from this that cremation would still more compromise the public health, there is but one step, and this science has cleared up. Since that time the contest has continued between the partisans and the adversaries of cremation. A new element has been introduced by Dr. Hornstein in a work in which he proves that the pretended advantages of cremation were absolutely delusive. Another writer foresees with regret that if cremation became general the Museums of anthropology and of natural history would become bankrupt.

THE METHOD OF ADMINISTERING PHOSPHORUS IN RACHITIS.

To the Editor of the Medical Record.

Sir: In the editorial column of your issue of October 15th, the solution of phosphorus in bisulphide of carbon, proposed by Hasterlik, is mentioned with his claim that it is very stable and reliable.

Hasterlik's formula is as follows:

Phosphori	.1.
Carbon Bisulphide . .	25.
Aquæ	1000.

Inasmuch as this formula has been printed in nearly every medical journal in the country, and no one, so far as I have seen, has as yet questioned its claims, I wish to state my experience with it. Soon after it was first published I tried the formula but found it very unreliable. Bisulphide of carbon is insoluble in water, and can only

be very imperfectly suspended in it. The mixture with water produces a precipitation of the phosphorus from the bisulphide after a short time; in warm weather it may change in a few days.

The oleum phosphoratum, diluted in olive oil, has seemed to me to be safer and more satisfactory than any other mode of giving phosphorus to children. I have cause to use it exclusively in rachitis.

Yours very truly,

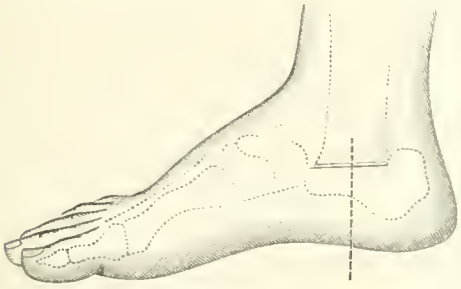
L. EMMETT HOLT, M.D.

15 EAST 54TH ST., NEW YORK,
OCT. 19, 1887.

NEW METHOD OF EXCISION OF ANKLE JOINT.

TO THE EDITOR OF THE MEDICAL RECORD.

DEAR SIR: Will you oblige me by inserting the accompanying cut, as a supplement to my paper on a "New Method of Excision of the Ankle Joint with removal of



the Astragalus." The drawing shows the line of section through the tibia and fibula, and along the upper surface of the os calcis. The drill which spikes the bones together is indicated by the dotted line passing through the sole of the foot beneath the heel, through the calcaneum, and about one inch into the tibia.

JOHN A. WYETH.

AN IMPORTANT OMISSION SUPPLIED.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: A paper by Dr. H. C. Coe, pathologist to the Woman's Hospital, entitled "Some Points in the Diagnosis of Chronic Pyelitis," was published in the last issue of your journal. It had previously been read before the North-Western Medical and Surgical Society, at a stated meeting, June 15, 1887.

After showing, by the authority of Sir Henry Thompson, the difficulties involved in the diagnosis of pyelitis, the author congratulates himself because of the possession of an unusual opportunity for the accurate study of the characteristics of the urine in this disease. He says: "The separation of the pelvic and vesical urine is readily accomplished in the case of a patient now under observation, from the fact that a fine catheter can be passed directly into the pelvis of the kidney through a uretero-vaginal fistula. This is an unusual opportunity to study the different appearances of the excretion in pyelitis-cystitis, and also when the two specimens are mingled." The observations made in this case formed the basis of the author's conclusions.

It should be noted that the case is mentioned simply as being "now under observation." Although it is not so stated, the reader would naturally infer that the case of fistula was under Dr. Coe's observation, and that he passed the catheter into the pelvis of the kidney and obtained the specimens of urine. The name of the surgeon who treated the case should therefore have been stated. As an assistant to the surgeon referred to, and as a former member of the House Staff of the Woman's Hospital, I am familiar with the facts, and am able to supply the omission.

Dr. Nathan Bozeman began in December 26, 1886, to treat a case of pyelitis, by catheterization and irrigation of the pelvis of the kidney. The disease occurred as a complication of a urinary fistula. Dr. Coe, happening to be at the hospital on one occasion, the method was demonstrated to him in my presence. Specimens of urine drawn directly from the pelvis of the kidney were sent to Dr. Coe from time to time for examination. Dr. Bozeman afterwards extended the method of treatment to a case of pyelitis, where no fistulous opening existed. On May 6, 1887, he made an opening in the anterior wall of the vagina, so as to expose the orifice of the right ureter. Specimens from the diseased kidney and from the bladder, as well as the mixed urine, were sent to Dr. Coe in his capacity as pathologist of the hospital, for examination. Both cases were finally cured. In this way an *uuusual opportunity* for the study of the urine of pyelitis, was furnished Dr. Coe. His paper was read while the patients were still under treatment, and their histories unpublished. The omission is now supplied, and any misapprehension that may have existed in the minds of your readers is, I hope, corrected.

Yours respectfully,

WM. B. GILMER, M.D.

9 WEST THIRTY-FIRST STREET, OCT. 17, 1887.

TEREBENE IN THE TREATMENT OF PULMONARY AFFECTIONS.

TO THE EDITOR OF THE MEDICAL RECORD.

DR. CAMMAN'S instructive paper upon terebene—which appeared in THE MEDICAL RECORD of October 8th—increases my conviction that in this drug we have a remedy which needs only to be known to be extensively used and highly prized by those of the profession who have to deal with diseases of the nose, throat or lungs. During the past year I have used terebene in the treatment of thirty patients suffering from various affections of the respiratory tract.

Of the thirty cases, four were fair examples of subacute nasal-pharyngeal catarrh. All rapidly recovered when terebene was used in the form of an inhalation, as well as given internally. Four were cases of subacute laryngitis.

Three were quickly cured, and one greatly improved. In these cases the remedy was used both externally and internally.

Eleven were examples of subacute bronchitis occurring in delicate persons who were frequently troubled with prolonged attacks of bronchial catarrh. Eight of these made good recoveries. One was benefitted but not cured. Two remained unimproved after a fair trial of the remedy.

Four cases suffered from emphysema with chronic bronchitis. All were men past middle life and in poor general condition. Three were very decidely benefitted; dyspnœa much diminished, cough relieved, expectoration lessened, and circulation improved. One was unable to take the medicine. It produced nausea, anorexia and urticaria.

Seven cases of chronic phthisis—selected because dyspnœa and profuse expectoration, were prominent symptoms—received terebene. Six were unquestionably relieved as regards dyspnœa, cough, amount of expectoration, etc. One remained unimproved after a trial of two weeks.

The results of the terebene treatment in my "chest patients" may be summed up as follows: In eleven cases of subacute eight were cured. One improved. Two unimproved. In four cases of emphysema and bronchitis, three received marked benefit. One was unable to take the drug. In seven cases of phthisis, six were decidely relieved. One was not improved.

Thus in about three quarters of these cases, terebene produced decided benefit.

The usual dose was from ten to fifteen drops three or

four times a day. It was given on sugar or in capsules, or in a mixture like the following, which covers the disagreeable taste of the drug sufficiently well.

℞	Terebene	℥ iii
	Oil Cinnamon	♏ ss
	Gum Arabic	ʒ i
	Sugar	ʒ iv
	Comp. Tinct. Cardamon	ʒ iii
	Simple Sirup	ʒ x

Mix. Dose, one teaspoonful, in a little water, three times a day.

In but two cases of the thirty was the stomach disturbed, and in no cases were the bowels affected. About one third of the patients noticed that, during the treatment, they passed a greater amount of water than usual. My notes unfortunately give no information on this point concerning the remaining cases.

Although terebene is evidently not a specific, yet in the light of what has already been reported by various observers, it seems reasonable to conclude that in this drug we have a valuable addition to our list of remedies for the relief of certain trying and persistent pulmonary affections.

Yours respectfully,

CHARLES M. CAULDWELL, M.D.
71 WEST 55TH ST., NEW YORK CITY.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from October 16 to October 22, 1887.

WOLVERTON, W D., Major and Surgeon. Detailed as member of Army Retiring Board at Washington, D.C., convened by S.O. 78, A.G.O., April 5, 1887, vice Major C. C. Byrne, surgeon, hereby relieved. S. O. 241, A. G. O., October 15, 1887.

GARDNER, EDWIN F., Captain and Assistant Surgeon. Relieved from duty at Fort Reno, Indian Territory, and ordered for duty at Fort Lewis, Colorado. S. O. 241, A. G. O., October 15, 1887.

COCHRAN, JNO. J., Captain and Assistant Surgeon. Now on duty at the Presidio of San Francisco, Cal. Is assigned to temporary duty at Headquarters Division of the Pacific as assistant to the medical director of that division. S. O. 244, A. G. O., October 19, 1887.

EWING, C. B., First Lieutenant and Assistant Surgeon. Granted leave of absence for one month, on surgeon's certificate of disability. S. O. 112, Department of Missouri, October 18, 1887.

JARVIS, NATHAN S., appointed to be Assistant Surgeon, U. S. Army, with the rank of First Lieutenant. October 14, 1887.

Official List of Changes in the Medical Corps of the United States Navy for the week ending October 22, 1887.

BEVER, H. G., Passed Assistant Surgeon. Ordered to hold himself in readiness for orders to the Trenton.

WHITE, S. S., Assistant Surgeon. Ordered to hold hmself in readiness for orders to the Trenton.

STEPHENSON, F. B., Passed Assistant Surgeon. Detached from the Bache and ordered to the Navy Yard, Boston.

STONE, E. P., Assistant Surgeon. Detached from the New Hampshire and ordered to the Bache.

STREET, T.H., Surgeon. Detached from the Patterson and placed on waiting orders.

A Naval Medical Examining Board is now in session at the Naval Hospital, Philadelphia, Penn., for the purpose of examining candidates for admission to the Medical Corps of the Navy. Circulars of information can be obtained on application to the President of the Board.

There are twelve vacancies in the list of assistant surgeons.

Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending October 22, 1887:

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	40	8
Scarlet fever	63	10
Cerebro-spinal meningitis	2	2
Measles	19	4
Diphtheria	103	28
Small-pox	2	1
Yellow fever	0	0
Cholera	0	0

SCLEROSIS OF THE HEART.—According to Huchard the causes of sclerosis of the arteries of the heart may be divided into three groups: the first being due to intoxications, or rather toxæmia, by alcohol, tobacco, malariai and lead; the second group is formed of causes such as the diathetic states of arthritism, gout and syphilis; whilst the last group, and one to which exception may with at least some reason be taken, is composed of causes such as physical, moral, and intellectual over-pressure. The sclerosed heart may be either hypertrophied or dilated, but most often dilatation and hypertrophy are associated. Modifications of the form and size of the heart are the direct consequences of the initial vascular lesion, and not of the ensuing sclerosis. The common lesion is obliterating arteritis of the small coronary vessels, and it takes place slowly, so as to allow of time for compensating hypertrophy and for sclerotic lesions to develop. If the arteritis is of more rapid progress, dilatation of the heart and alterations of the heart-muscle fibres are the preponderant changes. Three histological varieties of cardiac sclerosis may be differentiated, following Weber: (1) perivascular sclerosis due to the propagation of inflammation; (2) the dystrophic sclerosis from regional ischæmia; and (3) mixed sclerosis. The changes in the muscle fibres are but imperfectly known. Two of the principal alterations are simple atrophy and the vitreous degeneration of Zenker. Nosographically, cardiac sclerosis is one of the anatomical expressions of arterio-sclerosis of the heart. Weber regards arterio-sclerosis as the outcome of certain etiological conditions, amongst which must be ranged heredity, certain hygienic habits, and various chronic intoxications.—*The Lancet, September 24, 1887.*

EPHEDRIN is the name of a new mydriatic discovered by Professor Nagai, of Tokio. It is obtained from *Ephedra vulgaris*, rich, variety *helvetica*. It is cheaper than atropin, has no constitutional effects, and does not paralyze accommodation, or only a little.

ETHER INHALATION IN TETANUS NEONATORUM.—A Belgian physician, having a case of trismus neonatorum, and having repeatedly given chloral and ether per rectum without producing any effect, the child rapidly becoming worse and seeming in imminent danger of death by asphyxia, determined to administer ether by inhalation. In addition to this, artificial respiration was employed from time to time by means of a tube inserted into the nostrils. Some pieces of Rigollot's mustard leaves were also applied to the chest. The child was laid on its side, according to a suggestion made by Marion Sims. The result of this treatment was that in a few hoars the little patient's condition had improved to a very marked degree. The next day profuse perspiration occurred and the spasms entirely ceased. Shortly after this the child was convalescent.

The Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 32, No. 19. NEW YORK, NOVEMBER 5, 1887 Whole No. 887

Original Articles.

A CASE OF GASTROSTOMY FOR CANCER OF THE ŒSOPHAGUS.

BY J. COLLINS WARREN, M.D.,

ASSOCIATE PROFESSOR OF SURGERY, HARVARD UNIVERSITY, SURGEON TO THE MASSACHUSETTS GENERAL HOSPITAL, BOSTON, MASS.

THE operation of gastrostomy for the relief of stricture in this affection owes its origin to the great discomforts attending the treatment by dilatation, the very little benefit to be derived from it, and the aggravation of local complications which attend the spread of the disease from the walls of the œsophagus to the surrounding structures. The surgeon who has the patience and perseverance to carry out the probang treatment is likely to be rewarded for his pains by being regarded as the author of some of the perforations found at the autopsy to extend into the trachea or mediastinum.

Gastrostomy, although adopted at first with considerable enthusiasm, has not had, so far, a very brilliant career, and some surgeons have already begun to raise their voices against it. The chief objection to this operation appears to be the difficulty in so managing the gastric fistula that considerable leakage of the contents of the stomach shall not take place. Most of the reports dwell upon the necessity of making a very minute opening into the stomach, so small that it is necessary to seek for it with a probe when the feeding-tube is to be introduced. Details, as a rule, are not given, so that it is difficult for one who operates for the first time to obtain the desired information.

The present case is therefore reported mainly for the purpose of describing the difficulties encountered in preventing leakage from the fistula, and the measures which were adopted for overcoming them.

J. A. H——, aged fifty-six, first presented himself at the hospital on October 27, 1886. About seven weeks before, he had first noticed difficulty in swallowing food. This symptom had increased so rapidly that at the date mentioned above he could only swallow liquids with considerable difficulty. He had been steadily losing flesh. An ivory-tipped probang, the size of a No. 8 English sound, was passed, with difficulty, into the stomach. The upper border of the stricture was found to be eight and three-quarters inches from the incisor teeth, and the lower border nine and one-quarter inches. Two days later, a probang equal to a No. $9\frac{3}{4}$ English sound was passed. Some relief was obtained by this treatment, and the patient attended as an out-patient, the probang being passed at first three times a week, and later every two weeks. The improvement in swallowing, however, gradually grew less after each sitting, and presently it was found difficult to use the probang, and a No. 23 French bougie was substituted. It finally became impossible to pass any instrument.

The patient at this time was considerably emaciated, but his strength and general condition appeared to be good. He seemed to experience no difficulty in coming from a considerable distance to the hospital. He was, therefore, advised to enter the hospital for gastrostomy. The amount of food taken by him at the date of his entrance, December 27th, was found to be fifty ounces in the twenty-four hours, but this was the result of frequent meals, and persistent efforts on his part to swallow. It probably represented a larger amount than he had been taking for some time before the operation was performed on January 1, 1887. The method selected was that described by Howse in Heath's "Dictionary of Surgery." An incision about two inches in length was made, a finger-breadth below, and parallel to, the cartilage of the eighth rib. On opening the peritoneum the right lobe of the liver presented; this was pushed aside and the stomach was found, greatly contracted and drawn up under the left margin of the wound. It was readily recognized by its peculiar color and appearance, and was drawn down without difficulty. A spot was selected about three inches from the pylorus, and one and a half inch from the greater curvature, to be stitched to the abdominal walls. The peculiarity of the method consists in attaching a considerable portion of the surface of the stomach to the peritoneal surface of the lips of the wound by an outer row of quilted sutures, so that the peritoneal surfaces shall be brought together for the space of half an inch in breadth around the margins of the incision. Seven such sutures were applied, each suture being passed through the outer walls of the stomach by means of fine sewing-needles. The two ends of each suture were then threaded into glover's needles, which were passed through the abdominal walls, and the knot was then tied on the surface of the skin. A needle mounted on a handle is recommended for this purpose, but could not be obtained. Ten superficial sutures united the edges of the incision to the peritoneal surface of the stomach. Here also surgical and intestinal needles were used alternately. This necessitates changing the needles also, which lengthens considerably the time of the operation, which on this occasion lasted over an hour. When finished, however, the result was very satisfactory, as a considerable surface of the stomach was securely attached to the abdominal wall. The single row of deep sutures, as recommended by Sir William MacCormac, ought, however, to effect the same result more speedily. The stomach was not opened; a loose stitch was left in its outer walls as a guide. An antiseptic dressing was applied, and held in place by a broad swathe of plaster.

On the following day the patient was quite comfortable, and was supported by enemata of two ounces of beef-tea, and half an ounce of brandy every two hours. Contrary to the usual experience in these cases he was unable to swallow the smallest quantity of water, and from the time of the operation until his death he was unable to swallow anything. A slight cough, with purulent expectoration, showed itself on this day for the first time, which continued until death.

The wound was dressed on the fourth day, and a slight swelling and redness was noticed between two of the superficial sutures, which were removed, allowing a drop of pus to escape. A pad of cotton saturated with a weak solution of phenyle was substituted for the previous dressing. The stitches were gradually removed, the last being taken away on the ninth day. There was no constitutional disturbance due to the operation, the slight variations of temperature being probably caused by the disease.

The stomach had firmly united by this time to the abdominal walls. On the ninth day, as the patient had several loose operations, the enemata were omitted and the stomach was opened. The operation, which was entirely painless, was performed in the following manner: The spot marked by the guide suture was raised by a pair of forceps, and a fine tenotomy knife was thrust

obliquely into the fold thus raised. A fine gum elastic catheter was introduced, and a small quantity of the contents of the stomach sucked up into it. This consisted of mucus stained with bile in patches. There was no hemorrhage. A small quantity of peptonized milk was introduced immediately. The catheter was allowed to remain in the stomach, and was held in place by a "doughnut" pessary and bandage. A gum elastic catheter was used at first, but the rigidity of the instrument caused some enlargement of the opening, and a soft rubber catheter was consequently substituted. An apparatus was designed after the fashion of this extemporized device, and consisted of a belt and rubber bag perforated to allow the passage of the catheter. When in place it acted somewhat like an umbilical hernia truss.

The cough, which was noticed immediately after the operation, but which had probably existed before, soon became troublesome, as each expulsive effort brought considerable strain to bear upon the fistula. Previous to a cough, in the recumbent position, the abdominal walls were deeply sunken in between the ribs, the cartilages of which were quite prominent; at the moment of coughing they were raised considerably above the level of the ribs, and, if the fistula was allowed to remain open, a quantity of the contents of the stomach would be expelled. The cough was, however, quite loose, and was not spasmodic in character.

The wound healed well, but complete union of the edges of the skin to the edges of the mucous membrane did not take place, a narrow border of granulation tissue separating the two. At the latter part of the month the patient was able to move freely about the ward. By February 1st the opening had become enlarged to about the size of a No. 16 English sound, and considerable difficulty was experienced in keeping it firmly closed; occasionally there was considerable leakage, necessitating a change of underclothing. This was partly due to the great falling in of the abdominal wall, which prevented an accurately adjusted pressure, and partly to the persistent cough.

It became evident now that some valve-like mechanism was necessary to keep the fistula securely closed during the act of coughing. The instrument used in the gastric fistula of dogs is a metal spool composed of separate halves, which can be screwed together so that the two plates can be approximated or separated to correspond with the thickness of the abdominal wall. The stomach being opened at the same time that the incision is made in the abdominal wall, this instrument is put in place, and the edges of the wound are stitched firmly about it. It frequently happens that such incisions fail to heal, owing to the gastric juice which escapes.

Such an instrument cannot, however, be introduced after the fistula is established, as the plates are too broad. With the assistance of Dr. S. J. Mixter, a number of experiments were made with flexible rubber material, which could be folded and allowed to expand after introduction. A flexible rubber button, cut from a piece of rubber ball, was passed over and firmly secured near the end of a piece of tubing. The button being introduced, a small "doughnut" pessary was slipped over the tube projecting from the fistula, and the button was thus held firmly pressed against the inner margin of the fistula.

An apparatus, of which Fig. 1 is a representation, was then made by the Davidson Rubber Co., and was held in place by a pessary as seen in Fig. 2. The tube was made unnecessarily large, but was found convenient for the administration of semi-solid food. It worked well, and leakage was rare after its use. At one time it was found necessary to substitute the shield for a bag which could be inflated after introduction, as the edges of one shield had caused ulceration, but the shield was subsequently used successfully until the patient's death.

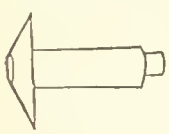


Fig. 1.

The various articles of food administered were as follows: Peptonized milk, beef-tea, brandy, eggs, soup, oatmeal, bread. The daily amount administered varied from eighty to ninety ounces, although occasionally a much smaller quantity was given. Oatmeal-mush and bread-pulp were easily forced in with a hard rubber syringe, also broth containing considerable meat was introduced in this way.

Occasional attacks of diarrhoea showed an imperfect digestion of the food. A malassimilation seemed also to exist, as the patient slowly but steadily emaciated and lost strength, and finally died, May 3, 1887, four months after the operation.

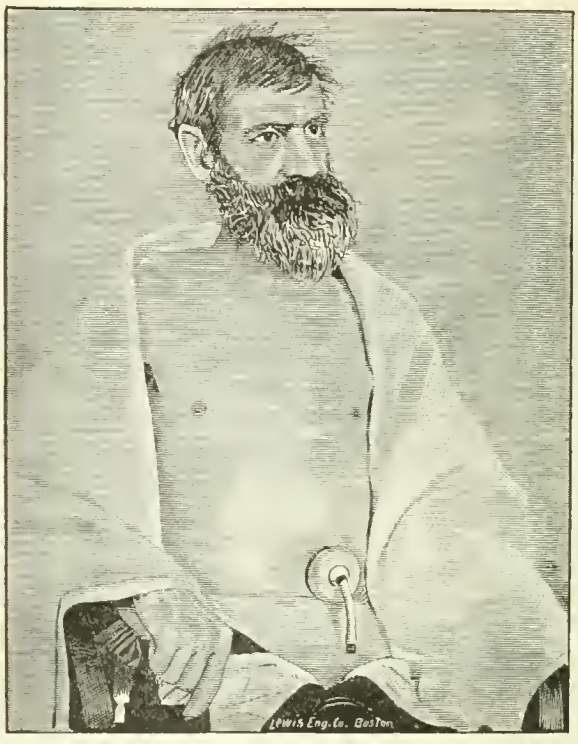


Fig. 2.

The report of the autopsy, by Dr. R. H. Fitz, is as follows: "The œsophageal obstruction was the result of a cancer which had infiltrated the walls for about two inches from the beginning of the œsophagus. The diameter of the tube in the diseased region was contracted to about one-third of an inch. The surface was extensively ulcerated. From the upper portion of the diseased œsophagus a fistulous tract extended into a small circumscribed pleural cavity behind, and to the inner side of the apex of the right lung. Another fistulous communication was established between the lower portion of the œsophageal ulcer and the trachea. The cancer had invaded the bodies of two of the upper dorsal vertebræ. The bronchi contained abundant puriform material, and the left lung showed numerous nodules of tuberculous broncho pneumonia. A part of the anterior wall of the stomach, about two and one half inches from the pylorus, and a part of the left lobe of the liver, were adherent to the superjacent abdominal wall. The stomach was empty, its walls contracted. Pancreas, spleen, liver, kidneys, and bladder were not abnormal, with the exception of marked atrophy of the glandular organs."

No attempt was made in this case to feed through a tube retained in the œsophagus, owing to the narrowness of the stricture.

The experience with a valve-like apparatus for closing the fistula, although not entirely satisfactory in this case, was, nevertheless, sufficiently effective to encourage further trial. It would seem possible to devise an operation which should leave a valvular fold of mucous membrane hanging over the inner opening of the fistula, as existed in the case of Alexis St. Martin. Beaumont thus describes the valve.

"The valve mentioned above is formed by a slightly inverted portion of the inner coat of the stomach, fitted exactly to fit the aperture. Its principal and most external attachment is at the upper and posterior edge of the opening. Its free portion hangs pendulous and fills the aperture when the stomach is full, and plays up and down simultaneously with the respiratory muscles when empty." [1]

The opening in this case was about two and one-half inches in circumference, and was near the cardiac extremity of the stomach. The situation of course greatly facilitated the retention of food.

I have just succeeded in making a fistula in the stomach of a dog, so protected by a valve of mucous membrane that the food and liquid swallowed do not escape, and am at present engaged in further experiments in this direction.

RETINOSCOPY, OR THE SHADOW-TEST.

By J. HERBERT CLAIBORNE, Jr., M.D.,

INSTRUCTOR IN OPHTHALMOLOGY IN THE NEW YORK POLYCLINIC.

In 1864 Sir William Bowman pointed out the fact that "regular astigmatism of the cornea" could be recognized by the mirror of the ophthalmoscope alone.

In 1874 Cuignet, of Lille, first systematized the method of examination, and gave his conclusion in an article entitled "Keratoscopy." The more correct term, retinoscopy, was suggested by Parent, of Paris, in 1880. Forbes, Charnley, Sandact, Hartridge, Juler, Swanzy, Morton, and others have described the method.

As a qualitative and quantitative method of determining the condition of the refraction of the eye it is of undoubted value. Its adoption has been slow upon the European continent, and especially in this country, while in England it is popular and universal.

The following well known and simple experiment will enable us to understand the behavior of the determining elements in retinoscopy, viz., light and shadow: If rays

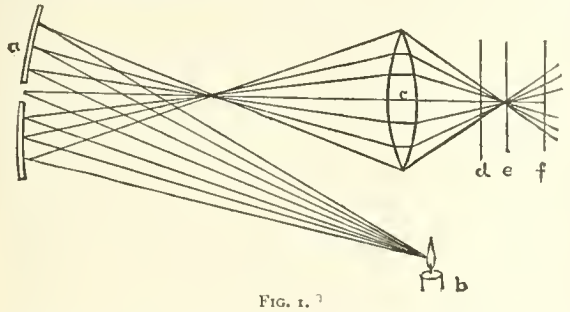


Fig. 1.

of light be reflected from a concave mirror upon a screen placed beyond its focus, they will arrive at the screen divergently. A convex lens may now be interposed in the track of these divergent rays, and a perfectly distinct image of the source of illumination may be formed on the screen. The image will be upright, since the rays have been focussed twice, once in the air at the focal point of the concave mirror as an inverted image, a second time on the screen as the reverse of the inverted, namely, an upright image.

When the lens is held just so as to make the image perfectly distinct, the illumination will be brightest, and there will be around the image a sharply defined, dense shadow, whose edge will more nearly approach a straight line. If now the lens be moved either toward or from the screen, or the screen toward or from the lens, the image will not be distinct, the illumination will appear less bright, the shadow less dense, and its edge more curvilinear, and nice "circles of diffusion" will be formed upon the screen.

If, now, the mirror be turned upon its vertical axis, to the right or left, or upon its horizontal axis, from above downward, or the reverse, etc., it will be seen that the light and shadow move *against* the mirror.

The media of the eye are represented in the above by the lens, the retina by the screen. When the screen is held just so that there is a distinct image formed upon it we have a representation of the emmetropic eye (*e*, Fig. 1); when the screen is brought forward of the focus, we have the representation of a hypermetropic eye (*d*); when carried beyond the focus, a representation of a myopic eye (*f*). We have spoken of the movement of the light and shadow, we should speak more properly simply of that of the light, since shadow is only an absence of light.

As custom and wont have sanctioned *shadow*, we will use it in the following:

The light is placed *over* the patient's head and far enough back to throw the face into the shade. The patient is directed to look over that shoulder of the surgeon which is diagonal to the eye under examintion, *i.e.*, over his right shoulder for the right eye, over his left shoulder for the left eye.

If the patient be under the influence of atropine, we may get the refraction at the macula lutea by making the patient look into our face. If atropine has not been employed, we cannot hope to get the refraction at the macula, but must content ourselves with taking it at the disk.

The surgeon sits or stands at a distance of about forty-eight inches, and uses a concave mirror, generally of nine inches focal distance. (If the A. be of a very high degree the surgeon must be nearer than forty-eight inches in order to see the movement of the shadow distinctly.) The light is thrown into the patient's eye and the mirror is rotated in all directions, vertically, horizontally, obliquely. As the ophthalmoscope is tilted, a shadow is observed to creep from under the iris at the periphery of the pupillary field and pursue a definite course in the latter.

The movement of the shadow, as compared with that of the mirror, furnishes the means of determining the refraction.

If the shadow move *against* the mirror, there may be hypermetropia, emmetropia, or a low degree of myopia.

We have stated in our experiment with the screen and mirror that the direction of the shadow is always against the movement of the mirror, whether the screen be held at *e*, *d*, or *f* (Fig 1).

Now as *e* is situated at the principal focus of the lens, rays coming from this point will pass through the lens and emerge parallel; as *d* is situated within the principal focus, rays from this point will emerge from the lens divergently; as *f* is situated beyond the principal focus, rays coming from this point will emerge from the lens convergently, but this convergence will be so slight that they will unite behind the head of the observer, who is presumably at the distance of forty eight inches.

These rays are practically the same as divergent or parallel rays, since the observer is within their focus.

The movement of the shadow is the same, then, in E., H., and M., which is less than $\frac{1}{48}$.

If, now, the myopia be so great that the far point lies between the surgeon and the patient, the movement of the shadow will be reversed, *i.e.*, it will move with the mirror.

In myopia three images are formed when retinoscopy is used: First, the inverted image of the light formed at the focus of the concave mirror; then the upright image in the eye, and finally the inverted image again in the air. We have spoken thus far of H. and M. in general terms. It is necessary, however, to differentiate simple or spherical aberrations from meridianal aberrations, and in case of astigmatism to differentiate between the various kinds.

We have already shown that in E. the illumination is brightest, the shadow densest, and that the latter's edge most nearly approaches a straight line; that in ametropia the illumination is dim, the shadow less dense, and the

[1] Experiments and Observations on the Gastric Juice and Physiology of Digestion, by William Beaumont, M.D., 1833.

latter's edge is curvilinear in direct proportion to the degree of ametropia.

There is another determining element, the rapidity with which the shadow moves. In emmetropia the far point lies at infinity; in myopia at a finite distance in front of the eye; in hypermetropia at a finite distance behind the eye. The higher the degree of H. or M. the nearer is the far point to the nodal point.

Fig. 2 represents a myopic eye. Let a line be drawn from A, a luminous point on the retina, through the nodal point B, to C. Since the eye is myopic, an in-

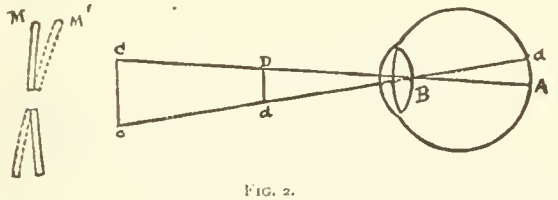


Fig. 2.

verted image of A is formed somewhere on this line, let us say at C. The higher the degree of M. the nearer will the image (far point) be to the nodal point. Let us assume, then, that there is another far point at D. When the mirror is tilted from M to M', C and D move through arcs of circles; D moves to *d* and C to *c*; each moves through its respective arc in the same time. Since C's arc is greater than D's, C must move the faster; conversely, D moves slower than C.

Fig. 3 represents a hypermetropic eye; the far point is situated behind it; we assume the presence of two far points, one at C, the other at D. When the mirror M is moved to M', C moves to *c* and D to *d*; each moves through its respective arc in the same time; since C's arc is greater than D's, C must move the faster. In each case D has been nearer to the nodal point than C.

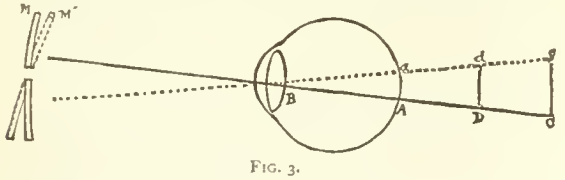


Fig. 3.

The slower the movement of the shadow, then, the greater the degree of ametropia. Since the far point of an emmetropic eye lies at infinity, the shadow moves with the greatest degree of rapidity in E. The characteristic appearance in this latter condition has been described by one writer as an "irregular play of light and shadow." In teaching, we have described the movement of the shadow in E. as a *flitting* movement.

If the shadow move with equal rapidity in all meridians, there is present simple myopia, hypermetropia, or emmetropia. The significance of the direction of the shadow has been given. The differentiation between H., E., and a low degree of M. will be given presently.

In astigmatism the same general rules obtain. If, for instance, the shadow move with the mirror in the vertical meridian, there is M. in this meridian; if it moves in the opposite direction in the horizontal meridian, there may be in this H., E., or a low degree of M. If the shadow move with the mirror in each meridian, but more slowly in one, with greater curvature of its edge and with less illumination than in the other, there is compound myopic astigmatism, and the astigmatism is in that meridian *along* which the shadow moves more slowly, with less illumination and greater curvature of the edge. If the shadow move *against* the mirror in each meridian, but with less illumination, greater curvature of the edge, and more slowly in one than in the other, there is probably compound hypermetropic astigmatism. There is H. in the meridian along which the shadow moves more slowly, but there may be in the other H., E., or a low degree of M., as we have shown. If the shadow move *against* the mirror in one meridian, and *with* it in the opposite, there certainly is M. in one, and probably H. in the other, *i.e.*, mixed astigmatism.

But we must exclude E. and a low degree of M. from that meridian in which we find the movement against the mirror, before we can make a theoretically certain diagnosis. A little experience will readily enable anyone to recognize the characteristic *flit* of emmetropia. As a practical matter, then, when we find a shadow that has not this flit, but rather a well-defined movement against the mirror, we may conclude in favor of H. If the astigmatism be vertical or horizontal, the shadow of the vertical meridian will be seen when the mirror is rotated on its horizontal axis; that of the horizontal meridian when the mirror is rotated on its vertical axis.

If the astigmatism be oblique, the movement of the shadow is entirely independent of the direction in which the mirror is rotated. The shadow will always be oblique, it matters not in what direction the mirror be rotated, since the obliquity of the shadow is due to the shape of the image upon the retina, and not to the direction of the movements of the mirror. We come now to the differentiation between H., E., and a low degree of M., when the movement of the shadow is against that of the mirror. For this purpose the patient should put on a spectacle-frame. If + .5 D ($\frac{1}{80}$), placed in the spectacle-frame before the patient's eye, reverse the movement of the shadow, that is, make it move with the mirror, there is a low degree of M. present.

Suppose the patient is $\frac{1}{80}$ myopic; if the observer stand at the distance of forty-eight inches, the far point of the patient's eye is thirty-two inches behind his head ($80 - 48 = 32$). If + $\frac{1}{80}$ be added to the degree of the patient's myopia, the far point is brought to forty inches from his eye. The surgeon, standing at the distance of forty-eight inches, sees the movement of M.

But suppose that $\frac{1}{80}$ does not reverse the shadow, that it still moves against the mirror; under these conditions we assume that there is no M., or, if present, that it is so insignificant as to need no correction. We next proceed to the exclusion of H. or E. If + .1 D ($\frac{1}{40}$) placed before the patient's eye reverse the shadow, E. is present. It is evident that + .5 D will not reverse it, if E. be present, since this glass will render an emmetropic eye artificially myopic to the extent of $\frac{1}{80}$, and the far point, under such a condition, would lie, as we have seen, behind the surgeon's head. If + $\frac{1}{40}$ be added to an emmetropic eye, its far point would lie at forty inches, since the eye is rendered this much artificially myopic. Under such a condition the surgeon being at the distance of forty-eight inches would observe the movement of M. It is evident, then, that if neither + .5 D nor + .1 D reverse the shadow, H. must be present.

In making an approximately quantitative determination of the refraction of a given case, we may sum up: The less brilliant the illumination, the slower the movement of the shadow; and the more curvilinear (crescentic) its edge, the higher the degree of ametropia.

In astigmatism that meridian is astigmatic *along* which the shadow moves.

For the exact quantitative determination the spectacle-frame, placed on the patient, should be used.

In myopia the *weakest* convave glass which reverses the movement of the shadow is practically the measure. But we have shown that with .5 D of myopia the shadow will move against the mirror; for the sake of greater accuracy, then, — .5 D should be added to the glass that reverses the shadow.

In hypermetropia, practically, the *strongest* convex glass with which the shadow still shows the movement of H. gives the measure. If, however, we add glasses till the movement is reversed, we should subtract 1 D from the first glass that reverses the movement.

The reason of this will be clear if the preceding differentiation be borne in mind.

In correcting astigmatism the axis of the cylinder must

be placed at *right angles* to the meridian along which the shadow moves.

In correcting Ah. and H., or Am. and M., the meridian of less error should be first corrected by an appropriate spherical glass, the other meridian afterward by the appropriate cylindrical glass.

In correcting mixed astigmatism two cylinders may be used, with their axes at right angles to each other, or one meridian may be corrected with a spherical glass; this would obviously increase the aberration in the opposite meridian, which might then be corrected by the proper cylinder, as in the functional examination. If the mirror be plane, the movements of the shadow will be reversed; that is, it will move *with* the mirror in hypermetropia, against it in myopia, while the other signs remain unaltered.

130 Lexington Avenue.

SALINES IN PERITONITIS FOLLOWING ABDOMINAL SECTION.

By J. M. BALDY, M.D.,

PHILADELPHIA, PA.

The subject of abdominal surgery has for the past few years been so freely discussed, and operators all over the world have been so busy collecting together such numerous statistics and perfecting details, that most of the operations performed to-day are fast settling down into their permanent positions in the surgery of the future. The technique of the several operations has been so thoroughly digested that there remains but little to be said in this connection, excepting in a few instances.

The subject of the after-treatment, however, has not been brought so constantly before the profession, and operators are apt to think it not worth while to bring little details, which they deal with every day and take as a matter of course, prominently forward and to notice. It is well known to surgeons that the management of these cases after the operation is of prime importance, and that many a life would here be lost but for the most careful and skilled treatment—and so the results of a seemingly perfect operation be annulled.

The particular phase of the after-treatment which I would urge upon the attention of the profession at this time is the management of those patients in whom peritonitis is beginning to develop, or has already gained full headway. This dread complication, arising when least expected, and sometimes after we have considered the patient out of danger, has in the past been reported as the cause of death in a multitude of instances—in fact, twenty-five per cent. of the deaths following abdominal section are attributed by one writer (Agnew) to this cause. Even with our present perfected methods of operating we still see this disease arising constantly. With this complication ever in mind, I have, since beginning to practise abdominal surgery, followed the example set by Mr. Tait, of never taking any steps to prevent a movement of the bowels after operation, and have fallen into the habit of routinely administering salines in small, often-repeated doses, sometimes as early as the second, generally on the third, day—provided the bowels have not been opened spontaneously at this time.

The results have been, without exception, most satisfactory. The patient has invariably been more comfortable after a passage has been secured, and in cases where a drainage-tube has been used the discharge has been markedly lessened from the time the purge began to act. Where there is much persistent bilious vomiting present most gratifying results are obtained. I have yet to see a single unfavorable result arise from this treatment.

Dr. Wylie, of New York, taking the hint from Mr. Tait, has been in the habit of opening the bowels by enemata and purgatives, "even during the first twenty-four hours after operation;" and he says, "when tympanites or eructive vomiting begins, I at once move the bowels by turpentine or ox-gall enemata, or by a seidlitz powder or Rochelle salts." Dr. J. Taber Johnston, in a paper before the recent International Medical Congress, has urged the same line of treatment in these cases; it has also been the course pursued by Dr. Price, of this city. So it would seem that surgeons are beginning to adopt the saline treatment in preference to the opium in cases where there arise the commencing symptoms of peritonitis. I would, however, go farther than this, and urge that the same line of treatment be followed in cases where the disease is fairly well developed, and that at all hazards the bowels be induced to discharge free watery stools as soon as possible. It is surprising to see how quickly all symptoms begin to subside when this is accomplished. In cases of distention, vomiting, elevated temperature, and quick pulse, etc., Mr. Tait gives small doses of magnes. sulph. every hour until the bowels are opened, and says, "If these symptoms advance to an alarming extent, I use still more active measures to get the bowels moved, *because I always find that as soon as a motion has passed they rapidly disappear.*" My own experience is in exact accordance with that of Mr. Tait, and the following case, which has only recently occurred, well illustrates the rapidity with which all symptoms abate under such management:

Mrs. S——, thirty-three years of age; three children; married ten years; last child five years ago. Has never been pregnant since this event; has always suffered since, and has been gradually getting worse; is only able to work a few days at a time. On September 13th I removed from the left side of pelvis an ovarian cyst as large as a good-sized orange, slightly adherent to pelvic walls and rectum; a cystic-degenerated ovary, and a beginning cyst of the Fallopian tube from the right side; a cyst containing about a drachm of straw-colored serum from the fundus of the uterus, not connected with either tube. As usual, on the third day her bowels were moved gently with salines, and she was doing as well as it is possible for a patient to do; she so continued until she had passed nine and a half days. The stitches had been taken out on the fifth day, and union found to be perfect. I had promised her that she might get up in three more days. I have since discovered that she had been getting out of bed for the past four or five days to shut doors, windows, and to have her bowels emptied. On the 21st of the month she complained of a slight soreness in the left ovarian region. On the 22d, however, she was feeling better, and had not so much pain as the day before. At eight o'clock that night I was summoned to her, and found her just coming out of a violent chill; abdomen slightly swollen; pain increased. She was ordered an ounce of Rochelle salts in divided doses, which she took during the night. In the morning I found she had slept none all night, and was then very much worse—alarmingly so. By noon her temperature and pulse were high, her abdomen extremely swollen and barrel-shaped, tympanitic, and so excessively painful that she could not stand the weight of the bedclothes; knees drawn up; anxious expression of face; dry, parched tongue and lips; vomiting. The small doses of salts had not acted, and she was growing rapidly worse. Influenced by my experience in milder cases, as well as some most excellent results obtained by Dr. Charles Penrose in fully developed peritonitis, I administered an ounce of magnes. sulph. in a concentrated solution, and ordered the dose repeated twice more, at intervals of an hour and a half, should her bowels not be moved in the meanwhile. She was given both doses, besides receiving two or three large (several quarts) turpentine enemata. About two o'clock her bowels were slightly moved, and within the next thirty-six or forty-eight hours she had about fifteen large watery stools. From the time her bowels began to act she began to improve in every symptom—her pulse and temperature dropped; she never vomited after the second passage; by the next morning the swelling of the

abdomen was markedly less; the tympanites had subsided to a very great extent, and her abdomen could be manipulated pretty freely without causing her much pain; her whole appearance was improved, and her countenance showed immense relief. She slept quietly almost the whole of that night, and went on steadily improving until final recovery.

Heretofore I have treated cases of peritonitis on the opium plan. In one case I gradually increased the dose of the tincture of opium until the patient received on one day between sixty and seventy grains of the drug. I have never been satisfied with this kind of treatment, nor have I ever been able to convince myself that it was even logical; it has heretofore been followed simply because all authorities recommend it and strongly condemn purgatives. The rate of mortality in peritonitis is terrible, and the results of the cases treated with opium will stand, I believe, in the future in marked contrast with those treated with salines. Practically, so far as tried, salines have proved themselves satisfactory beyond anticipation, and if such results are continued the time will come when opium will take the place now occupied by purgatives among authorities. Logically, salines are infinitely better than the narcotic. We are taught that opium "puts the bowels in splints," and in this manner keeps the peritoneal surfaces from rubbing together and increasing the inflammation. But the bowels are already in splints, as it were, and anyone trying to make them move will be quickly convinced of this fact—therefore for this purpose opium is superfluous. The drug relieves the pain, it is true, but oftentimes it does not even do this except in enormous doses. Relief of pain is practically all that opium can do for good in peritonitis. It, however, does a world of harm—it helps to keep the bowels in splints, and so favors the formation of those great masses of adherent intestine which we find so often the cause of subsequent intestinal obstruction; also the formation of numerous bands of organized lymph which as often bring a patient to grief in after-years; still worse, it closes all the avenues of escape for the poisonous products of inflammation formed in that great lymph-sac, and in this manner supplies material, the best possible, for keeping up and spreading the inflammation, much more surely than the rubbing together of the parietal and visceral peritoneum will. With salines, on the contrary, the bowels are kept in active peristaltic motion, and this very motion tends to prevent the formation of adhesions and bands; they literally drain the peritoneal cavity of all products of inflammation. This is not merely theoretical, but has been repeatedly observed. A case in the practice of Dr. Penrose showed this most satisfactorily. A large dermoid cyst was ruptured during the tearing away of adhesions, and emptied its contents into the abdominal cavity; in spite of a most careful irrigation a violent peritonitis developed; from the appearance of the first symptom, the drainage-tube which had been put in began to increase its discharges until it was almost impossible to keep it dry and clean; as soon as the bowels were induced to act the discharges diminished and quickly ceased altogether. This patient had about twenty-one free watery discharges per rectum. Theoretically the peristaltic action would cause much pain, but practically the increase is slight, and the pain soon is gone altogether. That the peristaltic action increases the inflammation is, I believe, a myth. The saline so depletes the blood-vessels of the peritoneum and intestines that the inflammation soon has little to feed upon, and the bad tendency of friction has but little weight as against the great good obtained by depletion.

There are dangers, of course, from the administration of large doses of salines and the production of large watery stools, especially to patients who have gone through all the tax on their strength incident to an abdominal section. The patient is much exhausted, and must be fed with strong, concentrated food to supply the place of the nutritive matters lost. One can easily imagine that a case might die from exhaustion, but it will not be necessary to always produce such free purgation as has been done in several instances. Care and judgment must be used in the administration of purgatives, as must be the case with all therapeutics, and a limit put to the number of discharges if they become dangerous in themselves. That a weak, anæmic woman will not bear the drain as well as a better-fed and stronger sister is self-evident. The use of purgatives, it seems to me, is destined to obtain a permanent and valuable place in the after-treatment of abdominal section. As soon as we are able to shake off the inordinate and senseless fear inculcated in our minds by most writers of the day, and the marked results obtained by this treatment are more generally noted, it must come into general use, and we will no longer see purgatives put down as absolutely contra-indicated in peritonitis. To recapitulate, I should suggest that in abdominal sections the bowels be moved, as a matter of routine, on the second or third day after operation; that on the first access of pain and soreness a brisk purge be given at once; in case a general peritonitis is developed, the production of large watery stools as soon as possible, both by purgatives and stimulating enemata, is indicated—these to be controlled in accordance with the strength of the patient in each particular case. Of all purgatives for these various purposes, I believe that the salines, as originally suggested by Mr. Tait, are preferable to any other.

THE MIND CURE.[1]

By MARY J. FINLEY, M.D.

In a little pamphlet entitled "Historical Sketch of Metaphysical Healing," by Mary Baker G. Eddy, President of the Massachusetts Metaphysical College, the author tells us that in the year 1866 she discovered the "science of metaphysical healing," which she "afterward named Christian science." She declares that she was led to this discovery by her "immediate recovery from the effects of an injury caused by an accident, which neither surgery nor materia medica could reach." Other writers on mind-cure declare that Mrs. Eddy obtained, not only her ideas, but her first manuscripts as well, from P. P. Quimby, under whose influence she came in 1862.

Whatever may have been its origin, Christian science, or the mind-cure, is now the most popular craze in some of our large cities; and, like spiritualism, like the skating-rink, and like the airs of "Pinafore," will probably sweep over the country until it has penetrated to the remotest hamlet, and may found a school of medicine as popular as that of Hahnemann. Such being its present status and future possibilities, it cannot be without interest to the medical profession to examine into the theories and practice of its advocates. A system of metaphysics and religion is so closely interwoven with their theory of health and disease—their physiology and pathology—that it is impossible to give the latter without a brief statement of the former. Dr. W. F. Evans, a leader of one of the sects, and probably the most philosophic mind among them, in the preface to his latest work, "The Divine Law of Cure," says that this volume, to which all his other writings may be considered as introductory, is "an attempt to construct a theoretical and practical system of phrenopathy, or mental cure, on the basis of the idealistic philosophy of Berkeley, Fichte, Schelling, and Hegel." Mrs. Eddy disclaims any indebtedness to these philosophers, and declares her metaphysical theory, as well as its application to the cure of disease, to be an original discovery or "revelation." Her philosophy, however, presents nothing new, and in its fundamental features is identical with that of Dr. Evans—which might be called a materialistic idealism, and bears about the same relation to the subtle reasoning of Hegel that a cheap chromo bears to one of Raphael's Madonnas.

[1] Read before the North Central Ohio Medical Society, September 30, 1887.

The efficient cause and active force in nature is God; not a personal deity outside of it, but the force permanently resident in nature. This divine element is the vital germ from which our existence springs. All conscious being is a part of God; "all the millions of the race are but the rising into individuality of the ocean of being, but they never lose their connection with it." "The incarnation is not a solitary miracle, but a universal fact." The body is merely an outward manifestation that the soul forms about itself. "The body neither lives nor dies. It lives from the spirit, and this from the Deity." Material nature exists only as the mind takes cognizance of it, and has no separate reality. There is no reality but spirit; everything outside of us is but a dream of the spirit within us. Literally, "This world is all a fleeting show, for man's illusion given."

Mrs. Eddy says: "All sensation is mind, and mind is God; hence there is but one mind, and this one is infinite, supplying all mind by the reflection, not subdivision, of himself. . . . God is supreme; is mind; is principle, not person; includes all, and is reflected by all that is real and eternal; is spirit, and spirit is infinite; is the only substance; is the only life. Man was and is the idea of God; therefore mind can never be in man. Divine science shows that matter and mortal body are the illusions of human belief, which seem to appear and disappear to mortal sense alone. When this belief changes, as in dreams, the material body changes with it, going wherever we wish and becoming whatsoever belief may decree. . . . The entire mortal body is evolved from mortal mind." After this, it follows quite naturally that "food neither strengthens nor weakens the body—mind alone does this. . . . The truth is, food does not affect the life of man." However, we are not advised to stop eating until we "gain more goodness."

Health, according to Dr. Evans, "is the divine life within us coming to a free activity and expression in all our voluntary powers;" it is a divine gift, an inspiration from God, and in the philosophy of Jesus is viewed as identical with religion.

Disease arises from a lack of proper union with the divine nature, and consists in a false conviction: "A wrong conception and belief ultimate themselves in the body in disease—acute if it be a temporary mental state, and chronic if it be a confirmed mode of thinking." A chronic disease is "a morbid steadfastness of a false idea. . . . When one says that he has a pain in some part of his body, as in his hand, his head, or his stomach, that is a phantom, for the body has no sensation, no feeling." A mind attacked by a belief in rheumatism gives a knee-joint red, hot, swollen, tender, and painful, and runs the general temperature three or four degrees above the normal. "The bodily trouble," says Dr. Marston, "is a reflection or effect of lack of mental ease." There is certainly a concomitant "lack of mental ease," but the general impression has been that it is an effect, and not a cause, of "the bodily trouble." Mrs. Eddy says: "Sickness is a belief, a latent fear made manifest on the body in different forms of inflammation or disease. If you believe in inflamed or weak nerves, you are liable to an attack from that source. You will call it neuralgia, but I will call it illusion." Such being the etiology, pathology, and semeiology of disease, the diagnosis is easy and the prognosis always favorable. "No one ever dies of what is called disease. . . . It is only when faith, hope, and imagination lose their hold upon the organic structure and the soul relaxes its grasp upon the body that it yields" (Evans).

Old age and death—those dreaded spectres of humanity—are indeed phantoms only of mortal mind. Wrinkles, silver locks, second childishness, "sans teeth, sans eyes, sans taste, sans everything," are avoidable evils. Here, in America, is found at last that fountain of perpetual youth so vainly sought by its early explorers. "By keeping the mind young we have a perfect guarantee for continued youthfulness of body. This new system will make us younger at seventy than at seventeen" (Baldwin). Let us believe ourselves young, beautiful, healthy, and immortal, and so we are; "For whatever as to the bodily condition we think to be true, either by a spontaneous impulsion or by a tenacious volitional effort, becomes to us a reality" (Evans).

The treatment of disease has for its primary object the eradication of the false belief in the existence of disease and pain. This is sought in various ways by the leaders of the different sects.

Mrs. Eddy and her disciples discard all material aids: "The principle and rule of metaphysical healing are spiritual. Any material method whereby to demonstrate it is a departure from science. The use of drugs, hygiene, manipulation, alcohol, tobacco, or anything but mind to make or keep man well and happy are so many conspiracies against his health and happiness." They rely entirely upon the effect of her theories on the mind. The perusal of her books is one of the most powerful remedial agencies: "My publications alone heal more sickness than an unconscientious student can begin to reach. . . . Science" (otherwise her theory) "saith to all manner of disease, 'Know that God is all power and presence, and there is nothing beside him,' and they are healed. . . . Science saith to fear, 'You are the cause of all sickness, but you are a self-constituted lie, darkness, nothingness, "without hope and without God in the world;" you do not exist, and have no right to, for "perfect love casteth out fear."' . . . Science reveals the great fact that suffering exists as mortal mind only, for matter has no sensation and cannot suffer. If you rule out every sense of disease and suffering from mortal mind, it cannot be found in the body matter. . . . Demonstrating the unreality of evil destroys it."

Dr. Evans does not entirely discard the use of drugs. He considers all curative agents as "of the nature of a sacrament, a means of grace," and thinks that "the best device for giving faith a material foothold is found in the dilutions and triturations of homœopathy," but "in the human soul reside all the healing virtues and potencies that can be found in medicinal plants and minerals. . . . Their curative properties are something in their spiritual essence which answers to some energy of the soul;" therefore, "by a voluntary and intelligent use of faith and imagination we can effect a cure of disease in ourselves and others." Pain is to be relieved by resolutely putting it out of mind: "A pain, if it is not thought of, is not *felt*. It is thus made a nihility, a nothingness. . . . When we think of it, it passes from nothing to something, for it is only by this that it comes to have any reality to us. Disease without this would be as nothing, for it is only a wrong way of thinking, or, if you prefer it, a false belief. Banish it from thought and it no longer exists." Make the patient believe that he is free from disease and he is cured, for "to be unconscious of a thing is all the same as if it were not. To bring disease into the realm of unconsciousness is to make it unreal; in other words, to cure it." "That of which we do not think has to us no existence. . . . There are many well-attested facts to show that men in the ardor of battle receive wounds of a serious nature without being aware of them until a considerable lapse of time." It naturally follows that the wounds did not exist "until a considerable lapse of time" after they were received.

If the patient is not able to throw off the thought of disease the physician must aid him. This may be done by mental treatment, in which the patient is made to "fix his thought with expectant attention upon the effect to be produced. In addition, the physician thinks the same effect tranquilly and strongly wills it, and believes and imagines that it is being done." At the same time the healer silently goes over a form of "mental argument," in which he may call the disease by name. Various formulæ for these "mental treatments," each claim-

ing to be infallible, are sold for good round sums by the leading healers to young practitioners. The belief of the healer may be communicated by words, but a more spiritual way is by touch, and a still more interior mode of communication is by the eye; the "cogitative gaze" is used by many of the healers, who silently bestow it upon their patients for fifteen minutes at a time. But even this is not essential. When the patient is passive, with his eyes closed, and in sympathy with the healer, the latter can transfer his thought to him at any distance. There is a subtle spiritual principle constantly emanating from us which forms a sort of atmosphere about us; we can concentrate this in the touch, and impress it on any individual, or to any part of his body, or we can direct it through miles of space, even across the Atlantic Ocean.

Dr. Evans recognizes the reconstructive force in nature in language almost orthodox: "This *vis reparatrix*, or reconstructive force in nature, ... is the only remedy that can heal or relieve the injury—heal if it comes within the range of possibility, and if not, alleviate the suffering . . . . *We can assist and greatly accelerate its curative action by thinking in concert with it.* . . . Our thoughts, our faith, our fancy, our remedies, can only be tributary and auxiliary to it."

The first thing that strikes the mind in glancing over this system is that—leaving out of sight the religious and metaphysical side—the theory of disease, its production and relief, here taught, is that which is generally accepted as correct in regard to the manifestations of one disease—hysteria—and it is impossible to avoid the suspicion that the large majority of the cases upon whose cure this system bases its pretensions occurred in hysterical men and women. The second thought is that, in spite of the intimacy of the phraseology employed, there is no essential connection between the theology and philosophy of the system and its principles of medicine. The principle of the influence of the mind on the body, as stated by Dr. Evans in one place, may be accepted by the most regular of the regulars: "There can be no doubt of the influence of a *fixed morbid thinking* in the generation of a diseased action in the bodily organs, nor of the power and importance of a sound mental activity in originating and accelerating a cure."

John Hunter said, "As the state of the mind is capable of producing a disease, another state of it may effect a cure." Indeed, in the language of a popular text-book on physiology, "The influence of the mind in the production, aggravation, and cure of organic diseases is matter of daily observation;" we have all seen striking illustrations of it; it is admitted in every work on practice, and is most forcibly presented in the fascinating work of Tuke ("Influence of the Mind upon the Body"). Yet it is possible that this principle has not yet received proper attention at the hands of the regular profession. Since we have absorbed the something of truth presented by every exclusive system of cure that has heretofore arisen, may we not accept from the mind-curers a wider application of this truth? Upon this, and not upon their theory of existence, depends their success. Upon this has depended the success of every system of medical humbug that has come and gone in the past, or that still flourishes. The vast number of cures of disease which have occurred in all historic times by means purely psychic prove the power of this influence in conjunction with the *vis medicatrix naturæ*.

The medical systems of all barbaric nations depend for their efficacy largely on mental impressions. Voodooism owes its terrors and their relief to the same powerful cause. Chinese and Japanese medicines apparently owe their effects to the thought of the concentrated horrors of their ingredients. The tragedies of New England, during the witchcraft craze, are vivid pictures of sufferings caused and relieved by mental states. The belief in witchcraft lingers still in a mild form in the mountain-valleys of Pennsylvania, and in my childhood I knew of an old woman who could promptly relieve burns by "blowing the fire out," and cure erysipelas by "saying words over it." In England, for centuries, scrofula was healed by the royal touch. When Mesmerism occupied in the popular fancy the place now held by "Christian science," numerous cures were attributed to it. Spiritualism, which promised to revolutionize society, professed also to heal all diseases. We have had water-cures, and steam doctors, and magnetic healers, and Indian doctors, and manipulators, and homœopaths, and each and all have had at some time a "boom."

Modern miracles of healing must be classed among cases of bodily disease relieved through mental impression. Allowing that many of the cures claimed have been only temporary alleviations, that many cases diagnosed as serious or fatal diseases have been slight functional derangements, or forms assumed by those skilful conjurers—hysteria or hypochondria—the fact remains that many suffering invalids have been permanently relieved and restored to health after medical skill had failed to benefit them.

At the time when sacred relics played so large a part in the history of the religious world, their touch was a recognized agency in the cure of disease. The Prince in Longfellow's "Golden Legend," who "was healed in his despair by a touch of St. Matthew's sacred bones," was only one of thousands.

Many priests have been famous as miraculous healers. The cures wrought by several in the present century are numerous and well authenticated. Pilgrimages to noted shrines have been in recent times undertaken for the relief of bodily ailments, much more frequently than for spiritual improvement; this is especially true of the shrines of Mariazell in Austria, Lourdes in France, and Knock in Ireland. These shrines count their yearly visitors by tens of thousands, many thousands of whom return to their homes rejoicing in the relief which they sought.

The "faith-cure" is of comparatively recent date, but large numbers of intelligent people have been relieved of all sorts of ailments by "laying on of hands, anointing with oil, the prayer of faith." Institutions have been founded for the treatment of disease by these means. "There are over thirty 'faith homes' in America to-day. In England and on the continent of Europe can be found a large number, some of them commodious institutions, with a history of many decades of years."

The Mormon elders claim the power to heal the sick by prayer and the laying on of hands, and their success has been in proportion to the confidence in their assertions.

The one thing in common in all these cases is the powerful impression made on the mind, arousing confident hope and directing an intense expectant attention to the diseased part. The claim to some power, occult, mysterious, supernatural, whereby disease shall be overthrown is used to produce the impression. The mind-curers alone proclaim the fact that the relief obtained is through the power of the mind over the body. And this truth thus implanted in the public mind will bear good fruit when the eager acceptance of their fantastic idealism shall have become a curious bit of social history.

The immense number of cases of disease relieved by the influence of the mind, and the strong probability that the same influence is a powerful factor in the causation of the great epidemics that have devastated communities, as well as its undeniable agency in developing the varied forms of hysteria and hypochondria, render it a subject worthy of the careful study of the profession. The investigations now being made of the phenomena of hypnotism may eventually throw a flood of light upon this subject. It would seem that, in these cases, the imagination plays some such rôle in the normal condition as suggestion performs in the hypnotic state.

How the mind acts upon the cells of the gray matter of the cerebrum, and how the nerve-force affects the physico-chemical action in the general tissue-cells which

determines growth, waste, and heat-production, are two points that must be further elucidated before the real physiological action of the real mind cure can be written.

However wide may be the chasm between an intellectual state and the metabolism of the cells composing a bunion, there is a material bridge connecting them. Consciousness has a physical basis in the gray matter of the brain; from this physical side thought is a force liberated in the metabolic changes of the nerve-cells. In the action and reaction of the mind and its material organ the peculiar force of the nerve-cell is set free and projected from cell to cell, from centre to centre, and from centres to periphery. While the ordinary action of the mind in and through nervous matter has no appreciable effect upon the general system, any extraordinary action may send its rebound to the remotest nerve-fibrils, and since every tissue and organ of the body lives and functionates in obedience to the nerves supplying it, every part feels the mental shock; fear breaks in upon the system of the beating heart, pales and roughens the skin, dilates the pupil, and sets the calm muscles in a quiver.

Of the ordinary action of the internal organs of vegetative life the mind does not take cognizance, but a disordered action quickly sends a warning note to consciousness; conversely, morbid mental states interfere with the orderly action of the vegetative organs.

Depressing emotions, long continued, lower the tone of the nervous system and the general nutrition of the body. Peculiar mental conditions may so powerfully affect the nervous apparatus controlling nutrition as to bring about structural changes in a very short time. In the relief of diseased conditions through mental impressions, the concentration of nerve-force, and its projection along a certain line of nerve-fibres caused by the intense expectant attention directed to the suffering part, determines in the affected region a new and vigorous activity which quickly restores it to the normal condition. When the trouble is central in origin and functional in character, the morbid change being in the forces evolved rather than in the tissues evolving them, the remedial action is probably direct. When the trouble is local, involving structural changes, the effect may be produced through those trophic fibres the existence of which, though not clearly demonstrated, is well established; or through the vaso-motor system. The latter, by dilating or contracting the capillary vessels, regulates the force and rapidity of the blood-current through a part, the amount of plasma transuded, and the extent of absorption, and thus powerfully influences the rapidity of tissue-reproduction, or of its disintegration, and the absorption of the products of its waste.

While our knowledge of physiological processes is too limited to enable us satisfactorily to explain the mode in which the thought acts to produce or remove morbid physical conditions, enough is known to show the manner in which it possibly may act, and the fact of such action is well established.

When this fact shall be recognized by the general public, some other proof than the ability to cure real or imaginary ills will be required before a new theory or doctrine can find acceptance, and the popularity of medical, psychic, and religious humbugs will decline.

Effect of Quinine on Uterine Hemorrhage.—A Brazilian journal publishes a paper by Dr. Ramos on the "Effect of Quinine on Uterine Hemorrhage." He cites two cases of patients who suffered, it is true, from malaria, in whom a very few full doses—fifteen grains—of quinine served to check, and indeed to cure, violent and intractable uterine hemorrhage. In one case iron and ergotin had been given internally, and cold injections administered, without much effect, but a single dose of quinine produced a considerable diminution in the amount of blood lost, and a second similar dose completely arrested the discharge, which did not return.

AN UNDESCRIBED ARTERIAL MURMUR.[1]

By H. H. SEELYE, A.M., M.D.,

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One of my duties in taking the physical statistics of college students is to examine the heart and lungs of each man. So in the last three classes about three hundred young men have undergone this examination. My plan has been to first examine these organs soon after the man has removed all his clothes, when his circulation and respiration are comparatively quiet and easy, and then a second time immediately after some violent exercise, such as raising the body by the hands and arms as many times as possible, or dipping up and down between two parallel bars until completely exhausted. After such exercise the breathing is deep and rapid, and the heart's action bounding and frequent. More than two years ago, soon after I had begun these examinations, I was surprised at finding certain loud murmurs or bruits about and in the neighborhood of the heart more marked, or only appearing, after such violent exercise, which would have easily led me to diagnose a valvular disease of the heart, had I not soon discovered that it was a phenomenon so frequently occurring in a majority of the men as to make such a conclusion improbable. Though I had previously examined hundreds of hearts in health and disease, yet I had never before come across murmurs with precisely the characteristics of these, nor had I ever seen described anything exactly similar. I at once began to study these sounds carefully, and to look up any literature referring to them, but have never yet seen them described.

In a typical case the first examination, during repose, would probably show nothing unusual. The man would then raise his body by pulling it up with his hands as many times as possible—perhaps ten or fifteen. He would then immediately sit down, and I would apply the stethoscope, pressing on the chest very lightly. Now I would find, under the outer half of the left clavicle, and from an inch to an inch and a half below it, a loud, rough, and blowing murmur, as a rule localized to within an inch or two of this place. This sound would be nearly synchronous with the systole of the heart, or possibly an almost imperceptible interval after the closure of the aortic valve. Over the heart the first and second sounds would be clear and normal. Over the corresponding region, under the right clavicle, the same bruit would be heard, but usually more feebly, and sometimes not at all. A similar souffle would generally be found over each carotid artery, also at a bevel with the lower part of the thyroid cartilage. Though the above description will apply to a majority of the sounds caused in this way, yet it is on account of the exceptional variations, which approach the characteristics of morbid heart-murmurs, that it is of importance to know of the existence of this phenomenon. In some cases it is absolutely impossible to tell whether the sound is valvular or not. Often the bruit will be so diffused that it is perfectly audible over nearly the whole of one side of the chest, posteriorly as well as anteriorly, being but slightly more marked under the clavicle than over the base of the heart. Sometimes, though not so diffused, it is as loud over the heart as under the clavicle. It is generally much more marked, as I said, on the left side, but in exceptional cases the bruit under the right clavicle and over the upper part of the right side of the chest is much the louder.

In many cases where the sounds under the clavicle are quite loud, there will be none in the carotid region; or perhaps only on one side, and that may be on the same or opposite side from which it is heard in the chest. The subclavicular sounds are often greatly increased in loudness when the chest is expanded at the end of a deep inspiration, and they may immediately cease entirely during the act of expiration. An apparently true aortic valvular sound sometimes coexists with this one,

[1] A paper read before the Hampshire County Medical Society, October 12, 1887.

but in the majority of such cases this valvular sound is probably not due to any lesion of the cardiac valves. One of the most suggestive peculiarities in the individuals in whom these bruits are most audible is in the fact that they are usually associated with a thin, flat, and narrow chest, or one in which there is little mobility of the ribs. A consumptive-looking chest is almost certain to present this phenomenon, yet full, large-chested men sometimes give it very markedly. In both these cases, however, the act of percussion and auscultation is apt to show a slight condensation or inelastic condition of the upper part of the corresponding lung. In some unusually inelastic chests these murmurs are very loud, even during perfect repose, and here the liability to confound them with morbid heart-murmurs is very great. Changing the position of the body does not alter the character of these sounds, as they are equally audible in the standing, sitting, stooping, or reclining posture. Where they are absent during complete repose they may sometimes be made apparent after four or five deep and rapid respirations, which will induce an increased activity of the heart's action.

The explanation of this phenomenon possibly involves several factors. I think it depends chiefly upon greater or less compression on certain portions of these larger arteries, which causes a variation at these points in the size of the blood-current. In the case of the subclavian murmur the bruit is probably due to the fact that the increased amount of blood forced out from the vigorously acting heart at each systole so dilates the subclavian artery that it presses against the clavicle or first rib at the point where it is nearest to these bones, and thus the artery is indented at these points and a souffle is caused, according to the well-known law that any obstruction or sharp irregularity in the size of a tube of otherwise equal calibre, through which a current of fluid is passing, will give rise to a bruit at that point. Not only is the artery dilated by the increased blood-current so as to bring it in closer contact with one of these bones, but this approach to the bone is aided by the fact that the increased respiratory effort enlarges the area of the lung temporarily, and this tends to push the artery upward and forward against these bones. For this reason, probably, the sound is loudest at the end of a full inspiration, and as long as the lung remains full, but is apt to cease or greatly lessen during expiration. It is probably of more frequent occurrence in those with inelastic chest-walls, and with more or less condensation or lack of expansive power in the upper part of the lungs, because these facts would keep the bones from moving away from the artery during inspiration, while it would not prevent the expansion of the main portion of the lung from forcing upward the condensed portion, so as to make it press against the artery; and, moreover, such lung-tissue is in itself more favorable to the conduction of sound than that containing more air.

Another element that possibly contributes to these murmurs is the peculiarity of the giving off of the carotid arteries from the larger ones near the point of origin of these sounds. As the left carotid, for instance, leaves the subclavian at so nearly a right angle, it is possible that when the force of the blood-current is greatly increased the disturbance caused by this sudden change in direction of a part of the flow may give rise to such sounds.

The main element in the production of the murmurs heard in the carotid region of the neck is also probably a greater pressure brought to bear on one portion of that artery than in other places, when it is distended overmuch by an increased blood-current. In all parts of its course, except that in the neighborhood of the thyroid gland, the common carotid artery is surrounded or embedded in soft muscular or connective tissue, but at this point it is crossed by the unyielding tendinous portion which unites the two bellies of the omo-hyoid muscle as it passes from the scapula to the hyoid bone. Now, when the artery is suddenly dilated by the rush of blood from each strong systole of the heart, this tendinous portion of the omo-hyoid, with its inelastic fascia holding it down firmly to the clavicle, does not give way to the pressure of the artery as freely as the softer tissues around it, and consequently the vessel is pressed upon harder, and is somewhat indented at this point; thus imposing a slight obstruction to the flow of blood, which is all that is necessary to cause a bruit. A further slight element in the production of this sound, both here and in the subclavians, may be the molecular friction-sound caused by the rubbing of the minute fibres of contracting muscles in the arterial walls against one another, or what is generally called the "muscular sound." The fact, too, that the vessels approach nearer the external surface at the points where the bruits are loudest, helps to account for their localization here.

The reason why these murmurs may in some individuals be heard more loudly in one artery than in another, or on one side than on the other, may depend largely on the variations in the force of the blood-current in different persons, by reason of slight peculiarities in the giving off of the main arterial branches of the aorta. Thus the bruit in the left subclavian is usually the louder, because the current of blood comes more directly from the aorta than in the right, which is a branch of the innominate artery. And as variations in the manner of origin of these large arteries are very common, it is rational to suppose that these may correspond to similar variations from the rule that the loudest bruits are on the left side. Thus, where the bruits are markedly louder on the sight side, the usual curve of the aorta and the points of origin of its branches may be completely reversed, as is sometimes found to be the case.

Why these murmurs are so well marked in nearly half of the men examined, and feebly heard in many others, while they are totally absent in more than twenty-five per cent., is a little difficult to explain. But I account for it chiefly by the fact that in these latter cases the elasticity and mobility of the whole chest is usually greater, the lungs expand more freely throughout, and consequently the whole intra-thoracic circulation is free and unimpeded, so that the heart does not have to labor so hard, and the vessels do not become so greatly overdistended with blood as to produce undue pressure on the neighboring unyielding parts, such as bones, fibrous tissues, and tendons. This theory seems strengthened by the fact that the proportion of men presenting these murmurs is less in the classes that have been longest in college; and in these, by reason of longer use of the gymnasium, the lung-capacity and the expansive power or mobility of the chest-walls always shows an increase over that recorded in the earlier days of college life.

I have endeavored to give the main characteristics of these murmurs, which I call "carotid and subclavian souffles," in order that they may not be confounded with true valvular souffles, as I believe has sometimes been done. The main point to bear in mind is, that the subclavian souffle is almost always the loudest near the outer end, and about an inch below the left or right clavicle, and it may be transmitted more feebly in any direction, while the true aortic obstructive murmur, which it so often closely resembles, is most loudly heard at the junction of the right costal cartilage with the sternum, and from thence is more feebly transmitted along the course of the subclavian and carotid arteries. That such a mistake is possible was illustrated to me by one of the students whom I was examining, and in whom these arterial bruits were very marked after slight exertion. He asked me if his heart was all right, and I answered yes. He thought I must be mistaken, for only a few weeks before his physician at home had examined him, and told him that he had a heart-murmur, which showed a disease of one of the valves of that organ, and he had warned him against over-exertion. On inquiring into the occasion of his applying to the physician for an examina-

tion, I learned that he had felt a little pain in his left side, and in alarm had ridden hastily on his bicycle to the doctor's office to see what was the matter. Of course an examination made immediately after such exercise, when the circulation was unusually active, would reveal a murmur in the subclavian arteries, and in this case it happened that they were quite loud in the region of the base of the heart. I relieved his anxiety by explaining the cause of the murmur, and placed no restriction on his exercising to his heart's content. I have since examined him several times, but find no evidence of any valvular disorder.

I have occasionally found true heart-murmurs in individuals with arterial souffles, but in most cases it was possible to discriminate between the two, and to tell where one ended and the other began.

As I was never warned, in an entensive experience in two first-class medical colleges, and a large hospital where heart-diseases were under daily observation, to look for any such murmurs as I have described, nor have seen them alluded to in any medical books or writings, I have though it a subject worthy of bringing to the attention of the physiologists and diagnosticians of our profession.

Clinical Department.

GANGRENE OF THE FOOT, FOLLOWING FRACTURE—AMPUTATION—RECOVERY.

Dr. J. Edward Green, of Brooklyn, N. Y., reports the following interesting case, illustrating a remarkable recuperative power: "I was called in some time since to see a young negro boy, about nineteen years of age, whose left ankle had been run over and completely crushed by the wheel of a freight-car; the bones of the joint being comminuted to about the size of a split pea. We arrived on the spot expecting, of course, to amputate at once, but owing to the insane objections raised by the boy's father we were compelled to bandage the mangled limb and leave it *in statu quo*. At the expiration of two weeks we were again summoned to the case and found, to our unspeakable astonishment, the boy alive and well, but the injured member in the last stages of putrefaction and literally swarming with maggots. This time we amputated, and, wonderful to relate, at the time of the present writing the boy is in as good condition as before the accident, minus the foot. There was no pyrexia, scarcely any shock, or any of the usual sequelæ attending such injuries."

MORPHIO-MANIA.

Dr. Winslow Anderson, of San Francisco, sends the following communication: "On this far-western slope of civilization, where people are in a constant state of excitement from speculations in mines, stocks, etc., opium smoking and morphine eating are alarmingly prevalent. Women as well as men are the slaves of the habit. A large proportion of the *demi-monde* of San Francisco and the poorer slaves of this drug smoke the 'Chinese pipe.' It is really surprising how many *habitués* visit our Chinese 'dens' and opium 'joints' daily. The writer has witnessed the sickening sight of young white girls from sixteen to twenty years of age lying half-undressed on the floor or couches smoking with their 'lovers.' Men and women, Chinese and white people, mix indiscriminately in Chinatown smoking houses. Another class of people purchase their 'lay outs,' or smoking paraphernalia, and entertain this fiend in their own quarters. Smokers 'hit the pipe' once, twice, and three times daily. Morphine eating and morphine injections are perhaps even more frequently resorted to. Some are equipped with hypodermic syringes and solutions of morphine made by themselves, as the standard Magendie's solution is not strong enough. Injections are used regularly every day, with occasional debauches. Enormous quantities of morphine are consumed in this way and by eating it—ten to twenty grains daily for each individual.[1] The following case is illustrative of my observation relative to the so-called specifics for the opium or morphine habit: The patient, a young lady, for several months suffered with pleuritic effusion of the right side. Morphine powders were prescribed by her physicians, to be used *pro re nata*. The habit grew upon her, and for seven years she had been using one and two one-eighth ounce bottles of the sulphate of morphine a week—ten to twenty grains daily. Everything had been tried to cure her of the habit. Her people being well-to-do, and desirous of saving their child, had used all the 'specifics' the land afforded, but of no avail; she ate the drug just the same. About a year ago she fell into my hands, and my 'specific' which *cured* her was as follows: I succeeded in gaining her confidence and co-operation at the onset; and here let me remark that very little can be accomplished with any specific if enforced restraint or co-operation is not concomitant. I obtained the best hygienic condition for the patient, occupied her mind with some useful employment, supplied and nourished the body to its fullest extent with ferruginous tonics and liberal dietary, as there is usually general ischæmia of the circulation. For cerebral and nervous stimulants, phosphorus, nux vomica, cannabis Indica, etc. The heart was toned up with digitalis and tonics. Sleep was produced by bromides, etc. She was never allowed to refill any of her bottles of medicine, nor was it known to her what she was taking. I gave her morphine daily—a quarter to half a grain less every other day—and in six months my little patient was cured. It is now over six months since she took her last specific for the opium habit, and she has never touched morphine since, nor has she any desire to do so."

[1] It is estimated that there are about ten thousand *white* opium smokers in San Francisco alone. It is next to an impossibility to determine the number of morphine eaters and morphine injectors, as these people belong to our wealthies families and are screened from observation.

TWIN PREGNANCY WITH UNUSUALLY SEVERE SYMPTOMS.

Dr. G. W. Squires, of East Avon, N. Y., reports the following case: "Mrs. G——, aged twenty-seven, pregnant for the first time. In the second month of her pregnancy she began to suffer from vomiting, raising large quantities of a glairy, tenacious mucus. The nausea and vomiting increased in severity, and were accompanied by a short, hacking cough. She was unable to retain any nourishment, and, at the end of four months, when she miscarried, was reduced to a pitiable condition. For two weeks prior to her miscarriage she had coughed, retched, and vomited incessantly night and day. She also complained of chills and fever, which, by the tongue and other symptoms, pointed to a pyæmic or typhoid condition. Hemorrhage and pains coming on, an examination was made. The os was found dilated the size of a five-cent piece, and the membrane was protruding. With the next pain the fœtus was expelled, with the sac intact. The finger was then introduced into the uterus to scoop out its contents when another fœtus, divested of its sac, was found, and also an entire placenta. Upon reaching to the fundus of the uterus a mass was felt, which proved to be hydatids. A second placenta was found implanted over the entrance of the right Fallopian tube, and extending into it a distance of half an inch, and firmly adherent above to the wall of the uterus. The lower half was soft, friable, and badly decomposed, so that it emitted a putrefactive odor when delivered. The uterus was scooped out clean of clots, etc., a dose of ergot was administered, and the patient was watched closely. The uterus contracted down

firmly. There was scarcely any hemorrhage. Almost immediately the patient stopped coughing and vomiting, said she felt better already, and asked for something to eat. The coated tongue cleaned up, the headache disappeared, the fever and chills took their departure, and in five days' time the woman was sitting up. She fully recovered without an untoward symptom. The interesting points of the case were: The coughing and unusually severe vomiting from uterine irritation; the chills and fever from septic absorption; the extension of the placenta into the Fallopian tube; and the immediate relief of all unpleasant symptoms when the uterus was emptied."

Progress of Medical Science.

Acetonuria in Infancy.—The researches of Von Jaksch and of Penzoldt, and many others, have shown that the occurrence of acetonuria is not the special appanage of grave diabetic accidents, but may occur in a great variety of diseases, including fevers, carcinoma, and insanity. There seem also some grounds for believing that even the healthy organism may not be altogether free from the presence of some of this said acetone, which is unquestionably a deleterious body, though it is possible that minute doses of it, like minute doses of many other poisons, are borne by the economy with impunity. Baginsky has given much attention to the occurrence of acetonuria in infant-life, and from his researches it would appear that among children a physiological acetonuria of slight degree and inconstant nature does exist. Pathological acetonuria is common among children suffering from febrile disorders, and the presence of acetone in the urine appears to be related directly to the intensity of the febrile process, since a slow diminution in the amount of acetone in the urine has been observed in pneumonia, from its commencement to its termination. The researches of Baginsky, while admitting the existence in a slight degree of acetonuria during the normal life of infants, prove, so far as they go, that acetonuria is specially to be associated with the febrile state, and, in fact, that it increases with an increase in the fever. It has been proved, also, that a fleshy diet increases acetonuria, while the ingestion of non-nitrogeneous food is not followed by acetonuria. Since acetonuria of a very intense degree may be discovered in the course of convulsive diseases in infancy, it is obvious that many mechanisms are capable of setting up the conditions on which the presence of acetone in the urine depends. It seems clear, however, that neither asphyxia induced by, nor the administration of chloral for, the convulsive seizures is an efficient explanation; nor are there good grounds for believing that acetone can be regarded as a common cause of convulsions, for these spasmodic affections may be unattended with acetonuria, and, further, acetonæmia is not usually the cause of tonic or clonic spasms, as the experiments of Baginsky showed. We neither know for certain the place at which acetone originates, the materials out of which it is constructed, the precise effects on different tissues, nor its ultimate fate in the metabolic system. Conjectures have been made that it originates from hydro-carbons of digestion; but Baginsky has discovered acetonuria in a dog fed wholly on animal food, while acetone disappeared from the urine when the dog was fed exclusively on hydro-carbonaceous material. It appears probable that nitrogeneous material is the source of this chemical body. Baginsky has found a considerable amount of acetone in the urine of a child aged four years, who had swallowed some dilute nitric acid. Grave symptoms, with loss of consciousness, delirium, grinding of the teeth, and small pulse, were observed as the effect of the intoxication; the urine was albuminous also. The acetonuria could not be ascribed to the fever, for the temperature did not go beyond 101° F., but there was considerable disintegration of nitrogeneous material. Although Jaksch admitted that acetone is formed during the lactic-acid fermentation, yet a chemical examination of the contents of the stomach drawn off by washing, and of the intestines as discharged per anum, failed to detect appreciable quantities of acetone; the source of the acetone can therefore hardly be traced to any functional disturbance of the digestive organs.—*The Lancet*, September 3, 1887.

The Eye Diseases of Syphilis.—Many practitioners pay little if any attention to the eyes in syphilitic cases they treat. Others at most look only for specific iritis. That there is a long list of such diseases liable to occur in connection with syphilis is often forgotten. Dr. Jonathan Hutchinson, in his little work on syphilis, gives the following list of these diseases: In acquired syphilis are the following: 1. Acute iritis; usually symmetrical; always in the secondary stage; of fairly common occurrence. 2. Inflammation of the vitreous body; often an accompaniment of iritis in its severe forms. 3. Diffuse keratitis. This is very rare in connection with acquired syphilis. It occurs in the secondary stage chiefly, if not exclusively. 4. Neuro-retinitis. A primary inflammation of the ocular portion of the optic nerve and retina, attended by general haze, but without evidence of choked disk. It is usually seen in the secondary stage. It may affect only one or both eyes. Not common. 5. Scattered choroiditis; gummata of the choroid; choroiditis disseminata. This affection is rare, and is seen only in connection with the late secondary stage. It may be attended by neuro-retinitis, or may occur alone. Usually it is almost wholly confined to one eye. 6. Optic neuritis, with swollen or choked disk; usually seen in the tertiary stage, and in association with meningeal gumma. It is rare, affecting both eyes at once. 7. Serpiginous choroiditis. In this form large patches of absorption are seen, which slowly spread at their edges. 8. Aquo-capsulitis—a form of insidious and chronic iritis, of which the most conspicuous phenomenon is the dotted condition of the posterior lamina of the cornea. With inherited syphilis we have: 1. Acute iritis. It is rare; occurs at about the fourth month as one of the secondary class. It is very dangerous to sight. 2. Interstitial keratitis; tolerably common; usually affects both eyes; often attended with slight iritis and sometimes by choroiditis. Remarkable for its tendency to recover in most cases. 3. Choroido-retinitis; usually chronic and attended by atrophy; most frequent at periphery; may simulate the results of retinitis pigmentosa or approach choroiditis disseminata. 4. Optic neuritis, followed by white atrophy; very rare and almost never recognized, excepting in the atrophic stage. It will be observed that most of these forms of eye diseases are rare in syphilis, but their possible occurrence should always be kept in mind.

The Clinical Significance of Acetone and Diacetic Acid in the Urine.—Dr. Griffith, of Philadelphia, has published a brief *résumé* of this subject (*The Medical and Surgical Reporter*, September 3, 1887), from which we learn the following:

Acetone.—There are several chemical tests for acetone, but as nearly all of them used to be applied to the distillate from the urine, and are, therefore, too troublesome for every-day use, he prefers that of Legal, which is: Dissolve a few crystals of sodium nitro-prusside in a little hot water in a test-tube, add some drops of this to the urine to be examined, and then make the mixture distinctly alkaline with an excess of liquor potassa. A red color is at once produced, but fades after a short time, and has no significance whatever. After it has disappeared add a few drops of acetic acid, whereupon, if acetone be present, a deep violet or brownish-purple color will appear wherever the acid has penetrated. The color often develops slowly, and becomes more intense in the course of a few minutes.

Pathological acetonuria, *i.e.*, where the amount exceeds gr. 1-6 in the total quantity of urine passed in the

twenty-four hours, may be divided into several classes, following somewhat the classification of Von Jaksch :

1. Febrile acetonuria.
2. Diabetic acetonuria.
3. Acetonuria of carcinoma.
4. Acetonuria of inanition.
5. Acetonuria in certain psychoses.
6. Idiopathic acetonuria.

All cases of continued high fever, of whatever nature, are accompanied by the presence of acetone in the urine, and the degree of acetonuria corresponds largely to the elevation of temperature. Diabetic acetonuria is another very common form. It appears to have no relation to the degree of glycosuria. Its development in diabetes is sometimes ushered in by headache, loss of appetite, disordered digestion, a sense of weakness and other unpleasant subjective symptoms ; but these soon disappear, though the acetonuria persists. It seems to be without clinical significance, except that it is more apt to occur in grave cases, and is a frequent precursor of diacetic acid in the urine. Acetonuria is not infrequent in carcinoma of the stomach and bowels, even before cachexia develops. Its onset is accompanied by symptoms similar to those seen in diabetic acetonuria. Cachexia probably develops earlier in those cases in which an abnormal amount of acetone can be detected. Inanition from whatever source is very often accompanied by large amounts of acetone in the urine. This substance has also been detected in the urine in certain instances in psychoses attended by great mental excitement. The sixth class contains those cases in which there is an auto-intoxication by acetone. They are instances of acetonæmia, and though they occur with great rarity, it is well to be on the lookout for them. They are characterized in some cases by restlessness, excitement, and delirium, and then by coma and death ; while no cause can be ascertained, but the urine is found loaded with acetone. In other cases there is extreme languor and other indefinite symptoms. In a few instances reported by Von Jaksch epileptic attacks have appeared, dependent solely on the presence of acetone in the system.

Diacetic acid.—Diacetic acid is chemically not far removed from acetone ; but its clinical significance is far different, and its presence in the urine is a most dangerous complication. It is a compound of acetone with one of the organic acids, probably formic acid. As it is very readily decomposed into acetone and carbonic dioxide, the urine obtained for examination must be as fresh as possible.

The test for diacetic acid is very simple. If a few drops of a solution of the chloride of iron be added to urine containing the acid, a Bordeaux-red color will be at once produced. The urine will also *always* answer readily to the tests for acetone, since in the decomposition produced by the addition of the test-reagents for this latter substance acetone is produced and the diacetic acid is destroyed.

But the matter is not quite so simple as would at first sight appear, since numerous other bodies may at times occur in the urine and produce the same red color. The fact is especially to be noted that the urine of patients to whom thallin, antipyrine, salicylic acid, and carbolic acid have been administered will give this reaction. The following procedure is therefore to be advised : Add a few drops of the iron solution to some quite fresh urine in a test-tube. If a very heavy precipitate of phosphates occur, filter this and test the filtrate again. If the Bordeaux-red color is produced, a portion of the urine is to be boiled and another portion acidulated with sulphuric acid and shaken with ether. If the red color soon disappears on boiling the urine in which the test has already been made ; if it occur not at all or but faintly in the urine prepared by boiling ; if, finally, the red color produced by testing the ether-extract fades within twenty-four hours, while at the same time the reactions for acetone in the native urine are very distinct, we have to do with diacetic acid. Dr. Griffith calls attention to a mistake still frequently made with reference to this substance. For example, in a clinical lecture by a very well-known clinician, reported in one of our medical journals not many months ago, the lecturer referred to the well-known red color produced by acetone when a solution of the chloride of iron is added to the urine containing it. It is true that some years ago it was supposed that acetone gave this reaction, but we now know that it is an entirely different substance.

The same classification of diaceturia may be made as in acetonuria :

1. Febrile diaceturia.
2. Diabetic diaceturia.
3. Diaceturia of carcinoma.
4. Diaceturia of inanition.
5. Diaceturia in certain psychoses.
6. Idiopathic diaceturia.

Diaceturia accompanying continued high fever is rare in adults, and indicates that the disease will probably run a malignant course. In children it is more common, and possesses no unfavorable prognostic value. Diabetic diaceturia is a most unfavorable symptom, and is the precursor of diabetic coma. It is sometimes ushered in by depression and a disposition to sleep ; coma may at once follow, or the symptoms may disappear though the diaceturia remains, and the patient is liable at any time to develop coma and die. Usually there is no relation between the diaceturia and the degree of glycosuria. Diaceturia in carcinoma may also occur and lead to coma. It has also been rarely seen in certain psychoses and in states of inanition. Idiopathic diaceturia, in which there is an auto-intoxication from the drug, is rare in adults, and a highly dangerous condition. It begins with vomiting, restlessness, and dyspnœa, and terminates in coma and death. In children it is oftener seen, and is usually of less import. Constipation and vomiting, with a thickly coated tongue, are present, attended by an enormous quantity of diacetic acid in the urine.

The presence of acetone in the urine need, as a rule, cause no special anxiety. The occurrence of diaceturia, on the other hand, is always a grave symptom except in some cases in children. It is very important to know of its presence, on account of its prognostic indications. In the present state of our knowledge we are unfortunately unable to hinder the development of diacetic acid in the system, or to remove it when formed. Neither diet nor drugs have any effect on it.

Reflexes in Newly Born Children.—A Hungarian physician has published some observations made in Professor Ebstein's clinic in Prague on the reflexes of newly born children (*The Lancet*). Advantage was taken of the lax state of the muscles of the lower extremities, while the child was at the breast, to test the patellar reflex. Altogether 117 infants under sixteen days old were examined. In all these the patellar reflex was present on both sides, but the strength of the jerk varied a good deal. In some cases there was merely a slight, short, sudden extension of the leg. In others the jerk was stronger and followed by a series of oscillations. Frequently a transient clonic contraction of the quadriceps was noticed. In some cases a slight contraction was observed in the quadriceps of the opposite leg. The knee reflex is stronger immediately after birth than during the second week. Premature and badly developed children have a weaker knee reflex than heavier children born at term. The abdominal and eyelid reflexes were also noted. The cremaster reflex was present in all the forty-nine male children except nine, and in these the testicles were high or else hydrocele was present.

Apoplexy of the Severe Type should be treated by compressing the carotid of the affected side, says Mr. Leonard Braddon, and in this way hemorrhage arrested. If the coma continues he suggests trephining to relieve the intracranial pressure.

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RECENT OBSERVATIONS OF THE MICRO-ORGANISMS IN THE URETHRA AND THE URINE.

DR. S. LUSTGARTEN and Dr. J. Mamaberg, of Vienna, working in the clinic of Professor Kaposi, have investigated the subject of the micro-organisms of the urine in health and in Bright's disease. These results are of interest from two points of view: First, with respect to their denial of the pathognomonic significance of the micro-organism of gonorrhœa; and, second, their observation of a micro-organism which seems to appear in the urine in connection with acute parenchymatous Bright's disease (*Vierteljahresschrift für Dermatologie und Syphilis*, 1887, 4 Heft, 1 Hälfte).

The conclusions reached by the observers referred to are stated as follows:

The mucous membrane of the healthy urethra forms the soil for a large variety of bacteria, whose differentiation the authors have in large part accomplished.

Normal urine contains without exception micro-organisms whose characters can and have been recognized.

The diagnosis of tuberculosis of the genito-urinary passages, based upon the old methods of distinguishing bacilli by their morphological appearance and staining, cannot certainly be made, and the older observations on this point must be considered as of uncertain value.

The morphological appearances of the gonococcus found in the urethral secretions, especially in chronic gonorrhœa, are not pathognomonic. There is a coccus exactly similar to the eye and to stains. This is called the pseudo-coccus. It differs in its mode of growth from the true gonococcus.

In three cases of acute morbus Brightii there was observed in the urine a remarkable abundance of a streptococcus. This organism gradually disappeared on the subsidence of the disease, and returned on its exacerbation.

This observation of a peculiar micro-organism in acute parenchymatous nephritis has received an independent confirmation by Professor Jaksch, who found it in the urine in a case of erysipelas with intercurrent acute Bright's disease.

CHOLERA AND QUARANTINE.

THE outcome of all the discussions and investigations regarding the cases of cholera recently brought to and developed in the port of New York seems to be briefly this: The arrangements for bathing and feeding, and for the disposal of excreta, at Hoffman's Island, were imperfect, and the personal medical supervision was not quite all it should be. As a result, fresh cases appeared and a longer detention of cases than was necessary occurred. The charge that there was not a perfectly thorough examination and disinfection of the effects of immigrants on the infected ships does not seem to be sustained.

On the other hand, the blame for this lack of perfection in arrangements cannot properly be laid, except in small part, to the health officer. Funds were not furnished him to put the quarantine buildings in order, and the claim of a morning paper, that Dr. Smith ought to have done it out of his own pocket, is most absurd. As well might the over-critical editor be asked to supply funds out of his salary to make his paper somewhat more complete.

The agitation of the matter, however, has no doubt done good and will lead to greater care in the future. The attempt to frighten the public into fear of cholera at this time of year, however, is simply part of the newspaper methods of the day. Cholera is always stopped by cold weather, and an epidemic here now would be impossible.

THE CROWNING ACHIEVEMENT OF OPHTHALMIC SURGERY OF THE PRESENT CENTURY.

UNDER this title Dr. L. Webster Fox describes in the *Medical and Surgical Reporter*, Professor von Hippel's operation for the transplantation of the rabbit's cornea to that of man. By this operation Von Hippel has restored sight to an eye practically blind, and Dr. Fox predicts that it has a brilliant future in doing this kind of work. He saw the patient upon whom the first successful operation was performed, and learned its technique. We cannot do better than furnish to our readers Dr. Fox's very clear and complete description.

The patient operated upon was a young, healthy peasant girl, nineteen years of age, who suffered with a leucoma of the cornea of the right eye, obscuring vision to such an extent that qualitative perception of light only remained. The leucoma simplex obscured the central portion of the pupil, leaving, however, a circle of clear cornea at its outer margin, probably two mm. wide. The instrument devised by Prof. von Hippel for performing this operation is most ingenious. The trephine is driven by a clock-work and the cylinder is graduated so as to regulate its cutting depth in the cornea. The leucomatous cornea opposite the pupil was removed by this instrument. The eyelids were separated by an ophthalmostat; then, under the influence of cocaine, the trephine was placed on the cornea perpendicular to its plane, the cylinder so graduated as to cut a certain depth, 0.7 to 0.9. This cylinder is then put in motion by a spring clock motion much after the manner of a Dudgnon's sphygmograph; the hand simply steadies the instrument against the probe; after the circular incision is made comes the most important and delicate part of the operation, *i.e.*, the dissection of the leucomatous tissue from Descemet's membrane. This is done by grasping the inner lip of the incised tissue, and with the greatest care and precision this tissue is removed down to the basement membrane lying in juxtaposition to Descemet's membrane. If, after

the removal of this circular piece of cornea, it is found that Descemet's membrane bulges forward through the circular opening, which in almost every case it does, a paracentesis of the anterior chamber is made at the corneo-scleral margin, relieving the intra-ocular pressure.

The rabbit selected from which to obtain the graft is a young, healthy doe. The eye, which is thoroughly cocainized, is drawn forward by an assistant who has inserted under the superior and inferior recti muscles two strabismus-hooks; the eyelids are kept open with an ophthalmostat; the drawing forward of the globe enables the trephine to be inserted and watched more accurately in its incision; the cut is made through cornea and *Descemet's membrane;* this graft is then inserted in the incision made in the patient; a fine probe running through the cylinder of the trephine is pushed downward, forcing the graft into place; after the removal of the trephine the upper eyelid, which is drawn forward and downward, is pressed against the inlaid tissue, all being held firm by a pressure-bandage, delicately adjusted, the patient, of course, lying on his back. After *three* days the bandage is removed, and the eye examined. If the graft is *in situ*, it will probably be somewhat hazy; if the edges have not turned upward, a successful result may be prognosticated.

Dr. Hippel recently showed a second patient and demonstrated his operation before the Ophthalmological Society of Heidelberg. The patient was found to have a visual acuity of $\frac{20}{200}$, and read Jaeger's No. 6, from which it would be inferred that the new cornea did not clear up completely.

MEMBRANOUS ENTERITIS.]

Dr. James B. Field has written a meritorious contribution to the subject of membranous enteritis, it being the essay which received the Fisk Fund Prize during the present year. The author has collected the records of all previously reported cases, 113 in number, and contributes three hitherto unpublished histories of his own. By analyzing these, some errors which have appeared in current descriptions of the disease have been eliminated, and a very comprehensive, and presumably accurate, account of an interesting affection is furnished. Membranous enteritis has been observed by various persons since the days of Fernel (1554), and has received nearly forty different names by as many European and American writers.

The disease is not infectious, nor is it transmitted by inheritance. Climate, season, and race seem to have little to do with its causation. The patients are usually in middle life, and over eighty per cent. are women. They are also, as a rule, of nervous temperament. Long-continued intestinal irritation from constipation, violent catharsis or warm food, prostatic disease, infectious fevers, and erysipelas have been classed among the causes.

In typical cases, the patient, after having suffered from various digestive and nervous disturbances, begins to have, nearly every month, peculiar attacks lasting about a fortnight. These consist of abdominal pains followed by the discharge from the bowels of membranous shreds or tubes composed of mucus. The bowels are irregular, the tongue coated or raw; nervous symptoms often appear. These periodical attacks continue usually for years. The membranes discharged are of a yellowish or grayish white, of various degrees of consistency, and of the thickness of a piece of paper up to a quarter of an inch. The membranes are in the shape of strips, shreds, or in complete tubes. Rarely, complete tubes or even solid cylinders are passed.

Chemical examination shows that the casts are composed of mucin, and that there is no fibrin or albumin present. Microscopically the membrane is found to be composed of an amorphous hyaline matrix, in which is sometimes a network of fine filaments. Bacteria have rarely been observed.

The attacks are, as a rule, accompanied with decided pain at times, and a great deal of discomfort in all cases. A most interesting feature is the frequency with which disorders of the nervous system, such as hysteria, hypochondriasis, mental depression, chorea, aphasia, and various painful sensations, develop. The cases illustrate the power of continuous intestinal irritation in producing neuroses. The urine is generally normal, and there is, as a rule, no fever.

There is some difference of opinion as to whether the disease is truly inflammatory in character. The clinical history rather points to a nervous origin, there being apparently a profound disturbance of the secretory nerves supplying the mucous membrane of the large intestine, for it is this part of the bowel which is chiefly, if not solely, affected. The marked constitutional disturbances of a nervous character also lead to this view, that "membranous enteritis" is a neurosis. Very few autopsies have been made, and these are of a highly unsatisfactory character. They appear to show some inflammatory or eruptive change in the large intestine. In diagnosis, membranous enteritis was sometimes to be distinguished from tape-worm, and more often from constipation, by the discharge of small flakes of mucus. Hydatids, and enteritis from common poisons, may also at times reinstate the disease under consideration. The progress *quoad vitam* is good. Only six fatal cases are reported, and in most of them the patients died of some intercurrent affection. Acute cases can generally be cured, but cases that have lasted for one or two years are very refractory to treatment. There are numberless drugs, topical remedies, and general hygienic measures recommended, but nothing at all like a specific has been found. Attention to diet, to the regulation of the bowels, and especially to the relief of constipation, is necessary. Arsenic has been much praised, and also the washing out of the colon and subsequent injection of mild astringents.

THE DIAGNOSIS OF THE CHOREAS.

The term chorea was first applied to the dance of St. Guy, or chorea Sancti Viti, an epidemic hysterical affection of the Middle Ages. Sydenham, who did not pique himself upon his erudition, and who probably did not know exactly what the St. Vitus dance, as first observed, was, applied this name to the ordinary form of chorea, such as is seen in children.

Since Sydenham's time the name chorea has been given, not only to the disease which he described, but to a large number of other spasmodic affections, with the result of producing no little confusion.

A year ago Dr. Maurice Lannois wrote a monograph

upon the choreas, and distinguished the different types with much learning and skill. In a recent issue of the *Gazette des Hôpitaux*, M. George Guinon publishes an article on the diagnosis of the choreas, which is practically an abstract of Lannois' work, made, we regret to say, without acknowledgment. Lannois gives a list of eighteen different affections which have been referred to as choreiform by various writers.

It is sufficient, however, for ordinary purposes to recognize three groups, viz., that of chorea-major; ordinary chorea, or chorea of Sydenham; and pseudo-chorea. Chorea-major is a name applied to certain hysterical and hypnotic affections, often of an epidemic character. Tarantism, the jumping-disease, and various rhythmical hysterical spasms come under this head. The ordinary type of chorea shows itself somewhat differently in children, in pregnant women and in old people, etc., and is distinguished accordingly as chorea of Sydenham, paretic chorea, hereditary chorea, chorea of pregnancy, and chorea of old people.

The group of pseudo-choreas includes a number of different affections, some of which are often mistaken for chorea proper. Tic de salaam, or eclampsia natans, tic convulsif, and chorea of the larynx and of the diaphragm are instances of this kind. These disorders are generally chronic, and do not run a definite course. They are the evidence, as a rule, of some degeneration or neurotic taint, and must be looked upon, therefore, as decidedly distinct in their pathology from common chorea. Many of these cases are met with in general practice, among children and adults. They are generally regarded as suffering simply from chronic chorea of Sydenham, or perhaps simply as illustrations of bad nervous or mental habits.

THE ORIGIN OF STOMATITIS FROM THE LOWER ANIMALS.

THE attempt has been made to refer the origin of tuberculosis, scarlet fever, and typhoid fever, in many cases, to the cow. These efforts, which would thus make a useful domestic animal the source of manifold contagions, have not been without some success. Suspicion has been fixed upon milk as a source of disease, and sanitary authorities wisely keep a watch upon it. A French physician, Dr. Th. David, of Paris, has recently revived and defended the theory that aphthous stomatitis is sometimes, at least, derived from the cow or sheep. He considers the disease as it occurs in man identical with the foot-and-mouth disease, or aphthous fever, which sometimes attacks the lower animals and appears in an epidemic form. He bases his view of the identity of the diseases on the striking analogy in the clinical history of the aphthous fever and aphthous stomatitis, on the fact that cases have been reported showing apparently a direct transmission of the disease from cows or sheep to man by contact or through the use of milk. Dr. David also cites a case in which a goat was infected by contact with children who had stomatitis, and another case in which stomatitis developed three or four days after drinking the milk of an animal suffering from foot-and-mouth disease. Twenty cases are collected, apparently illustrating the fact that the disease in man can originate by infection from lower animals.

As we have stated, Dr. David's view of the origin of aphthous stomatitis is not a new one, but it has not heretofore gained much of a foothold, and in standard works on the subject this source of the disease is rarely or never referred to.

SHOULD CHILDREN EAT MEAT?

A WRITER in the *Boston Medical and Surgical Journal* affirms that his experience fully corroborates that of Drs. Cloriston and Keith. At one of the large institutions, the Orphans' Home, in this city, meat has been omitted from the dietary o children under eight years of age during the past twenty-five years. In that time the death-rate and sick-rate have been very small, and the managers consider themselves fully justified in continuing their plan.

Considerable more evidence might be brought against the practice of feeding children with meat. We venture to say, however, that none of it will be strong enough to prove that meat should be entirely excluded. There are plenty of physicians who can testify that children may grow epileptic and neurotic though they have never been large flesh-eaters. The dominant races are the meat-eating races, and though children may do well on vegetables and milk, it does not follow that they would not do better.

Dr. Christopher Hufeland, in his classical work on the "Art of Prolonging Life," insists on the importance of prohibiting meat in the diet of children under two years of age. Meat he considers to be too strong and stimulating a nourishment. The "expansive process of teething, and afterward that of manhood, is hastened too much—a great means of shortening life." A meat-diet has also "a bad influence on the whole character. All carnivorous animals are violent, cruel, and passionate."

After the age of two years Hufeland allows a reasonable mixture of vegetable and animal food.

The views of Hufeland have been much extended by some recent writers. Dr. Cloriston, of Edinburgh, says: "My experience is that children who have the most neurotic temperament and diathesis, and who show the greatest tendencies to instability of brain, are, as a rule, flesh-eaters, having a craving for animal food too often and in too great quantities. I have found, also, a large proportion of the adolescent insane had been flesh-eaters, having a craving for much animal food. My experience, too, is that it is in such boys that the habit of masturbation is most apt to be acquired, and, when acquired, seems to produce such a fascination and a craving that it ruins the bodily and mental powers. I have seen a change of diet to milk, fish, and farinaceous food produce a marked improvement in regard to the nervous irritability of such children. And in regard to such children I most thoroughly agree with Dr. Keith, who, in Edinburgh, for many years has preached an anti-flesh crusade in the bringing up of all children up to eight or ten years of age."

If meat had been given in addition, it may be that what is true, according to Cloriston, of Scottish children, is not true of those living in this country. We are decidedly inclined to the old view of Hufeland, that the addition of a moderate amount of meat to the dietary of children over the age of two years is, as a rule, beneficial.

News of the Week.

Is Gleditschine Genuine or not?—Dr. J. Herbert Claiborne, Jr., of this city, who, it will be remembered, was the gentleman who first experimented with the so-called solution of gleditschine (see The Medical Record, July 30 and October 1, 1887), sends us the following note:

"Dear Sir: In view of the recent statements of several analytical chemists that gleditschine, the new local anæsthetic, is nothing but a mixture of cocaine and atropine, I deem that I owe it to the readers of The Medical Record to say a few words on the subject.

"Mr. Goodman has just returned from Bayou Sara, La., where, he states, he has been making the solution of gleditschine. He informs me that he heard for the first time, on his arrival in Bergen Point, N. J., November 1st, of the analysis of the chemists, who find the solution to contain atropine and cocaine. He expressed himself as being earnestly desirous of setting himself right in the eyes of the medical profession, and, in order to convince them of the genuineness of his discovery, he agrees to do the following:

"I, Dr. Claiborne, am to select two medical men of this city; they are to select as a committee of two a botanist and a chemist; the botanist is to examine the leaves which will be used, and is to pass an expert opinion as to whether they are the leaves of the *Gleditschia triacanthos*, and if not, of what tree they are leaves. The chemist is to bring the chemicals necessary, these being indicated by Dr. Seward or Mr. Goodman, and is to make the solution from the leaves in possession of Dr. Seward and Mr. Goodman, under their direction. The chemist is then to test the anæsthetic and mydriatic effect of this solution on a human being or lower animal selected by himself (the chemist), and is to state to the world, through the columns of the New York Medical Record and the *New York Medical Journal*, whether said solution has anæsthetic and mydriatic effects or not. If cocaine or any mydriatic be employed in the process, to say so; if not, to say not.

"The condition to be imposed is that the chemist, on his word as his bond, is not to divulge the method of procedure of obtaining the substance.

"This solution, if it be desired, may be placed in the hands of experts, who may pass judgment upon its anæsthetic and mydriatic properties.

"Bergen Point, N. J., is to be the site of the procedure, or, if it be demanded, any other place.

"No one can fail to be struck by the fairness of this proposition.

"Dr. George F. Shrady and Dr. Frank P. Foster have agreed to act as a committee in this matter.

"Mr. Goodman informs me that he has had shipped from New Orleans a quantity of the leaves of the tear-blanket tree, by one of the Cromwell line of steamers, and that he expects them shortly.

"To my mind the solution seemed to have effects different from cocaine or atropine.

"Moreover, several facts regarding the tree, which have come under my observation, or to which my attention has been called, seemed to warrant the conclusion that the point had not been proven beyond a reasonable doubt.

"In this connection I would say that, with a strong aqueous solution of the gleditschia leaf, obtained through a friend from a chemist in New Jersey, who was experimenting in this direction, I observed in my own eye and in that of my friend a dilatation of the pupil.

"This lasted in my case for several days. His case was not followed up. No anæsthetic effect was observed in either. Every seeming possibility of error was eliminated. A bottle was used for the solution which had never been used for a mydriatic or any other medicine, as far as was known, a new medicine dropper was used, and my own hands were thoroughly washed before commencing. Neither this gentleman nor myself had touched a bottle containing any mydriatic for twenty-four hours. It is pertinent to remark that the dilatation was slight, and that copious and frequent instillations were made for an hour.

"In a recent communication to me concerning gleditschine, from one of the chemists who have been investigating the matter, it was said that Dr. Rusby had stated to them that the 'natives of Bolivia, whenever they are unable to obtain supplies of coca leaves, chew the leaves of a tree which is closely allied to the gleditschia, and which leaves they call *chinchi-coca*.'

"Those who, it is alleged, have made this discovery have been denounced in the most unmeasured terms by certain chemists. It is, therefore, in the highest degree proper that he plain and unvarnished truth should be known. It is to be hoped that we are approaching the finale of this most interesting and perplexing question."

The Medical Society of the State of New York.—The Business Committee of the State Society for the coming session are Doctors F. A. Castle, of New York (Chairman); A. Walter Suiter, of Herkimer; L. W. Whitbeck, of Rochester, Monroe Co. Members of the Society intending to read papers at the next meeting will please notify any member of the Business Committee, or the President, before December 20th.

At the Opening of the New Buildings of the New York Skin and Cancer Hospital, at the country branch, Fordham Heights, on October 29, 1887, at two o'clock, an address of welcome was made by W. Q. Riddle, Esq., President of the Hospital, followed by one on cottage hospitals by Dr. A. Jacobi, President of the Medical Board. Addresses were also delivered by Rev. H. J. Van Dyke, Jr., D.D., and Judge Henry E. Howland. The country branch hospital is situated at Fordham Heights, New York City, about one mile above High Bridge, between Sedgwick Avenue and the old McComb's Dam Road. The new buildings were duly inspected by a large number of friends, and much satisfaction expressed regarding their construction and utility.

The Yellow Fever continues at Tampa, Fla., but has reached no other part of the State.

Dr. H. D. Hull, of Adrian, Mich., was the name of the author of the excellent article on "Jaundice in Typhoid Fever," instead of Hill, as printed. We regret to say that the error was in consequence of the chirography of the author.

The Congress of American Physicians and Surgeons.—A meeting of the Executive Committee of the Congress of American Physicians and Surgeons, for the purpose of organization, was held on October 5th, in the Hall of the College of Physicians of Philadelphia. The special societies were represented as follows:

American Surgical Association, Dr. Claudius H. Mastin, of Alabama.

American Otological Association, Dr. Cornelius R. Agnew, of New York.

American Ophthalmological Association, Dr. D. B. St. John Roosa, of New York.

American Laryngological Association, Dr. J. Solis-Cohen, of Pennsylvania.

American Neurological Association, Dr. L. Carter Gray, of New York.

American Dermatological Association, Dr. I. E. Atkinson, of Maryland.

American Climatological Association, Dr. A. L. Loomis, of New York.

Association of Genito-Urinary Surgeons, Dr. John P. Bryson, of Missouri.

American Association of Physicians, Dr. William Pepper, of Pennsylvania.

The Committee was organized by the election of Dr. Pepper as Chairman, and Dr. Bryson as Secretary.

It was decided to hold the Congress of 1888 in Washington, D. C., on Tuesday, Wednesday, and Thursday, September 18th, 19th, and 20th, respectively. The sessions of the Congress will be held in the evenings, leaving the mornings and afternoons free for the sessions of the special societies participating.

The following officers of the Congress were elected:

President—Jno. S. Billings, M.D., LL.D., U.S.A., of Washington, D. C.

Vice-Presidents—The Presidents-elect of all the participating societies.

Treasurer—Dr. W. H. Carmalt, of Connecticut.

The arrangement of the programme for the sessions of the Congress was referred to the President, the Secretary, and the Chairman of the Executive Committee.

Death of Dr. William M. Chamberlain.—Dr. Chamberlain, who has been an invalid for several years, died on October 31st, at Summit, N. J. The deceased had enjoyed a large medical practice in this city, and was one of our best known and most esteemed physicians. He was born in Hanover, N. H., in 1826. His father was a professor in Dartmouth College, and Dr. Chamberlain was a graduate of Dartmouth both in medicine and in the arts. He came to New York in 1851 to enter Charity Hospital as interne, and left it in 1853 as its chief of staff. At the opening of the war he offered his services to the Government, and was appointed Brigade Surgeon, serving afterward on the Sanitary Commission, and still later in the United States Pension Bureau. In 1863 he resumed practice in New York City, and, devoting himself to the specialty of diseases of women, he succeeded the late Dr. Peaslee in the Demilt Dispensary. He was for many years identified with Charity Hospital as visiting and consulting physician, and also as President of the Medical Board. Dr. Chamberlain was a gentleman of fine presence, agreeable manners, and scholarly attainments. He made a number of interesting and valuable contributions to medical literature. His last literary work was a paper, read before the Section in Practice of the Academy, on the Climate of Southern California.

Washington Obstetrical and Gynecological Society.—At the last meeting of the Washington Obstetrical and Gynecological Society the following officers were elected for the ensuing year: Samuel C. Busey, M.D., President; D. W. Prentiss, M.D., and W. W. Johnston, M.D., Vice-Presidents; George Byrd Harrison, M.D., Treasurer; Samuel S. Adams, M.D., Recording Secretary; G. Wythe Cook, M.D., Corresponding Secretary.

The American Association for the Cure of Inebriety w l hold its semiannual meeting at the Turkish Bath Hotel, Columbia Heights, Brooklyn, N. Y., November 9th, at 12 M.

New York Physicians' Mutual Aid Association will hold its annual meeting at the New York Academy of Medicine, Thursday, November 10th, at 4 P.M.

Death of Dr. Carnochan.—We have to announce with regret the death, on October 28th, of Dr. John Murray Carnochan, at his residence in this city. Dr. Carnochan suffered a slight sunstroke last summer, since which time he had not been perfectly well, but his death, which was caused by apoplexy, was entirely unexpected. The deceased was born at Savannah, Ga., on July 4, 1817. He received his education in Scotland, of which his father was a native, and was graduated from the University of Edinburgh when seventeen years of age. Coming to New York, he entered the office of Dr. Valentine Mott, and soon took his degree of M.D. He paid a second visit to Europe, and attended the lectures of the leading surgeons at the great hospitals of London, Paris, and Edinburgh. Then he returned and began practice in this city in 1847, and soon acquired reputation for original operations. In 1850 he organized the hospital on Ward's Island for the Commissioners of Emigration, and was its chief consulting surgeon for twenty-five years. Soon after Governor Hoffman's election, in 1870, he appointed Dr. Carnochan as Health Officer of this port, which office he held for two years. Since then he has confined himself to his private practice, and to the preparation of a *résumé* of his own operations and his observations and experiences as a practitioner in surgery. This work is being published in parts, and is only half finished.

Ophthalmia in the Russian Army.—Ophthalmia is one of the banes of the Russian army. At present there are over two thousand six hundred victims in the hospitals of the Odessa district alone. These cases are for the most part treated y nurses, and have no skilled medical attendance.

Dr. William H. Randle has been appointed Port Physician of Philadelphia in place of Dr. Henry Leffman, whose term of office has expired.

The Alabama Surgical Association.—The first meeting of the Alabama Surgical Association was held in the city of Birmingham on October 10th. It is the

purpose of this Association to organize the surgeons of the Southwest in such a manner as to impart a new interest in, and to give impetus to, the development of this important branch of science. It is strictly a scientific body, and its incorporators do not desire to participate in the regulation of medical politics. Many able surgeons from Tennessee and Mississippi aided those from Alabama in making the meeting a success. Dr. Rosser, of Birmingham, as president, delivered an unique address on the surgeons of the present compared o those of the past. Dr. Baldwin, of Montgomery, delivered the annual oration.

A Doctor Forced to Steal to Prevent Starvation.—The papers tell a story which, if true, is a very pitiful illustration of professional destitution and failure. A young physician of Chicago was arrested for stealing medical books from the libraries of other practitioners and selling them. When finally caught and arraigned before the justice, he said that he had no practice, and could earn no money. He was actually starving, and was driven to steal on that account. The physician from whom he had stolen appeared and begged that the young man be allowed to go unpunished. He was discharged, but told to leave the city. The story carries its own moral. But as this is an uncertain world, and the young man has been driven from Chicago, it may be just as well for physicians in other cities to be on their guard.

Our Esteemed Homœopathic friends are bound to make a mess of it when they attempt polemics. The *Medical Counsellor*, for example, after reporting, on page 406, two cases of rheumatism treated with large doses of salicylic acid (!), takes up the subject of comparative mortality under regular and homœopathic treatment. It states triumphantly that the percentage of cures in the Michigan Asylum for Insane Criminals (homœopathic) is three! The percentage of cures at insane asylums runs usually from twelve to forty. In some asylums in Ireland under regular control the percentage of cures is eighty! So much for statistics.

A Set-back for the Bacillus of Scarlet Fever.—The report of the Edinburgh committee appointed to investigate the organisms of scarlatina, though not final, throws doubt on the specific character of any of the alleged scarlatinal bacilli. It especially tends to explode the much-talked-of theory that scarlatina is spread through contagion from cows or their milk. The committee doubt if calves are at all susceptible to scarlatinal poison. The *British Medical Journal* says that, "in conjunction with Professor MacFadyean, the committee injected scarlatinal blood into two calves, and fed a third with desquamated scales. All three experiments gave negative results. It will be remembered that the keystone of Dr. Klein's research is the assumption that cattle can take scarlatina, while both Dr. Klein and Mr. Edington lay some stress on the results of the inoculation of their organisms on calves. Mr. Edington inoculated two calves, one of which died within twenty-four hours, and the other, which was only one day old, recovered after a short illness, in which the prominent symptoms were high temperature, inflamed throat, and redness of the skin, followed by desquamation. If the committee definitely show that cattle of every age are incapable of being affected by the scarlatinal poison, the assumption on which Drs. Power and Klein base their views falls to the ground, while the result of Mr. Edington's experiment tells rather against than in favor of the idea that his bacillus is the cause of human scarlatina. A second point of importance is the statement that the microorganism described by Mr. Edington under the name of streptococcus rubiginosus is morphologically identical with the streptococcus scarlatinæ of Klein. According to Mr. Edington, this organism is not present in the blood in the early stage of the disease, and its inoculation into rabbits, guinea-pigs, and pigs gave negative results. Whether, though morphologically identical with Dr. Klein's organisms, it is really the same, has not yet been determined. In connection with this microbe, the fact stated by Mr. Edington in his letter to the committee is interesting, namely, that his brother drank a cultivation of this organism thirty-six hours old, and made directly from scarlatinal blood taken on the ourth day of the disease, without showing any bad result, although the streptococcus rubiginosus was ound in his blood three days later, and although he had never had scarlet fever. It is also interesting to note that the results of the microscopical examinations and cultivations made from the blood were by no means constant. In ten cases of scarlet fever examined microscopically on or before the third day, bacilli and micrococci together were found in three cases, micrococci alone in four, and no microorganisms in the remaining three. The results obtained by cultivation were very similar; in four out of nine cases bacilli and micrococci appeared in the culture material, in two micrococci alone, and in three the result was negative."

Attempted Suicide of the Physician-in-Chief of the Vienna Hospital.—It is stated that Dr. Länger, *primarärzt* of the Vienna Hospital, after a somewhat unpleasant interview with Professor Boehm, the newly appointed director of he hospital, took a large dose of morphia, with the intention apparently of committing suicide. He was, however, promptly treated by the performance of tracheotomy and the mechanical inflation of he lungs through the opening. By this means his life was saved. Dr. Länger, who is greatly respected, has been for some time past subject to melancholia.

The Two Forms of Chronic Laryngitis.—Referring to the improved condition of the Crown Prince, *The Lancet* says that, roughly speaking, there are two forms of chronic nflammation of the larynx: One in which the inflammatory process is confined to the mucous membrane, and gives rise to intermittent disphonia, or loss of voice. This condition may last a whole lifetime without undergoing any further development. The second kind of inflammation, on the other hand, often causes interstitial changes, resulting in thickening, false excrescences, ulcerations, etc. Although the Crown Prince's affection belongs to the latter category, no unfavorable development has hitherto taken place, and the fact that his general health is very good makes it in the highest degree probable that there should be any such untoward sequela.

A New Medical Quarterly.—*The American Journal of Psychology* is the name of a new quarterly edited by Professor G. Stanley Hall, and published at Baltimore. It is devoted to the physiological rather than metaphysical side of psychology, and its first issue contains articles by physicians as well as physicists and psychologists.

A Monument to Bretonneau, Trousseau, and Velpeau.—*The Lancet* says: "The fame of the three men whose names are given above is world-wide. It is less known that they were each natives of Touraine, and it was to perpetuate this fact, and at the same time to erect a worthy memorial of them, that a movement was initiated in 1885 by the medical faculty of the Department o Indre-et-Loire. The result of their appeal to the medical profession and the public has been satisfactory, and on the 30th inst. the monument, which has been executed by two artists of Paris, MM. Sicard and Lalaux, will be unveiled in the Square de l'Archevêché of that city. The monument consists in an allegorical figure, holding in one hand the symbolic shield with three towers, and with the other crowning her three sons, who are represented in medallions on the top of the pedestal."

Sir William Gull is suffering from a mild form of hemiplegia.

The Inter-marriage of Cousins.—The Legislature of Illinois has passed a law making the inter-marriage of cousins a penal offence. This is an unwise law, first because it interferes unduly with personal rights, and next because it is not called for. The marriage of cousins who are each of healthy family and physique, and especially if they are of different temperaments, is quite free from danger.

Sir James Paget, in a recent address to medical students, relates the following anecdote of Abernethy, and adds his comments: "Let me say," Sir James begins, "that Abernethy ought to be remembered not as a rough wit or a mere eccentric, but as a man of rare sagacity, an admirable surgeon and teacher, and one of the most graceful scientific writers of his time. Entering his lecture-room at the beginning of a session, he looked round at the crowd of students and said solemnly, 'Good God! what will become of you all?' Many years afterward I tried to find an answer to such a question; tried in the dullest way—by statistics. I traced the careers of a thousand of my pupils. I need not give the numerical results; but the general and certain rule was as I have said: such as the student had been, such was the practitioner. There were some few exceptions, but the general rule was clear; and so you may be sure it always will be. So, if you are to be hard-working scientific practitioners, as I hope you will be, you must be hard-working scientific students; you must be always learning for yourselves; always observing, recording, collecting truths; searching for new truths as well as accepting those which you will be told by your teachers. And let me say again and again, this will be the best way by which you may become as good practitioners as you possibly can be, and may go on in practice constantly becoming better and constantly acquiring fresh knowledge for others as well as for yourselves."

A Prince of Quacks.—Under this title the *British Medical Journal* gives an account of a Parisian charlatan, from which we learn that the seats of civilizations may rival the provincial towns of a new world in credulity: "Some weeks ago a quack opened a splendid suite of rooms in a building on the Grand Boulevard. He had footmen in plush and pages in livery, distributed handbills by the million, and announced that he had an infallible method of curing hoarseness and diseases of the throat by inhalation. This prince of quacks did not purchase a degree, like many of his compeers, but had himself heralded on bills and in the newspapers as Dr. Pitchitchine, Beloochistan, Member of all the Academies. The big, foreign-sounding name, which the doctor had culled at random from an atlas, and the style of his rooms, are said to have produced a great impression on the minds of those unsophisticated people who, despite the enlightenment of the age, still abound, even in the great centres of civilization; and among those was an actress, who sought this pseudo-throat-healer for hoarseness from which she was suffering. The patient, we are told, went to Pitchitchine's magnificent establishment on the Boulevard. The folding-doors were thrown open by a gorgeous flunkey, and the great quack was discovered dressed in Oriental garb. The actress's head was first enveloped in a cloud of cashmere, and she was told to inhale the contents of a tube. She did so, and in a moment fainted away, being nearly suffocated. The quack became alarmed, and had to send for a *bona fide* medical man, who revived the victim. The actress went home in a cab, and found that, besides being incapacitated from singing, she was hardly able to speak, and had to cancel her engagement. She has consequently brought an action against the pseudo-native of Beloochistan, who had simply made her inhale a concoction which contained a large quantity of chloroform. Sahib Pitchitchine is also to be proceeded against by the *Parquet* for the illegal practice of medicine, and for having worn dazzling decorations to which he had no right."

The American Public Health Association will hold its fifteenth annual meeting at Memphis, Tenn., on Tuesday, Wednesday, Thursday, and Friday, November 8, 9, 10, and 11, 1887. Dr. G. B. Thornton, of Memphis, Tenn., is Chairman of the Local Committee of Arrangements.

Short-hand and the Study of Medicine.—A good deal has been said of late about short-hand and its usefulness to students and practitioners of medicine. The Short-hand Congress recently held in London, at which Dr. Gowers delivered an interesting address, opened up the subject. We regard the advice which has appeared in several of our English contemporaries, viz., that medical students will do well to study short-hand, as very unwise. Short-hand is a difficult and tedious art to acquire, and some can never learn it well. Unless it is learned well it is of no use. We should never advise anyone to learn short-hand unless they have some specific end, such as journalism, reporting, etc., in view.

Princely Measles.—It is pleasant to learn that the various princelets and princesses of Wales are suffering from only a mild attack of measles and that the prognosis is favorable.

Reports of Societies.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN PRACTICE OF MEDICINE.

Stated Meeting, October 18, 1887

CHARLES L. DANA, M.D., CHAIRMAN

THE Memorial Committee, consisting of Drs. A. Jacobi, T. H. Burchard, and R. C. M. Page, presented its report on the death ot the late

E. DARWIN HUDSON, M.D.,

which was read and accepted.

DR. GEORGE B. FOWLER then read a paper with the title

"THE DETECTION AND SIGNIFICANCE OF TRACES OF SUGAR IN THE URINE, WITH SPECIAL REFERENCE TO LIFE INSURANCE."

The interest in the paper centred in the statements that normal urine contains no sugar; that when normal urine reduces cupric oxide, or responds to the picric-acid test, the results are due to *uric acid* one-fourth, and *creatinine* three-fourths; that uric acid and creatinine were the reducing substances in normal urine had been established by Dr. George S. Johnson, whose experiments Dr. Fowler had repeated carefully, and was able to confirm them.

The discussion was opened by DR. A. JACOBI, who said that seven per cent. of sugar in the urine was the highest he had seen, and he wished to ask Dr. Fowler if it was correct that fifteen per cent. was not an infrequent occurrence.

DR. FOWLER replied that he saw a patient this evening whose urine contained fifteen per cent. of sugar, and from his reading he was quite certain that ten or twelve and fifteen per cent. was not infrequent. Human blood never contains more than one per cent. of sugar under any circumstances.

DR. JACOBI also had been of the opinion that uric acid and creatinine had been regarded as the reducing substances some time before Dr. Johnson's experiments. He believed that Dr. Fowler was right when he said that normal urine did not contain sugar. Practically, there were numerous causes of and conditions in which sugar was found in the urine. It was a common experience to find sugar in the urine when least expected. In the following conditions it might be expected, namely, in the urine of nursing women about the time of weaning. Then it was *milk* sugar, and milk sugar was also frequently found in the urine of the nursling. Further, it was found in a large number of diseases of the nervous system. Thus it was that either glycosuria or diabetes might occur with cerebral hemorrhage, tumors of the brain, etc., located even at a distance from the fourth ventricle. Sugar was also present in the urine in obstinate neuralgias, and in cases of persistent sciatica he always examined the urine with reference to its presence. He differentiates between glycosuria and diabetes. Glycosuria might depend upon indigestion, torpid liver, etc., and in those cases the Carlsbad waters would be serviceable, also the sulphate of soda, and especially the salicylate of soda. Purging would never do good in lean, exhausted diabetics, true diabetes being characterized by fatigue and emaciation.

DR. CHARLES A. DOREMUS spoke of a recent test consisting of equal parts of an alcoholic solution of thymol and strong sulphuric acid, to which saccharine urine was added, and produced a deep-red color. He believed that a very common error in the application of the Trommer and Fehling tests was

OVERHEATING THE CUPRIC SOLUTION.

This method was to heat the solution gently and only moderately in a water-bath, and, after the urine had been added, to set the test tube aside and allow it to stand for twenty-four hours. Uric acid is especially liable to reduce the cupric oxide in an overheated solution.

As to the fermentation test he preferred Roberts' test, and had discarded Einhorn's. He believed that all gaseous tests were unreliable for quantitative analysis for sugar. It was also possible to mistake milk sugar for glucose. No reliance could be placed on the specific gravity with reference to the presence of sugar in the urine, for the specific gravity was affected more by the saline constituents than by sugar. If the salts were doubled the specific gravity would be greatly increased, whereas it would not be increased nearly so much when the same quantity of sugar was added.

DR. EDWARD S. PECK said that the delicate tests for sugar in the urine did not play a practical part in examinations for life insurance. It was probable that Fehling's test was the most reliable for practical purposes. The position of medical attendant and that of medical examiner in a life insurance company were entirely different, and the significance of sugar in the urine was not an easy question to answer, in very many cases, so numerous were the causes by which glycosuria could be produced.

DR. KINNICUTT said that, while accepting Seegen's conclusions from his comprehensive and careful investigations, that the excretion of sugar by the urine was never a physiological function, that sugar was not present in *normal* urine, continued experience demonstrated the fact of its frequent occurrence in many and various *pathological* conditions. Disturbances of the abdominal circulation, in whatever way produced, are particularly prone to cause this symptom; a temporary gouty glycosuria is also well recognized. He would emphasize the fact, mentioned by Dr. Jacobi, of its frequent occurrence in nursing women, not only at the time of weaning, but with the existence of any obstruction to the flow from the lacteal gland. Not only in the graver neuroses may glycosuria be present, but also temporarily in the milder forms. Within the past year, he had found in the urine passed during apparently a purely hysterical attack sugar to the amount of twenty grains to the ounce. In this case, although the urine was examined daily in hospital for the subsequent three months, no trace of sugar was again detected. He was under the impression that the demonstration of the power of creatinine to sometimes prevent the precipitation of the oxide of copper in saccharine urine was of recent date, although this fact had been suspected for a number of years, such a suggestion having been made by Winogradoff, and, later, by Lauder Brunton.

DR. A. A. SMITH asked Dr. Fowler if life insurance companies declined to accept every applicant whose urine contained a trace of sugar, barring exceptional and well-known passing events.

DR. FOWLER said that were he a medical examiner he should decline to accept such applicants until he had either communicated with the medical attendant, or examined the applicant in the capacity of medical attendant.

DR. SMITH said it seemed to him that the presence of a trace of sugar in the urine did not have the same import that it seemed to have had a number of years ago. It certainly would be interesting, from the standpoint of the general practitioner, to know to what extent the presence of a trace of sugar in the urine shortened life. He recalled several cases in which a trace of sugar had been in the urine for twenty and thirty years, and the persons had been apparently healthy and able to perform the duties of their several occupations without inconvenience.

The question of prognosis in many of these cases was a very perplexing one.

Dr. Laurence Johnson had separated all the constituents of normal urine, and tested each one, and not one responded to the picric acid. What it was that produced the color he was unable to say, but he was certain that it was not creatinine. For delicate purposes he believed that the picric-acid test was entirely unreliable, and for glucose he had depended upon Fehling's test. He regarded Einhorn's instrument as unreliable.

Dr. W. H. Thomson spoke of the unreliability of the fermentation test, because the yeast was liable to contain starch granules. Fehling's solution, made according to the Guy's Hospital formula, recommended itself to general practitioners. He regarded

GLYCOSURIA AS A FUNCTIONAL NERVOUS DISEASE.

Diabetes was a true constitutional affection. He regarded it as perhaps more important to ascertain the proportion of urea in the urine, than the presence of sugar in moderate quantities.

Dr. Jacobi could not share with Dr. Thomson in the belief that glycosuria was a functional nervous disease. The digestive disorders to which he alluded were those which were not of nervous origin, but the result of chronic gastric catarrh, frequently complicated with chronic constipation, enlargement of the transverse colon particularly. Such cases could not be called cases of nervous disease, because we had to deal with local disorders of the large abdominal viscera. Sometimes, in such cases, the sugar would disappear or diminish in quantity after a drastic purge, and it was in such cases that the sulphate of soda and the salicylate of soda were beneficial.

Dr. Thomson said that he referred to those cases in which transient glycosuria accompanied lesions of different parts of the nervous system, such as contusion of the head, injuries of the spine, perhaps as low down as the tenth dorsal vertebra, sciatica, etc. But the prominent fact in these cases was that the glycosuria was transient. Diabetes was characterized by something more than glycosuria.

Dr. N. E. Brill remarked that the present tendency was not to differentiate between glycosuria and diabetes. In the abdominal cases spoken of by Dr. Jacobi there was irritation, which was conducted to the medulla from which the vaso-motor apparatus governing the circulation was influenced, and the result was glycosuria, in consequence of vaso-motor disturbances.

The Chairman thought the discussion had shown that an attempt to recognize in these affections two distinct diseases would, at present, result in much confusion. Although the distinctions mentioned by Dr. Jacobi might be of clinical importance, yet, when the finer points were traced, we should get hopelessly at sea. There were some cases of diabetes which could not be distinguished from glycosuria, and the fact of transiency was not admitted as an essential feature of glycosuria, the same as sugar was not always present persistently in diabetes.

With regard to

SUGAR IN THE URINE IN NEUROSES

he had found that it was present in about five per cent. in 100 cases of functional nervous disorders, excluding chorea and epilepsy, and including hysteria and neurasthenia.

Dr. Fowler, in closing the discussion, said that there seemed to be a general agreement with regard to the importance of recognizing small quantities of sugar in the urine; and the object of his paper was to direct attention to the means by which slight traces could be detected. He read a letter received from one of the largest life insurance companies in the world, in which it was stated that they regarded slight traces of sugar in the urine as of no pathological significance.

The Section then adjourned.

SECTION IN SURGERY.

Stated Meeting, October 10, 1887.

Robert F. Weir, M.D., Chairman.

NEPHROLITHOTOMY.

The Chairman presented an oxalate-of-lime calculus, weighing six grammes, which he removed through an incision in the right loin of a male patient, thirty-eight years of age, who, early in December, 1866, was suddenly seized with pain in the right side, attended by chills and fever, and followed by emaciation and a small quantity of pus in the urine. He entered the New York Hospital early in January, 1887, where an aspirator needle was thrust into a tumor on the right side, and gave exit to a small quantity of pus. The tumor was about the size of the fœtal head, and was very tender. It was regarded as an abscess of the kidney or of the cellular tissue around it. An incision was made in the loin, the kidney was reached, and then the aspirator needle was passed in again, and pus evacuated. The puncture was then enlarged with a bistoury, and a pint and a half of pus escaped. Two large drainage-tubes were inserted, antiseptic dressings were applied and changed frequently, and the patient progressed satisfactorily. Exploration for stone was not attempted at that time, nor was the abscess cavity washed out, as the evidence was not absolute that it was a nephritic abscess. The man gained in weight, and got about slowly. About the 12th of May he had so far recovered as to leave the hospital. Not long afterward he reported that the wound was discharging a fluid that had a urinous odor, so Dr. Weir explored the sinus and obtained a distinct "click," as the long bent probe touched the calculus. The patient was at once returned to the hospital, where the stone presented was extracted. The urine immediately after the operation became more plenteous and purulent, but soon began to improve in appearance; and the patient, although he was not yet well (the sinus having not yet healed entirely), was on the way to complete recovery. (The patient was presented.) The kidney substance had contracted to one-quarter its size at the time of the opening of the abscess, and was still diminishing. With the extraction of the stone the quantity of urine discharged through the opening in the loin decreased.

The urine now is nearly normal. If nephrectomy finally became necessary, Dr. Weir believed that the chances for recovery from that operation had been greatly improved by what had already been done.

DUPUYTREN'S CONTRACTION—REMOVAL OF THE BAND.

Dr. Abbe presented the band which had produced the contraction in a case of this deformity. The contraction affected the left ring-finger, which was lying in the palm. Adams' method of treatment, by making multiple subcutaneous divisions, had not given him as satisfactory results as free, open incision, dissecting out the band of glistening fibrous tissue, and dressing the wound antiseptically with horse-hair drainage.

After the operation he does not place the hand upon a splint at once, which he regarded as important. At the end of a week or ten days, extension could be made by means of a posterior splint. In some cases there will be slight stiffness at the end of a year, but ultimately the finger becomes free.

The time required for the dissection was at least half an hour. He believed that drainage was advantageous even in as small a wound as this, for the reason that when the palm was united there was a disposition for all the skin to peel off. If the skin of the palm could be put in the best possible condition by macerating the hand for two days, and for twenty-four hours immediately preceding the operation, enveloping it in cloth dampened with bichloride solution, probably good vascularity would be obtained for prompt union of the wound. Then, if drained, light pressure would answer all purposes for hold-

ing the edges in proper coaptation. The band was not attached to either the bone or tendon, although it might grasp the sheath of the tendon, and at the upper part was attached to the dense aponeurosis of the palmar fascia.

Dr. Gibney asked Dr. Abbe if his cases had shown any disposition to relapse.

Dr. Abbe said that he could not say so much for this operation as for Adams' on that point, as those cases which he had been able to keep under observation had done admirably. The special advantage of this operation was to get rid of the adventitious tissue.

The Chairman asked Dr. Abbe if there was not more inflammatory reaction in his cases after Adams' operation than after this more heroic method.

Dr. Abbe replied that there was, but he thought it was because he had put the band upon an extension splint at once.

The Chairman had removed the cicatricial band after burns with good results, and he also spoke of the benefit of drainage.

Dr. A. M. Phelps presented several

CASTS ILLUSTRATING CASES

of Dupuytren's contraction, before and after the operation. He believed that in the milder forms of the deformity the open operation was not warranted. He also believed that Adams' operation was not properly performed in many cases; that when properly performed excellent results could be obtained.

Dr. C. A. Powers read a paper on

FRACTURES THROUGH THE HEAD OF THE RADIUS,

in which he gave a *résumé* of the literature of this rare injury, together with a brief outline of the history of the reported cases, and one which had been under his own care. At the close of his paper the writer raised the question of the propriety of removing the fragment of the head of the bone by an operation.

The Chairman could not recall a single case of this fracture. With regard to removal of the piece of bone, he believed that conservative treatment was the best. Replace the parts as well as possible, and wait for time to determine the results. If at the end of one year the function of the elbow was seriously impaired, then the question might arise whether or not exsection should be performed. He also spoke of the aid offered by fomentations in limbering stiffened joints after fractures.

Dr. R. T. Morris refused, in one case of comminuted fracture of the head of the humerus, to perform primary exsection, and at the end of a year there was fairly good movement and union of the fragments.

Dr. Abbe spoke of the importance of maintaining absolute rest during the first week, as a single movement of the joint might separate the parts, and result in fibrinous union.

Dr. Judson was unable to see how poultices applied to the joint could effect the desired relaxation mentioned by the writer of the paper.

Dr. J. H. Girdner gave a brief *résumé* of some experiments he had performed, which demonstrated that hot water, 120° to 130° F., applied several consecutive hours to the shaven leg of a dog, reduced to a very marked degree the quantity of blood that the limb contained, and at the same time made the tissues softer and less resilient than those of the untreated leg. The late Dr. Frank H. Hamilton applied hot water freely in all cases of stiffness of joints after fractures, and with good effects. To accomplish the desired end, *hot* and not warm water must be used.

Dr. A. Jacobi referred to physiological experiments performed by Heidenhain, of Breslau, in which it was shown that the direct result of the application of heat externally was reduction of internal temperature. The immediate effect upon the superficial vessels was to dilate them, but with regard to the deeper tissues the effect was different.

PASSIVE MOTION AFTER FRACTURES.

Dr. Powers said, concerning the value of rest, that he was aware that most of the text-books taught that passive motion should be resorted to early, but he believed that in all cases of fracture involving the elbow, the part should be kept at rest for four weeks. Movements before that time had elapsed were positively vicious, and excited inflammation.

Dr. A. M. Phelps did not approve of long-continued rest in cases of fracture near or into joints. Passive motion should be applied ten days after the injury. After two or three weeks he would apply hot water, use friction, and employ compression by means of a bandage.

Dr. Gibney advocated four weeks of absolute rest. If passive motion was commenced a week or ten days after the injury, adhesions were more likely to occur than when the limb was left entirely alone. The joint should not be interfered with as early as ten days, and when motion was applied, active was better than passive.

Dr. Girdner said that there need be no fear of anchylosis following fracture involving joints; but he believed it to be dangerous to allow a broken joint to remain unmoved for three or four weeks, and no man should do it.

Dr. Abbe remarked that the result of the discussion of this question in the New York Surgical Society was that the majority were emphatically in favor of leaving the limb at rest, and that when anchylosis took place it was due to faulty replacement of the fragments.

The Section then adjourned.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, September 14, 1887.

T. Mitchell Prudden, M.D., President, in the Chair.

Dr. J. S. Thacher, from the Committee on Microscopy, reported on the specimen presented by Dr. A. P. Dudley on June 8, 1887: The walls of the blood-vessels are thickened and hyaline, as is so often the case in the ovaries of adults. There are also several minute cysts present. No other lesions were found.

Dr. Frank Ferguson exhibited under the microscope a specimen which showed

THE HOOKLETS OF THE ECHINOCOCCUS,

found in the fluid from a cyst of the liver of a patient who was a resident of Cuba.

Dr. Ferguson also presented a specimen of

TUBERCULOSIS OF THE BRAIN.

The lesion showed itself in large nodules scattered through the substance of the brain. Microscopical examination had revealed tubercle-bacilli in these nodules. There were miliary tubercles in the upper part of the left lung. There was tuberculosis of the bones of the skull and of the scapula, and tubercles were found in other parts of the body. The patient was a child with the history of vaccination a short time previous to the development of tubercular disease, and the question had been raised whether tubercular virus had been introduced by vaccination.

Dr. W. P. Northrup regarded the tubercular nodules in the brain as very extraordinary. In only two or three cases had he seen them of such size in the substance of the brain. Less than a year ago he presented a similar specimen to the Society, and regarded it as quite rare.

Dr. J. S. Thacher presented a specimen of large

PERI-URETHRAL ABSCESS,

portions of which could be seen in the prostate. There was chronic cystitis, and the walls of the bladder were much hypertrophied. One ureter was very much dilated, its walls were thickened, and the mucous membrane congested; one kidney showed the lesions of

suppurative nephritis. There were also pyelitis and dilatation of the pelvis of the same kidney, and in certain parts evidence of diphtheritic inflammation, shown by a patch of yellowish pseudo-membrane so closely adherent that when torn off a raw surface of the underlying tissue remained. All that the patient complained of was a certain amount of pain in the lumbar region, some about the bladder, and incontinence of urine. There was no stricture.

Dr. H. J. Boldt presented a specimen that showed

LOBAR PNEUMONIA—ABSCESS—GANGRENE—TUBERCULOSIS.

The patient was a man who had been taken sick, about six weeks ago, with what was diagnosticated as lobar pneumonia at the apex of the right lung. At the time Dr. Boldt saw the patient the question arose, on account of the profuse fetid expectoration, whether or not abscess was present as a complication. The microscopic examination of the expectoration by Dr. Heitzmann rather confirmed that diagnosis. There was no elevation of temperature above 99° F. The surface of the lung was studded with miliary tubercles, and there was beginning gangrene in the walls of the abscess.

Dr. W. P. Northrup presented a specimen sent to him by Dr. Morgan, of Ithaca, N. Y., which was referred to the Committee on Microscopy. It was accompanied by the following history:

CONGENITAL ABSENCE OF THE RIGHT KIDNEY—CARCINOMA OF THE LIVER, COMMON BILE-DUCT, AND HEAD OF THE PANCREAS—CARCINOMATOUS ULCERS OF THE FUNDUS OF THE BLADDER, WITH HÆMATURIA.

The patient was a man, seventy-six years of age, who had been under Dr. E. J. Morgan's observation for several years. Eighteen months before death he began to lose flesh, appetite, and strength. Six months before death he passed from the bladder, once or twice, clear, fluid, bright blood in considerable quantities. The patient felt better after the hemorrhage. Three months before death he again passed blood from the bladder occasionally, the amount varying, and then he seemed prostrated by the loss of blood.

The symptoms which led to diagnosis were progressive emaciation, loss of strength, and hæmaturia. About one month before death, when emaciation was extreme, a tumor, apparently as large as a large orange, was discovered to the right of, and on a level with, the umbilicus. It was firm, ovoid, and movable. The liver was markedly enlarged. There was no jaundice. The countenance was sallow and cachectic. At last there was diarrhœa and occasional vomiting, stupor and transient coma, followed by exhaustion and death.

Autopsy was made, thirty-six hours later, by Dr. Lewis, in presence of Drs. Morgan, Hunter, Turnbull, Baker, and Northrup. The body was extremely emaciated. The liver was enlarged to twice its normal size, its surface was nodular, and the centres of the nodules were softened. The blood-vessels of the surface were dilated and radiating from the centres of the nodules. The common bile-duct was half an inch thick and carcinomatous. The head of the pancreas was involved, and formed the tumor felt through the abdominal wall. The tumor thus formed was three and a half inches long, two and a half inches wide, was freely movable, and of firm consistence. In its centre it was softened, but not diffluent, except just at the junction of the bile-duct with the intestine, where it had found exit into the gut by means of numerous small perforations about the papilla of the bile-duct.

The interesting pathological feature was found in the bladder. The prostate was enlarged, but this was of no pathological significance. The vesical mucous membrane was normal in general appearance at the base and upon the lower half of the anterior wall. Upon the remaining wall there were from fifty to one hundred circular, punched-out ulcers, varying in diameter from five to fifty millimetres. These were clean-cut, free from slough, redder than the mucous membrane surrounding them, and extended through the mucous membrane and half through the somewhat thickened bladder-wall. These ulcers were considered the source of the hæmaturia.

The left kidney was perfectly healthy, was nearly twice the ordinary adult size, and with the exception of three small cysts was normal. The ureter and urethra were also free from lesion. There was congenital absence of the right kidney. A rudimentary ureter could be traced a few inches from the bladder, but there was lost in the tissues.

Dr. Morgon had known this patient as a healthy man for twenty years. There was no history of hereditary predisposition to cancer.

Dr. Northrup referred to cases in which bright fluid blood had been passed in considerable quantities from the bladder without known cause, and the hæmaturia had not recurred.

Dr. Waldstein recalled two cases of hæmaturia, although they had no direct analogy with the case under consideration.

The first patient was an apparently healthy woman, who, without known cause, except there was reason to suppose that she had caught cold, passed a large quantity of blood from the bladder. Without treatment, the patient had no recurrence of the hæmaturia.

On looking up the literature at that time, he found that hæmaturia might be due simply to the effect of cold. As an experiment, he ordered that her feet be placed in ice-cold water, which was done, and she had another attack of hæmaturia.

The other was a case which occurred in the practice of a physician in Berlin. On examination, peculiar bodies were found in the urine, which were presented to Virchow, who declared them to be a parasite which he had described many years before in connection with a similar case, and to which he gave the name *rhabditis*.

Dr. Wyeth said that

HÆMATURIA

was not an uncommon occurrence in surgical practice. He had reported to the Society, three or four years ago, a case of obscure hemorrhage from the bladder, in which, on careful microscopical examination of the fluid discharged, he found the eggs of the parasite *Bilharzia hæmatobia*. The patient was a young man who went out as a missionary to Africa, where, especially along the Eastern coast, the affection caused by this parasite is very common.

About a year ago he was called to see a woman who, while coming from St. Louis, took cold and had a discharge of blood from the urethra that caused her great alarm.

The third case was one in which he removed the right kidney of a woman thirty-eight years of age. There was recurrent hæmaturia. Dr. Janeway diagnosticated neoplasm as the cause, and the operation proved the diagnosis to be correct. The symptom of pain was very much like that in the case reported by Dr. Northrup.

Dr. Mary Dixon Jones presented two specimens of

THE UTERUS REMOVED FOR MALIGNANT DISEASE.

Dr. Jones also presented two specimens of

OVARIES AND TUBES REMOVED BY LAPAROTOMY,

accompanied by microscopic sections.

Dr. Boldt thought Dr. Jones was in error in saying that Dr. Martin considered vaginal hysterectomy a difficult operation. For in any case where the uterus is mobile it is an easy operation, and one completely free from danger.

Dr. Jones said that her quotation was taken directly from Dr. Fenger's article on this subject.

The Society then went into executive session.

FRENCH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

Sixteenth Annual Session, held in Toulouse, September 22 to 29, 1887.

(Special Report to THE MEDICAL RECORD.)

(Continued from page 580.)

TUESDAY, SEPTEMBER 27TH—FOURTH DAY.

DR. E. MAUREL then read a paper giving the results of some microscopical researches concerning

THE PARASITIC NATURE OF MALARIA.

The speaker thought that it was always easy to distinguish a healthy from a malarial soil. In the air taken from malarious districts there were always numerous micro-organisms, some of which were possibly Laveran's corpuscles in an early stage of their development. He then discussed the question of the rôle played by Laveran's corpuscles in the production of malaria, and said that he believed they were intimately concerned in the etiology of the affection, although there was still room for doubt.

DR. DE MUSGRAVE-CLAY read a paper on the connection between

HOUSE-MOVING AND INFECTIOUS DISEASES.

He said that he had several times noticed the occurrence of isolated cases of disease after the subsidence of an epidemic, and in his search after the cause had found it, he believed, in the fact that either the family in which the disease occurred, or one of the neighbors, had recently moved. He thought it likely that the act of moving had, by taking up the carpets, etc., made a dust and had thus caused a fresh distribution of the infectious germs. He reported three cases of this nature, and said that his object was to call the attention of his confrères to the possibility of such an occurrence, and also to furnish another proof of the necessity of thorough disinfection of every place in which there had been even a single case of contagious disease.

DR. MAUREL then presented a communication on the

RETRO-STERNAL PULSE.

By this term he meant the pulsation that can be felt by pressing firmly downward behind the supra-sternal notch. He had studied this pulse in five hundred individuals, three hundred of whom were ill from various diseases. This pulse is more commonly felt in those who are the subjects of some disease, though it may be present in a perfectly healthy person. He thought that the pulse was due to the pulsations of the vessels springing from the arch of the aorta, transmitted through the trunk of the left brachio-cephalic vein. This pulse is found almost constantly in cardiac diseases and in typhoid fever. When present in healthy persons this pulse must be due to some peculiar anatomical condition. In disease it may be explained by (*a*) a raising of the brachio-cephalic trunk; (*b*) a dilatation of the vessel from obstructed return circulation; (*c*) a passive dilatation from loss of tone in the wall of the vessel; (*d*) insufficiency of the tricuspid valve. The speaker believed that this symptom might be of great utility in both diagnosis and prognosis in certain diseases.

DR. OLLIER followed with a paper on

RESECTION OF THE KNEE

and the simplification of its after-treatment. He endeavored always to preserve the lateral ligaments of the joint, and used every precaution to obtain perfect antisepsis in order to avoid frequent change of dressings. In nine out of ten of his cases of resection of the knee, he had not been obliged to remove the dressing until the fiftieth day, and never had occasion to regret his delay in so doing. He was an earnest advocate of iodoform, in spite of the recent doubts which had been cast upon its utility, and always made very liberal use of it.

WEDNESDAY, SEPTEMBER 28TH—FIFTH DAY.

DR. ARNOZAN presented a paper upon the relations between

CUTANEOUS LESIONS OF THE NOSE AND AFFECTIONS OF THE NASAL FOSSÆ.

The speaker said that the cutaneous affections of the nose, especially of the tip and alæ, were often extremely rebellious to treatment. It was the habit to refer these lesions to distant affections—dyspepsia and the like—but he thought that their relation to deep affections of the nasal fossæ was too little appreciated. He reported two cases in which this relation seemed evident, and he thought the physician should never neglect to explore the nasal fossæ when called upon to treat cutaneous lesions of the nose.

DR. HUCHARD then presented a communication upon the relations of

SUBACUTE ARTERIO-SCLEROSIS AND VASCULAR SPASM.

All the causes, excepting senility, which were capable of producing this condition (alcoholism, overwork, etc.) excited first an increase of arterial tension. The proper treatment, therefore, consisted in the administration of remedies to reduce this arterial tension, and the avoidance of such as would cause it. In the latter class of drugs were digitalis, ergot, and belladonna, and in the former were the iodides, nitrites, and nitroglycerine. The remedy which he preferred in all these cases was nitroglycerine.

DRS. PÉAN and SECHEYRON presented a paper on

HYDATID CYSTS OF THE UTERUS.

These cysts might be interstitial or submucous. The occurrence of pregnancy usually caused them to increase rapidly in size, though their influence upon the course of pregnancy seemed to be *nil*. When present they were a potent cause of dystocia. The treatment consisted in puncture and drainage.

DR. ANDRÉ followed with a paper on the

CONDITION OF THE LIVER IN CHLOROSIS.

He had found that there was always a temporary atrophy of this organ in chlorosis, and the lesson that he drew from this was that the liver should be stimulated by hydrotherapy, electricity, and hepatic remedies.

DRS. LIVON and ALEZAIS presented a communication upon the

CONDITION OF THE URINE IN TABES DORSALIS.

The following were their conclusions: 1. There is a tendency to a diminution in the quantity of urea excreted in the twenty-four hours. 2. There is a diminution in the free phosphoric acid, and a proportional increase in the phosphates. 3. There is a considerable variation in the amount of chlorides, with a general tendency to increase.

DR. BERNHEIM related a case of

LINGUAL MONOHEMIPLEGIA

with cortical localization. The patient, a girl twenty-three years of age, suffering from multiple sarcomatous tumors, was attacked by paralysis of the right half of the tongue, but without any other evidences of facial hemiplegia. After death a lesion was found along the lower border of the inferior extremity of the left ascending frontal convolution, at its anterior aspect, six millimetres behind the fissure separating it from the third frontal convolution.

DR. VOISIN related two cases of

ONANISM IN YOUNG GIRLS

successfully treated by hypnotic suggestion.

DR. CHARAZAC reported a case of spontaneous expulsion of a

LARYNGEAL POLYPUS.

The patient, a woman thirty-one years of age, had suffered from the presence of the polypus for three years,

and had lost her voice in consequence. One day, during a violent fit of coughing, she expelled a fleshy mass which was seen to be the polypus. Complete recovery ensued.

Dr. Pamard related two cases of

SUBPERIOSTEAL RESECTION OF THE ELBOW.

In both instances the patients recovered, with perfect movement of the articulation.

Dr. Petit read a paper on the

TREATMENT OF EPISTAXIS BY COUNTER-IRRITATION OVER THE LIVER.

He recalled the observations of M. Verneuil on this subject, and gave a brief report of several interesting cases in which a rebellious epistaxis was promptly relieved by vesication over the hepatic region.

Dr. Montaz reported a case of

TUBERCULAR EPIDIDYMITIS

which had supervened upon a gonorrhœal inflammation of the same parts.

Dr. Terson called the attention of the members of the Association to the fact that the Toulouse Medical Society had chosen as the subject for the Gaussail prize for 1889 the question of the

OCULAR LESIONS DUE TO SYPHILIS, AND THEIR TREATMENT.

The subject was a very important one, and was not yet exhausted by any means.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE HARVEIAN ORATION—OPENING MEETINGS OF THE MEDICAL SOCIETIES—THE FEMALE PELVIS AND THE CAUSE OF ITS DIFFERENCES FROM THAT OF THE MALE—ARSENIC AND PIGMENTATION—PULMONARY REGURGITATION—THE PSYCHOLOGY OF JOKING—ITEMS OF NEWS.

London, October 19, 1887.

The Annual Harveian Oration at the College of Physicians was delivered yesterday by Dr. Stone, one of the Censors. Sir William Jenner occupied the chair, and there was a good attendance. After referring to Harvey's own lectures and to the autotype transcript of them recently published, the lecturer went on to sketch the character of Harvey as a scholar, a lecturer, a physicist, and a man of genial and humorous disposition. He remarked that it was singular how much of Harvey's Twelve Rules or "Canones Anatomiæ Generalis" was still valuable. Harvey's great discovery was essentially of a physical or mechanical nature. This was proved by his own words and by his division of anatomy into three parts, "philosophica, medica, mechanica." Dr. S one—himself a physicist—maintained that physics is neglected in the study of medicine, and urged that a course of physiological physics would be a real boon to all students of medicine. Such a course would eminently fulfil the exact purpose of the great man whom they had that day met to commemorate. After the oration the Baly Gold Medal (Biennial) was awarded to Dr. David Ferrier for his physiological researches on the nervous system.

The societies are beginning their winter campaign. The Obstetrical Society was the first in the field. The first paper read was one by Mr. Arbuthnot Lane, Demonstrator of Anatomy at Guy's Hospital, and was devoted to a consideration of the question of what are the chief factors which determine the differences which exist in the form of the male and female pelves. Mr. Lane criticised the theory that most of the differences are due to force exerted by the femora and sacrum upon the innominate bones. He considered the conditions of the thorax and pelvis as exactly analogous in the two sexes. He regarded the male thorax as the original type, and considered that the altered form of the female thorax was determined by the additional function performed by it, of accommodating the fœtus during the later months of pregnancy. The female pelvis performed one function in addition to that performed by the male pelvis, viz., the support and transmission of the fœtus, and he regarded this as the sole factor which determined the variations in form of the pelvis in the two sexes. Mr. Lane urged that there was a fallacy in arguing from the manner in which certain forces produced changes in the pelves of diseased females during the lifetime of a single individual, that the same forces acting upon a healthy female determined that peculiarity in the form of the pelvis. He considered that the pressure exerted by the fœtus, represented as a developmental factor, prevented the occurrence of such variations in the female subject as occurred in the male.

In conclusion, Mr. Lane maintained that this pressure was the sole determining factor of the variations in the form of the male and female pelves. Mr. Lane's views, although ingeniously put forward, were by no means received without question, but excited a considerable amount of hostile criticism. Dr. Herman said he agreed with Mr. Lane in holding that the form of the pelvis was due to inheritance—to influences acting on many generations of ancestors; but he thought the way in which the shape of the pelvis was modified in transmission through many generations was mainly this: Women with well-shaped pelves were able to bear large, strong children, likely to survive, and to inherit and transmit that type of pelvis. He could not agree with Mr. Lane that the pressure of the head during labor modified the shape of the pelvis. This stage on the average lasted less than two hours. So brief and intermittent a pressure exerted on fully ossified bones could not have any influence. Both Dr. Playfair and Dr. Galabin remarked that the peculiarities of the female pelvis had been generally ascribed to the forces of development or the presence of genital organs in the pelvis. Dr. Champneys remarked that the effect of pressure on respiration could not begin before the sixth month, which left three months in each pregnancy, or thirty months in ten pregnancies, and against this we had to put the remainder of a lifetime. The production of alterations in the skeleton during pregnancy was one thing, and the alteration of the skeleton by laborious occupations was quite another. Several other papers were read.

At the Clinical Society, on Friday last, three papers were read. Two of these provoked some little discussion. One was by Dr. Handford, on a case of pemphigus in a child. Arsenical treatment was employed, but was followed by pigmentation, so it was stopped, and the patient treated by wet packing. In a month the skin had resumed its normal appearance and much of the pigmentation had disappeared, but on the hands and feet were many patches of cicatricial-looking skin, thickened and elevated. They were covered with white points, and resembled (to the naked eye) miliary tubercles, but they consisted of accumulations of degenerating epithelial cells in the deeper parts of the epidermis. They disappeared in four or five months. Dr. Crocker remarked that pigmentation from the use of arsenic was fairly common on the site of eruption, and general pigmentation also occurred from time to time, though it was less common. Sir Dyce Duckworth spoke of the value of arsenic in cases of pemphigus. Sir Dyce Duckworth then read a paper on a case of pulmonary arterial reflux. The lesion was not diagnosed during life. The President (Dr. Broadbent) remarked that pulmonary regurgitation was so very rare that this was quite excusable. He had himself seen ten cases which had been diagnosed as pulmonary regurgitation, but he had not been enabled to verify his diagnosis. Dr. Douglas Powell remarked that

he had not been able to examine post mortem any of the few cases of pulmonary regurgitation which he had himself seen.

The first meeting of the Medical Society of London took place on Monday evening, when there was a large attendance. Considerable interest was excited by the address of the President (Dr. Hughlings-Jackson). He took for his subject "The Psychology of Joking." Dr. Jackson maintained that punning was entitled to a better position in the intellectual world than was generally accorded to it, though it was really a morbid condition, viz., a mental diplopia. The mere conception of humor was in itself an indication of a certain intellectual development. Humor in its various manifestations, and their relation to morbid mental states, were then dwelt on at some length. A vote of thanks to the President for his address was passed, and a paper on "Simple Dilatation of the Stomach" was then read by Dr. Clifford Allbutt, of Leeds.

Sir William Gull has been prostrated by an attack of paralysis while taking his autumnal holiday in Scotland.

Mr. Savory, President of the Royal College of Surgeons, has just been appointed Surgeon Extraordinary to Her Majesty the Queen.

The Metropolitan Free Hospital has adopted the pay principle for out-patients, and will henceforth be known as "The Metropolitan Hospital."

THE MORTALITY-RATE OF THE REGULAR AND HOMŒOPATHIC SERVICES IN COOK COUNTY HOSPITAL.

To the Editor of The Medical Record.

Sir: *À propos* of your editorial on the mortality-rate of the regular and homœopathic services in Cook County Hospital, the following must be remembered: 1. The homœopathic service has assigned to it only a fraction over one-fourth of all the patients; in 1885–86 the regulars treated 5.909 and the homœopaths 1,532. 2. The examining interne is a regular, and consequently the larger number of interesting and probably fatal cases go to the regular side. 3. Patients have their choice of treatment, and when very ill they naturally refuse to take homœopathic treatment. 4. The homœopaths, in severe cases, abandon their dilutions and resort to the same therapeutic measures as the regulars. In fact, there is no exclusively homœopathic practice in Cook County Hospital. 5. A large number of moribund cases are assigned to the regulars.

A Regular.

THE GERMICIDE PROPERTIES OF IODOFORM.

To the Editor of The Medical Record.

Sir: While in Stockholm, Sweden, my attention was directed to a review, in The Record, of the investigations made by Messrs. Heyn and Roving, of Copenhagen, Denmark, concerning the germicide properties of iodoform. These reports being negative, I reached that city prepared to see what has been an indispensable agent in the hands of nearly every surgeon thrown aside as utterly worthless. Yet, after a month's study of the many excellent methods employed in the hospitals of Copenhagen, I am prepared to say that nowhere have I seen such a free and unreserved use of iodoform.

Kommune Hospital, of eight hundred and twenty beds, with two large surgical wards, does not confirm the results obtained in laboratory by these two gentlemen. On the contrary, Professor Axel Iverson, in charge of one of the wards, has become so strong an advocate of its use that iodoform gauze has taken the place of nearly every other form of drainage. One rarely sees the bone or rubber drainage-tube in his service. He was especially prominent in its favor, and declared clinical experience in this case, at least, as vastly superior to experiments with gelatine. Professor Studegard employs it less frequently, simply because of its disagreeable odor. Professor Howitz, with his large gynecological experience in the Sisters' Hospital, and the female ward of Fredericksberg Hospital, employs it in nearly all of his surgical operations, and only with the best results. Since he began inserting an iodoform pencil into the cervical canal, in all—twelve, if I remember correctly—his hysterectomies, he has not had a single death. This he attributes solely to the use of iodoform, as he has in no way modified his operation. In so far as I could learn, not one of the hospitals had laid it aside, but are encouraged to continue its use. Whatever new light the future may reveal by further inquiries, certain it is that not one in a position to speak supports in any way the published report; and I am sure this is done in no spirit of opposition to any recently discovered truth, for though Denmark be small, it harbors no narrow or contracted ideas. They are keenly alive to accept anything new, if they do not even anticipate it.

J. G. Tapper.

Berlin, Germany, October 6, 1887.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from October 23 to October 29, 1887.

Greenleaf, Charles R., Major and Surgeon. Will proceed from this city to the places hereinafter named, in the order in which they are named, for the purpose of investigating the methods of examining recruits at the depots and rendezvous located thereat, and of instructing recruiting officers in matters pertaining to such examinations: Baltimore, Md.; Philadelphia, Pa.; Camden, N. J.; New York City and David's Island, N. Y.; Boston, Mass.; Portland, Me.; Albany and Buffalo, N. Y.; Cleveland, O.; Detroit, Mich.; Chicago, Ill.; Milwaukee, Wis.; St. Paul, Minn.; Jefferson Barracks and St. Louis, Mo.; Cincinnati and Columbus, O.; and Pittsburg, Pa. S. O. 248, A. G. O., October 25, 1887.

Cleary, P. J. A., Major and Surgeon. Ordered to proceed from Fort Huachuca to Fort McDowell, and report to the commanding officer for duty as Post Surgeon. S. O. 111, Department of Arizona, October 18, 1887.

Brown, Paul R., Captain and Assistant Surgeon. Leave of absence extended one month. S. O. 250, A. G. O., October 27, 1887.

Burton, H. G., Captain and Assistant Surgeon. Ordered from Plattsburg Barracks, N. Y., to Watervliet Arsenal, N. Y.

Merrill, J. C., Captain and Assistant Surgeon. Ordered from Watervliet Arsenal to Frankford Arsenal, Pa. S. O. 249, A. G. O., October 26, 1887.

Richard, Charles, Captain and Assistant Surgeon. Granted leave of absence for one month, to take effect when his services can be spared by his post commander. S. O. 247, A. G. O., October 22, 1887.

Jarvis, Nathan S., First Lieutenant and Assistant Surgeon. Ordered for field duty in Department of the Platte. S. O. 246, A. G. O., October 21, 1887.

Jarvis, Nathan S., First Lieutenant and Assistant Surgeon. Ordered from Department of the Platte to Department of Missouri, for duty in the field. S. O. 249, A. G. O., October 26, 1887.

Official List of Changes in the Medical Corps of the United States Navy for the week ending October 29, 1887.

Bates, N. L., Medical Inspector. Ordered to hold himself in readiness for orders to the Trenton.

Hesler, F. A., Assistant Surgeon. Ordered to examination for promotion.

Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending October 29, 1887:

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	25	11
Scarlet fever	55	13
Cerebro-spinal meningitis	6	4
Measles	17	2
Diphtheria	115	46
Small-pox	2	0
Yellow fever	0	0
Cholera	0	0

POISONING FROM ILLUMINATING GAS AND ITS TREATMENT.—Dr. Lamb, at a meeting of the Medical Society of the District of Columbia (*Journal of the American Medical Association*, September 3, 1887,) reported a case of death from illuminating gas, and has also studied 16 other cases found in medical literature. Of these 16 cases 10 were men, 6 women; 10 recovered, 6 died; the ages ranged from 22 to 82; of 4 the age was not stated, but, judging by the descriptions, it was probably between 20 and 50. Death occurred in 3 cases within a half-hour after exposure; in 2 cases in 11 hours; in 2 cases about 36 hours; in one case 50 hours. In that reported by Dr. Lamb, life was prolonged 8 days. The accident happened of course oftenest at night; exposure, usually beginning between 10 and 12 P.M., and ending between 6 and 9 A.M., averaging about 10 hours. The variable time at which death occurs after exposure is probably to be explained by different proportions of gas in the air. An examination of the signs noted by those who attended the sufferers at or soon after their release from exposure shows sufficient uniformity to enable us to fix upon some as characteristic. Stupor was most frequently noted, in 10 cases; and, in the absence of any statement to the contrary, was probably present in all. In studying reports of cases we often meet with a failure to note a sign or symptom which was nevertheless probably present. Next to stupor in frequency were noted coldness and pallor of the skin, stertorous and shallow breathing, odor of gas in the breath, dilatation of pupils, and rigidity. Occasionally it was stated that the face was swollen, skin was livid, skin was of normal heat, there was sweating, there was frothing at mouth, pupils were contracted, or one dilated and the other contracted, there was spasm of jaw, or even convulsion, pulse was regular, or small and weak, or not felt. Sometimes on removal of patient to the open air, the breathing became more difficult and there was an increase in rigidity especially shown by the spasm of the lower jaw. The treatment which appeared to be of most service was as follows: 1. The access of fresh air, obtained usually by opening windows and doors; preferably by removing the patient to a room distant from the poisoned air. In some cases the direct inhalation of *oxygen gas* has seemed to be of benefit; the two cases reported by Owen were thus treated and recovered. From a careful consideration of these cases, Dr. Lamb concluded that the recumbent position is the proper one in which to place the patient; not sitting, as some have attempted. In 3 cases artificial respiration was tried, but the patients died in spite of it. 2. Warmth. Fresh air furnishes the necessary oxygen to the blood; warmth favors the circulation and all other functions. Cold affusions were used in two cases; both died. 3. Diffusible stimulants, as brandy, whiskey, ammonia, by mouth, rectum, and hypodermically. The case which showed the most rapid recovery was one in which 15 drop doses of spirit of ammonia were given every few minutes. Faradization or galvanism was tried in several cases, which, however, died. Tickling the fauces in one case seemed to be beneficial; the effort at vomiting cleared the air-passages of frothy mucus, after which breathing improved. On the whole, then, the best treatment is to secure fresh air, and if possible pure oxygen; the recumbent position; warmth; diffusible stimulants; with such aids as artificial respiration, electricity, and nutrient enemata.

THE CHEMICAL TEST FOR THE CHOLERA-BACILLUS.—Dr. Alfred Meyer, of New York, writes: "Chemical tests for micro-organisms have a life-history as well as the micro-organisms which they are claimed to differentiate. In the issue of THE MEDICAL RECORD of October 1st you describe Bujwid's reaction of the cholera-bacilli with five to ten per cent. of muriatic acid, and quote his claim that the rose-violet color developed is a special characteristic of the comma-bacillus of Asiatic cholera, and distinguishes it sharply from other similar forms of bacteria. According to Charles H. Ali-Cohen, who publishes his observations in the *Fortschritte der Medicin* of September 1st, this color only appears if the acid employed in the test (whether sulphuric, muriatic, or nitric) contains some *nitrous acid*, and that the rapidity of its appearance is dependent, to a certain extent, upon the amount of HNO_2 present. Ali-Cohen also claims to have cultivated a bacillus from the spleen of typhoid-fever patients which gives exactly the same reaction with these acids. In view of this discovery, he would deny the assumption that the so-called cholera-red is distinctively characteristic of Koch's bacillus."

GALL-STONES.—Dr. R. H. Sabin, of West Troy, writes: "In the report of my paper on gall-stones, on page 495 of THE MEDICAL RECORD, there is a mistake. Where it reads 'alkaline' it should read 'an acid state of the urine.' In the case reported the woman had severe attacks of pain, and passed from the bowels, at the second or third movement after the pain, a quantity of what looked like sand, and when magnified presented the appearance of peanuts. Some thought they were seeds, others that they were gall-stones."

DECOCTION OF LEMON IN MALARIAL FEVER.—Dr. W. F. Morgan, of Leavenworth, Kan., writes that he has used the decoction of lemon in many cases of intermittent fever with excellent results. He has also employed it with benefit in remitting fevers, and, despite its apparent simplicity, has found no disposition on the part of his patients to treat it with indifference or neglect.

HERNIOTOMY UNDER COCAINE.—Dr. W. W. Hewlett, of Babylon, L. I., writes: "Since the publication of my case of herniotomy under cocaine-anæsthesia my attention has been called to the report of a similar case by Dr. A. F. Fuchs, of Fredonia, Wis., in THE MEDICAL RECORD of January 29, 1887. I therefore waive all claim to priority in this method of operating in strangulated hernia."

CRUEL METHODS OF VACCINATION.—Sir Joseph Hooker has written a letter to the London *Times*, in which he draws attention to the "heroic but cruel method" of vaccination now pursued, which he thinks has much to do with the prejudice against the operation. He appends some interesting notes from the pen of a daughter of the late Dr. Rigby, from which it appears that a single puncture, instead of multiple punctures, was formerly deemed sufficient as a protective against variola. Dr. Rigby was a friend of Jenner, and worked with him. He also maintained that a single puncture was less likely to be attended with inflammation than would be multiple punctures.

SCARLET FEVER IN LONDON.—The scarlet fever which has been epidemic in London for some time shows no sign of abatement, though it is, fortunately, of a mild type.

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Original Articles.

HOW CAN THE MEDICAL PROFESSION AID THE BOARD OF HEALTH?[1]

BY JOSEPH D. BRYANT, M.D.,

HEALTH COMMISSIONER, NEW YORK.

MR. PRESIDENT AND FELLOWS OF THE ACADEMY:

A short time ago the presiding officer of this Academy secured from the reader a promise to present a paper at this meeting of the Academy bearing on the relations that should exist between the Health Department and the medical profession of this city. This request was made during a conference that was being held by Dr. Jacobi and myself as the Medical Commissioner of the Health Department, relative to the feasibility of the appointment of a medical board to the Willard Parker Hospital for Contagious Diseases, and of the willingness of Dr. Jacobi to accept a position on the board. It was stated, as a reason for this step, that the profession of medicine of this city was somewhat ill informed of the previous and present organization of the board, of its aims, and of the methods employed for the accomplishment of its purposes. I comply with this request most willingly, since it must appear to everyone that the medical profession of this city and the Health Department should act in complete harmony with each other on all matters relating to the public health. It cannot be denied, I think, that they are at present, and have been for some time, greater strangers to each other than the immediate associations of their presence and purposes warrant. The reasons for this, both presumptive and real, should form no part of this evening's discussion.

The present and the future only should concern us. Each should labor with common purposes—the prolongation of human life and the alleviation and prevention of human suffering. Indeed, it will be strange if intelligent and humane individuals, who are prompted by these common purposes, be not able to act harmoniously in the interest of common good. The Health Department deals with measures for the prevention of disease rather than with those of a curative nature. The members of the medical profession necessarily devote themselves more to the cure of disease and to the alleviation of the physical distress incident to it than to the prevention of disease. Boards of health have the power to enact laws and the sanction and support of laws that are established for the purpose of affording them effectiveness in the performance of their duties; laws which, if properly interpreted and firmly yet honestly enforced, can but beget a public sense of confidence and security in those who administer them. On the other hand, if an unwise or illogical use be made of a power to create or to enforce laws, public distrust, followed by public indignation and public revolt, soon reduces the administrative fabric to ruins, and often there lie buried beneath them, for a time, the health, the enterprise, and the prosperity of the people. The members of the medical profession are not controlled in their action so much by written as by unwritten laws, yet they are none the less amenable for the violation of lawful precepts, since confusion, distrust, and dishonor follow each other in rapid succession as the results of the violations of accepted principles. It follows, therefore, logically, legally, and properly, that the preventive means of the Health Department, supported by a just interpretation and enforcement of its sanitary laws, should command the respect, confidence, and co-operation of the medical profession, actuated by its laws, in order that the consummation of the common purposes of each may be productive of the greatest good. With the view of paving the way to this co-operation, I have selected as a suitable title for the paper of the evening, "How can the Medical Profession Aid the Board of Health?" Before proceeding to state *how* this can be done, it is but proper that the profession should be informed (1) of the previous organization of the department; (2) of the present organization; (3) of its purposes and the means of attaining them. From January 2, 1884, until about August 1, 1887, the organization was as follows:

First, Secretary's Office.

Second, Attorney and Counsel's Office.

Third, The Sanitary Bureau. This was subdivided into seven different divisions, to wit:

First Division: Charged with all sanitary matters, particularly in connection with tenement and lodging houses, their occupants, and generally as to public buildings.

Second Division: Charged with all matters requiring the services of an expert in connection with the adulteration of food and drink, and with offensive trades.

Third Division: Charged with all matters endangering health, life, or limb upon the streets and sidewalks, and the enforcement of ordinances relating to nuisances exposed to public view, as well as special in-door inspections of all tenement and lodging houses.

Fourth Division: Charged with all matters relating to the detection and prevention of contagion; vaccination and disinfection.

Fifth Division: Charged with all matters relating to the care and maintenance of hospital buildings, treatment of patients therein, and their transportation to and from the same.

Sixth Division: Charged with all matters relating to the execution of the laws relating to plumbing and ventilation, construction of new buildings, and special inspections.

Seventh Division: Charged with all matters relating to the registration of births, marriages, and deaths, and the issuing of burial and transit permits.

This plan of organization was of a semi-military character, and it was intended that the subordinates of the Board should move, in the performance of their duties, with something of the precision that characterizes the systematic acts of bodies of men trained for the accomplishment of a common purpose. Suffice it to say, however, that from a practical stand-point this method of organization was soon found by the present commission to be more ornamental than useful, more confusing than assuring, and, in fact, more circumlocutory than direct in its advances.

With somewhat rapid strides changes were instituted by the present commission, which, it is believed, has greatly increased the scope and efficiency of the work of the department. Not a little of the success that has thus far attended these changes depends on the renewed *esprit de corps* of those who are intrusted with the execution of the duties of the department.

[1] Read before the New York Academy of Medicine, November 3, 1887.

The following is the plan of organization at the present time :

(1) Secretary's Office ; (2) Attorney's Office ; (3) Sanitary Inspection ; (4) Contagious Diseases ; (5) Food and Drink Adulteration, and Food Inspection ; (6) Plumbing and Ventilation and Construction of New Buildings ; (7) Vital Statistics.

The first decided change that was made was the transfer of Dr. Roger A. Tracy to the position of Registrar of Vital Statistics. Dr. Tracy is believed to be particularly well fitted for the duties of this position, by reason of his sound education and the natural inclination he has for this kind of work.

At the same time the first and the third divisions were consolidated and placed in charge of the inspector who formerly had control of the third division only.

The great majority of the sanitary inspections and the search for nuisances are done by lay sanitary inspectors and police sanitary inspectors. Of the former there are forty-two ; of the latter, fifteen. For the purposes of police sanitary inspection the city is divided into forty-two separate districts, on a basis of equality of work and individual responsibility. A sanitary policeman is placed in charge of each of these districts. His duties consist in making a thorough inspection of the tenement-houses of his district, making complaints for the abolition of all nuisances, and attending to such other duties as may be required of him by the department. The lay sanitary inspectors are men who are selected on account of the education, intelligence, or experience they possess. Their duties are, to attend to the citizens' complaints, and to inspection-problems that are too difficult for the police sanitary inspectors. They are also to correct special nuisances that occur, in connection with many other buildings than tenement-houses, in their districts.

There are fifteen lay inspectoral districts in the city, which are so arranged as to meet the demands of time and sanitary requirement in the performance of the duties of each. At the present time the medical sanitary inspectors are detailed to the department of contagious diseases, and devote their time exclusively to examining and combating all contagious diseases that come to the notice of the department. They are directed to visit the location of a contagious disease at once, to examine the premises closely for the detection of any defects that may be associated with the development or propagation of contagious disease, make complaints against defects, and afterward see that a strict compliance with the orders of the board regarding them be enforced. They are likewise told to offer disinfectants, instruct in their use, and observe if they be properly employed. They are directed to enjoin suitable isolation and observe that it be maintained.

They warn the people of the existence of contagious disease in their dwellings, and advise them of the necessity of avoiding exposure to it. Finally, they trace the disease to its source, and, by doing so, they not infrequently uncover a rich mine of unsuspected contagion. When it is impossible to provide and maintain proper isolation or proper medical treatment, the affected ones are requested to go to the hospital of the department. If the diseased persons be in contact with business-proceedings, as a place for the active sale of commodites of any kind, it is required that the business-place be closed or that the patients be removed. The medical inspectors engaged in this duty are emphatically told that they must co-operate with the physicians in charge of the patients, in every instance, and to do so with the strictest professional courtesy to the hospital.

It is intended to cause a careful scrutiny to be made, at no distant date, of phthisis and other diseases of a similar nature. The long experience of the medical sanitary inspectors as nuisance-searchers and examiners of citizens' complaints, taken in connection with the fact of their being educated physicians, makes their work in these matters of great importance and causes it to be skilfully performed. The placing of the medical sanitary inspectors at legitimate medical work, instead of retaining them at duties that are not infrequently inconsistent with all the instincts of educated gentlemen, can but increase their *morale* and efficiency. And it affords them the opportunity to investigate disease, the consideration of which has formed the basis of their life-study. The salaries of these and other positions have been graded in a manner that will offer a financial encouragement for a performance of duty that will be measured entirely by their own worthiness. The division of contagious diseases includes the bureau of vaccination and the consideration of contagious diseases in animals. This division has two special diagnosticians of contagious diseases, and no patient is removed to a hospital of the department unless the diagnosis have been made, or confirmed, by one or both of these gentlemen. And finally, to throw every possible safeguard around suspected cases, the Health Commissioners have appointed Dr. Prudden, of the College of Physicians and Surgeons, and Dr. Biggs, of Bellevue Medical College, as pathologists of the Health Department and of the hospitals under its charge. And it is but proper to say, at this time, that these gentlemen have proven the value of their services and the wisdom of the selection already in diagnosticating cholera by developing its cultures from the contents of the intestine of a suspected case at quarantine. The department has ample and comfortable means for the conveyance of patients to its hospitals, for all ordinary emergencies.

The hospital-accommodations are likewise adequate for the present need. Believing that the extent and character of the hospital-accommodations of the department are not appreciated by the majority of the members of the medical profession of this city, I will take the liberty of encroaching on your time sufficiently to briefly outline them. At the foot of East Sixteenth Street there are located the Willard Parker Hospital, for the treatment of contagious diseases, and also the reception-hospital for the patients who are under observation, and for the temporary abode of those to be removed to North Brothers' Island. The Willard Parker Hospital is an imposing brick structure, with good appointments, and with ample accommodations for seventy-five or one hundred patients. It is now occupied for the treatment of diphtheria and scarlatina only. And when you are told that the general care of the patients is supervised, at present, by a medical board composed of Drs. E. G. Janeway, A. Jacobi, C. R. Agnew, Stephen Smith, D. M. Stimson, G. F. Shrady, and J. D. O'Dwyer, it requires no further words on the part of anyone to indicate to all concerned that no pains is being spared to make the hospital worthy of the fullest confidence. The house-physician, too, is experienced and faithful to every trust. The reception hospital is likewise under the supervision of this medical board. Ordinarily it is occupied by two or three patients, and is sufficiently spacious for usual requirements. However, if the resources of this building were to be tested by the occurrence of an epidemic of other than the eruptive fevers, it would be found sadly inadequate in respect to capacity, safety, and comfort. Still, it is confidently believed by the Commissioners of the Health Department that their recommendations in such an emergency would be supported by the public authorities with a degree of earnestness that would render these defects generally remediable. On North Brothers' Island there is a suitable building for the treatment of small-pox, and also five completed pavilions for other contagious diseases. The pavilions will accommodate twenty-five to thirty patients each, with safety and comfort. There is also a considerable area of unoccupied surface upon which temporary structures could be erected if need be. The capacity for cooking is ample, and the utensils for eating abundant ; the stock of clean clothes is liberal, and the preparations for disinfection

are not contracted. It is now contemplated to provide disinfecting apparatus of sufficient capacity to enable the department to disinfect all textile fabrics that may have become associated with any form of contagious disease. This course is deemed to be absolutely essential to a successful struggle with this class of diseases, especially in the populous portions of a tenement-house community. Steps have been taken lately to render the reporting of contagious diseases and births, by the members of the profession, of as little expense as possible to them. However, candor compels us to state at this time that this course was taken, not only to relieve the members of a tax which appeared to be an unwise if not an unjust one, but also to disarm criticism on the part of those against whom the department may take action in the future for failing to comply with some of the legal requirements connected with contagious diseases.

As has been said already, in speaking of the transfer of the medical sanitary inspectors, great attention is being given to contagious diseases by the department at the present time. It is believed that, with a prompt reporting of contagious disease by the medical profession, combined with a cheerful and earnest co-operation with the board, that the contagious diseases of this city can be substantially abolished.

While the number of deaths from diphtheria per annum in this city is startling, yet the common occurrence of the funerals of the innocent victims of this disease has so familiarized the people with the grim spectre, that a mental estimate of the size of the coffin, attended by a casual remark of the death of a child, constitute the greatest part of the public sentiment that is excited by the funeral cortége. But if only one case of cholera were to happen within the city limits, gratuitous advice, gratuitous animadversion, and contumely would be heaped indiscriminately on the blameless and the guilty. It would be said that the commercial interests of the country, the business prosperity of the city, and every other interest dear to man, were imperilled! And all of this would be true, and on account of one case of cholera.

Still, there is scarcely a pronounced recognition from like sources, of an annual childhood death-rate from preventable diseases that eclipses any epidemic of cholera from which this city will ever suffer. The existence of cholera interferes with business interests, threatens the prosperity and lives of adults, imperils the selfish rather than the sentimental interests of men. When I inform you that it is estimated that at least fifteen to twenty-five per cent. of the cases of contagious diseases in this city are not reported, you will then see the great odds against which the Health Department must contend if it fight the existence of contagious diseases successfully. And I ask you, my medical friends and Fellows of the Academy, who is to blame for the influence of this proportion of the disparity of the conflict? It is estimated, also, that twenty-five to thirty per cent. of births remain unreported.

The permanent vaccinating corps comprises eight physicians. A few other physicians are appointed temporarily for this purpose, from time to time, as circumstances require. Vaccination is not enforced in any instance; yet, under some circumstances, it has been deemed advisable to use threats, and even a more active semblance of authority than these, to cause its acceptance, especially when great exposure has taken place in populous neighborhoods.

The Health Department can exercise as strict supervision of the food and drink commodities as the limited help for the duty will admit. A practical chemist is now in charge of this branch of the service.

The construction of tenement-houses as regards light, ventilation, and plumbing come within the jurisdiction of this department; and the prepared plans of construction of these habitations are submitted to the department for approval or disapproval. Any detection of a violation of the requirements of the law on the part of the architect or the owner results in the immediate correction of the construction, or in the arrest and punishment of the guilty parties. For the purpose of detecting illegal acts in connection with construction, the board employs a number of sanitary engineers, who are appointed for this purpose by reason of their special fitness for this line of duty. The premises are visited frequently by them, the approved plan of construction is compared with the plan in use, and whenever the latter differs from the former a halt is ordered and a strict compliance with the approved plan is then enforced. I could entertain you for some time with narrations of the shrewd, and often humorous, efforts that are made by the agents of builders to circumvent the requirements of the board. Not infrequently the misguided plumber will apparently ventilate the waste-pipes through the roof, by fastening to the roof directly an upright piece of pipe, which stands erect in the formal manner of a ventilated waste-pipe, but in reality is connected with nothing below the roof, except, perhaps, with the unsophisticated imagination of a newly appointed inspector. The Bureau of Vital Statistics is familiar to you all, for obvious reasons. In this division many preventive and precautionary measures against disease have been instituted, among which may be mentioned the requirement of an immediate and permanent enclosure of the body of a person dead of contagious disease within a tight casket. So much, in brief, can be said of the practical working of the Health Department from a medical stand-point alone. There is much more than this, but it must remain unrecited, both from want of time to express it and from the unimportance of its bearings upon the direct interests of the medical profession.

How the medical profession can aid the Board of Health.—The profession can aid the Board of Health in a most signal manner:

1. By reporting to the department at once all varieties of nuisances of which the members may become cognizant, that are recognized to be dangerous to life or detrimental to health.

2. By reporting all forms of contagious diseases at once, to enable the Health Department to apply quickly all possible means to prevent their spread. By doing this many valuable lives can be saved in ordinary times, and the occurrence of epidemics may be prevented.

3. By enjoining strict isolation of the patients and thorough antiseptic measures in contagious diseases.

4. By reporting to the board at once, for removal to the hospital, all cases of contagious diseases in which isolation cannot be practised or where adequate treatment cannot be provided.

5. By visiting the Willard Parker and other hospitals of the department at reasonable hours, to be able to inform the unfortunate sick of the admirable accommodaions provided by the city for their relief and comfort.

6. By discouraging the visits of the sick of contagious diseases to the dispensaries of the city. This act alone exposes to disease a large number of innocent persons, and is not a wise act for those already afflicted.

7. By co-operating with the medical inspectors of the board in every consistent manner, in the fight against contagious diseases.

8. By reporting to the board all food and drink adulterations that may come to notice.

9. By reporting all diseased or decayed food-substances to the board that may be known to the profession.

10. By giving attention to the subjects of plumbing, light, and ventilation in human habitations, and reporting to the board any violations of the law in respect to them.

11. By giving attention to plumbing construction, especially to be able to detect for yourselves and to inform your patients of the escape of deleterious gases into living and sleeping rooms.

12. By reporting births promptly, that the records of the department may show a correct annual birth-rate; also, to enable the department to locate those who may require vaccination.

13. By the appointment of a conference committee from your numbers, at once, of not more than five (5) members, which committee shall confer with the Health Department on all matters of health relating to the general public, when requested.

In making this statement, the Commissioners of Health feel that it is but proper that two organizations having the influence for good and the strength to enforce healthy doctrines, together with common personal interests in the public welfare, that are possessed by both the medical profession and the Health Department, should work harmoniously and actively together in the common cause —the present and prospective healthfulness of this great city.

LAPAROTOMY COMPLICATED BY TRUE HEMORRHAGIC DIATHESIS—PROFUSE PRIMARY AND SECONDARY HEMORRHAGE—TRANSFUSION—RECOVERY.

By CHARLES CARROLL LEE, M.D.,

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I HAVE long ceased to report ordinary cases of laparotomy, as teaching nothing to improve our art; but when remarkable or unusual complications occur, I think the case should be recorded as a guide for future practice. With that object, and to illustrate the excellent results we sometimes obtain by the simplest means, I report the following case: A primipara, twenty-six years of age, consulted me, six months ago, with lacerations of the cervix and perineum. The left ovary and tube were prolapsed, swollen, and tender, and there was much uterine catarrh. These symptoms were greatly aggravated after menstruation, leaving no doubt of the existence of ovaritis and salpingitis on that side. The history indicated a severe instrumental labor, but no trace of subsequent peritonitis. The uterus was movable, and, after a short preparatory treatment, I closed the cervical and perineal tear. By this it was hoped that the pelvic condition would be so improved that the ovarian complication might gradually subside, but the patient was warned of the uncertainty of this. Unusual vascularity of the parts was noticed at this sitting; but as the sutures were securely adjusted, no apprehension was felt.

Within a few hours, however, secondary hemorrhage occurred from the perineum; and although this was never alarming in quantity, it was impossible for two or three days to arrest the flow. The patient was twice lifted from bed upon an operating-table, wheeled into a good light, and the parts minutely inspected. The hemorrhage was a general oozing, with no sign of the blood coming from a single vessel; and as the sutures had been very carefully placed, the wound was not reopened; a vulvar tampon was applied, and under this pressure the flow gradually ceased and the wound healed by granulation.

In six weeks the patient left my wards in the Woman's Hospital, where the operation had been done, and returned to her home in Maine. During the ensuing summer her family physician carried out the after-treatment suggested; but, in spite of this, no benefit accrued, and in September she returned to the Woman's Hospital with more acute ovarian pain and prolapse than before. Her suffering was constant and severe; the left ovary was larger, more tender than before, and adherent behind the cervix; the tube also was more distended, and the same conditions were beginning on the opposite side.

Rest in bed, with the hot vaginal douche, counter-irritation with iodine, and support by the boro-glyceride tampon were actively and thoroughly employed, but without result; and as the patient was clamorous for relief, she was told that only removal of the uterine appendages offered any certain prospect of cure. To this, after full consideration of its possible danger, both she and her husband assented, and on October 14th the operation was performed, before a number of spectators. On incising the abdominal wall more persistent bleeding was caused than I have ever encountered. Two or three small arteries spurted high above the surface, and from every point where the recti muscles were touched by the knife a steady stream of blood oozed. The linea alba was easily found, and only nicked here and there, and separated with the scalpel-handle and the fingers. On lifting the peritoneum with the thumb and finger, and then in smaller section with forceps, it was found very thick and vascular, with the intestine closely adherent to it at several points. With some difficulty a free space was found, and it was divided with scissors, in an irregular line, between the adherent loops. Copious bleeding here also occurred all along the cut edges. The tubes and ovaries were quickly found, isolated from their few adhesions, brought successively into the abdominal opening, ligated, and removed in the usual way. The utmost gentleness was used in separating the adhesions, no strain was put upon the broad ligaments, and the ligatures were tied with especial care. The right ovary (which was least affected) and all of both tubes were removed, as the patient desired the operation, if done at all, to be as radical as possible. Not a drop escaped above the ligatures, but on dropping back the last stump the pelvis was found half full of blood. This was thought to have come from the peritoneal and abdominal wounds, although flat sponges had been kept under these; it was carefully sponged out; but as it steadily reaccumulated, the abdominal wound was enlarged, the intestines crowded back, and with a good light the lower pelvis was carefully inspected.

The blood was now seen to ooze from the entire surface of the broad ligament, both above and below it, and from the walls of the pelvis. This was chiefly on the left side. Both pedicles were quite dry. Prolonged pressure with sponges seemed to stop the bleeding completely; a supplementary ligature was thrown around the base of the left pedicle as an additional security; a glass drainage-tube was inserted into the posterior cul-de-sac, and the abdominal wound was closed.

The patient had probably lost a pint of blood—possibly a little more—but her pulse was good, there was no special shock, and she reacted as usual. For four hours all went well, and there was no failure or other alteration of pulse; at the end of this time she vomited profusely, and immediately began to show signs of collapse. These were soon very serious and the drainage-tube was full of blood; the house-surgeon, confident that internal hemorrhage was occurring, sent at once for my assistant, Dr. Hanks, who was nearer to the hospital than I. Giving a little chloroform instead of ether, he reopened the abdominal wound and found the pelvis quite full of blood. This was rapidly sponged out, and with an excellent light the viscera were all minutely examined. Even now it was quite impossible to find the main source of bleeding. The entire under surface of the broad ligaments and the base of the pelvis steadily oozed, and here and there more vascular points emitted a steady stream; the pedicle ligatures were unaltered and the pedicles still dry. As before, the hemorrhage seemed chiefly on the left side. Additional catgut ligatures were applied to the chief bleeding points, torsion to others, the drainage-tube was replaced, and the abdominal wound closed with stout catgut. The blood removed from the pelvis had been collected in a basin, and was found to measure twenty-six ounces. The patient reacted slowly, and was excessively feeble; stimulating enemata were given, heat applied to the extremities, and the head was kept low. Three hours after this I saw her, with the house-surgeon, and at once de-

cided to perform transfusion, as she was still quite blanched and her pulse almost imperceptible. But as there was much jactitation, a preliminary hour was devoted to giving a hypodermic injection of morphia, and additional stimulants. At the end of this time, Dr. Outerbridge, the house-surgeon, made the first transfusion, which, it was agreed, should be with ten ounces of salted water, two and a half per cent. strong and 100° F. in temperature ; after the lapse of three hours this was to be repeated, if the first injection acted well.

This was accurately carried out ; and, although there was much difficulty in finding the median basilic vein, and our transfusion apparatus, when tested, was found defective—not an uncommon trait of elaborate apparatus of any kind—Dr. Outerbridge at once substituted a device of his own, which perfectly succeeded.

This was simply a tin funnel, none of glass being attainable, to which was firmly attached a piece of fine rubber tubing, ending in a large, blunt, exploring needle. By this means, and with the aid of a nurse alone, the injection was as easily managed as by any more scientific contrivance, and the admission of fluid into the vein was readily controlled.

No mishap occurred in its use. The effect on the patient was immediate and most gratifying ; but, as the amount injected was thought insufficient to produce a durable result, it was exactly repeated at the end of three hours. From this time the patient improved decidedly and steadily.

No trace of collapse recurred, the lips gradually recovered their natural color and the pulse an excellent volume, and these conditions were uninterruptedly maintained. The drainage-tube was regularly siphoned out every three hours ; for the first twenty-four hours about one teaspoonful of blood was obtained each time, but its color became steadily darker, and at no time indicated the occurrence of fresh hemorrhage. On the second day it became gradually more serous, and on the third ceased entirely. On the fourth it was removed, and a piece of fine rubber tubing substituted ; around this the opening, which still passed to the bottom of the pelvis, rapidly contracted.

For fear of fresh vomiting, and its injurious effect upon the pelvis, nothing was allowed to be given by the mouth until the fourth day—not even a drop of water—and the patient was sustained by enemata of beef-juice and brandy, with enough opium to quiet local and general irritation. When unusually thirsty, the mouth was simply rinsed with very hot water. The enemata were given every four or six hours. The pulse and temperature averaged about one hundred each during the whole of the first week, falling gradually to the normal standard on the sixth day. There was little or no peritonitis, the abdominal surface remaining flat and even.

On the eighth day the temperature unexpectedly ran up to 102° F., and the pulse to 120 ; the latter also lost its volume, and I feared the development of septicæmia. On carefully examining the abdominal wound, which, having been closed with catgut sutures, had not been disturbed, I found a mural abscess had occurred just above the site of the drainage-tube. This contained nearly an ounce of pus ; on evacuating it the pulse and temperature rapidly regained their former condition.

At this date—two weeks after the operation—the patient is entirely convalescent ; and it gives me pleasure to state that she owes her recovery and her life, first, to the prompt decision of Dr. Hanks, in reopening the abdomen ; and, secondly, to the intelligent skill and care with which, under circumstances that would have deterred many from attempting it, Dr. Outerbridge performed the transfusion.

79 Madison Avenue, October 27, 1887.

The Emperor of Brazil has diabetes in its advanced stage.

SOME THOUGHTS ON THE ETIOLOGY OF SQUINT.

By SWAN M. BURNETT, M.D.,

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When Donders pointed out, twenty-five years ago, for the first time, the fact that the eyes which squinted were almost without exception ametropic, and established the relation between convergence and accommodation, the etiology of strabismus was satisfactorily established in the minds of the majority of the profession, and remained almost unanimously so up to within a very few years.

Schweigger was the first observer of prominence to declare that this explanation did not explain all the facts in the case, and the publication of his monograph, in 1881,[1] marks the period of a reopening of the question ; and new evidence is now being furnished from all sides, and the discussions *pro* and *con* have of late been quite lively.

The present state of the controversy is well known to all specialists who keep *au courant* with the literature of ophthalmology, and it is unnecessary to refer to special persons or papers ; but for the benefit of the non-specialist it may be stated that for the production of squint several conditions are now assigned as essential by many different observers.

Among the first of the facts brought to light by the close examination of the eyes of those who squint was the difference in the visual power of the two eyes. The eye which habitually squinted was nearly always found to be defective in sight. When the squint was alternating—that is, when it affected first one eye and then the other—the vision was nearly always the same in each. From this fact was deduced the principle of *amblyopia ex anopsia*, where it was thought that the persistent exclusion of one eye from participation in vision was in time followed by a diminished visual power.

The examination of a large number of strabismics, however, has failed to show the constancy of association of ametropia with strabismus, and the value of ametropia as a factor is still further lessened by the fact that but a limited number of ametropic eyes squint, and some of the eyes which do squint are emmetropic. The logical inference, therefore, is that ametropia is not the sole cause of strabismus.

The next step was to look to the external ocular muscles themselves for a cause of the defect. It was thought by some that when one eye was not able, from amblyopia, to take part in vision, there was no incentive to hold the visual axes of the two eyes in such a position as would allow the images to fall on corresponding retinal points. While one eye, therefore, was fixed on the object, the other (amblyopic) eye was allowed to assume its normal position of rest, which might be inward or outward, or in a corresponding position to the other. It is, of course, assumed here that the amblyopia is antecedent to and, in a measure, a cause of the squint, and a correction of the strabismus cannot bring about an amelioration of vision, as is contended for by the advocates of *amblyopia ex anopsia*.

The whole question of converging squint was made the subject of full and free discussion at the last meeting of the British Medical Association,[2] and a perusal of the papers read and the comments thereon reveals a most unsatisfactory condition of the "squint" question. Almost every man had an opinion which differed by a shade from everyone else, and a student seeking exact knowledge on the subject would find himself in a whirl of conflicting views, from which it would be impossible to extract anything that was positive or assuring. The only impression that would likely be left on his mind

[1] Klinische Untersuchengen über das Schielen, by Prof. Dr. C. Schweigger. Berlin, 1881. August Herschwald. Pp. 152.
[2] British Medical Journal, September 24, 1887.

would be that there were more causes than one operating to bring about the condition of strabismus, and that further facts and observations on several different points were necessary before we could have clear views on the subject. At least such is my own present opinion on the question, and it is to contribute my modest quota of facts that I have written this paper.

In looking over the statistics of eye diseases observed by me at the Central Dispensary, I have been struck by the fact that the negro is afflicted with strabismus convergens to a very much less extent than his white brother. In a total of 3,740 patients there were 1,314 white and 2,426 colored. And of these there were 44 cases of strabismus convergens in the white and 7 among the colored. That is to say, there are about twelve times as many cases, proportionately, in the white as in the colored race.

It has seemed to me that this difference is something more than a mere coincidence, and a proper explanation of it would help us on toward a clearer understanding of the cause of squint. We are, unfortunately, not in a position to know with certainty the frequency of ametropia in the negro as compared with the white. In a clinical service which brings together only the very poor, who seldom or never use their eyes for accurate work of any kind, our statistics can hardly be considered as representing the true average condition. It is pretty certain, however, that myopia is much less frequent among the negroes, though there can be no question that the influence of education is beginning to be sensibly felt by them in that particular. I see now a considerable number of myopic negroes. The figures collected at my clinic show, among 1,314 whites, 30 myopes; among the 2,426 negroes, 9 myopes.

It is commonly supposed, on the other hand, that hypermetropia is more wide-spread among the less cultivated races. I find among the 1,314 whites 31 hypermetropes, and among the 2,426 negroes 27 hypermetropes. It will be seen from a study of the above figures that while there is, roughly, seven times as much myopia among the whites, there is still two and a half times as much hypermetropia. It is not a fair inference from these figures, however, that the white has more hypermetropia, for very few of the negroes suffering from hypermetropia would be likely to present themselves for examination on that account, their distant vision being quite sufficient for their uses, and there being no demand for any close work for the eyes. It is very important, however, for a proper settlement of this question, to know exactly the extent to which the negro suffers from hypermetropia. An examination of an equal and rather large number of the two races would be necessary, and it is a task which I have set for myself in the near future, should someone else not undertake it. Among the children of the public schools of this district, however, whom I have examined as private patients, I do not find any excess of hypermetropia among the negroes.

But granting that hypermetropia is equal among the whites and negroes, the enormous difference in the frequency of convergent strabismus still remains, which must be accounted for on some other basis.

Looked at broadly, the main difference in the use of the eyes in the two races, as found in this country, is the more *strongly fixed habit of convergence in the white.* The full force of this observation will become apparent when we remember that in the white race for generations the position of convergence has been the rule during a greater part of the waking hours, not alone in the student and man of letters, but in the mechanic and shopkeeper, and in all the occupations except that of the mere laborer. Up to within a few years the negro, with a few exceptions, was only a laborer, and the position of convergence was infrequently required of him, and only for a short time.

The internal recti muscles would, therefore, from greater use, become more strongly developed, and we should expect, *à priori*, that the position of convergence would be the position of rest, so called, as is contended for by Stilling.[1] It should be stated, however, that this statement of Stilling has been controverted by Gardiner.[2] Yet it must be acknowledged that the views of Stilling are philosophical, and the proof against them should be overwhelming before they are given up. We know that there is in convergent strabismus an increase of the power of convergence, due to a greater strength of the interni over the externi, not only relatively, but, so to speak, positively; that is to say, there is a power of turning the eye inward greater than in the normal condition. In only a limited number of cases are the externi positively weak. That in permanent squint there is a sort of contractured condition of the interni will, I believe, be admitted by all, and this condition is the legitimate result of the greater power and activity of those muscles.

It is not, of course, contended that there are not other causes operative in the production of the strabismic condition. I think it may be declared, without fear of successful contradiction, that no one of the various causes assigned can of itself bring about the condition of concomitant squint; but I think that, of them all, the habit of convergence is certainly one of the most powerful, and that the other conditions, hypermetropia, uniocular amblyopia, etc., are much less effective when it is not present. And whether this view is accepted or not, the main fact on which it is based—the less frequency of internal squint in the negro—remains, and must be accounted for in the final summing up of the evidence as to the etiology of squint.

A CLINICAL STUDY OF ERYSIPELAS IN INFANTS.[3]

By I. E. ATKINSON, M.D.,

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Erysipelas has always been a source of disagreement among writers. By some it has been regarded as a non-specific inflammatory process arising from a number of different etiological influences;[4] by others, as resulting from one or another of a number of specific principles, now from the contagion of pre-existing erysipelas, now from that of puerperal fever, or, again, from the toxic effects of traumatic or surgical sepsis. Finally, there have been those who have considered it an affection comparable to the acute specific fevers, always developing from a definite morbific principle. To-day it is hardly worth while to discuss the question of its non-specific origin. The line of inquiry is between a complex of symptoms resulting from one or other of a number of pathogenic specific influences, which forms the pathological whole which we call erysipelas, and a disease arising from a fixed definite principle, in the absence of which characteristic erysipelatous inflammation cannot occur. These questions cannot be properly considered without due observation from both histological and pathological and clinical stand-points. There can hardly be any doubt that modern bacteriological research has practically determined that erysipelas depends upon the vital activity of minute organisms. It is far from being determined, however, whether the disease is produced by a single specific microbe, or by more than one, which, unlike in specific nature, call forth similar pathological results. Not to delay with earlier observations on the bacteriological origin of erysipelas, let us consider briefly the work of Fehleisen,[5] by which he claims to have discovered an organism, the erysipelas coccus, or streptococcus erysipelatis, the sole cause of true erysipelas.

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[1] Stilling-Knapp's Archives, 1886, p. 270.
[2] Gardiner-Knapp's Archives, 1887, p. 39.
[3] Read at the Eleventh Annual Meeting of the American Dermatological Association, at Baltimore, August 31, 1887.
[4] Jonathan Hutchinson, Medical Times and Gazette, 1883, vol. i., p. 4.
[5] Der Aetiologie der Erysipelas. Berlin, 1883. Deutsche Med. Woch., 1882, vol. viii., p. 553.

This author asserts that the erysipelas coccus is distinguished from that of wound pus, pyæmia, and certain forms of abscess, through its behavior in cultivation. This microbe he found only in lymph channels, thus opposing the views of Lukmosky, Billroth, Ehrlich, and others, and immobile, though Hueter reported it actively mobile. It is identical with the coccus described by Koch. He was able to successfully inoculate rabbits and human beings with his cultures, and always produced a non-suppurative erysipelatous inflammation. Fehleisen claimed, therefore, to have established the streptococcus erysipelatis as the sole cause of erysipelas, excluding all erysipelas-like inflammations in which suppuration occurred, as not being truly erysipelatous, and in being without this peculiar streptococcus. Recent researches, however, throw considerable doubt upon the correctness of his observations and conclusions. Hajed,[1] for example, pursuing the same culture experiments as Fehleisen, sought to determine whether the streptococcus of erysipelas offered characteristics whereby it could be differentiated from the streptococcus pyogenes, one of the micro-organisms of pus and of phlegmonous inflammation. Not to delay over the very interesting details of his experiments, let it suffice to say that neither in their behavior under cultivation, nor under inoculation, did they present absolute differences. In their pathological histology, however, Hajed found notable points of dissimilarity. That is to say, while after erysipelas the cocci are to be found very sparsely, and almost exclusively, in lymph channels, rarely in the tissues, while cell-infiltration is abundant, in phlegmonous inflammation after the streptococcus pyogenes, while the lymph channels indeed are first invaded, we find the cocci vastly more numerous. The lymph-vessels are filled with them. The cocci are also abundant in the tissues. They seem to outnumber the tissue and inflammation products. He concludes that Fehleisen incorrectly limits true erysipelas in excluding all suppurative processes from it, as such may arise under accidental conditions, and that although the inflammation following streptococcus pyogenes is more constantly and intensely accompanied by œdema, that following streptococcus erysipelatis cannot be said to be quite free from it.

Eiselsberg[2] was quite unable to discover any difference between the two cocci, whether in cultivation, inoculation, or in microscopic structure. Bionti,[3] by cultures of streptococcus from phlegmonous abscesses, induced typical erysipelas in animals. Günther's observations did not enable him to decide as to the identity of the streptococcus found in phlegmonous suppuration with Fehleisin's erysipelas coccus. The whole question, therefore, is far from being settled. Under any circumstances, however, the clinician will not consent to accept as definitive any conception of erysipelas that restricts it to a migrating inflammation, never accompanied by œdema nor by suppuration.

It may be, indeed, that he will be compelled to recognize erysipelas, in a rigid sense, as a non-suppurative specific inflammation originating in a single specific organism, in the course of which atypical suppurative changes must be attributed to the accidental presence of one of the pus micro-organisms. Important as such conclusions would be in an etiological relation, they would not banish the difficulties of clinical diagnosis; for at the bedside one observes the simple non-suppurative form of erysipelas result from exposure to the phlegmonous variety, and *vice versâ*, and it becomes at once evident that the presence or absence of suppuration or of œdema can never be made the test of erysipelatous inflammation, nor determine the clinical diagnosis. For the present, then, one must be content with the general recognition that erysipelas is an infectious disease, owing its specificity to minute organisms, probably streptococci.

[1] Wiener Med. Presse, 1886, xxvii., p. 1563 et seq.
[2] Sitzungsber. d. k. k. Ges. d. Aerzte in Wein, 1886, p. 26.
[3] La Ritorma Med., 1886, 3.

Erysipelas of infants can only be said to assume peculiar features when it affects those less than one year of age. The excessive fatality of the affection at this period of life cannot be ascribed exclusively to the blood-poisoning almost invariably associated with the typical form of erysipelas neonatorum, beginning at or near the navel during the first few days of extra-uterine life, for it is almost equally frequent in erysipelas, having apparently no immediate connection with disorder arising from infection through this channel. After the first month the mortality from the disease rapidly diminishes until the end of the first year of life, when it comes to have a course not essentially differing from that in older persons. When death does not result from pyæmic infection, with inflammation of internal organs and suppuration after a more or less rapid course, the infant may succumb to exhaustion from the persistence of erysipelatous inflammation in its tendency to wander over the general surface, a tendency especially observed at this period of life, and according to which the process may endure for weeks, leaving no portion of the integument at one time or another uninvolved. A third tendency, which, however, is not often observed, but which can hardly be said to occur in erysipelas, excepting as affecting new-born and nursing infants, is toward the development of a peculiar solid œdema or induration of the cutaneous and subcutaneous cellular tissues. Infantile erysipelas, then, is peculiar in its great fatality, its tendency to wander, and its occasional indurative infiltrations. Regarding its fatality there is so great unanimity that a few words here will suffice. Trousseau confessed that he had never seen an infant less than a month old recover, and quoted Dubois, Moreau, Moynier, Lebreton, and others to almost similar effect.[1] Of six cases less than six weeks old recorded by J. Lewis Smith,[2] all died. Occasional recoveries, even at the earliest age, have been observed, however. Elsässer[3] reported the recovery of a boy, fourteen days old when attacked. Of fourteen cases collected by Gob,[4] six recovered, but four of these were of vaccination erysipelas. One infant, with erysipelas beginning near the navel on the ninth day of life, finally recovered. Other recoveries under similar conditions have been recorded, but they only serve to accentuate the high rate of mortality of the disorder in tender infants.

Doubtless the most important influence in the high mortality of erysipelas in the new-born is its frequent dependence upon the poison of puerperal fever, for, beyond question, it is of most frequent occurrence in those exposed to this infection. This is shown by the reports of many writers. J. Lewis Smith[5] has recorded the experience of Dr. Colby, of New Bedford, Mass., in 1840. This gentleman, suffering from a sore finger, with suppurating axillary glands, derived from a necropsy, attended within a few weeks fifteen lying-in women. All the mothers died with symptoms of metro-peritonitis, and all the children had erysipelas and died within a week after their seizure. Confirmatory evidence is abundant. Nevertheless, this infection cannot be the only cause of the fatality of the disease, since newly born infants beyond the influence of puerperal affection are sometimes attacked with erysipelas, which exhibits the same severity. While erysipelas neonatorum is admitted to be most dangerous when beginning at or near the navel, it is hardly less so when beginning on the neck or elsewhere. Since, however, it is now almost universally admitted that erysipelas is always derived from some pre-existing contagion, specific exposure must be assumed in all cases. It is interesting, however, that in recognizing a puerperal and a non-puerperal origin in these cases one must admit that unlike special influences induce similar pathological results.

Whether in older persons the spread of the inflammation

[1] Le Journal de Med. et de Chirurg., 1844, vol. i.
[2] Amer. Med. Times, 1861, vol. ii., 400.
[3] Arch. f. physiolog. Heilk., 1850, vol. xi., 496.
[4] Thèse de Paris, No. 240, 1873.
[5] Amer. Med. Times, 1861, vol. ii.

be more controlled by the peculiar arrangement of Langer's cleavage lines of the skin, is difficult to say. The fact of less restraint upon the spread of erysipelas in children is well known. The following cases illustrate this tendency, and at the same time the more rare cutaneous induration of which mention has been made. The first case was distinctly not due to puerperal contagion, the second case occurred during the puerperium.

Case I.—Female, seven weeks old; mother's convalescence normal. Though at first the child did not thrive, in consequence of deficient supply of mother's milk, recently she had begun to grow vigorously after the addition of cow's milk to her diet. She had been restless for a day or two, when, on the evening of November 20th a small red spot was observed on the neck, just behind the right ear. The surface was somewhat elevated, and under it a small enlarged gland could be felt.

November 21st.—The spot had spread to the cheek and involved the ear. It extended into the scalp, and on the neck reached to the clavicle. There was high febrile excitement. The inflamed area was very painful, and the baby would cry out frequently with sudden severe pain. Somnolence was marked. There was but slight infiltration of the erysipelatous area, which was bright red, but without vesicles. The bowels and kidneys were sufficiently active; wheaten flour was dusted over the inflamed surface. One grain of quinine sulphate three times daily, and two drops of the tincture of the chloride of iron every third hour were prescribed.

November 22d.—Child drowsy, crying out with distress at intervals. The eruption had crept to left side of the face and neck. Pulse rapid and fever decided. The tincture of iron was increased to four drops every third hour. Twenty drops of brandy were ordered to be given every fourth hour.

November 23d.—Slight disturbance of respiration; slight cough and wheezy breathing. Stupor continued.

November 24th.—The eruption had extended over entire face to half of forehead. On the back it had extended nearly to the hip on the right side. Both ears were reddened and swollen. Any movement excited intense pain. The bowels had been moved three times.

November 25th.—The eruption had almost disappeared from the head, but covered entire back to the hips, sharply margined inferiorly.

November 26th.—Both arms were invaded; the perineum and vulva also, but the child seemed better.

November 27th.—Was quite restless last evening, but slept well later. Is taking one-third drop of tincture of opium every fourth hour. The child is better. The eruption is now very faint upon the body, but is brilliant upon the thighs and both arms almost to the wrist.

November 28th.—Eruption nearly gone from body and legs and arms. Forearms swollen and reddened beyond wrists. Child very fretful. Skin much darkened from pigmentation following the hyperæmia. Over belly, back, and thighs are scattered several areas, irregular in shape and somewhat elevated, sharply circumscribed and brilliantly red; areas of erysipelatous inflammation returning upon parts that have already been affected. The temperature has shown itself to depend for its variations upon the varying extent of surface involved, lighting up with renewed vigor upon every marked extension of eruption.

Until December 4th the fever and eruption continued with varying intensity, the latter never quite disappearing from the extremities, but leaving the trunk, neck, and head almost free, except for occasional eruptions of circumscribed extent and transitory duration, though erysipelatous in character. Upon this date the temperature rose rapidly to 104° F., and upon inspection the hands and feet were found to be much reddened, swollen, and shining. There was some cough, but no signs of consolidation of lung. While emaciated the infant did not seem especially depressed.

On the 5th the legs had become very œdematous and indurated, imparting to the hand a sensation as of very tough, almost hardened, clay or mortar. The arms were also very œdematous, and there was some œdema of the face. With difficulty a sufficient amount of urine was collected for chemical examination. It was found to be quite free from albumen. Desquamation was free, except in swollen parts. From this time there was no renewal of the erysipelatous inflammation, and the œdema slowly subsided, retaining for some time the mortar-like solidity, and pitting only very slightly to ordinary pressure. While it lasted, the skin was not tender and hot as during the acute inflammation, yet it did not feel unduly cold. The skin of the indurated area was darkened from pigmentation, and was not livid from intra-vascular changes.

By December 11th fever had subsided and convalescence was established. The treatment throughout consisted in slight variations of that adopted at the outset—the administration of iron, quinine, and small quantities of opium. Small doses of brandy were administered as required. The local treatment consisted in the application of dry wheaten flour copiously. Convalescence was established on the twenty-first day of the disease, which had been marked by great and irregular variations both of pulse and temperature; the latter varying from 99.2° F. to 104.4° F., the former from 150 to 192 to the minute. A striking feature throughout the period of erysipelas of the trunk was the high rate of the respiration, ranging from 48 to 72. It was easily demonstrated that this was not due to pulmonary complications, but resulted from the unconscious effort of the child to avoid the painful movement of the chest and belly-wall consequent upon deep inspiration.

No lesion could be detected at the point where erysipelas originated, and no erysipelas nor septic disease was known to be in the vicinity. The next case that I shall present differed from this in occurring during the puerperium, in more intense induration of the tissues, and in its fatal termination.

Case II.—Mrs. B—— was safely delivered of her second child, a girl, on March 14th. She convalesced without untoward symptoms. The child thrived until the 23d, when she was observed to be restless and to cry out vehemently whenever disturbed. I saw her the next day, and upon stripping her found the right knee-joint enlarged and globular, but not elastic. No other symptoms were evident. The cord had come away naturally, and the navel presented a healthy appearance. There was no redness of the skin. The infant nursed well and voided its urine and fæces naturally. A belladonna ointment was applied to the knee.

March 25th.—The knee was still more swollen, but the child was more comfortable. Its axillary temperature at 10 o'clock A.M. was 101° F.

March 26th.—An erysipelatous redness had now appeared at the right labium majus, extending without a sharp line of demarcation over a limited area of the right abdomen. The navel was covered with a thin, brownish crust, but was not swollen or reddened. The head and upper extremities were flecked with reddish spots, without infiltration or tenderness, fading on pressure. One drop of the tincture of the chloride of iron was now given every fourth hour. By 8 o'clock P.M. both labia were intensely red, indurated, and swollen. The redness extended over the belly and buttocks, but without œdema or induration. Pulse, 162; respiration, 100; temperature, 103° F.

March 27th.—The infant was drowsy. The labia, buttocks, and belly were brawny and red. At 8.45 A.M. the temperature was 101.2° F.; pulse, 162; respiration, 100. Bowels had been moved three times. There was no cough. Examination revealed no pulmonary abnormality. Inflammation had extended well down both lower extremities. The red maculations continued to come and go upon trunk, head, and upper extremities.

Condition of knee-joint unchanged. Evening temperature, 102.2° F.; pulse, 168; respiration, 70. Belly less red and inflammation not extending upward. During the next twenty-four hours the condition remained unchanged. No active extension of inflammation occurred. None of the erythematous transitory maculations became frankly erysipelatous.

On the morning of March 30th there was apparently great improvement, the temperature falling to 99.2° F., and the redness not extending, but at 8 P.M. the temperature had risen to 102.4° F.

March 31st.—Without further extension of inflammation the belly, hips, buttocks, and lower extremities had become densely indurated. The integument of these parts was of a dusky red color; it was intensely infiltrated, and of a board-like hardness; it did not pit to pressure, but resisted the fingers, as would a nearly hardened clay model. During the next two days there were several marked remissions and exacerbations of temperature.

April 2d.—The temperature at 10 A.M. was 99.2° F., at 6 P.M. it was 102.4° F. During the day the erysipelatous redness extended over the back and shoulders, but without œdema and induration. The thighs, lower portion of the belly, the buttocks, and external genitals were more solidly indurated than ever. It should be noted that the integument of the belly, after having become much less infiltrated and softer than at first, again acquired a still greater induration.

The child's condition had become decidedly less favorable. A number of greenish, slimy evacuations from the bowels were had during the day, and she refused the breast. She remained quiet, occasionally whimpering, but was readily composed by two one-quarter-drop doses of laudanum, given with an interval of four hours. Quinine in one-grain doses had been administered every sixth hour during the day, but was rejected by the stomach and its use was abandoned. Brandy, gtt. xx., every third hour.

April 3d.—The child was very much worse. The morning temperature was 99.1° F., the pulse 138, respiration 84. During the past two days emaciation had been rapid and evident. There was no extension of the eruption, but the thighs, belly, and buttocks, though paler, were of a board-like hardness. Desquamation was noticeable over the spots which had been erythematous early in the disease. The swollen knee-joint remained unchanged. The legs and feet were dusky and swollen, but not indurated. The affected area, which had been until now dressed with dry wheaten flour, was pencilled with a solution of silver nitrate—grains xxv. to the fluidounce of distilled water.

April 4th.—The lower extremities were mottled and cyanotic. Thighs, belly, and buttocks retained their board-like hardness; they were livid and presented numerous ecchymoses. The external genitals were indurated as before, but livid, and apparently about to become gangrenous. The board-like hardness merged imperceptibly into the œdema of the neighboring parts. The parts implicated were not, and had not been at any time, colder than the rest of the surface, but gave the impression of solidity and absolute immobility upon subjacent structures. Death occurred quietly at 10.30 o'clock A.M., after a slight convulsion. The kidneys were active throughout.

The source of this erysipelas could not be ascertained. The mother had no puerperal inflammation. There had been no infectious disorder in the house. I had seen no erysipelatous nor septic disorder for many weeks. The nurse denied any dangerous exposure, but was reticent, and opportunity of ascertaining her antecedents was not afforded. No necropsy was permitted.

The first point of interest in the preceding case is the fact that the erysipelas was preceded for two days by pronounced enlargement of the right knee-joint, with febrile movement. This would indicate that, contrary to what is the usual experience, the noxious principle acted from the circulation and not by the gradual extension of a local infection. The fugitive erythema appearing concurrently with the erysipelas would bear out this theory of mortification, since similar eruptions are well-known concomitants of septic blood-infection. That the primary inflammation was not centred around the umbilicus does not indicate that the poisonous virus gained admission by another channel. Erysipelas neonatorum by no means always begins just at the navel, even excluding cases of vaccination erysipelas. It is well known that erysipelas neonatorum frequently first appears in the pubic region and about the external genitals, especially in girls, and attention has long since been directed to its development at points more or less distant from its probable point of entrance, and more particularly to its appearance near, rather than at, the navel.[1] This course has been observed by a number of writers. Elsässer[2] has recorded a case closely simulating my own observation. A boy, fourteen days old, had fever. *After four days* erysipelas appeared upon his thigh. After two more days the knee and calf were invaded, and the skin became hard as in scleroma. This child finally recovered.

The peculiar induration of the erysipelatous tissues, although uncommon, has been observed by so many writers that its presence can hardly be regarded as accidental. Earlier writers undoubtedly confounded erysipelas with ordinary scleroma infantile; and one (Hemmer) probably after the observation of cases like the one just described, considered scleroma to be a sequel of erysipelas neonatorum.[3] This induration of the connective tissue with and after erysipelas has been described by Trousseau, Hervieux, Elsässer, Bierbaum,[4] Hellft,[5] and others. Older writers describe the association of infantile erysipelas with induration of the skin and subcutaneous connective tissue with more care than more recent observers. This is partly due, probably, to their confounding scleroma with erysipelas; but a number of cases are upon record where undoubted erysipelas was accompanied or succeeded by the morbid condition now under consideration. Trousseau has seen this connective tissue induration invade not only the parts that had been attacked by erysipelas, but even those that had remained free from the inflammation. He relates the following case (given in brief): The mother died on the fourth day with puerperal fever. On the sixth day the infant was seized with erysipelas of the prepuce, the navel freely suppurating. The erysipelas attacked successively the inferior extremities, the trunk, the arms, but stopped at the neck. Fever and general distress were marked. On the seventh day the redness seemed to disappear from the affected parts, but during the day the infant became hard. The induration involved the entire body, including the face. The limbs were cold, and gave the same sensation as a frozen corpse. Death occurred eight days after the beginning of the attack. This case could have well been a scleroma following erysipelas. Hervieux[6] declared that the only differences between the symptoms of erysipelas of adults and erysipelas neonatorum were found in the latter when complicated with scleroma, when "the tumefaction is accompanied by an uncommon, at times almost stony hardness." In such cases he noted an almost complete absence of fever. He regarded such cases as the concurrence of erysipelas and scleroma. Elsässer relates three cases of erysipelas neonatorum in which the parts affected became almost as hard as stone. This author, however, does not make clear the difference between "acute sclerosis of the newborn" and "erysipelas neonatorum" complicated by scleroma. Hellft[7] details the histories of two infants in whom the erysipelatous character of the inflammation

[1] Trousseau: loc. cit. [2] Arch. f. physiol. Heilk., 1852, xi.
[3] Neue Jahrbücher des Deutschen Med. u. Chir., 1823, 7.
[4] Jour. f. Kinderkr., 1867, 48, 248. [5] Ibid., 1846, 6, p. 50.
[6] Gaz. Méd. de Paris, 1856, xi., 123.
[7] Journ. f. Kinderkr., 1846, 6, Erlangen.

was clearly expressed, and in whom the induration was unquestionably dependent upon it. He notes the frequent confounding of this condition with sclerosis or scleroma, and indicates the points of differentiation. His description of the course of the disorder is very accurate, and, so far from confounding it with scleroma, he carefully indicates the diagnostic differentiation. Scleroma, he declares, occurs only during the first days of life. (Of two hundred and forty cases reported by Billard, not one was more than eight days old.) From the first, the skin is pale white or yellowish. If at the beginning the skin is red, this redness speedily fades. Coldness and want of sensibility are characteristic of the scleromatous skin. A febrile condition is not observed. Profound depression of the vital powers is manifest from the first, and infants attacked are usually meagre and badly nourished.

It is noteworthy that the induration of the cellular tissue succeeds rather than accompanies the erysipelatous inflammation. This was the case in both of my patients, and was observed in the recorded instances to which I have had access. That the induration is due to an intense œdema, with cellular exudation, would appear probable, and that it is an extreme degree of the œdema that so often accompanies erysipelatous inflammation is altogether likely. In my first case the induration was solid, but more or less plastic, while in my second case it was of a board-like hardness. In neither case was there suppuration, but in the second case the brownish-red, brawny condition of the affected parts indicated that local gangrene was only evaded by the death of the patient. In fact, suppuration and gangrene are exceedingly rare in primary erysipelas. They occasionally occur, however; and in erysipelas neonatorum, suppurative pleuritis, peritonitis, etc., may be observed.

It is claimed in this article that "erysipelas" represents a pathological process that may find its exciting cause in irritation proceeding from morbific principles of different nature which produce in the organism similar results; that it represents a symptom-complex rather than an essential disease, and that erysipelas should be regarded as an inflammatory process of symptomatic character, just as we know that suppurative inflammation may be excited not by a single, but by several micro-organisms. The following two cases still further support this opinion:

Case III.—I was called to see, at the Home of the Friendless, a male infant, aged seven months, on July 4th. It was stout, and had always been healthy until it took measles early in June. It had an ordinary attack and convalesced fairly well. Some enlargement of the cervical and submaxillary glands remained. It had, when I first saw it, an attack of cholera infantum. This was controlled after two days.

On July 7th it had moderate fever, and its neck became markedly swollen. The outlines of the glands became lost in the dense hardness of the whole posterior surface of the neck and occipital region, and under the jaws. This was accompanied by redness and great œdema of the face and posterior and vertical portion of the scalp. The swelling was especially pronounced on the left side of the head, and gave the child a most grotesque appearance. The face was pallid, the expression anxious and distressed. The neck and scalp very much indurated. The head was as if set upon the shoulders, and immobile. A diffuse cellulitis, such as has been called by older writers erysipelas fixum, was diagnosticated. As the child had still diarrhœa, a mixture for this disorder was continued, and twenty drops of gin given every fourth hour. As milk had not agreed, beef-tea was given as an exclusive diet, for the present. The neck and scalp were poulticed.

By the 9th suppuration had occurred in the right suboccipital region. Much thick yellow pus was let out by free incision.

On the 10th the general condition was improved. With the dressing-forceps shreds of connective tissue and glandular substance were removed, and the probe could be swept around for a considerable distance toward the median line. The induration of the other parts continued, but there was much less œdema of the face and no tendency toward extension of the inflammation.

11th, suppuration over left occipital region. Lanced. Swelling of neck and scalp much less, but hardness persisted.

13th, two small pockets of pus over occiput were lanced. A number of small accumulations of pus were now freely opened daily until the 17th, when the general condition was very much improved. The openings generally communicated, and were syringed out with a carbolized solution (1 : 20). Improvement thenceforth was constant.

Case IV.—On July 14th my attention was drawn to an infant, six months of age, in the next crib to Case III. It had also recovered from measles, and although puny, had not required treatment. For two days the nurse had observed enlargement of the submaxillary glands of the left side.

On the 15th there was a slight erythematous redness over an enlarged gland below the angle of the jaw.

On the 17th there was an erysipelatous eruption extending over the side of the face and neck, and nearly reaching the scalp on the forehead. It was sharply circumscribed and slightly œdematous. The pulse was 180; the temperature 102.3° F. Bowels regular. Respiration easy. Flour was dusted over the eruption, and two drops of the tincture of the chloride of iron given every fourth hour. This marked the height of the disorder, which thenceforth steadily declined, the temperature becoming normal on the 20th. The œdema and erythema rapidly disappeared. Desquamation appeared duly, and the case terminated favorably as an ordinary attack of facial erysipelas. It is, of course, possible that these two children may have been infected independently of each other. So many instances of the appearance of erysipelatous inflammation under almost identical conditions are upon record, however, that a community of origin between such inflammations is exceedingly probable, especially in view of the experimental observations quoted in the early portion of this paper.

It may be said, in conclusion, that while the writer cannot assent to the assertion of even such distinguished authority as Jonathan Hutchinson,[1] that erysipelas is a non-specific disease and of spontaneous origin, he is by no means of the opinion that it is specific in the sense that it is due to a single specific organism, as are smallpox, scarlatina, etc. He agrees with a number of writers who think that it may be an expression of one or more of a number of specific causes; that it should be regarded as a symptomatic inflammation, in which its exciting micro-organisms, themselves differing in nature, react upon the economy in a more or less similar manner, and of the activity of which it may be only one of several phenomena; that while experimental observation may establish the identity of the streptococcus erysipelatis of Fehleisen, as a micro-organism capable of exciting erysipelas in man and other mammals, by inoculation, neither experimental research nor clinical observation will establish it as the sole cause of even the restricted form of erysipelatous inflammation to which its discoverer would apply the term erysipelas. Finally, it may be said that no conditions are more favorable to the establishment of these opinions than the observation of erysipelas of new-born and nursing infants, which in other respects differs from that of older persons in its greater tendency to migration, to a protracted course, and to a fatal termination, and, last of all, to the occasional development of an œdematous induration of the affected connective tissue to some extent resembling scleroma neonatorum.

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[1] Medical Times and Gazette, 1883, vol. i., p. 4.

Clinical Department.

GONORRHŒA IN YOUNG CHILDREN.

Dr. J. S. Prettyman, Jr., of Milford, Del., writes: "On August 25th, D. L——, aged nine years, was sent to me by a physician from a neighboring town to be operated upon for phimosis. Upon examination I discovered that he was suffering from acute urethritis with balanitis, and refrained from operating. He admitted having several times in the previous three weeks attempted sexual intercourse with a colored girl, seventeen years of age. Two days afterward an older brother, aged eleven, came to me with the same disease and acknowledged infection from the same source. They were both treated for gonorrhœa and are now entirely well.

"Ten days ago I visited Miss ——, aged nine, the youngest member of a family of excellent social position, and found her with a severe urethritis and vaginitis. She had already been treated three weeks by external applications to the vulva, her physician thinking she had a cutaneous disease. Not wishing to humiliate the girl I refrained from interrogating her in regard to the source of infection, but diagnosed gonorrhœa and put her under treatment. At present she micturates without pain and the discharge has entirely ceased. In these cases the physicians had failed to diagnose the disease because they did not expect to see gonorrhœa in children so young."

FRAGILITY OF THE UMBILICAL CORD.

J. Henry Fruitnight, M.D., of this city, writes: "An extract from a discussion which took place at a meeting of the Société de Médecine Légale of Paris upon the subject of the fragility of the umbilical cord appeared in a recent number of The Record (Vol. xxxii., No. 14).

"From this discussion the inference is drawn that in the opinion of some of the participants the occurrence of a separation of the integral portions of the funis is somewhat doubtful. Very little bearing upon this subject is to be found in works treating of obstetrics. However, in the last edition of Cazeaux and Tarnier's 'Theory and Practice of Obstetrics' the affirmative of the proposition is maintained, and the condition is designated as a weakness of the umbilical cord. These authors ascribe this weakness as due either to a deficient development of the cord itself, or to a particular mode of distribution of the umbilical vessels, or to an oblique attachment to the placenta.

"The same writers also discuss at some length rupture of the umbilical cord *ante partum*, assigning as causes some diseased condition of the vascular coats, a particular arrangement of the vessels or a shortness of the funis, either *per se* or as a consequence of repeated turns of the cord around the various portions of the fœtus. In connection with this phase of the subject they cite many cases and authors.

"As bearing upon this subject, it will be interesting to submit a brief history of an opposite case which occurred in my practice. Early one morning about six years ago I was urgently summoned to visit a woman, a multipara, in childbirth, who at the time was under the charge of a midwife. When I arrived at the bedside of the patient, I found upon investigation that the child had been born, the funis having been deligated *secundum artem*. But to the consternation of those present, when the midwife attempted to deliver the placenta the umbilical cord was severed from that organ, probably in consequence of her vigorous efforts at traction, for nothing abnormal could be detected about the funis. This detached segment of the funis measured about fourteen inches in length, and the line of fracture of its torn extremity was oblique from above downward. The placenta with the remainder of the cord attached was still *in utero*. Upon a vaginal examination I discovered that the uterus was contracting and that the os had closed considerably, as nearly an hour had already elapsed since the birth of the child. After considerable difficulty and gradual manual dilatation of the os, accompanied by abdominal compression and traction upon the placental mass, the afterbirth with the attached portion of the funis, measuring about two and one-half inches, was expelled.

"Of course, the separation of the funis from the placenta after the birth of the child does not, in itself, affect the safety of either the mother or the child. Separation or rupture *ante partum* obviously has a very serious import as regards the life of the child, and, in a minor degree, the safety of the mother is also imperilled. Nevertheless, as a guide to the position and attachment and easy delivery of the placenta, it is highly desirable that the integrity of the cord should be preserved. As intimated by the authors already quoted, there is a slight possibility that in a case of this nature the uterus may be dragged down. Still, if the physical characters of the placenta be recollected and abdominal palpation be practised the experienced accoucheur will not be apt to have this happen in his hands. My case, added to the others alluded to in the above-mentioned discussion, would seem to sustain the argument that the umbilical cord *is* frangible."

FLUID EXTRACT OF PICHI IN VESICAL CATARRH.

Dr. H. S. Delamere, of Lubec, Me., referring to the use of pichi in the treatment of catarrh of the bladder, as reported by Dr. G. T. Comstock, relates the following case:

"A. B——, aged twenty-eight, had been suffering for two years from vesical catarrh. He had had gonorrhœa, but a No. 21 (French) bougie passed without difficulty, causing, however, considerable vesical tenesmus. When I was called to see him he was passing urine every hour during the day and four or five times during the night. The urine was alkaline, ropy, ammoniacal, and the microscope revealed pus. I gave the usual remedies prescribed in country practice, such as buchu, uva ursi, etc., but without benefit. I then resorted to washing out the bladder by means of the double-channel catheter, with the effect of relieving my patient slightly. The least exposure, however, aggravated all the symptoms and caused as much suffering as ever. After about a year and a half of constant treatment, with no other result than to keep the disease at bay, I received a sample bottle of fluid extract of pichi, which I tried. After the patient had taken it a few days he expressed himself as feeling better. He was now getting up twice during the night. But the sample was gone, and I was obliged to wait until I could get a fresh supply. In the meantime the patient grew worse; had to get up three or four times during the night. As soon as the drug arrived I commenced giving him twenty drops four times a day, which dose I increased to thirty drops. In a few weeks my patient was so much better that I abandoned washing out the bladder, and today he is at work. The urine is clear, free from mucus and pus, and has no ammoniacal odor. He sleeps well, and does not have to get up more than once during the night. Notwithstanding he has suffered recently from a severe cold, the bladder-trouble has not returned. The man's general appearance is healthy, appetite good, and he seems well."

A CASE OF SCARLATINA WITH COMPLICATIONS.

Dr. W. U. Taylor, of Movers, N. Y., writes: "The case reported by Dr. Miller in The Medical Record of October 8th, recalls a somewhat similar case that occurred in the practice of the late Dr. C. H. Bidwell, of this town. The child, about five years of age, had a mild attack of scarlet fever, for which he had little or no

treatment. During the second week, while convalescent, dark spots appeared upon the arms, extending within twenty-four hours to the trunk and legs. When I saw the child—forty-eight hours after the appearance of the purpura—the trunk and extremities were covered with irregularly shaped spots looking like bruises. The oldest and most superficial were turning yellow; the deeper and later were still purple, some almost black. The great toe of the right foot was gangrenous, as was the left foot and leg half-way to the knee—the skin being black, with vesicles filled with bloody serum scattered over it. As the case progressed, acute nephritis, albuminuria, suppression of urine, and general dropsy appeared. The left tonsil suppurated, and was incised; convulsions with left hemiplegia appeared, followed by suppurative otitis of left ear. Two weeks afterward, after having been given up by everyone, the boy began to improve. A line of demarcation formed about six inches below the knee, the right toe sloughed off, and in a tew days we amputated the leg. The case made a good recovery. The paralysis disappeared within a year, and now—two years later—the boy runs about either on his knees or with one crutch. Have not tested his hearing, but understand he is somewhat deaf in the left ear. Here was a series of complications! Scarlatina, purpura hemorrhagica, nephritis, suppurative tonsillitis and otitis, dropsy, convulsion, paralysis, gangrene, amputation, and *recovery*. The latter would hardly be called a complication. Possibly it would be considered accidental."

NUTMEG POISONING.

Dr. W. T. Dodge, of Marlette, Mich., reports the following cases: "In June, 1886, I was called to see two children, a girl about four years of age, and a boy about eight, who had been left at a farm-house alone all day and were discovered acting strangely on the return of the family in the evening. An investigation discovered pieces of nutmegs about the house, and the little girl stated that she had eaten one, but had vomited, and that the boy had eaten two. He soon becoming stupid, his parents became alarmed and sent for me. I found him in a semi-comatose condition, and immediately administered an emetic and diffusible stimulants. He vomited freely, but the coma increased until it was soon impossible to give him anything by the mouth. Hypodermic injections of brandy, ammonia, and small doses of sulph. of atropia were given, and artificial respirations were continued all night, but the little fellow did not rally, and died at an early hour the following morning. There was complete suppression of urine. The little girl became partially unconscious about two hours after the boy was taken, but could be at all times easily aroused and was all right in the morning. It will be seen the symptoms were similar to opium poisoning, but there was no opium in the house, and there appeared to be no doubt that the death of one child and the symptoms shown by the other were caused by eating the nutmegs. I think both children would have died had not the little girl vomited soon after eating."

LIGATURE OF THE CLITORIS IN A YOUNG CHILD.

Dr. George F. Wilson, Assistant Surgeon, United States Army, of Fort Shaw, Mon. Ter., sends the following communication: "On the morning of August 29, 1887, I was asked to go a distance of about twelve miles from this post to see a girl six years of age, who had been taken seriously ill on the previous evening. As the messenger spoke English very imperfectly, I was unable to obtain a very satisfactory history of the case. He stated that the child had been put to bed at its usual time, in good health apparently, and that about ten o'clock she began to cry out with pain. The parents then examined the child to find the source of the trouble, and discovered that something was protruding from her vagina. On arriving at the house I asked to see the patient immediately, as the mental distress of the parents rendered their account still more bewildering. The patient, a thin and poorly-nourished girl, was lying on the bed, her clothes completely saturated with sweet oil, urine, and the water from many hop poultices, which latter had been constantly applied since the discovery of the trouble. Just above the meatus, and occupying the site of the clitoris, was a small, tense, œdematous swelling, about the size of a marble, and separated from the normal parts by a deep sulcus. As every attempt to examine the lump was met by struggles and screams on the part of the patient, and cries of despair from the parents, I was obliged to administer a small quantity of ether. When partially under the influence of the anæsthetic the child voided her urine, which operation caused the lump to move about as if lightly suspended, at the same time bringing into occasional view the orifice of the meatus, which was to no extent involved in the swelling. As soon as the patient became quiet I proceeded to examine the mass, and while rather at a loss to account for the trouble, I saw two small ends of thread projecting from the sulcus, anteriorly. Traction on each, separately, failed to loosen them, but I was then convinced that they must be the ends of an encircling ligature. Acting on this supposition I squeezed the tumor between thumb and fingers, which relieved much of the tension, so that the bottom of the sulcus became visible. A thread was discovered then and cut with scissors, after which gentle pressure with the fingers restored the parts almost to the normal, to the very great joy of both parents. As the only other member of the family is a child about three years of age, I presume the girl must have tied the string herself. The sex, extreme youth, and undeveloped condition of the parts are, to my mind, the unusual features of the case."

FRACTURE OF THE BASE OF THE SKULL—RECOVERY.

Dr. F. H. Jenks, of Aurora, Ill., reports the following case: "I was called to see T—— on the evening of May 21st. All that could be learned from the patient's friends was that he had jumped from a wagon in a runaway. There was a scalp wound in the left parietal region and a contusion in the left temporo-occipital region. Blood was oozing from both ears, from the nose, and mouth. There was œdema and ecchymosis of both eyelids; the epidermis was scraped from right cheek; the alveolar process of the superior maxillary bone on right side was fractured from the body, the fragment containing three teeth, and there was paralysis of the muscles of the face on both sides. About two days after the accident it was discovered that the external rectus muscle of the left eye was also paralyzed. The patient was delirious until about noon the next day, when he entered into a partial coma, which began to disappear in about four days. Consciousness was fully restored in about nine days after the accident. The highest temperature observed was 99.1° F. Treatment mainly ice to head and bromides. In twenty-four days the patient was walking around the house, suffering comparatively no discomfort except from paralysis of the extreme rectus of the eye and a queer feeling in the head. At this time the patient passed from my care, returning to his home in Pennsylvania. The case is of interest for two reasons: First, the paralysis indicated the locality of the fracture, and second, the amount of cerebral and meningeal injury was comparatively small. Had the injury to the brain been of any moment it must necessarily have proved fatal in spite of any treatment."

Progress of Medical Science.

The Use of Pilocarpine in the Treatment of Acute Affections of the Respiratory Organs.—Following the advice of leading French physicians, Dr. Wyss has lately frequently used pilocarpine in acute affections of the respiratory organs. In many cases speedy relief was observed. Dr. Wyss prefers the internal use of this drug, to which patients more readily submit than to subcutaneous injections. He prescribes: ℞. Hydrochlorate of pilocarpine, half a grain; distilled water, three ounces; to be divided into two or three equal parts by the graduation of the phial. Of this, one-half or one-third is to be taken directly after having retired to bed. The following cases will illustrate the action of this remedy (*Der Fortschritt*):

1. *Acute coryza*, in a young man aged twenty-one. Two days after attack, respiration through the mouth, violent frontal headaches, intense congestion, and tumefaction of the conjunctiva; pharyngeal dryness. One-sixth of a grain of hydrochlorate of pilocarpine at bedtime. Great relief since the first night. Recovery in three days.

2. *Acute laryngitis.*—Miss S——, aged twenty, a teacher of singing. Complete loss of voice; congestion of the whole interior of the larynx; grayish-yellow secretions covering the vocal cords. Pilocarpine, one-sixth of a grain, at bedtime. The voice considerably clearer since the morning following the first dose of pilocarpine. After eight days the voice was perfectly clear and normal, and the patient was able to resume her lessons.

3. *Acute pharyngo-laryngitis*, in a man aged forty-four. The patient had been suffering since three days, especially during the nights, from frequent attacks of suffocation in consequence of the intense œdematous swelling of the inter-arytenoid space. Complete loss of voice; moderate, thick, grumous, grayish expectoration. One-sixth of a grain of pilocarpine at bedtime. Voice restored on the morning following the first dose. The tumefaction of the inter-arytenoid mucous membrane had almost entirely disappeared; no more attacks of suffocation. The patient resumed his occupation as foreman in a large factory, continuing, however, the pilocarpine for a week.

4. *Acute laryngo-bronchitis.*—Patient, aged forty, in bed, suffering from violent dyspnœa and labored, loud respiration; the voice hoarse; the laryngeal mucous membrane, especially the vocal cords, intensely red. Temperature, 101.3° F. One-fourth of a grain of pilocarpine at night. This dose had very powerful effects: violent colics, cold perspirations, the feeling of sinking (the patient feared to die) during three hours, but on the following morning so manifest a relief and improvement that on the same day he was able to attend to his usual duties. From this time uninterrupted recovery.

5. *Bronchitic asthma and hypertrophic rhinitis*, in a lady aged thirty-two. The patient, for eight days, had been obliged to pass half the night sitting up with the windows opened. Pilocarpine, one-sixth of a grain, at bedtime. Since the first evening considerable relief, the patient being able to rest the whole night in bed and sleep quietly, undisturbed by any more attacks. Discontinued the pilocarpine after twelve days. This patient, who had been for nine years a great sufferer from asthmatic attacks, stated that no other remedy had ever given her such rapid and permanent relief. She has been free of attacks since she took the first dose of pilocarpine.

Urobilinuria.—Professor Hayem recently read an article giving the results of his researches on urobilinuria. He demonstrated how, by the aid of the spectroscope, urobiline may be recognized in the serum of the blood and in the urine. According to him, the excretion of an abnormal quantity of urobiline constitutes urobilinuria. This phenomenon may be transitory, or it may be intermittent, or it may present itself in a permanent manner. When the affection is slight, the color of the urine is scarcely altered, but when well marked, we have the hemaphetic urine of Gubler. Urobiline is found in the urine, either alone, or associated with a more or less considerable quantity of biliary pigments. It is frequently met with in intoxications, diseases of the liver, cerebral affections, and in certain chronic maladies. It is also frequently met with in the greater part of acute affections. Dr. Hayem does not believe that urobiline alone can produce jaundice. He had been able to establish, in all cases in which he observed urobilinuria, a venous stasis of the liver with slight catarrh of the biliary ducts, and with infiltration or fatty degeneration of the hepatic cells. According to Hayem the diseased liver, instead of secreting normal pigments, secretes urobiline, which, according to certain clinical facts, would pass directly from the biliary ducts into the blood. In conclusion, Dr. Hayem establishes the prognostic value of the symptom of urobilinuria as follows: When temporary it indicates temporary modifications of the hepatic circulation. When permanent, it indicates infiltration or fatty degeneration of the hepatic cells.—*The Journal of the American Medical Association*, *October* 8, 1887.

Fatal Paralysis Following Measles.—Although Landouzy, in his work on the Paralysis of Acute Diseases, asserts that, without being exceptional, paralyses are less frequent with measles than with variola, yet it may be questioned whether measles is not, rather more frequently than is generally supposed, the efficient cause of obscure nerve disease among children. Dr. Négrié, of Bordeaux, has observed a case of acute ascending paralysis consecutive to measles. The child was three years of age, and on the tenth day of full convalescence after measles considerable weakness was first discovered in the upper and lower limbs and in the muscles of the neck. Headache, pains in the limbs, and fever were other symptoms. The paralysis increased in degree, so that sitting was impossible. The knee jerks disappeared and the plantar reflexes appeared to be diminished. Before speaking, the child was noticed to make some jerky inspirations. Sensation and the sphincters were not affected. Paralysis of respiration seemed to be the principal cause of death, which took place five days after the onset of the paralytic symptoms.—*Journal de Médecine de Bordeaux.*

Reflex Neuroses from Constipation.—Besides disturbances of the circulation, and especially palpitation, irregularity of pulse, and vertigo, which may be attributed to excitation of the cardiac branches of the great sympathetic, Kisch believes that rebellious hemicrania often recognizes no other cause than constipation (*British Medical Journal*). Certain kinds of sciatic neuralgia, and lumbo-abdominal pains, or ovarian aches, and even neuralgiæ of the fifth pair, have been ascribed to habitual constipation. Although Kisch has collected forty-eight cases in which cessation of constipation was followed by relief from diverse and chronic neuralgiæ, we may well question whether intestinal sluggishness was the *causa causans* of the various neuralgiæ. The alteration of even one element cannot be effected without the production of more than one result.

The Spread of the Tubercle Bacillus by Flies.—The question of the spread of the tubercle bacillus by means of the common house fly is considered by Drs. Spillman and Haushalter. The authors state that they have seen flies enter the spittoons containing the sputum of phthisical patients. The flies were then caught and placed in a bell-jar. On the following day several of them were dead. Examination of the abdominal contents and the excrement of these flies showed the presence of many tubercle bacilli. The authors point out the wide dissemination of the disease which may take place in this way.—*La Semaine Médicale.*

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THE CAUSE AND TREATMENT OF WHOOPING-COUGH.

IN 1870 Letzreich claimed to have discovered the micro-organism of whooping-cough. A few years later Peshamer attributed the disease to a vegetable parasite which he found in rotten apples, and thought that whooping-cough was a mycosis of the respiratory tract. Rossbach, Birch, Hirschfeld, Deichler, and very recently Afanarsjen (*Allgem. medizin. Central-Zeitung*, No. 85), have described special organisms believed to be peculiar to pertussis. The results of all this work, excepting, perhaps, those of Afanarsjen, leave it still a matter of doubt as to what is the cause of whooping-cough.

The marked contagiousness of this disease and its peculiar course, however, have produced a very general belief that it is of parasitic origin, and remedies based upon this theory have been frequently brought forward of late years.

In 1874 Burchardt advised the use of inhalations of solutions of carbolic acid, 1 to 2 per 100. Peck, Davezac, Goldschmidt, and others, subsequently recommended the same agent given in the form of sprays or vapors, and it is the unanimous opinion that the course of the disease was shortened to three or four weeks. But Hagenbach claims that it is the watery vapor which does the good, and Professor Vogel, of Munich, has obtained no favorable results at all. Dr. Covy, and also Dr. Suckling, have given carbolic acid internally in doses of one-third of a minim. In twenty cases treated by Suckling the disease lasted only fifteen days. Illingworth asserts, however, that carbolic acid does not suffice in severe cases. Thymol has been substituted for carbolic acid with some success. Salicylic acid was first used by Otto, who gave daily inhalations of a two per cent. solution.

It has also been given internally at night in doses of ʒss. to ʒj., with the effect of checking the excesses of coughing and vomiting.

Dr. Paul Cheron, in *L'Union Médicale* of October 18th, gives a list of nine persons who have testified to the efficacy of quinine in whooping-cough. At the recent German Congress of Internal Medicine, Binz praised the drug in question, but insisted upon the importance of giving large doses. Kolover projects against the back of the throat the following solution: R. Quinine sulph., gr. xlv.; acid sulphuric, ♏xxx.; aquæ destill., ʒvj. M. This is repeated every two hours. He states that at the end of the first week the cough has disappeared entirely. Poskin gives from ten to thirty grains of the tannate of quinine every night. Binz and Hagenbach also recommend the tannate, but it is an expensive preparation in this country.

We have already described in these columns the method of treatment by inhalations of resorcin devised by Moncorvo, of Rio Janeiro. Dr. W. Hedger has confirmed the observations, but finds it difficult to carry out the treatment in young children.

Half a dozen writers have reported favorably upon the use of turpentine, either by inhalation or internally.

The peculiar mode of using sulphurous acid, as recommended by Mohn and Schonberg, and described in this journal a year ago, has been tried by Kaurin in nineteen cases, but the results were poor and quite unlike those claimed by Mohn. Others, however, speak favorably of inhalations of sulphurous acid, of course greatly diluted, and Bergeon claims that by rectal injections the disease is shortened.

Another of the modern methods of treating pertussis is by making applications to the nasal mucous membrane. This treatment is based on the theory that the disease is really due to an irritation in the posterior nasal fossæ and naso-pharynx, the cough being a reflex symptom.

Michael has followed out this mode of treatment most extensively. He makes applications of benzoin, quinine, or tannin to the supposed pathogenic localities. At the last Congress at Wiesbaden he reported the results in two hundred and fifty cases. Of these twenty-five per cent. were not improved, seven per cent. were cured in two or three days, twenty-three per cent. in less than twenty days. Dr. Bochem, of Bonn, and Drs. Moizard, Cartaz, Guerder, and Guy have all reported good results by this method. The powders employed have been composed of benzoin, quinine, bismuth, or boric acid and coffee.

Cocaine has been extensively tried in whooping-cough, it being both given internally and applied locally. It produces some relief of symptoms, but it is not free from danger, and it is by no means curative.

Among internal medicines nothing seems to have superseded belladonna and the bromides.

REPORTS ON THE ADULTERATION OF FOOD AND DRUGS.

THE Report of the State Board of Health of New York for the Year 1886 is at hand, and contains some interesting investigations regarding the adulteration of food and drugs. The question of adulteration with copper, of imported beans and peas, is taken up, and all the evidence regarding it is presented. It is shown that these vegetables contain from one-third to one-half a grain per pound of copper, equivalent to about four times that amount of sulphate of copper. It is the unanimous opinion of French experts that this amount is harmless, and the French government allows the sale of the vegetables so prepared, provided that the fact of the coloration by copper is stated on the labels.

Samples of spices, cream tartar, and saleratus were ex-

amined for the board by Mr. S. A. Lattimore. Among three hundred and seventy-six specimens he found that two hundred and fifty-five were adulterated. The samples of black pepper, cream tartar, and cinnamon were impure in more than half the cases.

It was also found that one-half of the forty samples of kerosene oil examined flashed at a lower temperature than 100° F.

Dr. Lewis Balch makes a report upon three hundred and six samples of drugs analyzed by him. Twenty-three per cent. of these were of inferior quality, and eighteen per cent. of fair quality.

Of fifty-eight samples of chloroform, twelve were of inferior quality, and of fifty-nine samples of ether twenty-five, or nearly one-half, were of inferior quality.

Professor G. C. Caldwell made an analysis of a very large number of samples of quinine pills. The results obtained by him are stated as follows :

1. The frequency with which quinine sulphate, sold by the druggists, contains a notable excess of foreign alkaloids.

2. The short weight of quinia in the citrate of iron and quinine as usually sold. While the United States Pharmacopœia requires that this preparation shall contain twelve per cent. of the alkaloid, not a single sample examined this year came up to this standard, while some fell seriously below it ; the poor quality of the quinine used in it is also noticeable.

3. The not infrequent occurrence of more or less short weight of quinine sulphate in the pills, as well as of a poor quality of the article used in their manufacture.

THE CANNON-BALL IN THERAPEUTICS.

It is a very self-evident proposition in physics that a cannon-ball, as ordinarily propelled, will, upon its abdominal impact, produce a movement of the bowels. Such a movement, however, is attended with the serious personal inconvenience of producing a large hole in an important portion of the economy. And it is not in this way that Dr. H. Sahli, of Bern, (*Correspondenz-Blatt für Schweizer Aerzte*) proposes to utilize the cannon-ball in therapeutics. He advises that it be simply rolled about upon the abdomen for five or ten minutes daily, in order to relieve habitual constipation. The weight of the ball should be from three to five pounds. In cold weather it can be covered with chamois, or kept warm by the stove. Better still, according to Dr. Sahli, is the plan of having the patient take it to bed with him at night, and thus letting the missile of war warm itself ingloriously in the arms of the victim of colprostasis. The best time to use the cannon-ball is in the morning, after waking. It is then to be made part of the morning toilet; the patient lying on his back in bed rolls his ferric bedfellow systematically over the abdomen. The direction is not of so much importance, as that of systematically treating every part of the abdominal wall. Abdominal massage is acknowledged to be a useful measure in torpidity of the bowels, and Dr. Sahli assures his readers that by his method he has been able to cure nearly all of his cases without the aid of medication. Of course, proper attention should be paid to diet and hygiene.

When universal peace comes, the orator can speak not only of turning swords into ploughshares, but also of cannon-balls into aperients ; while of Dr. Sahli it may be written : "Peace hath its victories, no less renowned than War."

IRON AND POTASH IN DIPHTHERIA.

Probably no remedy is more uniformly prescribed in diphtheria, in this region at least, than tincture of iron and chlorate of potash. What must be thought of therapeutic certainties, therefore, when gentlemen come forward and boldly assert that the remedy is useless and ought to become obsolete.

Thus Dr. Herbert L. Snow writes to the *British Medical Journal* that he much regrets to find "that the old-fashioned treatment of diphtheria by tincture of iron and chlorate of potash has not yet become obsolete. This mixture," he adds, "has no effect whatever upon the diphtheritic membrane, and cases thus treated are in all probability left to run their natural course, little assisted by the supposed remedy. On the other hand, if sulphurous acid be administered in full and frequent doses we at once see a rapid disappearance of the exudation, with corresponding improvement in the patient's general condition. In severe cases a drachm should be given (to an adult) every half-hour ; in ordinary ditto, every two hours ; and proportionately large doses to children. The only drawback is the choky sensation produced by the vapor, otherwise the mixture (with syrup and water) is rather pleasant in taste. It is thus necessary to prescribe a large quantity of syrup—two or three ounces in an eight-ounce mixture. For young children the dose must be given in milk. It is generally very advantageous to add chlorate of potash, in order to promote the healing of the ulcer ; probably also for other reasons. No spray or gargle is requisite, but the patient should be directed to gargle a little with the medicine each time this is swallowed—a task not always possible however."

There are somewhat over sixty different remedies recommended for diphtheria, among which chlorate of potash and tincture of iron have received perhaps the greatest number of endorsements, sulphur and its preparations coming next. The wish expressed that iron and potash may become obsolete, is equivalent to an admission that the only remedies of any use are simple cleansing applications and a sustaining and stimulating diet.

LIVER SURGERY—SUCCESSFUL CHOLECYSTENTEROSTOMY.

The result of the surgical operations upon the gall-bladder and the ducts of the liver have been by no means discouraging. Among thirty-three cases of cholecystotomy collected by Dr. Gaston (Wood's "Reference Handbook") there were nine deaths, or 27.27 per cent. Among the last twelve operations there was only one death. The incompleted operations have been more fatal, but their number is small. The more complicated operation of "cholecystenterostomy"—*i.e.*, of uniting the gall-bladder and intestine by a fistulous opening on account of closure of the common duct—has as yet been attempted but few times, and the best methods for its performance, as well as the nature of the results, are still undetermined. This operation, suggested by Nussbaum

in 1880, was first performed by Winiwarter a year later (*Prag. Medic. Wochensch.*, 1882, No. 21 u. 22). A number of experimental observations were subsequently made by Harley, Witzel (*Deut. Zeitsch. f. Chir.*, 21 Bd., S. 199, 1885), Golzi (*Centralbl. f. Chir.*, 1886, No. 24), and Gaston (*Brit. Med. Journal*, February 5, 1887). The latter author in particular devised an ingenious operation which goes by his name, but one which Kappeler considers too uncertain and dangerous to be applied to man.

Professor O. Kappeler has recently (*Correspondenzblatt f. Schweiz. Aerzte*) reported a case of permanent closure of the common bile-duct, with consequent icterus, in which he successfully united the gall-bladder to the intestine, and thus established a new path for the passage of the bile. The patient was a man fifty-five years of age, who suffered from obstructive jaundice, due, as the operation showed, to pressure on the ductus choledochus by a pancreatic tumor. The gall-bladder was greatly distended. The operation consisted of emptying the gall-bladder and stitching an opening in its walls directly to a corresponding slit in the duodenum. The operation is described as simple and safe. In any event, it was successful in Kappeler's hands. He terms it a "unilateral cholystenterosectomy."

News of the Week.

The Demand for a Three Years' Course of Lectures and medical study is becoming so great that it can soon no longer be ignored even by schools which are ambitious of the largest possible classes. Recently the Executive Committee of the Alumni Association of Jefferson College adopted the following resolution:

Whereas, It having come to the knowledge of this Executive Committee of the Alumni Association that four students have gone to the University of Pennsylvania to pursue their medical education, at the recommendation of the Alumni of this College, on the ground that Jefferson Medical College did not provide a three years' graded course, and did not furnish clinics or instruction on the special branches of medicine and surgery. Be it

Resolved, That the Executive Committee, having the best interest of our Alma Mater at heart, respectfully announce these facts to the Faculty, that they may take such action as they deem best to overcome this apparent growing dissatisfaction of our Alumni.

New York Skin and Cancer Hospital.—An examination of candidates for the position of House Physician of the New York Skin and Cancer Hospital will be held at 243 East Thirty-fourth Street on November 19, 1887, at 8 P.M. For information apply, before November 15th, to L. Duncan Bulkley, M.D., 4 East Thirty-seventh Street, New York.

Gleditschine, so called, will be duly investigated by a committee of experts.

A Liberal Endowment.—Professor Babes, of Buda-Pesth, has become ordinary professor of histology and bacteriology in the University of Bucharest. The offer made to him was munificent; he will receive an annual salary of 25,000 francs (£1,000), and a sum of 100,000 francs is placed at his disposal for the expenses of fitting up the histological and bacteriological institution; altogether, half a million francs will have been spent on this institution.

The Crown Prince's Case.—The manly letter of Mr. Lennox Browne to the London *Times* concerning Sir Morell Mackenzie and the Crown Prince's case is most creditable to the writer, especially in view of the fact that there has been reported to be some slight antagonism of late between the two laryngologists. The following paragraph will be read with interest. Mr. Browne writes: "Sir: It is earnestly to be hoped that you will not allow a long discussion to be conducted in your columns on the very false issues so unfairly raised by 'F.R.C.S.' as deductions from your admirable leader of yesterday. The question should in no sense be considered from a national point of view. The patient endurance and, indeed, the marked preponderance of favor which have been so long accorded to German views and to German practitioners resident in this country, are too striking to warrant any jealousy on the part of the German nation or of German physicians, that English medicine has at last had a chance of asserting its claim to at least an equality of cosmopolitan rights." The report that a new growth has appeared in the Crown Prince's throat has occasioned, justly, great consternation. The growth is below the vocal chords, and probably the operation of thyroidotomy will have to be performed.

Bequests to Hospitals.—By the will of the late Frederick H. Cossitt, a large numer of charitable institutions, among them St. Luke's, the Presbyterian, and the Woman's Hospitals, the House of Rest for Consumptives, and the Home for Incurables, have received legacies; the amount in most instances being $5,000.

The Death of Dr. William Seldon, an old and prominent physician, of Norfolk, Va., occurred on November 7th.

An Illustration of the Practical Usefulness of Bacteriology was furnished recently in this city. An Italian steamer arrived loaded with immigrants. There had been no cholera on board, but, as the vessel reached this port, a suspicious case of diarrhœa occurred in a child. The symptoms were not perfectly typical of cholera. Some of the dejections were taken, and sterilized tubes were inoculated and taken to the Carnegie Laboratory in this city. It would take four days to develop the cultures, and the question arose whether the steamer should be delayed for that period of time. It was finally decided to do so. The cultures developed in the way characteristic of Asiatic cholera, and the diagnosis was made. Subsequently other cases of cholera appeared and the culture-diagnosis was abundantly confirmed. But no more striking example of the utility of scientific studies could be furnished than the one referred to.

In Order to Give Sulphur so that it will be excreted by the lungs, Dr. Battesti prescribes the monosulphide according to the following formula: Monosulphide of sodium, 1 gramme; distilled water, 500 grammes. One

teaspoonful of this solution contains one centigramme of the monosulphide, and he gives one or two spoonfuls a day, according to the tolerance of the patient. This dose is equivalent to about one litre of *Eaux Bonnes* water. Calculations based on the chemical equivalents of monosulphide of sodium and of carbonic acid show that one-fourth of a litre of this gas is sufficient entirely to decompose one gramme of monosulphide. The patient, therefore, takes one teaspoonful of the sulphurous solution, and immediately afterward one tablespoonful of Rivière's potion or a glass of seltzer water. Rivière's potion is preferable, on account of its smaller volume. The dose is taken fasting, or four hours after a meal. Dr. Battesti has obtained the best results from this treatment.

The Recommendations of the State Board of Health of New York, in its last Annual Report, deserve attention from physicians. They are:

I. That its organic law be so amended as to authorize its executive officer, where an emergency arises and the local board of health of the town or village in which the emergency occurs has not organized and appointed a health officer, to appoint a physician as acting health officer at the expense of the town or village concerned, who shall, until such time as a board of health for said place has been organized, as provided for in chapter 270, Laws of 1885, have and exercise, under the direction of the Secretary of the State Board of Health, all the powers and duties of a board of health regularly appointed.

II. That the following requirements be embodied in a law as essentials to the sanitary welfare of the school-children of the State:

(*a.*) Building should rest on a good dry foundation, and be constructed to insure the comfort of children during inclement weather.

(*b.*) Class-rooms should be arranged so as to admit light from left side and back of pupils, and the area of windows should be one-fourth of floor-space.

(*c.*) Not less than 250 cubic feet of air space should be allowed per pupil, and provision for changing air should be made, so as to secure each pupil not less than thirty cubic feet of fresh air per minute.

(*d.*) The temperature of the school-rooms should in winter be maintained at a range not to exceed from sixty-eight degrees Fahrenheit to seventy degrees Fahrenheit.

(*e.*) Closets should be provided for each sex, entirely separate from each other and having entirely separate means of access. When situated outside the building they should be about fifty feet distant, and should be connected with it by a covered walk. Privy-vaults should be utterly abolished. Movable boxes or buckets should be placed under the seats, and earth or ashes provided as a deodorant. Buckets should be cleaned out at least once a week.

(*f.*) In addition to his other legal powers over schools, the Superintendent of Public Instruction should have authority to oblige school trustees to make improvements or repairs in school buildings for sanitary purposes, whenever the local board of health considers such necessary, and their judgment is supported by that of the State Board of Health.

Reviews and Notices of Books.

Druitt's Surgeon's Vade-mecum. Edited by Stanley Boyd, M.B. London, Assistant Surgeon Charing Cross Hospital, etc. 8vo, pp. 985. Philadelphia: Lea Brothers & Co. 1887.

This well-known manual of modern surgery has now reached its twelfth edition. The eleventh was published in 1877. Surgical progress in the last decade has necessitated an almost complete rewriting of the work, and it is now fully abreast of the times. The chapter on "Diseases of the Eye" has been replaced by a short account of the injuries of that organ, by Mr. A. Quarry Silcock, of the Royal Ophthalmic Hospital.

The ground covered is that of surgery in the widest sense of the word. "To be a good surgeon," the first chapter says, "a thorough general knowledge of medicine and of the sciences upon which the whole healing art is based is absolutely essential." This text has been closely followed, and a valuable condensation of the principles and practice of modern surgery has resulted. Though primarily intended for practitioners, it is a book of the utmost value for students; in fact, one of the best we have ever seen.

Nineteenth Century Sense; The Paradox of Spiritualism. By John Darby. 16mo, pp. 222. Philadelphia: J. B. Lippincott Co. 1887.

One cannot well grasp the contents of this work without having reference to the report of the so-called Seybert Commission. This body of men was requested by the University of Pennsylvania to undertake an investigation of current "spiritualistic" phenomena. The necessary expenses were defrayed from a fund left to the university by a Mr. Seybert. During the time occupied in this work, John Darby was carrying on a similar line of investigation, and this volume is (so to speak) his personal report.

He regards the *personnel* of the commission as being exceptionally good. Though at his time of writing he did not know their conclusions, he evidently thought they were going to harmonize with his own, and this expectation has colored his whole argument. But, as a matter of fact, there is no such harmony. John Darby commences his work with a summary of results obtained by him in a series of spiritualistic *séances*. The "medium" in these was a "Dr. W——," who, curiously enough, was a member of the commission. The report of the latter, to which "Dr. W——'s" name is appended, states that spiritualism, so far as it has come under their notice, "presents the melancholy spectacle of a gross fraud perpetrated upon an uncritical portion of the community." To this "Dr. W——" has given his indorsement, and yet, according to John Darby, he has introduced the latter to a series of facts and experiences which have made of our author a firm believer in spiritualism. It looks very much as if "Dr. W——" was a practical joker, and a pretty clever one at that.

We cannot give a more extended notice here. The book well represents the views of a spiritualist in the best sense. The author's style is good, and his language accurate. His arguments are logical; but we may not agree with his conclusions, because we cannot believe in his understanding of the premises. John Darby is said to be Dr. James E. Garretson.

Dermatitis Venenata. By James C. White, M.D., Professor of Dermatology, Harvard University. 8vo, pp. 216. Boston: Cupples & Hurd. 1887.

The contents of this volume include information concerning the effects of all kinds of irritants of the skin. Titles of chapters are "Pathology," "Plants," "Other Irritants, Organic and Inorganic," and "Animal Irritants"—all with reference to their causative agency in producing the

disease under discussion. The typographical appearance of the book is most creditable. It is exhaustive in its scope, and in all respects commendable.

The Principles of Antiseptic Methods applied to Obstetric Practice. By Dr. Paul Bar, Accoucheur to Maternity Hospital, Paris. Translated by Henry D. Fry, M.D. 8vo, pp. 175. Philadelphia: P. Blakiston, Son & Co. 1887. New York: J. H. Vail & Co.

Dr. Bar is an enthusiast in antiseptic midwifery, as we commonly understand the term. He is, nevertheless, conservative in teaching, and sensible in practice. This work discusses fully the various antiseptic agents used in midwifery, and gives statistics of results obtained in various large maternities. Chapters are included in the main portion of the work on antisepsis in catheterization, in rupture of the uterus, and in the Cæsarean operation; and in an appendix on antisepsis of the umbilicus, and on ophthalmia neonatorum. Dr. Bar follows the Credé method in using nitrate of silver solution, 1–50, immediately after birth. The book, as a whole, is to be commended. It is abreast of the times, and gives complete information concerning the antiseptic procedures incident to every phase of midwifery.

Leçons sur les Fonctions Motrices du Cerveau (réactions volontaires et organiques), et sur l'Épilepsie Cérébrale. Par Le Dr. François Franck. Précédées d'une Préface du Professeur Charcot. Avec 83 figures dans le texte. Pp. 571. Paris: Octave Doin, Éditeur. 1887.

The work embodies a series of experiments and observations extending over ten years, and conducted by Dr. François Franck and Professor Pitres. It forms a comprehensive exposition of the functions of the cerebral cortex and white matter, including the relation of these parts not only to the muscular system, but to the various organs of the body. It is needless to say that the author is a believer in, and teacher of, the doctrine of cerebral localization. We doubt if anyone can read this book and continue any longer sceptical.

Le Charbon des Animaux et de l'Homme. Leçons faites à la Faculté de Médecine de Paris, par I. Straus, Professeur agrégé, Médecin de l'Hôpital Tenon. Avec quatre figures et une planche. Paris: Aux Bureaux du *Progrès Médical*; A. Delahaye et E. Lecrosnier. 1887.

This work consists of a series of fifteen lectures, in which the interesting subject of charbon—its nature, symptoms, prophylaxis, and treatment—is exhaustively treated. The plate shows the microscopical appearances of the blood and tissues containing the anthrax bacillus.

Atlas von Beleuchtungsbildern des Trommelfells, von Dr. Kurd Bürkner, a. o. Professor der Medicin und Director der Universitäts-Poliklinik für der Ohrenkrankheiten zu Göttingen. Jena: Gustav Fischer. 1886.

This atlas consists of fourteen plates, each containing six chromolithographic representations of pathological conditions of the membrana tympani, taken from originals made by Professor Bürkner, of Göttingen. We know of but two similar publications with which the present one may be compared, namely, Politzer's "Beleuchtungsbilder des Trommelfells," containing twenty-four colored pictures of the drum-membrane in health and in disease, and that of James Hinton, containing twenty-four plates of six colored pictures each. With both of these the atlas before us compares very favorably. Furthermore, Politzer's work, in the original, has long been out of print, and Hinton's is so expensive as to place it beyond the reach of most practitioners. Bürkner's work, therefore, is practically the only one of its kind in the market. The plates are very creditable, considering the difficulties which beset any attempt at a reproduction of the coloring of lesions of the lining of the drum-membrane, and we can commend the work heartily.

Beobachtungen ueber Malaria, insbesondere das Typhoide Malariafieber, von Dr. P. Werner, Narwa. Mit zwei lithographirten Curventafeln. Berlin: August Hirschwald. 1887.

This book contains about all that there is to say upon the symptomatology, complications, and prognosis of malarial fever. Concerning treatment we do not find a word written, but our German brethren always seem to regard that as something of secondary consideration. The book, however, makes no pretension of being a complete treatise, and, as far as it goes, it is useful and instructive.

Pulmonary Consumption; its Etiology, Pathology, and Treatment, with an Analysis of 1,000 Cases to Exemplify its Duration, and Modes of Arrest. By C. J. B. Williams, M.D., LL.D., F.R.S., Fellow of the Royal College of Physicians; Physician-extraordinary to her Majesty the Queen; Senior Consulting Physician to the Hospital for Consumption and Diseases of the Chest, Brompton; formerly Professor of Medicine and Physician to the Hospital, University College, London. And by Charles Theodore Williams, M.A., M.D. Oxon., Fellow of the Royal College of Physicians; Physician to the Hospital for Consumption and Diseases of the Chest, Brompton. Second Edition, enlarged and rewritten by Dr. C. Theodore Williams. With four colored plates and ten wood-cuts. Philadelphia: P. Blakiston, Son & Co. 1887.

It is a real pleasure to see another book bearing upon its title-page the name of Dr. C. J. B. Williams. The first edition of this work appeared so long ago that it is unknown to the younger generation of physicians, and the present edition is therefore practically a new treatise. The author is probably the oldest living medical writer, his "Practice of Medicine," once a standard work, having been published in 1843. In the present work two chapters remain practically unchanged, but the remaining chapters either have been revised by Dr. C. T. Williams, in order to bring the teaching fully up to date, or are wholly new. The subject of pulmonary consumption has been most comprehensively considered in all its aspects, and the work leaves little to be desired by anyone seeking the latest knowledge concerning this subject, than which there is none more important in the whole range of medicine. Considerable space is devoted, as it should be, to the question of treatment, prophylactic, medicinal, and climatic, and a liberal use has been made of the clinical notes of the Drs. Williams, father and son, in the sections on symptomatology and therapeutics. We are glad to be able to warmly recommend this work to practitioners and students alike.

Prize Essays of the American Health Association. 8vo, pp. 198. Printed at Concord, N. H. 1886.

This is the second edition of these essays, the prizes for which were presented by Mr. Henry Lomb, of Rochester, N. Y. The titles and authors are as follows: "Healthy Homes and Foods for the Working-classes," by Professor Victor C. Vaughn, of Michigan University; "The Sanitary Conditions and Necessities of Schoolhouses and School-life," by D. F. Lincoln, M.D., Boston, Mass.; "Disinfection and Individual Prophylaxis against Infectious Diseases," by George M. Sternberg, M.D., U. S. A., and "The Preventable Causes of Injury, Disease, and Death in American Manufactories and Workshops, and the best Means and Appliances for preventing and avoiding them," by George H. Ireland, Springfield, Mass.

Health-resorts at Home and Abroad. By M. Charteris, M.D., Professor of Therapeutics and Materia Medica, Glasgow University. Second edition. London: J. & A. Churchill. 1887.

This handy little volume contains a description of a number of health-resorts in England and on the Continent of Europe, and will be of service to the traveller who desires to inform himself of the principal characteristics of the different waters, and of the indications for treatment at the various European spas and other health-resorts. There is a good map, and also a comparative table of the drugs in the British and Austrian pharmacopœias which may be found useful upon occasion.

The Treatment of Hemorrhoids by Injections of Carbolic Acid and other Substances. By Silas T. Yount, M.D., Physician of St. Elizabeth's Hospital, Member American Medical Association, etc. LaFayette, Ind.: The Echo Music Co. 1887.

The title of this little brochure sufficiently explains its contents. One who does not know how to treat hemorrhoids may glean some valuable information from this book.

Transactions American Laryngological Association. Eighth Annual Meeting, 1886. 8vo. Pp. 230. New York: D. Appleton & Co. 1887.

Twenty-five papers is the record for the session of the laryngologists in 1886. They are of a uniform high order. The volume is attractive in appearance.

Transactions of the New York Odontological Society, 1886. 8vo. Pp. 152.

This is a most creditable volume in appearance and contents. New York dentists seem fully abreast of the times. Many of the papers are of interest to physicians as well.

Geschichte der Laryngologie, von der frühesten Zeiten bis zur Gegenwart. Von Dr. Gordon Holmes. Aus dem Englischen übersetzt von Dr. Otto Koerner. Berlin: August Hirschwald. 1887.

This is the German translation of Dr. Holmes' History of Laryngology, which appeared first in the *Medical Press*, July to September, 1885. The translator has added some references not found in the original.

The Autobiography of Samuel. D. Gross, M.D., D.C.L. (Oxon.), LL.D., Cantab., Edin., Emeritus Professor Surgery, Jefferson Medical College, Philadelphia, with Sketches of his Contemporaries. Edited by his Sons. In 2 vols. Philadelphia: George Barrie, Publisher. 1887.

Autobiographies, as a rule, are not interesting; neither are they often instructive. The writer, for one reason, is apt to be a trifle partial in his treatment of the subject. He views matters with a short focus, and naturally small matters are magnified out of proportion. He loses the perception of the eternal fitness of things. In Dr. Gross' autobiography these general objections are reduced to a minimum. In fact, the reader of these volumes is apt to get more in love with the subject of the sketch than the writer himself. It is the most interesting and instructive work of its kind that we have read for a long time. The author takes you into his inner confidence, and you live over with him a life full of interesting incident, and learn to appreciate the true value of patient labor, guided as it was by high and honorable motives. His inner life, which is presented in his reflections, gives an insight into a purity of personal character which is refreshing to contemplate. The style is simple, easy, and entertaining. His sketches of his contemporaries are comprehensive and truthful, and add not a little to the general good character of the work. Altogether, it is a charmingly written and thoroughly entertaining book, and no practitioner can read it once without wishing to look over it again, and each time feel the better and wiser for so doing.

Die Massage in der Gynäkologie. Von Dr. Paul Profanter, gew. Operateur an der II. geburtshilflich-gynäkologischen und I. chirurgischen Universitätsklinik zu Wien, Brunnenarzt in Franzensbad. Mit einer Vorrede des Herrn Geheimrath Professor Dr. B. S. Schultze in Jena. Mit 34 Abbildungen. Wein: Wilhelm Braumüller. 1887.

Massage in Gynæcology. By Dr. Profanter. With a Preface by Professor Schultze.

This work is made up chiefly of the histories of sixteen cases of parametritis, oöphoritis, endometritis, malpositions of the uterus, etc., treated by massage, according to Brandt's method, in Schultze's clinic at Jena. The mode of treatment is fully explained in the body of the reports. The results, as here shown, were excellent and appear to demonstrate the utility of the method. In the preface Professor Schultze speaks in the highest terms of the value of the procedure in appropriate cases. A number of wood-cuts serve to depict graphically the pathological conditions and the results of treatment.

L'Enseignement Actuel de L'Hygiène dans les Facultés de Médecine en Europe. Par le Dr. W. Lowenthal. Professeur Agrégé à l'Académie de Lausanne. Paris: H. Le Soudier. 1887.

Instruction in Hygiene in the Medical Schools of Europe. By Dr. Lowenthal.

The book before us was written in the laudable attempt to stimulate the different universities in Europe to greater activity in teaching hygiene. The author first presents a list of the universities in Europe, with a statement of the attention which is paid in each to instruction in this important science, and then proposes means whereby needed improvements could be made. The necessity of such instruction needs no argument, and that it is neglected too much in Europe, as well, though perhaps not to as great an extent, as in this country, is made evident by this painstaking work of Dr. Lowenthal.

Leçons de Clinique Chirurgicale. Par Terrillon, Agrégé de la Faculté de Médecine, Chirurgien de la Salpétrière. Rédigées par M. le Dr. Routier. Paris: A. Delahaye & E. Lecrosnier. 1887.

Lessons in Clinical Surgery. By M. Terrillon.

This is a series of thirteen clinical lectures delivered by Professor Terrillon. The subjects treated of are: cold abscesses, cicatricial stenosis of the œsophagus, lymphadenoma of the neck, various forms of local tuberculosis, etc. The lectures are pleasant to read, and are also full of sound advice and practical instruction.

Transactions of the Association of American Physicians—First Session, June, 1886. Vol. I. James T. Whittaker, M.D., Recorder. 8vo. Pp. 261. Philadelphia: William J. Dornan. 1886.

The inaugural volume of the "Transactions" of this recently organized association is a most creditable one. Its appearance and contents are alike attractive. The number of papers published is nineteen, and they are all valuable contributions to scientific medicine. The Record has already commended the sound and sensible ideas expressed—as to the aim of the Society—by its first President, Dr. Francis Delafield: "We want an association in which there will be no medical politics, and no medical ethics; an association in which no one will care who are the officers and who are not; in which we will not ask from what part of the country a man comes, but whether he has done good work and will do more; whether he has something to say worth hearing and can say it."

PATHOLOGY AND TREATMENT OF GONORRHŒA AND SPERMATORRHŒA. By J. L. MILTON, Senior Surgeon St. John's Hospital, London. 8vo. Pp. 474. New York: William Wood & Co. 1887.

THE portion of this book devoted to gonorrhœa occupies three hundred pages. It has been previously put forth in earlier editions, of which the present is an abridgment. There are added also various papers which have appeared in journals. The chapters on gonorrhœal affections of the serous membranes, heart, and cord-membranes, together with those on gonorrhœal pyæmia and pyelitis, appear for the first time.

The views advanced on pathology contain nothing essentially new. The occurrence of the disease in the female receives considerable discussion. Mr. Milton does not commit himself as to the causal relation of the gonococcus to the malady. The great value of this first section of the work lies in comparisons of results attained by the various methods of treatment, and that, too, not in a vague, general way, but with definite statistics given, from which logical conclusions can be drawn of clinical effects. The chapter is a very exhaustive one.

The section on spermatorrhœa is also very complete. The author denies that this trouble is a mere symptom, arising principally out of a morbid imagination. He regards it as a distinct disease. Separate chapters are devoted to mere loss of seminal fluid and to true impotence. An ingenious apparatus is described for the prevention of nocturnal erections and emissions. On the penis, at bedtime, is placed a ring, so made that when expanded by an erection it completes an electric curcuit, and, by means of wire connections, rings a small alarm-bell placed under the patient's pillow; he is at once aroused, and can thus prevent any further genital excitement. We are not told that this ingenious device is any better than more simple and by far less cumbersome means.

Throughout the entire volume the ideas of others receive courteous consideration at the hands of the author, who writes sensibly and to the point. His own convictions are nowhere unpleasantly obtruded. The book is to be commended.

WHAT TO DO IN CASES OF POISONING. By WILLIAM MURRELL, M.D., F.R.C.P., etc. American edition, edited by Frank Woodbury, M.D., Philadelphia. 12mo. Pp. 158. Philadelphia. The Medical Register Co. 1887.

DR. MURRELL'S little work has reached its fifth edition in England. The successive issues have kept up with the times, and it is undoubtedly the best book of its kind extant. The present edition contains a few words on the "fee," which, the author thinks, should range from ten to one hundred dollars "according to the circumstances and social position of the patient." The "specialist," in poisoning cases, may collect from one hundred and twenty-five dollars to double that sum. The title of the book gives a sufficiently definite idea of its contents.

DISEASES OF THE HAIR AND SCALP. By GEORGE THOMAS JACKSON, M.D., Instructor in Dermatology New York Polyclinic, etc. 8vo. Pp. 356. New York. E. B. Treat. 1887. Price, $2.75.

THIS work is a most creditable addition to American medical literature. The author states that five years ago "he was in need of some complete treatise upon diseases of the hair, and finding none of recent date excepting such as were rather of a popular than of a scientific character, he began those studies which have resulted in the present volume."

The book is arranged as follows: Part I. treats of the anatomy, physiology, and hygiene of the hair, and hygiene of the scalp; Part II., of the essential diseases of the hair; Part III., parasitic diseases of the same; and Part IV. of diseases of the hair secondary to diseases of the skin. An extensive bibliography and an index of journal literature are appended. The latter is mainly confined to articles which have appeared since 1860. Numerous well-executed illustrations are scattered through the pages. The author's style is clear and concise. He wastes no time in profitless discussion. He has written a *working* book, and is to be congratulated on his success.

PRACTICAL URINE TESTING. By CHARLES GODWIN JENNINGS, M.D., Professor of Chemistry, Detroit Medical College. 12mo., Pp. 124. Detroit: D. O. Haynes & Co. 1887.

THIS manual is neither better nor worse than a number of similar publications which have recently appeared. It is concise, yet complete. Its tabulated form and its general typographical arrangement are commendable.

ATHOTHIS: A SATIRE ON MODERN MEDICINE. By THOMAS C. MINOR. 12mo. Pp. 194. Cincinnati: Robert Clarke & Co. 1887.

THIS is a novel written in a light vein and yet not without considerable humor. It makes some rather keen thrusts at the "fashionable" practitioners of these latter days, and is an amusing book for a spare hour.

PHYSICIAN'S POCKET REGISTER AND PHYSICIAN'S OFFICE REGISTER. By ADOLPH BERND. St. Louis: Henry Bernd & Co. 1887.

THESE books are constructed upon the usual model for such publications. The Pocket Register provides for three hundred accounts, each for an entire year. It is a combination of visiting list, journal and ledger; is not too bulky, and is elegant in general make-up.

The Office Register is a large volume, twelve by seventeen inches. It is well indexed. The account of a patient for an entire year is contained within three inches. It will hold nearly six hundred and fifty separate accounts.

STRICTURE OF THE URETHRA. By E. DISTIN-MADDICK, F.R.C.S. Edin., late Surgeon Royal Navy. 8vo. Pp. 154. London: Baillière, Tindall & Cox. 1887.

THESE pages contain a great deal of common-sense. They cover the usual topics naturally suggested by the subject of urethral stricture. The author is inclined to be at times slightly satirical, but his conclusions are sound. He does not regard true stricture as being so frequent as is generally believed. He thinks that the indiscriminate passage of instruments in urethræ—the seat of tenderness after inflammation—is in itself a frequent cause of stricture. In practice he vastly inclines to dilatation over cutting methods, and brings out on nearly every page the absolute necessity of avoiding force in manipulation. He makes very caustic criticisms on the shortcomings of surgeons as regards this latter point, and maintains that medical men often harm more than benefit their patients. Valuable remarks are made concerning the "natural obstructions" in the urethra, and how they are often confounded with stricture. In examining for the latter, he strongly urges, in case the stricture be a light one, the use of a "conductor" to guard the canal against injury, and to "thread the stricture," as it were, with a fine bougie or catheter. A conservative position in regard to treatment is taken throughout. The author has written from the stand-point of the patient as well as from that of the surgeon, and has been commendably successful in his task.

IMMEDIATE RELIEF FOR LUMBAGO.—Dr. Burggraeve recommends painting the painful parts with the following: ℞. Tr. iodinii, collodii, aq. ammoniæ, āā ʒss. M.

Reports of Societies.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, November 3, 1887.

A. Jacobi, M.D., President, in the Chair.

The Statistical Secretary, Dr. Judson, announced officially the deaths of James Knight, M.D., and William M. Chamberlain, M.D.

Dr. Joseph D. Bryant then read a paper (see p. 613) entitled

HOW CAN THE MEDICAL PROFESSION AID THE BOARD OF HEALTH?

The discussion was opened by Dr. E. G. Janeway, who was of the opinion that the medical profession could aid the Board of Health very largely, and that the suggestions made in the paper covered a great share of the ways in which such aid could be extended for the benefit of the city, especially with reference to contagious diseases. There were two important factors which had prevented the profession from giving the Board the aid it might have done—namely, forgetfulness and lack of attention to the subject. It might

SEEM TO BE A SMALL MATTER

that a case of this or that disease should not be reported, and it might be simply a question of lack of attention at the time. Sometimes there might seem to be no necessity for making such report, but the deleterious consequences which followed this neglect might at the same time be very great.

From the scientific standpoint, accurate statistics concerning contagious diseases could never be obtained until the profession united in reporting every case of these diseases to the Board of Health, where they could be properly recorded, and the records made accessible for reference. Such information was highly desirable.

An illustration was cited that showed the remarkable facility with which an eminent member of the profession failed to give a satisfactory death certificate, and sometime afterward sent an exceedingly uncomplimentary letter with reference to the deficiency in the statistical information that could be furnished by the department.

CONTROL OF CONTAGIOUS DISEASE

could come only from knowledge of the localities where it prevailed. The recurrence of *variola* in this city had, on several occasions, come from unreported cases.

Dr. Janeway then spoke of the relationship between contagious diseases and the public schools, and said it was absolutely essential that there should be some place to which information could be sent, and from which it could be distributed for the benefit of the public. The Board of Health was the established authority to take charge of such information.

The profession could aid the Board of Health by its statements and advice given to families; and by neglecting to give such aid a great deal of harm could be done, whereas by affording it a great deal of good could be accomplished. If a member of the profession said to the family there was no special harm from a case of this or that disease, and poohpoohed the regulations of the Board, much harm could be done in more directions than one, whereas great benefit would attend the influence of his professional support.

AS REGARDS VACCINATION,

it had been the means of reducing the proportion of cases of small-pox to a marked extent, and all the permissive and persuasive vaccination possible should be performed. Here, again, it was very easy to defeat, largely, the efforts made by the Board of Health, and chiefly through two avenues—namely, the statement by members of the profession that the virus used was bad, and that there was great danger of contracting syphilis by the inoculation.

Such remarks might seem very trifling, but they prevented vaccination from being accepted, and he believed it to be

UNWISE TO ADD MEMBERS OF OUR OWN PROFESSION

to the category of antivaccinationists.

Again, very important aid could be given to the Board of Health by reporting to it, whenever and wherever seen, *defective house building*.

Dr. A. N. Bell, on invitation, continued the discussion, and spoke particularly of the premonitory symptoms of grave diseases, such as diphtheria, scarlet fever, pneumonia, etc., that arose from bad plumbing. If physicians would interest themselves, and direct their attention more closely to all the conditions in the surroundings of their patients, such fatal diseases, in many instances, could be anticipated and prevented. The Board of Health was not able to inspect all the houses in the city of New York where, up to the date of the enactment of certain laws, the plumbing was notoriously bad, and its attention, therefore, might not be directed to this deficiency until some contagious or infectious disease made its appearance. Physicians could call the attention of the Board to these conditions of deficient plumbing and ventilation as evidenced by the symptoms of which the residents in these houses complained, and in that way render the Board important aid and the people lasting benefit.

Dr. Bell also spoke of

THE EVILS OF OVERCROWDING.

Dr. A. H. Smith thought that the proceedings of the evening marked the advent of a new era; for it was an almost unheard of occurrence that the Health Department should come before the medical profession and ask for its co-operation. It had always seemed to him that the health board of any city should derive its experience from the medical profession, instead of being a body organized without reference to that profession. Without such assistance, the board was without that sympathy essential to the proper performance of its work.

Dr. C. R. Agnew took an active part in the organization of the Metropolitan Board of Health, and had felt and exercised the interest of an amateur sanitarian from that date up to the present time. He believed that the presence of Dr. Bryant, Health Commissioner, and his paper would lead to the cultivation of such relations as should exist between this representative of municipal hygiene and the general profession.

All should hail any movement which would increase the scientific reputation of the Board of Health, and he, therefore, foresaw excellent results from the appointment of so competent men as Dr. Prudden and Dr. Briggs as pathologists to the department.

The city of New York, with its climate, soil, and social conditions, could furnish the best field in the world for the enthusiastic sanitarian to work in, and the best results of such work could be effectually realized by fraternal co-operation between the profession and the Health Department.

Mr. James C. Bayles, President of the Board of Health, was invited to make some remarks, which he accepted as a great personal compliment. When he was placed at the head of the department he soon learned that there was no evidence that there was such a thing as a medical profession, and he was completely at a loss to know how he could ascertain its relations to the Board of Health. But, happily, the problem had been solved through the efficient aid of Commissioner Bryant. Among the first things he did, after being placed in his official position, was to hold a consultation with the plumbers, whom he found not only willing, but desirous, to co-operate with the Health Department in the adoption of rules which should render their labor most satisfactory, from

the sanitary point of view. The result of the meeting was that the rules were so amended that the code of plumbing was as much better than the old code as the old code was better than no code at all.

A very important aid which could be rendered was a defence by the medical profession of

THE POWER OF THE BOARD FOR GOOD.

The influence upon the City Government and the Board of Estimates and Appropriation depended largely upon the sympathy and co-operation extended to the Board of Health by the medical profession, and to do its best work those appropriations were essential. Almost any amount of money could be obtained, which could be used for the benefit of the public and the protection and care of the city, if the medical profession would unite in making the demand.

THE PRESIDENT OF THE ACADEMY spoke of vaccination, and hoped that it might become compulsory. He also referred to the Willard Parker Hospital for the reception of cases of contagious diseases from tenement-houses. He expected that the time would come when there would be several such hospitals in the city, and requested that the gentlemen connected with dispensaries would see that such cases were given into the charge of the hospital at the foot of East Sixteenth Street, where they would have better accommodations than could be afforded them in their homes.

With regard to the conference committee suggested in the paper, he would ask Dr. Bryant to state what, in his opinion, would be the scope of the duties of such a committee.

DR. BRYANT said that the duties of the committee would be to act when the Board of Health shall request, when the medical profession shall request, and when they shall request each other.

DR. ELLSWORTH ELIOT said that many did not like the notoriety incident to the fact that measles, or scarlet fever, or diphtheria, was in their houses. As an illustration, he cited several instances, and among them one where the father asked what the fine was for not reporting the case, and when told that it was fifty dollars, said, "not report it, and he will pay the fine." Milliners, grocers, and others in business which necessitated the visits of customers, were usually very much annoyed by the fact that the presence of either of these diseases in their houses became known, and he would ask that the Board of Health injure business in such cases to the least possible extent.

He asked how, in an urgent case, the patient could gain admission to the Willard Parker Hospital? Was it obligatory to first notify the Board of Health and await the delay that necessarily attended that mode of procedure?

How could a patient sick with typhoid fever be transferred to North Brothers' Island?

DR. BRYANT said that patients were received at the Willard Parker Hospital direct, without the preliminary notification of the Board of Health.

To have a patient sick with typhoid fever transferred to North Brothers' Island, notify the Board of Health, and comfortable conveyance would be furnished by either coupé or ambulance to the steamboat, and at the landing at the island there would be ample and comfortable modes of conveyance from the boat to the wards of the hospital. All the hospitals in the city, however, receive patients sick with typhoid fever.

DR. ELIOT moved that a

COMMITTEE OF CONFERENCE,

consisting of five members, be appointed by the President, at his convenience, to co-operate with the Board of Health, and that the President, Dr. Jacobi, be a member of the committee. Carried.

DR. H. W. BOONE, Professor of Surgery in the Medical School in Shanghai, China, was then introduced. He spoke of the sanitary condition of that city, of the absence of any attempt to prevent the entrance of cholera, where the disease was endemic. He also spoke of the work being done in the medical school with which he was connected, and of the effort being made to build up a

MUSEUM AND LIBRARY.

He asked for contributions for this purpose, and said that donations of specimens or books could be sent, at any time, addressed to him, 22 Bible House, New York City, where they would be promptly forwarded to Shanghai.

The Academy then adjourned.

PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, October 7, 1887.

GEORGE F. SHRADY, M D., PRESIDENT, IN THE CHAIR.

DR. WILLIAM H. DRAPER read a paper in which he reported two cases of

ACUTE TRANSVERSE MYELITIS,

with remarks.

DR. G. L. PEABODY demonstrated the lesions microscopically. There were no ganglion cells in the anterior horns. In some of the sections the anterior horns were so diffluent that they could not be preserved. The white matter had been invaded to a considerable extent by round cells.

DR. DRAPER asked if any gentleman present had met with a case of transverse myelitis, such as one of his, with ulceration of the mucous membrane of the stomach.

DR. PEABODY had examined the ulcers in Dr. Draper's case, but found only evidence of intense inflammation about their edges.

DR. C. L. DANA remarked that it was not uncommon for acute myelitis to come on like a hemorrhage, and then it was supposed to be accompanied by minute hemorrhages.

DR. PEABODY said the cases were interesting with reference to the uncertainty of etiology. It occurred very frequently in non-syphilitic persons. The occurrence in some cases, as in one of these, was so very sudden that it would seem it must be due to some sudden disturbance of the blood-vessels. In Dr. Draper's second case, he had supposed that the disease was due to hemorrhage, until he made the autopsy and found that there was none.

DR. ANDREW H. SMITH asked if it was not recognized that softening of the cord might exist without giving rise to distinct symptoms, until it had progressed to a certain degree, when suddenly the continuity of its action ceased, and symptoms developed abruptly.

DR. PEABODY remarked that Dr. Putnam, of Boston, had expressed very much the same view which Dr. Smith had just suggested.

DR. C. L. DANA thought it was unnecessary to invoke any preceding disease to explain the sudden development. The sections which he had seen showed that the lesions commenced as an acute anterior poliomyelitis, and then, instead of pursuing the ordinary course of stopping and getting well, it progressed rapidly. The polio-myelitis of infants was known to come on rapidly. Dr. Dana referred to cases reported by Tietsen, in which, with the symptoms of acute transverse myelitis, there was nothing found except slight congestion, with proliferation of cells, but no acute inflammation. That writer suggests that it was due to either thrombosis or embolism, or sudden reflex contraction, which caused local asphyxia of the cord. In the cases under demonstration there was no doubt that the lesion was inflammatory.

DR. DRAPER remarked, with regard to the hypothesis proposed by Dr. Smith, that in the first case the disease

began very gradually. It seemed to him hardly possible that any distinct changes could take place in the cord without producing symptoms; he thought it was entirely untenable. The theory had been suggested that acute transverse myelitis was an infective process. He did not know that any examinations had been made to either develop or confirm this idea; but it seemed to him that the theory of thrombosis, dependent upon infection by cocci, might explain as well as any other the majority of the cases of so-called ordinary acute inflammatory softening.

THE TEGUMENTARY LESIONS

in both cases had interested him. In the first they were confined to the skin, and in the second case they were found in the mucous membrane of the stomach. They demonstrated that these lesions were not necessarily due to pressure, but were undoubtedly dependent upon trophic disturbances.

Dr. Andrew H. Smith asked whether these lesions were secondary to the spinal lesion or the result of the same cause, on the assumption that there was embolism.

Dr. Draper said he supposed that they were consecutive, and not dependent upon any localized infection.

Dr. Smith asked if the same cause might not operate at all these situations.

Dr. Draper said it might; yet in the first case the onset of the eruption was distinctly urticarial in character, and he supposed that it was due to vaso-motor disturbance.

HEMI-EPILEPSY.

Dr. Andrew H. Smith had just seen a hospital case, which was apparently one of hemi-epilepsy. The patient was a young man, with a slight cardiac lesion and considerable anæmia. He was attacked suddenly with convulsion, confined to the right side, lasting about the time of an ordinary epileptic seizure, recurring at intervals of about forty-five minutes, beginning in the hand, extending to the arm, and thence to the leg, which was more affected than the arm. There was no loss of consciousness; indeed, the patient was able to describe his sensations while the attack was on. The seizure passed off with intense burning pain, especially in the hands. There was nothing that pointed to gross cerebral lesion. The pupils were widely dilated, did not react to light, were equally affected, and remained so during the intervals. Nothing had been ascertained concerning the temperature. The idea that the case was hysterical in character he thought was untenable.

VOMITING AND CEREBRAL DISTURBANCE AFTER ANÆSTHESIA WITH ETHER.

Dr. Sexton asked for the experience of the members with regard to nausea or vomiting, or cerebral disturbance after ether anæsthesia; their duration and character, and in what proportion of cases either occurred.

Dr. William T. Bull thought it was the general experience of surgeons that the subsequent effects were very much influenced by the condition of the stomach at the time the ether was administered. If the stomach was empty, it was exceptional for vomiting to occur more than once or twice after the patients had recovered from the anæsthesia. He had not met with a case of persistent vomiting after the use of ether, and he thought that such cases were comparatively rare. It occurred much less frequently after ether than after chloroform, and that was one of the objections to the use of chloroform. He had not met with cerebral disturbance more serious than transitory headache.

He had seen one case, however, of functional disturbance which was not so very exceptional. Recently he saw the statement in one of the English journals that such disturbance was not at all uncommon. The case which he saw was one in which ether was given for an operation to rectify a displaced uterus, and it was followed by complete insanity for four days, when the patient suddenly came to her normal mental condition.

Dr. Weir had not had any cases in which either gastric or cerebral disturbances had been marked after the administration of ether. He believed it to be well founded that vomiting was more likely to occur when there was food in the stomach than when empty at the time the ether was administered.

Dr. Shrady had never met with persistent vomiting after either, nor with any cerebral disturbance that could be referred to the anæsthetic.

Dr. Sexton said he had been led to ask the question because of a case he had recently seen in which vomiting persisted for days, attended by vertigo and difficulty in walking. The patient had been an epileptic and was anæmic.

Dr. A. B. Ball related a case in which the patient, a woman in the eighth month of pregnancy, suddenly had a severe attack of

DYSPNŒA,

in which the breathing was very peculiar. The history was that three nights ago she slept with the window wide open, awoke feeling rather chilled, and on the next day she had considerable muscular rheumatism in the right shoulder, arm, and back, with some backache. The physician who was called in examined her chest, but did not detect any evidence of either pulmonary or pleuritic trouble. On the following day she was apparently quite well, except that she complained of soreness, and on the day following she came to the city. She slept very well during the night, and went out this morning, and while visiting at the house of a friend she was attacked with difficulty of breathing which was quite alarming. When Dr. Ball arrived the attack had passed off partially. There was no fever, the pulse was regular and a little quick, and nothing abnormal was found on auscultation. While sitting by the side of the patient she had another severe attack, in which respiration was confined entirely to the thoracic muscles, was shallow and rapid, unaccompanied by pain, but attended by a sense of constriction around the body at about the level of the diaphragm. The uterine tumor did not press at all upon the diaphragm. The entire aspect of the case impressed him with the idea that it was one of

SPASM OF THE DIAPHRAGM.

He did not observe any retraction of the parietes in the region of the diaphragm. He immediately gave her a hypodermic injection of morphine. The attack did not last more than five or six minutes. During the next hour she had two or three attacks, and he gave her more morphine, and since then an attack had not occurred, but the patient complained of soreness at about the level of the diaphragm. There was no evidence of ordinary pleurisy. Her health during pregnancy had been remarkably good. During the attacks of difficulty of breathing she did not become at all cyanotic. The respirations were increased in frequency to probably fifty or sixty to the minute.

Dr. Draper recalled a case in which the patient had a great variety of hysterical symptoms. The breathing was rapid and shallow, about eighty to the minute. She had two or three attacks of that kind, which at first seemed to be very alarming, but he concluded that it was a case of

RESPIRATORY NEUROSIS IN A HYSTERICAL WOMAN.

Dr. Ball said that his patient was not hysterical in the ordinary sense of the term, and that these attacks were attended by extreme distress. It was her second pregnancy, and there were no nervous symptoms during her first pregnancy.

Dr. G. L. Peabody related a case of

POISONING BY ILLUMINATING GAS.

A negress, sixty-five years of age, was brought into the New York Hospital on Sunday morning. She had been

found comatose in her bedroom, having accidentally turned the stop-cock of the gas-fixture *all the way round.* When admitted she was absolutely comatose, pulse 150, respiration deep, full, and regular. Inhalations of oxygen subcutaneously. During the forenoon she improved, but when Dr. Peabody saw her in the afternoon the patient was still comatose, although the muscles of the face could be made to respond to external irritation. The stimulants and oxygen were continued. On the next day she was partially conscious, and recognized the house-physician. The oxygen was discontinued. There was not any very marked redness of the mucous membrane, as sometimes is seen. There was no cyanosis, except at first; there was no frothing at the mouth. During the day (Monday) she continued to improve apparently, but when he saw her on Tuesday the patient had distinctly retrograded, had again become comatose; her pulse had risen to 150 or 160; she swallowed with difficulty, and it was absolutely impossible to arouse her. Dr. Peabody then

BLED HER

to the extent of *twenty ounces.* The oxygen was ordered to be given for ten minutes every hour, and the stimulants to be kept up actively. About three hours afterward the patient had improved so much that it did not seem necessary to resort to transfusion. That night she again became conscious, steadily improved, and had since done well.

Dr. Draper remarked that the plan of blood-letting had been resorted to a number of times in the New York and Chambers Street Hospitals, and it seemed to have resulted in good effects in each case.

Dr. Peabody remarked that there was nothing peculiar in the appearance of the blood taken in the case just narrated. He performed venesection on one other patient, bled the man freely, and he made a good recovery.

Dr. Andrew H. Smith referred to a case that pursued a chronic course, with alternations of unconsciousness and improvement, and in which it was two weeks before the recovery was complete.

The Society then went into executive session.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, September 28, 1887.

T. Mitchell Prudden, M.D., President, in the Chair.

Dr. Mary Dixon Jones presented

THE OVARIES AND TUBES

removed from a married woman who had had one child and one miscarriage. After the latter she was confined to her bed for five months with probable septic peritonitis. Ever since that time she has suffered from more or less pain in the lower part of the pelvis, which, during the last five months, had been very severe.

The right Fallopian tube was about the size of a hen's egg, was completely closed, all traces of fimbriæ gone, and it was universally adherent, but especially to the posterior part of the uterus, with old and strong adhesions. The right ovary was very thin, and contained bone. There were several parovarian cysts which ruptured during the operation, and there was considerable hemorrhage. The abdominal cavity was washed out with a bichloride solution—1 to 50,000—the peritoneum was united with continuous catgut suture, and the abdominal wound was closed with silk. Reaction did not take place for seven hours. On the second day the drainage-tube was removed. On the third day the temperature was normal, and the patient has since been doing well.

Dr. Jones presented a second specimen of the uterine appendages removed from a woman twenty years of age, who suffered severe pain for six or eight days before each menstrual period, which lasted ten days. Dr. Polk saw the patient in consultation, and recommended removal of the tubes and ovaries, which were evidently very much diseased. Laparotomy was performed, with the assistance of Dr. A. M. Jacobus. Some of the adhesions were so firm and extensive that it became necessary to ligate them, and then divide them with the knife. Both pedicles were very large; they were secured with ligatures, and cauterized. Both tubes were closed. The drainage-tube was employed. This patient was put to bed, and her symptoms disappeared, and yet at the operation the extensive disease was found as shown in the specimens, which were liable to rupture at any time, and give rise to serious complication, if not fatal result. She did not approve of attempting to support the appendages by means of a pessary, neither had she seen a case in which cerebral congestion had been produced by suddenly stopping menstruation.

Dr. Carpenter asked Dr. Jones how many cases she had seen in which pyo-salpinx ruptured previous to operation.

Dr. Jones had seen *one* that was proven by post-mortem.

Dr. Boldt had met with *six* cases.

Dr. A. P. Dudley had encountered *one* case.

Dr. Ferguson had made a post-mortem examination in *one* case.

Dr. H. J. Boldt exhibited

AN INTUBATION-TUBE THAT HAD AROUND ITS HEAD AN INCRUSTATION OF CALCAREOUS MATERIAL.

He thought it possible that, in some cases, ulceration might be produced by such a deposit around the upper part of the tube. The case in which it was used was an apparently hopeless one, but the child made a fairly good recovery.

Dr. Wyeth mentioned recent statistics, published by Dr. Stone in the *Pittsburg Medical Review*, of thirty-two cases of intubation, with twenty-one deaths, and the writer concluded by condemning the method.

Dr. W. P. Northrup had seen a tube that had been in the œsophagus fifty-two hours, and was covered entirely with a deposit similar to that seen upon Dr. Boldt's tube. In that instance it was accounted for by the fact that the bichloride of mercury had been used in the treatment of the case. He had never seen an ulcer at the head of the tube that did any harm. The ulcer which did harm was at the lower end of the tube, and upon the anterior wall of the trachea.

The tube was referred to the Committee on Microscopy for examination and report as to erosion of its surface and precipitation of lime salts, lime-water having been used in the treatment of the patient.

Dr. A. P. Dudley presented a specimen of

MALIGNANT (?) DISEASE OF THE OVARY,

with the following history: Annie D——, single, thirty-four years of age, and always healthy; menses regular, and lasting one week, until last February, when the menses began to appear every two weeks and remain six days. She never had any pain with the menses or otherwise until March, when she was troubled with gravel, and micturition was attended with great pain and the passage of small quantities of urine. The gravel disappeared about the middle of April. She then began to have pain in the right inguinal region, which continued to be very severe, and lasted until about the first of August, when it changed to the character of a weight in the abdomen. The menses continued to appear twice monthly until the 6th or 7th of July, when they lasted only two days. In August there was only a show. She first noticed "a bunch" in the right side about the first of April. It increased in size very rapidly, and was attended by the pain, as previously mentioned; she lost flesh rapidly during the past three months, and when seen by me, August 25th, she presented the typical *facies ovariana.*

Examination at that time revealed a large tumor in the abdomen, giving to the touch the impression of a multilocular ovarian cyst with thick walls and contents. It was quite movable from side to side, but not from above downward—the greatest portion of the tumor being to the left of the median line of the abdomen, and the upper portion seemed quite hard.

A DISTINCT PERCUSSION WAVE COULD BE OBTAINED.

Digital examination showed the hymen intact, vagina normal, and womb pressed forward against the pubes No sound was introduced into the organ. The left culde-sac was occupied by a hard portion of the growth. No bimanual percussion could be obtained considering the duration of the growth and its size. He anticipated finding *malignant* disease, and so stated to her physician; operation advised as early as possible. She entered St. Elizabeth's Hospital at once, and the operation was made on August 31, 1887. Incision three inches long, through linea alba. The peritoneum was found thickened to one-eighth inch anteriorly. The whole anterior surface of the growth was adherent to the anterior abdominal wall. This was stripped off; no ascitic fluid escaped. When tapped, the growth proved to be multilocular, with the cysts containing widely differing contents—some jelly, some clear limpid fluid, some a cheesy matter, and some blood. Great care was taken not to allow any of the contents of the tumor to enter the general peritoneal cavity. The growth had a long pedicle, which was easily ligated. The right ovary was found to be the size of a small orange, cystic and adherent, with corresponding tube some enlarged; both were removed. She rallied quickly from the shock, aided by rectal injections of brandy and water. There was nothing worthy of mention concerning the after-treatment, except that the temperature never went above 101½° F. (next day), and the pulse never above 107. She left the hospital on Monday, September 26, 1887, cured.

Dr. Dudley remarked that the first case in which he operated was similar to the one just reported. The patient suffered so severely from shock that he was obliged to turn her upon her back, when some of the contents of the tumor entered the peritoneal cavity. At the time of the operation the pelvis was apparently perfectly healthy, but in five months the woman died of return of the sarcoma in the pelvis.

The specimen was referred to the Committee on Microscopy.

Dr. F. C. Fuller mentioned a case in which there had been a notable duration of life with malignant disease, there being a history of active recurrent cancerous disease of the pelvic organs from December last until the present time.

Dr. Dudley also presented

THE SAC OF AN OVARIAN TUMOR

which, together with the contents, weighed seventy pounds. The sac weighed eight and a half pounds. The tumor was removed from a woman fifty years of age, who was married when twenty-seven years old, and had had substantially a normal history of menstruation. Her labors had been normal, and she had not had a miscarriage. Her last pregnancy occurred sixteen years ago. She had never suffered from irritation of the bowels nor vesical symptoms. The chief, and nearly the only, symptom was constant pain, varying in severity. Her body, at the time of the operation, was lighter than the tumor, and he operated without the expectation that she would recover from the shock.

From the pubis to the umbilicus the distance measured 15 inches; from the anterior superior spinous process of the ilium to the umbilicus, 18½ inches; from the ensiform cartilage to the pubis, 30 inches; half the distance around the body, 26½ inches. The tumor was universally adherent. The woman lived five days, and died from complications.

Dr. Dudley further presented

THE OVARIES AND TUBES

removed from a woman thirty-four years of age, who was married at the age of fourteen, and had had two labors and three abortions. Her general health had been very poor, and locomotion had been difficult. There had been periodical gushes of water from the vagina. Hydro-salpinx on the left side was diagnosticated. She had gonorrhœa several years ago. The leucorrhœal discharge which she had, had never been purulent. The uterus was retroverted and bound to the pelvis, and there were extensive adhesions of the ovaries and the tubes on both sides. The operation confirmed the diagnosis, and the case was reported to illustrate how close the diagnosis might be in a case that was carefully studied.

He mentioned a case reported to the Maine Medical Association, in which the diagnosis of hydro-salpinx was based largely on the periodical occurrence of copious watery discharges from the vagina. Removal of the tubes relieved the patient entirely.

Dr. Ferguson remarked that in thirty out of sixty or seventy-five post-mortem examinations he had made in cases of salpingitis the tubes were found closed.

Dr. J. S. Thacher, by the kindness of Dr. Jacobus, was able to present an extreme case of

CONGENITAL UMBILICAL HERNIA, WITH MARKED ABSENCE OF DEVELOPMENT OF THE ANTERIOR ABDOMINAL WALL.

It was interesting on account of the size of the mass, and the obstacle which it offered to delivery.

The child was a full-term child, and its movements were said by the mother to be active till a few hours before labor-pains began.

The mother was a primipara, twenty-four years of age, and in good health. She had had two slight falls, a few weeks before, but with no apparent injury. There was no history of congenital malformations in the families of either parent.

The membranes ruptured fourteen hours before pains began, and the waters contained some fæcal matters, as they were discharged at intervals through the day. When examined, soon after the labor began, a transverse presentation was found, and protruding from the uterus, besides an arm, a peculiar mass, feeling like a portion of the amniotic sac, containing about a pint of fluid, and something like a placenta. It was found to be attached by a pedicle high up.

Podalic version was performed, and the child extracted. During version the bag ruptured. The intestines were born with the hips. The liver, also outside of the body, interfered some with the birth of the shoulders. The cord and placenta were normal.

On examination after birth, there was found an absence of a considerable portion of the anterior abdominal wall, about four inches in extent, the edges of which were continuous with the thin membrane which formed the sac mentioned. In this, and quite outside of the trunk, lay the liver, spleen, left kidney, and most of the intestines, while the stomach and uterus protruded partially. The heart was displaced downward, but inside the trunk. There was marked right lateral bending of the spine.

Dr. F. C. Fuller presented a

DERMOID CYST OF THE OVARY,

removed from a patient thirty-seven years of age, married, who came to him, last June, complaining of irritation of the bladder, which he regarded as due to mechanical pressure. There was occlusion of the vagina, which had existed during married life. There was a tumor in the right side of the pelvis, which pressed the uterus forward and to the left. He tapped it with a small needle, and obtained, thick, yellow pus. He then aspirated the sac and drew off one pint of pus, and the patient remained relieved for some time. She got into the care of another

practitioner, but finally came under Dr. Fuller's observation again, when the evidence of a pelvic abscess was obtained, which he opened into the vagina. Soon after, the symptoms led to the diagnosis of rupture of the abscess into the peritoneal cavity, and laparotomy was performed immediately. It was with very great difficulty that he succeeded in removing the pelvic contents and inserting a drainage-tube through the vagina. The patient died of exhaustion. The diagnosis of dermoid cyst was made by exclusion, and confirmed by the few hairs which protruded into the vagina when the abscess was opened.

Dr. Fuller also presented a specimen of

INTRA-CAPSULAR FRACTURE OF THE NECK OF THE FEMUR.

The patient was a woman eighty years of age, and in excellent health. She died four days after the accident, of cerebral apoplexy. The autopsy showed that there was no impaction, which was thought to be present at the time the diagnosis of intra-capsular fracture was made.

Dr. Dudley assisted Dr. Fuller in his ovarian case, and he remarked that he once had a similar one in which there was a pelvic abscess separate from the dermoid cyst. These were the only cases which he had seen where there was a simultaneous development of an ovarian tumor and a pelvic abscess.

Dr. Frank Ferguson presented a specimen of

ANEURISM OF THE THORACIC AORTA,

which was interesting chiefly on account of its size. It was removed from the body of a man fifty years of age, a native of Italy, single, an artist by profession, who was admitted into New York Hospital, into the service of Dr. George L. Peabody, on September 22, 1887. He gave no family history bearing on his case. He used alcoholic beverages moderately. Fifteen years previous to admission he had had a chancre, which was followed by an eruption. Three years ago he began to suffer from pain in the left shoulder, which gradually grew worse; a year later he began to cough, with whitish expectoration. Ten days previous to admission he began to suffer from shortness of breath, to grow hoarse, and to suffer from dysphagia. His appetite was poor; he was constipated, but his pain was his chief complaint.

On admission his temperature was 99° F.; respiration, 22; pulse, 84. He was poorly nourished; and on physical examination, all over the chest anteriorly, except at the upper part of the sternum and at the apices, the percussion-note was hyper-resonant, and over this area were heard a great many sonorous and sibilant râles. The cardiac sounds were faint, with the second aortic sound slightly accentuated. The pulse was fair in tension; the peripheral arteries were tortuous and atheromatous. There was a slight arcus senilis. In the interscapular region, to the left of the median line, there was a bulging of the thoracic wall, measuring vertically 12 inches and transversely 8 inches. Over the entire tumor was expansile pulsation and flatness, but no murmurs could be heard.

Examination of urine.—Yellowish in color; reaction alkaline; sp. gr. 1.010; albumen present in small amount. On microscopic examination, granular casts and triple phosphates were found.

While in the hospital he suffered considerable pain, which was easily controlled by morphine, and he was fairly comfortable till ten minutes before death, when he began to cough up blood and suffer intensely from dyspnœa. He died three days after admission.

Autopsy.—The left lung was bound to the thoracic wall by old adhesions, and it was also firmly connected with a large aneurismal sac, which occupied the posterior half of the left pleural cavity, above the seventh rib. This sac measured transversely 22 ctm., or 9 inches, and vertically 19 ctm., or 7½ inches. It extended 10 ctm. to the right of the median line. The third, fourth, fifth, sixth, and seventh ribs were eroded, the third and seventh partially, and the rest completely. The dorsal vertebræ corresponding to these ribs were also eroded, the fourth, fifth, and sixth most extensively. The sac communicated with the aorta by a circular opening 3 ctm. in diameter, and 4.5 ctm. below the origin of the left subclavian artery. This sac was filled with laminated fibrine and recently coagulated blood. The œsophagus and trachea were pushed forward, and to the right. The œsophagus, laid open, appeared normal. In the median line of the posterior wall of the trachea, on a level with the division into the primary bronchi, was an opening half a centimetre in diameter. Surrounding this opening the wall of the trachea was much thinner than normal, and it tapered to the thickness of tissue-paper at the edges of the opening. One centimetre from the opening two of the cartilages of the trachea were exposed, to a limited extent, through the mucous membrane of the tube. The heart was normal in size; its valves were competent, but the muscular tissue was pale. The aorta throughout was atheromatous.

Dr. Ferguson also presented a specimen of

CARCINOMA OF THE STOMACH, UNATTENDED BY GASTRIC SYMPTOMS.

A negro, aged fifty-seven, a native of the United States, married, and a caterer by occupation, was admitted into New York Hospital, into the service of Dr. G. L. Peabody, on August 30, 1887. His mother died of consumption, and he also lost a son from the same disease. He denied rheumatic and venereal trouble. He had a moderate alcoholic habit. Thirty years ago he had had malarial fever. For a period of one year, commencing eight years ago, he had had frequent pulmonary hemorrhages. For five years he had had a cough, with muco-purulent and bloody expectoration, night-sweats, afternoon fever, and he became weak and emaciated. At the expiration of five years he partially recovered his health. He had coughed up no blood for the past eight months. Eighteen months ago his feet began to swell, and he passed his urine more frequently and in larger quantities, its color being pale. He had muscæ volitantes, tinnitus aurium, and considerable headache, limited to the left side. His eyesight was impaired, and he had become short of breath, especially on exertion. Recently he had had no further pulmonary symptoms. His appetite was fair. His bowels were irregular, but he gave no other symptom referable to the digestive tract. His chief complaint was pain in his back. On admission his temperature was 97° F.; respiration, 24; pulse, 74.

Physical examination.—All over the chest, anteriorly, percussion was hyper-resonant, and expiration prolonged. Posteriorly there was flatness over both bases, with diminished voice and breathing. The heart was apparently enlarged; the first sound was markedly accentuated at the apex. The liver-area was diminished in size. The spleen-area was normal. The tension of the pulse was rather high. There was marked œdema of both legs.

Examination of urine.—Yellow; acid; sp. gr. 1.012; albumen a trace; granular casts and blood-cells found under the microscope.

Shortly after admission he became delirious, and the œdema increased. His urine was passed involuntarily; it contained granular and hyaline casts. He became comatose later, and died on September 27th. His temperature was throughout subnormal.

Autopsy.—The heart was small, and its muscular tissue brownish. The valves were normal in capacity and apparently competent. The aorta was atheromatous. There was emphysema of the right lung along its free border; in other localities it was œdematous. The left lung was intensely œdematous. The kidneys showed the lesions of chronic diffuse nephritis, and contained a great deal of fat. The stomach contained six or seven nodules, varying in size from half an inch to one inch or more in diameter. One was distinctly pedunculated, and some of them were slightly umbilicated. Micro-

scopical examination revealed that they were carcinoma. This disease had not been suspected during life.

Dr. Boldt referred to a case in which the patient died of consumption. The only symptom referable to the stomach during life was some pain after eating, but the autopsy revealed carcinoma of that organ.

The Society then went into executive session.

Correspondence.

"CHOLERA IS ALWAYS STOPPED BY COLD WEATHER, AND AN EPIDEMIC HERE NOW WOULD BE IMPOSSIBLE."—The Medical Record, p. 598.

To the Editor of The Medical Record.

Sir: In your issue of November 5th I notice an editorial on "Cholera and Quarantine," in which occurs the following remark: "The attempt to frighten the public into fear of cholera at this time, however, is simply part of the newspaper methods of the day. Cholera is always stopped by cold weather, and an epidemic here now would be impossible."

That such a statement should be found in the editorial columns of a leading medical journal, I confess, fills me with surprise, as everyone who has reviewed, even slightly, the history of the various cholera epidemics knows that, unlike some other diseases, cholera is one of those scourges whose march is not stopped by heat or cold, high or low altitude, dryness or dampness, or any other condition of the weather.

In 1830 the cholera appeared in Moscow in the month of October, and continued its ravages until the end of December, in spite of the severities of a Russian winter, and caused the death of 8,130 persons out of a population of 250,000, or about 1 in 30. From Moscow it went north to Yarasy, thence to Rybinsk, sixty leagues north of Moscow, where it appeared on March 19, 1831, in spite of the ice and snow which covered the ground.

In October, 1831, the cholera appeared in Great Britain, and continued there until March, 1832, doing most of its destruction in December. About one-third of the people affected died.

On the 27th of March, 1832, the disease appeared in Paris, and the mortality was so frightful that 861 people died in ten days.

In 1848 the emigrant ship New York left Havre on the 9th of November, having no sickness on board and no cholera being then in Havre. During the voyage the weather became bitterly cold. There were some German emigrants on board, from a town where cholera had prevailed, who had a trunk which had belonged to a man who had died of cholera. They opened the trunk, took out the clothing, and wore it. On November 22d a child died of cholera, and seven persons in all succumbed to it before reaching New York Harbor.

They were strictly quarantined and the disease limited to those who died on Staten Island in the Quarantine.

About this same time another vessel from Havre, bound for New Orleans, developed the cholera on the twenty-seventh day out, and owing to imperfect quarantine regulations the disease spread rapidly through the town soon after the arrival of the vessel, there being then no other cases in the United States except those in the Quarantine on Staten Island. From New Orleans the disease travelled to Memphis, appearing there toward the end of December, and at St. Louis in the first week of January, 1849. Toward March several places in the Upper Mississippi Valley were affected, and then gradually the disease moved east through Chicago, which it reached in May, to New York, which became infected then, *and not till then*, although the disease had been imported to the city six months previously, but had not been allowed to land, and the city in this way kept free from infection until the cholera effected a flank movement, by way of New Orleans, and attacked her in the rear, having made its progress in spite of the winter, and having attacked the cities through which it passed in the cold weather.

These facts in regard to the prevalence of cholera in spite of cold, and the well-known futility of a quarantine on land, make any attempt to lull the medical profession into a false sense of security fraught with great danger to the country, and I have, therefore, wished to call attention to the fact that cholera is *not* stopped by cold, and that to be quarantined effectively it must be arrested in our ports, which can only be done by having a general quarantine under the direction of the Federal Government.

Yours respectfully,

Reginald H. Sayre.

285 Fifth Avenue, November 7, 1887.

[Cholera has never prevailed in New York City in the winter-time, and rarely in any northern latitudes save under very peculiar and exceptional circumstances. We gave what we believe to be the rule in regard to cold weather, and had in mind the statement of Dr. Harold C. Ernst, who has written an authoritative article on cholera in the "Reference Handbook of the Medical Sciences." He says: "The progress of an epidemic is invariably arrested by cold—the winter season having always stopped those of which we have any record."

The old idea that cholera wintered over frequently is now almost exploded. In Russia the peasants' huts and village houses have only one window, which is always closed in winter, and no door opening directly to the outer air. The outer door opens upon a long hall, at the other extreme end of which is an inner door which opens into the large living-room, where several generations are huddled together at night, viz., grandparents and great-grandparents and their families, sons and daughters and theirs, and so on to the extent of three or four large families, all of which are heated up by the huge, hot Russian stove. In winter the rice-water discharges are apt to be thrown out upon the snow, which is soon after collected and put in the tea-kettle or soup-pot. The larger Russian houses are tremendously overheated, more so than our furnace-heated houses. At the last visit of the Grand Duke Alexis here, he and all his staff complained bitterly of the coldness of New York houses.

Cholera has frequently been imported into warm New Orleans in the winter-time, notably in 1873, when it commenced in February. But it did not winter over in the United States that year or, notably, any other year. But constant importations into New Orleans, almost every month of the year during the California gold-fever times, sent much cholera to St. Louis and Chicago, and other western places, almost every month in the year, so that it seemed to winter over; but, in fact, was kept alive by almost incessant new importations.

Our esteemed correspondent has opened up a very interesting question, and we are glad that he has called attention to it, so that it may be properly discussed.—Ed.]

THE GLEDITSCHINE INVESTIGATION AND RESERVED RIGHTS.

To the Editor of The Medical Record.

Sir: In a note from Dr. J. Herbert Claiborne, Jr., published in The Medical Record of this date, I find it stated that you and I have consented to nominate a chemist and a botanist to superintend an attempt on the part of Mr. Goodman and Dr. Seward to extract an alkaloid from the *Gleditschia triacanthos*, together with this statement, "the condition to be imposed is that the chemist, on his word as his bond, is not to divulge the method of procedure of obtaining the substance."

I took pleasure in acceding to Dr. Claiborne's request that I should act with you in the capacity in question, but I did not suppose that any such condition was to be

attached to the arrangement. Dr. Claiborne said something about a desire on the part of Mr. Goodman and Dr. Seward that their process should be kept a secret, but I told him that that was impossible, and I thought that he agreed with me. Had I supposed that such a condition was seriously intended to be made a part of the plan of procedure, I should have declined to have any connection with it, for it seemed to me that it would be unsatisfactory to the profession and an indignity put upon the chemist and the botanist who were expected to perform a service in the interest of science.

FRANK P. FOSTER.

NEW YORK, November 5, 1887.

[To a certain extent Dr. Foster is right, and we agree with him. We regret to lose his valuable assistance. THE RECORD will, however, investigate the matter on its own account, and, we trust, in the proper way.—ED.]

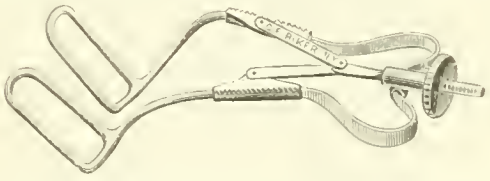
New Instruments.

A NASAL SPECULUM.

BY W. J. SWIFT, M.D.,

NEW YORK.

I WISH to call attention to a nasal speculum which I have used for some time in my clinic at the Metropolitan Throat Hospital, as well as in my office practice, and which, it appears to me, is not so well known as it deserves to be. The cut shows the principle upon which



it is constructed, being, namely, a combination of Fraenkel's nasal speculum and Noyes' eye speculum—the spring at one extremity, acting to keep the blades open, and the nut serving to regulate the extent of their separation. It is light, self-retaining, and easily adjusted to any nostril, and is decidedly the most useful nasal speculum with which I am acquainted.

40 EAST THIRTIETH STREET.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from October 30 to November 5, 1887.

BYRNE, CHARLES B., Captain and Assistant Surgeon. Ordered for temporary duty at Fort McHenry, Md. S. O. 231, Division of the Atlantic, October 28, 1887.

MUNN, CURTIS E., Captain and Assistant Surgeon. Relieved from duty at Fort Canby, Wash. Terr., and ordered for duty as Post Surgeon at Fort Klamath, Ore. S. O. 251, A. G. O., October 28, 1887.

ADAIR, G. W., Captain and Assistant Surgeon. The leave of absence for seven days, granted on the 27th inst. by the commanding officer, Fort Brady, Mich., is extended twenty-three days. S. O. 231, Division of the Atlantic, October 28, 1887.

Official List of Changes in the Medical Corps of the United States Navy for the week ending November 5, 1887.

FITZSIMMONS, P., Surgeon. Ordered to the United States Ship Marion.

ATLEE, L. W., Assistant Surgeon. Ordered to the United States Ship Marion.

BATES, N. L., Medical Inspector. Ordered to the United States Ship Trenton.

BEYER, HENRY G., Passed Assistant Surgeon. Ordered to the United States Ship Trenton.

WHITE, STEPHEN S., Assistant Surgeon. Ordered to the United States Ship Trenton.

RIXEY, P. M., Passed Assistant Surgeon. Detached from the United States Ship Trenton and wait orders.

ASHBRIDGE, RICHARD, Passed Assistant Surgeon. Ordered to the United States Receiving Ship St. Louis.

Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending November 5, 1887:

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	25	4
Scarlet fever	85	9
Cerebro-spinal meningitis	3	3
Measles	53	3
Diphtheria	122	32
Small-pox	2	0
Yellow fever	0	0
Cholera	0	0

ACUTE INTESTINAL OBSTRUCTION.—Dr. George J. Charlesworth, of Plum Creek, Neb., criticises the treatment adopted in a case of intestinal obstruction reported by Dr. Perry in a recent number of THE MEDICAL RECORD. He says that the administration of active cathartics in acute intestinal obstruction is a procedure condemned by the latest authorities, and he warns all practitioners against it.

INDIGO IN AMENORRHŒA.—Dr. J. W. Cutler, of Platteville, Wis., referring to an article in THE MEDICAL RECORD of July 9, 1887, on "Indigo as an Emmenagogue," writes that he has used the drug for that purpose for two years or more with excellent results. He learned of this property of indigo in the pages of *The Dispensatory*.

INDIGO FOR RATTLESNAKE-BITE.—A physician writes in the *Medical and Surgical Reporter*: "The Hon. George Opdyke, mayor of the city of New York during the late war, told me that wet pulverized indigo is a sure and certain cure for the bite of this reptile. I mentioned this to a lady about to start to Florida, in February last, who had occasion to use it. Their colored servant was bitten above the ankle. He tied a bandage tightly above the ankle and kept on with his work. In the afternoon the foot and leg, to the bandage, were swollen dreadfully. Indigo was applied as a poultice, and the man recovered without other treatment in twenty-four hours."

DOUBLE URETHRA IN THE MALE.—At a recent meeting of the Society of Physicians of Styria, Dr. Lipp showed a man with a double urethra. The patient, aged twenty-five, had been admitted into the hospital suffering with acute gonorrhœa, and on examination a second opening, which was surrounded by a limbus, and through which one could introduce the sound into a canal lined with mucous membrane, was found to be present over the opening of the urethra near the corona glandis. The canal extended as far as the posterior part of the symphysis.

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Original Articles.

SOME CONSIDERATIONS ON LITHÆMIA AND ALLIED DISORDERS, WITH ILLUSTRATIVE CASES.[1]

BY THOMAS E. SATTERTHWAITE, M.D.,

NEW YORK CITY.

FROM the present stand-point of our progress in physiological chemistry the word *lithæmia* is a very useful one. Originating, as it did, with Murchison,[2] who pointed out a definite train of clinical phenomena to which the name was applicable, it has been extensively utilized of late years in the United States; while some of our ablest clinicians, such as Drs. Da Costa and Bartholow, have adopted, in great measure, Murchison's views as to the natural history of the disease in its various manifestations.

It is but just, however, to state, at this point, that the late Dr. Austin Flint[3] had already proposed the word *uricæmia* for morbid conditions of a similar or allied nature; but the matter did not at first attract general interest, so that it was reserved for Murchison to fasten the word lithæmia to a special group of symptoms, and he did it in so masterly a manner that not only were his views heartily commended, but the word *lithæmia*, which he proposed, was grafted upon our medical terminology. But, as will further appear, an acknowledgment of Murchison's position with regard to lithæmia seriously affected certain doctrines that were long held on the subjects of oxaluria[4] and phosphaturia,[5] and which, even now, have their advocates. Before passing, therefore, to the practical aspects of lithæmia, it will be necessary to note the relations of these several conditions.

But, in so doing, it will be important, and, indeed, essential, to take a hasty glance at some elementary facts of physiological chemistry, and particularly those that refer to the production of urea, uric acid, and the urates; oxalic acid and the oxalates; phosphoric acid and the phosphates—for, as appears from a brief survey of these topics in our modern text-books, these several substances have, all of them, close relations with one another, whether they are in or out of the body.

To begin, then, with the first mentioned, it may be stated, as a matter of common acceptance, that urea is the ultimate product of the metabolism (*i.e.*, conversion) of the proteid (albuminous or nitrogeneous substances) ingested as food; and the chemical formula of urea $(CONH_2)_2$, showing, as it does, a combination of carbonic acid, ammonia, and water, indicates its nitrogeneous character. But physiologists tell us that while it is a derivative of animal tissue-waste, it is often a remote product, and through the medium of such substances as zanthin, hypozanthin, etc., which are then known under the name of intermediate products in the destructive metamorphosis which the body is constantly undergoing; and though, as experiments have shown, the amount of urea elaborated in the system corresponds, in great measure, with the amount of destructive change, as in fevers, still, as more or less change is constantly occurring under normal conditions, it follows that the occurrence of urea among the habitual excretions should be constantly expected, of which occurrence we have abundant proof.

But though the two classes of agencies just mentioned are constantly operating and are of prime importance, there are still others at work; and yet, if the two first mentioned are in active operation at the same time, urea may be produced in enormous quantities. Such a concurrence is observed often in glycosuria, where there is both an increase in the amount of nitrogeneous food ingested and an excessive waste of tissue. The urine in such cases may contain treble its normal constituent quantity of urea, and the normal average of five hundred grains may be augmented to three ounces.

Now, it has long been a question among physiologists whether or not the liver is the organ that elaborates urea; but though it can fairly be said that we have evidence to show that urea *can* be formed in many parts of the system, actual experiment has demonstrated conclusively that urea *may* be formed in the liver from the carbonate of ammonia *in a direct manner;* while apart from this last-named fact, other experiments, as upon birds fed with leucin, tyrosin, glycin, asparagin, and aspartic acid, have shown such an increase in the urea of the urine as to lead to the supposition that it is formed in the liver, where the above *amido acids*, as they have been called, developed through the tryptic action of the pancreatic ferment, are carried by the portal blood during intestinal digestion; and yet it is still within the limits of possibility that urea may also be formed synthetically from the nitrogen of the animal fluids, through chemical union with these same amido-acids.

But the proof that urea is produced by hepatic action is further sustained by such unquestionable evidence as its increase in the tissue of the liver after electrical stimulation, and a decrease in the normal amount when the liver has been the seat of destructive changes, such as are known to occur in acute atrophy or fatty degeneration.

The subject of *uric acid* next invites our attention, and its clinical formula, $C_5N_4H_4O_3$, demonstrates the close relationship it holds to urea. But uric acid is a highly insoluble substance, and is rarely found in the body. Certainly it is *not* found in the diseases under their normal condition, except during infantile life, in the first few days of separate existence; and then the deposits which occur, and which have been so frequently noted in the pyramids of the kidney, are probably an exhibition of the circumstance that the digestive functions of the new-born have not yet found themselves fully competent to cope with the new substances that have been ingested for the independent life of the individual. But it will be noticed that these deposits rapidly disappear, so soon as the new conditions have been satisfactorily established, and we may properly connect the disappearance of the deposit with the establishment of an equilibrium based upon the new conditions of the individual with respect to its digestive functions.

There is one disease only, so far as is known, in which uric acid exists alone—*i.e.*, uncombined—in the body. In this single disease, leucocythæmia, it is found in the spleen, though of this matter I cannot speak from individual experience, having, in fact, never seen it in such spleens as have come under my notice. But the urates,

[1] Read at the Seventh Annual Meeting of the Ontario Medical Association, held at Toronto on June 8 and 9, 1887.

[2] Murchison: Clinical Lectures on Diseases of the Liver, etc. London, 1868.

[3] Flint: Principles and Practice of Medicine. Philadelphia, 1882. In a later work on the Diseases of the Liver, 1885, due acknowledgment is made of Dr. Flint's claim.

[4] Golding Bird: Urinary Deposits, etc. 1851.

[5] Ralfe: Morbid Urine. New York, 1882.

such, for example, as those of ammonia, soda, potash, and lime, all which are highly soluble, occur frequently in the fluids of the body.

There is, further, a well-sustained theory that uric acid is formed from many of the substances that are themselves derived from the intestinal digestion of albuminous matters, such, for example, as guanine and the like; uric acid may also be derived from urea, as the latter is derivable from the former. It is not unlikely, however, that both of them may be developed in various parts of the body; though from the considerations above given it seems most probable that the liver is the point from which uric acid chiefly takes its origin, and the ingestion of albuminous food predisposes greatly to its production. But by far the larger portion of the nitrogeneous or albuminous foods ingested is excreted as *urea*, as residue only going to form uric acid, or creatinine or hippuric acid.

Now, in reference to oxalic acid and the oxalates of lime, which next require our attention, it must be remembered that many vegetable substances taken as food contain oxalic acid to a more or less degree. Thus, rhubarb possesses it in large amount, while asparagus, cauliflower, spinach, apples, tomatoes, and even grapes have it in more or less quantity (Fagge). And some medicines, such as gentian, also contain it. On the other hand, oxalic acid is readily produced within the system,[1] and the experiments of v. Wohler and Frerichs sustain this statement. It is further maintained that oxaluria may be occasioned by the drinking of champagne, or, in fact, any carbonated water, as an oxalate may be formed in the animal system through the agency of any carbonate. For a similar reason the inordinate use of sugar might lead to oxaluria. But it is hardly necessary to multiply instances to prove that oxalic acid may be formed from other normal products of tissue-change—a notable example of this fact, however, has been adduced (Weber[2]) to show that guano, which is largely made up of the urate of ammonia, may be spontaneously converted into the oxalate of ammonia in the ship's hold; and it can be shown, as Owen Rees[3] first pointed out, that uric acid is readily converted into oxalic acid and urea by the addition of water.

Such varied evidence would therefore demonstrate that oxalic acid may simply be formed during the decomposition of uric acid or urea, and it follows naturally that the clinical phenomena associated with the two conditions, oxaluria and lithæmia, have a close relation.

As, therefore, at the present day, we come to understand these fundamental postulates of physiological chemistry, the more do we recede from the stand-point taken by those who have sought to establish oxaluria as a distinct disease.

Nor, apart from this medical aspect of the so-called oxalate-of-lime diathesis, is there anything markedly distinctive in its surgical relations? It cannot be said that there is anything peculiar in the system by which an oxalic calculus is formed rather than a phosphatic, though it is true an oxalate of lime-stone possesses physical qualities, such as roughness and hardness, which, on the one hand, cause it to do unusual violence to adjacent parts, and, on the other, make it more difficult for the surgeon to remove. From a prophylactic view, it matters not to the surgeon whether it be one or the other.

What, now, is phosphaturia?

It is generally conceded that the phosphoric acid of the urine is either obtained from food or from the oxidization of the waste products of the body. But phosphoric acid does not occur uncombined; for though about fifty grains is daily excreted, it is always in combination with such bases as potash, soda, magnesia, lime, or ammonia. These salts are held in solution by the acid phosphates of soda. If, however, the acid phosphates be diminished in quantity, the earthy phosphates may be deposited; but the mere fact of such deposition does not indicate that they are necessarily in excess, as readily occurs to anyone who is conversant with the physiology of the urine. Determination of an excess or a deficiency of the phosphates can be computed by quantitative analysis only. And yet I will venture to say that this matter is of little consequence, because most careful study has so far failed to show that an excess of the phosphates demonstrates any peculiar condition of the system, or, in fact, that a diminution in the amount of phosphates has any important signification.

So far as these deposits are concerned, they are either of the triple-phosphate variety or of the phosphate of lime, and are natural to any urine when it becomes alkaline.

And the reason that these deposits of the phosphate of lime cannot yet be regarded as having any definite clinical significance is because heretofore they have been found in diseases of so different a character as to indicate nothing common to the several cases. Prout's phosphatic diathesis was based upon his recognition of the ammonic phosphate of magnesia found in ammoniacal or decomposing urine, and Golding Bird described a train of symptoms that are common to both his so-called oxaluria and lithæmia—viz., nervous prostration, dyspepsia, and melancholia, or hypochondriasis.

There are but two points to be remembered in this connection—viz., that the urine becomes alkaline either (1) from the fixed alkali, soda or potash, or (2) from the volatile alkali, ammonia. When the latter condition prevails, the phosphates are simply due to the decomposition of urea; when the former prevails, or even is frequently present, the patient usually suffers from dyspepsia, anæmia, or debility, but the presence of the phosphates does not indicate any precise disease. I do not mean to state now that we may not, at some future time, find some relation between true phosphaturia and a special train of clinical phenomena, but I state that, in my opinion, no such connection has yet been shown; and with this view of the case we are better prepared to study the clinical aspect of lithæmia, which is conveniently divided into three types: 1. The hepatic. 2. The neurasthenic. 3. The articular (gout).

But before coming to this matter it may be well to premise that there is a great difference between the occurrence of uric acid or the urates in solution or as a deposit. For we must not think that an excess of either one or the other, as a urinary sediment, indicates an excess of either in the blood or tissues. Their deposition in the urine is a matter that depends largely upon the density of the liquid, its acidity, and the temperature of the liquid; and, in fact, the density of the urine may, in acid urine and on a cold day, determine whether the uric acid or the urates are deposited. Thus, with an average specific gravity of 1.021, and the other conditions just named, we may expect a deposition of uric acid, while with a specific gravity of 1.027 we may look for urates (Roberts). The quantitative estimation of uric acid, which is of most importance and can alone determine whether there is an excess or a diminution, should be done by precipitation with hydrochloric acid in the usual manner, and is naturally a chemical procedure of some difficulty.

Hepatic lithæmia is well described by Murchison.[1] He says: "When oxidization is imperfectly performed in the liver, there is a production of the insoluble lithic acid and lithates instead of urea, which is the soluble product from the last stage of the oxidization of nitrogeneous matter. Again, when more food is taken into the blood than is necessary for the nutrition of the tissues, the excess is thrown off by the kidneys, lungs, and skin, in the form of urea, carbonic acid, and water, or in the imperfectly oxidized forms of lithic acid and oxalic acid.

[1] Landois and Stirling, ii., p. 534.
[2] Weber: Wood's Reference Handbook, iv., p. 509.
[3] Rees: Croonian Lectures, 1856.

[1] Murchison: On the Diseases of the Liver, p. 626. 1885.

"Under these circumstances an excess of work is thrown upon the liver and other glandular organs, and one result is that a quantity of albumen, instead of being converted into urea, is discharged by the kidneys in the form of uric acid or its salts. But what, in most persons is an occasional result of an extraordinary cause is in some almost of daily occurrence, either from the food being always excessive in amount or unduly stimulating, or from some innate (often hereditary) or acquired defective power in the digestive organs, in virtue of which their normal functions are liable to be deranged by the most ordinary articles of diet. This functional derangement of the liver in certain individuals, particularly the offspring of gouty parents, may manifest itself by various symptoms of indigestion, by disturbances of the circulation and of other physiological functions, but especially by deposits of lithic acid, lithates, and pigments in the urine."

Now the symptoms in these cases, as further described by Murchison, are about the same as those that have been said by Prout and Golding Bird to belong to oxaluria—viz., increased desire to pass water, flatulence and other dyspeptic symptoms, intermittent pulse and palpitation, torpor of bowels, lassitude and languor, even melancholia.

Let us next briefly consider some of the theories of gout which, being characterized by a deposit of the urate of soda in the joints, must be included, pathologically, under the general topic of lithæmia. It is proper, therefore, to consider them here:

1. There is the *neurotic theory*. This carries us back to the time of Cullen, though it has not been in want of able defenders since his time (Paget). It is based upon the fact that certain persons, independent of their mode of life, whether sedentary or otherwise, whether they enjoy the pleasures of good-living, alcoholics, etc., are still sufferers from acute attacks of gout, while, conversely, persons may freely indulge and still not suffer in the least degree. Believers in the neurotic theory of lithæmia also point to the prevalence of mental disturbances, or severe shocks to the nervous system, as provocative of an attack; while, too, again, in a neurotic family, attacks of gout will occur in one individual, and certain nervous affections in another. And, in addition, it is suggested, by those who adhere to the view, that joint-affections are both common to gout and, again, nervous diseases, as, for example, locomotor ataxia, with its arthropathies.

2. No mention can be made of the pathology of lithæmia without reference to Garrod,[1] who, in 1848, showed that the blood of gouty persons contained the urate of soda in large quantities. According to Garrod, in gout or lithæmia there is an excess of uric acid in the blood, due to either an actively increased production or a diminished elimination, while at the same time the blood is unduly alkaline, which latter condition causes the precipitation of uric acid under the form of the insoluble urate of soda. The causes of such an increase in uric acid may be due, on the one hand, to an excessive indulgence in nitrogeneous food, leading to inadequate conversion (metabolism), or, again, this insufficient elimination may be due to another set of causes, such as a deprivation of oxygen, or defective action of the kidneys. And, in particular, he held the view that the renal function of excreting uric acid might be temporarily suspended, and that in such instances the joints would receive the acid under the form of the urates which otherwise should have left the body by the avenues of the kidneys.

And Garrod claimed that the two phenomena followed one another consecutively. Thus, when an accumulation of the urates had occurred in the blood, they first gave rise to gastric and neurotic disturbances, and finally, as a second stage, deposits took place in the joints during an acute attack of gout.

Now, many of the facts thus stated have a fair degree of evidence in their favor, but the diminished alkalinity of the blood, of which he speaks so freely, is not a matter of ready proof.

3. Finally, the peculiar views of Ebstein merit attention, as he, next to Garrod, has been the most diligent student of lithæmic pathology. According to this author[1] uric acid is produced in many parts of the body, but it is the muscles and bones especially that form it, the depositions in joints being due to the sluggish circulation there. Gout, according to Ebstein, is usually inherited, though it may remain in a latent condition for years. In the pains and soreness of the muscles he sees the origin of uric acid, which he supposes to be formed from kreatin, sarkin, and zanthin, all of which are found in muscle and are closely allied to uric acid, so far as their chemical constitution is concerned. But of the actual finding of uric acid in muscle he gives no proof.

It will thus be seen that of the theories propounded no one is established upon a perfectly sound basis, although each one has some elements of truth in its favor.

For we may say of the neurotic theory, that as the operations of glandular organs are under the control of the nerves, defective nerve-action will prevent proper glandular activity, and this state of things is plainly seen in diabetes mellitus; and it may further be necessary for the deposit of the urates in gout that defective innervation of the joints may precede the attack. At any rate, it will be granted that a serious shock to the nervous system often determines the malady. And so of Garrod's theory, it having been proved that urea can be formed in the liver, and that urea is convertible into uric acid and *vice versa*, it follows that the conditions which dispose to the one may dispose to the other; and our clinical experience demonstrates this fact beyond cavil, so far as relates to the excessive use of nitrogeneous food and spirituous liquors. But, finally, an acceptance of these two theories does not debar us from adopting Ebstein's views, so far as they indicate that uric acid may be formed in various parts of the body apart from glandular organs. In fact, if urea can be formed almost anywhere in the body, it is credible that uric acid may also be formed in a similar way under analogous circumstances.

Let us note with more detail the symptoms of these three varieties of lithæmia.

1. The hepatic form (hepatic dyspepsia): This variety of lithæmia introduces us at once to the sphere of the digestive functions, in which portal and hepatic congestions play important rôles. Prominent among the symptoms are those of gastric catarrh, distress in the epigastric regions, especially after eating, with drowsiness; acid eructations, a furred tongue, and sluggish bowels. Palpitation will occur if the stomach be at any time dilated.

2. In the neurotic form the patient is apt to suffer from neuralgia, frontal headache, tinnitus aurium, a sense of weariness in the limbs, some form of mental aberration, perhaps, such as melancholy or hypochondriasis. Sometimes there are vertigo, muscular cramps, spinal irritations, vaso-motor disturbances, delusions, and, perhaps, epileptiform symptoms.

3. In gout we have as a substratum either of the above forms, while there is in the individual a tendency, that is usually, if not always, inherited, to deposition in joints, possibly induced, as Garrod thinks, by the alkalinity of the blood. Understanding, as we now do, in a measure at least, the physiology of the production of uric acid and the urates, the plan of treatment is comparatively plain, as also the natural consequences to the individual from a persistence in those modes of life that lead to the excessive formation of these substances.

Diagnosis.—1. In the hepatic form a diagnosis rests upon the regular occurrence of uric acid in the urine, and especially, before the usual acid fermentation takes place, upon the deep color of the urine, and its high

[1] The Blood and Urine in Gout, Rheumatism, and Bright's Disease.

[1] Ueber die Natur u. Behandlung der Gicht. 1882.

specific gravity when unaffected by remedies; and by the regular symptoms of hepatic congestion, with its concurrent phenomena as already described.

2. In the neurotic form we are only called upon to differentiate from other organic or functional nervous diseases when the regular occurrence of uric acid in a urine, before the period already mentioned, will indicate the source of the disturbance.

3. In gout the peculiar attacks, affecting, as they do, usually the larger joints of the toes, preceded by irregular cramps and spasms having a short but violent exacerbation, in which the urine is notably free from uric acid, and followed by sudden and entire relief, while the urine is quickly loaded with uric acid, *indicate* with sufficient clearness that the affection is gout and nothing else.

Treatment.—Though in many cases it will be found all-sufficient to diminish the amount of nitrogeneous food, this is not always the case; for if too much dependence be placed upon the carbo-hydrates, the mucus of the gastro-intestinal tract may set up acetic fermentation and carbonic acid will be produced, and there will be that undue pressure, as the result of gaseous accumulation, which leads to neurotic disturbances, and so, indirectly, to faulty conversion of the proteid substances of the intestinal digestion. A mixed diet is therefore to be given, and care is to be taken that such substances only be digested as are thoroughly digestible. For this reason individual idiosyncrasies must be duly considered.

In lithæmia it is most essential that the bowels be freely moved, and laxative waters are most desirable for several reasons: 1, They promote the oxidization of proteid substances; 2, they cause the kidneys to do their part in elimination; and 3, they promote intestinal action. To be recommended are our own Congress waters, the Hathorn, and the foreign Pullna and Friedrichshall or Carlsbad, which owe their virtues mainly to the sulphate of soda or the sulphate of magnesia, or to both in combination. If, in addition to this line of treatment, the patient be compelled to take active out-of-door life, and be restricted entirely in the use of alcoholic stimulants, a favorable prognosis may be entertained. But while such a course of treatment is adapted for a certain class of individuals, notably those of full habit, we meet in this country with another which exhibits plain indications of neurasthenia. In this neurotic class, and they are the most common by far, the principles of treatment are those that apply to neurotic persons generally. Rest of mind and body should be enforced, and their dyspepsias should be treated, not only by a careful avoidance of substances that cause gastric irritation, but the flagging appetite should be sustained by suitable digestive ferments, such as pepsine or pancreatine, with an aromatic. And, in addition, women may take with advantage some form of tonic, and have quinine in small doses combined with a little strychnia. If stimulants be used, a little brandy or whiskey, well diluted, or a glass or two of good Hungarian red wine at meal-time. It is always well in such cases also to drink freely of carbonated waters, such as are now common all over the country. They not only produce increased oxydization, but, passing freely through the kidneys, wash or "flush" them out.

The salts of potash and lithia are also most useful, because they form soluble compounds in the urine and promote its flow. The Spring No. 2 of the Buffalo Lithia Company, in Virginia, is to be recommended in this regard, but there are many others perhaps equally useful. Such waters should be taken freely during the so-called alkaline tide, when the alkalinity of the blood is at its height. Liquor potassæ, Rochelle salts, and the citrate of lithia are also excellent remedies. Often it is necessary to combine with them some cholagogue, and I have more confidence in podophyllin than in any other one drug.

The following are illustrative cases:

Case I. *The hepatic type.*—C. P——, aged fifty-seven; New Jersey; book-keeper. The patient does not remember when he first saw gravel in his urine, but it was some years before. He has a fulness in the region of the stomach, and a pain low down in the back. During the previous day had had general depression. Once passed a small body, which proved, on examination (by me), to be composed of uric acid. Traces his trouble to abuse of alcoholic and, especially, of malt liquors. Is free from trouble when he observes a rigid dietary of milk and vegetables, without meat, and takes alkaline waters, such as the citrate of potash with Bethesda water. Is a man of full habit.

Case II. *The asthenic or neurotic type.*—J. K——, aged thirty-nine; a native of Ireland. Came to my clinic at the Post-Graduate Medical School on March 31, 1884, complaining of dyspepsia and headache. He also had hemorrhoids. Two weeks previously he had been taken with pain in the back. Appetite fair; some jaundice; intestinal pain; dyspnœa. The patient was immediately put upon the subnitrate of bismuth, five grains, with pepsine (scale), ten grains, three times a day, and relief followed.

Subsequently he returned, complaining of a recurrence of the symptoms, and he was again relieved by the use of dilute nitro-muriatic acid in minute doses, combined with pepsine and an aromatic.

Case III. *Neurasthenic type.*—E. H——, a clerk, aged thirty, consulted me at my clinic on April 5, 1887. He stated that for twelve to thirteen months he had suffered from dizziness and intermitting pain in the head, and dull aching in the lumbar region. He also frequently felt some danger impending. Appetite variable; bowels constipated; symptoms of intestinal indigestion; urine high-colored, specific gravity 1.028, strongly acid, no albumen, but an abundant deposit of uric acid. It was further found that he was very irritable and had hallucinations. He was immediately placed upon Sir William Roberts' alkaline mixture, and he was given thirty grains of the citrate of potash every four hours, to which was added, separately, strychnia in minute doses. On April 19th he was found to be much improved, free from hallucinations, and he continued improving under the same treatment, receiving, in addition, the following:

℞. Ext. nucis vom ..... gr. vj.
Ext. taraxaci,
Pulv. fel. bovis .....āā 3 j.
M. Div. in pil. No. xxx. Sig.: One before meals.

And upon May 5, 1887, he reported ready again to return to his former occupation.

Case IV. *Lithæmia, complicated by renal calculi; treatment by solvents, etc.*—On January 1, 1886, Mr. T. S—— consulted me, and gave me the following history: On February 1, 1885, while engaged in his office he was seized with a violent pain, which ran from the region of the left kidney to the bladder, so that he was obliged to take morphia to get relief. On the following day he experienced another attack, and blood was passed per urethram. During the summer, while in Great Britain, he consulted several eminent physicians who were authorities on gout and allied diseases, and one London practitioner told him that a stone was forming in the left kidney. He was put upon the citrate of potash and the citrate of lithia and strychnia, though the doses of the former were small, and probably not sufficient to render the urine alkaline. After returning to New York he consulted several of our best practitioners and a surgeon of excellent repute. His troubles, as then described, were: Constant pain in the left side; amount of water passed daily, seven pints; appetite good; mouth a little dry; drinks no more of liquids than other people; has had malarial intermittent fever. Examination of water showed absence of sugar and albumen.

Mr. S—— was immediately put upon Roberts' antilithic treatment, which consists in the administration of the citrate of potash in forty-grain doses every four hours.

On January 29th the urinary record showed as follows: Amount of water, five pints; specific gravity, 1.028; reaction alkaline; pus and epithelium present in small quantities; amorphous urates abundant.

On February 1st the urine was again acid, but faintly so, and the pain had already begun to diminish. The diet was now restricted to fish, chicken, and game, beef in small quantities, but pork, veal, and under done meat were excluded. Saccharine and farinaceous food was denied him. The urine still remaining acid, the citrate of potash was now given in thirty-grain doses every two hours. The pain was now referred mostly to a point posterior and internal to the left anterior superior spine, and in a less degree to the region of the kidney, over which there was an area of tenderness which would correspond to an enlarged spleen, having a transverse diameter of ten to twelve inches, special points of tenderness being referred to the intercostal nerves of the left twelfth rib.

On February 2d the patient passed something like blue sand, probably the urates or uric acid tinged blue by indican, as Roberts once observed in the ammoniacal urine of cystitis.

On February 4th Mr. S—— could turn about without so much inconvenience as formerly, and the points of tenderness were confined to the region of the kidney and ureter. He was now put upon the Buffalo lithia-water from Spring No. 2, as I had favorable views in reference to this spring in diseases of a lithæmic character. The decidedly alkaline nature of the water is due to the carbonate of potash and lithia, and as an alkaline water it is, for this reason, preferable to Vichy water, which owes its alkalinity chiefly to the carbonate of soda. It is also somewhat diuretic. And in addition to the dietary, butter in small quantities was allowed, and skimmed milk three times a day. Mr. S—— was still weak; and as the alkaline treatment was pushed, it was found necessary to put him upon moderate doses of strychnia and the sulphate of quinine, with occasional doses of podophyllin and other hepatics to stimulate the liver moderately.

Mr. S—— continued to improve slowly but steadily until in the early part of March, 1886, when he had several short attacks of severe pain, similar to, though not so severe as those experienced in February of 1885. The specific gravity, however, still continued very high, and on March 16th was 1.033, alkaline, and contained a moderate amount of pus, but no albumen.

On March 24th a positive diminution in quantity began, and now for the first time it was reduced to four pints; and though diminished in amount, the specific gravity also fell to 1.028. Reaction amphoteric; a moderate amount of lime oxalate. The pain was now located deep behind the anterior superior spine.

On April 13, 1886, the amount of urine had fallen to three pints. The patient was now able to travel, and was making a visit to Chicago. During this time he had given up the Buffalo lithia-water and was put upon the lithiated hydrangea made by the Lambert Pharmacal Company, of St. Louis. The action of this new medicine was found prompt and satisfactory; for, though given in drachm-doses only three times daily, the heavy uric-acid, "cayenne-pepper" deposits speedily disappeared. Each drachm is said to represent thirty grains of fresh hydrangea and three grains of the binzo-lithiate of lithia. Under this treatment, also, the urine diminished further in specific gravity, so that during April of 1886 it varied from 1.020 to 1.036, but the pain in the back still continued. As the spring was now advanced, and fresh vegetables were easily obtained, the amount of animal food formerly allowed was diminished and a more liberal diet of vegetables permitted, with a slight admixture of the saccharines.

On April 23d Mr. S—— was given the forty grains of tartrate of potash in lithia-water three times a day. Under this treatment the urine was not strongly alkalinized, and the specific gravity fell to 1.024½.

On May 10, 1886, the warm days of this season becoming too relaxing, the patient was sent to the country, where he could enjoy out-door sports in a cooler atmosphere. The change was favorable. The urine now contained the oxalate of lime; alkaline most of the time; the specific gravity fell as low as 1.022, and it averaged little, if any, more than the normal amount (forty-eight to fifty-four ounces per diem). Owing to the pus being still in the urine, and its probable origin in the genito urinary tract above the bladder, it was thought best to increase the flow of urine artificially, which was done by liberal amounts of the carbonated Clysmic water from the springs at Waukesha.

On June 7, 1886, the specific gravity had fallen to 1.020, and later on in the month it had on one occasion dropped to 1.008, the lowest point it ever reached at any time.

On June 16, 1886, while on a driving-tour, and unable to fully carry out the details of treatment, the daily quantity of urine rose, and with it the specific gravity to 1.033, and both the oxalate and uric acid appeared abundantly in the urine. At this time, also, the pain was very widely distributed, reaching even to the bladder and testicles. The quantity of water also rose to six pints, and the specific gravity to 1.030.

When treatment was again regularly resumed, the water fell to from three to three and one-half pints, and finally, on July 31st, to forty ounces, and specific gravity to 1.026, under liberal potations of the so-called soda-spring of Great Barrington, Mass. (This water, however, is not alkaline.) But on resumption of the clysmic water, while the specific gravity remained at 1.036, the daily quantity of water fell to thirty-six ounces.

On September 13th the patient had so far improved that liberal additions were made to his diet in the way of water-melons, peaches, and pears, and the daily quantity of water was from fifty to fifty-six ounces.

On September 14th the urine was found to contain four hundred and seventy grains of urea, which is not far from the normal amount, that has been placed at five hundred grains for an adult male (Landois and Stilling).

On October 18th the patient saw a prominent surgeon of New York, at my suggestion, in consultation, and he advised the application of an issue as a counter-irritant. Accordingly a nitric acid issue was located in the axillary line just below the free border of the ribs, and it was kept open by an issue-pea until the middle of April, 1887, or about six months.

On December 15, 1886, the water fell to thirty-nine ounces and specific gravity to 1.014. In the middle of April, 1887, it was found that the former area of tenderness was much diminished, as also the dulness on percussion, and extended no farther forward than the line of the nipple and only about one inch below the free border of the ribs. Urine normal in every respect.

On April 30th Mr. S—— sailed for Europe, to make a summer tour, feeling himself a comparatively well man.

Such a case as the foregoing illustrates what has been often termed by Fagge[1] hepatic dyspepsia. In such cases he says the patient often experiences pain in the right hypochondrium, and sometimes shooting pain in the same region. Pain, also, is sometimes referred to the right, sometimes to the left shoulder; the bowels are often confined, and there is a tendency to piles. He finds that these symptoms are generally last seen about the middle period of life, and in persons who take little exercise and eat and drink to excess, but are soon reversed when the patient takes up more active out-door occupation. The period of life corresponds to the time when men have passed the most active period of their life, and are beginning to "lay off," take things more easily, and to enjoy life, as they term it. And it is good reasoning to

[1] Fagge: Practice of Medicine, ii., 263.

maintain that a certain part of the train of symptoms is due to a congested liver, although it is not this alone, as we have seen. Now, when this organ is endeavoring to excrete *urea* as a soluble substance (CH_4N_2O), it only succeeds in eliminating a rather insoluble one ($C_5H_4N_4O_3$), a less perfectly oxidized body. But after the blood has carried the non-soluble uric acid to the kidney, it may for some reason, probably owing to the deficiency of the watery elements of the urine, be deposited in a crystalline form. Thus we have gravel, or lithiasis as it is called, and stone, or calculus.

This term *lithæmia* is now used to indicate what was once known as "suppressed" or "latent" gout. Sometimes such an attack will be felt in the stomach some hours after a hearty meal; it will be spasmodic in character and of short duration; after it has passed, the patient will feel a sense of soreness or tenderness in the stomach; or the patient may have violent cramps or pain in the bowels, with hemorrhage, or a peculiar headache that comes on after some indiscretion in diet.

17 East Forty-fourth Street.

NOTE ON THE VALUE OF CALOMEL IN CERTAIN DISEASES OF CHILDREN.[1]

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It is not my purpose to present to you an elaborate paper embodying the details of the introduction, centuries ago, and subsequent history of calomel. These are all given in text-books, and are common property I assume that I am addressing an audience which is familiar with the extraordinary vicissitudes to which this remedy has been subjected; how it has been used and abused; how it has been vaunted as almost a universal panacea, and how it has been condemned as a dreadful curse. It has in turn been a "byword and a reproach," and an indispensable remedy.

When I began to practise medicine, seventeen years ago, calomel was experiencing one of its periodical disgraces. If you said calomel to a patient, the effect was like drawing a pistol on him; and even now there are many nervous people who dodge if they suspect you of prescribing this medicine.

I will admit that calomel has been employed very carelessly, and has caused a great deal of discomfort and harm. Yet it has always possessed a peculiar interest for me. I am accustomed to regard it as one of the few green hills on the otherwise pretty level and barren plain of therapeutic experience. It is an unpleasant and suggestive commentary upon the practice of medicine that there should be so much variation among us in our estimation of the value of remedies, and that the specific of to-day should so often be the worthless and forgotten drug of to-morrow.

This state of things is accounted for by our ignorance of the nature of disease. The more obscure the disease the greater the number of remedies advised for its treatment, and, as the vast majority of our ills have hitherto been beyond our comprehension, pharmaceutical chemists have been stimulated to flood us with new substances and new forms of old ones, and the result is we have an enormous materia medica, a great part of which is worthless, and a great deal of which most of us know very little about. After one has been in practice for ten years he begins to gather to himself a few medicines upon which he generally relies. While he is not indifferent to the novelties of the pharmacist, he is not eager to adopt them; and the glowing accounts of their unfailing virtues may attract, but they do not capture him. He believes in the "survival of the fittest," and awaits the verdict of time. I contend that such a disposition and course are safe and sound. The time to try a new remedy is when the older ones fail, otherwise we would be very unstable indeed. Alas, we are unstable, because we do not pay enough attention to the action of remedies. Now, if any medicine has "survived" it is calomel, and it must therefore be "fit."

According to my experience calomel is a very valuable agent in the treatment of some diseases, of which I can with propriety speak before this special Society, namely, certain affections common to children.

Diarrhœas.—Diarrhœas in children are of varied severity, and may depend, in otherwise healthy individuals, upon several different causes: over-feeding, improper feeding, dentition and other nervous influences, atmospheric disturbances, and changes of temperature. Whatever the cause, the first thing to happen is an arrest of, or interference with, digestion. The food then begins to act as a mechanical irritant, or, ptomaines and poisonous gases being produced, as a chemical one, and diarrhœa ensues. Here calomel, given in one-sixth-grain doses, and combined with the bicarbonate of soda and a little sugar, repeated every half-hour, until one-half or one grain, according to the age of the child, has been administered, will, in most cases, relieve the symptoms. Of course the diet must be carefully regulated, and it may be necessary, after the bowels have moved several times as an effect of the medicine, to administer small doses of Dover's powder at intervals of two or three hours—one-fifth to one-half grain.

My belief is that the remedy acts here as a cathartic and as an antiseptic. It also relieves the congested mucous membrane, which condition is bound to exist when the disturbance has lasted for any time. If there is vomiting, I know of no medicine which has more effect in quieting that symptom. I proceed in the same manner in *entero-colitis*, and in all other forms of the ordinary diarrhœas of children. In cholera infantum I have seen excellent results, but here I resort heroically also to stimulants, and the cold or hot water enemas, as the case requires.

In all the common *derangements of digestion* where slight diarrhœa may or may not alternate with constipation, and hard balls of pale fæces are voided, I give calomel in minute doses twice a week until the bowels are uniformly loose. Then I gradually reduce the frequency of the dose, and finally, after about three weeks, stop it altogether. For peevishness, fretfulness, anorexia, accompained or not with slight fever, calomel is the remedy.

For *intestinal worms* I use nothing but this agent. In fact, whenever I desire a cathartic effect I rarely employ any other medicine than this salt of mercury.

It has long been known that calomel caused an increase of the discharge of urine, and within a year or two several papers have appeared reviving the treatment and attempting to explain its action in this connection. I have employed it in two cases of *pleurisy* with the best results. The urine in both instances was markedly increased, and this, together with the slight catharsis, was effective in rapidly causing absorption of the fluid. It is certainly indicated in other dropsical conditions. I deem it safer and more active than digitalis and acetate of potash, to say nothing of its preference as regards taste and ease of administration. In *pneumonias* of children, where there is danger from œdema of the lung, or suffocation from accumulated mucus, I have seen calomel demonstrate its diuretic and absorbent powers by relieving these conditions and averting the danger.

Stillé says: "When either of the mild preparations of mercury are given in small but repeated doses, with a view of affecting the system, peculiar phenomena are developed. The first appreciable effect is usually an increased activity of the secretions, particularly of the intestinal canal, the discharges from which become liquid and bilious. The mucous membrane of the respiratory apparatus, and sometimes also of the genito-urinary or-

[1] Read before the New York Obstetrical Society, November 2, 1887.

gans, display a similarly augmented secretion. If there happen to be anywhere an interstitial deposit of fibrine, or a collection of serum, its absorption is promoted."[1] This statement embodies my belief regarding the physiological action of calomel when given in mild doses. It was this understanding of the matter which induced me, several years ago, to array myself among those who advocate the administration of this salt in *diphtheria*. I believe it is the best remedy we possess with which to combat this dread affection. It not only meets the indications according to its powers depicted by Stillé, but, in harmony with more recent ideas regarding its properties, it offers us succor in accordance with our modern conception of diphtheria. That is to say, it is one of a very few safe and effective germicides with which we can saturate the system, and, according to Keys, it is tonic.

My experience with diphtheria is not as extensive as that of some who are listening to me; indeed, it is surprisingly small. But from the manner in which the calomel has served me, since I began its exclusive use, I am impelled to call your attention to it.

I have now treated thirty cases by this method—26 children and 4 adults—and have lost two children. One child, aged four years, who had progressed without an unfavorable symptom, was allowed to walk across the floor, and died from heart-paralysis immediately afterward. Another, aged two and a half years, an inmate of the New York Infant Asylum, had rachitis, hydrocephalus, talipes of both feet, and chronic diarrhœa, and died last night from laryngeal stenosis, having been sick only three days. Within two weeks I have had eleven cases of diphtheria at the New York Infant Asylum, and have depended wholly upon calomel and whiskey. The disease was always detected in its first stage, and our treatment has in every instance, except two, caused rapid resolution of the patch and prevented the invasion of the larynx. The two exceptions were the rickety child which died, and a little fellow, aged eighteen months, who recovered. This latter child had laryngeal deposits following the invasion of the fauces. Obstructed and noisy breathing ensued, and the calomel was increased from one-sixth grain to one-third grain every hour. The next day the patient was much better, the respiration being quiescent, except when the child cried or became excited. That night, however, hoarseness, with rapid and very labored breathing, supervened. The calomel was increased to one grain every two hours, and after five hours there was great improvement in every symptom, and the case has gone on to advanced convalescence. We have been compelled to push the medicine in doses equalling one grain every hour, for a period of five hours, in several cases, and no untoward results have manifested themselves, except perhaps in one case, where vomiting came on, and the temperature rose to 104° F. I was disposed to regard this as mercurial fever, for the symptoms subsided when the medicine was stopped. In no instance have I observed anything like salivation, and, to my surprise, except in the rachitic boy, who already had chronic diarrhœa, the bowels never were inordinately affected, even under the largest doses. Three movements a day were the average.

I trust it is not necessary that I should apologize for this discursive paper. Nothing original is claimed. I want to hold fast to that which is good, and, if possible, induce others to do the same. I have purposely omitted all references and lists of names of those who have either advocated or disparaged the use of the mild chloride of mercury in the affections enumerated. It would have added nothing to the value of the paper, for everybody knows that there have always been two sides to this question. My object is simply to rehearse my experience, to declare my practice, and to elicit from those more versed and abler than myself their views upon the subject discussed.

I claim for calomel that it is the best and most agreeable cathartic for children; that it is a markedly antiseptic and tonic medicine; that it is an effective diuretic; that it promotes dissolution of fibrinous formations, whether they be interstitial or whether they be membranous deposits upon mucous surfaces.

[1] Therapeutics and Materia Medica, p. 672. Philadelphia, 1868.

A CASE OF POTT'S DISEASE WITH AN UNUSUAL DEFORMITY—DESCRIPTION OF IMPROVED SPINAL APPARATUS.[1]

By HENRY LING TAYLOR, M.D.,
NEW YORK.

The patient whose history I will relate was an unmarried lady, twenty-nine years of age. Father and mother are living, but there is phthisis on the paternal side. Patient was always delicate and easily tired. She had whooping-cough when a baby, after which a cervical gland suppurated; she had measles at nine years. In the summer of 1882 the patient began to have severe pains low down in or near the sacrum, which would be aggravated by walking. In the autumn the mother noticed that the right hip was higher than the left. Then the patient began to hold the shoulders stiff and would stiffen the back when stooping; and had to lie on the left side without moving when in bed. In October, 1882, the patient was obliged to go to bed on account of the severity of the pain, where she remained until February, 1883. While in bed the pains disappeared and the lateral inclination of the back to the right became less.

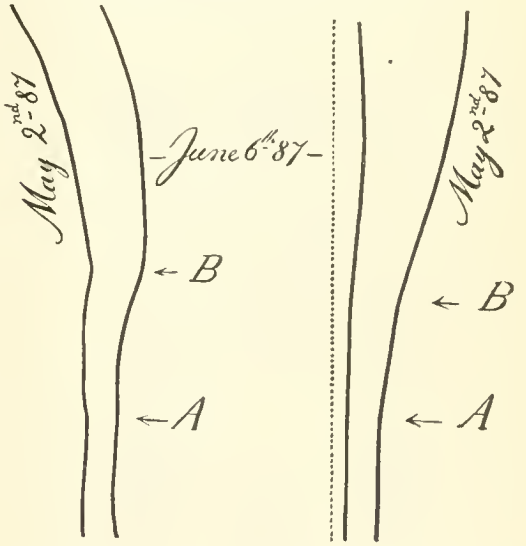

Fig. 1. Fig. 2.

After that she grew rapidly worse; the pains, which extended at times to the right side, across the hips, and down the thighs, became so severe as to twice compel her to go to bed for several months. While resting in bed she would feel better, and on again attempting to go around she would get worse. Her general health suffered very much, and she was sent to Florida in October, 1885, supposed to be suffering from phthisis. She was somewhat drawn over to the right side.

In August, 1886, a swelling appeared in the left lumbar region, which was opened in January, 1887, by her physician, Dr. J. D. Fernandez, Jacksonville, Fla., who had already diagnosed Pott's disease, and a large quantity, estimated at a quart, of light-colored, thin pus evacuated. The patient had had fever before this and it continued some time; indeed, the patient thinks she was not quite free from it until within a very short time of consulting me, April 26, 1887. In December and January she had cough and dyspnœa, but no expectoration.

When seen by me she looked extremely cachectic, and

[1] Case related and apparatus shown at the meeting of the American Orthopædic Association, New York, June 15 and 16, 1887.

suffered severe pain in the sides and low down in the back. She had been dressed and sat up a little daily since February 1st, but she walked a few steps only, with the greatest difficulty, leaning on someone's arm, and bent over extremely to the right.

Examination showed a small prominence at the eleventh dorsal vertebra, first noticed last January, and another at the third and fourth lumbar, noticed four years ago. These are shown at the left of Fig. 1. There was a sinus discharging pus in the left loin. But what was most striking was the extreme lateral bending of the spine at the two foci of disease, amounting together to over fifteen degrees deviation from the vertical (shown at the right of Fig. 2). The distance from the iliac crest to the axilla was two inches greater on the left than on the right side. This lateral deformity had been a marked feature of the case from the beginning, and was noticed before the posterior projection.

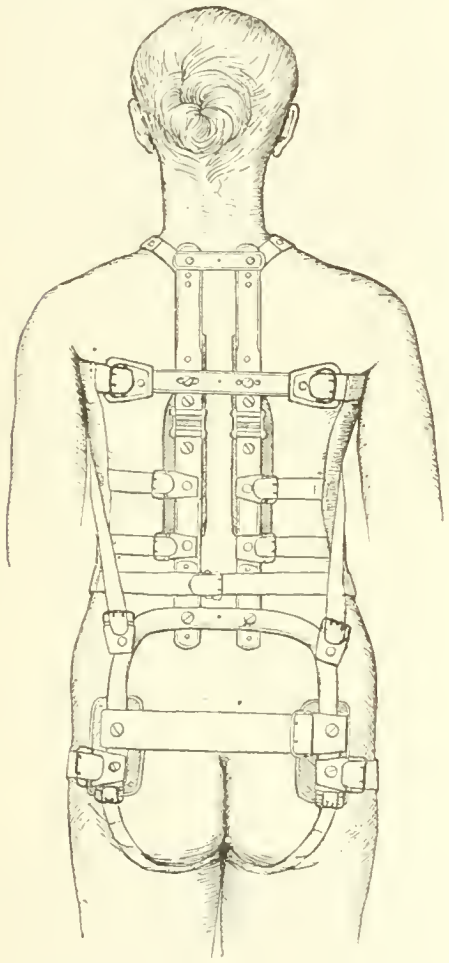

Fig. 3.

Lateral deviations of moderate, and sometimes considerable, extent, due to unequal erosion of the two sides of the vertebral bodies, are not uncommon, especially in the earlier stages of the disease, low down. Indeed, as was pointed out in the discussion following the relation of this case at the meeting of the American Orthopædic Association, in early lumbar caries lateral tilting of the spine without rotation may be a valuable diagnostic sign.

These lateral deviations ordinarily yield to the antero-posterior protective support which is demanded by the other indications of the disease, and is not a troublesome complication. This case presented, however, such unusual features that I was at first quite in doubt what plan of support would be most efficient. I finally decided to employ Dr. Taylor's improved antero-posterior leverage spinal apparatus, which I will presently describe; but to fit it to the back I was obliged to curve the vertical bars over to the right to correspond to the lateral contour of the spine. There was no lateral action in the apparatus except the slight pulling of the left perineal strap, which I buckled tighter than the right. The patient was put to bed. The pain disappeared in a few days, and the patient began to improve in health. Considerably to my surprise, the lateral distortion at the end of a month was trifling, as shown by the line nearest the dotted vertical in Fig. 2. The line to the right of Fig. 1 shows the antero-posterior contour at the end of the same time. The patient has gone on gaining up to the present time, and now walks around with considerable freedom. The abscess discharges considerably less, and there has been marked improvement in the general health.

The interesting points in this case are the excessive degree of tilting at two points, with very moderate antero-posterior deformity, and the predominance throughout of lateral distortion; also its rapid subsidence under adequate protective treatment.

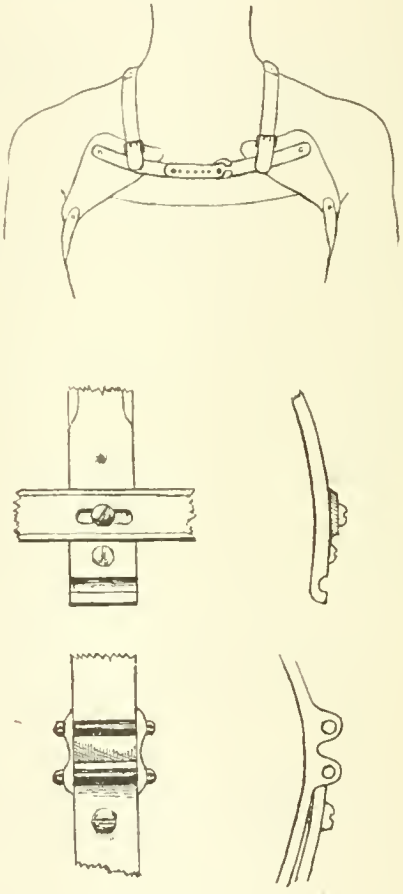

Fig. 4.

The apparatus devised by Dr. C. Fayette Taylor, over twenty-five years ago,[1] for the treatment of Pott's disease, and figured and described (often incorrectly) in surgical works, has in the last fifteen years undergone considerable modification and improvement in the way of definiteness and precision of action, though the principle of antero-posterior leverage remains unchanged. As the perfected instrument has never been authoritatively described, I thought it might be of interest to the profession to exhibit a cut of it, and indicate the points in which it differs from the apparatus generally known by Dr. Taylor's name.

The apparatus shown (Figs. 3 and 4) is the form which has been in use in Dr. Taylor's private practice for twelve years or more.[2] It differs from the apparatus shown to the New York State Medical Society in 1863 in the following points: 1. The parallel vertical bars

[1] Shown at the meeting of the New York State Medical Society, Albany, February 3, 4, and 5, 1863.

[2] Apparatus like the one figured, and adapted to the different regions of the spine, were exhibited at the Centennial Exhibition, Philadelphia, 1876.

have been lengthened, and end in hooked pieces passing well over the shoulders near the neck. 2. The hinges differ somewhat in construction (see detail Fig. 4) and are screwed to the bars, being retained solely for the purpose of facilitating modification of the apparatus corresponding to the varying indications of the case. 3. The horizontal hip band is discarded, and replaced by a rigid steel bar having the shape of an inverted U; to the upper part of this band the lower ends of the vertical bars are firmly attached. The ends of the U-shaped band are fitted into the post-trochanteric sulcus on either side, and together with the hooked pieces at the root of the neck fix the apparatus laterally, besides assisting in antero-posterior and vertical fixation. The lower ends, being points of contact with the skin, are protected by hard rubber plates. 4. Hard rubber pads are used instead of the soft pads formerly employed, to transmit the leverage of the apparatus to the region of the spine which it is desired to protect. 5. Instead of the straps encircling the arm formerly used to get a fixed point for counter-force in front, a "chest-piece" is employed, consisting of two ear-shaped or triangular hard rubber pads, fitted under the clavicles and resting on the pectoral muscles, and joined by a stiff steel bar, curved forward to escape the chest, and so contrived that the distance between the plates may be increased or diminished at will. The chest-piece being in position, is buckled to straps coming from the ends of the shoulder-hooks above, and below it is strapped to a buckle at the angle of the U-hip-band on either side, thus leaving the arm free and the axilla untouched. See upper part of Fig. 4. 6. The apron which holds the whole apparatus forward reaches to the posterior border of the axilla on either side, and from the trochanter to the arm laterally, and is secured by straps and buckles to the apparatus.

It is to be understood, of course, that appropriate modifications of structure of the apparatus are made for disease in the different regions of the spine, and for the character and amount of the deformity. Most cases of disease above the sixth or seventh dorsal will require Dr. Taylor's circular pivoted head-support, which is easily fitted to this apparatus. The different points alluded to are shown in the cuts.

NOTHNAGEL ON THE OERTEL METHOD FOR THE TREATMENT OF HEART DISEASE.—In a recent clinical lecture on the treatment of heart disease, Professor Nothnagel said that he considered the method of Oertel superfluous and even inadmissible in cases of compensation of valvular affections of the heart, or in affections of the cardiac muscle, when there is no degeneracy present, as each excitation of the heart had to be avoided in that period. The different authors were of the same opinion as to the part which the reduction of liquid food played in that method, but the good results obtained by it in heart diseases were due to the methodical ascensions which were executed by the patients, and there was much reason to believe that these ascensions augmented the cardiac action and the energy of the myocardium. When a muscle was irritated twice a day for some minutes, an augmentation of the volume and the weight of the muscle was obtained after some time, a fact of which Professor Nothnagel had been able to convince himself by experiments performed for about a year and a half. The same was true of the cardiac muscle; the hypertrophy of the heart in valvular affections was produced by mechanical conditions, and owing to this hypertrophy there took place a compensation of the circulating disturbances. As, however, the hypertrophy did not exceed a certain degree, the muscle thus hypertrophied soon became degenerated, and a new stimulant was necessary for hypertrophying it again. The methodical ascensions prescribed in the method of Oertel played the part of such a stimulant, but they had to be carefully watched by the attending physician.

AN INTERESTING CASE OF HYSTERICAL AMBLYOPIA IN THE MALE.[1]

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AND

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THAT hysteria may occur in the male, as well as in the female, is now an accepted fact. Although to our colleagues of recent date it would seem that the dictum could scarcely be disputed, we, who sat in the college benches a quarter of a century ago, realize how difficult it has been to the medical mind to emancipate itself from the etiological idea which has been perpetuated by that misnomer hysteria. We know to-day that hysteria has no more connection with the uterus than with any other organ, not even with the now fashionable ovary. It happily appears that a gradual, and, I trust, steady, emancipation from the exclusively sexual etiology of hysteria is now developing. The uterus has been so much abused in the search for causes of hysteria in its various disturbances; its erosions have been cauterized; its versions and flexions have been corrected to such an extent, that a reaction is now upon us. How little do we now read in the journals of new pessaries and supporters. At our last meeting this skepticism on the subject of pessaries manifested itself decidedly.

Rarely is the speculum ever now used by the skilled physician, especially in multiparous women, in whom hysterical manifestations are so frequent. But our gynecologists have discovered another *bête noir*, the ovary. Since Charcot called attention to his "ovarie"—the iliac pain as a predominating symptom of hysteria—his eloquent and masterly work has born sad fruit, and I am glad to see that in the Berlin Medical Society, this idea received a fatal blow from such men as Landau, Gusserow, and the lamented Carl Schroeder, two years ago. Landau, I may say in parentheses, brought before the Society a case which appeared to be a complete illustration of Charcot's idea, and in which pressure upon the left iliac region produced severe pain and hysterical symptoms, but in which, after removal of the ovary, the pain and hysteria continued in full sweep.

Normal ovariotomy—oöphorectomy—has been described as a panacea for all otherwise intractable hysterical women. How often the operation fails will probably never be known; but this much is already certain, that the future holds in store for the enthusiastic oöphorectomist the same disappointments which the past has conferred upon the energetic ante-versionist and ante-flexionist. A great neurologist and alienist (Mendel) has told us that the alienists are in the best position to discover the damage done to nervous women by the gynecologist, whom he calls the Mephistopheles with the speculum.

Far be it from me to deny that we may frequently discover in utero-ovarian diseases sources of ill-health from which originate severe hysterical manifestations. But I desire to emphasize the point, that too much attention has been, and is still, directed by medical men to the sexual organs of women as well as of men, and that the introspection incident to this attention has aggravated the sufferings of our patients and diminished the effect of our therapeutic measures.

The case I am about to relate is an illustration of the same result arising from the eye.

The lesson to be deduced from the history of medicine is, that hysteria is a functional disease of the general nervous system, which has its origin in psychical influences connected or unconnected with physical disturbances, and that inasmuch as all elements which depreciate

[1] Read at the Stated Meeting of the Northwestern Medical and Surgical Society, May 18, 1887.

the general health contribute to the maintenance of hysteria, these physical disturbances should be sought out and *removed when they are clearly productive of health depreciation.* The frequency of hysteria in the male has been only recently brought into prominence, chiefly by French physicians, probably due to the national mental characteristics of the Frenchman, whose nervous and volatile temperament predisposes him to these disturbances. It is a singular fact that out of 77 reports of hysteria in the male, catalogued in the Surgeon-General's Library, 35 are rendered by French authors, and only 3 by Germans, the remainder being by Italian, English, and American physicians. Briquet found among 1,000 cases 50 in the male; Petit reports 61 cases in 1875, and Fère 77 cases in 1877. Still the disease is so interesting that probably nearly every pronounced case finds publication. To these I will add the following.

Mr. X——, aged twenty-one, of good physique and healthy parentage, no other hereditary neurotic influence, consulted me last fall with regard to epileptic attacks from which he had been suffering seven years. The attacks had been quite frequent, of the *grand-mal* type, and, despite active treatment by many physicians, they had not yielded until he came to this city. He was placed in an institution, in which a regular mode of life, substantial but coarse food, and strict supervision of all his movements, together with small doses of bromides, improved his general health greatly. He gained flesh and became buoyant and hopeful, until one day in October he was unhappily aroused from his sense of security by a severe attack. I now subjected him to a thorough physical examination, which revealed the fact that his former attendants had endeavored to remove all recognizable causes of reflex irritation. An inguinal hernia had been supported by a truss, the meatus urinarius had been split *secundem artem*, his bowels had been regulated. In my search for some undiscovered source of reflex irritation I discovered a deviated septum nasi, to which was attached the lining membrane of the opposite turbinated bone on the left side, and a greatly swollen and erectile turbinated lining in the right nasal fossa. I shrivelled the latter with the galvano-cautery point, and for treatment of the former I sent him to my friend, Dr. Bosworth, who skilfully removed the obstruction, thus affording him free nasal respiration. Removal of the inferior turbinated swelling has, according to Hack, cured epilepsy.

For two months the patient remained free from attack, although not receiving any medication. About this time his father was brought to the city in a dying condition. He was an anxious and devoted attendant upon him. He lost much sleep, and later became greatly depressed by the death of his father. One week after the latter event he had a severe convulsion while asleep. He was now put under the bromide with Fowler's solution. A month elapsed and another attack occurred, and again another. He now became alarmed and depressed. He had entertained great hope from the nasal treatment, because he was cognizant of a case of epilepsy in a boy, from whose left nasal fossa I had removed an enchondroma growing from the septum, with the result of complete and lasting cessation of the fits.

A week after his last attack he consulted me regarding a form of amblyopia, which, owing to its anomalous character, aroused my suspicion of a hysterical origin. He insisted that all objects appeared greatly magnified, that his vision was clear, but that bright light blinded him, and the enormous proportion of objects, whose size he knew perfectly well, annoyed him greatly. His mother apprehended that the usual disturbance was due to the medicinal treatment he was receiving. But even after cessation of the latter, the symptoms increased and others were added, for the diagnosis of which I referred him to my friend Dr. Peck.

On the afternoon of his visit to Dr. Peck, to whose kind interest I feel much indebted, patient called with the doctor. It appeared that the careful examination of his refraction, and the effort to obtain an ophthalmoscopic observation resulted in an aggravation of his symptoms. He now complained of intense hyperæsthesia of the eyeball and orbital ridge. A slight touch of the brow made him exclaim and shiver with pain. Numerous sensitive points were also discovered on the cheek. Taking into consideration the fact that the patient had recently experienced a great mental shock, in the death of his father, and believing that this shock had been much enhanced by the disappointment due to the failure of the nasal operation, to which he had fondly looked for complete relief from his terrible affliction, attention was directed to the probability of a hysterical seizure.

The anomalous visual manifestations which, during his morning visit were not so pronounced, had been magnified in the patient's mind by the thorough, and, to him, novel investigation of the oculist. Alarmed by finding himself so deficient in vision, his mind had brooded over the impending calamity, so that when he reached my office at 5 P.M., he looked a changed man; his countenance was haggard, and his whole expression one of melancholy despair.

It was not difficult now to elicit any desired reply to leading questions. Thus pressure upon various points along the spinal column elicited expressions of intense pain, and this was produced whether the pressure was deep or simply a pinching of the skin was resorted to. Sir Benjamin Brodie has taught ("On Hysterical Knee") that the pathognomonic sign of this trouble is furnished by the fact that pinching of the skin will give rise to the same pain as deep pressure. I have frequently resorted to this method of differentiating an hysterical from an inflammatory affection. In October, 1882, I was called to see a young lady by the late Marion Sims, who had operated on the cervix by posterior section, and in whom the right knee presented pronounced symptoms of pyæmic trouble. Brodie's sign eliminated pyæmia at once, and not only relieved the patient and attendants from alarm, but pointed out the treatment. Dr. H. Marion Sims will remember this case.

In the case before Dr. Peck and myself, the Brodie method pointed so clearly to hysteria that no doubt remained in our minds that patient was suffering from a well pronounced case of hysterical amblyopia in the male.

Treatment was directed accordingly. He had adopted the use of smoked glasses to protect his eyes against the bright light. These were gradually changed to a lighter hue. Elix. valer. ammon. was advised every two hours, alternating with milk-punch. He was ordered to take a plunge into cold water every morning, to be followed by violent friction of the body. The chief element in the treatment, however, was psychical. During the latter part of our consultation, the first portion of which had been conducted in German, the patient was permitted to hear our conversation. We intentionally spoke in his hearing with great confidence of his early recovery, and when I afterward addressed him in the same vein, assuring him that there was no doubt of his rapid recovery, provided he pursued the treatment conscientiously, he expressed confidence in this opinion and groped his way out of my office.

Two days later he reported progress; the eyes could tolerate light more readily, the magnifying impression had decreased, his whole demeanor indicated a lifting up from a state of great mental depression to one of buoyant hope.

The cold plunge was continued, stimulants discontinued, and another dose of cheer was administered. Four days later patient returned in a perfectly normal condition.

NOTES BY DR. PECK.

Mr. X——, aged twenty-one years, was sent to me by Dr. Baruch, April 6, 1887, for examination of his eyes. I found him highly excitable, somewhat erratic, and intense in his desire to hear and know the worst. He

stated that he had been an epileptic since boyhood; but that since November, 1886, he had had no convulsions and only two seizures. In that month a deviated septum had been successfully removed by Dr. Bosworth, and up to that time patient had been taking thirty grains potassium of bromide, and four gtt. of Fowler's solution three times a day. He stated that he had had at long intervals a nocturnal emission, but he had never masturbated. Three days ago, or on April 3d, while visiting a relative, in company with his mother, he became suddenly blind, and his vision was so far reduced that he was obliged to feel his way home; at that time he was able to see better by night than by day. On his visit his eyes were somewhat congested and staring; on my handling his lower lid he complained of severe pain, while touch of the upper lid was not painful. The eyeballs were exceedingly sensitive to the touch, though there was no increase of tension. Further examination of the skin revealed marked hyperæsthesia below a line subtended from one external canthus, over the ear-tips, to the other canthus, through the eyeballs, and crossing the nasal bridge; a touch upon the skin or hair below this line threw the immediate part into a spasm; a touch above this line instantly after exhibited no special reflex.

The upper cervical spine was also hyperæsthetic. Vision in each eye was about equal to finger-counting at three feet; for distant vision there was no improvement with either a + or — glass. In the darkened room, with the feeble illumination of an argand burner, there was homonymous diplopia to the left. The distance between the images, he stated, was about two feet. With this diplopia there was an uncertain amount of dyschromatopsia; that is to say, the light to the right was the natural yellow sodium flame, while the light to the left was light blue. However, when colored glass slides were placed before the eyes color-perception was accurate, the diplopia still existing; red, blue, and yellow, of various shades were accurately perceived and differentiated. As to the diplopia, I am convinced that there was no malingering; for it required a prism of 12°, base outward, to fuse the images; one of 10°, as also one of 14°, caused the diplopia to continue, though in a less marked degree—that of 10° nearly fusing the double lights; that of 14° giving crossed images which he was able to describe. Hemiopia existed for each eye; for the right the outer half had visual perception; for the left eye, the inner half. I found it absolutely impossible to use the ophthalmoscope, both because the eyes were hyperæsthetic, and because forcible pressure on the lids produced pain; however, a second's glance in the right fundus revealed nothing abnormal. The opinion was given that it was amblyopia, due to hysteria or to hystero-epilepsy, the diagnosis hitherto entertained by Dr. Baruch. A cold plunge, one minute every day, the elix. valer. ammon., and smoked glasses which had been used were ordered continued, but of a lighter hue.

I saw the patient one week later, on April 13th, when every symptom of hyperæsthesia, amblyopia, diplopia, etc., had disappeared; vision in each eye was $\frac{20}{15}$, or better than normal; and for near vision Jaeger's type No. 1 was read at 5 to 18 inches without any + lens. The fundus of each eye was positively normal.

A few remarks upon this case are pertinent. The special points to be noted are the sex of the patient, the paracranial line of demarcation of hyperæsthesia, and the hemiopia. The retinal excitability, diplopia, and amblyopia are more general symptoms in the clinical course of an hysterical amaurosis.

I find by consulting the Index-Catalogue of the Library of the Surgeon-General, also three German journals—one of which has been devoted to ophthalmological literature for over thirty years—several English and French journals, and several of the larger text-books, that the literature of this subject is meagre, and that it runs into channels of more decided neurological investigation. The cases of pure hysterical amblyopia in the male have been rare; usually there are complications like these: Peripheral paralysis or affections of single nerve-branches, extensive anæsthesias of the skin and mucous membrane, hemiplegia—partial or total—with disturbance or loss of taste and smell, local hyperæsthesias of different parts—especially in the ovarian region or at the points of exit of nerves—hysterical convulsions of different kinds, etc.

Among modern writers on this subject Galezowski, Charcot, and Landolt have contributed most. The older literature of the whole subject of amaurosis is fully alluded to in "Mackenzie on the Eye," and a most valuable compend it is.

Galezowski[1] is, however, incorrect in stating that prior to 1866 no mention of true hysterical amblyopia is found, and also that he reported the first case of this affection, in 1865, that of a young girl in the Hôtel Dieu. I find that Mr. Hocken published a series of papers in 1839–41, in the *London Lancet*, on this subject, which were more fully elaborated in 1842 in the *Edinburgh Med. and Surg. Journal*.[2] In these papers he early combats the doubt, then existing, as to whether amaurosis can be specified as hysterical when perfect vision is found at other times in such eyes.[3] As early as 1820 Mr. Lessey[4] describes, at length, a case of hysterical amblyopia, with the electrical phenomena in the eyes since called *phosphenes*, though he does not give this definite diagnosis to his case.

I might add here that hemiopia and hemianæsthesia usually concur in these cases, and that the hemiopia is generally on the same side of the body as the hemianæsthesia. In the case here presented there was no hemianæsthesia, and no form of paralysis or paresis of any local or regional part of the body. In a summary of 400 cases of hysteria Briquet found 93 hemiplegic; and of these 93, 73 had troubles of sight.

Galezowski[5] has so pertinently formulated the visual troubles in simple hysteria, or in hystero-epilepsy, that I shall represent them here. They are: 1, Monocular amblyopia; 2, true or simulated binocular amblyopia; 3, spasms of ocular muscles, or hysterical diplopia.

A word in regard to the seat of lesion, which has never yet been accurately determined, and I will close this clinical note. Wollaston was the first to offer an explanation of its pathological seat. On the theory that only the internal fibres of the optic nerves cross each other, he locates the lesion at the points of decussation; Michel, with whose experiments in Erlangen I am personally cognizant, believes that both the external and internal fibres of the optic nerves cross at the chiasm; while Charcot holds that only the internal fibres can be said to properly cross each other, while the external give a few filaments to the internal fibres, then pass into the tubercula quadrigemina, and finally regain the internal fibres of the opposite side.

Todd and Carpenter hold that the centre of sensibility is in the optic tract, and draw conclusions which apparently explain with precision the correlation of hemianæsthesia and amblyopia. But, after all, is the seat of general sensibility found in the optic tract?

Landolt[6] has written a very elaborate paper, in which are produced the clinical notes of many interesting cases found in Charcot's clinic. Most of these cases had disturbances of the central field of vision, shrinkages of peripheric vision, loss of and imperfect color-perception, etc. Charcot was able to make several autopsies, chiefly of cases where death was due to serious neurotic lesions. He found the seat of lesion to be a cerebral apoplexy in the domain of the posterior optic tract, or in the posterior part of an optic thalamus; his opinion that this is the probable seat of the lesion in hystero-epilepsy is amply justified by general symptoms, and confirmed by the analogy of ocular symptoms.

[1] Gaz. des. Hôp., 1877, i., pp. 75, 115.
[2] Edinburgh M. and S. Journal, 1842, lvii., pp. 49–69.
[3] Hemiopia, common in such cases, was observed by Hocken.
[4] Mackenzie on the Eye, 1855, 4th ed., p. 992.
[5] Loc. cit. [6] Archives de Phys., 2d series, II., 1875, pp. 121–65.

A CASE OF CONGENITAL HERNIA OF THE ABDOMINAL VISCERA AND LEFT LUNG—PRESENTATION OF THE HERNIAL SAC, LEFT ARM, AND SHOULDER—PODALIC VERSION.[1]

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ATTENDING PHYSICIAN FOR DISEASES OF WOMEN, NORTHWESTERN DISPENSARY, NEW YORK, AND INSTRUCTOR IN GYNECOLOGY, NEW YORK POLYCLINIC.

Mrs. L——, aged twenty-four, primipara, and pregnant since last menstruation, December 16, 1886, enjoyed good health, but suffered from morning sickness throughout pregnancy. By advice of friends Mrs. L—— was in the habit of taking long walks, daily, until term. During the last two months of pregnancy she experienced much pain, at intervals, in the right uterine region, and also a "pressure on the stomach." On two occasions the pains were very severe, and she thought labor had commenced. On September 15, 1887, nine months after last menstruation, the patient was awakened at 5 A.M. by a sudden and profuse discharge of water from the vagina. Water, mixed with blood-clots and fæces, continued to flow at intervals during the day, and though the patient was urged to walk about, pains did not commence until after 7 P.M. the same day. I was then sent for, and upon arrival found the patient walking about the room and complaining of severe pain in the right side at each recurrence of the labor pains. The patient stated that the fœtus had been very active up to 3 P.M., but since that time no movements had occurred. An examination per vaginam revealed the cervix widely dilated, and protruding from it, to the left, the left arm of the fœtus, and to the right a large mass, or sac. The amniotic fluid had entirely escaped from the uterus, the latter being firmly contracted around the fœtus. The head could only be made out by external palpation, and was found above the brim, to the left. The body was directed obliquely upward to the right. The mass, or sac, could not be satisfactorily diagnosed, as the vagina was small and the patient disinclined to permit a thorough examination. It felt something like a placenta, with some fluid in a portion of the membranes. At first, owing to the history of free hemorrhage during the day, placenta prævia lateralis was suggested to my mind. Later, when the patient permitted a better examination, such a condition was excluded, as no uterine attachment could be made out, while the mass, or sac, was found to extend well up into the uterus and appeared to be connected to the child. As the patient was very intractable and would not allow any manipulation toward correcting the abnormal presentation, anæsthesia was suggested and readily consented to. Dr. Alexander S. Hunter kindly came to my assistance, verified the conditions as reported, and administered chloroform. As attempts to push up the arm, or bring down the head, failed, podalic version was decided upon. Owing to the obliquity of the child and the contracted condition of the uterus, version was a difficult task. When the legs were brought down the sac ruptured. As the hips presented externally, a dark mass also protruded from the vagina. This proved to be, to my surprise, a mass of intestines.

The delivery of the shoulders was difficult, owing to the presence of a body twice as large as a door-knob, which also occupied the vagina. This proved to be the fœtal liver. The head soon followed the delivery of the shoulders, and then our suspicions as to a malformed child were confirmed. The body was in a condition of complete right lateral curvature of the spine. This was probably due to the oblique position in which the fœtus had been carried, and the hernia of the abdominal viscera. On close examination it was found that there was an absence of the abdominal wall of the fœtus to the left of the umbilicus, and extending to the sternum and ribs. This opening was fully two and a half inches in diameter. The sac previously mentioned was attached around its border, and was slightly larger than a pint measure. It was translucent, excepting at its border, where it was opaque and gradually merged into true skin. The wall of the sac was composed of two layers, probably peritoneum and amnion. The abdominal cavity was almost void. From the opening the fœtal stomach, intestines, liver, spleen, left kidney, and fundus uteri were completely extruded. The diaphragm was also lacking on the left side, and there was an opening into the left pleural cavity through which the lung protruded. The heart was displaced to the median line, below the sternum, but was covered with integument. The placenta appeared to be normal, and came away with the umbilical cord, which had been torn from the fœtus in the delivery. Its original attachment to the umbilicus and liver could be seen. The liver was enlarged and quite round. The child had a full-sized head, but the body was undersized, and the whole weighed, nine hours after delivery, four and a half pounds. After confinement the family was questioned, and, excepting the possible effects of the long daily walks, no cause for the peculiar condition could be found. There had been no maternal impressions, and the mothers of the patient and her husband had each given birth to a number of healthy and sound children.

The patient received no vaginal injections until after the fifth day, but was washed externally, as necessary, with a weak carbolic solution. There was no rise of temperature, and she was about the house, as usual, in ten days. The breasts were bandaged tightly from the time of delivery, and anointed night and morning with hot lard. Excepting a slight tumefaction on the third day, there was no disturbance or secretion of milk. The case is unique and interesting, owing to the difficulty in making a diagnosis, as well as the complicated position and delivery.

[1] Specimen presented at the Stated Meeting of the Northwestern Medical and Surgical Society, October 19, 1887.

A RARE CASE OF NEUROSES, SIMULATING MALARIAL-INTERMITTENT FEVER, DUE TO URETHRAL IRRITATION.

By A. F. SAMPSON, M.D.,

GALVESTON, TEX.

In Otis' work on "Stricture of Male Urethra," p. 304, we find M. Civiale thus quoted: "Independent of its local sensitiveness, the urethra possesses another kind, which may be termed sympathetic. . . . When this sensitiveness is aggravated, it may awaken sympathetic responses in every organ and function of the body."

That the question of neuroses due to urethral reflexes is one of grave importance to the physician, as well as the surgeon, the following case demonstrates:

William S——, German, aged eighteen, presented for treatment, June 14, 1886. Two years since came direct from Baden Baden to Galveston, Tex. He has resided in a healthy portion of this city; has been engaged in a bakery that has good sanitary surroundings. He has never been subjected to a malarial atmosphere. In November, 1885, he began to experience a marked form of tertian-intermittent fever. Every second day, without interruption, about noon, he would have a chill, followed by fever which terminated in a few hours with a profuse sweat. He had been under the treatment of two regular physicians for this intermittent fever, that was diagnosed as malarial; besides, the patient had taken quite a quantity of antiperiodic nostrums—all without avail. On inspection he presented more the appearance of one suffering from neurasthenia than malarial toxæmia. The physical examination revealed neither splenic nor hepatic enlargement.

On further examination my attention was attracted by the small meatus urinarius. The patient frankly admitted that he had been addicted to the habit of masturba-

tion from the age of fifteen to seventeen. I passed a small bulbous sound, which revealed a firm stricture half an inch from meatus, also an exquisitely sensitive urethra.

This examination of his urethra developed a constitutional disturbance similar to his chills and fever, which he stated he had been having every other day since November, 1885, though he had taken at least two bottles of quinine. This determined the trouble to be a neuroses, due to reflex urethral irritation, that simulated malarial fever. As a primary step in the treatment of this case, June 15th, under cocaine anæsthesia, I performed meatotomy and internal urethrotomy, closely observing the Otis precepts for these operations. The calibre of the urethra was restored to 34 mm. The subsequent treatment is the daily passage of a 34 mm. straight conical sound. The result was all that could be desired. From the date of the operation there was not a single return of his malarial symptoms, and the patient was rapidly restored to good health. That I might fully test my convictions as to the etiology of this case, I withheld all antiperiodics for about one week, when I gave drachm-doses of Fellows' syr., t.i.d., more as a general tonic than an antiperiodic. I have made repeated observations of this patient during the year following his treatment, to find that he has maintained good health, with a normal urethra.

When we consider with what avidity the profession seizes upon the cicatricial formations in the cervix uteri to explain the vague disturbances in the female economy, it truly seems that we have been somewhat indifferent in recognizing the analogous conditions in the male.

Clinical Department.

PULMONARY EMBOLISM (?) OCCURRING DURING GESTATION.

Dr. A. G. Browning, of Maysville, Ky, reports the following case: "Mrs. T——, aged thirty-three, fine physique, with tendency to fat; eight months advanced in fourth pregnancy. Dr. W. B. A. McNutt had been called twelve or fourteen hours before, finding patient suffering general unrest. There was some dyspnœa; the kidneys were doing satisfactorily, but the bowels had not moved for past three days. He secured free evacuation of the bowels, prognosing relief. This, however, did not follow, the main symptom—dyspnœa—even increased, and heart-failure becoming marked and obstinate he asked for a consultation. I found patient with anxious expression, slightly incoherent, exclaiming loudly of inability to get her breath; pulse vibrating between 100 and 120, very small and feeble; temperature sub-normal; mottled surface and cool extremities, with some œdema of the legs; pupils slightly dilated but responsive to light. Baring the chest the respiratory movements, though hurried, were normal and aeration seemed fair. Auscultation developed only a rather prolonged expiration, with commencing mucous râles. There were no valvular lesions of the heart manifest; the impulse was, however, markedly feeble and diffuse; fœtal pulsation was extinct, and no movements had been felt for twenty-four hours. Vaginal touch revealed usual condition at about eighth month

"Counting fœtus out, and not stopping to very accurately define things, we sought to 'obviate the tendency to death' by meeting the one indication present—support of the failing heart. Digitalis, ammonia, opium, brandy, etc., were given to support the failing heart, and external heat was diligently applied, only to fail. The cardiac pulsations grew weaker; respiration became jerky and superficial; temperature fell; pulmonary stasis with cyanosis and coma came on, and the patient died twelve hours after my first visit. She had passed no urine during the period of my attendance, but did so freely a short time before.

"As stated, this lady carried much surplus fat, and inquiry developed that within two months she had accumulated rapidly—became so burdened as to render movement laborious, causing great fatigue and a measure of dyspnœa. Her daily habit was shaped accordingly, verging upon a wholly inactive life. Her complaints were lightly treated by friends, and attributed to her condition. No professional advice was sought, and she gravitated to her end as described, without suspicion of danger till the explosion came.

"I risked the diagnosis of this case as thrombosis of pulmonary artery. 'Risked,' because a diagnosis in these cases, often obscure and difficult, was peculiarly so in this. One authority (Ball) claims that the condition cannot be distinguished during life. It was especially difficult, because the habit of the patient was the reverse of that in which the accident usually occurs, for a time invalidating the idea of thrombosis, because of the existing gestation, during which state it is extremely rare.

"In support of this diagnosis I cite the comparatively undisturbed respiratory movements and absence of developed abnormal heart-sounds, which, with increasing dyspnœa, are suggestive, if not distinctive—the mode of death by slow but progressive asphyxia, indicative of obstructed pulmonic circulation; and that in the subdivisions rather than in the main pulmonic trunk.

"I attempt no positive explanation of the mechanism. Possibly it was due to an excess of fibrin—this to hypernutrition induced by the pregnancy—giving rise to thrombosis; an embolus, somehow detached, was washed into the current, and hence the mischief. Or, more specifically, if, as Virchow affirms, there is a peculiar defective formation of the vascular system induced by gestation and puerpery, predisposing to endocarditis, it may have been embolism from this lesion—from fibrin thus deposited and broken up by the increased demand for cardiac force

"Whatever the modus the case to me is rare, as occurring during gestation—rare in comparison with the same accident in puerpery, and so far interesting."

TREATMENT OF ŒDEMA OF THE LUNGS.

Dr. P. F. O'Hanlan, of this city, sends the following communication: "A man, suffering from the last stages of phthisis, was admitted to the Gouverneur Hospital during my term as house-surgeon to that institution. The day following his admission he began to manifest symptoms of œdema of both lungs. I was sent for by the orderly. The man was dying. His respiration was hurried and labored; his face cyanotic; his pulse rapid and feeble. Cups were applied on both front and back of the chest. No relief was given by this means. It was at this minute that the idea entered my head to turn the man flat on his chest, and to allow his head to hang downward. I did this. No sooner was it done than the serum flowed from his mouth and nose. About one ounce in all escaped thus. After a few minutes the signs of œdema vanished. Whiskey was given to support the heart, I then left the patient, being obliged to go away from the hospital on business. When I returned, some ten hours after, I was informed that the man had died during my absence. He had lived for six hours, and then gotten up the œdema and died. The visiting physician of Gouverneur Hospital saw this treatment of a patient under my care, and he expressed the opinion that had it been resorted to sooner, the life of the sufferer might have been prolonged. I do not know to what extent the practice may be carried, but I think that if by this means a life can be extended, it would be only fair to give it a trial."

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CARCINOMA OF THE LARYNX, AND THE CROWN PRINCE'S CASE.

ACCORDING to the latest cable-reports, there is little room for doubt that the throat-trouble from which the Crown Prince of Germany is suffering, whatever the original disease may have been, is now carcinoma of the larynx. Even Mackenzie himself, who for a long time contended—and his opinion was strengthened by the positive assertions of Virchow—that the trouble was merely a papilloma of the vocal cords, is reported to have admitted the cancerous nature of the growth. The diagnosis may therefore be regarded as settled, and the medical interest of the case is now centred on the questions of prognosis and treatment.

The prognosis of carcinoma of the larynx is, of course, fatal, though the duration of life after the appearance of the new growth varies within pretty wide limits. Thus, of the twenty-seven cases collected by v. Ziemssen, nine, or thirty three per cent., died within the first year, fifteen died between the first and the sixth years, and three lived longer than six years, one being alive even fifteen years after the disease had first manifested itself. Epithelioma is more rapid in its progress than encephaloid cancer, the average duration of the former being, according to the statistics of Fauvel, twenty-three months, while that of the latter is three years. It is possible, therefore—even should the royal patient refuse to submit to an operation—that he may yet live to reign over the German Empire, though the accession of Prince William—an event which the lovers of European peace seem to fear so greatly—can hardly, in any event, be long delayed.

It is most probable, however, that an operation of some sort will be performed within a very short time, for it is unlikely that the Prince will refuse to follow the united counsels of his physicians. Of the operations proposed there are but two, viz., tracheotomy and laryngectomy. The former is, of course, merely palliative, but its utility in prolonging life is unquestionable. It removes the danger of suffocation attendant upon the continued growth of the neoplasm, and it also seems to exert a favorable influence upon the progress of the disease by giving rest to the larynx, and affording to the patient a measurable degree of comfort, as far, at least, as his respiration is concerned. It also permits of local applications being made to the seat of the disease. According to Fauvel's experience, tracheotomy adds twenty-five months to the average duration of life in epithelioma of the larynx, and nine months in encephaloid disease. In seven cases referred to by v. Ziemssen, life was prolonged for a period ranging from three to forty-two months after the trachea had been opened. It may also be said in favor of tracheotomy that the operation itself is devoid of danger, and even when it is ineffectual in prolonging life, it gives some relief to the patient's sufferings and promotes euthanasia.

The alternative to tracheotomy, laryngectomy, was shown to be practicable, in experiments on animals, by Czerny, though the first successful operation of total removal of the larynx for carcinoma was performed by Billroth in 1873. Watson, of Edinburgh, is said to have performed laryngectomy in 1866, but his patient died. Billroth's patient lived for a year, and was enabled to talk by means of an artificial larynx. Since that time the number of cases of total extirpation of the larynx has mounted up into the hundreds, though unfortunately not all have resulted as happily as did Billroth's first case. The latest statistics of extirpation of the larynx are those of Hahn, referred to in the *Annals of Surgery* for January, 1886; of Roswell Park, in the "Reference Handbook of the Medical Sciences;" and of Salomon, in his "Tesi di Pavia," 1886. In Hahn's table seventy-two of the ninety-one cases of extirpation reported were for carcinoma, seven of these being partial operations. Of these, twenty-five died within two weeks after the operation. Thirteen of the cases were reported as cured, no return of the disease having occurred up to the time of the report. Park finds the recoveries to be about thirty per cent., though these figures embrace operations performed for benign as well as malignant disease. Salomon has collected eighty-seven cases of laryngectomy for cancer, and of these forty-nine, or 56.4 per cent. survived the operation a sufficient length of time to be reported as cured. The best results, as regards prolongation of life, were obtained in intrinsic cancer. In these cases, the shortest duration of life, in those who survived the immediate effects of the operation, was one year, in the longest eight years, and the average five years. Many of the patients are still alive and entirely free from any cancerous affection. In comparing these results, however, it must be remembered that the operation itself is very frequently fatal, thirty-nine of these eighty-seven having died from its immediate effects. Partial laryngectomy, when the disease is sufficiently limited to render it feasible, gives much better results, as regards the immediate effects, though the statistics are not yet large enough to permit anything definite to be said concerning the ultimate results.

This, therefore, is the alternative which the Crown Prince and his medical advisers have to face: Tracheotomy, with no immediate danger of death, in order to obtain a possible prolongation of life, without voice and without hope, for three or four years; or laryngectomy, with a nearly even chance of immediate death, performed in the hope of an extension of life, possibly to its natural limits; but with an artificial voice and under the constant dread of a return of the malignant growth, either in the cicatrix or in some other organ of the body.

THE EARLY HISTORY OF VACCINATION IN AMERICA.

If those good people who waste their breath and make themselves more or less ridiculous by declaiming against one of the grandest discoveries of medical science would study with a little seriousness the history of vaccination, they might possibly be led to look upon it as less of a curse than they now affect to regard it. At the beginning of this century there was no greater scourge to the human race than small-pox, and even now, such is the traditional fear of the disease, small communities are often plunged into a panic by the occurrence of a single case in the midst of them. But in the larger cities the discovery of a case of small-pox occasions little fear, and its occurrence is chronicled in the papers merely as a piece of news. During the week ending October 29th, in the entire city of New York, with over a million of inhabitants, there were but two cases of this disease reported. That this happy immunity is due chiefly to the protection afforded by vaccination no reasonable man can for a moment doubt.

Eighty years ago the only protection against small-pox was to have had the disease, and our grandfathers and grandmothers were wont to betake themselves to one of the numerous private small-pox hospitals, situated in some isolated country-district, and there be inoculated. They suffered from the disease in a mild form usually, but it was genuine small-pox that they had, with all its dangers and sufferings.

It was at the very commencement of this century, in July, 1800, that Dr. Waterhouse, of Boston, performed the first vaccination in this country, on one of his children. But although Dr. Waterhouse was the first to perform the operation, a large share of credit in popularizing the procedure belongs justly to Dr. Elisha North, of Connecticut. In a very interesting sketch of the life of this really great physician, read before the New London County Medical Association, in April, 1887,[1] we find many details of his early experiments with vaccination. His first experiment was made in the fall of 1800. The virus was obtained from the arm of a man who had been vaccinated seven days previously. Two children and one adult were the subjects of this experiment, which was successful in the case of the two children, but failed to take in the person of the adult. This success induced Dr. Carrington, another physician of the same town, Goshen, to undertake vaccination, and for some time these two worked along in a spirit of friendly rivalry, acquiring much valuable experience, at the expense, sometimes, of their patients, and gaining knowledge which was to be of use to all future generations.

It is interesting to learn that the first successful vaccination in New York was performed with virus taken from a patient of Dr. North. The operation was performed by Dr. Edward Miller, one of the editors of the *Medical Repository*. The virus used was but the third remove from the cow. It was taken from a Mr. Hunt, who had been vaccinated from the arm of a girl, and the virus for her vaccination had been taken from a cow-pox pustule on the hand of a Mr. Ives. This man Ives had applied to Dr. North, complaining of headache, chills, and fever, a swelling in the axilla, and a sore on the hand. The sore was found to be a cow-pox pustule, and inquiry showed that it had been acquired by direct infection from the udder of a cow, while milking. Dr. North pursued his inquiries still further, the result of which, he wrote, "amounted to this, that the cow did not get her disease from the human subject nor from the horse." This remark would seem to show that Dr. North recognized the identity of small-pox and cow-pox, a fact which was proved experimentally, forty years later, by Dr. Ceeley, of England.

Dr. North subsequently removed to New London, where many now living remember him as a most accomplished, though eccentric, physician. But few, we imagine, remembered or knew the great services that he had rendered humanity by his labors in promoting, despite popular opposition and professional prejudice, the general adoption of vaccination. Dr. Bolton has rendered a genuine service to the history of medicine in America in collecting these facts in his sketch of the life of his illustrious ancestor.

[1] Life and Writings of Elisha North, M.D., by his grandson, H. Carrington Bolton, Ph.D.

WASHING OUT THE BODY IN CASES OF POISONING.

It is a well-known fact that the blood possesses the property, under normal conditions, of maintaining itself at a constant density and volume, and is able to correct with considerable rapidity any slight changes, on one side or the other, from the normal, from whatever cause arising. Thus, after a hemorrhage, unless it be excessive in amount, water is absorbed from the tissues, and new red corpuscles are formed with such rapidity that a very short time suffices for a complete restoration of the blood to its normal density and volume. In the same way, the ingestion of large quantities of fluid increases the volume of the blood only temporarily, the excess being rapidly eliminated by the proper emunctories.

A consideration of these facts has led Dr. Carlo Sanquirico, of Sienna, to undertake a series of experiments to determine whether it be not possible to promote the elimination of poisons by increasing the activity of secretion by means of intravenous injections. These experiments differed from those which Landerer was making about the same time in Germany. The latter endeavored to abstract the poison directly from the blood by venesection, supplying the loss of fluid by the injection of an equal amount of a saline solution. Sanquirico did not abstract any blood, except in a few of his experiments, but injected a quantity of a saline solution, with the object of increasing the volume of the blood, and so promoting the elimination of the poison through the kidneys.

The results of these experiments are published in the *Archivio per le Scienze Mediche*, vol. ix., No. 3. Dogs and guinea-pigs were used, preliminary experiments being made to determine the fatal dose, for each, of the poisons administered. The amount of the saline solution injected was in the proportion of eight per cent. of the weight of the animal. The experiments were successful, the results being sometimes really astonishing, after poisoning by strychnine, chloral, alcohol, aconitine, paraldehyde, caffeine, and urethan. But, on the other hand, all the animals to which morphine, curarine, nitro-

benzol, hypnone, or nicotine had been given, died, in spite of the saline transfusions. In these cases of non-success there was no increased urinary excretion, while in the cases in which the lives of the animals were saved the flow of urine was almost continuous.

These experiments, which are reported in detail in the journal above mentioned, were very interesting in their results, and give promise of being turned to a useful purpose in the treatment of acute poisoning in the human subject. In strychnine poisoning especially, if further experiments bear out the conclusions of the author, this method of washing out the body may not improbably prove to be a most precious means of saving life in otherwise hopeless cases.

THE GLEDITSCHINE INQUIRY.

THERE is so much interest manifested in the authenticity of gleditschine as a veritable alkaloid that THE MEDICAL RECORD has determined, in accordance with its previous promise, to make suitable investigations regarding the question. We have deemed it best for all parties concerned in this inquiry that the leaves of the "tear-blanket" tree shall be expressed to us directly by an impartial party, and shall be examined by Dr. Charles Rice, of this city, who will report the result in due time.

Drs. Goodman and Seward will be invited to give such information to the analyst as may aid him in his investigations, but any chemical processes which may be either novel or necessary to procure the product shall be fully published, as is proper with any other scientific intelligence.

We have already ordered the leaves from a responsible party in New Orleans, and shall expect them to arrive in proper condition. At the earliest possible moment we shall publish the results of the analysis.

WHAT THE FRENCH THINK OF THE NEXT INTERNATIONAL CONGRESS, TO BE HELD AT BERLIN.

THE *Journal de Médecine de Paris*, of September 25, 1887, winds up an editorial notice of the recent Washington meeting of the International Medical Congress with the following ridiculous tirade:

"Through the influence of Professor A. Martin, Berlin was selected as the place of meeting for the next Congress. Under the circumstances governing this selection, and in view of the relations existing between America and France, we consider this choice a positive insult to our country (*une véritable insulte pour notre pays*).

"The American physicians have bent under the Prussian yoke; we announce this fact, and shall remember it. Certain it is that the next meeting will not be an *International Congress*, but merely a German reunion."

It is not our province to either settle or foment international quarrels of such moment as the present one appears to be. Still, we take this occasion to inform our much-ruffled Gallic contemporary that American physicians have neither seen nor even heard mentioned that "Prussian yoke" which has so successfully upset his usually calm temperament and generally benign disposition.

Attendance upon International Medical Congresses has been and will continue to be purely voluntary, for individuals as well as for nationalities.

If the efforts of Dr. Le Fort, who proposed Paris as the next place of meeting, had been successful, we doubt whether any reputable German medical journal would have published a remonstrance so violent, contemptuous, and uncalled for as the one from which we have quoted. If these periodical gatherings cannot take place without stirring up local contentions, or giving rise to international complications, they had better be discontinued altogether.

GLOBUS HYSTERICUS.

THIS symptom is one of the most characteristic ones of that state known as hysteria. It has generally been regarded as a localized spasm of the muscular fibres of the œsophagus. It involves successively different segments of this tube, and so gives the sensation to the patient of a ball rising in the throat. But as our knowledge of this condition has become more definite it has been found erroneous to regard it merely as an hysterical manifestation. Some ten years ago, Mr. Lennox Browne, of London, began to seek for it an objective explanation. He communicated his opinion to the Congress of throat specialists in Milan, in 1880, and has, during his recent visit to the Washington meeting, taken occasion to read an interesting paper on the subject before one of the Philadelphia Societies.

He finds that few cases of globus hystericus are of an hysterical character—that is, of the nature of a phantom sensation—though uterine or ovarian disorder predisposes to or accompanies the affection. "Extending the term 'globus hystericus,'" he says, "I find that, with hardly an exception, all and every other subjective sensation in the throat is symptomatic of an objective cause. The chief of such feelings are those of a heat, a prickling, a swelling, a weight—a straw, a hair, or other foreign body. A few patients have complained of an intense cold, which is sometimes relieved, sometimes aggravated, after food-taking. In some instances there is actual pain with spasm, cramp, and a sensation of choking, and not infrequently there is cough; this symptom varies in degree from a slight hacking to the loud, hyena-like bark known as nervous laryngeal cough."

Examination of throats with this train of symptoms has revealed, in his experience, chronic congestion with relaxed uvula and fauces, tonsilar enlargement or crypt obstruction, with cheesy material, and in some cases a true hyperæmia of the laryngeal mucous membrane. With the laryngoscope, the base of the dorsum of the tongue, and sometimes the under surface and sides, are seen to be the seat of a varicositis, and even hemorrhoidal conditions of the veins. This latter change may be an expression of mitral insufficiency or of hepatic derangement, rarely of cerebral trouble. The vessels of the superior surface of the glottis are frequently similarly affected.

In other cases, close inspection has shown an enlargement of the circumvallate papillæ on the back of the tongue, causing an interference with the free movements of the epiglottis. In a few instances the orifices of the glands are occluded, as is the case in chronic follicular tonsillitis.

Mr. Lennox Browne makes the practical remark that, in order to see this state of affairs, a mere tongue-depressor will not suffice. A throat-mirror must be used, and placed quite high up in the pharyngeal vault. "Many observers," he remarks, "especially beginners, seem to consider that their sole aim is to see the vocal chords; and if these are sound, they write down 'larynx normal,' but omit to look well to the framework."

Besides these internal states, he often finds a fulness of the thyroid isthmus, without any enlargement of the lateral lobes. A varicose diathesis—as expressed in varicocele, varicose veins, etc., is often present—with a generally defective circulation and constipation.

The whole paper is a plea for the careful examination of the throats of all patients complaining of globus hystericus. We should search for the objective organic cause, and not dismiss the case with the superficial diagnosis of hysteria. Of remedies in the above circumstances, Mr. Lennox Browne gives chalybeates and aperients with digitalis and ergot. For local use chloride of iron or sulphate of zinc seem to form in solution the best astringents. Gargles are generally useless. They do not often get to the seat of the trouble. Resolution of venous congestion is best promoted by muriate of ammonia tablets.

News of the Week.

The Cancerous Growth in the Crown Prince's Throat is situated just below the left vocal chord. A slight growth is said to be beginning on the right side. This, if true, excludes the operation of partial laryngectomy. As the prince refuses—wisely, we think—to permit the operation of total extirpation, the only remaining surgical measure is tracheotomy. This may prolong his life for a year or two.

Dr. Moses Gunn, who died in Chicago on November 4th, has long been known as a brilliant surgeon and teacher. He was born in this State, in 1822, and graduated at the Geneva Medical College. He taught at Ann Arbor for fifteen years, was surgeon in the army during the war, and had been for the last twenty years the popular Professor of Surgery at Rush Medical College.

Dr. Adam C. Hoffman, of Jersey City, died at Portland, Me., on November 14th.

Dr. William H. Peer, of Brooklyn, died on November 14th. He was sixty-six years of age, and for thirty-six years had practised medicine in the Eastern District, building up in that time a large fortune. He was graduated from the New York Medical University in 1851.

Dr. William O'Gorman, aged sixty-three, died on November 10th, at Newark, after a long illness. He was born in Dublin, and came to the United States in 1849, and in 1857 began practice in Newark. He had been President of the State Medical Society, and the Essex County Medical Society, and was Chief of the New Jersey Medical Staff during the war.

Dr. Sheldon C. Johnson, a prominent physician of Seymour, Conn., died on November 13th, aged ninety. He had been in practice for over half a century.

Virchow and Pachydermia Verrucosa.—In view of the unhappy issue in the case of the Crown Prince, one is inclined to ask what Professor Virchow meant by his learned disquisition on the peculiar warty growth which he called pachydermia verrucosa, and which he appeared to think existed in a benign form in the prince's throat. Was he deceiving himself, or was he mistaken, or has the prince got a benign warty growth developed into an epithelioma?

A Post Graduate Medical School is to be organized at Atlanta, Ga.

Mr. Gladstone ascribes his splendid health and longevity to having learned one simple physiological lesson, viz., to make twenty-five bites at every bit of meat.

Dr. P. Brynberg Porter has retired from the editorship of Gaillard's *Medical Journal*, which he has conducted so ably. His successors are Dr. George Tucker Harrison and Dr. J. H. Claiborne, Jr.

Dr. Frederick Hyde, of Cortland, N. Y., died at his home in that place on October 15th, aged eighty. He was at one time President of the New York State Medical Society, and was one of the organizers of the American Medical Association.

Another Office Thief.—A tall, dark complexioned, shabbily dressed man is now calling on physicians with forged notes from brother physicians asking the loan of a hypodermic syringe for a fictitious emergency case in the neighborhood. He is a thief, and must have quite a collection of instruments by this time.

M. Pasteur's health is said to be still in an unsatisfactory condition, so much so as to necessitate confinement to his house.

Dr. Bernard Kraus, chief editor of the *Allgemeinen Wiener Medizinischen Zeitung*, died on the 28th ult., aged fifty-nine.

Sir William Gull is said to be recovering from his attack of hemiplegia.

The Sterility of Tumors and of Healthy Tissues.—The report of the Scientific Grants Committee of the British Medical Association, made by Messrs. C. A. Ballance and S. G. Shattuck, on cultivation-experiments with malignant new-growths and with healthy tissues has been made. Careful experiments showed what has been shown before, that there is no parasite in cancer or sarcoma that can be cultivated by known methods. It was also shown that healthy living tissue contains no micro-organisms and is sterile.

An Unfortunate Incident has occurred at the General Hospital, Vienna, which has ended in the dismissal, by ministerial decree, of Dr. Lustgarten from the post of assistant to the Professor of Dermatology, Dr. M. Kaposi. It appears that through a misunderstanding Dr. Lustgarten thought that the director of the hospital had sent him an insulting message. He in return wrote an offensive letter to the director, and was dismissed in consequence.

Dr. John C. Peters will read a paper before the Section of Hygiene of the Academy of Medicine, on December 2d, "On the Laws for the Prevention of those Things which Cause Discomfort and Disease."

Reports of Societies.

AMERICAN PUBLIC HEALTH ASSOCIATION.

Fifteenth Annual Meeting, held in Memphis, Tenn., November 8, 9, 10, and 11, 1887.

(Special Report for THE MEDICAL RECORD.)

TUESDAY, NOVEMBER 8TH—FIRST DAY—MORNING SESSION.

THE first session was called to order at ten o'clock on Tuesday morning, in the room of the United States Court, by MAJOR GEORGE M. STERNBERG, M.D., U.S.A., President.

After some announcements by the Chairman of the Local Committee and the election of ninety-four new members, the reading of the treasurer's report was taken up. It showed a balance of $920.65 on hand. Then followed the reading of papers.

THE ORIGIN OF SOME DISEASES

was the title of a paper by DR. EZRA M. HUNT, of Trenton, N. J., Secretary of the State Board of Health. He stated that in considering the nature of disease two great principles should be borne in mind: (1) The changes brought about in the processes of evolution, and the fixedness of type that may be acquired; and (2) the results of hybridization as seen in disease. He gave facts as to the fertility of hybrids and their tendencies to become specialized. He quoted several authorities as showing that the general views of the profession did not accord with botanists. While he admitted that diseases generally come from antecedent cases, he claimed that they sometimes originate, or change in type, under special influences in persons and surroundings.

DR. HUNT then read a second paper upon

THE PREVENTION OF MICROPHYTIC DISEASES BY INDIVIDUAL PROPHYLAXIS.

(This paper will appear in full in our next issue.)

These papers gave rise to an interesting discussion, in which several health authorities participated, some of them fearing that the preaching of a doctrine that disease could be prevented by medication would nullify all efforts at real sanitary advancement.

Papers were then read by DR. CARL HORSCH, of Dover, N. H., on

THE NECESSITY OF BURIAL PERMITS AND INSPECTION OF BODIES OF DECEASED PERSONS,

recommending the establishment of houses similar to those in Germany for the reception and care of dead bodies, for inspection before burial.

A paper was then read, prepared by DR. JOHN S. BILLINGS, U.S.A., on

SOME FORMS OF TABLES OF VITAL STATISTICS, WITH SPECIAL REFERENCE TO THE NEEDS OF THE HEALTH OFFICER.

It was accompanied by numerous blank forms, and described the method of compiling vital or other statistics by the use of punched cards and an electrical machine.

DISINFECTANTS.

DR. GEORGE H. ROHE, of Baltimore, read an abstract of the work of the Committee on Disinfectants, of which Dr. Sternberg was chairman during the year. The following conclusions are drawn from the abstract:

1. The temperature required to destroy the vitality of pathogenic organisms varies with the different organisms.

2. In the absence of spores the limits of variation are about 10° Centigrade (18° F.).

3. A temperature of 56° C. (132.8° F.) is fatal to the bacillus of anthrax, the bacillus of typhoid fever, the bacillus of glanders, the spirillum of Asiatic cholera, the erysipelas coccus, the virus of vaccinia, of rinderpest, of sheep-pox, and probably of several other infectious diseases.

4. A temperature of 62° C. (143.6° F.) is fatal to all of the pathogenic and non-pathogenic organisms tested, in the absence of spores (with the single exception of *sarcina lutea*, which in one experiment grew after exposure to this temperature).

5. A temperature of 100° C. (212° F.), maintained for five minutes, destroys the spores of all pathogenic organisms which have been tested.

6. It is probable that some of the bacilli which are destroyed by a temperature of 60° C. form endogenous spores which are also destroyed at this temperature.

EVENING SESSION.

At the evening session HON. J. W. CLAPP delivered an address of welcome for the city, and GOVERNOR ROBERT L. TAYLOR for the State. PRESIDENT STERNBERG then delivered his address, of which the following is an abstract:

PRESIDENT'S ANNUAL ADDRESS.

MAJOR STERNBERG began his address by referring to the special interest felt in Memphis by the Association, because in her hour of distress she appealed to some of our most distinguished members for sanitary council and acted upon the advice given. The organization of a National Board of Health and its unhappy failure were referred to, and it was stated that, to be efficient, any new central health board must be attached to some existing government department, so that it may be under the protection of a cabinet officer; suggesting a bureau of public health with a commissioner at its head, with a bacteriological laboratory attached to it. In connection with the bureau of public health, the President suggested an "advisory board of health," consisting of the surgeons general of the army, the navy, and the marine hospital service, and of the presidents of the State boards of health. He recommended that this plan should be brought before Congress. Speaking of yellow fever, he stated that recent epidemics had shown that our coasts were quite as favorable for the prevalence of yellow fever as in former years, and urged great care in recognizing early cases of yellow fever in unexpected localities. He then described the plan of quarantine by supervision, detention, and disinfection, as recommended by the International Quarantine Commission, of which he was a member. Concerning cholera at New York, he said that it was, perhaps, too soon to speak with confidence with reference to the action taken by the sanitary officials of the port of New York upon the recent arrival of two cholera-infected vessels from the Mediterranean, but he had good reason to hope that the measures taken will prove sufficient, and that this pestilential disease, which has for several years been threatening us from a distance, has not effected a lodgement upon our shores.

Whether it would be practicable to put our seaports in such a state of sanitary defence that it would be safe to open the door and defy the foe is extremely doubtful, but he did believe that cities could be preserved from epidemics by carrying out needed sanitary improvements, and the constant supervision of expert sanitary officials, supported by an enlightened public sentiment and sufficient appropriations. Cholera was even easier controlled than yellow fever, as it depends largely, if not exclusively, upon the water-supply for its epidemic extension. The taxing of commerce for the support of quarantine establishments he considered wrong in principle, and unjust to those who have to bear the burden. Those protected should pay the cost of such protection, and quarantine establishments should be supported at the expense of the National Government or of the States

in which they are located. The farcical method of disinfecting a ship upon which he came into the port of New York was described, the operation being gone through in a ridiculously inefficient manner, apparently for the sole purpose of securing a fee for disinfecting the ship. He recommended the adoption of uniform quarantine regulations at all our seaport towns. Having spoken of the exotic pestilential diseases as they afflict our country from time to time, he recommended that we study more carefully such epidemic diseases as typhoid fever, scarlet fever, small-pox, etc., and apply vigorously the rules we were cognizant of for their banishment. The importance of teaching personal hygiene was spoken of, and the granting of prizes for sanitary essays suggested. The investigation of special fields in sanitary work by expert scientists offered a rich field for the Association to work in, and he acknowledged the good done by the various bacteriological laboratories already in operation, referring particularly to the discovery of tyrotoxicon by Dr. Vaughan. For encouraging scientific investigation of sanitary problems, he suggested that the Association raise a special fund for this purpose by contributions.

Fit subjects for investigation were the biological investigation of water supply of towns and cities, and the possibility of protecting individuals from the infectious diseases by inoculations with an attenuated virus. In speaking of the various diseases which could be restrained by inoculation, he ventured the hope that, in all diseases in which a single attack protects from future attacks, protective inoculations may be practised when once we have succeeded in isolating and cultivating outside the body the specific infectious agent. Four methods of attenuating the potency of disease-germs were mentioned: Exposure to heat, exposure to oxygen, exposure to certain chemical agents (discovered by himself in 1881), and by passing through the body of certain animals. Among the diseases which it is hoped could be controlled, could one succeed in isolating and cultivating the specific germ, is yellow fever; and he regretted that his orders, not to make publication of his findings in his special mission to investigate the claims of Freire and Valle until he should have made a final report to the President of the United States, made it impossible for him to speak on those claims. He spoke of the great activity in bacteriological research, and said that recent investigations give support to the conclusions of Koch as to the pathogenic rôle in cholera of the spirillum discovered by him in the intestine of cholera-patients.

The work of the Committee on Disinfectants was spoken of, and its results are referred to in another place. The question of the etiological rôle and biological character of the typhoid bacillus of Eberth was touched upon, and the important additions to our knowledge of this organism were noted, and its growth in drinking-water particularly referred to. The etiology of croupous pneumonia was referred to as having caused much discussion during the year, and it was stated as being now evident that the bacillus of Friedländer, called "pneumococcus," is not entitled to this distinctive appellation. But evidence is accumulating that a micrococcus which he had named *M. Pasteuri*, and which is found in normal human saliva, is far more frequently found in the exudate into the alveoli, during the acute stage of croupous pneumonia, than is that of Friedländer. It was in January, 1885, that he first discovered this in pneumonic sputum and made inoculations in rabbits with it. After summing up the opinions of others concerning the action of this bacillus, he speaks of the importance of secondary causes which control the endemic and epidemic prevalence of pneumonia, which have been satisfactorily worked out by Dr. Baker, of Michigan. The important investigations of Councilman, of Baltimore, and Osler, of Philadelphia, with reference to the presence of micro-organisms in the blood of malarial fever patients, were commented on as confirming the discovery of Laveran in 1880, that during a febrile paroxysm the blood contains parasitic infusoria. He reiterated his opinion that the bacillus malariæ of Klebs and Tomassi-Crudeli did not, when injected under the skin of a rabbit, give rise to a malarial fever corresponding to the ordinary paludal fevers to which man is subject. Brief references to deceased members completed the address.

WEDNESDAY, NOVEMBER 9TH—SECOND DAY—MORNING SESSION.

The Committee on State Boards of Health asked for a portion of Thursday to be set apart for discussing these points: 1. Views of members of State and Provincial health boards as to whether State systems of quarantine should be replaced by a national system. 2. What are the privileges and expediencies of State officers as to the investigation of epidemics at threatening points? 3. Inter-State notification of diseases.

A resolution was adopted appointing a committee, of which Dr. Sternberg should be chairman, to study experimentally the methods and effects of protective inoculation against infectious diseases.

A resolution was offered by DR. OTTERSON, of Brooklyn, looking toward congressional action for appropriations for Government quarantine stations.

FOOD INSPECTION AND SUPPLY.

DR. HORSCH, of Dover, N. H., sent a paper on "Inspection of Animals required for Food," recommending their inspection by competent persons before slaughtering, and examination of internal organs afterward.

The paper by DR. AZEL AMES, JR., of Chicago, upon the "Meat-food Supply of the Nation and its Future," was a statistical and authoritative review of the status of the animal-food resources of the country. It put in strong light the steady proportionate decline of our flesh-food production to our rapid doubling of population, and the constant reduction of the grazing area. Disease and unwise laws and administration were shown to be grave abnormal influences, limiting and depressing the production of food-animals and their products. The paper, in a clear but temperate way, condemned the course of the Administration for its public-land policy, and appealed strongly for right and the interest of all in the regulation of oleomargarine and similar food-products. It invoked action in behalf of legislation by Congress for the suppression of pleuro-pneumonia, a thorough enumeration of cattle and their products in the Census of 1890, and the repeal of the special tax upon retailers and wholesalers under the Oleomargarine Act as unjust to the poor, wrong in principle, and repressing to the food-supply.

CHOLERA AND QUARANTINE

was the subject of a paper by DR. JOHN H. RAUCH, of the Illinois State Board of Health. It described the deficiencies in the New York quarantine, speaking of the distrust with which its results were looked upon in the West, and asked for national control of the quarantine system of the country.

The discussion elicited from DR. MONTIZAMBERT, Dominion quarantine officer for Canada at Grosse Isle, the statement that their regulations were more stringent than ever.

DR. A. N. BELL, of Brooklyn, then gave a detailed history of the condition of affairs at New York quarantine, in which the arrangements were characterized as infamous in their inefficiency, but nevertheless expressing the belief that the work done on the Alesia's and Britannia's passengers was successful, and that no cases of disease would be caused by landing them.

DR. WILLIAM OLDRIGHT, of Toronto, Ont., introduced a resolution looking to the abolishment of the present system of scattering excreta along railway tracks by passenger trains.

Dr. C. N. Hewitt, of Red Wing, Minn., said the only way we could bring New York quarantine into condition was to touch them through a harassed commerce with Western States.

Evening Session.

The first paper was on

THE MALARIAL GERM OF LAVERAN,

by Dr. William T. Councilman, of Baltimore. In brief, he said that this organism most probably belongs to the protozoa, a group of unicellular organisms noted for the varied changes of form which the individual examples undergo in the course of development. The malarial organism forms no exception to this. Ten more or less distinct forms are seen. Of these five, in which the connection can plainly be made out, are always found in intermittent fever. Other forms are found in malarial cachexia. It is interesting to note that a definite form, in which multiplication of the organism by segmentation takes place, is found in the period of chill, and at no other time.

Some forms of the parasite are common to all forms of malarial infection. The form which is provided with actively moving filaments is found but rarely in the blood drawn from the finger, but may be found in cases either of an acute or a chronic character. In the examination of blood taken directly from the spleen, it was found in ten out of twelve cases of malarial cachexia, and in five out of eight cases of intermittent. Too much importance cannot be assigned to this organism as a means of making a differential diagnosis between malarial fever and typhoid fever simulating this. It is in outbreaks of fever in small country-towns, where it is of the greatest importance that the character of the disease should be recognized promptly, that the advantage of this mode of diagnosis is most evident. There is too much reason for believing that, in localities where the various forms of malarial infection are more common, epidemics of typhoid fever in which the fever follows a more or less typical course, and where autopsies are not to be had, are mistaken for malarial fever.

LOUISIANA QUARANTINE

was treated of by Dr. Joseph Holt, of New Orleans, who gave the reasons which led them to depart from the time-honored ideas of quarantine detention to preserve their commerce.

Thursday, November 10th—Third Day—Morning Session.

Thirty-three new members were elected. Resolutions offered the day before were adopted.

MORE PRIZE ESSAYS.

A telegraphic despatch from Mr. H. Lomb, of Rochester, was read, offering prizes of $500 and $200 for best essays on "Practical Sanitary and Economic Cooking adapted for Persons of Moderate and Small Means." The offer was accepted.

A resolution was offered by Dr. J. N. McCormack, of Bowling Green, Ky., urging the

NEW YORK QUARANTINE

authorities to revise and modernize their methods.

Dr. Bell, of New York, moved that a committee of three be appointed to report upon such sanitary and medical service on board emigrant vessels as may be secured by congressional action.

They were both referred.

Dr. La Berge, Medical Health Officer of Montreal, described their system of collecting garbage and burning it by the Mann furnace. Other forms of furnaces were described.

QUARANTINE

formed the subject of another discussion precipitated by the Committee on State Boards of Health. Dr. Walter Wyman, U.S.M.H.S., Dr. Joseph Holt, Dr. Bell, Dr. La Chappelle, of Quebec, Dr. L. F. Salomon, New Orleans, and Dr. H. B. Horlbeek, Charleston, took part in it. The balance of sentiment was plainly in favor of State quarantine aided by the National Government when needed.

Evening Session.

Vice-President C. N. Hewitt called the meeting to order, and a paper on

RIVER POLLUTION,

prepared by Prof. S. W. Williston, of New Haven, Conn., was read. It detailed the amounts of chemical pollution poured into several Connecticut streams, and stated that such pollution was not infective in its character.

In the discussion, the only prominent point made was by Rudolph Hering, C. E., of Chicago, who stated that the amount of pollution of streams, not to be used for water-supply, which was permissible before advising the disposal of sewage by land-filtration or chemical treatment, was limited to the sewage of one thousand persons to each 120 to 150 cubic feet of minimum river-flow per minute in summer, and to 180 to 240 cubic feet in winter, when the river should be covered with ice.

Friday, November 11th—Fourth Day—Morning Session.

The last session was consumed in the appointment of committees, election of officers, etc. Resolutions offered by Dr. McCormack, concerning improvements at New York quarantine, were redrawn so as to apply to all ports, and passed.

NEW OFFICERS

were elected, as follows:

President—Dr. Charles N. Hewitt, Red Wing, Minn.

Vice-Presidents—Drs. G. B. Thornton, Memphis, and Joseph Holt, New Orleans.

Executive Committee—Drs. Henry B. Baker, Michigan; S. H. Durgin, Massachusetts, and J. N. McCormack, Kentucky.

The Secretary, Irving A. Watson, M.D., of Concord, N. H., holds over.

Milwaukee was decided upon as the place of meeting next year.

Six new members were elected.

COMMITTEES

were appointed on State boards of health, on pollution of water-supply, on disposal of garbage, on animal diseases and animal food, on forms of statistics, on incorporation, on protective inoculation experiments, on Lomb prize essays, on national health legislation as recommended by President Sternberg, and on improvement of the sanitary and medical service on emigrant ships.

After resolutions of thanks, the Association adjourned *sine die*.

Antipyrin in Uterine Colic.—Dr. Chouppé has published two cases of uterine colic successfully treated with antipyrin injections. The first was in the case of a woman who suffered at each menstrual period with very painful colic, which was with difficulty overcome by opium and chloral. Antipyrin, in the dose of fifteen grains, gave rapid relief. The second was the case of a woman suffering from uterine colic after childbirth. The pains were subdued for five hours by a first injection, and disappeared completely under the influence of a second.—*Semaine Médicale.*

NEW YORK ACADEMY OF MEDICINE.

SECTION IN OBSTETRICS AND DISEASES OF WOMEN AND CHILDREN.

Stated Meeting, October 27, 1887.

ALEXANDER S. HUNTER, M.D., CHAIRMAN *pro tem.*

ASPHYXIA NEONATORUM.

DR. J. LEWIS SMITH read a paper on the above subject, in which he stated that the term was applied to the state of the infant when it exhibited no signs of animation after birth, but was still living.

It occurred more frequently with primiparæ than multiparæ, and with male than female infants.

There were two varieties, the *asphyxia lividum* and the *asphyxia pallidum.*

The asphyxia lividum, or apoplectic form, was characterized by muscular tonicity—the head, limbs, and lower jaw did not drop when the child was raised. The cutaneous, and, to a certain extent, the mucous surfaces, had a dusky color; there was general venous congestion; the lips and tongue sometimes swollen, etc.

The asphyxia pallidum was characterized by general lack of muscular tonicity—the head, the limbs, and the lower jaw dropped; the eyes were glassy, the pupils more or less dilated; the color of the surface pale; the general appearance markedly anæmic, etc.

Asphyxia lividum became asphyxia pallidum before death took place.

ETIOLOGY.

The causes were divided into two groups—first, intrauterine; and second, those which affected the child during its birth or immediately afterward.

In the first group was placed any cause which interrupted central circulation or rendered it inadequate, such as blows or falls which detached a portion of the placenta; grave internal diseases, as of the heart or lungs; profound anæmia; degenerative changes of the placenta; torsion, or knotting, of the umbilical cord; obstruction of the air-passages of the child, etc.

In the second group were placed protracted labor, with strong and frequent uterine contractions, rigid soft parts, and deformed pelvis. A common cause was *the use of ergot.* The immediate cause of death after the use of ergot was intracranial extravasation of blood, especially at the base of the brain.

Prolapse of the cord, breech and transverse presentations, were assigned to this group.

PROGNOSIS.

That depended upon the cause and degree of the asphyxia. If the case was one of asphyxia pallidum, without muscular tonicity, and if the mother had not noticed fœtal movements for a considerable time before the termination of labor, the prospect of resuscitation was not good. By active and energetic perseverance he had succeeded in resuscitating the child ten minutes after he was unable to detect any heart-beat, either by the ear or the fingers. Certainly there was hope of resuscitating the child as long as the heart beat. But if the pupils remained dilated, it was altogether probable that attempts to produce resuscitation would be wasted. Doubtless a few recoveries had occurred after intracranial extravasation of blood had taken place.

Several reported cases were referred to, in which resuscitation was accomplished after the lapse of from one to five hours; but all those children died within a few days.

If the surface presented a pallid, macerated appearance, and there was absence of muscular tonicity, while there was no respiration, nor appreciable cardiac movement, the child was dead. If there was muscular tonicity and lividity, although there was no appreciable cardiac movement, life was probably not extinct.

TREATMENT.

Remove any obstruction to the entrance of air. Clear the mouth and fauces of mucus. Apply brisk friction up and down the spine, especially in the cervical region. Dash small quantities of cold water upon the face. Plunge the child to the neck into hot (103° to 105° F.) and cold water alternatively; hot water alone was sometimes very effectual. Mouth-to-mouth insufflation. Artificial respiration, which was best accomplished by insufflation.

His method of practising insufflation was to remove all mucus from the mouth and fauces; place the child upon its side upon a table, supported by one hand over the abdomen, with the thumb upon the epigastrium, so as to depress it and prevent the entrance of air into the stomach. Several pieces of muslin, with an oval opening in each, are prepared, to be placed over the mouth of the child, for purposes of cleanliness. Place the mouth firmly against that of the infant, and insufflate ten or twelve times per minute. He disapproved of the tubes devised for insufflation, and also thought that the objections that had been made to the method were frivolous. Of the movement methods, he preferred Sylvester's and Schultze's.

DR. CHARLES JEWETT had found intracranial hemorrhage in the fatal cases, and had no doubt that it was a frequent cause of death.

There was one point in etiology which had interested him; for example, in forceps cases, where no injurious pressure was made with the instruments, yet the autopsy showed that there was intracranial hemorrhage, and it had seemed to him that the fault might have consisted of a weakness of the vessels themselves. He had not been able to resuscitate where he had been unable to detect cardiac movement. He had practised Sylvester's and Schultze's methods, and insufflation with a tube, but his chief reliance was upon the mouth-to-mouth insufflation. Place the child upon the back, with a folded blanket under the neck, so as to put the head in the position of semi-extension; then closing the nostrils he presses with the other hand over the epigastrium. He had endeavored to insufflate the air from the mouth,

AFTER THE MANNER OF USING THE BLOW-PIPE,

instead of using it from the lungs. Of course, undue force must not be used in practising this method. Suspension of the child by the feet was a method that had some advantages.

DR. GARRISH had attended five thousand cases of obstetrics in private practice, and had frequently met with asphyxia neonatorum after the use of ergot by midwives. He believed that ergot should never be given previous to the birth of the child. His method of management had been to pull the tongue of the child out as far as possible, cleanse the pharynx, and then spurt a mouthful of brandy over the thorax, and the child will gasp. If that did not succeed, he gave the warm bath. He did not tie the cord, but divided it. As soon as respiration began and the blood started a little, he then tied the cord.

DR. W. A. FANNING mentioned a case in which he gave one drachm of ergot; the child was born within fifteen minutes and by a single pain, and yet he was unable to resuscitate it. He had heard the fœtal heart distinctly just before the administration of the ergot. He had not given ergot before the child was born since that time.

DR. FRUITNIGHT had no doubt that ergot was a frequent cause of asphyxia in the practice of midwives. In the livid form he divided the cord and allowed blood to escape before applying the ligature. He had resuscitated the children in the milder cases by blowing sharply upon the epigastrium. Electricity should be used when other means fail, and the method was to place one hand over the region of the phrenic nerve in the neck, and the

other over the stomach, and then pass the current through the body of the operator.

Dr. George T. Jackson then read a paper on

IMPETIGO CONTAGIOSA,

in which he directed special attention to the bullous variety, which was liable to be confused with pemphigus. The use of the term impetigo was most frequently associated with the idea of a pustular disease, whereas it was vesicular at first, and the vesicles might be as large as a split pea, the contents of which dried in a few days, and then formed a crust that had the appearance of being stuck on the surface.

In the rarer form of impetigo there were bullæ sometimes showing slight depression in the centre, and it was this form which was liable to be mistaken for pemphigus. It occurred most frequently upon the trunk, was discrete, superficial, bullæ rarely numerous, and showed a tendency to appear in groups.

Impetigo was comparatively rare. It was contagious, and often occurred in epidemics. It was readily inoculable.

The contagious element had not been ascertained. The disease occurred more frequently in the warm months than in the cold. Children furnished the vast majority of cases. The duration of the disease was usually short. Pemphigus occurred most frequently in adults. The treatment consisted in scrubbing the affected parts with soap and water, and afterward applying carbolized ointment.

Dr. Bulkley had nothing special to add to Dr. Jackson's admirable *résumé* of the subject. If the disease was not checked, it would run on for considerable time. It was purely a local disease, but, at the same time, it might be desirable to give tonics for general purposes. The local application which he had used most frequently was the white-precipitate ointment diluted three or four times with rose ointment, perhaps with the addition of a small quantity of carbolic acid.

Dr. W. L. Carr had recently seen *five* cases in a public institution; three in children, and two in adults who took care of the children. In all these cases there was more or less disturbance of digestion. The treatment which he adopted successfully was to wash the parts with a carbolized solution, 1 to 30, use carbolized ointment and zinc ointment, and, internally, rhubarb and soda.

Dr. Holt was somewhat surprised at Dr. Jackson's statement concerning

THE RARITY OF THE DISEASE,

for he had encountered quite a number of cases in children in dispensary practice. He had cured them with white-precipitate ointment diluted with four parts of zinc ointment. Nearly all the children on whom he had seen the disease required a tonic plan of treatment.

Dr. J. Lewis Smith spoke of the occurrence of twelve or fifteen cases among children in the Foundling Asylum, where they were kept exceedingly clean and were well nourished. The disease appeared upon the upper part of the chest and the neck.

Dr. Jackson thought it quite probable that the disease was seen more frequently by those who had classes of children's diseases, and in institutions, than by dermatologists, and he was glad to learn of that fact. It was the bullous variety to which he wished to direct attention specially.

The Section then adjourned.

The largely-advertised proprietary article, known as Ely's Cream Balm, consists of vaseline, 1 ounce; thymol, 3 grains; carb. bismuth, 15 grains; oil wintergreen, 2 minims. The directions are to dip the little finger into the balm and insert up the nostrils, giving two or three full inhalations.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

INTESTINAL SURGERY—THE DIAGNOSIS AND TREATMENT OF CHRONIC OBSTRUCTION—THE CONDITION AND MANAGEMENT OF THE INTESTINE AFTER ABDOMINAL SECTION—THE SCARLET FEVER EPIDEMIC AND THE COMPULSORY NOTIFICATION OF INFECTIOUS DISEASES—THE COMING MEETING AT THE COLLEGE OF SURGEONS.

London, October 31, 1887.

Intestinal surgery is again to the front. At the last meeting of the Medical Society of London, Mr. Treves read a very suggestive paper on the "Diagnosis and Treatment of Chronic Intestinal Obstruction." Mr. Treves remarked that for diagnostic purposes cases might be classified in four groups: 1, Fecal accumulation; 2, stenosis of colon; 3, stenosis of the small intestine; 4, chronic intussusception. This order represented their relative frequency, fecal accumulation being the most common, and chronic intussusception the least frequent. No form of obstruction was more difficult to diagnose than the latter. Out of 55 cases collected by Rafinesque, no fewer than 27 were the subjects of an incorrect diagnosis. The invagination-tumor had been met with in about fifty per cent. of the cases, but in only thirty-two per cent. of the cases did it reach the rectum. Blood in the motions had been recorded in about half the instances of the chronic form. Vomiting was entirely absent in about half the collected cases. The symptoms caused by stenosis of the small bowel were marked by great variations. The onset was usually gradual. The pain was distinctly intermittent. In most cases it was provoked by food. Vomiting was often provoked by food. Stenosis of the colon was in most cases caused by stricture, and in more than half the cases this was cancerous. The most important point in differential diagnosis was to distinguish between stenosis of the colon and fecal impaction. It was as great a calamity to perform colotomy for the latter condition as to persist in the use of enemata and purgatives in cases of cancer of the bowel. The subjects of chronic constipation were mostly adults, and generally females. The cases causing most trouble to the diagnostician were those in which some temporary mechanical occlusion of the bowel (as by kinking) was effected by the fecal mass, and acute symptoms supervened upon the chronic phenomena. The gradually increasing constipation of fecal accumulation might, unlike that of stenosis, reach an extreme degree before any vigorous attacks of colic or sickness occurred. One symptom was of considerable moment, viz., the extreme foulness of the breath so often met with in fecal accumulation, and almost unknown in the subjects of stricture of the bowel.

As the case advanced the abdomen became distended, but it was rare for coils of hypertrophied bowel to be visible through the parietes. It was especially to be noted that the symptoms of pain and sickness appeared late, and seldom manifested themselves till there was evidence of a distended bowel. The fecal tumor was an important feature, but its characters were protean. Enemata, as a means of diagnosis, were practically useless. Still less useful was the long tube. As to treatment in cases of stenosis of the small intestine the most important measure was diet. Washing out the stomach might give more relief than narcotics in acute attacks of pain. If the case became steadily worse, laparotomy was the only alternative. The treatment of fecal accumulation was mainly medical. Mr. Treves drew attention to one cause of constipation which is often overlooked, viz., the want of a proper proportion of fluid in the intestinal canal. Massage and enemata were the main therapeutic agents in cases of fecal obstruction. When the bowel

began to clear itself, aperients might be employed. Calomel acted admirably (given in doses of from ten to fifteen grains;) it should be followed by some saline aperient. In stenoses of the colon dieting was important, but its beneficial effects were not so self-evident as in narrowing of the small intestine. As the case became worse, aperients ceased to be admissible, and in the majority of cases the question of operation sooner or later arose. Colotomy was the operation usually performed, and it was allowed by most surgeons that lumbar colotomy had decided advantages over the inguinal operation. Colectomy had not found much favor with English surgeons. It was difficult and attended by a high death-rate. It was justifiable if the actual stricture were encountered at the colotomy-wound. The main point in the operative treatment of chronic obstruction was whether colotomy was really the best measure for a particular case. In obscure cases the surgeon might well hesitate before committing himself to so decided an operation. He might open the ascending colon in the loin, and subsequently find that the obstruction was at the ileo-cæcal valve. A left lumbar colotomy might be performed, and the case might prove to be one of fecal impaction. Mr. Treves said he would strongly advise that in all cases of doubt an exploratory incision should be made in the median line. If the examination showed that colotomy was required, that operation could be either carried out at once—and possibly through the median line—or the peritoneal wound might be closed and lumbar colotomy subsequently performed after the median incision had healed. Two cases illustrating these two alternatives were described.

In the discussion which followed the reading of Mr. Treves' paper, Mr. Davies-Colley remarked that he had found difficulty in diagnosing peritonitis and typhlitis from intestinal obstruction. Mr. Jessett preferred inguinal colotomy, while Mr. Pitts defended the lumbar operation. Dr. De Havilland Hall advocated the use of rectal suppositories of beef peptonoids in cases of stricture of the small intestine. Mr. Allingham, Jr., had seen much benefit follow forcible dilatation of the sphincter ani in some cases of fecal accumulation. Mr. Treves, in reply, said that the points he relied on in the diagnosis of peritonitis from obstruction were the presence of ascites, the continuous character of the pain, the posture of the patient, the constant "meaningless" vomiting, early abdominal distention, and the absence of visible coils of bowel.

On the following evening the first ordinary meeting of the Medical and Chirurgical Society was held, and was entirely occupied by a discussion on the condition and management of the intestine after abdominal section. Mr. J. D. Malcolm read a paper on the subject, in which he maintained that the functions of the intestine were under the control of automatic nervous plexuses in its walls, and that these were closely associated with the central nervous systems, but also affected by stimuli acting directly upon them. Stimulation of the motor plexus produced increase of its activity, followed by exhaustion and paralysis of its function. The author showed that in every abdominal section the intestine is abnormally stimulated, and compared the result to the "after-constipation" of purgatives. Evidence was adduced of paralysis of the bowel after these operations, which gradually recovered in from four to six days, and it was observed that the excessive development of intestinal gases which occurred at this time was connected with defective or deranged innervation. The importance of the escape of these gases was dwelt on. The author showed intestinal paresis to be an important factor in the production of obstruction of the bowels in such cases, and a possible sole cause of death with symptoms of obstruction. He believed that excessive or irritating discharges retained in the peritoneal cavity quickly produced symptoms of obstruction and of peritonitis. In the management of these cases, the necessity of having the bowels cleared of all accumulations before operation was insisted on, and the greatest care was advocated in avoiding all unnecessary exposure and handling of the parts during operation. It was of paramount importance to secure immunity from infection of any kind, but the stimulating and chilling effects of carbolic acid and of the spray were mentioned as dangers. After operation, the necessity for intestinal rest was urged, and the use of opium commended.

Mr. Alban Doran did not think that flatulence was necessarily due to the operative interference. Opium might be useful, but often tended to produce depression and dyspepsia, and, further, it undoubtedly favored the formation of scybala. Mr. Knowsley Thornton said the flaccid state of the intestine after operation was of pretty general occurrence, and the causes, he believed, were as indicated by Mr. Malcolm. He thought that in some cases the rapid distention of the intestines produced death by syncope. Mr. Clement Lucas supported Mr. Malcolm's views as to the causation of paralysis of the intestines. Such paralysis was observed after lumbar nephrectomy. He had seen cases of death from simple over-distention of the intestine. Exposure and injury of the bowels and peritonitis were the chief causes of distention of the bowels. Mr. Meredith thought benefit could sometimes be obtained in cases of flatulence by raising the lower part of the patient so as to favor the escape of the flatus by the anus. He had found injections containing tincture of belladonna (twenty drops) to be useful in reducing the flatulence.

The scarlet fever epidemic continues to increase. Urged, doubtless, by this fact, the Metropolitan Asylums Board have just passed a resolution that it is desirable that the Local Government Board should take the necessary steps for extending to the metropolis the system of compulsory notification of infectious diseases.

The Annual Meeting of Fellows and Members of the College of Surgeons will take place in a few days. Efforts are being made by the party of reform to secure a large attendance, and some vigorous speeches are expected. I shall hope to be able to be present and to give some account of the proceedings in my next letter.

MODERN MEDICINE IN CHINA.

To the Editor of The Medical Record.

Sir: While the advances made in medicine and surgery, both in Europe and America, are familiar to us all, we seldom hear of the work that is being done in Asiatic countries. We know that India and Japan are making progress. Until a recent period but little had been accomplished in China. Last year a medical association was formed for all China. It numbers some eighty European and American members, and fifty or more honorary members, who also take a part in its proceedings. Dr. Kerr, of Canton, is President, and five Vice-Presidents, one for each district of China, preside over the district meetings. The association publishes a quarterly journal of its proceedings. There are eighty hospitals and dispensaries, presided over by English or American doctors, scattered throughout China, and a vast number of the natives, of all ranks, apply for and receive relief in these institutions. Some fifty-three works on the various branches of the study of medicine have been translated into the native tongue by the labors of Drs. Hobson, Kerr, Osgood, Dudgeon, and others. Doctors have had native pupils study with them, with more or less good results. The time has at length arrived when the English language is eagerly studied by the native Chinese. Some Chinese medical students are now pursuing their studies in English, and there is an opening for the more complete and thorough education of native medical men in our modern medical science. There are many reasons why Shanghai should become the medical centre for all China. It is the commercial metropolis of China. All the great foreign lines of steamers from Europe,

America, and other points terminate there; men from all the provinces of China are continually visiting Shanghai. Some three to four thousand Europeans and Americans reside there; fifteen English, French, German, and American doctors live in Shanghai, and as the most money can be made there, the best medical talent gravitates to that centre. Four hospitals for Chinese, with about two hundred and fifty beds, and an out-patient department, where some twenty-four thousand patients receive treatment every year, afford sufficient field for clinical teaching. These institutions are well supported and free from debt. There is a medical school in Shanghai with land and building paid for. Four lecturers endeavor to instruct Chinese students. Candidates have to pass a preliminary examination. After three months' study they are re-examined, and any not qualified for the study of medicine are weeded out; those who remain have to study four years, passing semiannual examinations, and serving as hospital internes for the last year and a half of that time. The aim is to turn out carefully prepared men. A medical library and a medical museum have been started in Shanghai for the use of the Medical Association of China, and to render aid to the work in the medical school. All medical books and pamphlets are welcomed, and the curator of the museum collects and preserves pathological or anatomical specimens from all parts of the Chinese Empire. This attempt on the part of the Medical Association of China is one of very great value. Modern medicine and a knowledge of the laws of hygiene will prove of inestimable value to the millions of China. Medical teaching in China should start on a solid basis, to insure good and lasting results. We hope that the medical profession in this country will aid the medical men in China in this attempt. Medical authors could donate their works to the library. The medical schools in this country might aid the work materially by donating charts, diagrams, and teaching apparatus. Medical museums could contribute specimens, especially of diseases and injuries of bones and anatomical preparations. The medical publishers could aid by donations of books, to form a great national medical library, which in time will purchase largely to maintain itself in the front rank. We can commend the Medical Association of China and the objects for which it works to the medical profession in this country. Donations addressed to Dr. H. W. Boone, Vice-President of the Medical Association of China, can be sent to 22 Bible House, New York, and will be forwarded to Shanghai.

AIDING THE BOARD OF HEALTH.

To the Editor of The Medical Record.

Sir: In the paper read by Dr. Bryant before the New York Academy of Medicine, November 3d, on "How can the Medical Profession Aid the Board of Health?" the author urged, among other matters, the desirability of reports from physicians regarding infringements of the sanitary code and municipal ordinances regulating plumbing, construction, ventilation, etc. It does not appear to have occurred to him that there are two rather important impediments to aid from such a source—namely, the want of available information as to what constitutes an infringement of these rules; and, second, the very natural dread of being summoned as a witness, in case the matter comes before a court of law.

I believe that, as a class, physicians are the most desirous of an efficient enforcement of sanitary laws, since nearly all of the sanitary literature of the period is the production of medical men; but it can hardly be expected that a doctor who has little leisure from his practice will study the Revised Statutes and Session Reports, or keep a file of the *City Record*, in order to know what constitutes an abatable nuisance.

It seems to me that what is needed to secure professional co-operation is a publication by the Board of Health of the laws and ordinances which are in force, and an assurance that, excepting in extraordinary cases, a physician reporting their infringement will not be called upon to furnish evidence in law-courts.

I have another suggestion to make in this connection, which is that the Board of Health might serve its own interests and stimulate zeal among physicians by placing a bulletin in the Hall of the New York Academy of Medicine on which to indicate, by some graphic method, the daily sanitary statistics of leading importance, and the areas within the city limits in which zymotic diseases are most prevalent.

Respectfully,

F. A. Castle, M.D.

55 East Fifty-second Street.

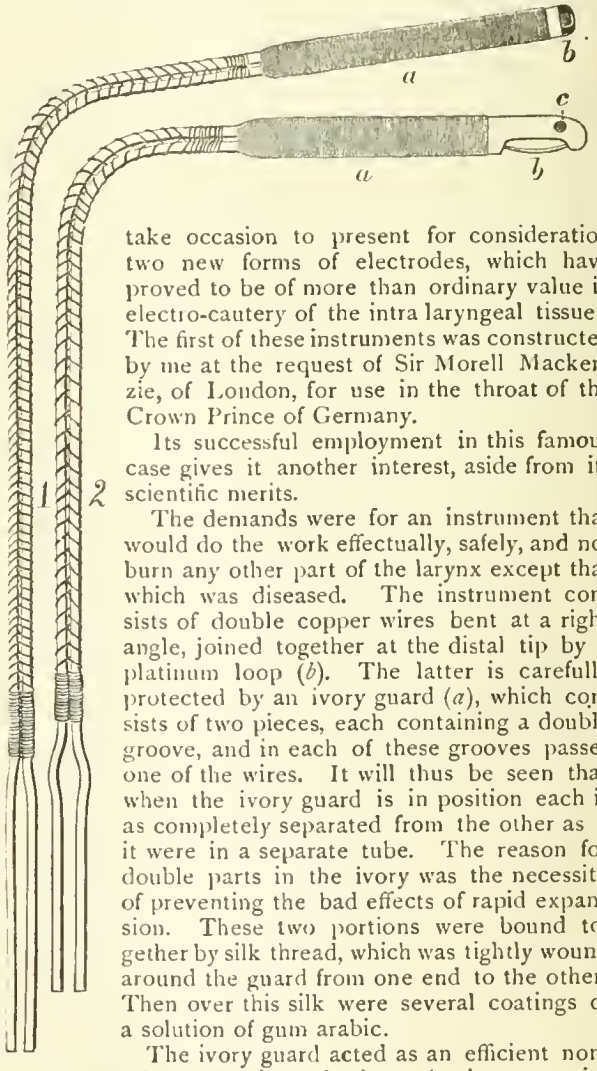
New Instruments.

SOME NEW FORMS OF ELECTRODES FOR INTRA-LARYNGEAL USE.

By ROBERT C. MYLES, M.D.,

new york.

The difficulties attending intra-laryngeal operations, by means of electrodes, are generally of such a nature as to discourage attempts at their use. It is in view of giving some encouragement to workers in laryngology that I take occasion to present for consideration two new forms of electrodes, which have proved to be of more than ordinary value in electro-cautery of the intra laryngeal tissues. The first of these instruments was constructed by me at the request of Sir Morell Mackenzie, of London, for use in the throat of the Crown Prince of Germany.



Its successful employment in this famous case gives it another interest, aside from its scientific merits.

The demands were for an instrument that would do the work effectually, safely, and not burn any other part of the larynx except that which was diseased. The instrument consists of double copper wires bent at a right angle, joined together at the distal tip by a platinum loop (*b*). The latter is carefully protected by an ivory guard (*a*), which consists of two pieces, each containing a double groove, and in each of these grooves passes one of the wires. It will thus be seen that when the ivory guard is in position each is as completely separated from the other as if it were in a separate tube. The reason for double parts in the ivory was the necessity of preventing the bad effects of rapid expansion. These two portions were bound together by silk thread, which was tightly wound around the guard from one end to the other. Then over this silk were several coatings of a solution of gum arabic.

The ivory guard acted as an efficient non-conductor of heat, allowing only the projecting extremity of the white-hot platinum loop to come in contact with the growth. The silk not only held the portions of ivory in firm position, but prevented any accidental

crumbling of the ivory and the escape of fragments into the larynx. The gum arabic served not only the purpose of a non-inflammable coating, but acted as a lubricant for the extremity of the electrode, when grasped by the ventricular bands in the laryngeal spasm. Before this instrument was used it was thoroughly tested, in the presence of Sir Morell Mackenzie and Dr. Wegner, Surgeon-General of the German army. The operation performed by Sir Morell Mackenzie with this instrument occupied but a few seconds, was unattended by any unpleasant results, and was successful in entirely destroying the growth. The second instrument is constructed virtually on the same principle, with the exception that only one side of the loop is exposed. This latter arrangement was made for burning antero-posteriorly a web growing transversely from one vocal cord to the other, in a patient of Dr. Norris Wolfenden, in the Golden Square Throat Hospital, London.

I desire to express my indebtedness to Mr Mark T. Howell of London, for valuable suggestions in the construction of this instrument.

32 West Twenty-sixth Street.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from November 6 to November 12, 1887.

Greenleaf, Charles R., Major and Surgeon. Par. 8, S. O. 248, A. G. O., October 25, 1887, directing Surgeon Greenleaf to visit the recruiting depots and rendezvous at certain places, is amended to include Davenport, Ia., Quincy, Ill., and Evansville, Ind. S. O. 257, A. G. O., November 4, 1887.

Loring, Leonard Y., Captain and Assistant Surgeon. Ordered for duty at Fort Mogave, Ariz. Ter., upon the expiration of his present sick-leave of absence. S. O. 258, A. G. O., November 5, 1887.

Perley, Harry O., Captain and Assistant Surgeon. Now on duty at Fort Wayne, Mich. Ordered for temporary duty with troops stationed at Highwood, near Chicago, Ill. S. O. 258, A. G. O., November 5, 1887.

Ives, F. J., First Lieutenant and Assistant Surgeon. Granted leave of absence for one month, to take effect on or about the 15th inst. S. O. 113, Department of the Platte, November 5, 1887.

Official List of Changes in the Medical Corps of the United States Navy for the week ending November 12, 1887.

Heye, T. C., Surgeon. Detached from the Marion; proceed home and wait orders.

Craig, T. C., Passed Assistant Surgeon. Detached from the Marion; proceed home and wait orders.

Wells, H. M., Medical Inspector. Detached from the Trenton; proceed home and wait orders.

Peck, George, Medical Director. Ordered to Washington, D. C., as member of Examining Board.

Ayres, Joseph G., Surgeon. Ordered to the Galena to relieve Surgeon F. L. Du Bois.

Du Bois, F. L., Surgeon. Detached from the Galena; proceed home and wait orders.

Blindness is increasing, according to the figures of Dr. Howe, of Buffalo. In a paper read before the association for the advancement of science, that gentleman states that while the population during the ten years from 1870 to 1880 increased at the rate of 30 per cent., the increase of blindness was 140 per cent. He attributes this remarkable and somewhat alarming increase to the introduction by immigrants of large numbers of cases of contagious diseases of the eyes.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending November 12, 1887:

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	23	2
Scarlet fever	76	10
Cerebro-spinal meningitis	1	1
Measles	20	4
Diphtheria	139	41
Small-pox	3	1
Yellow fever	0	0
Cholera	0	0

The Medical Law for New York State.—We have been asked so often by medical men, in and out of the State, concerning the medical law now in force here, that we give the text in full:

CHAPTER 647.

An Act to Regulate the Licensing and Registration of Physicians and Surgeons, and to Codify the Medical Laws of the State of New York. (Passed June 23, 1887; three-fifths being present.)

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. No person shall practise physic or surgery in this State who shall not have attained the age of twenty-one years; and no person shall practise as aforesaid unless he or she shall be, at the time this act shall take effect, a person lawfully engaged in such practice in this State under license or authority conferred by its laws then in force, and lawfully registered pursuant to chapter five hundred and thirteen of the laws of eighteen hundred and eighty, and the acts amendatory thereof, or unless he or she shall be licensed or authorized so to practise by the provisions of this act, and registered as herein prescribed.

§ 2. From and after the date of the taking effect of this act, no person not theretofore licensed or authorized to practise physic or surgery in this State shall be deemed so licensed or authorized except one of the three following classes:

First. All who shall have been graduated from an incorporated medical school or college in this State with the degree of doctor of medicine, after substantial compliance with all the requirements of the general laws and of the charter of said corporation regulating the term and amount of study, attendance and attainment requisite to obtain said degree; provided that no person shall receive the degree of doctor of medicine, or be licensed to practice physic or surgery in this State, unless after the age of eighteen he shall have pursued the study of medical science for at least three years in a chartered medical school or with some physician and surgeon duly authorized by law to practise physic or surgery; and shall have attended two complete courses of lectures in some legally incorporated medical school or college, in good standing at the time of such attendance, prior to the granting to him or her a diploma or license; provided, further, that two courses of lectures, both of which shall be either begun or completed within the same calendar year, shall not satisfy the above requirement.

Second. All who have received said degree from the Regents of the University of the State of New York, after substantial compliance with the legal requisites preliminary to its attainment, and after examination by a legally constituted board of medical examiners of this State.

Third. All who, having been graduated from incorpo-

rated medical schools or colleges without the State as doctors of medicine, or licensed to practise physic or surgery under the laws of those European countries in which said degree does not confer the right so to practise, shall procure their diplomas from said corporations, or their licenses from such countries, to be indorsed by the faculty of an incorporated medical school or college within this State, or by the Regents of the University on the recommendation of a legally constituted board of medical examiners of this State. Every such indorsement shall be in form of schedule A or of schedule B provided by the tenth section of this act. Every corporation or board so indorsing shall keep a record of their indorsements, and may require applicants to verify their statements under oath; any indorsement made with fraudulent intent, or gross carelessness or ignorance, shall be deemed a misdemeanor, and shall subject the indorser or indorsers, upon conviction thereof, to a fine of two hundred and fifty dollars.

§ 3. Every person who, at the time this act shall take effect, shall be practising lawfully physic or surgery in this State, under the authority and license conferred by the laws then in force, but who shall not be then duly registered in the county where he or she practises; and every person who shall thereafter become lawfully authorized or licensed to practise physic or surgery in this State, shall register in a book to be kept in the clerk's office of the county in which such practice is carried on, his or her name, residence, place and date of birth, and authority for practising as aforesaid. Every person who shall apply to register as a physician or surgeon shall be required before registration to subscribe and verify by oath or affirmation, before a person qualified to administer oaths in this State, an affidavit which shall be filed and preserved in a bound volume. This affidavit shall be in the form prescribed in schedule C provided by the tenth section of this act. Every person registering as aforesaid shall exhibit to the county clerk his or her diploma or license, or in case of loss, a copy of either, legally certified as are copies of documents admitted in evidence, or a duly attested transcript of the record of its conferment from the body conferring it, upon which the said clerk shall indorse or stamp his name, and the words "Presented and registered as authority to practise physic and surgery by , on the day of , in the clerk's office of county." The said clerk shall also give to every registered physician or surgeon a certificate in the form of schedule D provided by the tenth section of this act. For all his said services the county clerk shall receive as a total fee for registration, affidavit, and certificate the sum of one dollar. It is provided, however, that nothing in this act shall require any physician or surgeon who shall have duly registered lawful authority to practise as such, conformably to the provisions of chapter five hundred and thirteen of the laws of eighteen hundred and eighty, and the acts amendatory thereof, to register again under the provisions of this act, in any county where he or she shall have registered already.

§ 4. A practising physician or surgeon having registered lawful authority to practise physic or surgery in one county, who shall remove his practice or part thereof to or regularly engage in practice or open an office in another county, shall exhibit in person to the clerk of such other county, or shall send to him through the mail by registered letter, his certificate of registration, and if such certificate shows lawful authority to have been registered said clerk thereupon shall register said applicant in said latter county, on receipt of a fee of twenty five cents. The clerk shall stamp or indorse upon such certificate the words "Registered also in county," and return the same, and every certificate and indorsement made pursuant to the provisions of this act shall be prima facie evidence in any legal proceeding that the person named has registered in the office issuing the same, the authority stated in the transcript.

§ 5. Every person now licensed to practise physic or surgery in this State under the laws thereof in force at the time of the conferment of such license, unless he or she already shall have registered his or her name, residence, place of birth, and authority so to practise pursuant to the provisions of section two of chapter five hundred and thirteen of the laws of eighteen hundred and eighty, and the acts amendatory thereof, shall comply with the requirements of said chapter on or before the first day of October, eighteen hundred and eighty-seven; and thereafter no person shall be entitled to register any authority to practise physic or surgery, except the license conferred under this act, and the laws enacted hereafter, and no registration shall be considered valid as such unless the authority registered constituted at the time of registration a license under the laws of this State then in force; provided that nothing in this section shall be construed to prohibit or suspend any prosecution for non-registration under said section instituted prior to said first day of October, eighteen hundred and eighty-seven, and further provided that no diploma or license conferred upon a person not actually in attendance at the lectures, instruction, and examination of the corporation conferring the same, or not possessed at the time of its conferment of the requirements then demanded of medical students in this State as a condition of their becoming licensed so to practise, shall be deemed lawful authority to practise physic and surgery in this State.

§ 6. No person shall be licensed or permitted to practise physic or surgery in this State who has been convicted of a felony by any court of competent jurisdiction; and if any person who is or hereafter shall be duly licensed to practise physic or surgery in this State shall be convicted of a felony, as aforesaid, his or her license to so practise, if any, shall be revoked by the fact of such conviction having been had. Any person who shall wilfully swear falsely to any statement contained in any affidavit made pursuant to the provisions of this act shall be deemed guilty of a felony, and subject to conviction and punishment for perjury; any person who, falsely and without authority, shall counterfeit, make, or alter any diploma, certificate, or instrument constituting a license to practise physic or surgery within this State, or any certificate or indorsement given in pursuance of this act, shall be deemed guilty of a felony, and be subject to conviction and punishment for forgery in the second degree; any person who shall practise physic or surgery under a false or assumed name, or who shall falsely personate another practitioner of a like or different name, shall be deemed guilty of a felony, and shall be subject to conviction and punishment for false personation; and any person guilty of violating any of the other provisions of this act, not otherwise specifically punished herein, or who shall buy, sell, or fraudulently obtain any medical diploma, license, record, or registration, or who shall aid or abet such buying, selling, or fraudulently obtaining thereof, or who shall practise physic or surgery in this State under cover of a diploma or license that shall have been illegally obtained, or that shall have been signed or issued unlawfully or under fraudulent representations, or mistake of fact in material regard, or who, after conviction of a felony, as aforesaid, shall attempt to practise physic or surgery in this State, and any person who shall assume the title of doctor of medicine, or append the letters "M.D." to his or her name, without having received the degree of doctor of medicine from some school, college, or board empowered by law to confer said degree or title, shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be punished by a fine of not less than two hundred and fifty dollars or imprisonment for six months for the first offence, and upon conviction of a subsequent offence by a fine of not less than five hundred dollars or imprisonment for not less than one year, or by both fine and imprisonment. Any person who not being then lawfully authorized to practise physic or surgery in this State, and so registered according to law, shall

practise on or after the first day of October, eighteen hundred and eighty-seven, physic or surgery within this State without the license and registration provided for in this act, shall be deemed guilty of a misdemeanor, and on conviction thereof shall be punished by a fine of not less than fifty dollars for the first offence, and for each subsequent offence by a fine of not less than one hundred dollars, or by imprisonment for not less than one hundred days, or by both fine and imprisonment. When any prosecution under this act is made on the complaint of a lawfully incorporated medical society of this State, or a county society entitled to representation in a State society or association, the fines, when collected, shall be paid to the society making the complaint; and any excess of the amount of fines so paid over the expenses incurred by the said society in enforcing the medical law of this State, shall be paid at the end of the year to the county treasurer, for the use of the poor of said county.

§ 7. The duly incorporated medical societies of any county in which any person shall practise physic or surgery, without lawful authority or registration may, upon proof of such practice, recover from such practitioner, in an action before any justice of the peace, a penalty of twenty-five dollars and the cost of the action for the first judgment, and upon every subsequent judgment for the same offence a penalty of fifty dollars and the cost of the action; provided that said societies shall pay to the county treasurer for the use of the poor of said county any surplus that may accrue in their hands from the excess of fines and penalties collected over the disbursements of said society for council fees and the expenses incident to the enforcement of this act by them.

§ 8. Nothing in this act shall be construed to punish commissioned medical officers serving in the army or navy of the United States, or in the United States marine hospital service, while so commissioned, or any one while actually serving as a member of the resident medical staff of any legally incorporated hospital, or any legally qualified and registered dentist exclusively engaged in practising the art of dentistry, or interfere with manufacturers of artificial eyes, limbs, or orthopedical instruments or trusses of any kind from fitting such instruments on persons in need thereof; or any lawfully qualified physicians and surgeons residing in other states or countries meeting registered physicians and surgeons of this State in consultation, or any physician or surgeon residing on the border of a neighboring State, and duly authorized under the laws thereof to practise physic or surgery therein, whose practice extends into the limits of this State; providing that such practitioner shall not open an office or appoint a place to meet patients or receive calls within the limits of the State of New York; or physicians duly registered in one county of this State, called to attend isolated cases in another county, but not residing or habitually practising therein.

§ 9. The following acts and parts of acts are hereby expressly repealed, to wit: Sections eight to twenty-two inclusive of title seven of chapter fourteen of part one of the Revised Statutes; also all of chapter one hundred and thirty-eight of the laws of eighteen hundred and six, that provided for the examination and admission of medical students to practise, and for penalties for practising physic and surgery without a diploma or other lawful authority; also section or paragraph fifth of chapter one hundred and four of the laws of eighteen hundred and seven; also sections nine, ten, eighteen, and all of section eleven following, and including the words "whose duty" of chapter ninety four of the laws of eighteen hundred and thirteen; also sections one, two, four, and all of section three following, and including the words "any three" of chapter two hundred and six of the laws of eighteen hundred and eighteen; also section two of chapter two hundred and thirty-seven of the laws of eighteen hundred and nineteen; also chapter one hundred and twenty-six of the laws of eighteen hundred and thirty; also sections one, two, and four of chapter five hundred and thirty-two of the laws of eighteen hundred and thirty-six; also chapter sixty-four of the laws of eighteen hundred and forty-one; also chapter two hundred and seventy-five of the laws of eighteen hundred and forty-four; also chapter four hundred and thirty-six of the laws of eighteen hundred and seventy-four; also chapter five hundred and thirteen of the laws of eighteen hundred and eighty; also chapter one hundred and eighty six of the laws of eighteen hundred and eighty-one; also chapters four hundred and eleven and four hundred and forty-five of the laws of eighteen hundred and eighty-four; also section three hundred and fifty-six of the Penal Code. And also all acts or parts of acts authorizing any incorporated school or college to confer the degree of doctor of medicine *causa honoris* or *ad eundem*, or otherwise, than upon duly graduated students in course; and all other acts or parts of acts inconsistent with this act are hereby repealed. And it is provided that the degree of doctor of medicine conferred *causa honoris* or *ad eundem gradum*, shall not be a qualification for the practice of physic and surgery in this State. And, whereas it is the purpose of this act to codify the statutory provisions of this State regulating the admission of individuals to the practice of physic and surgery, and the punishment of those practising either physic or surgery without authority, it is further provided that the specific repeal herein of any portion of an act that may have been heretofore repealed, expressly or by implication, shall not be construed to revive the remaining part thereof.

§ 10. Section ten shall embrace the following schedules, namely A, B, C, and D.

Schedule A.—To all whom it may concern, greeting: A. B., having on the day of eighteen hundred and , presented to the faculty of , a diploma purporting to have been issued on the day of , to said A. B., conferring on the degree of doctor of medicine, and it being made certain to us by inquiry and examination that the said , at the date of said diploma, was at a medical college or school, duly incorporated, in good standing, and authorized to confer the degree of doctor of medicine, and also that the said A. B. is the identical person upon whom the said diploma was conferred, and is also a person of good moral character, who has pursued a course of study equivalent to that required of a doctor of medicine by said faculty, and is sufficiently well versed in the knowledge of physic and surgery to qualify to practise the same.

Now, therefore, the said faculty have caused this indorsement and the seal of the said to be placed upon said diploma.

(Signed) by the dean or proper officer.

[Seal.]

Schedule B.—To all whom it may concern, greeting: A. B., having on the day of presented to the faculty of a license purporting to have been issued to said , as authority to practise physic and surgery in all branches; and it being made certain to us by inquiry and examination that A. B. is the identical person on whom the license was conferred; that it is not necessary in the country in which it was conferred that a licensed practitioner of physic and surgery should have the degree of doctor of medicine, and that a license in form and substance such as the one hereby indorsed is the usual and sufficient authority to practise physic or surgery therein; and further, that said A. B. is a person of good moral character, who has pursued a course of study equivalent to that required of a doctor of medicine by our faculty, and is sufficiently versed in the knowledge of physic and surgery to practise the same.

Now, therefore, the said faculty have caused this indorsement and the seal of the said to be placed upon said license.

(Signed by the dean or proper officer.)

[Seal.]

Schedule C.—STATE OF NEW YORK, COUNTY OF , ss.: being duly sworn that h name is ; that was born in on the day of , in the year ; that now resides at number street, in the city of , and intends to practise physic and surgery in the county of ; that h authority so to practise is a license (or diploma), conferred upon h , on the day of , in the year , by , a duly incorporated medical school (or college), or a legally constituted board of medical examiners of the State of New York, authorized at the date of conferring said to confer the same, and being then in good standing (or in case of a European license, describe the source thereof, and the authority under which it was conferred). Affiant further says that is the person named in the said , and had, before receiving the same, fully and substantially complied with the requisites as to attendance, terms, and amount of study and examinations required by the laws of the State and the charter and regulations of said as preliminary and necessary to the conferment thereof. Affiant further says that no money was paid by for said except the regular fees paid by all applicants therefor; that no fraud, misrepresentation or mistake in any material regard was employed by any one, or occurred, in order that said should be conferred on affiant. (Where indorsement has been made out of a license or diploma granted without the State, this additional clause shall be verified.)

And affiant further says that the said diploma or license was indorsed on the day of , eighteen hundred and , by the faculty of , upon satisfactory proof by affiant of all the facts hereinabove recited, and that had followed a course of study equivalent to the curriculum of said , and was competent to practise physic and surgery.

Sworn to before me, this day of }

Schedule D.—To whom it may concern: Know ye, that on the day of A. B., having first subscribed to and verified an affidavit in the form of schedule C of chapter of the laws of eighteen hundred and eighty-seven, made an entry in the register of physicians and surgeons, kept in the office of the clerk of county, of which entry I certify the following to be a transcript:

NAME.	Birth-place.	Residence.	Date, source and character of license or diploma.	Indorsed by what faculty.	Remarks.

In witness whereof I have set my hand and official seal this day of

Clerk of County.

[SEAL.]

§ 11. This act shall take effect immediately.

STATE OF NEW YORK, } ss.:
Office of the Secretary of State, }

I have compared the preceding with the original law on file in this office, and do hereby certify that the same is a correct transcript therefrom and of the whole of said original law.

FREDERICK COOK,
Secretary of State.

THE INFLUENCE OF CHEMISTRY ON THE SCIENCE OF PATHOLOGY.—In Sir Henry Roscoe's presidential address on the synthesis of organic bodies, delivered before the British Association for the Advancement of Science (*British Medical Journal*, September 3, 1887), the following observations on the subject indicated by the title are made. (It will be observed that Roscoe's views on hydrophobia are by no means accepted by the bulk of the medical profession.) "Touching us as human beings even still more closely is the influence which chemistry has exerted on the science of pathology, and in no direction has greater progress been made than in the study of micro-organisms in relation to health and disease. In the complicated chemical changes to which we give the names of fermentation and putrefaction, the views of Liebig, according to which these phenomena are of a purely chemical character, have given way under the searching investigations of Pasteur, who established the fundamental principle that these processes are inseparably connected with the life of certain low forms of organisms. Thus was founded the science of bacteriology, which in Lister's hands has yielded such splendid results in the treatment of surgical cases, and in those of Klebs, Koch, and others has been the means of detecting the cause of many diseases both in man and animals, the latest and not the least important of which is the remarkable series of successful researches by Pasteur into the nature and mode of cure of that most dreadful of maladies, hydrophobia. And here I may be allowed to refer with satisfaction to the result of the labors on this subject of a committee, the formation of which I had the honor of moving for in the House of Commons. These results confirm in every respect Pasteur's assertions, and prove beyond a doubt that the adoption of his method has prevented the occurrence of hydrophobia in a large proportion of persons bitten by rabid animals, who, if they had not been subjected to this treatment, would have died of that disease. The value of his discovery is, however, greater than can be estimated by its present utility, for it shows that it may be possible to avert other diseases besides hydrophobia by the adoption of a somewhat similar method of investigation and of treatment. This, though the last, is certainly not the least of the debts which humanity owes to the great French experimentalist. Here it might seem as if we had outstepped the boundaries of chemistry, and have to do with phenomena purely vital; but recent research indicates that this is not the case, and points to the conclusion that the microscopist must again give way to the chemist, and that it is by chemical rather than by biological investigation that the causes of diseases will be discovered and the power of removing them obtained. For we learn that the symptoms of infective diseases are no more due to the microbes which constitute the infection than alcoholic intoxication is produced by the yeast-cell, but that these symptoms are due to the presence of definite chemical compounds, the result of the life of these microscopic organisms. So it is to the action of these poisonous substances formed during the life of the organism, rather than to that of the organism itself, that the special characteristics of the disease are to be traced. For it has been shown that the disease can be communicated by such poisons in the entire absence of living organisms."

DEATH FROM LEECHES.—The following case, in which death was seemingly caused by leeches, has been recently published. A woman who lived at the lodgings of a dealer in leeches was found dead on the floor, the lower part of her body and her lower extremities being naked. On her legs there were present upward of one hundred recent wounds inflicted by leeches. The latter were creeping about on the floor. The vessels in which the animals had been kept were uncovered. The deceased had led a drunken life; hence it is possible that she herself applied the leeches to her body.

PROUD OF "THE RECORD."—We acknowledge the receipt of printed slips of the proceedings of the International Medical Congress, issued daily by THE MEDICAL RECORD. THE RECORD spared neither time nor money in keeping up with the procession. Its issue of September 10th contained sixty pages of reading matter devoted to the proceedings of the International Medical Congress. The profession of this country may well be proud of THE RECORD.—*Indiana Medical Journal.*

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Original Articles.

THE PREVENTION OF MICROPHYTIC DISEASES BY INDIVIDUAL PROPHYLAXIS.[1]

By EZRA M. HUNT, M.D.,

SECRETARY NEW JERSEY STATE BOARD OF HEALTH, TRENTON, N. J.

During the last twenty-five years no subject has been more prominently before the students and practitioners of hygiene than the consideration of new methods, or new applications of old methods, for the prevention of disease.

This inquiry, to some extent, involves investigation into the specific entity of disease. But a still more hopeful direction of investigation is to find out what fertilizes it or makes it more likely to be severe, what sterilizes it or makes it more likely to be mild, or what will make the human system resistful to the sedation or propagation of the disease so that it will not occur.

The first great discovery in this direction was that of the modifying influence of inoculation.

It could not have been merely the cathartic and the changed diet of a few days that reduced the mortality from inoculated small-pox to such a minimum. The prevalence of the custom was at once the certification of the terror of the caught disease and the innocency of the conferred or inoculated disease. Yet it was the same disease without any effort at attenuation.

It was the introduction of the virus into the *skin* or areolar tissue, instead of by *inhalation*, that seemed to result in modification. Its approach was through the periphery, instead of by a central and vital organ. The chief safety was in the fact that the involvement of the lungs and the secondary fever were avoided.

Somehow, by the metastasis or diversion or mode of attack, the system grew tolerant of the malady, and was able to throw it off with comparative harmlessness.

It has fallen to my lot frequently to see the same remarkable mitigation in the inoculation of cattle with the virus of contagious pleuro-pneumonia.

When the infection is conveyed by the breath it seizes upon the lungs and pleura. Frequently, in three days after it is manifested, the spongy organ of two or three pounds has become so solidified with tenacious lymph that it has a weight of thirty pounds, and death is the speedy result.

But introduce this virus into the muscular tissue of an extremity and all symptoms are more gradual. There are local swelling, the throwing out of lymph amid muscular tissue, and slight constitutional disturbance; but the lungs escape, and fatal cases are exceedingly rare. Not only this, but other animals will not contract the disease, and immunity is secured.

These facts as to the effect of the different modes of conveyance of a disease have their practical bearings and still invite investigation.

It was another wonderful fact when *scurvy* yielded to the preventive art. The great naval hospital at Haslar, England, had been built with special reference to the fearful inroads that this disease was making amid the British fleets. When, in 1796, Sir Gilbert Blane and other medical officers of the navy obtained the order that lime-juice be supplied to the seamen, the terror of that disease was taken away. Studying the facts by the history and peculiarities of that disease, we cannot dismiss it as a mere error of dietetics. It was not simply that fruits and fresh vegetables prevented the disease. It was a far-reaching lesson as to how diseases may be modified by medicines as well as by foods; how the presence of something *administered* may prevent a disease.

As to the next wonder of the preventive art, that of Jennerian vaccination, it is so often presented as to need only our passing recognition. Yet it is to be remembered that it is a subject not yet exhausted. Whether something of the modification is owing to the mode and place of introduction, whether it is a modified small pox, whether it is attenuated virus and may be in different degrees of attenuation, and so differently protective, these and other questions are left over to be determined in this period when the microscope, the pathological, the chemical, and the biological laboratories have come to the aid of the clinician, and we can study and compare the accumulated facts.

The *Pasteurian vaccination* may stand next, if not in order of time, since Pasteur opened his Copenhagen address by profound acknowledgment of his indebtedness to Jenner as the great forefather of preventive medicine.

Here the mode and place of introduction, degree and permanency of effect, and the nature and cause of the so-called attenuation, are still before us with unanswered inquiry.

Next, while the doctrine of the prevention by *isolation* is old, yet new methods and new results, as to it, almost make it a *new preventive* art. Sea and land quarantines are modified, and ought to be. How far it is to be isolation of the person, or only isolation of the personal effects, is unsettled. What the forsaking of an infected house or ship will do, what the camping out of all the well from a sick city will do, what isolation alone will do, as in Leicester, with small-pox, and what is the most perfect plan of organized, systematized isolation, all these are before every health officer as large and most practical questions.

Next comes *disinfection*, in all it means by the new light of biology and the study of micro-organisms—whether it be the destruction of animal or vegetative parasitic life—of these as larvæ, as spores, or as sporeless plants, at any and all stages of existence and development.

Also what is meant by inhibiting or thwarting action, even when we do not destroy life. Also what disinfectants can do with the surroundings in destroying the pabulum or nutrient media. Also what these can do *in the system*, either to destroy the microbe which is setting up pernicious activity there, or in some way to deprive it of its food or limit its power.

For the present we confine ourselves to the last item. So soon as it became certain that many diseases depend upon, or are associated with, micro-organisms, the inquiry was in order whether there could not be some method utilized and applied by which the presence or activity of these in the blood-tissues or secretions could be so interfered with as to prevent or mollify disease. Passing for the present certain facts as to septic and non-pathogenic organisms, which, introduced into the system, may of themselves, or by their ferments or alkaloids (ptomaines), cause disease, we confine our inquiry to the ques-

[1] Read before the American Public Health Association, at Memphis, November 8, 1887.

tion whether it is possible to thwart the action of the *specific* or *pathogenic* micro-organisms in their attempt to invade, or after they have invaded, the system.

We get some light or some analogy as to this from considering the life-history and behavior of these organisms outside the system.

First of all, we find that pathogenic organisms are "dependent for their growth on the presence of the suitable nourishing material." In this respect they are far more selective than the septic organisms, which "find in almost all animal and vegetable fluids the substances necessary for nutrition." It is further found that there are substances which inhibit the growth of, or altogether destroy, these micro-organisms, such as corrosive sublimate, salicylic acid, etc. To do this they do not always need to be germicides.

Far *short* of *destruction*, such substances are capable of restraining the morbid action so far as to thwart their pernicious activity, which in the case of an invading disease is really the gravity of the disease.

Klein gives abundant evidences and references, on page 208 of his book on "Micro-organisms and Disease," to show that "pathogenic micro-organisms are capable of suffering some modifications in their morphological and physiological behavior." He adds: "Now, it is known of many micro-organisms, bound up with infectious diseases, that temperature, the medium in which they grow, and the presence or absence of certain chemical compounds are capable of materially affecting them" (Klein, p. 207).

Inasmuch as this growth and multiplication are known to go on in the bodies of living animals, and to constitute the identity and gravity of many diseases, it is a radical and very essential and hopeful inquiry whether we may not, by some change in the animal, or in some of those chemical compounds referred to, either destroy the micro-organism or inhibit its activity.

It is very suggestive of the possibility of this to remind ourselves of the probable reason why some are unsusceptible to disease. Dr. Klein (p. 247) argues that it is because there is "something or other present in a particular tissue to which the latter owes its immunity."

He infers that although this is "dependent upon the life of the tissue, it is not identical with any of the characters constituting its life." He says: "The most feasible theory seems to me to be this, that the inhibiting power is due to *the presence* of a chemical substance produced by the living tissues." This puts the body in such a condition that in the particular case "the organisms cannot thrive and produce the disease." It is true that he suggests that the germicide or inhibitive material is a product of living tissue. This is not necessarily so, or if so would not necessarily be a product of the living tissue of the human body.

If the non-activity of the organism, and so the non-occurrence of the disease, is owing to "the presence of a chemical substance" in the tissues or blood, it is a very pertinent and natural inquiry whether we cannot and do not produce the same result by putting, and for a time sustaining in the system, certain "chemical substances" which, so introduced, interfere with the processes sought to be set up, and which would constitute the disease.

The analogy is strengthened by the fact that chemical products are so much coming to be suspected or recognized as constituting the virus or specificity of diseases in which the micro-organisms are the initiative factors.

Still more, however, it behooves us to find out whether, either in chemical or laboratory experience, there has been any confirmation of such views. In clinical experience we have long had not only the fact that quinine will cure chills and fever, but that it is a substance which, introduced into the human system in advance, will prevent those processes which constitute the disease. So soon as it was made probable that the malarial diseases belong to the species or genera of microphytic diseases, so soon it seemed probable that the result was due to this inhibitive effect of the alkaloid.

As a result of experiences with epidemics of diphtheria and scarlet fever, so long ago as at our Chicago meeting in 1887 (see vol. iv., American Public Health Association, p. 348), I presented a paper on this mode of arresting and preventing pestilential diseases (see also two articles on the subject in THE MEDICAL RECORD, vol. ii., 1877).

The next year the subject was more fully presented in a paper read at the Richmond meeting.

In the intermediate time Professor Cabell was so impressed by the facts presented, as to note it in his address before the American Medical Association in the spring of 1878. A reference to the paper of 1878 will show how fully this idea was insisted upon and illustrated. It was claimed that by the use of certain medicines we could prevent the sedation or interrupt the development of that which constituted the infection. Many of the facts in support of this view at that time were collated, and since then, from time to time, medical men have corroborated these views from their own experience.

It is of value that since then we have come into a knowledge of several other diseases as microphytic, and this has greatly fortified the position then taken.

Says L. Brunton: "Facts seem to point to ferments or enzymes as the agents by which the tissues are built up and pulled down in their constant change, which continues during life; and the action of drugs on these enzymes is becoming one of the most important questions of pharmacology" (see American Public Health Association, vol. vi., p. 103).

From time to time in the last five years the journals have contained records as to this possibility of individual prophylaxis.

But all this was only the clinical experiences of physicians. Too often these are not accorded the same consideration as what are called crucial or laboratory experiments.

It has recently been necessary for Sir James Paget, as President of the Pathological Society of London, to contend that clinical observation is scientific, and that the sick-room is a laboratory with its crucial experiments, as real as those in which culture-experiments are instituted.

But now experimental tests have come directly to our aid in determining the effects of prophylactic remedies. Before this we knew that arsenic, potassium chloride, quinine, and excess of iron, etc., could be made constant for days and weeks in the blood by medication.

In 1884, under the direction of the Local Government Board of England, Dr. J. T. Cash instituted a series of experiments as to chemical disinfectants, and made report thereon. The object of the earlier investigations, recorded in a late report, was to inquire whether certain substances, belonging to the aromatic series, when introduced into the body of a living animal, were capable of preventing the development of a particular virus within that animal. Later research was extended to a metallic salt (corrosive sublimate), which acts otherwise than aromatics with regard to albuminous bodies.

It was with this that the most decided result was secured. The result sought was to find "its power of resisting, in the condition in which they occur within the animal body, the multiplication of the active principle of the virus against which they are directed to such an extent that the virus is destroyed, or only reproduces itself so fully as to cause a modified or abortive attack of the disease in the animal body experimented on." The disease chosen for the experiments was *anthrax*, the severest test of all. The results of the first series of experiments was such as to show that the previous administration of corrosive sublimate may considerably modify the course of the anthrax disease in rabbits. The paper concludes by saying, "that although these few experiments are not

conclusive, they cannot fail to encourage the hope that we may yet succeed in creating with precision, within the animal economy, by the action of this and perhaps other drugs, a temporary condition of resistance (in this case seven weeks), which may so far limit the activity of the anthrax virus that it will merely produce a passing, and at the same time protecting, disorder, instead of a fatal disease."

The next year (1885) Dr. Cash made to the Local Government Board a further report on mercury as a means of prophylaxis to anthrax. In this he says: "I have followed up the investigation of the prophylactic action of the perchloride still further, and the favorable opinion I was before led to entertain of its efficacy has been abundantly confirmed."

Dr. Klein has also satisfied himself of the restraining powers of the perchloride of mercury. Tomassi-Crudelli and others claim that arsenic has the same control as a preventive of malaria. These results may be taken as a confirmation of the clinical evidence given, and of the view we long since expressed as to the coming importance of various allied modes of prophylaxis in the prevention of various communicable diseases.

Heretofore we have mentioned some other prophylactics which we believe to have been effectual in preventing or mitigating some of the parasitic diseases. With this new evidence I believe the time has come for a thorough testing, both by the practitioner and the biological investigator, of this new method of preventing and controlling disease. There are now many who believe that the real action of some of our most successful remedies is just this: The mitigation or prevention of a microphytic disease does not necessarily mean the destruction of the organism, but its inhibition *in loco*, or the modification of its chemical action on the tissues or of its products so as to render it harmless.

It is a part of that antiseptic medication which Professors Yeo and Brunton, and many others, recognize as steadily gaining ground for approval.

If, in an individual case of exposure, or an outbreak in a family or a neighborhood, this kind of prophylactic treatment is available, it is easy to forecast the wonderful beneficence of the result.

If, for instance, in an outbreak of diphtheria in a family or in a neighborhood, we can put all persons exposed to it for a few days upon a prophylactic treatment, or if in the first outbreak of cholera in a locality, all exposed persons can be rapidly brought under the inhibitive effect of a prophylactic administered promptly and continuously, we will have in our possession a mode for the limitation or prevention of epidemics far more likely to have practical application than any system which involves the cutting of the skin, or the introduction in any form of the actual virus of the disease. At any rate, with two such modes of defence at hand, we might hopefully expect to substitute the word sporadic for epidemic, and to bring many a vagrant pestilence within the range of our control.

The present age of advancing medical art will be rendered still more notable if it can be found that simple and active medication, on the outbreak of any communicable disease, will protect all those exposed thereto from contagion, or so modify its effect as to make the attack benign.

THE TREATMENT OF HEPATIC CONGESTION.—The following mode of treating congestion of the liver is practised by Dr. Jules Cyr: Application over the liver of compresses of cold water, often renewed. Two or three leeches about the anus. At evening, three-fourths of a grain of calomel should be taken, followed the next morning by five drachms of Glauber's salts. As beverage, milk and Vichy water, or seventy grains of ammonium chloride in a quart of water. A douche, while patient is reclining, of water at a pleasant temperature given over the hepatic region.—*Revue de Thérapeutique.*

REPORT ON HYDROPHOBIA: PASTEUR'S METHOD.

By CHARLES W. DULLES, M.D.,

SURGEON TO OUT PATIENTS IN THE HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA AND IN THE PRESBYTERIAN HOSPITAL, PHILADELPHIA.

IN accordance with the resolution adopted at the last meeting of the Medical Society of the State of Pennsylvania, requesting me to continue my studies in regard to hydrophobia, and to communicate the result at this meeting, I have the honor to present to you the following report:

The year just past has been marked by animated discussion of the value of M. Pasteur's preventive method, and by an almost total neglect of study of the nature of the disorder called hydrophobia or rabies, or of any other method than that of Pasteur for combating it. This fact appears to me to be deplorable. In my opinion, it would be of great value to science if studious men would devote more of their attention to the larger subject of so-called hydrophobia and somewhat less to that phase of it which is connected with the theory of preventive inoculations. And I trust I shall be pardoned for expressing some disappointment that a paper on "The Disorders Mistaken for Hydrophobia," which I read before this Society in 1884, has not prompted some more competent investigator to follow up the lines there laid down, in order that the true and the false in regard to hydrophobia may be more clearly distinguished from each other.

Unfortunately, as I have said, the whole world has for the last year or two been bent on deciding whether or no Pasteur has discovered a reliable prophylactic for a disorder the nature of which is not at all understood, and the diagnosis of which rests on no better basis now than it did in the Dark Ages.

This being the case, however, I will try to give you a succinct account of what has developed in regard to Pasteur's method since we last met. One of the most remarkable events of the year just past was the abandonment by Pasteur of the method which he had before declared to be infallible, and the adoption of a new one, which he calls "the intensive method," and which in turn he declared to be infallible before the Académie de Médecine, November 2, 1886.

The original method consisted in injecting hypodermically a small quantity of a mixture of sterilized *bouillon* with a piece of dried spinal cord of a rabbit which had died after inoculation by trephining with the so-called virus of rabies. One injection was made daily for ten days, beginning with a mixture made with a piece of a cord which had been dried for fifteen days, and ending with a piece of one which had been dried only six days. *The intensive method* consists in passing from dried spinal cord of the twelfth day (twelve days dried) to that of the first day (fresh) in three days, and then passing from a cord of the eighth day to a fresh cord in three days more; while a third course, following immediately the others, passes from a cord of the fourth day to a fresh cord in four days more. The whole set of inoculations is thus made in ten days; and Pasteur says that in extreme cases the whole intensive method may be used in one day. According to the claims of Pasteur, the intensive method has proved more successful than his former method. According to Pasteur's critics, it has not only been less successful, but it has also proved to be very dangerous, having actually *caused* the death of a number of patients.

I do not care at this time to go into a discussion as to the actual mortality of persons treated by Pasteur after bites of animals assumed to have been rabid; but I must repeat what I have said before, that the claim that Pasteur has discovered a preventive of the outbreak of hydrophobia after inoculation by the bite of a rabid animal rests upon two principal fallacies. One of these fallacies is the assumption that hydrophobia is a specific,

inoculable disease. I need not repeat the arguments which I have made before this Society, the American Medical Association, the Philadelphia County Medical Society, and the College of Physicians of Philadelphia, to show that what is called hydrophobia is not a regular sequel of the bites of animals supposed to be rabid; that it appears after a variety of traumatisms and in the course of a variety of diseases; and that it sometimes occurs spontaneously. These arguments have never been refuted, although I cannot say what may become of them if the world stops studying Pasteur and takes up the study of hydrophobia. So long, however, as they stand unrefuted, I may save your time and mine by simply referring to them. I also call your attention again to the fact that if it were admitted that hydrophobia is a specific, inoculable disease, like syphilis, or small-pox, or anthrax, Pasteur has turned his back on the natural vehicle of the contagion—the saliva—to experiment with dried spinal cords, which no dog, or wolf, or pig, or cow, ever yet used upon his victim, or could use, were he ever so mad.

There can be no doubt that Pasteur can kill rabbits by inoculating them with portions of the spinal cord of sick animals, or that he can protect a certain proportion of rabbits against death from such inoculation by accustoming their systems to the effects of the poison by means of previous inoculations with smaller quantities of it.[1] This is a very old and familiar laboratory and clinical experience. But in my opinion the disease with which Pasteur has been working is an artificial disease, and has nothing whatever to do with rabies or hydrophobia.

The second fallacy upon which Pasteur's claims rest need not be exposed, if what I have just said is true. But, if it is not, then this second fallacy must be considered. It consists in the assumption that, in spite of all theories, in spite of all objections founded on logic, Pasteur's method has actually saved a large number of persons, who but for it would have died of hydrophobia. When I last addressed you, Pasteur had treated 950 cases of persons supposed to have been bitten by rabid animals, by the method he then considered perfect and sure, and seven of his patients—according to his own admission—had died of rabies.

On January 11, 1887, Pasteur reported to the Académie de Médecine, by M. Grancher, that up to January 1st he had treated, from France and Algeria alone, 1,956 persons, with only 17 deaths—that is, less than one per cent. Enthusiastic admirers of Pasteur's method have claimed that from July, 1885, to January, 1887, he has "cured" 3,000 persons (see *Journal de Méd. de Paris*, January 16, 1887, p. 81).

These figures do not correspond with those of some of Pasteur's critics. For example, *The Zoöphilist*, of London, March 1, 1887, contains a list of 53 deaths after treatment by Pasteur, and of 16 more treated by his method in Russia, making a total of 69 deaths. On going over the statistics of Pasteur's anti-rabic inoculation, the careful observer will not fail to be struck with the wonderful rapidity with which they increased at the time when they were most actively advertised. On March 2, 1886, Pasteur reported that in the eight months from July 7, 1885 (when he began the treatment of his first subject, the boy Meister), to March 2, 1886, he had treated 350 cases—an average of 44 a month. On April 12, 1886, he reported a total of 726 cases, or 370 new cases in six weeks—an average of more than 123 a month. On May 4, 1886, he reported a total of 950 cases, or 224 new cases in three weeks, the average being nearly 300 for a month!

These are figures which represent an annual death-rate from hydrophobia of 1,846, almost exclusively from France—assuming as true Pasteur's statements as to the care he exercised to treat only cases in which there was no doubt as to the danger of the patient.

That this calculation is not forced will be seen from the fact that Pasteur has claimed that, from July, 1885, to November, 1886, he had treated 2,490 persons bitten by mad animals, among them over 1,700 Frenchmen, with only 10 deaths. If this were true, we would have to admit that Pasteur, whether logically right or wrong, has saved a very large number of persons from death. But it cannot be true; for, in the first place, the *Journal de Médecine de Paris*[1] immediately followed this announcement by the publication of the names of, and other data in regard to, 13 persons who had died while under treatment by Pasteur, and gave a detailed list of 34 other persons who died after treatment by Pasteur, making a total of 47 deaths. In France alone there died, during one year of Pasteur's practice, 29 persons, with and without treatment by him, which was two more than the average number of deaths per year, as determined by official statistics, before Pasteur's method was discovered. In view of these facts it will be seen that the deaths from hydrophobia in France have actually increased since Pasteur began to practise his "infallible" cure.

Again, it is impossible that so many as 1,700 Frenchmen should have been inoculated with hydrophobia by the bites of rabid animals in the fifteen months from July, 1885, to November, 1886. This would equal 1,360 persons in a year. Now, the very lowest estimate of the proportion of deaths after the bites of rabid animals is an old (and unreliable) one of John Hunter's, viz., one in twenty. If this were correct, we would have, in 1,360, 68 persons in France doomed to death in one year but for Pasteur's treatment.

As an illustration of the way in which even a more staggering assumption is presented by the supporters of Pasteur in Paris, let me cite part of an argument by Vulpian before the Académie de Médecine, January 18, 1887. Vulpian asserts the ordinary mortality after the bites of rabid animals to be sixteen per cent., and that after treatment by Pasteur to be only one per cent. Pasteur having treated 1,726 French patients, Vulpian says he must have saved the lives of at least 276 French persons, who but for him would have died of hydrophobia. Now, if we add to this number the 30 deaths which actually occurred, we have a total of 306 to represent the mortality of hydrophobia in France in one year, from October, 1885, to October, 1886. This is ten times the average mortality, and yet Vulpian does not hesitate to claim that Pasteur's success can only be estimated by assuming these astonishing figures to be correct. The hardihood of this assumption is in keeping with the boldness with which, as I have before stated, Pasteur and his imitators fill up with an assertion any gap in their demonstration. It has been claimed by Pasteur himself, and repeated by his supporters, that the apparent rarity of hydrophobia heretofore has been due to the fact that cases of this disorder were formerly concealed. Can anyone believe this? Is not every case of supposed hydrophobia sure to be known? Is it not, indeed, sure to be published far and wide? And need I argue to convince you of the preposterousness of this claim of Pasteur, when confronted with the logical inference from the figures he has presented to the world?

It is impossible to believe that there should be such an enormous increase in the number of persons liable to have hydrophobia in France just when Pasteur's method came into vogue, especially when we consider that the number of cases has sometimes fallen, as in 1870, as low as six. On the contrary, it seems to me to be clear that in addition to an actual increase of deaths since Pasteur began his work, there has been an enormous increase of the fear of hydrophobia. The figures which I have given above make the total deaths, after inoculation by Pasteur's method, in eighteen months, from September 1, 1885, to March 1, 1886, number 69; and who can esti-

[1] This is what Pasteur claims his "attenuation" to be. See Bul. de l'Acad. de Méd., Oct. 27, 1885, p. 1437.

[1] See Cincinnati Lancet-Clinic, January 22, 1886, pp. 127–130.

mate how many of these would never have had hydrophobia at all, if it were not for the morbid fear excited by the attention which has been directed to the horrors of this disorder by the sensational manner in which the newspapers—some of them, as the Paris *Figaro*, with Pasteur's own assistance—have paraded the details of hydrophobia before the public? A sad illustration of the effect of these publications occurred in Baltimore, in April, 1886, when a young physician who had been a diligent devourer of the newspaper literature about Pasteur died from pure fright three months after receiving some slight scratches from the teeth of a dog which gave no evidence of having rabies at all.

I have tried on several occasions to point out the many fallacies in the reasoning of Pasteur and of his defenders, and I have now once more tried to show how sadly his method has failed to prove a benefit to humanity. I have shown that the number of deaths from so-called hydrophobia has actually increased since Pasteur's method has been practised, and the enormous increase in the number of those who have thought themselves to have been exposed to it in Pasteur's own country. You all remember how frequent were the cases of so-called hydrophobia, even in our own country, a year ago, when everybody was talking about Pasteur's method. And now, when the excitement has died out, when the method is falling into discredit, even in France, how rare they are becoming. Is this a mere coincidence? I truly think not. But the fact confirms my belief—not easily acquired nor lightly held—that the way to banish hydrophobia is not to cultivate and inoculate its so-called virus, but to cultivate sensible ideas in regard to its true nature, and to inoculate our fellow-men with the idea that it is very, very rare, that it does not necessarily follow the bite of a rabid animal, that it need not follow the bite of any animal, that it is amenable to treatment, and that its very existence seems to vanish in the light of strong common-sense. We have not had a single case in Philadelphia since the profession there has discussed the subject thoroughly; and we have no need of Pasteur institutes, such as have afflicted Paris and Odessa, and our unfortunate sister city, New York. And I fondly hope that our State—which I think has not seen a case in the past year—will soon cease to know of hydrophobia or to believe in it, and that with the advance of true science mad dogs and mad men will disappear from the earth, as witches have, not so long since, disappeared.

So much for my own opinion in regard to the value of Pasteur's method of treating so-called hydrophobia. Let me now give you, in brief, the opinions of some other men who have studied it carefully, and a *resumé* of the standing of the method in the civilized world.

Mr. Vincent Richards, in a pamphlet published in Calcutta in 1886, and entitled, "Hydrophobia and M. Pasteur," says: "M. Pasteur has by no means proved that the measures he advocates as a prophylactic against hydrophobia are successful. Indeed, he has not yet advanced one single fact that entitles him to claim proof on scientific grounds;" and again: "It is simply astonishing that, on the mere *ipse dixit* of M. Pasteur, in the face of the stern logic of facts and the inherent probabilities of the utility of such an extraordinary and elaborate system of treatment . . . scientific bodies should have so blindly accepted as gospel truth all that he has chosen to promulgate."

Dr. Benjamin Ward Richardson, in the *Asclepiad* for 1886, No. 10, vol. iii., says of Pasteur's method: "No insinuation as to motives, no fears of opposing the popular voice, should stop the better voice of the demand for the most perfect proof of the truth, the whole truth, and nothing but the truth." Of the deaths after treatment by Pasteur, he says: "For these deaths there are excuses, but no satisfactory or clear explanations." He shows the absurdity of comparing Pasteur's method with the practice of vaccination, and concludes a series of pertinent questions with the remark, "If to these natural inquiries there be no definite answers, then a more imposing house of cards was never erected than has been run up to indicate the cure of hydrophobia per similia."

On June 10, 1886, Dr. E. C. Spitzka read a paper before the New York Society of Medical Jurisprudence and State Medicine, in which he criticised Pasteur's method and demonstrated by animals upon which he had experimented that the symptoms of paralysis which Pasteur has repeatedly claimed as manifestations of rabies could be produced by inoculation of dogs with a variety of non-specific materials. This paper of Spitzka's was published in the *Journal of Comparative Medicine and Surgery*, July, 1886, and is followed by an editorial, presumably by W. Clement, V. S., of the Montreal Veterinary College, which is written in manifest sympathy with the views expressed by Drs. Spitzka and Brill, and by me, at the meeting referred to.

The Belgian Government, in consequence of requests made in the Chamber of Deputies, lately deputed three Belgian physicians residing in Paris—Drs. Grandjeau, De Bruyn, and Peeters—to investigate and report on M. Pasteur's method of preventive treatment of hydrophobia, and to decide upon the advisability of founding a Pasteur institute in Belgium. The report of these gentlemen, as the Chamber has just been informed, is decidedly adverse to this step. It was decided by the reporters that Pasteur's method is not as yet sufficiently established, and one of them, Dr. De Bruyn, doubted whether there was any efficacy at all in the treatment. In this last view, Van der Corput, "Belgium's chief specialist," coincides (*British Med. Journal*, April 2, 1887, p. 740).

In Paris, at the meeting at which Pasteur announced the treatment and cure of his first patient, the boy Meister, Jules Guerin advised the exercise of prudence in accepting Pasteur's conclusions, and begged the Académie de Médecine not to commit itself unreservedly to them; and since then Colin (one of the best men in the Académie) has protested most vigorously, and, to my mind, most convincingly, against the fallacies of Pasteur's method. Most recently, Peter has collected and laid before the Académie the histories of a number of cases in which it seems likely that Pasteur's inoculations have actually caused the death of those who came to him to be cured. But the most scathing critic in Paris is Dr. A. Lutaud, editor of the *Journal de Médecine de Paris*, who for more than a year has devoted its pages to exploring the methods and the results of Pasteur, and who has recently embodied his criticism in a book entitled "M. Pasteur et la Rage" (Paris, 1887). In this book Lutaud not only charges Pasteur with scientific error, but also with unscientific methods in propagating his views, with concealment, with tergiversation, and with mercenary conduct. What may seem to some to be a certain extravagance in Lutaud's denunciation of Pasteur he justifies on the ground of the gravity of the question involved, and by the plea that such extraordinary claims, urged in such an extraordinary way, require severe and unsparing denunciation.

In Germany, Pasteur's method has obtained no foothold whatever, not, as his apologists have claimed, because Germany is hostile to French achievements, but because Germany is almost free from hydrophobia, presenting in this a strange contrast to what the adherents of Pasteur must believe to be the case in France. In Prussia a member of Parliament inquired about the attitude of the government toward the method of Pasteur, and one of the ministers replied: "This question is of no importance to Prussia, because the mortality from hydrophobia has fallen to nothing in this country. . . . The government thinks there is no occasion to send anyone to study the new method for its treatment. It intends to wait until the discovery, so pompously announced, shall be confirmed by time."

In Austria, Pasteur's method did obtain a certain foothold, and a sort of Pasteur institute was started there. But at about the time we were last discussing Pasteur's

method, Frisch, of Vienna, who had learned from Pasteur how he conducted his experiments, and had obtained from him material with which to repeat them, was exposing the fallacies of Pasteur's logic and the unreliability of his experiments (see editorials in *The Medical News*, of Philadelphia, June 12, 1886, p. 658, and September 4, 1886, p. 266). Strangely enough, the sentiments of Frisch were so perverted by the organs of Pasteur in Paris that they were at first represented as confirming Pasteur's claims. When their true nature was beyond concealment, they were criticised as founded on imperfect methods of experimentation. Frisch then proceeded to accept the new conditions proposed by Pasteur, and made a new series of experiments, the result of which was the announcement by Frisch that no real ground exists for a belief in the efficacy of preventive inoculation in the human subject, while there is a strong probability that the inoculation may transmit rabies to human beings (see *Berliner klinische Wochenschrift*, February 7, 1887, and *The Medical News*, March 26, 1887, p. 347).

In Russia, Pasteur institutes have been founded in at least five places, but the results obtained have been so unsatisfactory that only blind partisans of the method have been satisfied with them.

In Italy, also, several Pasteur institutes have been founded, but here, too, the results have not recommended them to prudent men. In the Bulletin of the *Académie de Médecine* of Paris, for February 8, 1887, will be found a communication of Professors Renzi and Amoroso, in which they express the opinion that Pasteur's method is worthless. In a letter to the *Corrierè del Mattino*, February 15, 1887, they say that Pasteur's inoculations have not delayed or hindered the manifestation of rabies, but that they have clearly contributed to render the disease more rapid and more fatal.

In England, Pasteur's method at first met with much favor, and created so much stir that cases of hydrophobia sprung up on every side. Numbers of English persons went to Pasteur to be treated by him, and Parliament appointed a commission to go to Paris and investigate his claims. This commission has not yet reported, although at one time there was a belief that it would substantially indorse Pasteur's method.[1] Its silence thus far may have been somewhat influenced by the exposure, by Dr. Anna Kingsford, of the truth in regard to a few of the cases of English persons supposed to have been "cured" by Pasteur, or by the criticisms of Dr. Thomas Dolan, the author of the most complete book on hydrophobia in the English language, or by the unfortunate death of several Englishmen who had been treated by Pasteur, and who died with symptoms of the artificial disease which Pasteur produces in rabbits by his inoculation.

In America we have had but two Pasteur institutes. One was that in St. Louis, to which I referred in my "Comments on Pasteur's Method of Treating Hydrophobia," before the Philadelphia County Medical Society, January 13, 1886 (see MEDICAL RECORD, February 13, 1886), and which seems to have been still-born. The other was incorporated with much display in New York, January 2, 1886; but this, after a lamentable experience, has disappeared from notice. As Spitzka says: "In New York the death of a Pasteur institute was almost simultaneous with its birth" (*The Forum*, April, 1887, p. 184).

A year has passed since we last met and discussed Pasteur's method, and I am glad to be able to say that it seems to be tottering to its fall. And this I declare, not because I take pleasure in any man's discomfiture, or in the bitter disappointment of those who believed Pasteur had solved the riddle of this obscure disorder, but because I have always regarded his method as an obstacle to true progress, and because I believe that the longer it is believed the bitterer will be the hour of disillusion. I have nothing to say of Pasteur as a man, but my regard for what I conceive to be the truth, and my interest in our fellow-men, leads me to oppose his claims in regard to the treatment of hydrophobia, and to repeat publicly, what I have twice before said, that "this method ought to be rejected and condemned, in the interest of humanity as well as of science."

[1] In the British Parliament, August 26, 1886, Mr. Charles Momson Ritchie, President of the Local Government Board, replying to an interrogatory by Sir John Lubbock, stated that the committee appointed by the Government to examine into the Pasteur method of inoculation for the prevention of rabies was fully satisfied that the French savant's treatment for hydrophobia was effective. Mr. Ritchie added that the Government hoped soon to have a full report from the committee (Philadelphia *Public Ledger*, August 27, 1886).

THE ANTIQUITY OF MEDICAL SCIENCE.

By J. A. S. GRANT-BEY, A.M., C.M., M.D., LL.D., Etc.,

CAIRO, EGYPT.

PROFESSOR VIRCHOW, in discoursing not long ago to a learned body at Berlin, said that medicine was the only science that had a continuous history for three thousand years; but I shall endeavor now to show you that we have a more or less continuous history of medicine for nearly six thousand years.

The Egyptian god Thoth, who corresponds to the Greek God of Letters, Hermes, and the Roman Messenger of the Gods, Mercurius, is represented as being the author of the forty-two sacred books of the ancient Egyptians. Six of these books were medical, and by them the Pastophor, or embalmer, was guided in his anatomical manipulations on the dead body in process of embalming.

It has been said that the real reason for embalming the dead body with the ancient Egyptians was their belief that the soul would eventually return to it; but I am inclined to think that there was a sanitary object as well, for the embalming was not confined to the human body merely, but to the lower animals, such as bulls, crocodiles, cats, rams, hawks, ibises, etc.

They were a wonderfully "cunning" people, the ancient Egyptians, and more especially the priests, who monopolized the highest grade schools, and plied their knowledge to make the common people work with a will.

There were three ways of embalming practised by the Egyptians; the first and most expensive way was effected as follows:

The brain was carefully and effectually extracted by breaking into the skull through the nose, and in this way the brain was spooned out, and some antiseptic put in its place, generally tar. An oblique opening was made, five or six inches in length, on the left side of the abdomen, a little above the crest of the ileum, and the cadaver was eviscerated by this opening, and the cavity filled with a composition of myrrh, cassia, etc.

The intestines and other internal organs were washed in antiseptics and packed into canopic vases, with aromatics and antiseptic spices. These vases were four in number, and their lids were carved in the shape of the heads of a jackal, a monkey, a human head, and a hawk's head. These were the four genii of the dead, who guarded these special parts of the body put in these vases.

The cadaver was now steeped in natron for seventy days, then washed and swathed in bandages, and was thus handed over to the family. Upward of two thousand five hundred dollars was paid for this process.

The second process was cheaper, and may be described as follows:

A substance called the oil of cedar was forced into the interior of the body through small openings in the thorax and abdomen. This was said to have dissolved, or, rather, dessicated the internal organs, so that they could be removed without mutilating the body.

The body was then steeped in a solution of natron

(native carbonate of soda) till it shrivelled up, when it was taken out, washed, and swathed in bandages.

The third process was inexpensive:

The whole body was simply salted for seventy days, and then given back to the friends.

Manetho, the Egyptian priest and historian, during the reign of Ptolemy Philadelphus, 250 B.C., writes that it was in medicine that ancient Egypt attained any real scientific eminence. According to this author, King Teta, the second king of the First Dynasty, 4000 B.C., wrote treatises on anatomy and surgery, and performed surgical operations with flint flakes. About 3300 B.C., during the reign of Cheops, the builder of the Great Pyramid, a medical papyrus was found by a priest in a temple, and one of the prescriptions in it was as follows:

"Sing a religious hymn. Then say a magical text," in order to drive away a disease or evil spirit.

When medicine was taken to cure a disease, an incantation or formula was said, at the time of taking it, that the drug might do its work swiftly and well.

This medical work is mentioned in the Berlin Papyrus as having been first composed in the reign of "Sent," a king of the Second Dynasty, 3600 B.C.

The oldest medical papyrus we now possess does not go back beyond the Eighteenth Dynasty, 1600 B.C. By that time medicine was already in as advanced a state as in the time of Galenus Claudius, at the end of the second century of our era.

The various diseases known were carefully classified, and their symptoms minutely described, as well as their treatment. The prescriptions recommended in each case were made out in precisely the same way as the prescriptions of modern doctors. One of these was derived from a famous Shemitic oculist of Byblos, near Mount Lebanon, but the greater part belonged to earlier Egyptian medical men who flourished under the first dynasties.

The preparations used were of four kinds: Draughts, blisters, powders, and clysters, minerals as well as vegetables being employed in their composition.

According to this papyrus, which is called Ebers' Medical Papyrus, there were more than twenty different kinds of eye diseases.

Progress in medical knowledge was checked in the time of the Middle Empire, on account of the rule that new medicines and treatment were adopted by the doctor at the risk of being put to death if the patient died.

In the writings of Moses (1500 B.C.) the priests were the physicians, and their treatment mainly aimed at promoting cleanliness and preventing contagion.

In his time we read of Pharaoh having a personal interview with two Hebrew midwives, who must have been very celebrated in their day, to account for their names having been handed down to us in Holy Writ; and if I were to ask Professor Sayre, of New York, why these Hebrew midwives had become so distinguished, I have no doubt he would admit that they had received their instruction originally from the Egyptian midwives, who, long before the Hebrews knew their A, B, C, were not only proficient in what we call, in a popular way, "midwifery," but were specialists in its various departments.

Now, it may be perfectly true, as Professor Sayre stated at the late meeting of the Gynecological Society of New York, that America had given birth to gynecology, but I may be permitted to say, with the darky, that in Egypt gynecology "growed," and has existed there as many years as it has hours in America.

As far as the Egypt of the present day, however, is concerned, I must confess that its gynecology has not advanced in proficiency with its advanced years, but a laudable attempt is now being made to infuse European, not to say American, gynecological knowledge into the native hakimat (doctress), and we hope in time to reflect back on the Occident a brighter light than we have derived from it. In the meantime we ask for the moral support and encouragement of the medical profession in our work out there, where official and political obstacles are thrown in the way of every attempt made to advance the medical department.

In the latter days of Egyptian history, magical formulæ and exorcisms began to take the place of the older prescriptions. Diseases were referred to the malignity of evil spirits, and the priest and sorcerer superseded the physician.

A Demotic papyrus at Leyden is almost wholly occupied with charms—especially with love philters.

In the Twentieth Dynasty, about 1400 B.C., when Rameses XII. was in Mesopotamia, a country that had been conquered by Egypt, the chief of the land of Bakhtan brought to his Majesty his beautiful daughter, with whom Rameses was charmed so that he married her, and called her Ra-neferoo (the most gracious of Ra). The name thus given her indicated how he was enamoured of her.

After Rameses returned to Thebes, in Egypt, and had been there some time, ambassadors came from Bakhtan to beg Rameses to send someone to heal Rint-rash, the little sister of Ra-neferoo, who had an evil movement in her legs.

Rameses ordered all those learned in mysteries to appear before him, and he chose from among them Tahuti-emheb, a royal scribe, who was intelligent and skilled with his fingers (massage); and so this doctor was sent to Mesopotamia to the chief of Bakhtan to heal his daughter. When he reached his patient he found her under the influence of evil spirits that his massage and medicine could not control, so he sent word back to Egypt to have a god sent to exorcise the devils.

Rameses sent an image of the god Khonsu (the war-god of the Egyptians), which was received with great pomp in Bakhtan.

The cure was immediate (faith-cure or mind-cure), and the god Khonsu was installed in the city of Bakhtan. How many further cures he effected is not related, but I can imagine that pilgrimages from far and wide would trudge frequently to Bakhtan to experience the healing power of this image.

We now come to the Greek historical period, dating from about 900 B.C. Hesiod and Homer appear on the scene. Herodotus, who wrote about 450 B.C., tells us that Hesiod preceded Homer; and these celebrities both manifest a considerable knowledge of Egyptian learning, and the medical terms used by Homer became classical words in the history of medicine.

Hecateus, the son of Hegesander, who flourished about 560 B.C., dwelt a long time in Egypt as a student; but how much these Greeks learned in Egypt we can only guess, as they were great plagiarists, and therefore wished to palm off on the Greek world Egyptian learning as if it were their own.

Herodotus, however, is so far honest as to tell us that he had a high opinion of the Egyptians. He says that not only were things better managed in Egypt than in Greece, but Greece had even to go there for its theology, and, he might have added, for its medicine also.

Following up the medical line, we now come to speak of Hippocrates, who is considered to be the father of medicine. He flourished about 480 B.C. He also owed much to Egyptian medicine; and his system of the practice of medicine was said to have been expectant, and would correspond to the homœopathic creed of the present day. He was very strict on diet and regimen, but was often blamed for letting his patients die through doing nothing to keep them alive.

He recommended trephining the skull in injuries of the head, and through his mentioning succussion in connection with fluid in the thorax, our modern auscultation was discovered by Laënnec.[1]

The history of medicine after this is more or less Greek, Roman, and Arab, which need not be touched on here. I may, however, say that after having acquired

[1] Laënnec: René Théodore Hyacinthe, 1781–1826.

a general knowledge of medicine and surgery, the ancient Egyptian medical men took up specialties.

Cyrus and Darius, Kings of Persia, about 500 B.C., sent to Egypt for physicians. The former was afflicted with a nasal polypus, and the latter with ophthalmia. So a rhinologist was sent in the one case and an oculist in the other.

Circumcision was common among the Egyptians in the Fourth Dynasty, 3300 B.C., and probably existed among them much earlier.

Herodotus considered that the Egyptians were the originators of this rite, and that it spread from them to other places. I believe myself that it originated among primitive people independently of one another, and more as a sanitary precaution than for any religious purpose.

The prepuce seems to me to be an unnecessary and dangerous appendage when cleanliness is neglected. I have seen some frightful conditions produced by a neglected prepuce. Its only use seems to me to serve as an analogue, and can therefore be very easily and, in many cases, very advantageously dispensed with.

Circumcision can be traced from China to the Cape of Good Hope. It is practised in the South Sea Islands, in the West Indies, and in Mexico; also among some of the tribes in South America.

Herodotus asserts that the Hebrews and Phœnicians, the Ethiopians, the Kolkhians, the Makronians, and the Hittites, to which Josephus adds the Arabs, learned the rite of circumcision from the Egyptians.

Among the Jews this rite is performed on the child when he is eight days old; and if the eighth day happens to be Sabbath, it has to give place for this rite to be performed, which shows what an important place it has in the Jewish religion.

Among the Arabs, on the other hand, it is generally performed on the child when thirteen years of age, this having been the age of Ishmael, their progenitor, when he was circumcised.

The Kaffirs perform this rite still later in life.

Circumcision is also practised among the Christian Copts and Abyssinians, and that, strange to say, both in the male and female.

The Egyptians considered the Greeks unclean, not merely because they killed the cow, but because they ate swine's flesh and did not practise circumcision.

Abortion Methods at Atlanta.—The *Atlanta Medical and Surgical Journal* gives the following as the recital of what a woman went through who tried to produce upon herself an abortion. She tells the story to her physician.

"I have used two pounds of chloroform in forty-eight hours, and six ounces of ergot in as many hours, besides quantities of balsam-apple, gossypium, turpentine, hot water by injection, and purged and starved myself for weeks, besides resorting to the most violent methods for relief. I have repeatedly jumped or let myself fall from my veranda; I have gone to my kitchen, taken the rolling-pin, and beaten my stomach until tender. I have gone to my cellar, lain down on my back, and rolled a full barrel of unslacked lime up and down my belly. I have leaned over with my full weight upon my piazza-railing time and again, swinging to and fro like a sack. I have run full force against my wood pile. I have——"

"My God! my dear woman, stop; that is enough."

"No, this is not all. Will you hear me through?"

"Yes, madam; proceed."

"I have lived in a room saturated with turpentine and other vile odors; drunk laudanum, eaten opium, and taken morphine with the desperate hope of killing myself. I have gone to the country, mounted the hardest trotting-horses, and ridden them at a mad gallop over the roughest places."

THE RADICAL CURE OF VARICOCELE.

By E. L. KEYES, M.D.,

NEW YORK.

I have been engaged for more than three years past in a continuous effort to perfect the operation for the radical cure of varicocele, and to simplify it. My efforts have been made known, and the stages of progress set forth, in two articles in The Medical Record (February 20, 1886, and September 18, 1886), in which articles the use of various needles has been advocated. I have not changed the method materially, and still find it most simple to do what I suppose every one, from all time, has done who has used a straight needle in a handle—namely, transfix from before backward, partly withdraw the empty needle, carry it to the other side of the veins, and again cause it to emerge at the point of original posterior puncture. I sometimes tie all the veins found large, passing one ligature to the outer side of the vas deferens, one on its inner side, at the same sitting, thus seeming to include the entire cord except the vas deferens. I have never seen atrophy or other evil result follow this very thorough ligation.

The point upon which I lay great stress is thorough antiseptic external irrigation, and the forcible tearing away of the dartos from the point of posterior puncture by violent traction upon the silk while the scrotum is held firm.

I use only very large twisted silk at the present date, and I prepare it simply by boiling it and then placing it in a bottle containing common alcohol. At the moment of operation I dip it and the needle in a bichloride solution in water, 1 to 1,000. I have no doubt hot water would do as well. I tie with all my strength with silk I cannot break. I have known the operation to fail in other hands for lack of using enough muscle in making the first knot. Other points in detail of the operation need not be described. They are most simple, and fully set forth in the articles already alluded to.

I have ceased counting my operations, which must number now near or more than fifty. I have never seen a drop of pus. My first operations with catgut were failures. One gentleman wrote me that a little pus formed in his scrotum after the use of catgut. I did not see it. It was long after the operation, and he was in a neighboring city.

In another case the attending physician informed me that a number of drops of bloody serum oozed for a day or two from one of the punctures.

I have inspected cases many months after the silk had been applied, and still been able to feel the little lump, very small and insensitive, about the veins. Whether the silk is absorbed finally, or remains encapsulated, I do not know. I have never seen an operation fail of success since I began to use silk, now more than eighteen months ago. My last case remained in his room only two days and a half.

But the above statements are only incidental; my object in writing the present note is to introduce to the profession what I consider to be a perfect needle for the performance of this operation. I have used all others in the market, and constructed half a dozen myself. All are defective save the one I now present, and that, I believe, is perfect for its purpose. It is constructed upon the plan of the Reverdin needle—that is, the eye is made to open and shut by a mechanism in the handle.

Last winter, Dr. Magnin had a curved Reverdin needle, and my attention was called to it by Dr. S. Alexander. I had one made straight by Mr. Ford, and tried it, but disliked it because the eye would sometimes open during the manipulations of the point within the scrotum—and the slit would catch a bit of connective tissue, an accident which absolutely interfered with all future subcutaneous work. It therefore occurred to me to have a spring fitted which would keep the eye constantly shut. This has perfected the instrument, and Mr. Ford has

made the parts so that they may all be taken out and dried after each use of the instrument, by simply moving back the band upon the handle and lifting out the plate which covers the spring. The needle is introduced charged with silk, the eye is opened, and the silk taken out; the eye closes itself by the spring; then the naked needle is passed around the vessels and emerges at the posterior puncture. The eye is opened, and the silk slipped in; the eye shuts itself, and the charged needle is rapidly withdrawn. The figures represent the needle and its component parts, the latter displayed on a little larger scale than the former.

Fig. 1 represents the entire needle, with the button on the handle by which the eye is opened. Fig. 2

Fig. 1.

represents: *A*, the slender shaft, with the button upon it by which the eye is opened; *B* is the plate (held upon the handle of the needle by the sliding band) which keeps in *C*, the spiral spring and catch, which, acting

THE SEAT OF STRICTURE.

Dr. T. M. Calnek, of this city, writes: "In dilating the urethra for the relief of stricture, after injecting it with cocaine, I have invariably found that the patient complains of considerable discomfort, and oftentimes of much pain, as soon as the point of the sound enters the stricture. To obviate this, I have had made the following instrument: An ordinary Van Buren sound is perforated throughout its entire length by a very small bore,

OF CANCER OF THE LARYNX.

By CLINTON WAGNER, M.D.,

SENIOR SURGEON TO METROPOLITAN THROAT HOSPITAL, NEW YORK.

In view of the interest that is manifested in the case of the Crown Prince, I have prepared the following brief statement of the results of surgical treatment in six cases of cancer of the larynx, from the statistics of the Metropolitan Throat Hospital.

In two cases the disease had advanced too far for radical treatment. Tracheotomy was performed to prevent sudden death from asphyxia, which seemed imminent. They survived the operation several months.

In one case the disease was confined to the epiglottis. A sub-hyoidean incision was made, through which the epiglottis was removed. The disease recurred within a brief period, attacking the pharynx, base of the tongue, and larynx; the patient survived the operation eight months.

In three other cases tracheotomy and thyreotomy were performed, and the tumors thoroughly eradicated, so far as we could determine; the galvano-cautery and other agents were employed.

In all the cases the disease recurred. In the first case the larynx was reopened several times, at intervals of four or five months, and temporary relief was given by the removal of the growth, which had invaded the pharynx, and also the trachea, around and even below the cannula. The life of this patient was prolonged for two years after the introduction of the cannula.

In the second case, upon the recurrence of the growth, the entire right half of the larynx was removed. He lived eight months after the introduction of the cannula.

In the third case death occurred three months after the operations of tracheotomy and thyreotomy.

The operation of thyreotomy is not of especial danger to the life of the patient.

I have performed it, in connection with tracheotomy, for the removal of benign growths, in three children, aged respectively three, three and a half, and six years. All recovered, with excellent voice. Two of them I have seen within a few days. One was operated on nearly nine years ago, and the other over four years ago.

It is by no means an easy matter to determine in some cases the true character of an intra-laryngeal growth; the microscope, which should be our main reliance, sometimes fails us, and it may be wholly at variance with the clinical history of the case.

In one of the cases above referred to, I submitted portions of the tumor removed to three experts in microscopy. One pronounced it a "small round-cell sarcoma," another declared it to be an "ordinary simple papilloma," while the third maintained that it was an "epithelioma-papilloma."

I have operated over fifty times for the removal of intra-laryngeal growths, and, with one exception, I have never known recurrence of a *benign growth* to take place. The exception was the case in which I removed the entire right half of the larynx. Dr. Heitzman, to whom portions of the growth had been submitted for microscopic examination, reported it to be a papilloma on a "highly inflamed base." He prognosticated correctly, that if recurrence took place, it would be in the form of epithelioma.

107 Madison Avenue.

Clinical Department.

ANTIPYRINE IN INSOMNIA.

Dr. Forrest W. Brayton, of Carey, O., writes: "That antipyrine has proved a valuable agent in the treatment of many functional nervous disorders, I believe no one who has had any experience with the drug will deny. Particularly is it of value in the neuralgias and spasmodic affections occurring in those persons who cannot take opium or any of its alkaloids in any form. But it is not only in the reduction of temperature and the relief of pain that antipyrine is of so much service. In insomnia it often gives refreshing sleep after failure with the usual remedies. As an illustration of its action in these cases, I will cite the following:

"Mrs. H——, aged thirty-six, of neurotic temperament, fairly developed and poorly nourished, was delivered of her second child, male, on the morning of October 11, 1887, after a trying labor of twelve hours. The child was large, full ten pounds in weight, and following his birth the uterus was inclined to be relaxed, and more than the usual amount of hemorrhage occurred. She was at once given ergot; in twenty minutes the placenta was delivered, and all hemorrhage ceased. Being a very delicate woman, she was quite reduced and very irritable after this trying labor. She continued irritable and wakeful for five days and nights, notwithstanding the administration of chloral, the bromides, and morphine, hypodermically, which I learned she could not tolerate in one-twentieth grain doses. On the sixth day she had the first elevation of temperature, 100½°; pulse accelerated, 96; the lochia became offensive; there was marked tenderness of the abdomen in the region over the uterus, and at times the patient perspired very freely. During the past six days she had not slept, all told, two hours; her mind wandered; she was sometimes crying, at others laughing, at no time quiet. At this time, at the suggestion of my father, Dr. A. Brayton, I gave her antipyrine along with antifebrine, six grains of the former and two of the latter. She soon became quiet, and in an hour was sleeping soundly. This continued six hours, at the expiration of which time she awoke much refreshed. I should mention that vaginal injections of a bichloride solution, 1 to 2,000, were given every eight hours. The antipyrine was given the four nights following, each time producing refreshing sleep. The temperature soon fell to normal, the lochia became natural, and the patient was convalescent at the end of the second week. I should have mentioned the fact that

quinine in tonic doses was given all through the second week. In this instance the antipyrine was given in connection with antifebrine, a combination which my father prefers. I usually administer the antipyrine alone, giving never less than ten, or more than twenty, grains, to an adult at one dose. As I am not aware that anyone has made use of this drug in insomnia, I have thought proper to make mention of our experience with the drug in these cases. Though I have no experience with antipyrine in puerperal convulsions, I believe it will be found of great benefit in preventing them. I would suggest its use in these cases, and will give it a practical application the first opportunity afforded me."

AN UNUSUAL CASE OF CROUP.

Dr. Edward Gray, of Benicia, Cal., reports the following case: "N. D——, aged nine years, fell ill on September 27th, and was found to be affected with pharyngeal diphtheria. Twelve days before, a younger brother had died of this disease under symptoms of laryngeal stenosis. This boy was under the care of another practitioner, who had one morning appointed two o'clock of that afternoon for a consultation with me, but the child had suddenly died before the appointed hour. No epidemic of diphtheria was in the town, but there had been two other sporadic cases. The faucial symptoms were well marked, and the constitutional symptoms of moderate degree—a little swelling of the glands at the angle of the jaw and a mild fever. But on the third day there appeared plain evidences of involvement of the larynx—namely, a considerable degree of hoarseness of the voice, and a croupy cough, with a certain amount of dyspnœa. The natural supposition was that there was exudation in the larynx, and the condition of the child was thought to be one of great danger. With the view of obtaining information as to the need of an early tracheotomy, and in the desire to observe the visible characteristics of a laryngeal membrane, I now examined my docile little patient with the laryngoscope, and was surprised to find not the trace of a membrane in the larynx! The signs were those of a marked catarrhal laryngitis. Use was made of the laryngoscope for some days longer, but no membrane was deposited, and, meanwhile, that in the fauces was cleared away. The child promptly recovered without sequelæ, and is alive and well now, two years afterward. It is apparent how in this case a claim might easily have been made of recovery from diphtheritic croup, had not resort been had to the laryngoscope; and further, that the use of this instrument yielded knowledge which justified a more favorable prognosis than could otherwise have been given Without the laryngoscope, how can we tell what percentage there may be of this rare combination of diphtheria and simple laryngitis?"

Dr. Gray then cites a number of references from J. Lewis Smith, Watson, Flint, and Gay, showing that suffocative symptoms occurring in the course of pharyngeal diphtheria are, in the opinion of these writers, almost always due to extension of the membrane to the larynx.

"The interest of the foregoing case, therefore, lies in its being an exception to an established rule. To the importance of the exception, as regards prognosis, attention has already been directed."

BORACIC ACID IN GONORRHŒA.

Dr. W. C. Abaly, of Madison, Wis., writes: "My experience with boracic acid and glycerine, in the treatment of subacute and chronic gonorrhœa, has been so successful for the past year that I can confidently say it is almost a specific; I have used it in thirty cases, and only in three did it fail. One of them was a heavy drinker of spirituous liquors, and the other two had strictures which it was necessary to treat in the usual way before the discharge ceased. The mode in which I use the acid and glycerine is as follows: I prepare about two drachms at a time, which is sufficient for one séance, using half a drachm boracic acid and one and a half drachm glycerine: then, by the use of a soft rubber catheter of proper size—one which will pass easily the full length of the urethra—and a hard rubber syringe, with a nozzle of large enough calibre to allow the paste to flow freely, I commence injecting from the prostatic urethra, gradually withdrawing the syringe and stripping the catheter with thumb and forefinger, until the full length of the urethra has been thoroughly saturated. This is to be repeated every second day. I always have patient urinate before using the treatment, or, what I sometimes do in case of a new case, to locate the prostatic portion, is to allow the catheter to pass into the bladder, allowing the urine to come away, then withdraw and use the acid and glycerine injection. The desire to urinate is quite urgent for a few minutes, but soon passes off. In some few cases, in order to avoid urination, and the dislodgement of the paste thereby, I have the patient immerse the full length of the penis in cold water, which always lessens the desire."

SLOW HEART-BEAT.

Dr. G. W. Squire, of East Avon, N. Y., reports the

away of the dartos from the point of posterior puncture by violent traction upon the silk while the scrotum is held firm.

I use only very large twisted silk at the present date, and I prepare it simply by boiling it and then placing it in a bottle containing common alcohol. At the moment of operation I dip it and the needle in a bichloride solution in water, 1 to 1,000. I have no doubt hot water would do as well. I tie with all my strength with

COCAINE AS AN ANTI-EMETIC IN YELLOW FEVER.

Dr. J. E. Jennings, of Aspinwall, sends the following communication: "As is well known, vomiting is one of the most constant symptoms of yellow fever. Occurring early, it marks the whole history of the disease, and in most severe cases gradually becomes more persistent until the characteristic 'black vomit' appears. All writers on the subject agree in the statement that the 'black vomit' is a very grave symptom; hence any drug that can prevent or check this symptom would aid us very much in the treatment of this truly terrible disease. Lime-water and milk, small pieces of cracked ice, iced champagne, lime-juice, carbolic acid, pepsin, ingluvin, external applications, etc., seem to exert a favorable influence upon the vomiting, but up to the present moment no remedy has been brought to the notice of the profession that could be regarded as anything like a positive anti-emetic in this disease. Knowing the power of cocaine as a local anæsthetic, Dr. Thorington, physician for the Panama Railroad, and myself resolved to test its value as an anti-emetic in yellow fever.

"The following cases illustrate very happily the results we have obtained from the use of this drug:

"Case I.—Miss L——, Spanish, aged twenty-three, arrived in Aspinwall from Spain four months ago. When called in to see patient, she was found to be in the second stage of yellow fever. The following day 'black vomit' appeared, for which we ordered ten minims of a four per cent. solution of cocaine to be given with a little water every hour. The effect of the medicine was at once apparent, and after the second dose all vomiting ceased. Patient recovered.

"Case II.—Miss H——, Spanish, aged nineteen. Has been living in this city for the past seven months. This patient was thought by the family to be suffering from malarial fever, until the fourth day, when her disease was recognized by the appearance of black vomit. At this time cocaine was administered as in Case I., with like success.

"Case III.—Mr. S——, American, aged forty-nine. Two months after his arrival in this city he was taken sick with yellow fever of a very severe type. Black vomit appeared at the end of the first twenty-four hours, but was at once checked by the administration of small doses of cocaine. In this case it was noticed that a considerable quantity of coagulated blood was passed from the bowels. Patient died on the fourth day, there being complete suppression of urine.

"Case IV.—Captain N——, Welshman, aged forty-five. Was taken sick with yellow fever while his vessel was discharging coal in this port. Had copious black vomit on the third day, which was controlled by cocaine. Patient recovered.

"In the above cases from two to five doses were all that were necessary to control the vomiting. The patients rested easier and seemed to relish the nourishment given them. At the same time it was noticed that the cocaine acted as a diuretic; under its influence the quantity of urine passed was somewhat increased."

AN URETHRAL SOUND ADAPTED TO THE DIRECT APPLICATION OF COCAINE TO THE SEAT OF STRICTURE.

Dr. T. M. Calnek, of this city, writes: "In dilating the urethra for the relief of stricture, after injecting it with cocaine, I have invariably found that the patient complains of considerable discomfort, and oftentimes of much pain, as soon as the point of the sound enters the stricture. To obviate this, I have had made the following instrument: An ordinary Van Buren sound is perforated throughout its entire length by a very small bore, and to the proximal end is attached a syringe such as is commonly used with the hypodermic needle. The urethra is first injected with a solution of cocaine, which is held in the canal by the patient for about three minutes. The syringe is filled with either a solution, or with the oleate, of cocaine, attached to the sound, which is then filled from the syringe, and is ready for use. As soon as the patient complains of pain a slight pressure on the piston, made by the forefinger, forces out a drop or more of the contained anæsthetic, the instrument being firmly held in place for one or two minutes. In every case in which I have used the sound so arranged it has passed readily, without any discomfort to the patient, and without the slightest constitutional disturbance.

"I claim no new idea—Bumstead's, Guyon's, and all other deep urethral syringes are on the same principle—but believe that the day is not distant when, by means of cocaine applied in some such manner as this, even the worst cases of urethral stricture will be safely, painlessly, and effectually cured without recourse to urethrotomy, divulsion, or cutting operations."

SPONTANEOUS DELIVERY IN A CASE OF PLACENTA PRÆVIA.

Dr. C. W. Reeder, of Portsmouth, O., relates the following: A woman, aged thirty-five, the mother of seven children, in the fifth month of pregnancy began to have hemorrhages, which recurred at intervals for eight weeks. At this time a severe flooding took place, and irregular and weak labor-pains were felt. After she had fainted several times Dr. Reeder was sent for, but did not arrive until three hours later, when he found that the child had been born two hours before. The woman was comfortable, though pale and weak, with a pulse of 120. The child had been born with the membranes intact, the placenta coming first, according to the testimony of a neighbor, who was the only one with the patient at the time. This woman, at the time she sent for Dr. Reeder, had given the patient two saucerfuls of tansy-tea, with the result of an increase in the pains, diminution of the hemorrhage, and expulsion of the child soon after.

Progress of Medical Science.

A Plea for Suprapubic Lithotomy.—Dr. Svensson, of Stockholm, having practised all the recognized methods of operating for stone in the bladder, has had complete success since he commenced to perform the suprapubic operation for large stones, and in severe and complicated cases (*The British Medical Journal*). He has performed this operation with various objects, and he considers it by no means dangerous in itself if it is only executed with the necessary precautions (in two sittings, with antiseptic methods, a cautious injection into the bladder, etc.). Thus he removed by suprapubic lithotomy, or epicystotomy, as he terms it, a stone nearly as large as a hen's egg, from an old man who was extremely weak, and who was suffering at the time from senile gangrene affecting the foot and the lower part of the leg. A few weeks later, amputation had to be performed through the thigh; but the patient was afterward sent to his home (which was at a considerable distance) completely cured. Dr. Svensson does not invariably perform the operation in two sittings, and he does not resort to it, of course, in all cases of stone. Lithotrity at a single sitting, litholapaxy, as well as median lithotomy, always, he considers, present their own indications, which is not the case with the lateral operation. In the performance of suprapubic section he agrees with Petersen that plugging the rectum, while at the same time the bladder is filled, contributes in a marked degree to facilitate the operation and to render it free from danger. Complete suture of the wound is not generally desirable, but the application of some sutures to the bladder serves to check posterior hemorrhage, and may be requisite for this purpose. Usually before opening the bladder Dr. Svensson passes a running noose of thread through the wall of the bladder, so as to include the line of incision, thus providing a remedy in case hemorrhage should occur. His experience is that posterior hemorrhage occurs in an eighth of the cases if sutures are not applied to the wound in the bladder. He endeavors to show that the suprapubic operation is safer than other methods, the patient recovering more rapidly than after litholapaxy, the pain also being very slight. An additional advantage is on the side of suprapubic section: it is available for other affections of the urinary passages, and without it some of these diseases would be incurable. He hopes in a subsequent paper to give an account of his experience in the Sabbatsberg Hospital.

equally successful [illegible] mended for applications to the face, and ichthyol soap for the scalp. Nussbaum considers ichthyol a reducing agent—*i.e.*, as acting on the cocci by making the soil where they multiply unfit for their nutrition. He does not regard it as an antiseptic.

Tape-worm and Pernicious Anæmia.—Last year Professor Runeberg advanced the view that pernicious anæmia, in some cases at least, was dependent on the [illegible] of the intestinal tape-worm [illegible]

The Toxic Power of Non-febrile Pathological Urine.—Dr. Feltz has already shown that the toxic properties of febrile urine are far greater than those of non-febrile urine, but that this fact is not due to the density of febrile urine. He has recently made a series of experiments upon the noxious effect of non-febrile urine from patients suffering from glycosuria, albuminuria, icterus, cancerous cachexia, and anæmia. The urine used was fresh, filtered, summarily analyzed, and heated to the temperature of the dog's body before being injected. Intravenous injections were practised according to the method of the author and M. Ritter. These experiments showed that glycosuric urine from non-cachetic patients is not more toxic than normal urine. Icterous urine from cases of organic disease of the liver, albuminous urine from cases of serious renal disorder, and urine from patients suffering from cancerous cachexia or anæmia, is considerably more toxic than normal urine. The

symptoms observed during the experiments, the kind of death which followed, the conditions found at the *post-mortem* examination, which the author terms uræmic accidents, are similar to those observed when normal urine is injected in sufficient quantities to cause death. The author concludes from this that it is the increase of the noxious principles contained in normal urine, rather than the presence of new noxious principles, that determines the degree of toxicity of pathological urine, and that the salts of potassium contained in urine are the principal agents of uræmic intoxication.—*La France Médicale.*

Retro-rectal Dermoid Cyst.—Biernacki describes a case (*The British Medical Journal*) of this kind which occurred in Professor Gusserow's ward. A retro-rectal tumor was diagnosed, and during labor its nature was made evident by tapping, whereby nearly a pint and a half of hair and greasy material escaped. Notwithstanding the consequent diminution in bulk of the growth, it still remained such an impediment to labor that perforation was necessary. Convalescence was retarded by suppuration of the cavity of the cyst. Notwithstanding free incisions, pus with a fecal odor burrowed beyond the limits of the growth, under the right labium majus, the nates, and the vagina. After two months the patient was discharged cured. Biernacki has found records of four other cases of retro-rectal dermoid cyst.

Dermatoses from Emotion.—Dr. Leloir gives the following characteristics of the emotional dermatoses: Rapid onset after the moral shock, and, should the dermatosis not immediately succeed the shock, a series of nervous troubles, such as pruritus and neuralgia, precedes the cutaneous eruption. The progress is rapid, and the lesion soon attains its maximum development. The affection is always superficial, scarcely ever involving the deeper part of the skin, and being chiefly of the vaso-motor, catarrhal, or pigmentary sort. Excessive pruritus is a feature of these dermatoses. Their duration is relatively short, and they are especially to be observed in females.—*Journal de Médecine de Bruxelles.*

Cold Affusion in Apparent Death from Lightning.—Dr. Hidalgo, of Mexico, brought before the Academy of Medicine of that city, at a recent meeting, the case of a man who had been struck by lightning, and was at first thought to be dead, but who, after having had, at the suggestion of a passer-by, a large quantity of cold water thrown over him, began to show signs of vitality. He [illegible] laryngoscope, and further, that the use of this instrument yielded knowledge which justified a more favorable prognosis than could otherwise have been given. Without the laryngoscope, how can we tell what percentage there may be of this rare combination of diphtheria and simple laryngitis?"

Dr. Gray then cites a number of references from J. Lewis Smith, Watson, Flint, and Gay, showing that suffocative symptoms occurring in the course of pharyngeal diphtheria are, in the opinion of these writers, almost always due to the membrane. [illegible] time that he had something the matter at another that he had rheumatism all over, but he made no reference to the lightning. Dr. Hidalgo saw him the next day and found him in a semicomatose state. The pulse was 75, full and compressible, the temperature normal, and the respiration rather rapid. He was so deaf that he could only be made to open his eyes by shouting close to his ear. The pupils were contracted. He complained of pain all over, but especially in the head and arms. He had passed three badly smelling liquid stools during the night. He was neither hungry nor thirsty. The electric spark had entered the upper part of the right parietal region, just behind the auricle. The scalp was burned over a surface of several inches, and a spot of dried blood was seen on the upper part of the auricle. The right side of the neck was reddened as by a burn of the first degree; below this, as far as the umbilicus, the effects were equal to those of a burn of the second degree. The electric fluid had passed down the inner aspect of the right leg, producing a burn of the second degree. It had then passed down to the foot, where the burn was of the first degree, and the strip of skin affected much narrower than above. The hat, coat, and trousers were injured—as if torn—along the course of the current, but they were not burnt in any part. The patient was treated with sedatives and some clysters, and in sixteen days was perfectly well. Dr. Hidalgo supposes that the pneumogastric was affected by the shock, which paralyzed respiration, and subsequently the heart's action, similarly to the behavior of an overdose of chloroform. The indication, therefore, was to re-establish respiration, and this was admirably fulfilled by the cold affusion, which, fortunately, was administered quickly, before the paralysis of the heart had become absolute.—*The Lancet.*

The Presystolic Murmur, falsely so called.—From a study of the so-called presystolic murmur Dr. Dickinson (*The Lancet*, October 8, 1887) maintains that he has demonstrated that the murmur occurs with the systole, not before it. Systole refers not to a sound, but denotes a contraction. He says, in conclusion, that if anyone is pleased still to call the murmur presystolic, let him do so, so long as he makes it clear to all that he speaks not of the systole, but of the systolic sound. "But if my contention be just, it will be best to avoid a term the use of which must involve an error either in observation or language. The point of practical importance is that the murmur does not belong to the systole of the auricle, but to that of the ventricle, and is therefore that of mitral regurgitation. The difference between this murmur and that of mitral regurgitation, as universally accepted, is chiefly in the modified first sound by which it is concluded, and the evidence thus afforded of the closure of the valve. It may be accepted as a general truth that a diseased mitral valve does not shut unless the orifice is narrowed; thus the so-called presystolic murmur becomes a sign of stenosis. For this great landmark of cardiac diagnosis we have to thank Dr. Gairdner. Our estimation of its value will not be lessened by any difference of opinion as to the precise origin of the morbid melody which we can so readily recognize, and from which we learn so much. Finally, I have endeavored to rehabilitate the old mitral diastolic murmur, and restore it to its proper station as that of mitral obstruction and the auricular systole." If the term presystolic is inappropriate, how is this murmur to be designated? We must call it something to distinguish it from the other regurgitant mitral murmur, the old-fashioned one, which continues through the whole systole and implies a valve that is always open. The "presystolic" might become "early systolic," in regard to its position in the systole, or the "stopped systole," in reference to its abrupt termination; while the other might be spoken of as the "full systolic," being unabbreviated and occupying the whole act. The feeble and infrequent murmur of mitral obstruction, the true auriculo-systolic, may keep its old titles, "direct mitral" and "diastolic mitral."

The Utility of Subcutaneous Injections of Carbolic Acid.—Professor Benedikt has published a paper, on the "Use of Subcutaneous Injections of Carbolic Acid." At the instance of Dr. Kunze, he had tried, about seventeen years ago, injections of a two per cent. solution of carbolic acid in cases of rheumatism of the shoulder, with surprisingly good results. The joint, which was very painful on passive motion before the injection, was found, a few minutes after the injection, to be freely movable, as if it had been narcotized. This result was the more surprising, as it was known that subcutaneous injections of morphine had not so speedy an effect in such cases. In affections of the joints, in which there were great tenderness on pressure and distinct swelling of the bones, the morbid process disappeared in a few days after the injections. This was especially true of recent cases;

but even in old and complicated cases the effect was not merely a passing one, but lasted some time. Professor Benedikt also tried subcutaneous injections of carbolic acid in cases of polyarthritis, and in the first cases which he had observed the success was very striking. When the injection was made in the neighborhood of the affected joint, the pain not only quickly diminished, but the high temperature and the pains in the other joints also decreased. The course of the case was the same as after the administration of large doses of the salicylate of sodium. Both agents had a general and also a local influence, but the cause of the disease was only gradually eliminated from the body, and, in Professor Benedikt's opinion, this elimination was scarcely accelerated so much by the administration of the salicylate of sodium as by subcutaneous injections of carbolic acid. Professor Benedikt, therefore, advocated this plan of treatment in polyarthritis. The evil effects of the salicylate of sodium on the appetite, and in many cases also on the auditory apparatus and the whole organism, were well known. When both modes of treatment were combined, the salicylate of sodium being administered in small doses, and one to three subcutaneous injections of carbolic acid being given in twenty-four hours, the course of the affection was very much accelerated, and no bad consequences were observed, especially if the treatment was carried out from the very beginning of the disease. Extraordinarily good results were obtained by the method in cases of inflammation of the sheaths of tendons, especially after injury. A few injections sufficed to cut short the morbid process, and no local pain or muscular atrophy, etc., was observed, provided the disease was treated in the above-mentioned way from the very first outset. Subcutaneous injections of carbolic acid also gave Professor Benedikt good results in cases of pain due to club-foot, as well as in local periosteal inflammation, in spondylitis, and in scrivener's palsy. In most cases he had given only one injection a day, but in cases of polyarthritis he had given from three to five injections in the course of twenty-four hours. The local anæsthesia which occurred in two cases (lasting in one of them for several months) was due to the effect which the fluid exerted directly on cutaneous nerve-trunks.—*Vienna Cor. British Medical Journal.*

THE VOMITING CENTRE.—Professor Tumas, who has been making a series of researches on the subject of

[illegible] OF THE INTERNATIONAL MEDICAL CONGRESS.

AN esteemed correspondent, living in Georgia, writes us protesting against the announced intention of the committee having the matter in charge to print the papers read before the International Medical Congress at Washington in the language in which they were written and delivered. He urges that if such a course be followed the "Transactions" will be a sealed book to nine-tenths of the physicians of this country, and the papers therein contained will be to them as if they had never been written.

There is much truth in what our correspondent says, and we can readily appreciate his reasons for objecting

THE CAUSE OF MORNING SICKNESS DURING PREGNANCY.—Many theories have been adduced regarding the cause of morning sickness during pregnancy. All, however, appear to have been too speculative, and no one has met with anything like universal sufferance. Dr. Oliver says (*The British Medical Journal*) that evolution may aid us in arriving at a just and feasible interpretation. From the earliest period of existence every organism has been endowed with two distinct qualifications: 1, that of maintaining self; 2, that of perpetuating its species. At first the double function was performed by a uniform mass, free from any semblance of structural differentiation. Habitual localization of function, however, produces eventually a specialization of structure, and with it the evolution of a nerve-tract, whereby the inter-dependence is maintained. It is therefore feasible to suppose that the nerve-centre which regulates the process of assimilation is either in apposition, or at least in direct communication, with that which presides over the organs of generation. All the visceral functions are now performed automatically, and are regulated by nerve-centres located in the medulla oblongata; the uterine, by inference, being no exception. Considering the close relationship that exists throughout life between the two processes of assimilation and reproduction, there can be no doubt that the representative nerve-centres act and react upon each other. When the uterus becomes the nidus for a developing germinal mass, the molecular disturbances radiated therefrom to the reproductive centre are liable to be transmitted to the pneumogastric as well, and induce either a feeling of nausea or actual emesis. Usually, however, in the course of a few months, through habit, the pneumogastric centre becomes tolerant, and the symptom evidencing disturbance at the same time disappears. It is difficult to understand why the sickness should be experienced more especially in the morning, unless it be that the change from the recumbent to the erect position after sleep renders the whole nervous system more liable to explosive disturbances. Frequently we find patients who only suffer from disturbances associated with epilepsy on assuming the erect position after sleep. The more highly unstable the nervous system is generally, the more likely is a woman who becomes pregnant to suffer markedly and for a lengthened time from sickness, whether matutinal or more or less constant. It is well, however, to remember that the molecular radiations from the uterus itself may, for some reason or other, be materially augmented; and such, acting on a nervous system otherwise apparently healthy, may induce an aggravated train of events.

ICHTHYOL IN ERYSIPELAS.—Nussbaum claims that erysipelas may be quickly healed by the use of ichthyol. The wound attacked by erysipelas is disinfected and covered closely with iodoform gauze. The erysipelatous surface, while still spreading, is painted with ointment made of equal proportions of ichthyol and vaseline. The part thus painted is covered with ten per cent. salicylic lint, and fixed with a gauze bandage. Next day the border is found to have remained stationary, while the inflamed surface is shrunken into yellowish-brown creases, and is painless. After three days the dressing is discontinued. Five consecutive cases treated on this plan gave equally successful results. Ichthyol collodion is recommended for applications to the face, and ichthyol soap for the scalp. Nussbaum considers ichthyol a reducing agent—*i.e.*, as acting on the cocci by making the soil where they multiply unfit for their nutrition. He does not regard it as an antiseptic.

TAPE-WORM AND PERNICIOUS ANÆMIA.—Last year Professor Runeberg advanced the view that pernicious anæmia, in some cases at least, was dependent on the presence of the intestinal tape-worm, bothriocephalus latus. His views were supported by Dr. Reyhen and others, but strongly opposed by Biermer, Quincke, and Immermann. A case which tends to support Runeberg's view has been recorded by Dr. Schapiro (*The Lancet*, October 8, 1887). A lad, thirteen years of age, came under treatment for intense anæmia of a progressive type, characterized by great diminution of red corpuscles and of hæmoglobin, with liability to cutaneous hemorrhage, epistaxis, etc., marked cardio-vascular bruits, pyrexia, and without any emaciation. It was not until the administration of anthelmintics had resulted in the evacuation of a large quantity of segments of bothriocephalus that he began to regain strength and color. His recovery from that date was rapid. The writer attributed the anæmia to the disintegrating action on blood-corpuscles of some chemical product of the parasite which was absorbed into the blood.

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CANCER OF THE LARYNX.

WHILE the most frequent form of laryngeal tumor is the papilloma, malignant growths are not so excessively rare as used to be supposed; and of malignant tumors cancer is the most frequent form.

Primary cancer of the larynx occurs most frequently in males, and in those who are between the ages of fifty and sixty. Hereditary influence has not been observed. The exciting causes are not well determined, but the abuse of alcohol and tobacco, residence in cold, damp climates, the inhalation of irritating gases, and injuries to the neck have all seemed to have an influence, especially when combined with violent use of the voice. The assertion that repeated attempts to extract benign tumors by means of forceps tends to make them malignant is not substantiated. But tampering with a malignant tumor may make it worse.

Cancer starts most frequently in the ventricular bands and vocal chords, or in general, in the middle and upper part of the larynx, and it has a curious habit of beginning oftener on the left side.

Cancer of the larynx assumes only two leading types, the epithelioma and the encephaloid. In one hundred and sixty-seven collected cases the disease was epithelioma in one hundred and forty-nine, and encephaloid in eighteen instances.

Cancer of the larynx is preceded often by a hoarseness or huskiness of voice which may last several years, though usually not so long, before more decided symptoms appear. For some time to come, it is probable that nervous people with husky voices will be flocking to physicians in order to be assured that they have no cancer. The voice soon becomes not only husky but very weak. It is, however, not altogether lost till very late in the disease.

After a time difficulty in respiration and in swallowing occurs, the dull pains at first present become sharp and lancinating, and are reflected to the ears, orbit, forehead, and jaws. Cough is usually slight, but expectoration and salivation increase, the breath becomes foul, slight hemorrhages occur which are characteristic of the disease, cachexia sets in, the patient becomes emaciated, his face assumes a yellowish pallor. In constant pain, unable without distress to breathe or swallow, with hope gone and strength failing, the unfortunate patient offers a spectacle of the deepest misery.

The disease lasts rarely over eighteen months, though a few cases are reported in which the patients lived three, four, six, ten, and even fifteen years (Ziemssen). The course is equally rapid in epithelioma and encephaloid. Tracheotomy undoubtedly prolongs life considerably. In Fauvel's cases the patients lived for over two years when tracheotomy was performed. It seems to prolong life more in epithelioma than in encephaloid.

Laryngotomy, in fine, is the surgical operation most useful in cancer of the larynx.

An ingenious modification of laryngectomy has been devised by Drs. Solis Cohen and Martin, which promises better results than those previously obtained. By it the entire respiratory part of the larynx can be removed and the greater part of the thyroid cartilages left to perform their functions as shields and supports. On the whole, however, the outlook for the patient who expects to have the larynx removed is most discouraging. There is barely an even chance that he outlive the week following the operation. If it succeed he can live perhaps one or two, or possibly more years, but mutilated and in anxiety and discomfort.

Laryngotomy is the simpler, safer, and surer operation, though it holds out no hope except for slightly prolonging life.

DIETETICS IN MENTAL DISEASES.

THE question of diet in the treatment of disease is one of the most important subjects with which the therapeutist has to deal, and is one that deserves even more careful study than it has hitherto received. Its importance is generally recognized when one has to do with diseases accompanied by, or dependent upon, lesions of any portion of the digestive tract. It is even understood in a general way that a tonic regimen is essential to the successful management of affections characterized by a lowered state of the system. But it may be said without fear of contradiction that physicians are too little alive to the necessity of recognizing this indication, and are

and the auricular systole." If the term presystolic is inappropriate, how is this murmur to be designated? We must call it something to distinguish it from the other regurgitant mitral murmur, the old-fashioned one, which continues through the whole systole and implies a valve that is always open. The "presystolic" might become "early systolic," in regard to its position in the systole, or the "stopped systole," in reference to its abrupt termination; while the other might be spoken of as the "full systolic," being unabbreviated and occupying the whole act. The feeble and infrequent murmur of mitral obstruction, the true auriculo-systolic, may keep its old titles, "direct mitral" and "diastolic mitral."

THE UTILITY OF SUBCUTANEOUS INJECTIONS OF CARBOLIC ACID.—Professor Benedikt has published a paper, ject into three main classes of cases, viz., melancholia, mania, and dementia, or states of mental depression, exaltation, and weakness, respectively, and he shows that in all these three classes the necessity exists of a generous diet.

In melancholia, the author says, there is often a profound disturbance of nutrition in patients whose brains, by inherited or acquired defect, are the weakest organs in the economy, and are, therefore, the first to give evidence of functional derangement. The conditions present in acute melancholia are "suppressed secretions, consti-

pation, coated tongue, foul breath, loss of appetite, or actual sitophobia, feeble circulation, superficial respiration, and constant loss of weight." The physician, he says, frequently "fails to recognize in the pasty tongue and saburral condition of the 'primæ viæ,' and in constipation due to atony of intestinal muscles, the local signs of general malnutrition, and to understand that they often disappear under a generous diet."

In mania, also, although the conditions are here widely different, the indications for a full and nourishing diet are none the less imperative. Although the amount of food ingested is large, yet the metabolic changes are rapid, and, by reason of the constant movement and consequent expenditure of muscular energy, the waste of tissue is very great. The physiological ration of food is here insufficient, and overfeeding becomes necessary, if cortical atrophy and secondary incurable dementia are to be avoided.

In dementia, finally, still another condition exists. "Digestion is performed with mechanical regularity, and the patient grows fat. Bodily waste and repair finally become equal, and the patient may maintain this equilibrium for years together. If there ever be a time in the history of these cases for the practice of an economical diet, it is during this final stage. A minimum of proteid food, with a good share of the cheaper fats and carbohydrates, suffices to keep these demented creatures in comparative physical well-being." The author insists, however, with much reason, that the diet, even in these apparently hopeless cases, should be maintained at a generous standard, for hope of recovery should be abandoned only when death has come, as the writer has witnessed instances of restoration to reason after the lapse of twenty years. In the article referred to, Dr. Kellogg specifies the amount and kind of food required in each of the different classes of mental states into which the cases are divided.

THE TRANSACTIONS OF THE INTERNATIONAL MEDICAL CONGRESS.

An esteemed correspondent, living in Georgia, writes us protesting against the announced intention of the committee having the matter in charge to print the papers read before the International Medical Congress at Washington in the language in which they were written and delivered. He urges that if such a course be followed the "Transactions" will be a sealed book to nine-tenths or ninety-nine twentieths of the physicians of this country, and the papers therein contained will be to them as if they had never been written.

There is much truth in what our correspondent says, and we can readily appreciate his reasons for objecting to pay ten dollars for a book a considerable part of which is printed in a language that he does not understand. Yet there are many and great difficulties in the way of publishing an American edition such as he suggests. It would cost a very considerable sum to have translations made of all the French and German articles, to say nothing of the additional expense of printing the papers when translated. We think, too, that he underestimates the linguistic abilities of American physicians, and we question whether one-third of those who receive the "Transactions" will be found unable to read either the French or the German papers, and to many, doubtless, it is no task to read both.

The letter to which we have referred was, however, written before the Congress had been convened, and we doubt not our correspondent's views concerning the absolute necessity of possessing the volume of the transactions have by this time undergone some modification. Those who have received the issues of The Medical Record containing the very complete report of the Congress will have little need of turning to the "Transactions" for the really essential portions of the papers read. Some of the articles, indeed, which were read by title will appear only in the volume of the "Transactions," but they were few in number, and not many of them, to judge by their titles, were of very great importance.

THE OPERATION OF LARYNGECTOMY.

It is now but fourteen years since Billroth removed the whole larynx from a human being. The operation was successful, though the patient died a year later from cancer of the cervical glands. In 1870 Czerny had experimentally investigated the subject, shown the feasibility of the operation upon dogs, and indicated a mode by which an artificial larynx could be inserted, so that certain sounds could be made. Later Gussenbauer devised a most ingenious instrument, which was used by Billroth's patient. Since 1873 the operation of laryngectomy has been done over one hundred times, chiefly by German and Italian surgeons, and in over fifty cases for cancer of the larynx. The results, so far as the operation was concerned, have been fairly good. Over thirty, or about one-third of the cases, have survived for a time (Roswell Park, "Wood's Reference Handbook of the Medical Sciences"). We believe, however, that all subsequently died from a recurrence of the disease.

The two great measures, according to Park, which have enabled modern surgeons to do this operation are the hæmostatic forceps and antiseptic gauze. These have permitted him to work in extremely vascular parts, and to prevent the septic secretions from entering the lung and setting up pneumonia. The artificial larynx devised for these cases is a marvel of ingenuity, though practically it is not usually well tolerated. To Gussenbauer belongs the credit of first devising the most complete form. By means of it the patient may be able, after a time, to swallow without difficulty, and to utter distinct speech. This latter feat is accomplished by inserting a metallic reed like that of a melodeon into the air-current. This vibrates, and the sound is converted by the organs of articulation above into spoken voice. Such speech is, of course, literally monotonous and somewhat weird, but it is speech.

Unilateral laryngectomy has been performed a number of times, over twenty in all, and it is occasionally indicated, because in fifty per cent. of cases cancer of the larynx is unilateral.

The advantage of partial laryngectomy is that it is less dangerous, and that the patient can speak without the help of an instrument. It is indicated according to Lennox Brown in unilateral and intra-laryngeal epithelioma, and in recent non-infiltrating sarcoma. It is useless in pharyngo-laryngeal epithelioma and whenever there is im-

plication of the cervical glands and structures adjoining the larynx.

Laryngectomy, though it has now been so often "successfully" done, is still regarded with doubtful favor by some laryngologists. The results, so far as prolongation of life is concerned, are very poor—probably not over five per cent. outlive the year, while forty-two per cent. die in eight days. By partial laryngectomy much better results have been claimed.

THE RELATION OF ACNE TO DISEASE OF THE NASAL FOSSÆ.

MUCH has been written of late upon the influence of genital irritation in the causation of acne of the nose and face. While, doubtless, the former often stands in a causal relation to the latter, it is difficult to find a satisfactory explanation of its mode of action, and for that reason many regard the alleged connection between the two as fanciful and purely imaginary.

By a curious coincidence, such as is not infrequently observed, two observers—one an American, the other a Frenchman—have, almost simultaneously, called attention to the frequent coexistence of acne of the nose and face and disease of the nasal fossæ. They were both struck by the frequency with which they found these two affections coexisting, and they were thereby led to believe that one might possibly stand in an etiological relation to the other.

In a paper read before the Philadelphia County Medical Society (*Weekly Medical Review*, October 29, 1887), Dr. Carl Seiler related three cases, among others that he had observed, of acne occurring in patients suffering with chronic atrophic rhinitis, and stated that he had come to regard this affection as, in many cases, the exciting cause of acne. He does not reject the theory of a genital or digestive reflex as the predisposing cause of acne, but believes that it alone is seldom sufficient to produce the cutaneous lesion under normal conditions, unless in cases of long duration. A consideration of the various predisposing causes leads to the belief that "an irritation of the nervous system must exist somewhere—be it in the mucous membrane of the stomach or in the sexual apparatus—which, by reflex, acts upon the easily influenced capillary circulation of the skin of the face and neck, and thus, by causing a change in the capillaries around the sebaceous glands, causes a perverted action of these glands if it is kept up for any length of time, or if no relief from blood-pressure is afforded. It is my belief that the cavernous tissue covering the turbinated bones provides such a relief, and that this is one of the functions of the erectile tissues of the body. . . . Let this cavernous tissue be absent or greatly diminished, as is the case in atrophic rhinitis, and very little or no relief is afforded for the excessive blood-pressure in the capillary circulation in the skin of the face, and the result will be acne if any of the predisposing causes be present."

At the recent meeting of the French Association for the Advancement of the Sciences (*L'Union Médicale*, October 8, 1887), Dr. Arnozan presented a paper in which he referred to the frequent coincidence of cutaneous lesions of the nose and affections of the nasal fossæ. He reported several cases in which the cutaneous affection increased and diminished in severity coincidently with the varying progress of the associated disease of the deeper tissues. The author suggested several theories to account for the evident dependence of the acne upon the nasal affection, but did not insist upon any of them as a sufficient explanation of the etiological relation existing. He contented himself simply with the submission of the following conclusions:

1. There may exist a relation of cause and effect between the deep and the superficial affections of the nose.

2. The exploration of the nasal fossæ and the treatment, if occasion exists, of inflammation or chronic ulceration there present, should be undertaken in cases of cutaneous lesions of the nose.

The discovery by these two observers of a possible, if not probable, cause of many cases of acne of the nose will, it is to be hoped, lead to the adoption of a more successful method of treatment of this obstinate affection in the future than it has been possible to pursue in the past.

THE CASE OF THE CROWN PRINCE.

THE telegraphic reports up to date have brought nothing especially new, but have shown that German physicians are in a lively state of mind over the methods and treatment of the Crown Prince by Sir Morell Mackenzie. We trust that good feeling will be restored. It can never be forgotten that their own Virchow sent out the learned bulletins concerning warty growths, and that the scientific world drank in his lucid and convincing descriptions of the nature, cause, and course of "pachydermia verrucosa."

HOSPITAL SUNDAY COLLECTION.

THE total annual expenses of the twenty-eight hospitals in this city are $740,722. The total income from invested funds is $142,142; from pay patients, $163,808.69; from the city, $56,355. This leaves a deficit of about $300,000, to be made up by private subscriptions and by the hospital collections. There are annually treated 13,920 patients, of whom only twenty-five per cent. pay. In the out-patient departments there were treated 119,124 patients. These figures do not include the city hospitals, Bellevue and Charity, or the large independent dispensaries. The addition of these easily doubles the number of medical paupers of the city, bringing the total up to over quarter of a million.

The Hospital Saturday and Sunday Association have had favorably reported a scheme by which dispensaries connected with hospitals shall be entitled to share in the distribution of the general collection-fund.

Such a measure is hardly a just one, and we trust will not be adopted. There is no reason why a dispensary should be specially helped simply because it is attached to a hospital. Most of the largest and best dispensaries in the city, those really deserving support, are not connected with hospitals, while some of the out-patient departments of hospitals are pretentious superfluities.

THE HARTFORD HOSPITAL has received a bequest of $10,000 from the late Mr. William Boardman, of that city.

News of the Week.

Proprietary Medicines.—There are thirty-six thousand five hundred proprietary medicines in the market, according to Mr. Emlen Painter, Ph.G., in the *American Druggist*. He says of them that they are totally unworthy the distinction of being prescribed by medical gentlemen; that they are directly at variance with scientific progress; that their promoters have contributed absolutely nothing of value; and that, had they never existed, both medicine and pharmacy would have this day reached a higher plane in the development of science.

A writer in the *Provincial Medical Journal* describes the character of a fashionable consultant of the old school. He says of him: "He was hospitable to a degree, and a most entertaining, open-handed host he was. I don't think he ever gave a dinner-party to which some of his medical brethren were not asked. Being in a cathedral city, which was also a garrison town, many of these parties were of 'swell' description, but the good old fellow, always standing up for his profession, deemed his medical brethren good enough company for anyone—titled or untitled, bishops, deans, or generals." It was certainly kind of the old fellow to think his medical brethren proper company for clergymen, etc., but the remarks imply a very low social level for the English doctor.

Peddling and Prescribing Glasses.—Dr. L. Webster Fox and Dr. G. M. Gould have recently made a plea for a law restraining pedlers, jewellers, and opticians from prescribing glasses. They cite many cases of injury, often permanent, to eyes from errors due to ignorance, and claim that such "opticians" should be as much under legal restraint as druggists.

A Temperance Medical Journal, under the title of the *Medical Investigator*, is to be published by Dr. S. F. Smith, of Louisville, Ky.

A New Ailment is stated to have shown itself among telegraph operators—namely, the dropping off, one after the other, of the finger-nails. Two cases have recently occurred in otherwise healthy subjects. The curious affection is thought to be due to the constant jar caused by hammering and pushing with the finger-ends in working the Morse system of telegraphy.—*Journal of the American Medical Association.*

Exercise in the Treatment of Heart Disease.—For generations the main idea in the treatment of organic heart disease has been physical rest to diminish the labor of the damaged organ. We have been in the habit of prohibiting all forms of active labor to the sufferers from cardiac disease, and the principle of our treatment has been the unexpressed but ever-present idea, accepted as a self-evident axiom, that perfect rest was the best means of securing muscular compensation. Professor Oertel's experiments and results have come with startling surprise upon those who forgot to distinguish between a useful principle and the exceptions which the multiformity of disease renders it imperative to recognize. As is well known, he treats a considerable proportion of cases of organic heart disease by regulated exercise, especially graduated ascents of mountains, and his results place the value of his method beyond reasonable dispute. There is nothing really surprising either in his treatment or the success which has attended it. A little reflection will suffice to convince us that, while rest is often useful, and indeed quite indispensable, in heart disease, there are yet many cases in which well-regulated exercise will improve the nutrition of the cardiac muscle, as of the rest of the muscular system, and hence tend to the promotion of circulatory vigor.

The International Medical and Surgical Synopsis is the title of a new journal published monthly in St. Louis.

The Mortality from Total Extirpation of the Uterus has been of late immensely reduced. In two hundred and seventy-seven operations performed last year by Schröder, Hofmeier, Martin, Olshausen, Fritsch, and Leopold, the per centage of deaths was only 14.5. Fritsch and Leopold have reduced their mortality rate in this operation to 10.1 and 6.2 per cent., respectively.

Another Medical College in Philadelphia.—Application was made to the Court of Common Pleas of Philadelphia, November 1, 1887, for a charter for the Burton Medical College Association, whose purpose is "to establish a college to be known as the Burton Medical College, and subsequently, in connection therewith, a hospital for clinical advantages."

Two New Salicylates have been recently introduced into therapeutics—salicylate of mercury and salicylate of lithia.

Strophanthus and Ether.—Dr. F. Broadbent finds that the addition of ether to the dose of strophanthus is of great use in cardiac affections.

German Opinion of American Medicine.—Dr. Frank Donaldson, Jr., writing from Berlin to the *Maryland Medical Journal*, says: "A very short acquaintance with Berlin physicians and scientists suffices to give the quietus to the American's conceit of American medicine. I do not believe it too broad a statement to say that many Germans do not consider medicine, as such, to exist in America. They certainly have a supreme contempt for our medical schools and our medical teaching. In general, one is at a loss, at first, to account for this state of affairs, for most of the German physicians read English and know well the work and works of prominent men in the different large cities. The immediate cause, however, of this very poor opinion of American medicine is the average medical student who comes to Germany, supposed to study. Of course there are exceptions. As a rule, however, they are uneducated and unscientific men or boys, as the case may be. I have myself come across a number of such cases—one gentleman, for instance, who hails from the Far West, and who proposes to *finish* his studies in Berlin, and will take this Semeister: Physical Diagnosis, Experimental Physiology, Diseases of Women, Surgery, and Obstetrics. I overheard this gentleman holding forth on the progress of medicine in the West, and he gave this instance of the remarkable strides medicine was making in his native town: *A friend of his in Springfield, O., or Ill.*, has performed eight hundred (!) ovariotomies. A German

who heard the story very quietly asked if there were any women left in that place! Still another was heard to remark that in America we did not have the time to '*monkey*' with science. When we reflect that this city is full of just such men, is it to be wondered that one should be asked, 'Do you know cocaine in America?' (and this from an intelligent man) and from another, great surprise that we use antipyrine and have seen the tubercle bacillus."

In a recent Work on Diabetes Professor Ebstein claims that it is an independent disease, due to a diminished activity of the protoplasm, in consequence of which too small a production of carbonic acid gas takes place in the tissues. The glycogen not being fully broken up, is carried to the kidneys and eliminated. Ebstein appears to regard diabetes as a vice of the tissue protoplasm, rather than a disorder of nerve-centres. He recommends a diet of meat, fats, some bread, and Carlsbad and carbonated waters.

The Educational Systems of all countries are just now undergoing a pretty thorough shaking up. The criticisms made sometime ago on the London schools by Dr. Crichton Brown, though not free from bias and sensationalism, awakened a useful discussion. This has been transferred to Paris, and at the last Congress of German Naturalists and Physicians, Professor Preyer made a most violent onslaught on the gymnasia and "Realschulen" of Germany. His address called forth great applause and some hisses.

The Zurich Congress on Alcohol.—The *Journal of Inebriety* says: "A large gathering of statesmen, philanthropists, and physicians discussed the subject of alcohol in all its phases at Zurich, Switzerland, last August. On the question of the food value of alcohol, a unanimous conclusion was reached denying all nutrient value. On the medicinal value of alcohol in the sick-room, no agreement was reached." A Congress whose labors resulted in agreeing on a physiological untruth, and disagreeing on an evident clinical fact, needs, apparently, the infusion of a little intelligence into its members and managers.

A New Medical Society has been formed by the physicians of St. Paul and Minneapolis, to be known as the "Minnesota Academy of Medicine." There will be some twenty members from each city, and the meetings will alternate between the two places.

The New Medical Practice Act in Illinois.—The new law has required much labor, but the result has been satisfactory. Eleven suits have been pushed to successful conclusions. The most signal benefit has been in ridding the State of the itinerant nostrum-vendors, with their brass-band and other accompaniments. July 1st, twenty of these shows were in the State, which tendered $1,500 per month in fees for licenses, all of which were refused.

A Medical College in Bad Standing.—The Toledo Medical College not having taken advantage of the opportunities given it to correct the abuses complained of previously, it was declared to be not in good standing under the present Medical Practice Act.

Lady Dentists.—The Committee of the National Dental Hospital, Great Portland Street, London, W., have resolved to admit ladies to be trained as dentists at this hospital.

The Proper Course.—"In case of an accident, doctor—a broken leg, for instance—what is best to be done while waiting for the physician?" "Well," said the doctor, "I think the best thing to be done is to get the money ready for him."—*Puck.*

There are Fifteen Thousand Nurses in Great Britain, and Mr. Henry C. Burnett advocates the establishment of a national pension fund for their benefit and that of hospital officials.

The Late Dr. William M. Chamberlain.—At the regular meeting of the Medical Board of Charity Hospital, held November 1, 1887, the following preamble and resolutions were unanimously adopted:

Whereas, William M. Chamberlain, M.D., one of the oldest and most honored members of this board, has recently been removed by death;

Resolved, That we hereby express our deep sense of the loss which the Medical Board of Charity Hospital has sustained in his decease.

Resolved, That we bear testimony to his high professional and literary attainments, to the sterling integrity of his character, to his kindly social qualities, to his sound judgment and skill, and to his devotion to the interests of Charity Hospital, in which he served for more than sixteen years as visiting physician, and subsequently as consulting physician to the time of his death.

Resolved, That a copy of these resolutions be transmitted to the medical journals of this city, and to the family of our deceased associate, to whom we desire to extend our sincere sympathy in their affliction.

F. N. Otis, M.D.,
J. Lewis Smith, M.D.,
Robert W. Taylor, M.D.

Woman's Hospital.—Dr. John H. Swasey has been appointed Assistant Surgeon to the Woman's Hospital, *vice* Dr. B. F. Dawson resigned.

Vaccination from the Buffalo.—The experiment has been tried in India, during last year, of vaccinating from a young buffalo, instead of from a calf, and the results are said by an Indian contemporary to have been "in every way satisfactory."

Belgian Judges on the Value of Medical Services.—Belgian judges would seem to entertain a very poor appreciation of the value of a medical man's time and services, if we may judge by a case that has recently been tried at Louvain. A medical man, in country practice, having attended a wealthy old bachelor for some five months before he died, sent in his account to the executors, who disputed it as exorbitant, and so the doctor was compelled to endeavor to recover his fees by an action in a court of law. The account amounted to 1,175 francs ($235), which comprised thirty-eight consultations with a Brussels physician at 20 fr. ($4); fifty-six day-visits at 5 fr. ($1), and five night-visits at 10 fr. (330 fr.); medicines, 85 fr. The defendants denied that the visits with the physician were consultations, and

they offered 2 fr. for each day-visit and 3 fr. for each night-visit. The court, however, "considering that the patient lived three miles from the doctor, who was obliged to make visits at definite predetermined hours along with a colleague from Brussels, and that night-journeys, especially in winter, are troublesome," decided that "day-visits might be equitably fixed at 2.50 fr. and night-visits at 5 fr.;" so that all that was allowed the unfortunate practitioner was 235 fr. for ninety-four day-visits, 25 fr. for five night-visits, and 85 fr. for medicines (the only item which was not disputed), so that the total was cut down to 345 fr. ($69)—a magnificent remuneration, indeed, for such an attendance! A cab-driver would certainly expect more for a similar number of journeys.—*Lancet.*

Conference of Missionary Medical Students.—A missionary conference of medical students of New York was held in this city last week. These conferences are held annually, the present being the fourth. The Rev. Dr. George E. Post, M.D., of Beyroot, Syria, delivered an address on "Medical Missions as a Means of Access to Mahometans." R. P. Wilder, of the New York Theological Seminary, followed with a religious discourse, his subject being "The Master's Last Command." An hour's quiz, conducted by C. K. Ober, College Secretary of the International Committee, closed the proceedings of the afternoon session. In the evening, the conference reassembled in Dockstader's Theatre, with C. K. Ober in the chair. Yan Phon Lee, a Chinese graduate of Yale University, spoke at some length upon the trials and hardships of medical missionary work in China, and the comparative results. Dr. H. N. Allen, Special Envoy to the King of Corea, and the Rev. James Johnson, of Glasgow, Scotland, also made addresses.

Tight Lacing and Bright's Disease.—Dr. Neftel claims that tight lacing predisposes to renal disease and phthisis, but renal disease is more common in males than in females.

The Doctor and the Detectives.—The *Medical and Surgical Reporter* states that "a circular has recently been issued by Pinkerton's National Detective Agency asking each physician who receives a copy to give information to the agency in case a suspicious person should come to him for treatment of a gunshot wound of the jaw. It seems that on the morning of Friday, September 30, 1887, burglars entered the residence of the cashier of the Farmers' Bank of New Castle, Del., where the bank is also located, and attempted to overpower the cashier and his family. A fight ensued, and the cashier shot and wounded one of the burglars. The ball is supposed to have entered the mouth of the burglar, shattering the jawbone and carrying away with it a portion of the bone—a piece of which has been found in the blood which came from the wound, and experts pronounce it a part of the jaw-bone. The detective agency wishes the co-operation of medical men in securing the apprehension of this criminal, and we hope may have it." Our contemporary thinks that the doctor ought to assist the detectives and inform on the burglar. But the doctor is not in the detective business. The two callings are quite antagonistic. The doctor deals in the patient's secrets to help the patient, not to betray him. And again, a poor man with a jaw shot off is pretty well punished already.

Reviews and Notices of Books.

De l'Electricité comme Agent thérapeutique en Gynécologie. Par le Docteur Paul F. Mundé. Traduit, avec l'autorisation de l'auteur, et annoté par le Docteur P. Ménière. Paris: Octave Doin. 1888.

We are pleased to call attention to the compliment paid to Dr. Mundé's well-known work, by a translation into French. Dr. Ménière has added a number of notes, to adapt it more to the needs of French physicians.

Die Allgemeine Pathologie oder die Lehre von den Ursachen und dem Wesen der Krankheitsprocesse. Von Dr. Edwin Klebs, Erster Theil. Die Krankheitsursachen Allgemeine Pathologische Aetiologie. Mit Theilweise farbigen Abbildungen im text und 8 farbentafeln. Jena. Verlag von Gustav Fischer. 1887.

This book belongs to the highest class of medical works and deserves a much more comprehensive and critical notice than we have space to give to it. The first volume, which is all that has so far appeared, deals chiefly with the subject of pathogenic micro-organisms, their life-history, modes of culture and relation to disease. It is essentially a work on bacteriology, but it is a most complete one, copiously illustrated and containing references to all the work that has been done in this line by the author, and by such other pathologists as have really contributed to the science. Prof. Klebs has been himself a leader in this kind of work, and has indeed made some rather premature announcements of discoveries of specific bacteria. No one can doubt, however, his learning, or ability to present the subject with thoroughness.

The author's study of heredity in its relation to predisposition to, or transmission of disease is very suggestive.

The illustrations in the book are numerous, and are as a rule beautifully executed. The work is a timely one, and most creditable to the distinguished, if sometimes erratic, pathologist who is its author.

Guide Pratique pour l'Analyse chimique et microscopique de L'Urine, des Sediments et des Calculs Urinares. Par le Dr. L. Gautier. Avec 90 gravures dans le texte. Paris: Librairie F. Savy, 1887, 800 pp. 248.

This book is very complete, especially in its description of chemical tests, and in its illustration and description of all the different constituents of the urine. We have seen no text-book that condensed so much in so small a space. The illustrations are numerous and accurate. Not much space is given to pathology.

A Reference Handbook of the Medical Sciences, embracing the entire Range of Scientific and Practical Medicine and allied Science. By various writers. Illustrated by Chromolithographs and fine wood-engravings. Edited by Albert H. Buck, M. D., New York City. Volume V. New York: William Wood & Company. 1887.

This great work is now in the hands of so many of the physicians of this country, and is so well known and appreciated, that little remains to be said of it. It speaks for itself, and it is sufficient for the reviewer to point out briefly the character of the contents of this particular volume which, make it perhaps one of the best, if such a comparison is possible, of the series. The volume begins with Miliaria and ends with Pott's Disease.

Among the more important articles are, Mortality, Mountain Climates, Anomalies of Muscles, Histology of Muscular Tissue, Myopia, Surgical Anatomy of the Neck, Necrosis, Neuralgia, Neuromimesis, Personal Nomenclature. Diseases of the Nose and Nasal Pharynx, Training School for Nurses, Nutrition, Hygiene of Occupation. Ophthalmoscope and Opthalmoscopy, Opium, Optic Nerve, Optometry, History of Orthopædic Surgery, Osteotomy, Diseases of the Ovaries, Ovariotomy, Injuries and Diseases of the Pancreas, Paralysis Agitans, Diphtheritic Paralysis, Infantile Spinal Paralysis, Paraplegia, Injuries and Diseases of the Patella, Pelvic Cellulitis, Pelviperitonitis, Disease and Injuries of the Penis, Pericarditis, Lacerated Perineum, Surgical Anatomy of the male Perineum, Periodicity in Disease, Peritoneum, Peritonitis, Pessaries, Pharmacopœia, Photo-Micrography in Medicine, Phthisis Pulmonalis, Physical Measurements, Medical Physiognomy, Placenta, Plastic Surgery, Pleurisy, Pneumonia in Children, Poisonous insects, Poisons, Diagnosis of Local Lesions in the Pons Varolii and Medulla Oblongata, Post-Mortem Examinations, Potassium, Pott's Disease. There are, in addition, very many shorter articles on subjects in dermatology, materia medica, health resorts, etc. Indeed, it would be difficult to find any subject relating to the science of medicine in its broadest sense which is not here treated of with more or less detail as the importance of the subject may demand The volume is illustrated by upwards of 750 wood-cuts and seven lithographic plates, printed in black and colors. The contributors, from all parts of the United States and Canada, number eighty-six.

Mechanical Massage. By Geo. H. Taylor, M.D. New York: John B. Alden. 1887.

This is a book, intended for popular use, explaining a system of massage by means of various forms of machinery.

A Practical Treatise on Obstetrics. By Dr. A. Charpentier, Adjunct Professor at the Faculty of Medicine, Paris. Translated under the Supervision of, and with Notes and Additions by Egbert H. Grandin, M.D., Obstetric Surgeon to the New York Maternity Hospital, Instructor in Gynecology at the New York Polyclinic, Fellow of the Obstetrical Society, etc. In four volumes, with numerous wood engravings and colored plates. New York: William Wood & Co. 1887.

This treatise on obstetrics forms the first four volumes of the "Cyclopædia of Obstetrics and Gynecology," issued monthly during 1887 by William Wood & Co. The first volume treats of the anatomy of the internal and external genitals, menstruation and fecundation, and normal pregnancy and labor. In the second volume the pathology of pregnancy is considered. Here the author treats of the diseases to which the pregnant woman is liable, of diseases of the ovum and of the fœtus, of miscarriage, of extra-uterine pregnancy, and of the effect upon the course of pregnancy of any intercurrent disease to which the woman may become subject. Volume third includes a consideration of the pathology of labor. The author reviews all the factors which may be concerned in the production of dystocia, and considers the means best adapted for the relief of this condition. A special chapter is devoted to ergot, its physiological and pathological action, and the indications for its use during labor and during the puerperium. In the fourth volume the pathology of the puerperium and the various obstetric operations are considered in detail. The work is profusely, though judiciously, illustrated, the four volumes containing about 750 wood engravings and 7 colored plates. Charpentier's work is recognized to be the most complete and trustworthy treatise on obstetrics in existence in any language, and an incalculable service has been rendered English-speaking physicians in giving them this translation. But despite the writer's acknowledged authority as an obstetrician, there are yet some points upon which his views are at variance with those of the majority of teachers. These points have not escaped the critical eye of the editor, who has added copious notes, whenever it seemed necessary to warn the reader against what might be considered erroneous teaching. The work as it now appears may therefore be regarded justly as the standard authority, as the latest and the best treatise on obstetrics in the English, or indeed in any other, language. If the use of so hackneyed an expression may be allowed for the sake of the truth which it contains, we would say with emphasis that no practising physician can afford to be without this cyclopedia.

Diseases of the Female Mammary Glands. By Th. Billroth, M.D., Professor of Surgery at the Royal University, Vienna. Edited by Egbert H. Grandin M.D., Obstetric Surgeon to the New York Maternity Hospital; Instructor in Gynecology at the New York Polyclinic; Fellow of the Obstetrical Society, etc.

New Growths of the Uterus. By A. Gusserow, M.D., Professor of Obstetrics and Gynecology at the University of Berlin. Translated and Edited by Edmund C. Wendt, M.D., of New York. New York: William Wood and Company. 1887.

These two works together make up Volume IX. of the Cyclopædia of Obstetrics and Gynecology, published in Wood's series for 1887. The first named work treats of the anomalies and diseases, puerperal and non-puerperal, including tumors of the mammary gland in woman. There is also a chapter on the operation for removal of the mamma and axillary glands. The second part, embracing about two-thirds of the volume, is on New Growths of the Uterus. It is a somewhat free translation of the second edition of Gusserow's work, containing also some reports of cases and tables which appeared in the first edition, but were, not wisely, it would seem, omitted from the second. Each of these two books is a masterpiece of its kind, and the two together combine to make this one of the most useful volumes of the set.

Quarantine and Anti-quarantine.—As was anticipated, the International Congress of Hygiene at Vienna offered an opportunity for a duel of words between the leaders of sanitation, who differ so widely concerning the best means of keeping cholera out of a given territory. The members of the Congress included many members of the last international quarantine commission, which met at Rome, and at which there were distinctly formed a quarantine party and an anti-quarantine party. Professor Gruber, of Vienna, described his experience with cholera in Austro-Hungary in 1885 and 1886, and said that the intercourse between human beings provided the greatest opportunity for the spread of cholera, but its spread depended largely upon the season and weather. Professor Gruber expressed himself as a firm believer in Koch's bacillus theory, and a strong adherent of the quarantine system. Two Japanese delegates then stated that cholera was always introduced into Japan by English or French ships coming from China. When Max von Pettenkofer, of Munich, of the anti-quarantine school, and Dr. Proust, of Paris, his able opponent, joined in the debate, the climax of the discussion was reached. Pettenkofer upheld the English idea of sanitary preparation to prevent the disease from getting a foothold, and claimed that, while he did not deny the discovery of the bacillus by Koch, that its existence alone could not explain all the phases of the disease as seen in India and elsewhere. Dr. Proust advocated isolation, detention, and disinfection, and the Congress adopted by a large majority five resolutions, moved by him, setting forth the views of the quarantine party.—*Sanitary News*, October 8, 1887.

Reports of Societies.

NEW YORK ACADEMY OF MEDICINE.

Anniversary Meeting, November 17, 1887.

A. JACOBI, M.D., PRESIDENT, IN THE CHAIR.

A LARGE audience assembled to listen to the anniversary discourse. There were seated upon the platform Dr. John S. Billings, of Washington; Dr. Fordyce Barker, ex-President; Drs. Charles Carroll Lee and William H. Draper, Vice-Presidents; and Dr. Andrew H. Smith.

On motion of DR. JACOBUS, the Secretary, and in compliance with the recommendation of the Council, the regular order of business was omitted.

THE PRESIDENT then gave a brief history of the life of the Academy during the current year, which showed that there had been successful scientific work and increasing prosperity. With this there had been sad losses; eight Fellows having been removed by death, whose names and memories would not be forgotten.

During the year 62 new members had been elected, making a total of 511 resident Fellows; the largest number since the incorporation of the Academy.

To the library there had been added 1,120 bound volumes, and 400 pamphlets. By a special donation the *Library Fund* had been increased by $5,000, making $10,000 total, the proceeds of which could be used for the purchase of new books, etc. There would soon be transferred to the library a donation of a special library on malformations of 4,000 volumes.

The President then gave a brief *résumé* of the scientific work of the year, and alluded to the immense value to the public of the recognition of the presence of

CHOLERA AT THE PORT OF NEW YORK

by the bacteriological investigations of medical experts.

The Health Department and the New York Academy of Medicine had joined hands.

He expressed the hope that the public would appreciate the good the Academy was trying to do, and some day give tangible evidence of that appreciation by such liberal donations as would enable it to build a suitable building for the accommodation of its rapidly increasing library and for the proper performance of scientific work.

The circular which had been addressed to the profession and the public, and signed by a committee of thirty, was then read.

TWO HUNDRED THOUSAND DOLLARS

would be asked for, with the confident expectation that that amount would be obtained, which would enable the Academy to build a fire-proof building.

After pointing out some of the relations existing between the public and the medical profession, the President introduced the orator of the evening, DR. ANDREW H. SMITH, who delivered the anniversary discourse, on

THE FAMILY PHYSICIAN OF THE FUTURE,

in which he spoke, first, of the diversity of occupations of the human race. But not until comparatively modern times did "the healing art" take an independent position, and he then considered what that position was at the present time. Did medicine hold the place in public estimation which it should? Certainly it did not. Notwithstanding the great advancement which had been made, it was still unable to make itself heard above the clamor of ignorance, superstition, and charlatanry.

Even hospitals, though dependent upon the profession, did not invite medical men to take a share in their management.

In this city the profession had no voice whatever in the selection of the Board of Health, and the law specifically provided that it should not be presided over by a medical man. With few exceptions, the medical man was known only in the vicinity in which he lived. The profession as a whole exercised no important influence in the community, although the science of medicine was but a fragment of a far greater subject which had engaged the attention of the most learned and renowned men of the world. Both as a science and an art it had occupied itself too much with individuals, and not sufficiently with other organizations. It had studied only to relieve the present suffering of the individual, and prolong his life, and the physical well-being of the race had been left almost entirely without consideration.

The relation of the family physician to families was then pictured, and it seemed that in the cities, at least, there was scarcely a place for him to stand. For Drs. A, B, C, D, and E attended to the various special diseases, and Dr. F was merely asked to tell who the best man was in each of these departments. Medicine, however, could be a power in the world only as it was

REPRESENTED BY THE GENERAL PRACTITIONER,

and in proportion as specialism became excluded from the family physician medicine became restricted in its scope. The aid of the specialist would always be required, but the time would come when such aid would be rendered only at the instance of the family practitioner.

Attention was then directed to the tendency of modern medicine, which was toward the prevention of disease. The triumphs of antiseptic surgery were much more notable in keeping germs out of the system than in getting rid of them after they had effected an entrance. Ultimately

THE CHIEF PROVINCE OF THE FAMILY PHYSICIAN

would be to prevent suffering. The relief of suffering was godlike, but to prevent suffering was a still higher office.

The intimate relation which should exist between family and physician was then sketched, and it included advice concerning all hygienic and sanitary questions, hours of recreation, work, and entertainment, eating and drinking, activity in business, etc. Who were our natural protectors, if not family physicians?

In order to show in detail what the relation should be between the medical practitioner and the families under his charge, he took up

THE LIFE OF A YOUNG MARRIED PAIR.

In the first place, the medical man should be selected with the greatest care, and should be of an age that, in the ordinary course of human events, would allow of a long-continued service.

The medical history of the man and of the woman, as far as possible, should be recorded, containing a careful physical examination. Chronic disease should not go undetected, and sudden death could not occur without forewarning should that be done thoroughly.

The birth of the children, the progress of dentition, the age at which each child walked and talked, the occurrence of the contagious diseases of childhood, etc., should all be recorded, and it was only by such carefully kept records that the physician could become properly acquainted with the constitution of the patient.

"The proper kind of treatment for some diseases begins one hundred years before the birth of the child," had been said by Dr. Holmes.

Dr. Smith then spoke of the great advantages afforded by such records. Among the very earliest and important requirements in the rearing of children should be

OBEDIENCE AT HOME.

The influence of this could be seen when the child began to go to school, or when it came under treatment for any disease, and under the influence of the general laws which regulated the development of each mental faculty. Children with damaged heart-valves should not

be allowed to engage in the sports of athletic clubs, and the influence of efforts at abstruse reasoning upon delicate, highly susceptible, or impaired nervous systems should be under the steady surveillance of the family physician. So, in a thousand ways, the physician should have his place on the consulting board of his families. The occupations of the boys should be largely influenced by the decision of the family physician, who should always be as welcome and feel as free at the domestic board as in his own home. His advice should be sought with regard to night-entertainments, dress, the selection of a new residence, etc. A house occupied by a consumptive, even years before, should not be occupied by the healthy until it had been thoroughly cleansed and disinfected.

This partial sketch of what he believed would be considered the duty of the family physician was closed by a consideration of the question of time required to carry out the suggested method, and how present arrangements, which offered an impassable barrier, could be so modified as to permit of its application.

Such a physician must necessarily be a man of varied culture and great learning, and he would have use for a more extended knowledge than any man in the community.

Under all circumstances and in all positions, such a man would so represent the higher and broader aims of medicine as to give the profession a standing before the world commensurate with the dignity and importance of his office.

This was more than an ideal sketch; it was a prophecy which he believed would be fulfilled. The Academy should be like the true family physician, and represent medicine in its largest sense and fullest development.

At the close of the address, which was well received, the audience was invited to inspect the library and the reading-rooms, and the Academy then adjourned.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, October 12, 1887.

T. Mitchell Prudden, M.D., President, in the Chair.

Dr. A. P. Dudley presented the

TUBES AND OVARIES

removed from a woman fifty-one years of age. They did not show any pathological change. The history of the case contained the principal point of interest. She was married when thirty-three years of age, was the mother of four children, and had never had a miscarriage. Her first delivery was normal and not rapid. In her last labor, eleven years ago, she was delivered rapidly of a child that weighed ten and a half pounds, and had never been well since. During these eleven years she had been in bed most of the time; at no time had she been able to walk the distance of the length of a block. During the last three years she had not been out of bed, except to use the commode. Her menstrual life was about normal, and she never had a leucorrhœal discharge. There was chronic constipation, but no vesical symptoms.

Her chief complaint was concerning

PAIN IN THE SPLENIC REGION,

which was not constant, but was severe whenever she was upon her feet. There was fixed retroversion of the uterus. A great variety of diagnoses had been made, and among these aneurism. Dr. Dudley was unable to obtain any positive evidence of aneurism, although there was marked pulsation directly over the abdominal aorta, with a moderate amount of thickening, apparently, just below the umbilicus. He recommended exploratory incision, and performed the operation, October 11th. He introduced the whole hand into the peritoneal cavity, found the spleen small and without adhesions. Nothing pathological was found at the site of the pain of which she had complained. The aorta was normal, except that it apparently bifurcated high up, and at that point it was quite large.

THE MENOPAUSE WAS COMPLETE ONE YEAR AGO.

In the pelvis the lower part of the descending colon was adherent to the broad ligament and ovary. The uterus was retroverted and firmly adherent. The uterus was not reduced in size.

Adhesions were broken up and the uterus liberated. Both broad ligaments were filled with knotted veins. Both tubes and ovaries were removed. Sufficient of the broad ligaments was caught up to include the varices and the round ligaments, and when this had been done the uterus assumed the normal position, and was thus also separated from the fresh surface of the adhesions that had been broken up behind it. The patient was doing well, had not needed any opium, and had been free from pain. The question arose, *How much good can be done by removal of the tubes and ovaries after the menopause?*

ECHINOCOCCUS-CYSTS OF THE LIVER AND PERITONEUM.

Dr. Ira J. VanGieson, presented specimens which were taken from the body of a middle-aged German woman, who was delirious a few days before death, but gave no symptoms referable to the parasitic lesion. The cysts occurred in the following situations:

(1) Partially embedded in the right lobe of the liver, a little external of the gall-bladder, there was a soft globular sac about two and a half inches in diameter. The wall of the sac contained a few blood-vessels, and the exposed surface of the sac was slightly adherent to the surrounding tissues. (2) Attached to the omentum in the right lumbar region was an oval sac $3\frac{1}{2}$ by $1\frac{1}{2}$ inches in diameter. (3) In the hypogastric area, adherent to the omentum, was a kidney-shaped sac, 4 by $1\frac{1}{2}$ inches in diameter. (4) In the left inguinal region were two sacs; one, oval in shape ($2\frac{1}{2}$ by 1 inches in diameter), lying against the abdominal wall; the other, somewhat smaller, lying loosely over the sigmoid flexure. (5) The right inguinal region contained a group of four smaller sacs, lying distinct from each other on the fascia of the psoas-muscle. One of this group was adherent to the vermiform appendix near its junction with the cæcum. (6) Embedded in the mesentery, about the size and shape of the mesenteric glands, were several other sacs. (7) On the anterior surface of the uterus were a number of small cysts about the size of peas; on the anterior lip of the cervix uteri was a larger one, about $1\frac{1}{2}$ inch in diameter.

These sacs, when opened, were found packed with larger and smaller translucent, mottled gray and white cysts, associated with a varying amount of soft, white material. The cysts were collapsed and tightly rolled, so as to become spindle-shaped. Frequently, several cysts were rolled together in a single coil. Scrapings from the cyst-walls, examined microscopically, showed fat globules, granular matter, cholesterin crystals, and fragments of the peculiarly laminated outer wall of the cysts. Hooklets and scolices were not found, so the cysts might be termed sterile.

The President regarded the case as interesting, because of the rarity of the peritoneal echinococcus-cysts in such numbers. He could recall only two cases where the peritoneal cysts were so numerous and large.

Dr. VanGieson also presented a specimen of

PENDULOUS UTERINE MYOMA,

which he found suspended from the cervix uteri and completely occluding the vagina. It was taken from the body of an old woman who died of acute exudative peri-

tonitis in Charity Hospital. The tumor closely resembled a human heart, measured 4½ by 5 inches in diameter, and weighed a little over one pound. Its long axis corresponded to the long axis of the vagina. Its base was against the cervix, to the posterior lip of which it was attached by a slender flattened pedicle half an inch broad and one-eighth of an inch thick. The discolored apex protruded from the vulva about one and a half inch. The tumor was moderately adherent to the posterior wall of the vagina.

Dr. John C. Peters, Chairman of the Committee appointed to prepare a

MEMORIAL NOTE ON THE DEATH OF ALONZO CLARK, M.D., LL.D.,

read the following, which was accepted and ordered to be published in the minutes:

It is eminently proper that the New York Pathological Society should honor the memory of Dr. Alonzo Clark, for he was always its friend, and often its teacher and counsellor, for nearly fifty years.

But we are not called to mourn his loss as those who cannot and will not be comforted, for he lived an unusually long, healthy, honored, and useful life, which was only ended by great age and its attendant infirmities, and these, moreover, were so wearing that he longed to be released from them. Even under these distressing circumstances, we cannot go as far as Diedrich Knickerbocker, who says the death of a great man is no very inconsolable matter of sorrow, and that no fact is more manifest than that the death, even of a very wise man, is a thing of very little importance: nor agree with Pliny, who says: "Of what consequence is it that individuals come and go? Sage follows on the footsteps of sage; one hero steps out of his triumphal car to make way for another, and of the proudest monarch it is merely said, 'He slept with his fathers and his successor reigned in his stead.' The world cares but little for their loss, and if left to itself would soon forget to grieve. It is the biographer and the historian who generally have the whole burthen of grief to sustain. They inflate the people with sighs they never heaved, and deluge them with tears they never dreamed of shedding." All this is not true of Dr. Clark, who has, and long will have, many sincere mourners.

It is more than ten years ago since many of us noticed, with sincere regret, that age and increasing weakness no longer permitted him to attend our meetings with his usual regularity, and that meant a great deal for Dr. Clark, as it is said that before this, in his long career, he had never missed a college, hospital, or consultation appointment. Many months ago we were pained to find that progressing debility rendered intercourse with him uncertain and difficult; still he was always pleased to see his old friends, and it was frequently evident that he had not lost his interest in this Society.

Finally he could only sit, with mingled Christian and Socratic resignation, calmly noting the slow but relentless approaches of that Great Destroyer which he had so often baffled in the service of others, and so frequently triumphed over.

But before we were called upon to pay him our last tributes of love and respect, we were suddenly summoned to mourn the loss of his great and pleasant rival, Dr. Austin Flint.

Dr. Clark was over eighty-one, and had been a leader in this Society for forty-three years. Dr. Flint was only seventy-four years of age, and had worked with us usefully and agreeably for twenty-seven years. But Dr. Flint was still healthy, active, and elastic in body and mind, and altogether excellent. Some of us expected to meet him for a decade or more. Like Dr. Clark he was loaded down with professional honors, and had a very large clientage of friends and doctors. He, too, was a great medical teacher and a famed hospital and consulting physician. Dr. Clark had often wished to reach his eightieth year, and hoped to do this with his eyes undimmed and his strength not greatly abated. Dr. Flint had frequently signified his preference for sudden death. The wishes of both were granted. After an unusually busy, honorable, and successful day, Dr. Flint was stricken down so quickly that he died and made no sign; and so mercifully that we had the firm assurance that he felt no suffering. Dr. Clark was still looking quietly toward that eternity for which he had no fears, and submitting to his lingering fate with dignity and complete composure. If Dr. Flint had lived another short year he would have been publicly crowned in Europe and America with the highest medical honors which had ever been given to any American physician; and Dr. Clark had long been worthy of them. But, as it were, in the twinkling of an eye one great New York consulting physician was dead and another was completely incapacitated.

"Both had minds of singular breadth and wisdom, accustomed to rest their judgments upon an enormous range of experience and learning; to hearts as large and warm as their intellects were comprehensive they added a gracious gentleness and dignity of nature which adorned and rounded out characters of exceeding completeness and loveliness" (C. A. Dana).

Both had often witnessed every shade of human suffering and agony; both had watched death in all the numberless and dreadful varieties in which it appears to great medical counsellors and hospital physicians, in widespread epidemics, malignant fevers, and swift inflammations, and in all the slower but equally relentless steps of malevolent chronic disease. The one was spared all warning of his end, the other was destined to drain the last bitter dregs of the cup of misery. But so completely master of himself was Dr. Clark, that we saw no signs of unmanly fear, or even of impatience; and so completely had he always kept fully abreast of his profession that he was not called upon to sorrow for any great professional mistakes or deficiencies, much less of crimes. His medical conscience was clear, and his end was that of the good and faithful servant who had increased his talents seventy and even an hundred fold.

We should remember both Drs. Clark and Flint because much of their best and most original work was done with and for this Society, and that in such abundance that the mere record of it fills several hundred pages of our archives.

It is believed that Dr. Clark favored this Society more than any other. He joined it in the first year of its existence, viz., in 1844, and much of his newest and most interesting researches were first made public at our meetings. He from the very first reached a very prominent position in our ranks, for he was then over forty years of age, and in the very prime of his health and fame. He was already an excellent medical scholar; a singularly good clinical and didactic teacher; a noted hospital physician; a favorite counsellor of scores of general practitioners; and had long been doing earnest and honest work in the rapidly spreading fields of pathological science.

It is believed that Dr. Clark then and always regarded this Society as the most useful medical organization in this city. He certainly strove very hard to make it so. Your Committee has gone over much of our earlier records, and have been surprised at the very large number of rare and important specimens which he exhibited years ago, for himself and others; for many physicians preferred the clear and scientific way in which he could bring out their peculiarities to their own more imperfect efforts. He was then, as always, a most industrious and painstaking man, and it is scarcely an exaggeration to say that sooner or later he exhibited specimens of almost every fatal disease to which the human frame is liable.

Dr. Clark was gifted by nature with a most commanding, dignified, and comely presence. He was so large that it often seemed as if he must be unwieldy; but he was so careful and methodical in all his ways that he ever appeared untiring. He was not alone in some of

these characteristics, for there were giants in those days in the New York Pathological Society, and the magnificent forms of Willard Parker, Valentine Mott, William H. Van Buren, C. R. Gilman, Middleton Goldsmith, George Wilkes, T. M. Markoe, G. A. Sabine, L. A. Sayre, J. T. Metcalfe, S. S. Purple, T. M. Halstead, and others were often seen among us. But Dr. Clark towered above them all, the largest and most symmetrical, often the most learned and earnest, yet frequently the most genial and winning; for his kindliness and humor were quite as marked as his more solid qualities. The size and shapeliness of his person were only rivalled by the breadth, depth, and pleasantness of his mental and moral characteristics.

These physical and mental giants were closely matched in intellect and knowledge by many smaller personages which so often inclose precious gifts, like John A. Forrey, John A. Swett, Edward Delafield, James R. Wood, William C. Roberts, C. E. Isaacs, Robert Watts, the two little Peterses, and many others; yet Dr. Clark thought and spoke with ease and confidence among the quicker, and perhaps brighter, sallies of his less ponderous colleagues. He sometimes appeared very deliberate, for one of his most marked characteristics was his extreme accuracy. His love of precision led him to as careful a study with the microscope as the instruments of that time would permit, and it is believed that he was not only the earliest medical worker with the microscope in this city, but the first American physician to own a really good apparatus. However this may be, he certainly made almost all the earliest microscopical examinations which were made in this Society, for the specimens of others were constantly referred to him for more minute study. He continued to do this work with few rivals until the microscope fell into the hands of specialists; but the lamp which lighted up his own magnifier never went out until he had completely retired from practice.

In those early days the doctor's watch took the place of the clinical thermometer, and not only measured time, but tried to measure fever. Dr. Clark's timepiece was more accurate than the microscopes and thermometers of those times. He had many appointments to keep each day at college, hospitals, and especially at numerous consultations. Although he never kept a private carriage or used a hired one, he was never behind time. He never was seen hurried, much less excited, nor did he ever appear fatigued. He was always true to time, and as cool. He seemed as incapable of forgetting the exact hour of an appointment as he was of deliberately violating a promise. His high sense of honor and honesty he carried into all the affairs of life, especially into the study and treatment of disease. He knew when to give, and especially when to withhold, his medicines. He had so often seen nature do much that he had learned when to trust solely to her; but in peritonitis he frequently gave, and that successfully, hundreds of grains of opium in a day, for days and almost weeks together.

He went about on foot, because he regarded a certain amount of exercise necessary for his bulky frame. Besides, he was opposed to all display and ostentation. He was obliged to keep a score or less of horses at his country-place at Darien, Conn., but he used no carriages or horses in this city. He unobtrusively went his daily rounds, as if he was one of the least important of doctors. His love of truth and dislike of display also led him to prefer his ears to any instruments in examinations of the chest, although he and Dr. Cammann discovered and perfected the stethoscope which has been the favorite one all over the world for thirty years or more.

Our archives also preserve many instances of the remarkably earnest, honest, and masterful manner in which Dr. Clark led or followed the numerous discussions which arose in this Society. It was always evident that he had no fixed opinions or beliefs except such as were deeply founded upon well-assured facts. He often stripped off the rosy glamour with which more enthusiastic and imaginative men tricked out mere notions or hypotheses; but it was always evident that he had applied the same wholesome pruning process as relentlessly to his own visionary ideas, if he ever had any. He was always very courteous and fair in debate; he mingled great gentleness with extreme firmness, and was rarely worsted in argument for the lack of assured facts or solid reasoning. He was heard at his best in old-time discussions with Drs. Parker, Van Buren, Markoe, Isaacs, Metcalfe, Roberts, Watts, Peaslee, Dalton, Post, Jacobi, Buck, Sands, Krackowizer, Sabine, Shrady, and others. It was only occasionally that we could see how sharp and heavy in retort he could be. His bearing in these discussions was perfect. He never showed the slightest sign of impatience or annoyance, and used only the simple and clear eloquence of great and accurate knowledge, occasionally lightened up by a little humor, in preference to downright contradiction. He always appeared like one who had earnestly striven, and successfully, to learn all that was positively true in medicine, and had equally carefully avoided all that was immature and uncertain. Occasionally, if some new-comer endeavored to show that he knew more than the whole Pathological Society, Dr. Clark would bonnet him relentlessly.

Fortunately the Pathological Society has always had such reliable leaders, commencing with our first President, Dr. John A. Swett. The number of those who strove for mere verbal or windy victories has always been small.

The New York Pathological Society, although founded by young men, all under the thirties, is the oldest association of the kind in the world, preceding the London Pathological Society by two years. But Dr. Clark quickly joined it, as did Parker, Van Buren, and others of like stamp. Dr. Clark was long one of our great leaders. At the time of our founding he was the foremost pathologist in this country, and by his hard work and enthusiasm gave much impetus to the new Society and to the study of pathology all over the land. As far as mere pathology is concerned, the places of Drs. Clark and Flint have long been filled, but as wise, considerate, experienced, and kind physicians, advisers, and friends, their loss will long be felt by those who knew them best.

Dr. Flint will live in his writings. The public fame of Dr. Clark is especially intrusted to the College of Physicians and Surgeons, to this and other societies, and to the hospitals he served so long and so well. They will not let the words of Diedrich Knickerbocker become true and his name forgotten.

J. C. Peters,
W. M. Carpenter,
W. P. Northrup,
Committee.

Enema Lesions.—Dr. Nordmann, of Basle, has published a description of lesions due to the operation of administering enemata (*The Lancet*, October 8, 1887). They include three complete perforations and ulcers, and wounds of various depths and sizes. The causes of these lesions seem to have been the use of defective instruments, ignorance of the direction of the rectum, catching of the transverse fold on the tube, extreme irritation of the mucous membrane of the bowel, and obstructions caused by certain conditions of the uterus, the fetal head, or an enlarged prostate. As a rule, these lesions are to be found on the anterior wall of the rectum, from half an inch to nearly three inches from the anus. They are not always easy to diagnose, as other foreign bodies or caustics may produce similar appearances. Tubercular and hemorrhoidal ulcers may be mistaken for them; these are, however, generally higher up. A perforating wound gives rise to paraproctitis, but this is not necessarily fatal, though a stricture generally results.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN SURGERY.

Stated Meeting, November 14, 1887.

ROBERT F. WEIR, M.D., CHAIRMAN.

THE first paper for the evening was read by DR. WILLY MEYER, on

NEUROPATHIC INFLAMMATION OF THE KNEE-JOINT (ARTHROPATHIA LABIDORUM).

This affection was first described by Charcot in 1868, and constituted what was known as Charcot's disease. At present its etiology is *sub judice*. The pathological anatomy had been variously described. Most of the cases made their appearance in the ataxic stage of tabes, with sudden onset, without fever or pain, but with morbid crepitation and intra-articular dropsy, with deep anæsthesia, and there was no articulation which might not be attacked. Spontaneous dislocation was not infrequent, especially of the hip and shoulder.

Dr. Meyer presented a patient at the close of his paper, a man thirty years of age, who had never shown any evidence of secondary syphilis, but three years ago symptoms of tabes began. The left knee was involved by the arthropathic disease, and showed the deformity of genu-valgum. There was history of traumatism. The tibio-tarsal joint had also become involved recently. Orthopædic treatment was in operation. The question of resection was raised for discussion.

DR. PARKER SYMS presented a patient from the almshouse, a man apparently sixty years of age, who denied syphilis and had not shown any of its secondary manifestations. Four years ago, after exposure immediately following a bath, he began to feel a weakness in his lower extremities that interfered with walking. There was no disturbance of sensation. Soon after, he had the sensation of walking upon a spongy surface. The joint-trouble appeared last summer in the left knee, where dropsy became marked, attended by swelling of the thigh. There was also considerable thickening of the capsule and the condyles. The man had unmistakable tabes. Although the eyes did not show the characteristic Argyll-Robertson pupil (loss of pupillary reflex to light), there was complete loss of tendon-reflex on both sides and inability to stand with the eyes closed. There was possible atrophy of the optic nerve of the left eye.

THE CHAIRMAN presented a male patient who entered the New York Hospital several months ago on account of

A GREATLY DISTENDED ANKLE-JOINT.

He was fifty-one years of age and without syphilitic history. There was history of articular rheumatism. Six years ago his left ankle began to swell. Prior to that he had had stabbing pains in the legs, staggering gait, inability to walk in the dark, and now has the peculiar, contracted pupil. There were osseous plates on each side of the joint. No other joint was affected.

The man was able to get about quite well with the assistance of orthopædic apparatus, and that mode of treatment would be continued until at least further affection of the joint developed.

The Chairman also presented a specimen which showed the tibia deformed by the osteophytes commonly present in this class of cases.

As to

SURGICAL INTERFERENCE,

the experience of Czerny in six cases had shown it to be unfavorable. His own experience, covering six cases, showed that surgical interference had been rather unsatisfactory, as in all a fistulous opening remained.

DR. E. C. SEGUIN confined his remarks chiefly to some points of fact. First, the rarity of this complication of tabes in private practice. He had never seen a case in his private practice, although he had met with perhaps a dozen in dispensary and hospital patients. Second, the suddenness of the onset and the great rapidity and destructiveness of the process, which spoke somewhat of a distinctive nature of the arthropathy. Third, and also mentioned by the reader of the paper, the occurrence of a large quantity of synovial fluid at quite a distance from the affected joint. In other words, there occurred very early a considerable break in the synovial sac and capsule of the joint.

As to the possible nature of the affection, he was inclined to reject the theory of the essential and specific nervous nature of the arthropathy, and was inclined to agree with Paget that it was a sort of hybrid pathological condition that could be spoken of as

ARTHRITIS IN A TABETIC PATIENT.

He was strongly impressed with the view that it was due to traumatism. Yet, if it was not strictly neuropathic—and the original theory that it depended upon changes in the anterior bone had been abandoned—it possessed peculiar characteristics.

He referred to a case in which he was able to diagnosticate tabes without seeing the patient. It was one to which Dr. Weir directed his attention, with the statement that the knee-joint had become suddenly, and without apparent cause, greatly distended with fluid, and that there was remarkable anæsthesia when the aspirator-needle was introduced. Dr. Seguin suggested that the patient had tabes, and subsequent examination revealed the clinical evidence of that disease. To make the history of the case complete, Dr. Seguin exhibited a microscopic section of the spinal cord of the same patient, that showed the usual lesions of tabes.

DR. M. ALLEN STARR had seen a few cases of Charcot's disease, especially in the Salpêtrière Hospital, Paris, but in a more advanced stage than seen in the cases presented to the Section. Immobility of the joints was the marked feature, and was much more developed in those cases than in the patients exhibited this evening. He agreed with the view that there was

NOTHING ABSOLUTELY CHARACTERISTIC IN THE NERVOUS PATHOLOGY OF THIS JOINT-AFFECTION;

yet the so-called sudden onset might be a mistake. The patient might not be conscious of any pain, but the joint might be fixed by the involuntary contraction of the muscles, and the joint-affection be present for some time without the patient being aware of it until swelling became noticeable.

With regard to effusions, also, a similar theoretical pathological explanation might be advanced. The tendency in a case of inflammation attacking a normal joint was to fix the joint completely, but in these cases the joint was not fixed, and therefore nature provided against injury of the articular surfaces by pouring out a great supply of fluid. Thus might be explained the unusual effusion into the joints in these cases. In other words,

ORDINARY ARTHRITIS IN TABETICS RUNS AN ABNORMAL COURSE,

but that did not imply that there was a pathological process in the spinal cord. There was nothing known with regard to special changes in the spinal cord in tabetics with arthropathy as distinguished from the cases of tabes in which there was no arthropathy.

Degeneration of the peripheral nerves undoubtedly occurred in the course of tabes, yet that as a pathological anatomy of this affection must be abandoned.

DR. J. D. BRYANT would be content to employ orthopædic apparatus until he had become satisfied that the disease had subsided.

DR. R. J. HALL referred to osteoporosis, and asked the neurologists concerning the frequency of its occurrence.

DR. SEGUIN said there was porosity of the bones in tabes, and that it might influence the surgical operation

to be adopted. He was inclined to favor amputation rather than resection; for the reason that the bone was in such a positive state of fragility. Nutrition would probably be *nil*.

Dr. Gerster had seen three cases of arthropathy; two of the knee-joint and one of the ankle-joint. In one case fracture occurred at the upper end of the tibia, where the bone was thickened, and in consequence of a simple trip upon the carpet and fall. That showed that the bone was fragile, but the fragility did not prevent complete union in four weeks.

He believed that exsection was indicated in the first stage. Of course, antiseptic precautions become much more imperative than under ordinary circumstances. Certainly a person could do much better with anchylosis between the tibia and femur than with an amputated limb.

Dr. Meyer was of the opinion that, in the case which he had presented, the bones would unite and the wound heal after resection, and he would advise the operation. The case being in the first stage, it was the proper time for the operation, inasmuch as it should not be performed in the second stage.

Dr. A. M. Phelps then gave a

DEMONSTRATION OF THE OPERATION OF OPEN INCISION IN THE MANAGEMENT OF CERTAIN FORMS OF TALIPES VARO EQUINUS.

The cases to which he applied this operation were those of inveterate relapsing club-foot. The operation was preceded by demonstrations of the anatomical peculiarities of the deformity by means of dissections and casts.

His statistics covered 61 operations upon 36 feet. Of these, 33 were his own cases. In no case had death occurred as the result of the operation.

The wound was allowed to fill with blood, expecting organization of the blood-clot to take place, was dressed antiseptically, and this dressing was covered with plaster. The whole was to be allowed to remain three weeks, and was then to be removed, with the expectation that the wound would be healed, when the position of the foot could be further corrected, if necessary, and a water-glass shoe applied. The aim was to place the foot in the position which would cause the weight of the body to be utilized for straightening it, and the child was allowed to go about.

Relapse was liable to occur, as after all other operations, and hence the great necessity for continuous care until that tendency had been completely overcome.

If the bones were not deformed, primary osteotomy was not justifiable, and no one could tell the amount of bone-deformity present until the open incision had been made.

Discussion was postponed until the next meeting of the Section.

Malignant Tumors of the Kidney are to be differentiated from hydro-nephrosis by the following comparison, given by Ouchterlony:

Renal Cancer.	Hydro-nephrosis.
1. Generally unilateral.	1. Soft.
2. Hard or more than semisolid.	2. Fluctuates.
3. Rarely fluctuates.	3. Liable to suddenly subside at times, with copious discharge of urine.
4. Permanent tumor.	4. Not so.
5. Tumor often of enormous size.	5. Movable.
6. Tumor generally fixed.	6. Descends with diaphragm.
7. Does not descend with diaphragm.	7. More slow.
8. Of rapid growth.	8. Absent.
9. Cachexia.	9. Absent. } Added by Dr. Grant.
10. Hæmaturia.	10. Water. }
11. Blood on aspiration.	

The Prescription of Theine recommended by Dr. East, of Mayo, for hypodermic use in the treatment of neuralgia, is as follows: ℞. Theine, sodium benzoate, āā 3 j.; sodium chloride, gr. viij.; distilled water, f ʒ j. M. Sig.: For hypodermic use. Six minims equal one-half grain of theine.—*Phila. Polyclinic.*

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE ANNUAL MEETING AT THE COLLEGE OF SURGEONS—NOTES AT THE SOCIETIES—STENOSIS OF BILE-DUCT WITHOUT GALL-STONES—SUCCESSFUL OPERATIONS FOR SUPPURATIVE AND TUBERCULAR PERITONITIS.

London, November 5, 1887.

Having an afternoon to spare on Thursday last (November 3d), I wended my way to the College of Surgeons in company with some four or five hundred fellows and members to take part in the Annual Meeting. The occasion was a momentous one, for the council of the college have now actually applied for their new charter. In this the members are simply ignored, and even the fellows are treated with but scant consideration, the only boon vouchsafed them being that of voting for the members of the council by means of voting papers, instead of personally as heretofore. The members and fellows, therefore, must clearly bestir themselves without delay unless they are willing to submit quietly to the oligarchical sway of the four-and-twenty members of the council. They have already taken one important step by presenting to the Privy Council a petition, signed by nearly five thousand members of the college, in which they ask that the additional powers the council are seeking should not be conferred upon them without taking into consideration the claims of the twelve thousand odd constituents of the college. It was unreservedly stated on Thursday that the associations of members and fellows intend to be represented by counsel before the Privy Council, and that, should their appeal to that tribunal prove unsuccessful, they intend to bring the matter before Parliament and the public. Mr. Timothy Holmes opened the attack. He has been a member of the council, and is therefore fully conversant with its methods of procedure. He was also for many years an examiner at the college, and the whole of his speech on Thursday was delivered in that quiet, sarcastic manner before which so many examinees have trembled. He pointed to the enormous number of members of the college, and, by reference to the statistical return published by the council itself, showed that there was not a clear majority of the fellows opposed to some recognition of the rights of the members.

Mr. Holmes commented somewhat severely on the unfair manner in which the circular to the fellows had been worded, and pointed out that if the actual proposals made by the members had been laid before the fellows, the numerical results might have been different. Mr. Holmes then went on to speak of the cool manner in which the council had ignored the request of the members to meet the council to discuss the provisions of the new charter, and here, as in most of his speech, he made his statements specially emphatic by addressing them direct to the council. He said: "*We talk and you act*, and we hoped you would have been kind enough to meet us and really discuss the provisions of this draft of the charter. However, you said you would not do so." Mr. Holmes made a telling point by referring to the clause in the present charter which restricts the college from holding real property of a greater annual value than £2,000, and showing, from the balance-sheet in his hand, that this limit had been largely exceeded. With regard to the policy of the college in excluding the Society of Apothecaries from the conjoint scheme of examination, Mr. Holmes observed: "The General Medical Council most respectfully requested you to reconsider your policy, and the college replied in that highty-tighty, mind-your-own-business style which is so agreeable when applied to other people." Mr. Holmes' speech was well received, and loud cheers rang through the theatre when he resumed his seat. The resolution

he moved was virtually a repetition of that already passed at previous meetings, and rehearsed the grievances of the fellows and members—especially the latter. It was seconded by Dr. Ralph Gooding and carried with only two dissentients.

Mr. Tweedy (Ophthalmic Surgeon to University College Hospital) then moved, "That this meeting respectfully requests the council of the college to transmit a copy of the foregoing resolution to the Lord President of the Council." This was seconded by Dr. Danford Thomas and carried unanimously. Sir Joseph Lister then interposed and intimated that the council would do as they thought proper in the matter, remarking that the individual members of the council must be free to consider the question. The President (Mr. W. S. Savory, F.R.S.) said he would bring the matter before the council at the earliest possible date. I then heard Mr. Ernest Hart's voice calling out, "Mr. President, on a point of order—" and looking round saw his head peeping up over the back row of seats. Mr. Hart (editor of the *British Medical Journal*) proceeded to contend that it was the bounden duty of the chairman of any meeting to transmit to any given authority any resolution passed by that meeting. Mr. Savory ruled Mr. Hart's contention as inapplicable. Dr. Prosser James inquired whether the meeting was not a meeting of the college, and whether, as such, it had not the authority to direct what should be done with any resolution which it had passed. Mr. Savory replied that the meeting was a meeting of the college, but that it had no such authority, and he proceeded to state, amid much laughter, that all power was vested in the council as the executive body of the college. When further asked whether he was the president of the college or the president of the council, he would not answer the question.

The medical societies are now in full swing of work for the winter. Several specimens of interest were shown at the last meeting of the Pathological Society. Mr. Treves showed a specimen of cartilaginous tumor observed in the neck of a little girl. It was not in connection with any fistula, and in this it was unique both in Mr. Treves' experience and in that of the President (Sir James Paget). Mr. Bland Sutton described a fœtus with spina bifida occulta associated with some curious abnormalities. Dr. Sainsbury showed a specimen from a case of Addison's disease in which there was a definite traumatic history. The disease had reached a more advanced stage in one supra-renal capsule than in the other. Dr. Wooldridge showed some specimens of hemorrhagic infarcts of the liver produced artificially by injecting a small quantity of a complex proteid, obtainable most easily from the thyroid body and testicle, but also found in other organs.

At the last meeting of the Clinical Society, Dr. Sidney Phillips read the notes of a case of stricture of the bile-duct which ultimately proved fatal, but in which there was no evidence of gall stones. Dr. Phillips suggested that it was probable, not only that stricture was set up without symptoms of gall-stones, but also that it might arise from causes entirely unconnected with them. Thus stricture sometimes occurred above the cystic duct, and in a position, therefore, where gall-stones would not pass. The absence of symptoms of gall-stones was also a presumption against their having been present, but the chief proof that the stricture was not always due to calculi was, that in some cases, as in the one he had recorded, the mucous membrane was not abraded, and the stricture was formed by contraction of the outer fibrous coat of the duct. Sufficient cases had not yet been reported to decide what causes, if not gall-stones, would produce stricture; but possibly long-continued catarrh might lead to stricture of the bile-duct as gleet led to stricture of the urethra.

Three remarkable cases of peritonitis were then narrated. The first was one of suppurative peritonitis in a man aged forty-two. Mr. Barwell read notes of the case. The patient was admitted into Charing Cross Hospital after an injury. Acute peritonitis followed, and Mr. Barwell opened the abdomen in the middle line below the umbilicus. A quantity of thick pus was found, so the abdomen was washed out with ten pints of warm distilled water, sponged out, and the wound closed without any drain. The peritoneum was seen to be covered with tubercles. Recovery ensued. Mr. Lawford Knaggs then read the notes of a case of tubercular peritonitis treated by laparotomy and washing out. Fifteen months after the operation there was no ascites nor any evidence of the progress of the abdominal disease. The patient—a girl aged sixteen—had gone out to service. She had, however, lost weight, and there was prolonged expiration over the right apex and cessation of the catamenia. Dr. Kilner Clarke then read notes of a case of tubercular peritonitis occurring in a girl aged thirteen. The abdomen was opened and washed out with a one per cent. solution of carbolic acid. Complete recovery ensued, and when subsequently seen the patient was the picture of health, although at the operation the peritoneum was found studded with bodies like boiled tapioca grains. Considerable discussion followed, and one gentleman expressed a doubt as to whether the cases were really tubercular.

THE PESSARY AND ITS SUBSTITUTE.

To the Editor of The Medical Record.

Sir: In Dr. W. Gill Wylie's remarks in The Medical Record of October 8th upon "the abuse of the pessary," it seems to me that his recognition of its inutility in displacements must adapt itself to the experience of a great majority of gynecologists. I did wish, in tracing his article, that the pessary might receive his absolute condemnation save in such incurable cases as call for mechanical support, just as hernia calls for a truss, where it is inexpedient to operate for a radical cure, or where the adoption of other methods with a view to a cure prove inefficient, unpromising, or futile. What ultimate result has ever been attained by the use of this appliance but temporary relief or palliative treatment?—merely a substitution, not infrequently, for more rational, feasible, and curative measures.

No other device, as it presents itself to me, is so prolific of evil, so misguiding and deceptive by its apparent benefit, and so dangerous to the ultimate success of the physician—building up a hope in a false direction, and by its delusion preventing treatment in the right. Temporary comfort is repeatedly bought at the expense of the patient's future health and happiness. Copious leucorrhœa, a congested cervix, granular degeneration of the os, ulceration, and even cancer, are induced by the presence of this instrument—conditions that I have frequently found in patients who proclaimed themselves in a much worse state of health than when they began to wear the pessary. In three instances I have been obliged to sever Hodge's pessary from the cervix, and subsequently to amputate this portion of the uterus, owing to the condition provoked by that instrument. In one instance a section of the os had to be cut away to make the pessary accessible, as it was deeply embedded by tense swelling where it had girdled the cervix.

Any foreign substance in the vagina must have a baneful effect unless it have some property to counteract its evil tendency as an irritant. If it fail in this, it must weaken the walls of the vagina and impair the structures of the womb by its provoking continuous and excessive discharge, thus furthering the progress of the very evil it is intended to cure. Coitus is frequently forbidden—and wisely too—on the ground of irritation by occasional contact, yet it is thought that continuous proximity with a hard, unyielding agent, like a pessary, may be endured with impunity. If, as Dr. Wylie says, "displacement is not a disease—and this is evidently the *rationale* of the premise, for reason points to such symptoms or effects as the off-

spring of a condition or cause that may or may not lie in obscurity—then the indications for treatment are plain. The cause must be removed or the condition improved, and simply aiming our treatment at the effect will never accomplish this object. A few years after I began practice, and after having read of the many brilliant results obtained by the ablest authors and gynecologists by the employment of the pessary, I felt equipped to accomplish wonders in the treatment of prolapsus, but by degrees experience disarmed me of all conceit, and I soon conceived that my resources for success in this direction were as barren as a dead tree. Of course, medicated applications were my only alternative. And these, well selected and properly adjusted, have proved so satisfactory and successful in my employment that I feel I should insult the integrity of the latter method by making a comparison, and after having read the article referred to I feel instructed and further assured in looking to such treatment in displacements for the best results.

F. McTAGGART, M.D.

SAN FRANCISCO, October 16, 1887.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from November 13 to November 19, 1887.

PERIN, GLOVER, Colonel and Assistant Surgeon-General. Retired from active service, November 17, 1887, by operation of law. S. O. 268, A. G. O., November 17, 1887.

BYRNE, C. B., Captain and Assistant Surgeon. Relieved from temporary duty at Fort McHenry, Md., and will return to his proper station, Washington Barracks, D. C. S. O. 242, Division of the Atlantic, November 11, 1887.

WALKER, F. V., First Lieutenant and Assistant Surgeon. Relieved from duty at Post of San Antonio, and assigned to duty at Fort Ringgold, Tex. S. O. 130, Department of Texas, November 8, 1887.

Official List of Changes in the Medical Corps of the United States Navy for the week ending November 19, 1887.

RIXEY, P. M., Passed Assistant Surgeon. Ordered to the Naval Dispensary, Washington, D. C.

Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending November 19, 1887:

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	24	7
Scarlet fever	100	13
Cerebro-spinal meningitis	3	4
Measles	52	6
Diphtheria	127	37
Small-pox	0	0
Yellow fever	0	0
Cholera	0	0

AINHUM.—Ainhum is an exceedingly rare disease in the United States, and from this fact alone is of more than ordinary interest to the profession. The subject of this affection in the present instance is a very black negro man, tall, erect, muscular, seventy-four years of age, in perfect health, and capable of performing an unusual amount of work, for one of his years, as a laborer on a farm. On removing shoe from left foot the little toe was encircled by a deep sulcus, which had almost completely severed it from the foot, leaving it attached by a small fibrous band, not larger than a large-sized broom-straw. The distal extremity of the toe is globular in form, the nail curved and stunted, semi-elastic and warm to the touch, has no sensibility, and it is impossible to detect any bone in its substance. The proximal end is round, the cuticle much thickened, and has the puckered appearance of a toe which had been amputated by the circular method. There is no bone near the end, but by firm pressure and some manipulation a disk of bone could be felt at the metatarsal joint, rendering intact that articulation. There is no sign of ulceration about the toe. I was very anxious to sever the slight attachment and secure the toe for further examination, but failed to obtain his consent to do so. Three or four weeks subsequent to this time the man, on pulling off his shoe at night, missed the toe, which dropped out of the shoe when he held it up, the separation having occurred without his knowledge. Much to my regret it was impossible to obtain the toe after it had dropped off, as neither persuasion nor argument could overcome his superstitious fears in parting with it. On questioning him repeatedly in regard to the beginning of the affection, he stated that his attention was first directed to a painful condition of the toe when quite a young man, which he attributed to the irritation of a tight-fitting shoe. He distinctly avers, however, that he noticed *then* a slight furrow (as he expressed it) in his toe, which gradually and slowly deepened as the years rolled on; so, according to his account, the disease was in progress for fifty years. Most of the time there was little pain or inconvenience attending it. The greater number of authors who have written on this subject state that it is very slow and gradual in its progress, and that six or eight years is its usual period, no mention being made of its having extended over an interval as long as this case. He could not tell whether other members of his family were ever similarly affected. The corresponding toe of the right foot being absent, I learned on inquiry that it was amputated many years previous to the war by two physicians of this county. It seems that a small thorn had pierced it about midway, and the part beyond the puncture becoming much enlarged and painful, remaining so for several years, and interfering so seriously with his walking, that these gentlemen advised amputation, as the only means of affording him permanent relief. There is scarcely a doubt, from his description of the appearance of the toe, and the long time it gave him pain and inconvenience previous to amputation, that it was a similar affection to that on the left foot. The pathology of this affection is involved in much obscurity, and no definite conclusion has been formed in regard to its true nature. The history of this case would lend support to the view that it is caused by some trophic disturbance of the nerve supplying the part, which has been excited into action by the irritation produced by the thorn and tight shoe.—DR. JAMES EVANS, of Darlington, S. C. ("Transactions of South Carolina Medical Association," 1887).

IODOFORM USELESS IN MENINGITIS.—Apropos of this subject, Dr. Bouchut has published his experience. Dr. Warfinge, it will be remembered, employed this treatment in the case of five children, from three to nine, who exhibited symptoms of tubercular meningitis, with excellent results. Iodoform ointment, of the strength of twenty per cent., was rubbed into the scalp, which was previously shaved, twice a day, during nine days in one case, and during seventeen, nineteen, thirty, and thirty-two days respectively in the other four cases. M. Bouchut states that this treatment completely failed in three cases in which he employed it. In cases of non-tubercular cerebro spinal meningitis, also, it only gave negative results.

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Original Articles.

THE FAMILY PHYSICIAN OF THE FUTURE.[1]

BY ANDREW H. SMITH, M.D.,

NEW YORK.

THE progress of civilization, constantly opening, as it did, new channels of activity, early rendered specialization necessary in the field of human endeavor. It was found impracticable that anyone should attend personally to all the various claims that his own wants or those of his family suggested, and thus men soon learned to separate the various occupations. At first it was in a broad and general fashion, but as time went on there was a constantly increasing precision, each occupation being divided and subdivided, until at the present time the number of distinct lines of work is almost beyond computation.

Each one of these occupations confers upon those who follow it a certain distinctive position in the public estimation which is apart from their individual or personal character, and which depends upon the usefulness of the occupation and the degree of intelligence and cultivation which it demands.

Quite early in the process of specialization above referred to, the practice of the healing art obtained recognition. At first, and for a long time, it was coupled with other occupations; and it was not until in comparatively modern times that it took an independent position.

It has been, however, long enough before the world to have its position defined, and we will pause a moment to consider what that position at present is.

Tried by the standard we have already mentioned, the usefulness of the occupation and the degree of intelligence and culture which it demands of those who follow it, it should, one would think, command the very highest regard on the part of the general public. Caring as it does for their dearest earthly interests, and devoting to those interests an amount of study and research not equalled in any other profession, it might rightfully expect in return the fullest evidence of appreciation and confidence. But does it receive such evidence? Can it be said that at the present moment medicine holds a place in the public estimation commensurate with the interests it represents? I answer emphatically, no. With all its centuries of faithful and laborious research; with all the devotion and self sacrifice that have hallowed its progress; with all the brilliant discoveries with which it has enriched science; with all the incalculable benefits with which it has blessed mankind, it is still unable to make its voice heard with authority above the clamor of ignorance, superstition, and charlatanry. So far is medicine from being the end of the law in things medical, that the public, even the most intelligent of them, are still ready to lend a willing ear to every new 'ism or advertised absurdity that arises—from infinitesimal doses to mind-cure; from blue glass to "electric brushes;" from liver-pads to anti-vaccination societies. Meanwhile they have been absolutely indifferent to the claims of medical education. While millions upon millions have been contributed to found universities and colleges and libraries and art-galleries and observatories, until within the last decade there has been given for medical schools by those outside of the profession scarcely a dollar. The recent gift to the College of Physicians and Surgeons was so utterly without precedent that men heard of it with incredulity. It is safe to say that more has been contributed to increase our knowledge of the stars, millions of miles away from us, which cannot influence us and which we cannot influence, than to increase our knowledge of disease, which takes its seat at our fireside, and which, on the one hand, may desolate the home, or which, on the other, science may baffle or expel.

The public look on with indifference while a young man is struggling and starving to obtain his medical education with facilities which, meagre as they are, are yet to be paid for at every step; and when at last his degree is obtained, they generously allow him to serve in their splendidly endowed and often palatial hospitals for nothing.

The hospitals themselves, though dependent upon the profession to carry out the objects for which they are organized, do not invite medical men to take a share in their management. Of the forty-seven hospitals, great and small, in the city of New York, only two, so far as I have been able to learn, have medical representation in the board of directors.

To look after the public health would seem to be peculiarly the duty of the medical profession, and the idea of a *board of health* that would first occur to everyone would be that of a body of men selected by the profession to put into practice the principles of public sanitation. Yet for this city the fact is that the profession has no voice whatever in the selection, and, furthermore, the law under which the board is organized specifically provides that it shall not be presided over by a medical man. And until recently the attitude of the board toward the profession has been that of master rather than coworker. Instead of drawing its inspiration from the profession, it has classed the doctors with the plumbers, tenement-house owners, bone-boilers, etc., as persons to be carefully watched and sharply admonished lest they should fail to obey some mandate of the power above them.

Another evidence that medicine does not hold its legitimate position is to be found in the fact that medical knowledge, however extensive and profound, does not give its possessor a corresponding position in the ranks of learning. Almost any other pursuit requiring similar qualifications may claim precedence. This is strikingly shown in the recent distribution of jubilee honors in Great Britain. A successful lawyer is known throughout the length and breadth of the land, and his opinion is asked and his aid sought in all matters of public interest. The same may be said of men eminent in theology, in literature, in science. Their reputation is general, and they are looked up to as natural leaders, those who are to give direction to public opinion. But, with few exceptions, the medical man, however eminent, is known, except by his own profession, only in the vicinity in which he lives, and even within these limits his reputation is strictly professional. No one ever thinks of looking to him for anything more than a diagnosis and a prescription, or perhaps to hew off a limb, or cut out a tumor. And from this it results that the profession as a whole exercises an unimportant influence in the community, and takes but little part in the conduct of public affairs.

And yet the training of the medical man and the di-

[1] Annual address before the New York Academy of Medicine, Nov. 17, 1887.

rection of his mind are, or ought to be, such as to make his influence in secular affairs more valuable than that of any other member of the community. For however eagerly we may pursue the various vocations in life, the ultimate consideration which dominates every other is the prolongation of life and the preservation of health. It is true that this consideration often seems to be disregarded, but it is only because men do not appreciate the risk they are running. No one in his senses ever knowingly and deliberately places any other object before it. In comparison with it considerations of wealth, fame, power, influence, all sink into insignificance. Surely, then, if the profession which is charged with such grave interests reached out into all the avenues of life, and laid hold of everything that directly or indirectly influenced these interests, it would stand before all otner secular callings, and command universal attention, respect, and co-operation.

But its failure to take this position finds its explanation precisely in the reservation I have just made. Medicine has not appreciated the extent of the field it was its province to occupy, and, accepting an inferior rôle, has suffered a corresponding loss of position and influence. The very name it bears, the Science of Medicine, is derived from only one of the means employed in its practical application, and sufficiently indicates the narrowness of conception to which I refer. There is too much of a disposition to restrict its field simply to the relief of disease already present, without taking note of the broader and higher mission which it should aim to fulfil. The science of medicine is but a fragment of the far greater science which has for its subject the physical well being of mankind; and it is because this fragment has received such exclusive attention, and has yielded results so much less beneficent than might have been attained by a more comprehensive reach, that medicine has failed to win its proper place in the respect and confidence of the civilized world.

Both as a science and as an art it has occupied itself too much with the individual organism, and not enough with that organism in its relation to other individuals and to the race in general. As a pure science it has limited its investigations too much to the normal and pathological phenomena of animal life, and as an art it has sought only to relieve the present suffering of the individual and to prolong his life. It has left almost unnoticed the great questions of the influence upon the physical well-being of the race which is exercised by heredity, by race-peculiarities, by climate, by occupation, by social habits, by the distribution of wealth, by laws, by commerce, by education, by literature, by architecture, by religion. On these and kindred topics there has been almost no systematic effort to obtain, preserve, and collate information; the nearest approach being the statistical tables published by boards of health, which, being based upon defective data, are misleading in proportion as they claim to be exact.

These matters are practically ignored in the teaching of our medical schools, though a few of these nominally have a fraction of a chair devoted to Public Medicine.

But if medicine is ever to take its proper rank, the first step must be a remodelling of the relation of the family physician to the families under his charge. I say the family physician, for there is such a phrase current in the mouth of the public, although it has much less meaning now than formerly. There was a time, before the spirit of change became dominant in this as in everything else, when the family physician was a reality, however imperfectly he may have represented the ideal which I believe the family physician of the future will attain. But his field, instead of widening, has contracted on every hand, until, in the cities at least, there is now scarcely standing-room for him remaining. I say this without personal bias, for I am myself on the borderline between specialism and general practice.

Many a New York lady, if asked what she meant by her family physician, might reply truthfully as follows: "Our family physician is the doctor we are in the habit of calling in when we don't know what specialty the case belongs to. We have Dr. A for the eye, Dr. B for the throat, Dr. C for the heart and lungs, Dr. D for the nerves, and Dr. E for gout and rheumatism, and when one of us is sick and we don't know how to classify the trouble, we send for our family physician, Dr. F, to tell us."

This is scarcely an exaggerated picture of the relation of general medicine to the public, and we may well inquire what influence, under such conditions, it can be expected to exert in the community.

For medicine can be a power in the world only as it is represented by the general practitioner. The specialist operates along a single line, and the lines of the several specialties are ever divergent. Moreover, specialists are occupied with a constantly changing *clientèle*, and lack entirely the opportunity for continuous influence. They cannot impress themselves or their calling upon patients whom they see to-day and lose sight of to-morrow. And further, being concerned only with the relief of existing disease, they take no cognizance of the broader field already alluded to, which it is the proper province of medicine to occupy. It follows, therefore, that in proportion as the specialties acquire an independent position, and the specialist breaks away from the family physician, medicine as a whole becomes restricted in its scope, and suffers a loss of respect and influence. We cannot bring our profession to the highest point of usefulness, and thus secure for it the commanding position which is its due, by resolving it into a multitude of independent and, in a degree, rival factions.

The aid of specialists will always be required, for the field of medicine is so vast that no one can become expert in all its branches. But the time will come when this aid will be rendered only at the instance of the family practitioner. The practice, now so common, of going directly to the specialist, or perhaps of consulting several specialists at the same time, will be given up. The oculist, the dermatologist, the gynecologist, and the nerve-specialist will not each at the same time be carrying on an independent line of treatment for the same patient, the measures adopted by one perhaps neutralizing those adopted by the others. But the aid of each will be invoked in its proper course by the family physician, who will possess such a general knowledge of all the specialties as will enable him not only to know when they can be usefully employed, but also to direct their application in reference to each other, and in accordance with the general condition of the patient.

The tendency of modern research is to give especial prominence to preventive medicine. The revelations of the microscope during the last decade have taught us many impressive and valuable lessons in the prevention of disease, while they have scarcely afforded us a single practicable suggestion as to cure. The triumphs of antiseptic surgery lie much more in the direction of keeping germs out of the system than of expelling them after they have effected a lodgement. And this is, beyond doubt, typical of the line in which medicine as a whole is to have its principal development in the near future. And it is this, too, which will command the attention of the laity, and win their confidence. As a consequence, instead of relying upon this or that method of cure in case they should become ill, men will prefer to put themselves under such direction as will tend to avert illness. And this will be the chief province of the family physician. To relieve suffering is a godlike office, but to prevent suffering is a higher office still. The good Samaritan rendered a service that shall be a proverb for all time, but if the traveller had journeyed from Jerusalem to Jericho in the company of a Roman soldier the tender ministry of the Samaritan would not have been required.

But to this end there will need to be a more thorough

identification of the physician with his families, the establishment of a more intimate footing, which will make the doctor the counsellor in every matter in which the health or physical well-being of any member of the family could possibly be involved. As the family solicitor in England is familiar with the minutest detail affecting the estate, and is consulted before even the least important step is taken, instead of only being called upon to conduct an occasional suit or to draw up now and then a legal document, so the family physician should be the sanitary adviser, having constant supervision of the family health, instead of being called in only when someone has broken a leg or one of the children has the croup.

But this implies, to begin with, that the position of the family physician shall be more distinctive and more permanent than is now the case. At present the bond is barely recognized, and, having no basis of obligation, is liable to be dissolved at any time for the most trivial cause.

1. On the practical assumption that the function of medical skill is to cure disease, not to discover and ward off its approach, the physician is seldom afforded an opportunity to apply his art until disease is not only present, but has progressed so far as to alarm the patient or his friends. The question of the necessity for treatment is thus decided, not by an expert, but by those not qualified to determine the meaning or the gravity of the symptoms. This may be unavoidable to some extent in acute disease; but how often it is that we see a case of chronic kidney affection only after dropsy has developed, or one of pulmonary consumption after the cough has continued for weeks or months and has excited alarm by its very persistence. If medical skill is of little avail under such circumstances, the fault is not so much in the art as in the conditions under which it is practised.

But this is only the beginning of the evil which comes from regarding the physician as one to be consulted only when the patient in his unskilled judgment considers it to be necessary or advisable. It results that, except under such conditions, the proffer of advice by a medical man, or even an earnest inquiry as to health, would be considered an intrusion. Advice not asked for is seldom welcomed; the search for information on many important points beyond the immediate case of illness would be resented as an impertinence. The physician is thus kept at arm's length, and, as a rule, does not obtain that intimate knowledge of the family antecedents which would fit him for discharging the full duty of his office. Called, and too often dismissed, at the discretion of the patient, he feels that the bond between them is an uncertain one, and naturally his interest is limited in a great degree to the present illness, without extending to that constant care and oversight of the family which alone can give the best results.

And as is his practice so is his preparation. The information required at the bedside is all that the average doctor troubles himself to acquire. To recognize disease and to apply the remedies for it is to his mind the extent of his office, and to attempt more than this, which is all that custom demands, would seem to him a work of supererogation.

Manifestly, so long as this continues to be the relation of the medical man to his families, the relation of medicine to the public cannot be expected to improve. The man who sees in his family physician only a feeler of pulses and a writer of prescriptions will not be likely to see in medicine an influence to be invoked with confidence in a large variety of matters affecting the public welfare. Hence the voice of the profession will be unheard in the halls of legislation except in the timid utterance of worn-out platitudes about epidemics and quarantine and laws against quackery. Its influence will not make itself felt in a virile grasp of the great principles that underlie the physical well-being of society. Neglect of public sanitation will continue to fill our hospitals and our cemeteries; architecture will continue to be the handmaid of disease; systems of education arranged without the slightest reference to the laws of mental development will continue to overtax and distort the minds of the young. Questions of health will not have their weight in determining the relations between capital and labor; excessive hours of duty, exacted from those to whose vigilance the lives of the travelling public are intrusted, will continue to result in appalling disasters, which coroners' juries will continue to ascribe to every cause but the real one. Unrestricted traffic in drink will continue to destroy health and life in the present generation, and to prepare an inheritance of disease for offspring yet unborn. Public opinion will continue to applaud, if not to demand, that abnormal activity in business and in social life which has already gone far toward making us a nation of invalids, and, judging from the statistics of our asylums, promises to make us a nation of lunatics.

Against these and many other influences affecting injuriously the physical, and through it often the mental, condition of vast masses of people, who are our natural protectors if not the medical profession? Who is to speak for better things if they remain silent? Is it the clergy? Four-fifths of our people, alas! never come within their reach. Is it the business-men? As a class, with many honorable exceptions, they are too busy to attend to anything which does not make a showing on the ledger. Is it the professional philanthropists? What practical good has ever been effected by their vagaries? Is it the politicians? Heaven save the mark!

No, if anything is done in the direction I have indicated, it will be the medical profession which will have to take the lead.

Descartes has said: "If it be possible to perfect the human race, it is in medicine that we must seek the means." While not anticipating the perfection to which he refers, we may well believe that whatever progress is made toward it will be worked out essentially through the agency which he indicates.

But, to return from this digression, what in detail is to be the character of this improved relation between the medical practitioner and the families under his charge? I can best illustrate my view of this by taking up the life of a young married pair, and tracing step by step the position which their medical adviser should occupy toward them as the family life develops.

In the first place, this medical adviser should be selected with the greatest care, and with reference to his practical knowledge and sound judgment. He should not be too much their senior, for it should be no part of their plan to change without the gravest reason; and the doctor should be young enough to continue in his position, in the natural order of things, for the greater portion of their lives. They should then begin by placing before him the medical history of each as completely as it can be obtained, together with all the facts they possess touching the medical history of their immediate ancestors. This information should constitute the beginning of a minute and careful record to be kept by the physician and transmitted to his successor. This record should contain the results of a careful physical examination, so that the state of health of each one shall be known from the beginning. These examinations, as thorough and exhaustive as those required by the most careful life-insurance companies, should be repeated at stated intervals and duly entered upon the record. It should be impossible that the first manifestation of a detectable chronic affection should be by a disastrous explosion. Sudden death from *unsuspected* heart or kidney disease, for example, should be relegated to the traditions of the past. There should be no more histories like the following: A gentleman who at most has had only an occasional headache, or a passing nausea, a mere trifle which he would scarcely mention to his family, goes in the morning to his place of business. A few hours later, a carriage stops before his up-town residence;

he is lifted out in a state of insensibility and carried to his room; a physician, anyone who can be found, is hastily summoned; vigorous treatment is resorted to at once, but without avail; consciousness does not return; and death takes place within a few hours from uræmia. He never suspected that he had Bright's disease, yet a very simple examination would have revealed the fact to his physician, and proper treatment would have averted the catastrophe, if not wholly, at least for a lengthened period.

Or, again, a person while walking rapidly in the street, perhaps hurrying to catch a train, sinks down, gasps a few times, and is dead. A coroner's examination reveals that which neither he nor his family were aware of, that he had fatty degeneration of the heart. Yet the suspicion of the doctor would have been excited if he had only laid his finger on the pulse, and his ear applied to the chest would have confirmed the suspicion. Thus forewarned, proper care and an appropriate regimen might have saved life for many years.

A persistent quickening of the pulse may be for a considerable time the only symptom of Basedow's disease, the affection not coming to the notice of the physician until the enlargement of the neck and the protrusion of the eyeballs have attracted the attention of the patient. Treatment begun at the earliest moment that a diagnosis is possible would doubtless give better results than we usually obtain.

An overworked brain gives out signals of distress which are intelligible to the physician long before they attract the notice of the patient. When the patient himself is able to make the diagnosis, mischief has been done which may be irreparable.

Oculists and aurists will probably agree that a large proportion of the serious cases which come before them are made serious by neglect, and that this neglect arises from the disease not being recognized in its early and curable stage. In fact, it might be said of all the specialists, that they thrive upon the shortcomings of the general practitioner. But for these shortcomings the family doctor is not so much to blame as the system, or rather want of system, under which he has to labor. When a child has lost the use of one ear, the parents suddenly discover that he is a little hard of hearing. Treatment may now be of no avail, whereas, if the hearing had been tested by scientific methods a year before, the first indications of the defect would have been apparent, and the disease might have been easily arrested.

What seems to be only a common headache is often the precursor of a disturbance of vision not yet appreciable to the patient, and permanent injury to the sight may result before the eye is thought of as the seat of the trouble. Here, as in the case of the ear, periodical examinations would lead to early detection of the trouble, and perhaps to successful treatment.

How seldom it is that the physical condition of a person not consciously ill is made the subject of investigation. Yet the experience of examiners for life insurance, on the one hand, and the frequent occurrence of examples such as I have just related, on the other, show how often chronic disease remains for a long time undetected, and what peril to the patient the failure to detect it may occasion; all of which would be guarded against by periodical examinations, duly recorded.

At the birth of each child every important circumstance connected with the event, as also with the subsequent lactation, should go upon the record. The progress of dentition; the age at which the child walks and talks; the closure of the fontanelles; the particulars of the vaccination—all should be entered in due order. The occurrence of one of the contagious diseases of childhood should be the subject of especial care in recording. The source of contagion; the period of incubation; the character, intensity, and duration of the eruption; the complications, the treatment, and the sequelæ—each should be carefully noted.

Once a year, or more frequently, the height of each child and the weight of each member of the family should be entered upon the record.

And here let me pause for a moment to dwell upon the advantages which would result from the general adoption of the plan of preserving in this form the medical history of each member of the families under our care. The value of such a record to refresh the memory of the family physician, or to inform those who are to succeed him, is at once apparent. Our judgment of the present is very greatly influenced by our knowledge of the past. For example, the significance of a heart-murmur discovered in adult life would be much more grave if the record showed that the patient had suffered in childhood from rheumatism with heart-complication. A chest-affection would be much more likely to be tubercular in a subject who had shown signs of struma in infancy, and so on. But, in the absence of a permanent record, our knowledge of the past history must have all the vagueness of memory or tradition, and, in any case, a few years will suffice to blot it out entirely. Thus we lose also in a great measure the advantage of the experience with the individual patient which would enable us to take count of idiosyncrasies. No two people respond alike to treatment, and general principles have constantly to be modified to suit individual peculiarities. It is by becoming "acquainted with the constitution of the patient," as the phrase goes, that we learn to prescribe for him most satisfactorily. Without memoranda, to keep up this acquaintance is difficult, and to transmit it to another is impossible.

But the value of such a record would not end with the subjects of it. The next generation would profit by it perhaps as much as the present. Heredity is an influence the power of which it is difficult to estimate, for the very reason that the absence of such records as I propose prevents our tracing it backward in the family history. With such a record, however, we should know from the history of the parents what to expect in the children, and the timely use of precautionary measures might avert a great deal of suffering and disease. Dr. Holmes has said that the proper time to begin the treatment of some diseases is a hundred years before the birth of the child.

But aside from the direct and immediate usefulness of such records, their value for *scientific* purposes would be inestimable. If the system were generally adopted, the mass of recorded facts open to scientific research would be enormous. Every practitioner would be enabled, in the course of years, to settle from his own experience many a disputed question of great importance. The time of society-meetings and the space in medical journals would no longer be occupied by the "impressions," and "convictions," and "opinions" of the different speakers and writers, but solid, tangible fact alone would be allowed a place in medical discussion. Upon every question that arose light would be poured from thousands of records, and the science of medicine would advance more in a decade than it does now in half a century.

Such records would differ materially from case-books as the latter are usually kept. In the first place, they would not be limited to "interesting cases," but would take in everything, and no one can tell what importance the most commonplace note may not one day assume. In the second place, the keeping of the record not being simply for the benefit of the doctor himself, but a recognized obligation toward the patient, the work would be faithfully performed. The question of the expenditure of time required will be referred to as we proceed.

But to go back to the point from which we digressed. As each child grows older, nothing that can have an influence, present or prospective, upon its physical condition should escape the scrutiny of the doctor. The food given it, the clothes it wears, and the habits it forms, should all come under his observation. Even

parental discipline should be open to his criticism, the timid and nervous child being screened from harsh rebuke, while, on the other hand, the evils of good-natured indulgence on the part of the parents are pointed out. They should be made to understand the supreme importance to the future health of the child of making obedience the first habit to be acquired; and also that this can be done without the least harshness, by beginning at the first moment of intellectual consciousness. Many a child's life is sacrificed by the opposition of its untrained and untamed will to the means necessary for its relief in sickness. Brute force applied to a sick child is a terribly poor substitute for the gentle yet absolute control which the habit of unhesitating obedience places in the hands of the parents. And not only so, but the vigorous means which may be thought necessary, as the child grows older, to break its will and to enforce parental authority, may have quite as bad an effect upon its physical and mental health as upon its moral nature. Young parents are not apt to realize this, and they will bear to have it pointed out to them by their doctor, when they would resent the admonition if coming from any other source.

When a child begins its attendance at school, it should be the duty of the physician to know, from personal inspection or from some other trustworthy source, that the school-room is in a good sanitary condition and properly warmed and ventilated. He should familiarize himself with the sanitary history of the principal boarding-schools within reaching distance, and should have a voice in the selection of such as are to be patronized by his families.

Putting himself in correspondence with a local practitioner in whom he has confidence, he should inform him of the peculiarities and susceptibilities of each child whom he transfers to his charge. He should observe from time to time the effect of school-work upon each one, and should insist upon a modification of the course whenever demanded in the interests of health. In order that he may do this intelligently, he should make himself familiar with the general laws regulating the successive development of the different mental faculties, and should note any deviation from these laws in the children under his charge.

If this supervision were properly carried out, we should not see children with delicate lungs sent to boarding-schools located in bleak and exposed situations, nor those susceptible to malarial influences sent to the vicinity of marshy grounds or stagnant water. The subject of repeated attacks of tonsillitis or quinsy would not be left to the chance of having an attack culminate before the local physician should become aware of the susceptibility. The perplexity of the latter regarding a doubtful eruption would not be increased by uncertainty as to whether the child had had, or had not had, one of the contagious diseases of childhood. A boy with impaired heart-valves would not be allowed to join an athletic club, nor one having a strong hereditary tendency to hernia to take part in a rowing-match. A pupil, perhaps not near-sighted himself, but one or both of whose parents were myopic, would not be allowed day after day to do drawing or to read fine print with insufficient light. And most important, perhaps, of all, children would not be set at tasks requiring abstruse reasoning or subtle analysis at an age when the *memory* is almost the only faculty capable of acting; nor would the same studies be forced upon one child whose faculties developed in a certain order, and upon another child whose faculties developed in a totally different order. The stolid, pachydermatous child and the timid, sensitive, highly organized one would not be subjected to the same cast-iron methods.

And so on, in a thousand ways, the influence of the skilled judgment and the wise counsels of the physician would be felt all through the educational course of each one of the children; and, furthermore, if every child, or even a part of the children in each school, were known to be under the watchful eye of a competent medical man, the schools themselves would soon be changed for the better in many essential particulars.

When the time came to decide upon the occupations of the boys, the advice of the doctor should go far toward fixing the decision. He should not allow a narrow-chested, ill-nourished youth, with a strumous record, to be placed behind a desk in a close, dark, ill-ventilated counting-room, where the consumptive tendency would certainly be developed; nor a young man with a highly nervous organization, and coming from a highly nervous stock, to be exposed to the brain-wrecking excitement of Wall Street. The railroad magnate, long since diabetic from excessive mental strain, should not be encouraged to make his son his prospective successor in office, with the prospect of succeeding also to his disease.

In like manner the girls should be protected, so far as possible, from those influences which make so many women of the present day such wretched caricatures of true womanhood. Moreover, if, in the case of one of the daughters, the record showed late development of the teeth and late closure of the fontanelles, together with other indications of defective deposition of bone, everything looking toward marriage should be discouraged, until it was ascertained positively that no bar to maternity existed.

The domestic habits of the family should be considered proper subjects of the doctor's criticism. He should at all times be a privileged guest at the family board, and should feel at liberty to comment in a delicate and proper manner upon any unhealthful habits or methods which he might observe. What the man is to be is often determined by what the child eats; and with older persons the selection of food, and the manner of taking it, often make the difference between health and invalidism. The practice which allows the head of the family only the shortest possible time to force down a hastily prepared and unattractive meal before going to business, while it permits the daughters, half attired and half awake, to straggle into the breakfast-room at any time before midday, is as much opposed to sanitary principles as to the proprieties, not to say decencies, of domestic life.

The social custom according to which, night after night, the young of both sexes give up a large portion of the night to revelry, is responsible for an enormous sacrifice of health and life. That this custom continues in this enlightened age is sufficient proof that, though the school-master is abroad, the doctor is not. If the medical profession exercised the influence which the nature of its calling implies, rational beings would adopt more rational methods of enjoyment.

The same argument applies to the subject of dress, and particularly to the dress of women. The future student of history, when reading of the social customs and dress of the nineteenth century, will surely exclaim, "Were there no doctors in those days?" And the more advanced student will reply, "Yes, there were plenty of them, but they had very little influence in the community."

In the selection of a new residence, the first step would be to consult the physician as to the healthfulness of the location and the sanitary condition of the premises. These questions would be decided upon much broader grounds than the dictum of a self-styled sanitary engineer—grounds which would include a knowledge of the past and present topography of the region, as well as of the sanitary history of the proposed residence. For example, a site would not be selected where a water-course had been filled in with refuse and garbage, nor would a house in which a consumptive had lived, even years before, be occupied without thorough cleansing and renovation. Even in temporary removals, such as are made each summer, the advice of the doctor would be sought; and it should be a part of his duty to acquaint himself with the peculiarities of the principal resorts, and to know, and to be in professional correspondence with, the best qualified of the resident practitioners. The

many cases of autumnal typhoid contracted at the summer watering-places, and developed after the return to town, sufficiently attest the necessity for this supervision.

This is but a partial sketch of what I believe will yet be considered the duty of the family physician. I might go much further into detail, but enough has been said to show what a large field is open, and what a different position the profession of medicine would occupy if it entered into this field and did all that it might do for the benefit of its clients. It may be objected that much that has been indicated is what intelligent persons ought to be able to do for themselves. Granted, and yet the fact remains that it is not done, or even thought of, until bitter experience has taught the lesson which might have been more humanely imparted by the physician.

It is evident that the expenditure of time required for this service would be very great, and it would be quite impossible to carry it out fully by the methods now in use. A physician could not have an unlimited number of families on his list, for it would be understood that there was a certain amount of constant work to be done for each family irrespective of sickness. He would render the same amount of service as at present, but it would be rendered to a smaller number of persons. When his list comprised the number of families to which he could do full justice he would refuse to add to it. There are many competent physicians—the cry is that there are too many—but there would be occupation for all if none of the work which should be done were left undone. Indeed, the plan implies that each doctor in full practice should be training a younger man to divide his labor, and ultimately to become his successor.

But doctors, like other people, must live, and the question will be asked: How can the family physician afford to do this increased amount of work and to cut down the list of his patients as suggested? The answer to this is, that when the public comprehend the full scope of the doctor's work, this work will, if faithfully performed, bring greater respect and increased emolument. Let once the idea be grasped that the physician is engaged in preventing disease instead of waiting for an opportunity to cure it—that his mission is a wider one than merely to deal out pills, or open abscesses, or attend confinements—and the dignity and importance of his office will be increased in the public estimation, and his services will be more highly valued and more liberally rewarded. Why should a lawyer, for services that involve only property, be paid ten times the fee that the physician receives for services that involve life? It is partly, at least, because the client, in the first case, can appreciate and follow the work that is being done for him, while the patient, in the second case, cannot.

But the extra work of which I speak would be such as the public could thoroughly comprehend, and they could judge for themselves of its value. It is one thing to pay out money which represents merely certain prescriptions written, the effect of which may not have been obviously beneficial, and quite another thing to know that the semiannual check includes the recognition of a watchful care and a skilful oversight that have surrounded the whole household with a protective influence.

It will be inferred from this sketch of his duties that the family physician of the future will need to be a man of varied culture and great learning, of deep sagacity and sound judgment. He will need to know much more than how to make a diagnosis or to write a prescription. He will have daily use for more, and more varied, knowledge than any other man in the community. His preparation will require as its foundation a thorough preliminary education in lines that will give the greatest development to the reasoning faculty, for a man cannot become a good physician by studying medicine only. He will need to be trained to view a question from all points, and take account of everything that may throw a side-light upon it. He will require a detective's quickness of perception, a lawyer's skill in weighing evidence, a business-man's method and system, and a clergyman's self-abnegation. His professional training might well omit a great deal that now occupies time and yields no practical result, while it should embrace much that never yet has entered into a medical curriculum. To the higher education of which we hear so much in medical circles, should be added the broader education of which we hear comparatively little.

Upon the correctness of his conclusions will hang the weightiest interests. He will need to have the courage of his convictions, and to be willing to go counter, when needful, to the current of public opinion. While he will have warm friends, he will have bitter enemies also; for his influence will be opposed to many schemes of selfishness and greed. Wealth will not flow into his coffers; in fact, he will need no coffers, for his wife's milliner will probably have an income larger than he. Yet, withal, while having ten or fifteen years of vigor still before him, he may be able to retire, leaving the active duties of his profession to be carried on by his associate under his supervision. He will then have leisure to take a more active part in measures of public benevolence, and especially in matters relating to the public health. In the governing boards of institutions, in municipal affairs, in the state and national legislatures, his influence will be felt for the common good. His pen will be a ready agent in framing public opinion in favor of liberal action in all matters of substantial sanitary reform. The burdens which rest upon the poor, making healthful living almost an impossibility, and the self-imposed burdens which produce nearly the same result upon the rich, will alike engage his efforts toward practical amelioration. In short, under all circumstances and in all positions, he will so represent the higher and broader aims of medicine as to give the profession a standing before the world commensurate with the dignity and importance of its office.

This is more than an ideal sketch; it is a prophecy, which I believe will yet be fulfilled. Indeed, there are many signs that it is already in process of fulfilment—signs that I cannot now enumerate, but which are full of promise. But to its complete realization both the profession and the laity must contribute. The tendency of the former is to increased effort; will the tendency of the latter be to increased confidence and co-operation? I believe it will. As men grow older they tire of the aimless occupations of earlier life, and seek that which gives substantial good in preference to what amuses or entertains. So as society grows older it learns to distinguish between the froth that floats on its surface and the deeper current that carries with it all that is of substantial benefit to mankind. Thus that which contributes most to the general welfare will receive most of public recognition; and when medicine assumes the full obligation which rests upon it, when it enters upon the broader field that awaits its occupation, when it prepares itself to grapple with the remote causes of physical imperfection as well as with present disease, then it will command the veneration of the world as the highest of earthly callings.

And now, a word in conclusion in reference to this Academy. The past few years have been a period of remarkable prosperity. They have witnessed a vast increase of membership, of activity, and of material support; and the near future has promise of greatly improved facilities and of enlarged usefulness. Let us determine, then, that the Academy of the future shall be like the physician of the future, the representative of medicine in its largest sense, in its fullest development; that its voice shall be heard wherever an influence exists which militates in the slightest degree against the highest physical perfection of the human race; that it shall be to the community what the family physician will be to the family, the sanitary guardian, bearing ever in brain and heart a wise and watchful and tender care for the interests confided to its keeping.

A HUGE FIBROMA OF THE ABDOMINAL WALL SIMULATING AN OVARIAN TUMOR —LAPAROTOMY—RECOVERY.[1]

By ROBERT F. WEIR, M.D.,
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The diagnosis of the present case was only made out after the operation had been completed. The patient was a married woman, aged forty-one, childless, and who four years ago noticed that the lower and central portion of the abdomen began to enlarge. This continued, with but little pain and with occasional attacks of dyspnœa and bleeding piles. There has been no menstrual disturbance. She has, however, within the last six months lost a good deal of flesh and deteriorated decidedly in strength. During this time the tumor has apparently doubled in size. She now measures thirty-five and one-half inches around the level of the umbilicus, and presents the usual appearance of a woman with a large abdominal tumor. The growth varied in consistence, was hard and irregular particularly to the right of the median line, and gave a faint wave on percussion at its upper portion and toward its left side. Its edges could not be defined, but the swelling seemed to reach nearly from one iliac spine to the other, and extended a hand's-breadth above the umbilicus, where it was only recognized by sudden and deep pressure. The uterus was small and freely movable. The ovaries could not be felt. It was supposed to be a multilocular ovarian tumor, and possibly of sarcomatous origin. Her urine was free from albumen and sugar, and the urea amounted to four hundred and fifty grains per diem, which, according to Thiriar, would lead to the belief of its benign character.

On Tuesday, November 1, 1887, an abdominal incision, running from the umbilicus nearly to the pubes, was made under ether, using Tait's method of cutting the tissues when coming near the peritoneum, between two forceps, and thus lifting up the peritoneum, but the latter membrane was not recognized until the wall of the tumor was reached. It was then thought that adhesion had occurred between the anterior wall of the tumor and the parietes, and a cautious endeavor was made to separate the same, first laterally and then upward; but though a membrane could, in the latter direction, be easily stripped off from the tumor, yet the hand so doing this was carried, while following the tumor, backward from the abdominal walls. This membrane was everywhere adherent, with fine, easily yielding cellular tissue, but with no gaps through which intestines or other abdominal viscera could be felt. Feeling assured I was beneath a membrane covering the tumor, though yet puzzled as to what I had to deal with, I desisted from the stripping process and enlarged my wound upward beyond the umbilicus until the peritoneal reflection from the tumor was reached and the cavity of the abdomen opened, when manual exploration revealed that I had to deal with a huge tumor covered posteriorly by peritoneum, and projecting into, and fully occupying, the upper pelvis. Its attachment was not yet determined, and this point was only decided after the mass had been with some difficul y forced out through the seven-inch incision of the abdominal walls. Then the lateral peritoneal reflections were divided to nearly its lower level, when its supposed pedicle, then thought to be the broad ligament, was clamped and divided on the right side, which allowed the whole mass, yet attached in front and on the left side, to be enucleated and removed, with but moderate hemorrhage from two or three large veins, which were seized and tied with catgut. The lower pelvis then came plainly into view, the intestines being completely empty, and the uterus and its broad ligaments, and both ovaries, were found in a normal condition. A closer inspection now showed that the tumor was an extra-peritoneal growth, and that, had I known its nature, it would have been possible to have continued my stripping-off procedure and to have removed it without opening the peritoneal cavity. A sheet of peritoneum, equal to the extended two hands, and situated on the posterior surface of the tumor, was taken away with the growth; the surplus of this membrane, which had been caught in the clamp and which remained on the left side of the abdominal incision, was now trimmed away, the slight hemorrhage controlled by catgut ligatures, and the cut edges of the serous membrane sewn together as in an ordinary laparotomy. On trying to gather up the transversalis fascia to join the edges of this by separate sutures, as Wylie advises, to prevent a subsequent hernia, this membrane could not be found, and this fact suggested the possible origin of the tumor. For the nature of the growth was, as reported by Dr. Peabody, the pathologist of the hospital, mainly of pure fibrous tissue, with, in various portions of it, some few muscular fibres. The weight of its solid parts was over eleven pounds. To this must be added about two pints of clear yellow fluid that escaped from two large trocar-punctures that were made in a vain endeavor to diminish its size, making thus a weight of nearly fourteen pounds. It was nearly spherical, and its circumference measured twenty-four inches. The subsequent steps in closing the wound were as usual, save that rubber drainage-tubes were introduced from the lower angle of the wound into the lateral pockets which had been created by the enucleation of the inferior part of the tumor. The progress of the patient, so far, has been without any reaction.[1]

Such growths, though generally of smaller size, have been met with by other surgeons and gynecologists. I have been informed by Dr. T. G. Thomas that he has encountered four similar to the one just described, and which he has made the subject of a paper to be shortly published. Czerny speaks of one, and Heineke, of Erlangen, in his article on "Entzündungen, Anschwellungen und Geschwülste des Unterleibes," describes[2] a number of tumors—fibromata, fibro sarcomata, and myxo fibroma—which are developed from the muscles, aponeuroses, and fasciæ of the abdominal walls. He calls attention to the posterior wall of the rectus and to the transversalis fascia as favorable points of origin of these growths. Nélaton also speaks of such tumors arising from the round ligaments. As in my own case, and in the cases quoted by this surgeon, as well as in those given by König[3] and other German authorities, from the weight and increasing size of the tumors, when arising in this locality, these tumors are apt to press inward and hang in the abdominal cavity, and even break or wear through their peritoneal coat and get free in the abdomen.

Dr. Briddon has kindly furnished me the notes of a somewhat similar case that presented itself in his wards at the Presbyterian Hospital, which may properly be here appended.

Subperitoneal fibroma of transversalis fascia.—Eliza D——, aged twenty-seven, married, was admitted to the Presbyterian Hospital, January 17, 1882, with the history that she commenced to menstruate at twelve years of age, and has always been regular. Married four years; has had three children and no miscarriages. Last child was born November 1, 1881. Last menstruated two weeks ago.

About nine months ago patient first noticed a swelling in the right inguinal region, attended with some pain. Swelling continued slowly, attended with little pain during pregnancy. Since delivery pain has become more severe and the swelling has increased more rapidly.

On examination a very hard oval tumor, 9 × 5 inches, was found in the right inguinal region, with its long diameter parallel with Poupart's ligament.

By conjoined manipulation it was at first thought to be connected with the ovary, but subsequent examinations, after it had become larger and more fixed in its attach-

[1] Presented at a meeting of the Practitioners' Society, held November 4, 1887.

[1] One week later the tubes were removed, and eighteen days from the operation the patient was walking about.—(November 18, 1887).

[2] Page 58. [3] Lehrbuch der Chirurgie, vol. i., page 155.

ments, proved it to be probably not connected with the pelvic organs.

May 4th.—Operation by Dr. C. K. Briddon. Ether; full Lister precautions; incision made the whole length of tumor in its long diameter, and the tumor easily pulled away from its attachments, except at the lower and deeper portions, which had become of late very firmly bound down to the surrounding parts. Considerable difficulty was experienced with its deepest attachments, and great care was of necessity used at that part, as it was in close connection with the peritoneum. A portion of the caput coli, about two inches square, was exposed. Considerable hemorrhage, but easily controlled. The tumor weighed two and a half pounds, and was found to have originated in the transversalis fascia.

A large drainage-tube was inserted in the whole length of the wound, and the jagged cavity left was brought together by deep silver sutures, with intermediate ones of silk, bringing the edges into close apposition.

The patient recovered well from the ether and made a good recovery without complications, except a slight and transitory cystitis. Owing to the depth and torn nature of the large cavity left, there was considerable discharge. At first the lips of the wound united by first intention throughout. The dressings were of necessity changed almost daily, and the Lister dressing was discarded about two weeks after the operation. Discharged cured. Microscopically the tumor was found to be a fibro-myxoma.

OSTEOCLASIS FOR THE CORRECTION OF DEFORMITIES.

By DILLON BROWN, M.D.,

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Osteoclasis, like nearly every modern surgical procedure, is referred to in the earliest medical writings. The osteoclasts of Hippocrates, Apelles, Archimedes, Paul of Ægina, Celsius, Galenus, and the more modern ones of Louvrier, Bosch, Oesterlen, Blasius, Rizzoli, Bruns, Volkmann, Esmarch, Collin, Robin, Taylor, Cabot, are given in various works. The history of this operation can be presented very concisely by figuring the instrument and its various modifications.

It is easy to understand why the operation never gained popular favor before the introduction of ether and chloroform, and before the many mechanical objections to the instrument were overcome; but since the discovery of chloroform and the introduction of the simpler apparatus of Rizzoli and of Robin, the operation has become popular in France and Italy. It is hard to explain the slow progress it has made in this country toward general adoption, except by the lack of familiarity with it. The advantages of a simple fracture over a compound one are many, and surely, on this account alone, osteoclasis is entitled to a fair and extended trial. In cases where it is applicable there have been no deaths following osteoclasis, and there have been many following osteotomy. Nusbaum, of Munich, gives 242 osteotomies with 10 deaths, and 204 osteoclases without a single death. Poore collected 1,510 cases of osteotomy with 20 deaths, suppuration was reported in 109 cases, and some necrosis in 17 cases. Osteoclasis, in proper cases, is just as effective as osteotomy, and avoids the dangers from pyæmia, secondary hemorrhage, and other accidents which may follow a serious cutting operation.

Osteoclasis is useful for the correction of: 1. Rachitic deformities of the extremities. 2. Deformities following badly united fractures. 3. Articular deformities resulting from bony anchylosis. 4. Deformities following old dislocations. 5. Certain obstinate forms of club-foot.

For bow legs, manual osteoclasis can be practised in only a limited number of cases. The bones must be very soft to yield to such force, and it is in just this class of cases in which mechanical appliances are to be preferred to the harsher methods. In correcting genu valgum this manual force is known as Delore's method, or *redressement brusque*. The patient being fully under the influence of an anæsthetic, the affected limb is placed in external rotation, so that the outer side of the thigh and the external malleolus rest firmly upon the table. The surgeon applies sudden and slightly increasing force to the apex formed by the deformity until cracking sounds are heard, the knee is forced outward, and the limb can be put straight. Tillaux operates in an opposite way. The internal condyle rests upon the edge of the table, assistants steady the knee and thigh, while the surgeon grasps the leg just above the malleoli, using it as a lever with the internal condyle as the fulcrum. Sudden jerks are applied to the leg until it can be straightened. The operation requires from five to thirty minutes, and is not suitable for children after the age of twelve years. The limb is immediately put up in a stiff bandage and an ice-bag applied to the knee. The leg must be kept quiet for from three to six months, and the patient must only be allowed to walk with crutches for another year. This operation has been done over two hundred times by Delore, and many times by Tillaux and others; but there have been reported only two deaths, one by Delore from scarlet fever, and one by Tillaux from pyæmia. However, the operation is anything but a thoroughly safe one. The lesions produced by it are all of a serious nature, and the remote results of the operation are a weak and lax joint, which requires rest for a long time, and the frequent use of retentive apparatus to prevent relapses.

The autopsy on Delore's case showed the ligaments intact, but a separation of the epiphyses of the tibia and the femur, and a detachment of the periosteum from the lower portion of the femur. This observation was confirmed by the experiments of Saurel, Barbarin, and Barbier on the cadavers of infants. One or more of the epiphyses were separated in twelve cases, and the external lateral ligament was ruptured in three cases. In adults the reverse is found, and the least damage resulting will be a loose joint. Before the epiphyses will separate the ligaments will tear, and one or more condyles will break. Santi, in experiments on the cadavers of adults, found a rupture of the external lateral ligament nine times, and a fracture into the joint once, while there was a separation of the condyle in only two cases. As a result of this operation we find many cases of arthritis with effusion, not a few cases of suppurative periostitis, and necrosis from stripping off of the periosteum from the lower end of the femur, dislocation and lateral motion from rupture of the external lateral ligament, and ultimately a weak and lax joint, and the risk of a short leg from the interference with the nutrition of the bone by the separation of the epiphysis. It is a rough and unsurgical procedure, and is certain to be supplanted by the better and more precise methods of instrumental osteoclasis or of osteotomy.

Instrumental osteoclasis.—Without doubt a certain, and possibly a large, proportion of rachitic deformities of the extremities recover without either mechanical or surgical interference. In no case should constitutional treatment be neglected—good hygienic surroundings, proper food, and cod-liver oil. The hypophosphites are good, theoretically. On this account I would not apply the clumsy mechanical supports in very young children unless the deformity was very much exaggerated, but depend upon general treatment and frequent daily attempts at correction with the hands. The splints do harm, not only by altering the shape of the soft pelvis, but by interfering with the action of the already weakened muscles. If the deformity increased in spite of this, I would then apply some mechanical support.

As soon as the bones become eburnated, operative interference is necessary to correct the deformity, and it seems to me that osteoclasis is much preferable to osteotomy. It is just as effective, besides meeting the same

indications in a safer and simpler manner. It has been practically demonstrated that the great but temporary pressure brought to bear upon the soft tissues by the osteoclast does no harm, and it has been repeatedly shown, in experiments on the cadaver, that you have complete control over the point of fracture. In about thirty fractures which I made with the osteoclast upon the cadavers of children, including the tibia and fibula, the femur and the humerus, the fracture was, without exception, opposite the pressure pad of the instrument; it was practically transverse, and in only one case was there any comminution.

For bow-legs I prefer Rizzoli's osteoclast as modified by Dr. A. T. Cabot, of Boston, to whom credit is due for its introduction in this country. He obtains his counter-pressure by means of hooks instead of rings, so that the leg can be more easily removed from the instrument if it should become impacted. The instrument consists of a steel bar, and through the centre of it is fitted a heavy screw, one end of which is furnished with a handle and the other with a strong, well-padded plate. It is completed by two steel hooks, having at their upper portion a slot into which the large bar slides. Dr. Poore has had three threads cut upon the screw, thereby increasing the rapidity with which the force can be applied.

The method of operating is as follows: The patient is put under the influence of an anæsthetic. The leg is put in the hooks, which are so adjusted upon the straight bar that one comes just below the upper, and the other just above the lower, epiphysis of the tibia. The well-padded steel plate should be on the outer aspect of the leg and directly over the point of desired fracture. After the instrument is adjusted, the pressure-pad is driven down rapidly by turning the screw until the bone gives way. In bow-legs you get two distinct cracks, one due to fracture of the fibula and the other due to fracture of the tibia, and you must be certain that both bones are broken before removing the instrument. The deformity must be slightly over-corrected, and the leg held in that position by applying a stiff bandage from the toes to the upper part of the thigh. The after-treatment is that of any simple fracture of the leg. The operation is seldom followed by pain or any constitutional disturbance. It is well to remove the stiff bandage at the end of six weeks, but keep some light splint to the legs for a month or two longer.

The only accident to avoid is a separation of the epiphysis, and this can always be prevented by a proper adjustment of the instrument. Two cases of non-union have been reported, but this complication is certainly as great after osteotomy.

The correction of lateral curves and of moderate anterior curves is very simple. In marked anterior curves, the objections urged are the danger of applying so much force over the crest of the tibia, or, if the bone is broken laterally, the great amount of manipulation of the bone and injury to the soft parts required to bring the leg into good position. This difficulty is easily overcome by a tenotomy of the tendo Achillis.

Sharp curves, so near the joint that Rizzoli's instrument cannot be used without the danger of separating the epiphysis, should be corrected by some modification of Robin's osteoclast or by an osteotomy.

The report of my eight cases of osteoclasis for bow-legs can be given in a few words. The patients were all about four years of age. The curves of the tibia represented every variety—lateral, antero-lateral, and anterior. There was increased lateral mobility of the knee-joint in every case. No accident followed the operation, and the result, both immediate and ultimate, was excellent. There has been no return of the deformity, although the patients were allowed to run around in six weeks after the operation without any mechanical support. Five of these cases were operated upon conjointly by Dr. E. R. Chadbourne and myself, at the New York Foundling Asylum.

The treatment of knock-knee by splints is applicable only while the bones are yet soft. Even then it is a clumsy, tedious, and painful process, and in my own experience the results have been far from satisfactory.

Osteoclasis for the correction of genu valgum has been attempted so seldom in this country that but little is known of its merits. In 1879, Collin devised an apparatus for this purpose, and demonstrated that it always caused a separation between the epiphysis and diaphysis of the lower end of the femur—in other words, it was a better and more precise method of applying Delore's treatment by *redressement brusque*. It is a dangerous and unsurgical method, and ought never to gain general favor.

In 1882, Robin presented an osteoclast for the correction of the deformity of knock-knee by fracturing the lower end of the femur just above the epiphysis. A large number of successful cases have been reported in France and Italy. At the Copenhagen meeting of the International Medical Congress in 1884, Robin stated that nearly one hundred cases of genu valgum had been successfully treated by this instrument. It gives perfect control over the desired point of fracture, and is without the dangers of a grave cutting operation. It seems to me that it is destined to supplant osteotomy in this class of cases, *i.e.*, genu valgum due to bone deformities; thus excluding the paralytic and some other varieties.

The instrument is very simple, and its construction and method of action is easily understood. The femur is held firmly and securely by an iron case, which encircles the anterior aspect of the thigh from a point a short distance above the condyles of the femur to the upper part of the thigh. This is fastened to a heavy piece of plank by two collars, which can be adjusted to fit any sized thigh. To the lower collar is fastened a lever which passes down parallel to the leg. A strong leather strap passes around the lever, and is so adjusted that it surrounds the thigh just above the condyles. Thus we obtain a lever by means of which we can apply with precision a great force. When applying the force with this osteoclast, the limb should be rotated outward, so that the condyles will protect the nerves and vessels from injury. After correction of the deformity, the stiff bandage should be applied from the toes to the upper part of the thigh. This should be removed in from six to eight weeks, and careful passive motion begun.

Ferrari, in 1887, presented a screw osteoclast for the treatment of knock-knee, which is much superior to the lever instrument of Robin. It is very simple, and its application is easily understood from the figure.

The deformities that follow badly united fractures require at times surgical treatment, and when occurring in the long bones osteoclasis offers a simple, safe and efficient means for their correction. In cases of vicious union, the bones may unite at an angle, or one of the fragments may be rotated, and as a result of efforts to bring the neighboring joint in the same plane as the corresponding one on the opposite side, there will be pain, deformity, and a limp. I recently saw a patient with single genu valgum, due to a fracture at the middle of the femur, which united with the lower fragment rotated outward. As a consequence of this, the whole weight was thrown upon the outer condyle to enable him to bring his knee in the proper plane for walking. It has been proposed to compensate for the short leg due to overlapping of the fragments by making an oblique fracture of the opposite leg. This seems rather barbarous, but I can imagine cases in which it might be useful. In incomplete or green stick fracture, if the bones are not straightened strange deformities may ensue.

The deformities following bony anchylosis of the joints can be treated in various ways, and it is in only a small proportion of the cases that osteoclasis is to be preferred to osteotomy and other means of correction. The dangers following either *redressement brusque* or instrumental osteoclasis are many, and more or less severe, according to the joint involved. Besides the danger of lighting up

the old disease, the operation may result in a purulent arthritis, a hydrarthrosis, a dislocation, a fracture, or a rupture of important nerves or vessels. Louvrier reports twenty-six cases of flexed knee treated in this manner, and, besides encountering many mishaps, he had two deaths and a case of gangrene of the leg following rupture of the popliteal artery. The results after osteotomy, or resection, in this class of cases are so satisfactory and the dangers so few, that osteoclasis has a very limited field here. It is only when the bony union is easily broken up and it is not the result of tubercular disease, that osteoclasis should be considered. Of course, I do not consider here the stiff joint due to muscular spasm of chronic arthritis, hysteria, or sprains, nor to fibrous adhesions in or around the joint following injuries or rheumatism.

The dangers following osteoclasis in the treatment of the bony anchylosis sometimes resulting from old dislocations are severe enough to make great violence unjustifiable, and warn the surgeon to be cautious in its use. There is not only the danger of separation of the epiphysis, or of fracture near the joint, leaving the limb in a worse condition than before; but large vessels have become adherent to the capsule or the periosteum of a displaced bone, and fatal hemorrhage has resulted from their rupture in attempts to reduce the dislocation. In some cases the muscles have become contracted, and it is necessary to divide their tendons before attempts are made to break up the anchylosis.

For the correction of obstinate cases of club foot by *brisement forcé* Dr. T. G. Morton, of Philadelphia, Pa., has devised an apparatus which seems to have done good work. Dr. E. H. Bradford, of Boston, Mass., presented an instrument which seems to be an improvement, and is certainly more precise. He reported fifteen cases, and concluded that the operation should be done in only extreme cases, and in cases where a speedy result is desirable. He thinks, however, that the method is safe, saves time and trouble, and gives perfect results. I assisted him on a case three years ago, and the result was excellent. The patient was a boy about twelve years of age, with a very obstinate double congenital talipes equinovarus. Tenotomy had been repeatedly tried in vain, and the question of treatment rested between *brisement forcé* and cuneiform osteotomy. The former was done with the most satisfactory result.

Mollière reports in the *Lyon Méd.*, 1885, No. 4, p. 125, a case of obstinate club-foot treated by osteoclasis with a Robin instrument. The patient was twenty-one years of age and the result was good.

In conclusion I wish to state clearly that I do not recommend operative measures in rachitic deformities of the extremities until the bones have become eburnated, except in that class of dispensary patients in which the surgeon must correct the deformity rapidly or have no chance to treat the patient.

The principles which guide me in the treatment of these cases are:

1. In children under two years of age, in which the deformity is not exaggerated, the expectant plan, possibly with frequent daily attempts at correction with the hands.

2. In older children, in which the bones are yet soft, some form of mechanical support.

3. As soon as the bones become eburnated, osteoclasis or osteotomy.

4. Osteoclasis is to be preferred in all cases of deformity near the middle of long bones, in a large proportion of cases of knock-knee and other deformities near the joints, and only rarely in cases of bony anchylosis and club foot.

For Bites of Insects.—(1) Salicylic acid, 1 part; elastic collodion, 19 parts. (2) Corrosive sublimate, 1 part; elastic collodion, 1,000 parts. On applying either of these solutions, the pain, it is stated, is allayed at once, and it is only in the rarest cases that the neighboring parts become swollen.

Clinical Department.

A CASE OF ANTIPYRIN-POISONING.

Dr. J. S. Whitehouse, of Santiago de Cuba, writes: "A few days ago I gave a dose of seven and a half grains of antipyrin in about one drachm of syrup to a young girl, with the following bad results: About two minutes after taking it severe gastric pains came on, which augmented to such a pitch as to become unbearable. She arose in great distress, bending forward and crying out with pain, and threw herself on the floor writhing like a serpent. These symptoms were of three or four minutes' duration, when an intense eruption of urticaria came over the whole surface of the body, adding greatly to her sufferings from the intense itching, which caused her to tear her flesh with her nails. Having only warm water at hand, a large quantity was given to produce vomiting, which was aided by titillating the fauces with the finger. The symptoms became so severe that she became unconscious, and I feared death from heart-failure. Immediately one-sixtieth grain of atropine was injected, which in a few minutes caused all the symptoms to disappear, and she has had no return of them."

SOME NOTES ON ANTIFEBRIN.

Dr. F. T. Simpson, of Hartford, Conn., sends us the following: "Antifebrin is a derivative of coal-tar through the acetate of aniline, whence its chemical name, acetanilid. It is a white crystalline powder, odorless, tasteless, save a slight sensation of heat imparted to the tongue, sparingly soluble in water, readily in alcohol and ether, unirritating and unobjectionable as a powder, which is generally the best mode of administration. It enters the system rapidly from the stomach, and probably the most of it is decomposed into aniline and other products; but Drs. Cahn and Hepp, who first employed it in disease, claim to have recovered it in its own form from the urine.

"Physiological action.—In a series of experiments upon myself with it, noting pulse, temperature, and general condition before and after taking it, I obtained the following results:

"First day.—Four grains at 11 A.M. In one hour the temperature was found to be $\frac{4}{10}$ of a degree lower, and continued so about five hours. No change in pulse or general condition.

"Second day.—Eight grains at 10 A.M. At 11 A.M. temperature $\frac{6}{10}°$ lower, but by 2 P.M. back to normal. Pulse between 70–80, and no recognizable change in character or frequency.

"Third day.—At 10 A.M. temperature was 98.4°; pulse, 84. Sixteen grains of antifebrin were taken. At 11 A.M., temperature, 97.3°; pulse, 76; 12 A.M., temperature, 97.2°; pulse, 76; 3 P.M., temperature, 97.7°; pulse, 70–80; 5 P.M., temperature, 97.9°; pulse, 70–80. Here the depression of temperature lasted over seven hours, but I do not know the exact time of its return to the normal. No other changes of condition than those mentioned were noted, save a faint charcoal-taste in the mouth.

"On the fourth day sixteen grains were taken at 10 A.M., and sixteen more at 11 A.M., making thirty-two grains in an hour. Pulse continued between 70–80, and good. Temperature went down only $\frac{1}{10}$ of a degree, or less than the day before, and began to rise again by 2 P.M. Now, there was evident some tendency to perspiration. The pupils were contracted, and did not respond to light. The mucous membrane of lips and tongue was markedly blue, and there was some drowsiness, easily thrown off. The appetite, digestion, and general bodily functions were undisturbed, and the usual tasks performed.

"On the fifth day the sixteen-grain dose was repeated four times, at intervals of three hours, making sixty-four grains in about thirteen hours. The temperature was

only depressed $\frac{6}{10}$ of a degree after the first dose, and then remained at normal. The other symptoms were noted as the day before, but were not increased. The urine, which had been measured each day and found to be about the normal amount, was much darker in color. There was, however, no irritation of the urinary organs, no disturbance of digestion or appetite, no interference with sleep, sensation, or locomotion. After waiting a few days, that a possible toleration of the drug might pass away, a final trial of the cumulative effect of large doses was made, to get more positive symptoms. Sixteen grains were taken, at intervals of about two and a half hours, up to seven doses, making one hundred and twelve grains in a day. The temperature declined $\frac{3}{10}$ of a degree after the first two doses, returned after the fourth dose, and stayed at same elevation. Pulse varied between 70–80 all day. There was the same slight flushing of the skin and perspiration, the contraction and immobility of the pupils, the blueness of the mucous membranes, some drowsiness, occasional momentary pain in one of the extremities. On the other hand, three 'square meals' were taken, all professional duties fulfilled, and no one remarked any change in appearance or condition.

"As to the toxicity of antifebrin upon the healthy system, experiments with animals by Messrs. Cahn and Hepp show it to be comparatively slight. A seventeen-pound dog was given sixty grains at once, which, in comparison by *weight* with a man, would be over four hundred grains to an individual of one hundred and thirty pounds. The dog became languid, and finally dropped into a deep sleep, but was all right the next day. A thirteen-pound dog received forty-five grains for seven days, or four hundred and fifty grains to one hundred and thirty pounds. At the end of that time he died, with vomiting, spasm, and collapse. Even of aniline, the toxic component of antifebrin, some eighty grains are necessary to kill an average-sized dog. Drs. Cahn and Hepp calculate that two hundred grains, taken several days, are required to produce fatal effects in a healthy man.

"The following cases from my note-book illustrate the action of antifebrin in disease:

"Case I.—J. D——, aged sixteen years. Typhoid fever with unusually high range of temperature. On the morning of the eighth day the thermometer registered 105½°. Forty-five grains of antipyrine in fifteen-grain doses, every two hours, reduced the temperature to 103½° at night.

"On the ninth day, at 9 A.M., temperature, 104½°. Antifebrin given, two and a half grains, repeated every two hours for three doses. Evening temperature, 102°.

"Tenth day. Morning temperature, 104°. Antifebrin administered in same way. Evening temperature, 100½°. From the tenth to the twenty-fourth day antifebrin given in four-grain doses once or twice a day in the daytime. As a result, while all the morning temperatures averaged above 104°, all the evening temperatures averaged 102½°, thus inverting the usual typhoid-fever curve. No other remedy but carbolic acid and tincture of iodine, in half-drop doses, was used, but large quantities of milk were taken. Convalescence was established on the twenty-sixth day of the disease.

"Case II.—Mrs. S——. Acute phthisis. Afternoon temperature, 104°. Stomach very sensitive; rejecting both quinine and antipyrine.

"August 14th.—Four grains antifebrin given per rectum at noon. Evening temperature, 100°.

"August 15th.—Two and a half grains taken by stomach and retained. Evening temperature, 100½°. From this time on, for six weeks, antifebrin taken daily per stomach in two- to four-grain doses, the temperature never exceeding 101½° when taken, and the patient never complaining of fever.

"Case III.—Continued fever lasting a week.

"October 1st, 9 A.M., temperature, 104$\frac{2}{10}$°. Ten grains of antifebrin immediately given. At 10 A.M., temperature, 102⅗°; at 12 M., 100⅘°; at 5 P.M., 102½°. The next morning the temperature had returned to 104°, at which point it persisted, except as antifebrin was given. At the end of a week the fever left, and the patient recovered.

"Case IV.—Mrs. H——. Subacute rheumatism. Four-grain doses of antifebrin t.i.d. brought speedy and lasting relief.

"Case V.—J. P——. Violent neuralgia every two months, with premonitory symptoms. Antifebrin in four-grain doses, used at the beginning, warded off the attack, or during the paroxysm, abated the severity of the pain, though it was inferior to morphine in this respect.

"To present other cases would be simply a repetition of the foregoing. I have given antifebrin to more than twenty patients, who have taken an aggregate of above three hundred doses, and I have never known it to fail in accomplishing more or less completely the object for which it was given; nor have I known of its administration being followed by a single bad symptom among the several hundred cases reported in which it has been used; only two or three failures in reducing temperature have been heard from, and only five or six where unfavorable symptoms followed. The New York *Medical Journal* recently reported a case where, after sixty grains had been administered in twenty-four hours, collapse set in. But the physicians differed as to the cause of the collapse, and the patient recovered. The amount here given was twice the amount limited by Drs. Cahn and Hepp for twenty-four hours, and is four times the amount I ever found necessary. If a ten-grain dose failed to act, I should try another remedy, on the ground of idiosyncrasy. Antifebrin, however, has caused no fatal results even when administered recklessly—sixty to ninety grains daily for quite a period, as has been done in Germany.

"So far as is known, antifebrin is not an antiperiodic. Whether it equals the salicylates in rheumatism remains to be proved. Its greatest sphere of usefulness is to be found, I believe, in lowering the temperature and allaying the pain and restlessness of fever. Among the many antipyretics, the foremost in the general estimation are probably quinine, the salicylates, antipyrine, and antifebrin. Antifebrin has the following advantages over the others:

"1. Easy administration, being almost tasteless and retained by the most delicate stomach, while quinine, antipyrine, and the salicylates are difficult to give.

"2. Size of dose, being only one-fourth the amount of any of the others.

"3. Cheapness. One ounce antifebrin costs twenty-six cents; one ounce antipyrine, one dollar and thirty-five cents; one ounce quinine, fifty cents. In view of the size of dose, antifebrin costs only one-eighth as much as quinine, one-twentieth as much as antipyrine, one-half as much as salicyl. sod.

"4. Pleasant effect on system. Far superior to quinine and the salicylates in not causing tinnitus, dizziness, deafness, amaurosis, and general discomfort; better than antipyrine in not depressing the heart, and in increasing secretion of urine.

"5. Specific effect on temperature. Both antipyrine and antifebrin are found to be more efficient than the others in reducing fever, and I think the general testimony is that antifebrin is more prompt, decided, and lasting in action than antipyrine. Certainly that is my experience.

"6. Safety. As has been shown, twenty-five times the average medicinal dose (four grains) of antifebrin in fever can be taken without producing fatal or even serious symptoms. Twenty-five times the average antipyretic dose of quinine, the salicylates, or antipyrine would be inevitably disastrous. They all have had their victims, antifebrin none. In view of its singular efficacy and comparative harmlessness, antifebrin seems destined to take high rank among our leading therapeutic agents."

Progress of Medical Science.

Sweating Fever.—The Paris correspondent of the *Medical Press* says that, at the last meeting of the Académie de Médecine, Dr. Brouardel gave an account of the miliary sweat which ravaged certain villages in the central departments of France. The epidemic commenced on March 16th last, during an epidemic of measles. The different symptoms divided the affection into three periods, the first of which was ushered in by sweating fever, general malaise, oppression, palpitations, and even delirium, the tongue loaded, constipation, and frequent epistaxis. The second period was signalized by the miliary eruption, and commenced on the fourth day. It was accompanied by great itching, and appeared on the face, neck, and upper extremities, and ultimately over the rest of the body. In this stage the symptoms of the first period abate, fever lessens, headache disappears, and the general state of the patient is improved. The stools are black, like tar, and fetid, and hemorrhage from the nose, lungs, or intestines are often witnessed. The third period is characterized by desquamation and convalescence, and often the legs swell. Such is the course of the affection when it is of a moderate type. There are, however, two other kinds, one of which is rapidly fatal, and the other extremely benign. When the malady terminates by death the symptoms are greatly exaggerated, and seldom the third period is attained. Fever runs high, sweating is profuse, and delirium of a typhoid type precedes the coma. A great number of individuals were attacked in the recent epidemic, but the fatal cases were not many. The victims were generally adults, children escaping as a rule. In conclusion, Dr. Brouardel said he had to confess that he was not able to find out the cause of the malady.

Pathology and Treatment of Gastric Disease.—Some years ago some hope was engendered by the announcement, in a rather enthusiastic way, that in all cases of carcinoma of the stomach the juice removed from that organ by means of a tethered sponge was devoid of hydrochloric acid, while the succus similarly removed from the stomachs of patients suffering from other diseases than carcinoma contained hydrochloric acid in recognizable quantity (*The Lancet*). This discovery, had it been one, would have proved an incalculable boon to clinicians, but observations made since the announcement have shown, we believe satisfactorily, that cases of carcinoma of the stomach are not always marked by the absence of hydrochloric acid in the juice, and, on the other hand, that cases of gastric disease which to all appearances are not carcinomatous yet possess the negative quality of being found wanting in hydrochloric acid. Beno Lewy has studied cases in which great atrophy of the mucous membrane of the stomach was attended with suppression of the secretion of hydrochloric acid. M. Grundzach has examined the contents of the stomachs of several hundreds of individuals who did not present any signs of carcinoma of this organ. In five of the cases examined, the hydric chloride was invariably absent. Now, although all the five patients were dyspeptics, yet their ages (about thirty) and the absence of any other symptoms, with the very long duration of the dyspepsia, would seem sufficient to negative carcinoma. In none of them was there any interference with the mechanical functions of the stomach, for this again emptied itself in the usual space of time required by healthy organs. The integrity of the motor mechanism of the stomach in these cases seems to show that it is the aliment, and not the gastric juice, which sets the contractility of the walls of the stomach in action; though it is quite possible for a very acid juice to excite undue manifestations of contraction with too rapid emptying of the stomach, which may be followed by characteristic diarrhœa. The question of the presence of dilatation of the stomach has not always received the consideration it merits. Of course we refer to the idiopathic dilatation, supposing it to exist, and not to that which is secondary to obstructive disease of the pylorus. Germain Sée believes that dilatation may be due to degeneration of the muscle of the stomach-walls, to atony of the organs associated with general asthenia, and to a special muscular atony which, after having alternated with phenomena of exaggerated excitability, in neurastheniacs, finishes by becoming predominant and persistent. In cases of simple muscular atony, which may be due to congenital feebleness, as Mathieu suggests, the stomach, incapable of resistance, is passively distended under the influence of the pressure, if not the weight, of the aliment. The importance of dieting such an alleged case is only too apparent, and, whether the pathology be correct or not, we can bear personal testimony to the value of suppressing such articles of diet as green vegetables, salads, green fruits, and potatoes, except in the smallest quantities and especially prepared. The number of meals may be increased, while the amount taken each time should be very small. Mathieu demurs to the use of adulterated wine, and thinks beer may be drunk, but only with the meals. For the relief of painful sensations M. Sée recommends the employment of hot drinks—weak tea in the morning and light "grog" in the evening. In order to regulate the bowels in such cases, he advises the taking of a powder composed of magnesia, cream of tartar, and precipitated sulphur, mixed in equal proportions. To increase the general tone of the patient tepid and cold douches are advised, preferably of the shower-bath description, and lasting from twenty-five to thirty seconds, repeated every other day. It has been somewhat aptly said that gastrectasis is in some fashion a kind of asystole of the stomach, and that, as we require digitalis for the heart, so some medicament of similar action on the stomach is needed. Nux vomica is employed, but ipecacuanha is more successful according to others, and may be administered in syrup of orange; it does not avail, however, if the muscular fibres are degenerated as well as atonied. Chloroform water and hydrochlorate of cocaine, as well as warm drinks, may be employed to relieve the gastralgia.

The Use of the Curette and Intra-uterine Douche after Labor at Term.—Dr. J. S. Knox, of Chicago (*Journal of the American Medical Association*, November 12, 1887), inveighs against the too indiscriminate use of intra uterine measures after labor. He does not hesitate to acknowledge that many, possibly a majority, of the obstetric teachers of to-day are advocates of intra-uterine douches, some of them advising them as a prophylactic after all labors. This, however, does not affect the conclusion that they are not harmless. There is a vast difference between the conscientious care, exact methods, and skilled operations of continental maternity obstetricians and the practice of our average accoucheur. If only one of the teachers before mentioned has found such douches occasionally harmful, then are they dangerous—yes, at times murderous—in the hands of the careless many. The most enthusiastic advocates of the intra-uterine douche insist that it must be administered with the most scrupulous care. The external disinfection of the patient; the thorough disinfection of the operator; the aseptic injector passing through a thoroughly aseptic vagina; the exact temperature and force of the injection; the entire exclusion of atmospheric air from the uterine cavity; the free drainage—in fact, all the details of the operation—not one of them must be omitted. Leave out the simplest of them and the whole method is vitiated. The arch loses its strength by the removal of a single stone. How absurd even to expect this of the average practitioner or average obstetric nurse. How vicious, unless positively indicated and antiseptically practised, to deliberately ac-

cept the risk of infecting the uterine cavity. Since the use of the curette necessitates the subsequent use of the douche, the risks of the latter apply to it. In addition are the necessary admission of air into the womb; the creation of further wounds; the provocation of hemorrhage; the shock of operation, and the possible perforation of the uterine wall. In concluding his paper, the author formulates the following rules: 1. Where there is positive evidence that there is putridity or septic infection of the uterine cavity, the douche is imperatively demanded. 2. Where the douche does not succeed in abolishing the fetor or septic symptoms, the curette should be cautiously and thoroughly used. 3. Where the womb has been thoroughly irrigated and made aseptic, the douche should be discontinued. 4. Where there is septic fever, with doubt as to its uterine origin, vaginal antiseptic douches should be first attempted: only on their failure should intra-uterine douches be resorted to. 5. In purely localized inflammatory affections, with no evidence of sepsis, the intra-uterine douche is absolutely contra-indicated. 6. The intra-uterine douche should never be used simply to lower temperature. And as a corollary to the above should be added: 7. It should be considered a criminal offence to administer an intra-uterine douche without proper antiseptic precautions, or to intrust its administration to an unskilled assistant.

The Treatment of Facial Neuralgia by Antipyrine.—One by one the non-inflammatory painful affections are wheeling into line as amenable to treatment by antipyrine. Germain Sée, in speaking of this subject, says: "To complete the series of painful affections of the head which have yielded to antipyrine, I must mention facial neuralgia. I have notes of seven cases of tic douloureux, all of a very grave kind, two of which were completely cured. One resisted antipyrine absolutely, while four have experienced marked amelioration and appear to be in the way to recovery. These patients had been suffering from tic douloureux from twelve to eighteen years. During this long and frightful period of suffering, these patients had never been able, without pain, to open their mouths, to speak, to chew their food, to swallow hot or cold liquids, to expose themselves to a current of air, or to enjoy the least respite, even under the influence of morphia or salicylate of soda. These four patients are enabled now, after two months of treatment, to enjoy that freedom from pain which they had not before known for years, and to live like the other members of the family. The treatment has consisted in the daily use of 75 grains of antipyrine (15 grains every four hours, till the entire quantity was taken). I have also relied very much on the subcutaneous injections of antipyrine—8 grains dissolved in the same weight of water, and the whole injected for one dose—but as these injections have sometimes been painful, I have lately modified my formula, as follows: I now dissolve my 8 grains of antipyrine in 22 grains of water, to which, in order to enhance the effect, I sometimes add $\frac{1}{6}$ grain of cocaine. These injections act with surprising rapidity and energy. I now rely on these hypodermic injections in all inveterate cases, and during the painful paroxysms combine the hypodermic treatment with the internal administration of 75 grains a day. The results in this most grave and most intractable of painful disorders have been unprecedentedly gratifying and surprising."

Woman's Lesser Brain-weight not a Sign of Mental Inferiority.—Dr. Parkyn, writing to the *British Medical Journal* on the mental differences of men and women, says that there is no doubt room for further investigation on this subject, but all the evidence we have goes to prove most distinctly that the difference in weight between the male and female brain is simply resultant of or coincident with a corresponding difference in the weight of the male and female body. Dr. R. Boyd examined the brain of 2,036 sane persons of both sexes in the Marylebone Infirmary. He found in new-born infants that the weights were: male, 11.65 oz.; female, 10 oz. After birth the averages gradually rose in proportion to the age, but in those examined between the age of four and seven years the weights were found to be almost equal, namely: male, 40.2 oz.; female, 40.1 oz. At from thirty to forty years of age, or the prime of life, the weights were: male, 48.2 oz.; female, 43.09 oz. The intimate anatomical and physiological connection of the cerebro-spinal and sympathetic nerves with the brain would lead us to expect that they would bear a direct proportion to it, and since the nerves necessarily bear a direct proportion to the amount of tissue supplied, there must manifestly be a similar relation between the brain and the body as a whole. Since the weight of the body of woman is less than that of man, we should accordingly expect that her brain would weigh less. This theoretical conclusion is fully borne out by observation. Clendinning and others found that, in a series of 81 males, the average proportion between the weight of the brain and that of the body at twenty and upward was as 1 to 36.5; and in a series of 82 females, as 1 to 36.46. Allowing for errors of experiment, we may therefore say that the proportions are exactly the same. This conclusion is strikingly supported by the fact previously mentioned, namely, that at the age of four to seven years the weight of the female brain is almost exactly the same as that of the male. Very many persons must have noticed that at this age boys and girls differ little, if at all, in height, and experiment has further shown that they then differ as little in weight. In the present state of our knowledge it cannot be inferred that a less heavy brain is a sign of mental inferiority in the female, but is rather the state best fitted for the natural use of the bodies, the parts concerned being properly proportional. Dr. Parkyn is also inclined to believe that any deviation from this normal proportion, either above or below, is not, *cæteris paribus*, advantageous to the individual as a thoroughly healthy organism.

Inoculation against Typhoid Fever.—Inoculation against typhoid fever is the latest sanitary possibility. Brieger has discovered that typhoid bacilli secrete a ptomaic poison which he has called "typhotoxine," the injection of which into animals seems to have caused lesions very similar to those caused by typhoid fever in man. As a result of researches these conclusions appear: 1. The symptoms and alterations observed in animals in which cultures of typhoid bacilli had been injected are due to the toxic substances secreted by these bacilli. 2. The noxious germs which secrete the typhotoxine are reproduced in the intestinal canal. From these the ptomaine is taken up by the circulation and carried to all the organs liable to be affected by this poison. 3. It is most probable that the same takes place in abdominal typhoid fever of man. 4. A first infection insures immunity against injurious effects of a later infection, even of large quantities of the toxic substance. 5. Further experiments and careful clinical investigations are necessary in order to establish a scientific support of the theory of immunity from injections of sterilized cultures containing not more than a determined quantity of typhotoxine. 6. In case this theory be an ascertained fact, the reproduction of the same immunity in man would be justified by commencing with very minute doses of typhotoxine, which would be gradually increased according to the results obtained.—*The Sanitary News.*

A Sign of Constitutional Weakness.—In a recent brochure, Dr. E. Duponchel calls attention to the existence of a depressed apex-beat as a valuable sign indicative of constitutional weakness. He calls attention to the sign especially as an aid to those who are called upon to examine recruits for the army.

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HEART DISEASE OF VALVULAR AND OF ARTERIAL ORIGIN.

M. HENRI HUCHARD, whose studies in cardiac pathology have been long faithfully pursued, presents an interesting picture of two forms of derangement of the heart. Under the terms "valvular cardiopathies," and "arterial cardiopathies," he shows how differently the action of the heart is disturbed by valvular cicatrices and arterial scleroses. He shows, also, the peculiarities of development and the treatment indicated in the two affections. It is well known that the endocardium and valves act very differently to morbid influences from the inner lining and middle coats of the arteries. The one is attacked in early life, the other, late; the one is injured by rheumatic, gouty, and infectious poisons, the other by syphilis, alcohol, tobacco, over-strain, and the degenerative changes of age.

The history of a cardiac valvular disorder as given by Huchard is divided into four stages:

First comes the early stage, when the heart is not at all affected by its valvular cicatrix. No symptoms are shown or felt, the pulse is regular, and arterial tension normal. Drugs given now are useless, or actually harmful. It is the stage of *eusystole*.

Then the work of the heart becoming a little harder by reason of valvular imperfection, the muscle hypertrophies, arterial tension is raised. It is the stage of compensatory hypertrophy or *hypersystole*. In this period also digitalis is not only useless, but harmful. Then the cardiac muscle begins to soften, the heart dilates, the arterial tension falls, œdema, congestion, dyspnœa appear. This is the period of *hyposystole*, and now digitalis is indicated. Finally the myocardium becomes gradually weaker, undergoes fatty degeneration, and does not respond to digitalis. The condition is one called by Gubler *asystolie cardioplégique*, and by Huchard, *amyocardie*. In this stage little avails in treatment; digitalis is contraindicated, and other excitants must be used, especially caffeine. In valvular lesions an important danger, according to Huchard, is weakness of arterial tension, which has often to be combated by proper agents.

In arterial cardiopathy the patient shows some signs of aging, and is often of the arthritic temperament. He suffers from an arterio-sclerosis which may be puerperal, or may affect especially the vessels of some particular viscus, such as the kidney, liver, or brain. In any case the cardiac muscle is affected, says Huchard, indirectly, even if the vessels themselves of the heart are not affected. Arterio-sclerosis, in other words, impairs the work of the heart-muscle indirectly by affecting the elasticity and calibre of the circulatory system. The three great causes given for this trouble are: 1, Toxic influence of alcohol, tobacco, and lead; 2, The diatheses, rheumatic, gouty, and syphilitic; 3, Excesses, physical and moral.

The symptoms of arterial cardiopathy may come on insidiously, in which case the peripheral arteries only are affected; or it may come on suddenly with attacks of dyspnœa, palpitations, active pulmonary congestions, and anginal attacks. In these cases the sclerosis has invaded the muscular supply of the heart to some extent. The frequent access of heart-symptoms at the menopause is attributed to an "arterio-sclerosis de la menopause," and not, as is usually done, to the hyperæsthetic nervous state of this period. This arterial cardiopathy, while it develops insidiously, often shows itself finally with great suddenness, in the form of dyspnœa, palpitations, angina, etc.; or, if the cerebral vessels are specially attacked, in hemorrhages; if the abdominal viscera, in severe disturbances of those organs, such as congestions, dropsies, uræmia, diabetes, etc.

There is then a group of cardiac affections "which have the heart for their seat and the arteries for their origin," and it is necessary to treat the arteries, not the heart. While in valvular cardiopathies arterial tension is raised only during certain periods of the disease, in arterial cardiopathy this increased tension is present from the beginning. The drugs indicated are, therefore, nitroglycerine, nitrate of amyl, and the arterial depressants. Early in the disease also, iodide of potassium is a helpful remedy for the sclerosis. In order properly to deal with the arterio-sclerosis it is necessary to recognize it early, and Huchard insists upon the great value of the "diastolic echo of the aorta," *retentissement diastolique de l'aorte*. It is like the stroke of a hammer simply duplicated. It is heard most plainly in the second and third intercostal spaces, near the right edge of the sternum. The sign, to be of value, must be found to be permanent. Together with this, one may note a hardness in the radial pulse, and the patient may have attacks of pallor of the face, local anæmias, syncopes, and asphyxias of the extremities, attacks of polyuria, palpitations, vertigo, etc.

It will be seen that Huchard is describing much such a state as has been studied by Mahomed, Johnson, and the late Dr. McBride, a state to which they gave the name of the pre-albuminuric stage of Bright's disease. Huchard takes a wider view of the matter, and finds a condition which is antecedent not only to renal, but to cardiac, cerebral, hepatic, and other visceral disturbances. In conclusion, he claims that the condition of arterio-sclerosis as portrayed is different from those senile changes which harden the arteries without necessarily being accompanied with an arterial spasm, or a great degree of sclerosis.

THE TREATMENT OF WHOOPING COUGH.

THERE are many diseases in the history of which our therapeutic resources have not kept pace with our pathological discoveries. Of this class pertussis is a notable

illustration. It is generally regarded as a systemic disease, with characteristic local manifestations. The discovery of its germ has been announced. Conclusive proof by inoculation and the reproduction of the disease have not, to our knowledge, been definitely determined. As is the case with so many of the general diseases, there seems to be an abortive form of the malady, in which the duration is not much over two weeks. This fact must be borne in mind in attaching value to any plan of treatment. Such abortive cases are apt to run in epidemics, and the experience of anyone may at a given time be entirely confined to this class of cases.

The treatment by antispasmodics became long ago well established, and is still the one followed by many physicians at the present day. A so-called "specific" for pertussis was found to contain only bromide of potassium and fluid extract of hyoscyamus. With other physicians the treatment is mainly directed to the general bronchitic symptoms. Advocates of these two therapeutic procedures hardly claim to be able to abort the disease, or, to any great extent, to lessen its entire duration. They content themselves with lessening the severity of the paroxysms.

Still a third resource is the use of the tincture of belladonna, which has come to be regarded by many as a specific. In order to be of service its administration must be pushed boldly, even in very young children, up to the full physiological effect. This remedy does seem to have a decided effect, not only in diminishing the severity of the paroxysms, but also of actually shortening the duration of the disease.

A new method of treatment, proposed some two years ago, or rather, perhaps, brought again into prominence, is that of insufflating antiseptic powders into the nares and naso-pharynx. The advocates of this plan regard pertussis as a parasitic or microbic disease. The habitat of the morbific agent is in the anatomical sites just mentioned. The paroxysms are due to reflex disturbance transmitted therefrom. When this insufflation was first practised one of the German authorities used simply inert powders, to see if there was any mere physical effect. No modification of the malady was produced. A further trial with various medicinal agents, in powdered form, gave decidedly beneficial results.

In a recent number of the *British Medical Journal* Dr. George Holloway contributes a very readable article on his experience with insufflation. He does not think we have found the germ of the disease. He has his patients confined to one room. Into each nostril and the naso-pharynx is insufflated, every three hours in the daytime, and once during the night, two or three grains of boracic acid. At the end of ten days the child is allowed to go out, if the weather is favorable.

Dr. Holloway's article recites the issue in twenty-one cases. Four were under six months of age, five from six months to a year, seven between one and and two years, four between two and three, and two at six and eight years respectively. In one case the disease was completely cured at the end of three weeks. At the time of the child's coming under observation it was having twenty-eight paroxysms daily. The use of the boracic acid was at once begun. On the second day there were only twelve paroxysms, and thereafter a gradual daily reduction to six on the seventh day. One case was complicated with spasmodic croup. A calomel purge gave no relief, but boracic acid afforded immediate benefit. The possible supervention of broncho-pneumonia need not intermit the insufflations. Without going into details in all of Dr. Holloway's cases, we may say that they seemed to be of ordinary severity, and that the duration in every case was much less than with the old plans of treatment. Guerder, of Paris, and Mayer, we believe of Hamburg, have reported similarly favorable results.

Finally, one other method deserves notice. It is that of cleaning a room, removing all woollen fabrics therefrom, and then thoroughly fumigating it with sulphur dioxide gas. After twenty-four hours the room is thrown open, aired, and, as soon as possible, the sick child is confined therein. It is claimed that thereby is the severity of the disease distinctly lessened, and in many cases convalescence seems to directly follow. It need hardly be said that this device inclines to the germ-theory of the disease.

THE LATEST HYPNOTIC.

It has been a great year for antipyretics and hypnotics. One after another they have been heralded to the public—each one claiming superiority to its predecessor. The wonderful development of various departments of organic chemistry has materially assisted therapeutics. This has been especially true with hypnotics. Paraldehyde, urethan, and others have been welcome additions to our list of remedies, and now a new claimant demands recognition. It is known to the chemist as di-methyl-ethyl-carbinol and is formed by the action of sulphuric acid on tri-methyl-ethylene. It was discovered by Wurtz, and is a member of the group of tertiary alcohols. The physician contents himself with the simple name—amylene hydrate.

Von Mehring has given the most complete account of its action that has yet appeared. In a recent number of the *Therapeutische Monatschrift* he describes the new remedy as a clear, colorless liquid, slightly lighter than water, soluble in eight parts thereof, and miscible in all proportions with alcohol. It has a distinct, penetrating odor, like many of the volatile oils.

Von Mehring has been watching its effects upon men and animals for the past two years. He can speak, therefore, with considerable positiveness as to his conclusions. He has found an average dose to be about four grammes. In regard to power—it is midway between chloral and paraldehyde. It scarcely affects the pulse and respiration, but confines itself entirely (with the above dosage) to quieting the cerebrum. No nausea, vomiting, headache, or, in fact, bodily disturbance of any kind follows its administration. Like chloral, when insomnia is associated with or is directly due to pain, it is unreliable. Its taste is much less disagreeable than that of paraldehyde.

In poisonous doses, respiration is slowed, reflex action disappears, the medulla is gradually depressed, and cardiac failure ensues. An important fact is mentioned by Von Mehring—namely, that extensive cardiac lesions do not seem to be unfavorably affected by the remedy.

The general therapy is that of sleeplessness of nervousness—of all grades, even up to delirium tremens

and the insomnia of the various febrile diseases. In only four out of sixty cases did it seem of no avail. Its palatability and freedom from danger are two valuable features. Therein is it preferable to either chloral or paraldehyde. It can be given in enema, as well as by the mouth.

THE LOCAL TREATMENT OF PULMONARY DISEASE.

The modern methods of treating locally chronic bronchitis, chronic interstitial pneumonia, and phthisis, are three, viz., by sprays, inhalations, and the pneumatic method. Dr. B. F. Westbrook has given an interesting summary of his views and experiences with these methods (*Medical News*, July 30, 1887).

In chronic bronchitis all three forms are employed. The passages are first cleansed with a spray containing an alkaline solution: ℞. Acid. carbol. cryst., ℥lxx.; sodii bibor., ʒiij.; sodii phosph., ʒij.: glycer., ℥j.; aquæ, ℥vj. A fifty per cent. solution of carbolic acid in glycerine is then added to this cleansing mixture until the point of tolerance of the patient is reached. Sometimes, instead of the carbolic acid, a spray of fluid extract of hyoscyamus, ʒss. to ℥j., is used. If there is copious secretion, tannin and glycerine or iron salts are employed.

The pneumatic method is claimed to produce very good results in chronic bronchitis. The negative pressure used is very slight, being only from two-tenths to five-tenths of an inch. The cabinet is contraindicated in asthma and emphysema. The Evans inhaler is becoming popular among physicians in this city, and offices are frequently decorated with it. The appearance of the apparatus is attractive, the idea ingenious, and the method of its use agreeable to the patient. It is a modification, according to Dr. Westbrook, of the idea of Sales-Girou, and depends upon the principle that when a coarse spray is forcibly thrown against a surface it will be broken up into minute particles and form a fine nebula which will float in the atmosphere several minutes before being precipitated or evaporated. The grosser part of the spray remains in the globe, and falls through a tube back into a bottle, while the more finely nebulized portion is carried off through the tube of exit, from which it is inhaled by the patient. The mouth-piece consists of a hard-rubber tube with an opening on one side.

The patient is instructed to make deep and slow inspirations, with the idea of securing, as far as possible, voluntary expansion of the chest. The solutions employed have been about the same as those used in the spray and the pneumatic cabinet, viz., carbolic acid, hyoscyamus, and pine-needle extract.

The disadvantages or limitations of the apparatus depend on the fact that there is no preliminary cleansing. This can be accomplished, however, by first using the strong spray from the Sass apparatus.

The elaborate and expensive machinery involved in the use of high-pressure sprays, nebular inhalation, and pneumatic differentiation are not within the reach of all, though we believe that physicians could wisely spend more money on therapeutic appliances than they at present do. To such as cannot get these things, however, a strong hand-spray for cleansing, and a Burney (Geo.) respirator for wearing over the mouth and nose, can be recommended.

In the local treatment of chronic interstitial pneumonia with bronchiectasis, by which term is meant, we presume, the fibroid phthisis of some writers, Dr. Westbrook says three objects are to be accomplished. First, the healing of the bronchial catarrh; second, disinfection of the dilated bronchi; and, third, the restoration of the breathing capacity of such portions of the lung as are not hopelessly degenerated.

The first two objects are best accomplished by the use of the coarse spray or the Evans inhaler, the coarse spray being the more serviceable.

The third object is to be accomplished through the pneumatic cabinet.

In the treatment of the initial stage of phthisis the pneumatic cabinet is spoken of as highly serviceable; but, we may ask, what agent cannot be spoken of in this way as long as incipient phthisis is so amenable to palliative treatment? The defect of the cabinet in connection with the introduction of sprays, etc., is that while these may be deeply inhaled, they are not so completely exhaled, the increased amount of air drawn into the lungs being residual rather than tidal. It seems that the ideal cabinet should have a negative pressure during inspiration, a positive during expiration. Sprays and inhalations in phthisis appear not to have been so extensively used, because of the satisfactory results obtained with the cabinet. For cleansing purposes or the treatment of intercurrent bronchitis these measures are resorted to successfully.

MADE INSANE BY THE FAITH-CURE.

We have already called attention to the pernicious and demoralizing effects of the faith-cures and mind-healing upon the mental condition of the victims of this humbug. A pain may be made to disappear, but the will is weakened and the character enervated by the process. On the whole, a faith-cure college is a far greater social evil than a liquor-saloon, for its effects are more insidious and far-reaching. It is not a matter for surprise to learn that a woman is recently reported to have been made insane by the faith-cure. The incident occurred in Chicago, and the faith-healer is likely to be indicted for practising medicine without a license.

SHALL THE DOCTOR MARRY RICHES?

This important question is being discussed by some of our contemporaries with such earnestness as to suggest that the matter is becoming a personal issue with some representatives of medical journalism. Dr. N. Senn (will not our distinguished *confrère* fill out his first name and put those ever-recurrent "Ns" in the minority?) has written that it is a fashion in Europe among medical men to marry rich wives, and he thinks that marrying wealth brings social obligations antagonistic to science. In this he is right; yet, on the other hand, for grinding, uncompromising antagonism to science there is nothing that goes far ahead of poverty. The scientific buds nipped by the frost of matrimonial multiple-millionairism are few compared with those whose bloom chill penury and a large family repress. The worldly wisest of

Americans, Benjamin Franklin, broke off his first engagement because the parents would not mortgage their house to give the daughter a modest dower. And though the prudent Franklin subsequently married a poor girl, he did so with some misgivings, and left the impression that a dower was the proper thing for the wise and good to expect. Looking at the matter in the same cold and worldly light, we should express the opinion that the doctor ought to marry neither poverty nor riches; but elect to love some charming woman whose resources would lessen the worry incident to a large family and a small practice. However, it is useless to advise in matters where sentiment is bound to rule.

FATAL RESULT OF CIGARETTE-SMOKING.

THE number of boys, in the cities especially, who begin to smoke cigarettes at the age of ten or eleven years is enormous. In most cases the habit is not indulged in excessively, and no serious harm is done, though growing boys cannot take nicotine without suffering from it to some extent. In not a few cases chronic disorders of the nervous system occur. The report comes from Philadelphia of a boy, eleven years of age, who died from tobacco-narcosis. He had been smoking half a dozen or more cigarettes daily for ten months.

There could be no more salutary law than one forbidding the sale of cigarettes to minors.

SOME NEWLY DISCOVERED VIRTUES OF PHOSPHORIC ACID.

PHOSPHORIC acid is not a remedy that has hitherto enjoyed much of a reputation, its employment having been chiefly that of a tonic, giving place even in this application to the other mineral acids. But if some recent therapeutical experiments can be accepted, this drug possesses virtues which will serve to place it in the front rank of curative agents.

In the *Gazzetta Medica Italiana* for October 29, 1887, Dr. Antonio Grossich reports a number of cases in which most remarkable results followed the external use of phosphoric acid. He was first led to employ it from a consideration of the results obtained by Kolischer in the treatment of local tuberculosis by interstitial injections of a solution of calcium phosphate. He tried local applications of the same solution in the treatment of ulcers of the leg, and found it to give satisfactory results. But, as there were no tubercles in these cases, the action of the remedy ought to be explained otherwise than by a calcification of the tubercles, and the author concluded that the phosphoric acid must be the active agent. Acting upon this belief, he began to treat all his cases of obstinate ulcer of the leg by local applications of a ten per cent. solution of strong phosphoric acid in distilled water, the compresses being renewed three or four times a day. The results obtained were so satisfactory that he was encouraged to try the same substance in various tubercular affections.

In the case of two young girls, suffering from multiple ulcers of the neck following tubercular adenitis, the application of a solution of phosphoric acid of the above-mentioned strength brought about a cure in five weeks. The injection of the solution, in another case, into an enlarged gland of the neck effected a reduction of the swelling and induration within twenty-four hours. Suppuration of the gland followed later, but was limited to a very small part of it.

Perhaps the most striking results were obtained in a case of caries of the wrist. The disease had lasted a year, and the hand was greatly swollen from the carpus to the metacarpo-phalangeal articulations, and there were two sinuses, one on the dorsum and the other in the palm, communicating with each other. Pressure on the hand caused the exit of blood mingled with pus and caseous matter. Exploration with the probe showed a large extent of carious bone and a general undermining of the soft tissues. The hand would ordinarily have been condemned by anyone to amputation. Trial was first made of interstitial injections by means of a hypodermic syringe, but little improvement followed; and then recourse was had to daily irrigation, through the sinuses, with the phosphoric acid solution, compresses wet with the same being applied in the interval. Some benefit was observed from this treatment, and it then occurred to the author to immerse the hand in the solution. Two such baths were given daily, each of two hours' duration. At the end of seven weeks the sinuses were closed, the swelling was reduced more than one-half, and there was free motion at both the carpal and metacarpo phalangeal articulations.

A tubercular abscess of the walls of the chest, treated by free incision and stuffing of the cavity with lint wet with the phosphoric acid solution, was completely and permanently cured in less than four weeks. Finally, in a case of chronic eczema marginale, in a girl twenty-two years of age, applications of the same solution had, at the time of writing, two weeks later, caused such marked improvement that the author felt confident of effecting a perfect cure within a short time.

Dr. Grossich reported a number of other cases than those to which we have referred, in which he obtained equally good results. He is naturally somewhat enthusiastic in his praise of this remedy in the treatment of ocal tubercular processes, and he believes that phosphoric acid has a future before it which would never before have been imagined. Lentin, it may be stated, some time ago recommended the use of a ten to twelve per cent. solution of phosphoric acid in the treatment of caries, believing that this process was due to a deficient amount of the acid in the osseous tissue. The cases in which he tried these applications were benefited somewhat, but he obtained no such brilliant results as those reported by Grossich.

A HOMŒOPATH IN THE INTERNATIONAL MEDICAL CONGRESS.—At the recent meeting of the Ninth International Medical Congress, held in Washington, Dr. George S. Norton, of New York City, a professor in a *Homœopathic* medical college, author of a work upon the *Homœopathic* therapeutics of the eye, surgeon to *three Homœopathic* hospitals, and a member of *five Homœopathic* medical societies, upon invitation of the President of the Section in Ophthalmology became a member of the Congress, and read a paper upon "The Importance of Correcting Small Errors in Astigmatism."—*The Clintonian.*

News of the Week.

The New York Academy of Medicine received on Monday a donation from Mrs. John Jacob Astor of $1,000. The gift was made through Dr. Fordyce Barker, and is to be used for the library and building funds.

The Hypodermic-syringe Thief, of which mention has been made in a previous issue, has been apprehended and committed to the lunatic asylum. He persisted in "borrowing" syringes of physicians and not returning them until a few days ago, when a physician of this city, acquainted with his methods through The Record, caused his arrest. The poor culprit proves to be a physician from Chicago, who, some months since, became a victim of the cocaine habit and used the means alluded to to satisfy his craze for a narcotic, by not only securing a syringe, but by having it loaded for him either with Magendie's solution or cocaine. His plea was that his wife was dangerously sick in the neighborhood, that the physician had broken his syringe and desired a syringeful of the drug for the emergency.

Interneships in the New Methodist Hospital in Brooklyn.—The first pavilion of this hospital, founded by Mr. George I. Seney, will be opened with appropriate ceremonies on December 15th next. It will afford accommodations for about seventy-five beds, and will be thoroughly equipped for the work of a general hospital. Two "interne" appointments are to be made at once, and the Medical Board solicit applications for these positions from recent graduates. It is desired that one, at least, of these positions shall be filled by one who has already had hospital experience. Applications should be made either to Dr. L. S. Pilcher, 145 Gates Avenue, Brooklyn; or to Dr. A. E. M. Purdy, 304 Madison Avenue, New York City.

Excision of the Larynx.—Gardner reports an excision of the larynx for epithelioma, occurring in a man sixty years of age. A rectangular lead tube of the full diameter of the trachea was first inserted between the cricoid cartilage and the first ring of the larynx. Through this the anæsthetic was given, and it prevented the passage of blood down the trachea. The entire larynx was removed and the patient supplied with an artificial one, by means of which he could talk so as to be understood. Four months after the operation the patient was very comfortable and well nourished, but the disease had recurred.—*New York Medical Journal.*

Professional Secrets.—The Twelfth Congress of Italian physicians, which recently met at Pavia, voted by a considerable majority, but not unanimously, in favor of abolishing the obligatory disclosure by the physician of professional secrets. It still remains for the law to be changed in accordance with this vote. Perhaps the opinions of Italian doctors have some weight with the law-makers. They do not have very much in this country.

The Danger of Being Funny.—The humorous *feuilletoniste* of the *Union Médicale* not long ago argued that no apparatus was necessary for carrying out the Bergeon method of treating consumption. It was only necessary to make the patient eat beans. He now states that Professor Ewald afterward presented the idea, in all seriousness, at a meeting of the *Gesellschaft für innere Medicin*, of Berlin.

Bequests to Charity.—By the will of the late Moses Wildes, of Boston, the sum of $150,000 is to be divided equally among a number of local charities, chiefly medical. Cambridge Hospital gets $20,000 in addition.

"Physiology as She is Taught."—The attempt to teach physiology in the schools of lower grade reaches the acme of absurdity in certain physiological primers now being published. The dominant idea in these is that human beings are made up in such a peculiar way that alcohol and tobacco easily, seriously, and constantly poison them. Here are some review questions for tender infants: "What does alcohol do to those who drink it? What do people sometimes think of home-made wines? How can alcohol be there when none has been put into it? What does alcohol make the person who takes it want? Are you sure you will not become a drunkard if you drink wine?"

The New York Cancer Hospital, Eighth Avenue, 105th and 106th Streets, will be opened with appropriate exercises on Tuesday, December 6th, at three o'clock P.M. Short addresses will be made by the President, John E. Parsons, Esq., and by Dr. Fordyce Barker and Dr. W. H. Draper. The medical profession is invited to be present. The building will be open for inspection from three to six o'clock of the same day, and patients will be received on Wednesday, December 7th. Nearest elevated railway station at 104th Street, exit from Central Park at 100th Street.

Tight Lacing and Bright's Disease.—Dr. W. B. Neftel, of New York, writes: "In The Medical Record of November 26th I read the following: 'Tight Lacing and Bright's Disease.—Dr. Neftel claims that tight lacing predisposes to renal disease, . . . but renal disease is more common in males than in females.' What I said reads as follows: 'My experiments on animals have demonstrated that a prolonged compression of the chest and abdomen invariably produces general anæmia, and venous congestion of the liver and other abdominal and pelvic viscera.'"

Dr. Thomas L. Janeway, of New Brunswick, N. J., died recently at Eureka Springs, Kan. He was a graduate of the College of Physicians, and was in his forty-third year.

Burial without Coffins.—The movement to secure burial reform, now being undertaken in this city, is a much needed one and deserves encouragement. We have often pointed out that a vast deal of the habitual invective indulged in by cremationists against earth-burial would have no force if the burial methods were improved. The object of the New York Association for the Promotion of Burial Reform is the reduction in the expense of funerals, and the doing away with coffins, caskets, and sealed boxes of all kinds. In place of these, wicker wrappings and papier-maché boxes are to be used.

A New Hospital for Brooklyn.—The Seney Hospital is soon to be opened in Brooklyn. The corner-stone was laid five years ago, but delays have occurred, owing to financial difficulties. Mr. Seney expended

$417,000 for the institution, and money from the Methodist Church has subsequently been raised sufficient to make the amount already applied about half a million. Only one wing of the hospital is completed as yet. The capacity of the entire hospital will be 400 beds. It is claimed that Brooklyn greatly needs this hospital, as it has only one hospital bed to every 1,000 inhabitants, while London has 7 to each 1,000. New York has, counting all its smaller institutions, 40 hospitals, with over 5,000 beds, or one hospital bed to every 260 inhabitants.

Dr. Stanley Smith, of Reading, Pa., died on November 25th, aged forty-three years. He was a graduate of the '65 Class of Amherst, studied medicine with Professor B. Howard Rand, of Philadelphia, completing his studies at the Leipsic University, Germany. He was elected lecturer in Physical Diagnosis in Jefferson Medical College, a position he held for two years.

Dr. Theodore R. Varick, one of the best-known physicians and surgeons in New Jersey, died at his home, Jersey City, on November 23d, aged sixty-two years. He was born in Poughkeepsie, but went to Jersey City forty years ago, and has ever since lived there. He was appointed surgeon-general of New Jersey by Governor Randolph, and held that position until last year, when he resigned his position. He had been one of the board of managers of the State Asylum at Morris Plains, and at the time of his death was a member of the medical staff of the Jersey City Hospital, medical director of St. Francis' Hospital, of Jersey City, and president of the Hudson County Board of Health. He was the first one to introduce in this country Trendellenberg's method of amputating the hip-joint.

The New York Society for the Relief of Widows and Orphans of Medical Men held its annual meeting last week, and re-elected Dr. Gouverneur M. Smith president, and Dr. Hinton treasurer. This most deserving society has won a membership of 136. It has extended aid to twelve widows and five children of deceased members during the year.

Medical Latin.—Professor Esmarch is said to be leading an attack upon apothecaries' Latin, and urges the abolition of the use of Latin in prescription writing. Perhaps it is the distinguished inventor of the elastic bandage who set in circulation the following:

Patient: I suppose, doctor, you write your prescriptions in Latin, so that your patients can't read them?

Doctor: Well, yes.

Patient: And I suppose you write your bills in English, so that your patients can understand them.

The French write their prescriptions in French to a large extent, judging from the formulæ in their medical literature. The result is that their prescriptions are the most unintelligible part of their scientific literature. The tendency was never greater than now to use the terms of a universally known tongue in scientific nomenclature.

SIR MORELL MACKENZIE'S ACCOUNT OF THE CROWN PRINCE'S CASE.

After the removal of the growth last summer, and the subsequent application of electro-cautery, no recurrence of the growth took place. Some general congestion of the larynx remained, and while His Imperial Highness was in the Isle of Wight a slight thickening of the mucous membrane on the posterior surface of the arytenoid cartilages near their base was observed by Dr. Norris Wolfenden, at that time in daily attendance on the Crown Prince.

At one of my weekly visits I verified Dr. Wolfenden's report, and perceived that the thickening presented the form of a ridge, raised to the extent of about a millimetre, of yellowish color, and extending horizontally from the outer border of one cartilage to that of the other. The action of the left vocal cord, which had been noticed in Berlin to be slightly impaired, continued in the same state. It should, perhaps, be here mentioned that soon after His Imperial Highness arrived in England a marked disposition to catarrhal inflammation of the larynx and trachea, or fugitive congestion, was observed.

A rather sharp attack occurred in the Isle of Wight, and this was followed by general relaxation of the mucous membrane of both the pharynx and larynx. The congestion disappeared while the Crown Prince was in the Highlands, and during this period the thickening at the base of the arytenoid cartilages already described was absorbed. On the return of His Imperial Highness to London the condition of the larynx was on the whole satisfactory; the movement of the left vocal cord was much more free, and the voice strong though not quite clear, owing to a slight increase in the congestion having taken place on leaving Braemar. The Crown Prince's general health was excellent.

On September 9th a slight thickening was noticed on the posterior extremity of the left vocal cord, which increased for a few days, and then gradually disappeared, being on the 18th no longer visible. For a few days previous to the development of this thickening the larynx generally had again been more congested. On September 13th Dr. Evans, of Paris, extracted the Crown Prince's left lower second molar tooth, which was much decayed, the fangs showing the result of a considerable amount of periostitis.

On September 14th an oblong thickening of the mucous membrane, about five millimetres in length and three in width, was observed by Mr. Mark Hovell nearly half an inch below the middle of the left vocal cord and parallel with its free border. Mr. Hovell states that this swelling gradually increased in size, and when seen by me on September 22d it was nearly round, and measured rather more than half a centimetre in diameter. Two days later the Crown Prince took cold, and on the following day complained of a sense of fatigue, disinclination to take food, and great sleepiness in the daytime. On examining his throat the left ary-epiglottic fold was found to be œdematous. His temperature was 101° F.

In twenty-four hours the œdema had entirely disappeared, and the temperature had become normal. Although the œdema was apparently due to cold, the possibility of its being caused by limited perichondritis was discussed at the time. The acute swelling had no apparent effect on the little thickening below the left vocal cord, *which gradually became smaller, but did not entirely disappear.*

The Crown Prince continued to enjoy good health after his arrival at Baveno, and when I left Italy everything appeared satisfactory, though slight general congestion remained, as well as the thickening referred to previously.

On the evening of October 17th Mr. Mark Hovell noticed a marked increase in the congestion of the larynx, both vocal cords being of a bright-red color. During the next few days the congestion decreased, but on the 21st the hyperæmia again increased in intensity, and was more diffused. On the 27th an increase was noticed in the size of the thickened surface beneath the left vocal cord, and at the same time slight general tumefaction of the

left side of the larynx appeared. During the next few days the thickened surface slightly increased, and on the 31st the surface was seen to be irregular, and in one place there was a distinct spur or projection.

The next day superficial ulceration of the new formation was noticed, and the left vocal cord was seen to be slightly swollen along its free edge. On the 28th the voice of His Imperial Highness was quite clear, and, indeed, in the opinion of the Crown Princess, was perfectly natural; but since this date the Crown Prince has been much more hoarse. On October 30th a slight reddish projection was noticed beneath the *right* vocal cord; this remained stationary for two or three days, then disappeared, and formed again on November 5th. On November 1st a slight enlargement of the left submaxillary gland was noticed, and this subsequently increased in size.

On November 3d the new formation had further enlarged, and was now rather more than a centimetre in diameter, and raised to the extent of about four millimetres. The extension of the growth since it was first seen had always been upward. On the morning of the 4th a very slight œdema was noticed at the base of the left arytenoid cartilage, which disappeared in the evening, and was again present on the morning of the 5th.

On the following day I arrived and found the state of the larynx such as Mr. Hovell had described to me.

On the afternoon of the 8th intense œdema of the mucous membrane covering the left arytenoid cartilage was noticed, and in the evening the œdema involved the entire fold, which was tense and red. On November 9th the patient was examined by Professor Schrötter and Dr. Krause, but owing to the œdema it was impossible to obtain a complete view of the new formation at the lower part of the larynx. On November 10th the patient was again examined by the same physicians, and also by Dr. Moritz Schmidt; the œdema was already much diminished, and a good view could be obtained of the whole of the larynx.

In my opinion the œdema is due to limited perichondritis, which, in its turn, has probably been set up by the growths which have been formed from time to time in the larynx. Although the nature of the growth which has lately appeared has not been determined by microscopic examination, it presents every appearance of cancer.

The above report is published by the wish of His Imperial Highness the Crown Prince of Germany. A copy of it was sent on Monday to the *Berliner Klinische Wochenschrift and London Lancet.*

Reviews and Notices of Books.

THE PRINCIPLES AND PRACTICE OF MEDICINE. By the late CHARLES HILTON FAGGE, M.D., F.R.C.P., Examiner in Medicine in the University of London, etc., including a Section of Cutaneous Diseases, by P. H. PYE SMITH, M.D., F.R.C.S., Lecturer on Medicine at Guy's Hospital; Chapters of Cardiac Diseases, by SAMUEL WILKES, M.D., F.R.S., Physician to Guy's Hospital. Vol. II. Philadelphia: P. Blakiston, Son & Co. 1886.

IN this, the second volume of Fagge's valuable treatise, the diseases of the heart, of the alimentary tract, of the urinary organs, of the bones and joints, and of the blood are discussed in the same scholarly manner characterizing the chapters of the first volume.

The diseases of the skin are treated of with undue length for the purposes of a general text-book on medicine. This section of the work might with advantage have been considerably abridged, or else omitted altogether. On the whole, however, Fagge's work will constitute a lasting monument to the industry, ability, and sound judgment of the lamented author. It will certainly compare favorably with any of the standard works on the subject in the English language.

A TEXT-BOOK OF PATHOLOGICAL ANATOMY AND PATHOGENESIS. By ERNST ZIEGLER, of Tubingen. Translated by DONALD MACALISTER, M.A., M.D., St. John's College, Cambridge. Three Parts, complete in one volume. New York: William Wood & Co. 1887.

THE English version of Ziegler's admirable treatise on pathology has already been reviewed in these columns. The present issue differs from the English publication only in combining three parts in one volume. It makes a rather bulky book, but as there is a complete index reference to any subject is quickly accomplished. The translation is made from the first and second German editions, although, owing to the great and just popularity of this text book, a fifth German edition has already become necessary.

A HANDBOOK OF GENERAL AND OPERATIVE GYNECOLOGY. By DR. A. HEGAR, Professor of Obstetrics and Gynecology, and Director of the Gynecological Clinic, at the University of Freiburg; and DR. R. KALTENBACH, Professor of Obstetrics and Gynecology, and Director of the Gynecological Clinic, at the University of Giessen. Edited by EGBERT H. GRANDIN, M.D., Obstetric Surgeon to the New York Maternity Hospital; Instructor in Gynecology at the New York Polyclinic; Fellow of the Obstetrical Society, etc. In two volumes, with 248 wood-engravings. New York: William Wood & Co. 1887.

THESE two volumes are the sixth and seventh of the Cyclopædia of Obstetrics and Gynecology which is being issued as Wood's Library of Standard Authors for 1887. The first volume, which is chiefly from the pen of Hegar, contains chapters on gynecological examinations, minor therapeutic manipulations and elementary operations, and operations on the ovaries. The last chapter is, with the exception of the chapter on what is unpleasantly designated castration, the work of Kaltenbach. The last-named is the author of the greater part of the second volume, which treats of operations on the uterus, broad and round ligaments, and vagina; operations for urinary fistulæ; operations on the vulva and perineum; prolapse operations and operations on the tubes. The two last-named chapters are by Hegar, the balance of the volume being by Kaltenbach. This handsome book is well known among gynecologists as a standard work, and the subscribers to the series are to be congratulated upon their possession of it.

DISEASES OF THE FEMALE URETHRA AND BLADDER. By F. WINCKEL, M.D., Professor of Obstetrics and Gynecology at the Royal University, Munich.

DISEASES OF THE VAGINA. By A. BREISKY, M.D., Professor of Obstetrics and Gynecology at the Royal University, Vienna. With 99 wood-engravings. Edited by EGBERT H. GRANDIN, M.D., Obstetric Surgeon to the New York Maternity Hospital; Instructor in Gynecology at the New York Polyclinic; Fellow of the Obstetrical Society, etc. New York: William Wood & Co. 1887.

THIS is Volume X. of the Cyclopædia of Obstetrics and Gynecology, constituting Wood's series of Standard Authors for 1887. The first half of the volume is a translation of Winckel's treatise on "Diseases of the Female Urethra and Bladder." It comprises sixteen chapters, treating comprehensively of all the deformities, congenital and acquired, and diseases to which the urethra and bladder in woman may be liable. Breisky's excellent work deals with equal detail with the deformities and diseases of the bladder in woman. These are both very practical monographs, and serve to maintain the high reputation for excellence which the preceding volumes have already earned for this valuabe work.

Reports of Societies.

THE PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, November 4, 1887.

GEORGE F. SHRADY, M.D., PRESIDENT, IN THE CHAIR.

DR. CHARLES L. DANA read a paper entitled

CHOREA, TIC CONVULSIF, AND THE HYSTERICAL SPASMODIC DISORDERS OF CHILDHOOD.

The reader stated that there was a very considerable confusion in the views ordinarily held as to the true chorea of Sydenham and allied forms of spasmodic neuroses. He held that, leaving out epilepsy, these could be classified into chronic chorea of Sydenham, tic convulsif or spasmodic tic, of French writers, and hysterical spasmodic disorders.

Chorea of Sydenham was a very distinct disorder ; its pathological anatomy was fairly well established, and it presented clinical features that marked it almost as a specific disease. *Tic convulsif* was often mistaken for chronic chorea. Some forms of it were wrongly termed electric chorea. This name was given to a fatal disorder occurring chiefly in Italy, and described by Dubini and others. It was a name given also to a peculiar endemic chorea by Bergeon. The use of the name in peculiar forms of supposed chronic chorea, really of spasmodic tic, was unjustifiable. Spasmodic tic was a chronic disorder tending to localize itself on certain groups of muscles. The choreas of the larynx and of the diaphragm were really *tics*. The disease was one involving higher centres than in chorea ; it was more nearly allied to hysteria, and was a pretty certain evidence of a neurotic or degenerate nervous system. It was sometimes associated with peculiar explosive disorders of speech, "echotalic," "coprotalic," and movements of imitation, "echokinesis."

There were co-ordinated forms which constituted the peculiar "nervous habits," such as blinking the eyes, twitching the mouth, sniffling, peculiar gestures, etc. The slight choreic movements of young children, called "habit-chorea," were more like an aborted chorea.

The speaker gave the characteristics of the peculiar chronic hysterical-spasmodic disorders observed, especially in children. These took the forms of spasmus nutans, trochaic chorea of Laycock, saltatory spasms, and perhaps paramyoclonus multiplex. The distinctive features were described, and illustrative cases were reported of oscillatory *tic*, saltatory *tic*, trochaic chorea, etc.

An analysis of the histories of one hundred and thirty cases of chorea was given, with reference to etiology, course, duration, and treatment.

In the chronic forms of chorea and tic, the writer was strongly convinced of the value of galvanic currents applied to the head and body, in a manner described by himself several years before.

DR. KINNICUTT said that, while recognizing the grounds for, and believing in, the desirability of separating simple chorea from the spasmodic tics of children, occasionally cases were observed which rendered such a positive division as that mentioned by Dr. Dana extremely difficult. A very careful study of these exceptional cases was desirable.

Within the past several years he had seen two cases of typical *laryngeal chorea* (so called), which clinicians were at present disposed to regard as examples of spasmodic tic, associated with typical *general chorea*. The sounds made by the patients were not explosive in character (resembling cough), which obtains in spasm of the expiratory muscles, but partially articulate and jerky in nature.

In both cases repeated attempts at laryngoscopic examinations were ineffectual, chiefly from the presence of general choreic movements.

His experience, from the observation of a large number of cases of chorea, was very similar to that of Dr. Dana as to the frequency of coexisting cardiac disease.

He had personally made careful physical examinations in every case of chorea which had been seen at the clinic for nervous diseases at the College of Physicians and Surgeons, in the out-patient department of the New York Hospital, and in the wards of St. Luke's Hospital, for a number of years, and the physical signs of heart disease had been found but in a comparatively small proportion of the whole number.

DR. BEVERLEY ROBINSON asked Dr. Dana where he would class those cases in which there were seen so frequently, especially in girls, the peculiar twitchings of the shoulders.

DR. DANA replied that Weir Mitchell had described them as habit-chorea, but it had seemed to him that they were more like the cases which Charcot had described as inco-ordinate tic. Of course, the relations of these varieties drifted into each other, but he was inclined to regard them as cases of tic rather than of chorea.

DR. ROBINSON had not seen it develop into other symptoms markedly choreic in character, but it had yielded to the ordinary treatment for chorea. He had used the arsenite of soda, which had served him a better purpose than the potassa.

As to chorea laryngis, he would merely refer to the fact that it was exceedingly difficult to make an examination which would enable one to judge with regard to the condition of the larynx.

DR. A. H. SMITH mentioned one case of chorea laryngis occurring in a clergyman. The affection was not noticeable in ordinary conversation, but whenever the voice assumed its professional character a spasm of the larynx would occur every few minutes, which interrupted pronunciation entirely ; he had noticed the interruption particularly in words containing the vowel *o*. The gentleman had consulted many authorities in laryngology, both here and abroad, but had not derived any benefit.

DR. PEABODY inquired with regard to

THE DOSES OF THE CRYSTALLINE HYOSCYAMINE FOR CHILDREN

which were effective and safe.

DR. DANA had used a solution made in alcohol and water in the proportion of one grain to the ounce, and of that had given seven or eight drops at first and increased to nearly twenty drops, which meant about $\frac{1}{40}$ of a grain. He therefore began with $\frac{1}{100}$ or $\frac{1}{80}$ of a grain, and gradually increased to $\frac{1}{40}$ of a grain three times a day. The physiological effects were about the same as those of atropine.

DR. KINNICUTT'S results, obtained from different methods of treatment, very closely coincided with Dr. Dana's. He had seen a marked abatement of the choreic movements accompany the use of hyoscyamine, but with the discontinuance of the drug the disorderly movements had recurred. He had usually commenced with $\frac{1}{200}$ or $\frac{1}{150}$ of a grain, and increased to $\frac{1}{50}$ without producing any unfavorable effects. He thought that, as yet, the actually observed lesions in cases of simple chorea were not sufficiently numerous to warrant a positive statement as regards its pathology in *all* cases.

DR. SEXTON had been somewhat surprised that under the head of etiology no mention had been made of

THE PROCESS OF DENTITION.

The amount of nervous exhaustion in second dentition, from six to twelve years of age, especially with the appearance of the first permanent molars, must be extraordinary, and then it was that the children acquired such habits as winking, twitching certain muscles or groups of muscles, etc. He thought the study of these movements was incomplete without a consideration of the process of dentition. As to the treatment, he had found that aconite in minute doses was as efficacious as any

remedy he had employed; two or three drops of the tincture added to half a tumblerful of water and given in teaspoonful doses. He had not found that antispasmodics or tonics were especially serviceable.

The proper regulation of the diet and hygiene, with out-of-door life, seemed to accomplish more than medicine.

Dr. Loring said that he saw a large number of young patients, and he would remark, first, that he saw only a very small number of cases of chorea among them, and, second, that he had seen no greater number of cases of chorea in children with errors of refraction than in those without these errors, and that those who did have chorea with errors of refraction were not benefited in the least of their chorea by the use of glasses alone.

Dr. Loring also referred to the

NYSTAGMUS OF MINERS,

a peculiar convulsive movement of the eyes, acquired by lying upon the back and picking the coal above. It differed from the ordinary nystagmus sometimes seen after great fatigue.

Dr. Robinson had, on several occasions, before bringing children under the influence of arsenic or zinc, found, contrary to what Dr. Dana had stated in his paper, that the ether-spray to the spine had produced temporary benefit; at least, so marked had the benefit been that, as a measure for affording temporary relief, he thought it should not be discarded, but, on the contrary, should be regarded as a valuable adjuvant in the treatment of these cases.

Dr. Dana asked Dr. Kinnicutt if his case was not one in which the *expiratory* muscles were affected.

Dr. Kinnicutt replied that it was not a case of cough, and it did not take the form of speech, but it was a sound intermediate between the voice of an animal and that of a human being. It was impossible to examine the larynx. The boy had not only this spasm, but there was so much movement of the body that a satisfactory laryngoscopic examination could not be made.

Dr. Dana said that all the cases he had seen were apparently explosive spasms of the expiratory muscles, which resembled cough somewhat.

He excluded chorea from those cases, because chorea was an affection of those muscles which were more highly organized, supplied with the latest developed nerve-tissue. The expiratory muscles were more automatic and less liable to be affected.

Dr. Kinnicutt said it was possible to suppose that the two conditions could exist together.

Dr. Dana said, with regard to the pathological anatomy, that he had been rather dogmatic; but, as the result of eighty post-mortem examinations, the latest writers were inclined to speak with more positiveness than was done two or three years ago. He believed that it could now be said that a hyperæmic condition of the gray matter of the spinal cord was the characteristic lesion, and that it might involve the basal ganglia or cortex. He thought that in the majority of cases emboli were not present.

With regard to Dr. Smith's case, he would be inclined to regard it as one of

PROFESSIONAL NEUROSIS,

like writer's cramp. Of course, he would not say positively that it was of that character.

With regard to the influence of second dentition, it certainly was a very interesting point, and one which deserved to be studied more than it had been in connection with the cases of choreic movements.

Dr. Peabody continued the history of the case of

POISONING BY ILLUMINATING GAS,

which he reported at the last meeting. At that time the patient was doing well. Soon after she became drowsy, and then semi-comatose, in which condition she remained for nearly a week, manifesting a certain amount of contracture of the right arm and right leg, and then died.

At the autopsy, he found a very small patch of softening in the left optic thalamus, about as large as the tip of his little finger. Besides that there were the senile vascular changes, and also the senile changes belonging to the kidneys.

Dr. Kinnicutt reported a case of

TYPICAL HYSTERIA OCCURRING IN A BOY SIX YEARS OF AGE,

which he thought was not common. The symptoms were chiefly those of psychical disturbance. He said that, in his experience, hysteria in children under twelve years of age was almost as common in boys as in girls. The child had recovered entirely.

Dr. Dana had not seen hysteria in so young a child as mentioned by Dr. Kinnicutt. He referred to a case reported by Dr. Gillette, in which the patient was eighteen months old.

Dr. R. F. Weir presented a specimen of

FIBROMA OF THE ABDOMINAL WALL.

(This paper is published in full on page 703.)

URETHRO-VESICAL CALCULUS—MEDIAN LITHOTOMY.

Dr. George F. Shrady presented a phosphatic vesico-urethral calculus weighing two hundred and fifty-seven grains, removed by median lithotomy from a boy nine years of age, a patient of Dr. E. B. Ramsdell. The operation was performed without a guide, but otherwise in the usual manner, as it was impossible, on account of the firm impaction of the calculus at the neck of the bladder, to introduce a staff into that viscus.

The stone when removed was of an irregular dumb-bell shape, was two and a half inches long, and a constricted portion near its centre corresponded with that which was surrounded by the neck of the bladder. One extremity, which was larger than the other, was contained in the dilated prostatic urethra. He thought it a very unusual situation for a stone, never having seen one of such a size in that locality before. The patient recovered without a bad symptom.

Dr. Weir referred to a specimen presented to the Medical and Surgical Society by the late Dr. Alfred C. Post, in which the tongue of a calculus projected into the prostatic urethra, but not more than half as long and half as wide as the calculus presented by Dr. Shrady.

Dr. Sexton reported a case of

FACIAL PARALYSIS AND VERTIGO CAUSED BY THE IRRITATION PRODUCED BY A DEAD TOOTH.

The patient came under his observation about two weeks ago for trouble referable to the left ear, with some noise in the right ear. He had also fallen in an attack of vertigo several times while at the table eating. While crossing the Atlantic he was exposed somewhat, and when arrived in New York he had left facial paralysis. There was history of syphilis, but examination of the ear was negative, and there was nothing that pointed to a central origin.

On further examination it was found that the second upper bicuspid tooth on the left side had been filled, and it was ascertained that the dentist removed the nerve and filled the cavity about one year ago, while the tooth was sore, and that it had remained sore ever since. The tooth was removed, and in less than two weeks the facial paralysis and nearly all the symptoms of which the patient had complained had disappeared, only a certain amount of tinnitus remaining.

Two pus-sacs were found attached to the end of the fang when the tooth was extracted, and it was evident, from the subsequent history of the case, that it was one in which the cause of all the clinical phenomena was peripheral rather than central.

Dr. Weir mentioned the case of a notorious *bunco-steerer* who entered his service at the New York Hospital, having received a blow upon the side of the head sufficiently severe to rupture the drum membrane, cause bleeding from the ear, and produce facial paralysis quite marked from the beginning, and which would probably be permanent. This possibly might serve to identify the man.

The Society then went into executive session.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

PAPERS AT THE MEDICAL AND CHIRURGICAL SOCIETY—MR. ARBUTHNOT LANE ON THE MODE OF FIXATION OF THE SCAPULA AND ITS BEARING UPON FRACTURE OF THE CORACOID PROCESS—AN ALTERNATIVE OPERATION TO EXCISION OF THE HIP-JOINT—THE DEPUTATIONS TO THE PRIVY COUNCIL FROM THE ASSOCIATIONS OF FELLOWS AND MEMBERS OF THE ROYAL COLLEGE OF SURGEONS—MR. ERNEST HART'S ADDRESS—REPLY OF THE LORD PRESIDENT OF THE COUNCIL.—THE MORTON LECTURE—THE SCARLET FEVER EPIDEMIC.

London, November 12, 1887.

Mr. Arbuthnot Lane, of Guy's Hospital, is one of the most indefatigable workers among our younger surgeons, and is constantly bringing before the societies the results of his researches—mainly on the subject of bone and joint affections. At the last meeting of the Medical and Chirurgical Society he "had the field" in an unmistakable manner. Both the papers read were by Mr. Lane, and the reading of them, with the discussions, took up the entire time of the meeting. The first paper was on the mode of fixation of the scapula and its bearing upon fracture of the coracoid process. In extreme flexion of the shoulder, he said, the scapula underwent a movement of rotation which was abruptly limited by the impact of the coracoid process upon the under surface of the clavicle. The frequent performance of this movement under the influence of strain determined in laborers the development of a coraco clavicular articulation. There was often great difficulty in breaking down adhesions which had resulted from inflammation. This difficulty arose from that of fixing the scapula. It might be firmly fixed by flexing the shoulder-joint completely, the coracoid process and clavicle being held firmly in apposition. When the scapula was thus fixed against the clavicle, the humerus could be forcibly rotated upon its own axis, and also very considerably abducted and adducted, without being accompanied in its movements by the scapula. All adhesions could thus be readily broken down. Mr. Lane then criticised the statements made by surgical writers that the coracoid process is always broken by direct violence, and showed that when the shoulder-joint was fully flexed this was practically impossible. He maintained that the published statistics as to the relative frequency of fractures of the several bones were inaccurate. He had never once seen a fracture of the coracoid in the dissecting-room, but fracture of the acromion occurred more frequently than that of any other bone in the body.

Mr. William Adams and Mr. Clement Lucas both agreed with the author in his anatomical and physiological conclusions, but Mr. Adams said that he could not accept the surgical conclusions, for it would not be possible to flex an anchylosed joint. Mr. Lucas agreed that fracture of the acromion was more common than was supposed. Mr. Howard Marsh thought the difficulties of fixing the shoulder-joint were not so great as had been inferred by the author. If, under anæsthesia, the joint were really fixed, he would advise that it should be let alone. He remarked that the acromion might be apparently detached by chronic rheumatic arthritis, to which Mr. Arbuthnot Lane rejoined that he considered injury a more frequent cause of the changes in the acromion.

A paper by Mr. Lane was then read in which he suggested an alternative operation to that of excision of the hip-joint in certain cases. In examining three hundred and twenty bodies, he had observed several instances of fracture of the femur, of which three were ununited and the rest united. In a few cases he found that a large proportion of the superjacent weight of the trunk was transmitted to the femur through a new joint which had formed between a strong, dense mass of bone on the femur (projecting upward and inward from the anterior inter-trochanteric line and the neighboring part of the femur) and the ileum, immediately beneath the anterior inferior spinous process. An attribute common to the three specimens in which this condition was present was a very considerable displacement of the head of the femur downward, which so altered the direction of its articular surface as to render it more or less useless for its original purpose. Mr. Lane referred to the unsatisfactory results of excision of the hip joint, and suggested that if the upper extremity of the femur could be displaced inward, and connected with the innominate bone so as to form a new joint similar or identical in character with that which had developed in the specimens he had observed, a very useful limb might be obtained, and one that would readily transmit the weight of the body without the assistance of any support, and permit of compensation of the shortening. Mr. Barker thought Mr. Lane's suggestion would prove a valuable one. Mr. Pick referred to the outgrowth of the buttress of bone from the fractured femur as affording a support through which the weight of the body could be transmitted. Mr. Warrington Haward defended the operation of excision, and remarked that in cases where it was successful good union and power might result in spite of great shortening. Mr. Howard Marsh also spoke in favor of excision, which was a very different operation now, he remarked, to what it formerly was.

At the Annual Meeting of Fellows and Members at the College of Surgeons, which I reported in my last letter, it was stated that the matter would be argued out before the Privy Council. The Associations of Fellows and Members, respectively, have lost no time in the matter, for yesterday afternoon a numerous and important deputation from each association attended at the Privy Council Office and had an interview with the Lord President of the Council. Mr. Timothy Holmes spoke on behal of the fellows, and Mr. Ernest Hart appeared as the champion of the members. Mr. Hart's worst enemies cannot deny that he is an effective speaker. His quiet, restrained manner and velvety tones carry conviction much more than any amount of declamation. His address was lengthy, and largely historical. He showed that the present College of Surgeons represented the united interests of the barber-surgeons and fellowship of surgeons, of which it was the lineal descendant, and could thus be traced back to the fourteenth century. He traced the analogies between it and the other city guilds, and pointing out that the freemen of the guild had always had the right of meeting and discussing the affairs of the guild and of voting, maintained that the annual meetings which had been summoned of late years by the council were merely a revival of the ancient custom, and as such deserving of special notice. Mr. Hart dwelt with some emphasis on the fact that at these recent meetings the council had "submitted" to the assembled fellows and members a detailed report of the proceedings of the college during the year, and a balance-sheet. The argument based upon a comparison of the ancient guild of surgeons with the other city guilds was somewhat spoiled by the President of the Privy Council pertinently asking whether it was not a fact that the ancient guild of

surgeons was limited to London, thus differing from the present College of Surgeons of England.

Coming down to modern times, Mr. Hart dwelt on the anomaly of twenty-four (mainly) metropolitan surgeons ruling the college. Nearly every practitioner in England and Wales was a member of it. Yet on its council there was no representative of either military or naval medicine, the sanitary service, or the poor-law medical service. It was only quite recently, and under the most extreme external pressure, that any steps had been taken by the council of the college toward the putting down of unqualified practice or removing unworthy members from its roll. It was only within the last few years that any representatives of provincial surgery had obtained a place on that board. Mr. Hart exposed in merciless terms the various subterfuges of which the council had been guilty, and quickly showed the fallacy of the various arguments which had been put forward by them as sufficient reasons for not acceding to the wishes of the fellows and members. One or two other gentlemen then briefly addressed the President of the Council, and the latter then briefly replied. He reminded the deputation that while, on the one hand, an inquiry into the past history of the college might confirm their view, it was, on the other hand, quite possible that it might sustain the opposite view. In any event, he would carefully consider the case, and the various statements submitted should have his careful attention. In reply to a question as to whether counsel would be admitted to plead before the Privy Council in support of the various legal points raised, the president replied that the matter could hardly be considered by the Privy Council from a legal point of view. The previous charter must, he said, be accepted as a legal and valid one, having remained unopposed for so many years. The sole question now under consideration was as to the granting of the supplementary charter for which application had been made by the Council of the Royal College of Surgeons.

Yesterday afternoon Sir James Paget delivered the Morton Lecture at the College of Surgeons. Of this I shall give some account in my next.

The epidemic of scarlet fever shows no signs of diminution as yet.

OUR PARIS LETTER.

(From our Special Correspondent.)

THE EFFECTS OF ALCOHOLISM—THE INFLUENCE OF MALARIA IN PRODUCING LESIONS OF THE NERVOUS CENTRES—SYPHILIS AND DEBAUCHERY—THE DUALITY OF THE BRAIN.

PARIS, November 11, 1887.

APROPOS of the effects of alcoholism referred to in my letter which was published in THE MEDICAL RECORD of October 29th, I may relate the following conversation, which was heard at a dinner given by one of the leading members of the Paris Faculty.

One of the guests, a medical man, recalled to mind an anecdote apropos of Claude Bernard. The illustrious physiologist often reproached his friend Balard, the celebrated chemist, with the habit he had of frequently taking small glasses of brandy during his meals, under the pretence of favoring his digestion. To this Claude Bernard responded by a demonstration of the action of alcohol on the stomach. After having, he said, got dogs to ingest divers alimentary substances, he made them swallow a certain quantity of alcohol. In opening their stomachs, a few hours after, he found that these substances had undergone a notable arrest in their digestion, and that even several of them had not been at all affected by the gastric juice. Claude Bernard then addressing Balard, asked him what he concluded from the experiment. To this question Balard gravely replied: "I conclude that alcohol was not made for dogs."

After a long practice in malarious countries, Dr. Bourne, a naval surgeon, has acquired the conviction that the nosological list of paludal affections is much longer than that generally admitted. According to the theory which the author developed on the subject at a recent meeting of the Academy of Medicine, malarious infection can determine congestive and inflammatory lesions in the nervous centres. These lesions, at their onset, are amenable to the specific treatment of infection. In other cases, either that the treatment had been applied too late, or that the accidents had been too violent from the commencement, they may persist in spite of this specific treatment, and evolve independently of their infectious cause.

There is a widespread opinion among the general public that syphilis is invariably the result of debauchery, or that it is acquired only when one voluntarily exposes himself or herself to the risk of contracting that disease, and that, consequently, the prophylactic measures ordained by the authorities against syphilis would only apply to those who are not worthy of such precautions, as they ought to be able to look after themselves. In a report read before the Academy of Medicine, in the month of June last, on the best means for preventing the propagation of syphilis, Professor Fournier, the well-known syphilographer, in continuation of his investigations on the subject, repudiated such a notion as that entertained by the public, and in a second report, which he recently read before the Academy of Medicine, the author points out that in a great number of cases of syphilis, particularly in females, the disease is contracted unwittingly, or, as the author expresses it, innocently. During the last twenty-seven years that he has been practising, Dr. Fournier has been consulted in his own consulting-room by 887 women affected with syphilis. Of this number 842 cases were of sexual origin, and in 45 cases, which is already a proportion of five per cent., the disease was contracted otherwise than by sexual connection. As regards the social position of the 842 cases, the author divides the patients into three categories: 1, Women belonging to the demi-monde, 366; 2, married women, 220; 3, women whose social position was unknown, 256. In striking out from the figures 220 a certain number of the cases of married women who evidently got the disease from another source than from their husbands, there remain 164 infected by their husbands, and in 34 cases Dr. Fournier was not able to see the husbands. In conclusion, the average number of women who were infected with syphilis during conjugal intercourse would fluctuate between nineteen and twenty per cent. In concluding his report, which is published at length in the Comptes Rendus of the Academy, and which is well worthy of perusal, Dr. Fournier points out that the measures proposed by him would not only protect the dissipated portion of the public, but they would also protect honest women and their children, the innocent victims *par excellence* of this redoubtable scourge.

The question as to the duality of the brain and of the spinal marrow occupies a very important position in physiology. The greater part of medical men maintain that motion, and particularly that produced, under the influence of the will, in the members of one of the sides of the body, depends only on one-half of the encephalon and of only one side of the spinal marrow. The same is the case for the transmission and the perception of sensitive impressions, and also for vaso-motor influences exercised by the cerebro-spinal centre. As regards special sense, it is nearly the same. The *right* half of the encephalon and the *left* half of the spinal marrow alone serve, it is believed, for the *left* side of the body for voluntary motion, for vaso-motor action, for transmission, and for sensitive perceptions. The *left* half of the encephalon and the *right* half of the spinal marrow alone serve, it is asserted, for the *right* half of the body. In a paper recently read before the Academy of Sciences, Professor Brown-Séquard communicated a series of facts

tending to prove that these opinions are not correct, and that we must admit, on the contrary, that each half of the encephalon and of the spinal marrow can serve for all the functions of the two halves of these nervous centres. The following are the conclusions of the paper as formulated by the author: 1. "Anæsthesia, paralysis, and hyperthæmia, caused by an organic lesion of the nervous centres, can be transferred from one side of the body to the other under the influence of a second lesion of these centres; hence it follows that these manifestations are not necessarily the effects of the destruction of certain nervous elements possessing certain functions, and may be the results of pure dynamic actions, exercised at a distance by the irritation caused by the lesion. 2. One-half of the encephalon can serve for sensibility, for voluntary motion, and for vaso-motor actions for the two halves of the body. The same is the case for one lateral half of the spinal marrow, at least as far as concerns sensibility and vaso-motor actions."

EUROPEAN OPINIONS OF AMERICAN PHYSICIANS.

To the Editor of The Medical Record.

Sir: Noticing a quotation in a recent issue of The Record regarding the status of American physicians in Germany, it occurred to me that I might add a few items of interest to the subject by relating some recent personal experiences while abroad.

Thanks to letters of introduction from such men as Professor Jacobi, I had ample opportunity to mingle with prominent medical men in Germany and Austria, and to converse with them on all topics pertaining to American medicine. My observations are thus neither local nor superficial. I remained, also, as long as a month at a time in such localities as Carlsbad and Franzensbad. These prominent health-resorts, above all others, are frequented by physicians of all nationalities, and consequently it is very easy to form a widespread estimate of current opinions.

Prejudice against American physicians is universally encountered, mingled perhaps with a trace of jealousy. The great strides made by America and by American institutions cannot be fully appreciated by conservative Europe. It is a well-known fact that the curriculum of German universities has changed but very little, while American colleges, as business enterprises, have not lost opportunities for profiting by the mistakes of senior institutions in Europe. Europeans concede that Americans *as a nation* are very practical; that is, they "are young in old age," remaining observant and progressive throughout life. "You Americans are very practical," was a compliment often bestowed, but not to be taken in its fullest meaning.

First, let me say a few words about preliminary education. It is well known in Germany and Austria that a general collegiate education is not requisite for entrance in American medical schools. Such a thing is impossible in Europe. The idea of men matriculating in professional colleges on simple payment of fee, without even a rudimentary education, is ridiculed abroad. Thus far, as regards general education, their opinion is well founded. Starting with this idea, an idea but too true, we must admit they are naturally prejudiced against our medical education. They claim that a man devoid of most ordinary knowledge is unworthy of the title doctor, *i.e.*, wise man.

The five years' course may certainly be said to be no longer than our compulsory three years' course, when we consider the absolute number of hours devoted to actual study; besides, in our "practical" American schools we exclude such useless branches as zoology and non-medical botany. These subjects have no direct bearing upon the study of medicine, and merely waste the time and scatter the energies of the student.

European physicians appear to be ignorant of this fact, as was proved to me by numerous absurd questions asked of me. Among these was the following, which I was condemned to hear repeatedly, "Do your medical students dissect, and is such dissection actually compulsory?" Naturally, a question of this kind provokes indignation. Another question, as brilliant and complimentary as the former, was put to me by several prominent physicians, who ought to have a knowledge of what is going on in foreign countries. This question was, "How are your prescriptions written, in English or ———?" One physician was afraid to say Latin, for fear, perhaps, that an American might never have heard of the language. On one occasion I answered the question rather emphatically, whereupon my questioner remarked, as an apology, that in France prescriptions were written in French.

With a natural pride for American physicians I was often mortified to learn how few of the leading men on this side of the Atlantic are known there. There is some comfort, however, in the thought that men who are likewise distinguished in Europe are never heard of in this country.

While in Germany I formed the acquaintance of my esteemed friend Dr. Boas, one of the editors of the *Berliner Klinische Wochenschrift*. Through him I learned that men like Professor Jacobi, Professor Thomas, and other medical writers are known to almost everybody. Dr. Lewis Sayre is esteemed through his brilliant advocacy of the spinal apparatus. The most renowned American is, of course, the late Dr. J. Marion Sims, the founder of American gynecology. The Sims position and Sims speculum have been universally adopted in Europe. Dr. Thomas also has made himself famous through his work on "Diseases of Women," which is found in the library of almost every physician in Europe. Regarding the surgeons, inquiries were very frequently made of Drs. Hayes Agnew and Gross, of Philadelphia; and if the modesty of the editor of The Medical Record would permit, I would add another name, from New York. Besides these gentlemen, distinguished specialists like Dr. Herman Knapp and Dr. Lange, who have been educated in Germany and are now practising here, are, of course, well known to their colleagues. In general, I found that those men who have contributed to medical literature have gained a reputation by virtue of such contributions. Etiquette prevents me from enumerating the names of equally prominent men who are never heard of outside of America, because, as I believe, they have never taken the trouble to publish the results of their valuable experiences.

It seems very odd to an American to find European physicians, without exception, located on the second, third, and sometimes even fourth story. To occupy the ground floor being considered vulgar, patients are obliged to climb several flights of stairs to satisfy the demands of fashion. Office-hours are kept but once a day, usually from 2 to 3 P.M. This is undoubtedly very practical, because a man can devote the rest of his day to professional calls, if necessary.

The European doctor claims to be solely devoted to his profession. He looks upon the American as a mere man of business, one whose only object is to attain wealth by means of his profession. Our foreign brother's ambition is to acquire fame, to satisfy which he will sacrifice both health and wealth. More than that, he is literally at the mercy of his patients, never asking a fee nor sending out a bill for services. Thus we can readily understand why the income of noted physicians is at times very small. The maximum fee mentioned was "twenty marks," *i.e.*, less than $5. Five thousand marks yearly is considered a very good income in Germany while, as we know, it is far below our American average.

We are accused of harshness toward the poor, because our system of dispensaries is not understood. The German as well as the Austrian Government employs special district physicians for attending the needy. While

explaining the dispensary system to several physicians, it was usual for them to remark that we overdo medical charity.

In general, America appears to be as much an unknown land as it was before its discovery by Columbus. As an example of this blissful ignorance, allow me to mention the following ludicrous incident: A brilliant young *confrère* in Franzensbad said to me, "What kind of a place is your America? To my mind it pictures itself only like a wilderness. Are there many wild Indians in New York?" I jokingly answered that no one would dare to go through the streets unarmed by night or day. Noticing that he believed what was said, I, of course, attempted to enlighten him about our barbarous country. Whether he believed the truth more than the joke is doubtful.

When we compare the average young American physician with the average young European physician, we find the former much brighter and much better adapted for the practice of medicine. For, while studying medicine but three years, we study nothing *but* medicine; whereas, if we deduct the time wasted (?) by foreign studies, and then deduct the time wasted by "beer-drinking," we find that the American physician is better fitted to commence his career as a practical physician than our European *confrères*.

Nevertheless, the American physician is treated in Europe with contempt, and regarded almost as a nonentity. He is not allowed to practise without having passed a college examination *in matura*, a special examination on subjects of general culture, and, furthermore, a rigid state examination. As is seen from this, every possible obstacle is laid in our way, and hence no American physicians that I know of have settled down to practise in Germany or Austria. They acknowledge that our graduates know enough of actual medicine to apply it successfully to practice, but their theory is that a universal education, similar to the one they have received, is absolutely requisite to qualify a man to be a doctor of medicine. Though the fact disproves their theory, they take a delight in applying the old schoolmen's formula of the Middle Ages, that "if the theory does not agree with the fact, so much the worse for the fact."

It is true we may not be able to cope with them in Latin and Greek, but, all in all, I would prefer having an American attend my family in case of need than a European. Very respectfully,

LOUIS FISCHER, M.D.

40 RIVINGTON STREET, NEW YORK.

"AIDING THE BOARD OF HEALTH."

TO THE EDITOR OF THE MEDICAL RECORD.

DEAR SIR: I hope you will find a prominent corner in THE MEDICAL RECORD which you can devote consistently to a brief reply to the communication published under the above heading in a recent issue of your journal.

The two "important impediments" mentioned by the gentleman in his communication *did* occur to the author of the paper entitled "How can the Medical Profession Aid the Board of Health?"

In explanation of the first impediment permit me to say that a condition of things which a physician recognizes by the aid of his medical knowledge, or otherwise, to be a nuisance, on account of it being "dangerous to life or detrimental to health," is a proper matter to report to the Health Department.

In reply to the second impediment I will state that a complainant is not required as a witness by the Board, since the Board depends on its own experts alone for a verification of the original complaint, and also for evidence to sustain the justice of an order made by the Board to abate a nuisance.

However, cases might occur in which the Board would desire the testimony of citizens, especially if important business interests are to be interrupted on account of the creation of a generally recognized nuisance in connection with them.

Certainly no one appreciates the inability of the busy physician to study the "Revised Statutes and Session Reports" more than the "author;" yet at the same time no one can appreciate more fully than the gentleman himself the fact that such a course is entirely unnecessary, for a medical education alone fits the physician for reporting the things of a causative nature that should be remedied by the Board of Health for the prevention of disease.

It seems to me to be proper to state that the busy physician even can, with justice to the cause he serves, give an occasional moment to gaining information of such subjects as ventilation, plumbing, etc., and of their relation to disease, especially since "an ounce of prevention" may be often quite as potent of good as "a pound of cure"—when dispensed.

If the gentleman will kindly refer his suggestions regarding "laws and ordinances," and the proposed "bulletin for the New York Academy of Medicine," to Dr. C. R. Agnew, the Chairman of the Committee of Conference with the Board of Health just appointed by the Academy of Medicine, the Commissioners of the Health Department will be pleased to do all in their power to comply with any request that the committee may make bearing on these subjects.

Very respectfully,

JOSEPH D. BRYANT, M.D.

66 WEST THIRTY-FIFTH STREET, November 21, 1887.

HONOR TO WHOM HONOR IS DUE.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In THE RECORD for August 20, 1887, under the head of "A New Mode of Treating Burns," is a notice by you of the method of Professor Mosetig, by the use of iodoform, and the new mode of treatment is given in detail as a matter of professional interest.

Mosetig's treatment is excellent; it is undoubtedly the treatment *par excellence* for burns of the second and third degrees, even if of considerable extent (for I have not known, nor have I heard of, any evil effects from absorption, and I have used it extensively for the past five years), but there is nothing new about it, and it is not a method to which Professor Mosetig can lay any claim of originality; for in a very practical paper, under the head of "The Local Treatment of Burns," in THE RECORD for December, 19, 1882, the use of iodoform by almost precisely the same method is advocated, and a case in which such treatment was carried out is given by Dr. Robert T. Morris, then an interne in Bellevue Hospital, and he makes the same claim—that patients thus treated are soon relieved of all pain.

Yours truly,

W. H. BENNETT, M.D

188 SIXTH AVENUE, BROOKLYN.

A PECULIAR EFFECT OF TOBACCO SMOKE.—Dr. Batten reports, in the *Journal of the American Medical Association*, a curious case of idiosyncrasy in regard to tobacco smoke. A man came into his office one evening to be examined for life insurance, and, as the writer was smoking, asked him to desist, saying that otherwise he would not hold himself responsible for the consequences. He stated that the smoke first caused an intense pain over both eyes, causing him to knit his brows; then he became, as he termed it, "cranky," and would fight with his best friend. After this cranky condition lasted for a time, he became sick at the stomach, and would throw up the contents of his stomach, after which he would have to lie down. He further stated that his mother had the same idiosyncrasy with regard to tobacco smoke, and he believed he inherited it; his father was a smoker.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from November 20 to November 26, 1887.

SMITH, A. K., Lieutenant-Colonel and Surgeon. Assigned to duty as Attending Surgeon in New York City. S. O. 269, A. G. O., November 18, 1887.

SMITH, J. R., Lieutenant-Colonel and Surgeon. Ordered for duty as Medical Director Department of Dakota. S. O. 269, A. G. O., November 18, 1887.

HORTON, S. M., Major and Surgeon. Granted six months' leave of absence on surgeon's certificate of disability. S. O. 269, A. G. O., November 18, 1887.

ARTHUR, W. H., Captain and Assistant Surgeon. Granted two months' leave of absence, with permission to apply for two months' extension, to take effect on the arrival at Fort Niagara, N. Y., of Assistant Surgeon Paul R. Brown. S. O. 269, A. G. O., November 18, 1887.

KEAN, J. R., First Lieutenant and Assistant Surgeon. Granted two months' leave of absence, to take effect about December 1st. S. O. 269, A. G. O., November 18, 1887.

BROWN, PAUL R., Captain and Assistant Surgeon. Ordered to Fort Niagara, N. Y. S. O. 270, A. G. O., November 19, 1887.

SKINNER, JOHN O., Captain and Assistant Surgeon. Ordered to Fort Ontario, N. Y. S. O. 270, A. G. O., November 19, 1887.

RICHARD, CHARLES, Captain and Assistant Surgeon. Ordered to post near Denver, Col. S. O. 270, A. G. O., November 19, 1887.

CARTER, E. C., Captain and Assistant Surgeon. Ordered to Willet's Point, N. Y. S. O. 270, A. G. O., November 19, 1887.

Official List of Changes in the Medical Corps of the United States Navy for the week ending November 26, 1887.

NASH, F. S., Passed Assistant Surgeon. Detached from duty at the Smithsonian Institution, and ordered to the Washington Navy Yard.

Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending November 26, 1887:

	Cases.	Deaths.
Typhus fever	6	0
Typhoid fever	21	8
Scarlet fever	87	15
Cerebro-spinal meningitis	4	3
Measles	38	6
Diphtheria	149	48
Small-pox	1	0
Yellow fever	0	0
Cholera	0	0

"THE ADVERTISER."—Dr. Radcliffe Crocker, in hi introductory address before the University College Hospital, dwelt upon the subject of medical advertising; and he classified the advertising part of the profession on the principle Touchstone used in the gradations of quarrelling, and described humorously the "Advertiser Churlish" as the man who wrote works in which he made out everyone to be wrong but himself, professing to have made discoveries which the blindness and narrow conservatism of the profession prevented them from seeing or adopting, and who, when patients had been previously treated, depreciated directly or indirectly their former adviser in order to exalt himself. The "Advertiser Valiant" was a man who paraded his ability to cure obstinate or incurable diseases, such as consumption, cancer, etc., and ascribed his success partly to the fact that he was always ready to make the more serious diagnosis even in comparatively mild forms of diseases, and thus he was credited with curing phthisis, or whatever the disease might be, without really deserving it; further, even if he failed, he was always having a succession of new patients through his advertisements. The "Advertiser Quarrelsome" took the form of writing pamphlets against the abuse of various drugs in the treatment of disease, or against operative treatment in various surgical affections, and claiming to show how he avoided all such dangerous methods and yet cured his patients more quickly and safely. The last two were the "Advertiser Direct" and the "Advertiser Circumstantial." Pointing out that very few went so far as to advertise themselves directly, as they ran too much risk of being expelled from the profession, he described the "Advertiser Circumstantial," who, while appearing to praise something else, was really putting himself forward. As the most flagrant instances he mentioned men who lent their aid in puffing sundry trade-articles, either directly by writing testimonials to the vendors, or indirectly by allowing extracts from their works to be reprinted by the vendors of drugs, foods, or hygienic articles, and sent round as circulars or left in public places. Another plan was to write works known as "bread-and-butter" books, of more or less pretension, on common diseases, such as "gout," or some fashionable or new treatment, such as "massage," to give the impression that they were authorities on the subject.

HYDATIDS IN THE CAVITY AND SUBSTANCE OF THE HEART.—Dr. Rushton Parker, writing to the *British Medical Journal*, says that he was recently called in to see a little fellow, five years of age, whose life had suddenly become extinct within a few moments of his playing about in almost perfect health. He had once, two or three weeks previously, and again nearly a week ago, complained of a slight pain about the heart, but little notice was taken of a matter apparently so trivial. On August 1st he again made a similar complaint, and his father imagined that he felt the child's heart beating a good deal quicker, if not more vigorously, than it should do. However, he played about with his ball and helped his mother at the pump, and then sat playing on the sofa, when he suddenly uttered a scream, turned over on one side, and in a few moments was dead. On opening the pericardium the front wall of the right ventricle, near the base, was found bulged out by a hydatid, giving the appearance of another auricle. An incision was made into this, passing first through the ventricular wall, then through a tough adventitious sac about one-fifth of an inch thick, firmly adherent to the muscular substance, and rough inside like pericarditic lymph; the delicate mother-cyst within this contained fresh blood-clot and eight or more daughter-cysts (mostly pyriform or ovoid in shape, and varying in size from small currants to small beans), and had evidently attained a diameter of nearly one inch and a half before rupturing into the right ventricle; about the rupture the endocardium seemed rough and fibrinous. On raising the heart, and detaching it by cutting through the large vessels, there flopped out of the left auricle a simple hydatid cyst, measuring one inch and a half in diameter, which must have occupied almost the entire space of the auricle. No hydatids were found elsewhere, but only a superficial examination of the other organs was made.

Genius not a Neurosis.—Dr. Kiernan (*Alienist and Neurologist*) opposes the idea that genius, especially poetical genius, is a neurosis. He admits that many a matter-of-fact young man or woman in the emotional stage of insanity has composed respectable verses; but the power, instead of being sustained, is lost upon restoration to health. The subtile chain of associating power, which constitutes genius in its highest and best sense, differs decidedly from the di-jointed condition existing in paranœa. Huxley's phrase "the scientific use of the imagination," is strictly applicable to the highest poetic genius. Sophocles was summoned to court by his sons, when at a great age, to have him placed under guardianship as a dement; but upon his reciting to the judge a drama which he had just composed, the clearness of his intellect was so apparent that the case was at once dismissed. Fox, McCullough, and Bartley Campbell were paretic dements. After the disease set in their histrionic power vanished. Napoleon Bonaparte's epileptic insanity marred his work. The failure of the Russian campaign and most of his political blunders were the result of his suspicional delusions and epileptic stupor. Plato and Socrates were clearly victims of sexual perversion, and, like most sexual perverts, had a dreamy, emotional, pseudo-ethical sentimentality which led to the Platonic love idea in one case, and made Xantippe miserable in the other. William Pitt, the elder, suffered from acute gouty insanity, during which he was worthless as a statesman. Shelley and Cowper were victims of periodical insanity, which alternated with literary production. When Southey and Rogers fell victims of dementia, their poetry ceased to appear. Contrast the "Lady of the Lake" and "Bob Roy" of Walter Scott with his "Count Robert of Paris," and it is very easy to see which was penned when the brain was in full healthy activity, and which was written after poetic dementia had seized him. Genius is not a product of a morbid mind. Insanity, in its emotional stage, may touch the lips of a timid poet, but its song soon sinks beneath the disease.

The Treatment of Biliousness.—According to the *Boston Medical and Surgical Journal* the treatment of biliousness is prophylactic, alimentary, and medicinal. Prophylaxis is concerned with avoidance of all the known causes, whether of a toxic, malarial, or alimentary character. A plain diet, of bread, milk, oatmeal, vegetables, and fruits, with lean meat or fresh fish in moderation, and abstinence from alcoholic stimulants, seems to be the ideal fare for the biliously predisposed. This kind of diet is especially applicable for hot weather, when albuminoids are apt to clog the portal system, and pastries are an abomination, and when a broiled schrode, a little chicken or mutton broth, with bread and stewed fruit, will make a more healthful meal than the more sumptuous fare of a modern fashionable dining saloon. Exercise in the open air is of recognized utility in promoting oxidation and elimination, enhancing the digestive and assimilative processes, and lightening the burdens of the liver. Moreover, exercise (whether by rowing, horseback-riding, gardening, walking) hinders absorption of bile by the hepatic venous radicals, and promotes the passage of that fluid into the duodenum, through the increased compression exerted on the liver by the diaphragm and abdominal muscles; this is in accordance with a recognized physiological law. The victim of an acute bilious attack will generally get righted in a few days by, first, abstinence from all food, then a diet of porridge and milk, or skimmed milk alone, and a very gradual return to solid food, which for several days should be restricted to toast, a little lean meat, or broiled fish, with some succulent vegetables or ripe fruit. As for medicines, saline aperients, such as sulphate of soda, Epsom or Rochelle salts in full doses in the morning, or the now fashionable tumblerful of Hunyadi Janos will generally suffice to clear the *primæ viæ*; the latter has especially a reputation for evacuating bile. The striking relief obtained by free bilious evacuations has often been remarked, and the veteran transgressor resorts to his blue pill or podophyllin with every recurrence of his malady. Of late enonymin has come much into use as a cholagogue. Harley recommends to persons who seem to have a more than usual tendency to biliousness, traceable to sluggish biliary secretion, and where there seems also to be defective nerve action, small doses of nux vomica or strychnia after their meals. This may be combined with belladonna and aloes, as in the aloin, strychnia, and belladonna pill. The bilious person is generally constipated, hence such a pill has a special utility. Fothergill's pill of ipecac, capsicum, and pil. aloes et myrrh, has done good service in such cases. Nitro-muriatic acid and taraxacum have a reputation which is probably not altogether built on imaginary results. But bilious dyspeptics, while they should be attentive to the functions of eliminations (and doubtless the ancient predilection for purgatives has been justified by modern scientific research, which finds in intestinal septicæmias and alkaloids of putrefaction many of the evils formerly attributed to peccant humors and atrabiliary disorders), should aim especially to be good hygienists and learn to live right; but this is counsel which everybody gives and nobody takes.

The Consumption of Alcohol on Morality and Health.—The following statements made by M. de Flaix are deserving the consideration of students of the alcohol question. M. de Flaix says: "The birth-rate is less and the mortality greater in the departments where the consumption of alcohol is small; that neither crime nor suicide is in proportion to alcoholic consumption. Thus in the Seine-Inférieure the consumption of alcohol is three times that in the Nord; but suicide is only twice as frequent. In the Pas-de-Calais the consumption is twice as great as that of the Nord, while suicide is two and a half times less. In the Seine-et-Oise the consumption is one-half less than that of the Seine-Inférieure, but suicide in the former is twice that of the latter." Comparing different nations, he says: "France consumes less alcohol than the United Kingdom; its birth-rate is less, and its mortality, criminality, and suicide rates are greater. Italy consumes very little alcohol; its criminality is appalling (*effrayante*). Spain consumes three times less alcohol than Italy; its criminality is double. Sweden, Denmark, and Norway, with a population of about one-third, consume four times the quantity of alcohol consumed in Italy, and yet the criminality of the former is very small, while that of the latter is appalling (*effrayante*). Russia consumes four times the alcohol of France; its birth rate is almost double. Thus, all the hypotheses are upset; the most vigorous, the richest, and the most moral of the nations are those which consume most alcohol. The prediction that alcohol will destroy civilization and the human race is not supported by facts. If France, whose vitality is undergoing a crisis, were among the nations which consume most alcohol, she would serve as an excellent argument; but the consumption of alcohol by France is moderate, and it has been established already that those parts of France are the most vigorous where the consumption of alcohol is greatest."

The Nerve Influence in Pathology.—Dr. Meigs Case, of Oneonta, N. Y., writes: "In these days of 'blood-poisoning' and antiseptic surgery I would like to ask extremists if injustice has not been done in ignoring and neglecting 'nerve influence' and the solids. Practical observations upon the operation of blisters, emetics, snake-poison, or prussic acid, and of lock-jaw produced by a punctured wound or injury, afford a field for defenders of the ancient faith. Cocaine used in an extremity which has been prepared for operation by the Esmarch bandage, effectually cutting off the circulation, is another illustration grateful to the memory of old Dr. Chapman, of Philadelphia, and suggestive of the truth of solidism."

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FOOT-AND-MOUTH DISEASE AS IT AFFECTS MAN AND ANIMALS, AND ITS RELATION TO HUMAN SCARLATINA AS A PROPHYLACTIC.

ALSO, REMARKS UPON THE TRANSMISSION OF HUMAN SCARLATINA TO THE LOWER ANIMALS, AND THE USE OF VIRUS THUS CULTIVATED AS A PREVENTIVE AGENT.

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The disease as it affects man.—It was long ago discovered that the human subject was susceptible to the contagium of foot-and-mouth disease. The disease is contracted in one of two ways, viz., by drinking milk obtained from cows affected with the disease, or by the accidental introduction of the virus into open wounds or sores upon the hands, or other parts of the body. In either case the systemic disturbance is, as a rule, very slight, while the local lesion, in the great majority of instances, consists of an inflammatory sore throat, with or without the development of small vesicles upon the inner surface of the cheeks, lips, and tongue. The cervical lymphatic glands are generally enlarged and tender. The tongue sometimes becomes swollen to a considerable degree. In some instances there has been an eruption of vesicles upon the feet and hands, in others a scarlet eruption has made its appearance upon different parts of the body. Hertwig,[1] during an epidemic of foot-and-mouth disease, drank daily for four days one quart of milk taken from diseased cows. In less than forty-eight hours he "began to experience slight fever, twitchings in the limbs, headache, a sensation of dryness and heat in the mouth, and an itching in the hands and fingers. These symptoms continued about five days. Then the entire mucous membrane of the mouth began to swell considerably, especially that of the tongue, upon which organ, particularly the edges of it, and also upon the inner surface of the cheeks and lips, there appeared small vesicles, never larger than a lentil, of a yellowish-white color, and filled with turbid whitish contents which were readily discharged when the vesicles were pricked, but were soon reproduced. Upon the following days the vesicles became still larger, and burst; the epithelium was then detached, leaving behind dark-red erosions which gradually healed. There was, conjoined with the above symptoms, a smarting pain in the mouth upon the attempt to masticate, speak, or swallow, and also an intense thirst. The vesicles upon the lips dried up, leaving in their places thin brown scurfs, which upon the tenth day after the appearance of the former fell off. Simultaneously with the development of the eruption in the mouth, numerous vesicles were formed upon the hands and fingers, which at first were of the size of a millet-seed, firm, and of a yellowish-white color, but in their further progress approximated in look to those in the mouth, healing, however, more slowly. At the termination of this process he was restored to the best of health." Two other physicians performed the same experiment upon themselves, with the same result as obtained in the case of Hertwig, except that they had no eruption of vesicles upon their hands. The symptoms thus produced by drinking fresh milk containing the contagium of the disease under consideration, vary somewhat from those produced by inoculation of the human subject with the contents of the vesicles, at least in some instances. That this is true will be shown in the record of the following cases:

About the end of August,[1] Mrs. X——, wife of an extensive farmer, came under my care on account of an eruption of *bright red spots*, one-eighth of an inch in diameter (covered with a thin white desquamation), which were so densely sprinkled over her body as to leave only minute interspaces of sound skin. As Mrs. X—— had within the last three years suffered from hepatitis with jaundice, I thought the eruption might be thus originated. Alterative purgatives made no impression upon the disease.

On a subsequent visit I found her husband complaining of a sore throat and mouth. Upon examination found the mucous membrane of his mouth, lips, tongue, and throat studded with small ulcers, giving off a white slough, which left behind a clean but highly sensitive cup-shaped cavity. His forehead was covered with an eruption similar to that upon the lower extremities of his wife. The eruption was never vesicular as it is in cattle. The spots made their appearance as slightly elevated, reddish prominences (papulæ), which gradually became bright red, then threw off a silvery-white scale, and gradually disappeared. Mrs. X—— had slight inflammation of the fauces. Some of the children about the house were also affected with sore throat, but the symptoms in these cases were very mild and easily overcome. At the time this disease affected the above patients the whole of Mr. X——'s cows had murrain. Mr. X—— says that, when examining one of the cows which was suffering from the disease, and while in the act of pressing back the lip, he observed two or three pimples on the upper lip to burst and eject the matter to a considerable distance, and that he received a portion on his cheek and hand. Both parties, as well as those affected in a lesser degree, had gone freely about the byres, handling the diseased cows, of which there were at times upward of a dozen ill at once, and the peculiar virulence of the symptoms in Mr. X——'s case seemed to depend upon the circumstance that the matter caught upon his hand and cheek was derived from one of the worst of the diseased animals. The epidemic of "sore throat" which occurred at Dover, England, in 1884, furnishes still greater opportunity for the study of "foot-and-mouth disease" as it affects man.[2] "During the early days of February, 1884, a remarkable outbreak of sore throat occurred in Dover, England, which, on account of the suddenness of the outbreak, the severity of the symptoms, and its chief prevalence among those occupying the best houses in the town, attracted no small amount of public attention, and naturally provoked a large amount of interest in the investigation as to the cause thereof. Controversy waxed warm, especially when it became known that the course of the epidemic corresponded most intimately with the track of a particular milkman, and that the milk supplied by this man was believed to be the vehicle of the specific poison occasioning the epidemic. . . . For the purpose of ascertaining what particular taint was present in the milk which was calculated to occasion this particular epidemic, a searching inquiry was made,

[1] Ziemssen's Cyclopædia of the Practice of Medicine, vol. iii., p. 521.

[1] Edinburgh Medical Journal, 1863, Hislop.
[2] Quoted from the official report of the epidemic.

and the following facts collected: The implicated dairyman obtained his supply of milk from twelve cows kept on his own premises at Dover, and also from three farm establishments in the country. All these places were visited and diligent search made for any evidence of the disease among either the cows or people living or engaged on the premises.

"At one of the establishments in the country it was found that aphthous fever had broken out among the stock on January 14th, and that milk from some of the affected cows was delivered to the Dover dairyman, and, after being mixed with other milk, distributed to his customers. Moreover, it was from this infected farm alone that the Dover dairyman obtained the supply of cream furnished to his customers. At the beginning of the inquiry it was stoutly denied that any of the milch-cows had suffered from disease, and a certificate from a veterinary surgeon and inspector to this effect was obtained and published. The matter was then referred to the police, and the truth gradually oozed out, until the facts as already stated were established beyond dispute; then the farmer not only admitted the fact of the disease among the milch-cows, but confessed to the sale of their cream and milk in Dover, not only to the dairyman whose milk was especially implicated, but also to another milkman, on two separate occasions, among whose customers a second simultaneous outbreak occurred; thus a second experiment was performed with this tainted milk among another set of individuals, with like results to the first, contributing additional evidence of the presence of poison in the milk supplied from the infected farm. Thus it was clearly established that the sufferers in this epidemic partook of milk which had been secreted by cows suffering from foot-and-mouth disease. During the week ending February 9th, two hundred and five persons were attacked with this disease. The majority of persons who suffered during the Dover epidemic presented two prominent symptoms in common, viz., *inflammatory sore throat and enlargement of the cervical lymphatic* glands; but the lesions produced varied considerably in different cases. The vesicular eruptions were followed either by a raw, red, œdematous appearance of the mucous membrane, or white patches, and the ulcers which supervened assumed in many instances a chronic character, with thick, puckered edges, and were a long time in healing. When the inflammation went on to suppuration recovery was much slower than after common quinsy, and the enlarged cervical glands remained tender, red, and swollen long after the throat symptoms had subsided, *resembling in this respect the sequelæ of* scarlet fever. Erysipelas and purulent formations were also concomitants of the epidemic. In some instances the feet of those who suffered were swollen and painful, simulating rheumatism; and in one instance eczema occurred between the toes of the feet, the affection being accompanied with very fetid exhalation. A fatal termination resulted in the cases of two children who had very bad throats and mouths, with the extension of the disease to the respiratory tract, their deaths being, in the opinion of the medical attendant, due to the poisonous effects of the milk. Two persons, who labored under chronic kidney disease, were respectively attacked with sore throat and died on the same day; other people in the same houses suffering also from the epidemic sore throat."

Having thus traced the course of foot-and-mouth disease as it occurred in the cases quoted, and thinking it manifested a certain resemblance to human scarlatina, I asked Dr. M. K. Robinson, medical officer of health of East Kent, England, if he would call upon the various persons who had been affected with the "epidemic sore throat," and ask them whether they had had scarlet fever either before or after having the "sore throat" in 1884, my object being to determine whether the human system, having been attacked by one of these diseases, would, as a result, become fortified against the contagium of the other.

TABLE.

Incidence of Scarlet Fever among Persons who Suffered from "Epidemic Sore Throat" due to Use of Milk derived from Cows Suffering from Aphthous Fever, which Epidemic occurred in Dover in 1884.

No. of case.	Scarlet fever previously.	Scarlet fever since.	Remarks.
1	.....	.....	Four other members of same family, who had previously had scarlet fever, escaped epidemic of sore throat.
2	.....	.....	
3	.....	.....	
4	.....	.....	Five other members of this family, who had previously had scarlet fever, escaped throat epidemic.
5	1	.....	
6	.....	.....	
7	.....	.....	Two members of same family, who had previously had scarlet fever, escaped throat epidemic.
8	1	.....	
9	.....	.....	
10	1 ?	.....	Believed to have had scarlet fever with other members of family when young.
11	?	?	Gone away, no address to be found.
12	.....	.....	
13	.....	.....	
14	.....	.....	
15	?	?	Gone away, no address yet found.
16	?	?	
17	?	?	
18	.....	.....	
19	1 ?	.....	Not quite certain, but thinks to have had scarlet fever when young.
20	?	?	Gone away, address not yet found.
21	.....	.....	
22	.....	.....	
23	.....	.....	
24	.....	.....	
25	1	.....	Believed to have had scarlet fever when young.
26	.....	.....	
27	.....	.....	
28	?	?	Gone away, address not yet ascertained.
29	.....	.....	
30	1	.....	
31	.....	.....	
32	.....	.....	Same family.
33	.....	.....	
34	1	.....	Same family, 34 had scarlet fever when young; 35 uncertain.
35	?	.....	
36	.....	.....	Same family.
37	.....	.....	
38	?	?	Same family. Gone away, address not yet ascertained.
39	?	?	
40	?	?	Same family. Gone away, address not yet found.
41	?	?	
42	.....	.....	Same family. Other members of same family, two of whom had had scarlet fever, escaped epidemic sore throat.
43	.....	.....	
44	?	?	Same family. Gone away.
45	?	?	
46	.....	.....	Same family.
47	.....	.....	
48	.....	.....	Same family.
49	.....	.....	
50	1	.....	Same family.
51	1	.....	
52	?	?	Same family. Gone away, address not yet found.
53	?	?	
54	.....	.....	Same family.
55	.....	.....	
56	.....	.....	Same family.
57	.....	.....	
58	.....	.....	Same family.
59	.....	.....	
60	.....	.....	Same family.
61	.....	.....	
62	.....	.....	Same family.
63	.....	.....	
64	.....	.....	Same family.
65	.....	.....	
66	1	.....	66 scarlet fever or measles, not quite certain.
67	.....	.....	
68	.....	.....	Same family.
69	.....	.....	
70	?	?	Same family. Gone away, address not yet found.
71	?	?	
72	.....	.....	Same family.
73	.....	.....	
74	.....	.....	Same family; consists of four children; one child, who had previously had scarlet fever, escaped epidemic sore throat.
75	.....	.....	
76	.....	.....	
77	1	.....	Mild case of throat epidemic.
78	.....	.....	
79	.....	.....	
80	.....	.....	Same household. Father, mother, and servants, who had previously had scarlet fever, escaped throat epidemic.
81	.....	.....	
82	.....	.....	

TABLE.—*Continued.*

No. of case.	Scarlet fever previously.	Scarlet fever since.	Remarks.
83	.....	.....	Same household.
84	.....	.....	
85	?	?	Servant, cannot be found.
86	.....	.....	
87	.....	.....	
88	.....	.....	
89	.....	.....	
90	.....	.....	Same family.
91	.....	.....	
92	1 ?	.....	Mother thinks they had scarlet fever.
93	1 ?	.....	
94	1 ?	.....	
95	.....	.....	Same family.
96	.....	.....	
97	?	?	Servant, cannot be found.
98	?	?	
99	?	?	Servants, cannot be found.
100	?	?	
101	.....	.....	Same family.
102	.....	.....	
103	.....	.....	
104	.....	.....	Same family.
105	.....	.....	
106	.....	.....	
107	.....	.....	Same family.
108	.....	.....	Servant, gone away.
109	.....	?	Same household. Other members of this family, three of whom had had scarlet fever, escaped throat epidemic.
110	.....	.....	
111	.....	.....	
112	.....	.....	
113	.....	.....	Same household.
114	.....	.....	
115	1	.....	
116	.....	.....	Same household.
117	.....	.....	
118	.....	.....	
119	.....	.....	Same household.
120	.....	.....	
121	.....	.....	
122	.....	.....	Same household.
123	.....	.....	
124	.....	.....	
125	.....	.....	
126	.....	.....	
127	.....	.....	
128	.....	.....	
129	.....	.....	
130	.....	.....	
131	1	.....	Mild case of throat epidemic.
132	.....	.....	Same household.
133	.....	.....	
134	.....	.....	
135	1	.....	Same household.
136	1	.....	
137	.....	.....	
138	.....	.....	
139	.....	.....	Same household.
140	.....	.....	
141	.....	.....	
142	.....	.....	
143	.....	.....	Same household.
144	.....	.....	
145	.....	.....	
146	.....	.....	Same household. Other members, four of whom had had scarlet fever, escaped throat epidemic.
147	.....	.....	
148	.....	.....	
149	.....	.....	
150	.....	.....	Servant, thinks had scarlet fever.
151	?	.....	
152	1	.....	Same household; mild cases of throat epidemic.
153	1	.....	
154	.....	.....	
155	.....	.....	
156	.....	.....	
157	.....	.....	Same household.
158	.....	.....	
159	.....	.....	
160	.....	.....	
161	.....	.....	
162	.....	.....	Same household.
163	.....	.....	
164	.....	.....	
165	.....	.....	
166	1	.....	
167	1	.....	
168	.....	.....	Same household.
169	.....	.....	
170	.....	.....	
171	.....	.....	
172	.....	.....	
173	.....	.....	
174	.....	.....	Same household.
175	.....	.....	
176	.....	.....	
177	.....	.....	

TABLE.—*Continued.*

No. of case.	Scarlet fever previously.	Scarlet fever since.	Remarks.
178	.....	.....	
179	.....	.....	
180	.....	.....	
181	?	.....	
182	?	.....	
183	?	.....	
184	.....	.....	
185	.....	.....	
186	.....	.....	Same family. Removed. No reply to inquiry.
187	.....	.....	
188	.....	.....	
189	.....	.....	
190	.....	.....	
191	.....	.....	
192	.....	.....	
193	.....	.....	
194	.....	.....	
195	.....	.....	
196	.....	.....	
197	?	.....	Doubtful; do not think they had scarlet fever.
198	?	.....	
199	.....	.....	
200	.....	.....	
201	.....	.....	
202	.....	.....	
203	.....	.....	
204	.....	.....	
205	.....	.....	

These statistics were gathered two years after the outbreak of the "sore-throat epidemic" in Dover. During this interval of two years 22 of the patients changed the place of their residence and could not be found, with but few exceptions, and from these few it was impossible to secure replies. The tabulated facts concerning the remaining 183 persons show:

1st. That *none* of the persons affected with the "throat epidemic" have since had scarlet fever, *i.e.*, had not had it at the time they were questioned.

2d. *That members of eight families who had previously had scarlet fever escaped the "throat epidemic,"* while the remaining portion of the households developed the disease.

3d. That 16 persons affected with the "throat epidemic" had had scarlet fever.

4th. That 4 of the 16 persons who had had scarlet fever had a *mild form* of the "throat epidemic."

5th. That of the affected individuals 2 had had scarlet fever *when young*.

6th. That 10 of the cases were doubtful whether they had previously had scarlet fever.

May it not, therefore, be possible:

1st. That the affected persons have not since had scarlet fever because of the protective influence produced by the "throat epidemic."

2d. *That the members of certain households who had had scarlet fever had thereby secured immunity from the "throat epidemic," as indicated by the fact that they escaped.*

3d. That in four of the instances in which scarlatina had antedated the "throat epidemic" there was a partial protection afforded, as indicated by the fact that four of these cases were mild.

4th. That in those instances in which scarlatina had occurred in early youth the protection had become exhausted.

5th. That these two diseases may be for a time mutually protective.

It is certainly a remarkable fact that, in twenty-four or more instances, the throat epidemic failed to attack those who had already had scarlatina; also, that the few attacked with the throat epidemic who had had scarlatina, had, in one-fourth of the instances, a mild type of the epidemic disease, indicating, possibly, that the system had been so affected by the scarlatinal contagium as to become less susceptible to the virus of foot-and-mouth disease. That a certain number who had previously had

scarlet fever were attacked by the "throat epidemic," is not strange, for it sometimes happens that an individual will have two attacks of scarlet fever, with, in some instances, only a short interval of time between the attacks. On the other hand, it may be true that the twenty-four or more individuals who had had scarlatina, and escaped subsequently the sore-throat epidemic, were not susceptible to the influence of the contagium which the infected milk contained. As is very well known, there are some persons who, though many times exposed to the poison of small-pox, measles, or scarlatina, remain unaffected by such exposure. In considering the facts before us I think this truth should have its share of thoughtful attention.

Believing, however, that in the evidence furnished by the "Dover epidemic" there was an indication of what might possibly be accomplished by the use of the virus of foot-and-mouth disease as a preventive of human scarlatina, I made further experimental investigation, as follows:

With some virus (contents of vesicles) taken from cows having a mild form of foot-and-mouth disease, I inoculated three children, and subsequently exposed them to scarlet fever contagium. The histories given briefly will show the results:

Case I.—M. M——, about eight years of age; had never had scarlet fever. On January 12, 1884, I injected under the skin of his arm a small quantity of the virus. A short time thereafter the cervical lymphatic glands became enlarged and tender to the touch. There was no marked systemic disturbance, neither was there any sore mouth or throat. All signs of glandular enlargement and tenderness had disappeared in six or seven days. He was then taken to a house in which there was a boy sick with scarlet fever. The disease was in the desquamating stage and the throat still sore. His parents being poor, the pillow upon which the patient lay had not been exchanged for a clean one since the beginning of the sickness. This pillow was placed over the face of the boy who had been inoculated, and held there some time. He was then made to inhale the breath of the patient, and afterward to remain some time in the sick-room. The boy did not develop scarlatina after having been thus exposed, neither has he contracted the disease since, although there has been opportunity for infection.

Case II.—B. P——, aged four years; had never had scarlatina. On March 6th I inoculated her in the arm (hypodermically) with a small quantity of the foot-and-mouth virus. On March 13th her temperature rose to 103° F. Her mouth was sore, without showing any vesicles, and she complained of a pricking sensation in her throat. She had slight headache, the appetite was impaired, and she was quite peevish. There was no eruption at any point on the body. By March 20th she was well. She was then taken to a house where I had a patient in the desquamating stage of scarlet fever. The patient was very sick at the time because of complications; indeed was so ill that I was somewhat doubtful about the issue. The same plan of exposure was adopted as in the first case, although I could not succeed in getting the inoculated child quite near enough to the patient to inhale her breath; but the "pillow exposure" and the length of time she remained in the sick-room afforded a good opportunity for infection. She did not subsequently develop scarlet fever.

Case III.—J. M——, aged about ten years; had never had scarlatina. I inoculated him just as I did the first two. He did not afterward develop any systemic disturbance or local lesion. After a lapse of three years, with opportunity for infection, he tells me he has not had scarlatina.

The results thus obtained, especially when taken in connection with the data furnished by the statistical table, *seem* to furnish some reason for believing that, for a time at least, the virus of foot-and-mouth disease is protective against the contagium of human scarlatina. But I am well aware that at this stage of the investigation *conclusions* cannot, ought not to be advanced, and until further information can be obtained by careful experimental investigation, nothing absolute or positive should be said concerning the practical issue above alluded to. While foot-and-mouth disease, as it affects man, is in many respects the exact counterpart of the disease as it occurs in cattle, yet there are certain points of difference, and in order to make them apparent a brief description of the latter affection will be given. The disease (as it affects cattle) may be defined as a very contagious and infectious affection, characterized by an eruption of vesicles or blisters in the mouth, on the internal surface of the lips, sometimes in the nostrils, on the teats and udder, between the pedal digits and around the coronets, and sometimes in the lactiferous ducts. It passes through four different stages, viz.: fever, eruption, ulceration, desiccation and desquamation. The symptoms of these four stages or periods are as follows:

First Period. Before any perceptible alteration has taken place in the ordinary habits or condition of the animal, the thermometer indicates an increase of temperature, which generally ascends to 102°, and as high as 104° or even 107° F., in from one to two days, and does not descend to any extent until the end of the eruptive period. The next indication is dulness, inappetence, and slight shiverings. The muffle becomes warm and dry, the eye is tearful, and the mouth hot and inflamed-looking in places, and frequently sore when handled, the membrane being covered with viscid mucus, which flows in stringy masses from the lips. There is grinding of the teeth, and a smacking or clicking noise; the breath has a fetid odor; rumination ceases, and the prehension, and often the deglutition, of food is painful, the animal preferring to dabble its mouth in cold water. Not infrequently, when the feet are beginning to inflame, the animal stands uncomfortably, drawing the limbs together, or jerking them up suddenly under the body, arching the back, and pawing; the movements are reluctantly performed, and the coronets hot and sore. There is also slight constipation, and, if with a milch-cow, the secretion of milk is gradually diminished, and that fluid assumes a yellow tint; in the majority of cases it is nearly or altogether suspended. *The udder becomes red and tense* when it is involved, and the teats swollen and painful to the touch. This stage usually lasts from twenty-four to forty-eight hours, according to the intensity of the fever.

Second Period. After the time above mentioned the eruption begins to appear in those parts which are to be its seat, and the fever commences to abate in many cases. When the mouth is chiefly affected there are seen on its lining membrane, and particularly on the upper lip, gums, and sides of the tongue and palate, white or yellowish-white blisters, the size of a grain of millet to that of the size of a pea or nut, their form being very irregular. Sometimes they are discrete, or scattered over the surface; in other cases they are confluent, collectively forming patches which are at first gray or yellow, and afterward white; slightly convex; each vesicle is usually circular; the smallest are seen on the muffle. In the mouth they are largest, and most frequently confluent; but there they only exist for a brief period, the friction caused by the movements of the tongue tearing them; the epithelium is detached in flakes of variable dimensions, leaving unhealthy ulcers or denuded spots, or "erosions" of a bright red tint, which contrasts markedly with the gray hue of the surrounding surface. These shreds are often seen adhering to the border of these sores; and if on the tongue, that organ is kept continually moving to get rid of them, and the animal emits a smacking sound with its lips. At this stage of the disease the papillæ of the tongue are congested and prominent. Where there is no friction the vesicles do not rupture within one or two days. On the udder the vesicles are somewhat different. *The teats are most frequently their seat*, and it is not unusual to

find the phlyctenæ grouped in a circle around their orifice; when isolated on the surface of the organ they are surrounded by a pale-red circle, and when confluent they are very irregular and variable in number. In the case of a cow the alteration of the milk is very striking. It coagulates on being boiled, or when its temperature is only slightly raised. It also becomes yellow in color and acid in reaction.

When the limbs are affected the heat and redness of the coronet are most noticeable toward the heel and interdigital space of one or more feet. The coronet swells; the animal is lame, and prefers to maintain a recumbent position. In one or two days the vesicles are developed at the points indicated, most frequently earliest in the interdigital space; at first they are small, but they increase in size until they are as large as a bean or small nut, and extend round the claws, often becoming confluent, the contents appearing as a yellow limpid fluid. The skin of the part assumes a bleached aspect, and is soon covered with a kind of cheesy matter, resulting from the inspissation of this fluid, which emits an ammoniacal odor. In some cases the skin around the base of the horns becomes inflamed at the same time as that of the mouth or feet, and the horns are loosened. Occasionally, also, a vesicular eruption manifests itself at the orifice of the vagina, at the perineum and anus, or in the nostrils; and it sometimes happens that the eyes are affected, the conjunctival membrane becoming inflamed and suppurating, and phlyctenæ forming on the cornea. There may also be nasal catarrh and symptoms of gastric derangement.

Third Period. This is the aphthous stage of the disease, and begins when the vesicles have ruptured, and, the epidermis being removed, erosions appear. This does not occur everywhere at the same time, but varies according to the region. In the mouth it soon occurs, owing to the movement of the tongue, and also in the feet by that of the claws. On the udder it is later, seldom occurring before thirty-six or forty-eight hours; or if the disease is benignant the vesicles on this organ may not rupture at all, their contents becoming absorbed, and the pellicle of epidermis covering them scaling off when cicatrization has taken place beneath. When the vesicles do break, there remains a little, bright-red sore, which is smooth or granulating, and is soon covered with a fluid pus mixed with epithelial cells, which in drying forms a thin reddish crust that protects the erosion until it heals. In the mouth and on the lips the vesicles are broken almost as soon as formed, leaving circular or irregular bright-red sores which bleed readily, their rupture being indicated by dribbling of saliva streaked with blood.

It sometimes happens that when the tongue is seized to explore the mouth, large patches of epidermis come away in the hand, as if the tongue had been boiled. In some rare cases an exudation of yellow color and cheesy consistency is observed toward the root of the tongue, due to epithelial proliferation.

The fever has greatly subsided, but the thirst is intense, and the animal eagerly drinks water or gruel, though, owing to the soreness of the mouth, it can eat but little, especially if the food be dry and hard; consequently the loss of condition is rapid.

Fourth Period. This is marked by the desiccation or drying up of the aphthæ, and the formation of new epidermis. The crust falls off, and new epidermis or epithelium appears as a thin, lead-colored pellicle. There is also at this time a general desquamation of the cuticle, and this is invariably the case. There is also a good deal of itching of the surface (Walley). With the completion of these processes all traces of the disease disappear. There is no lameness, the appetite has returned, and the former condition is being restored; while the secretion of milk, which may have been greatly diminished—perhaps to less than one-third—becomes augmented, and regains its normal properties.

Bollinger states that "in animals which have once acquired the disease the susceptibility ceases for a considerable period, or at least becomes very slight. Repeated attacks of the malady in the same animal are, upon the whole, rare." That the susceptibility ceases for a time has been demonstrated by Dr. E. Klein, of London, England. He inoculated five sheep with active cultivations of the micrococcus, but without producing any definite local or general lesion. "Subsequent feeding of these same sheep with the active micrococcus had no result." From this he argues that a previous subcutaneous inoculation with the micrococcus provides the animals with immunity against the disease. Dr. Klein also claims to have discovered the germ peculiar to this disease. His method of investigation was as follows: He inoculated alkaline peptones, broth, and solid agar-agar, peptone broth mixture, solid nutritive gelatine mixture, and milk, with lymph which was obtained from the vesicles of diseased sheep. He discovered, after a few days, a thin film, limited in extent, upon the surface of the solid media at and near the point of puncture. The film gradually spread, presenting a very characteristic appearance, namely, *a collection of closely packed minute granules* or droplets. These enlarge slowly and gradually, and become whitish and translucent in character. If the point of a needle or platinum wire be moistened with the lymph and pushed into the solid medium, the line of puncture becomes marked as a linear aggregation of minute granules or droplets after several days or weeks. There is also, in addition to this, on the surface of the culture media the film of granules already alluded to, which starts from the point of inoculation. This micrococcus grows very slowly, the first indication of its growth in solid nutritive gelatine mixture, at a temperature of 18° to 22° C., becoming visible under a lens at the end of from five to eight days, or still later. The growth thus developed appears in the form of a small cluster of transparent granules. In agar-agar mixture, kept at 35° to 38° C., the growth is sooner visible, although, after six or seven months, "in all media and under all conditions the growth remains of limited extent." When milk is inoculated with the micrococcus, and kept at a temperature varying between 35° and 38° C., the growth is found to progress very slowly. The condition and natural appearance of the milk are not changed. No curdling occurs, but the reaction becomes acid. The micrococcus forms in artificial media dumb-bells (diplococcus) and beautiful chains (streptococcus). These vary in length according to the number of micrococci composing them, "the short chains being a linear series of four, six, or eight micrococci, the longer ones of more than eight up to thirty and more micrococci." The longer chains are always curved, and even convoluted.

The above-mentioned characteristic appearance of the growth is owing to the presence of smaller or larger masses of chains matted together. Subcutaneous inoculation with artificial cultivations produces no perceptible disorder, but by feeding sheep with a twentieth generation the typical disease has been reproduced, viz., vesicles and ulcerations upon the feet. From the vesicles of such animals lymph was obtained which, on cultivation, yielded the same micrococci, characterized by the same slow growth and the same typical appearance as those used for the experiment. Dr. Klein claims, therefore, that there can be no question about the identity of this peculiar micrococcus with the cause of the disease.

The description thus given of the mode of growth and appearance of the micrococci of foot-and-mouth disease does not materially differ from that given, by the same investigator, of the micrococci found in the ulcers of cows affected with a disease which has since been determined to be cow scarlatina. For the sake of instituting a comparison, I will quote his own words with reference to the cultivation and appearance of the bovine scarlatinal streptococcus.

"From the deeper parts of an ulcer of cow IV. (one

he had under observation) material was obtained, with which tubes containing either solid nutritive gelatine or agar-agar mixture were inoculated. After some days, and in both media, a micrococcus appeared, the growth of which was extremely characteristic. These are its characters in the nutritive gelatine: After three to six days' incubation at 20° C., the growth made its appearance at the point or line of inoculation, in the form of small points or granules, whitish in color, and tolerably closely placed. During the next few days their number and size increased. At the end of a fortnight the line of inoculation was visible as a streak of whitish granules or droplets, some large, others small, more or less closely placed. On the surface of the gelatine the growth, like a film of granules, spreads slowly in breadth, but even after months remains small. When inoculated into the depth of the gelatine the channel of inoculation becomes visible as a whitish streak, made up of smaller and larger droplets. The gelatine is not liquefied by the growth. The same characters are assumed by the growth in agar-agar mixture, and in solid serum. The general aspect of the growth in gelatine, in agar-agar, and in serum, is very similar to that presented by the streptococcus of foot-and-mouth disease, but with this difference, namely, that in gelatine tubes the streptococcus of foot-and-mouth disease is a little faster in its growth, and its component granules are a little more distant. Nevertheless, I have tubes of both kinds of organisms in gelatine, and in agar-agar tubes, which cannot be, from their general appearance, easily distinguished. In faintly alkaline broth, or in broth and peptone, the micrococcus of the cow ulcers grows readily, and in the same manner as that of foot-and-mouth disease. But there is one test by which the two kinds of organisms can be very readily distinguished: the streptococcus of foot-and-mouth disease, when grown in milk, does not affect the fluid character of the milk, whereas milk inoculated with the organism obtained from the cow ulcer will, if kept for two days in the incubator at 35° C., have been turned completely solid. This difference is a very striking difference, and a few days' growth in milk suffices for distinguishing without fail between the two. The microscopic examination of a culture in broth peptone, in gelatine, or in agar-agar mixture, shows that the growth consists of spherical micrococci, arranged as diplococci, and as shorter and longer straight, wavy, or curved chains—streptococcus—these latter sometimes of great length. As regards the shape of the micrococci, the mode of their division, the branchings of the chains, the presence here and there in the chain of a large element among the smaller ones, the organisms of the ulcers hardly differ from the description which I am preparing of the streptococcus of foot-and-mouth disease."[1] It will be observed that the only point of real difference is the effect the growth of the streptococcus of the cow ulcer has upon milk, solidifying it, while the streptococcus of foot-and-mouth is asserted not to produce this effect. In connection with this point the following may be quoted: "But there is one point in which, so far as I know, it (the milk) differs from all other milk, and that is in its coagulation on being boiled, or having its temperature only slightly raised by being mixed with hot gruel," etc. (*Edin. Med. Journal*, 1863, p. 711). "It is a very general opinion among continental veterinarians that, when the milk can be boiled without coagulating, it is no longer dangerous to use; and Hilderbrandt, in Magdeburg, expressly states that he never observed a single case of injury to health from the use of milk which had been boiled without coagulating" (*Gurlt u. Hertwig's Magazine*, vi., p. 179).

It is certainly true that the two diseases ("foot-and-mouth disease" and the "Hendon cow disease") are very similar in some of their clinical features. This will be made manifest when the mode of development and subsequent history of the vesicles which are characteristic of the two diseases shall have been compared. In the following notes some points of similarity between these two affections may be incidentally noted.

When at Deering, Me., some time ago, for the purpose of studying foot-and-mouth disease in cattle, I saw one or two cases which could very easily have passed for "bovine scarlatina," as described by Drs. Klein and Cameron. The vesicles and ulcers upon the teats and udder were the exact counterpart of the word-picture of those seen upon the Hendon cows' udders and teats.

Just here I may say that during the last four years I have been endeavoring to determine: 1st, Whether scarlatina can be generated in the lower animals by inoculation with human scarlatinal virus; 2d, if so, whether such a disease is mild in character; 3d, whether virus furnished in such a manner could, by inoculation, be used as a means of preventing the development of scarlet fever in human beings.

To determine the truth concerning the first inquiry I obtained some blood from a patient who had scarlet fever, and injected thirty drops of it into the right jugular vein of a colt about one year old. I also introduced under the skin of the thorax a blood-clot obtained from the same patient, and caused the colt to swallow about two drachms of pharyngeal mucus. This occurred on May 1, 1883. The temperature gradually rose from 101¼° F. (the temperature of the colt before inoculation) till it reached, on May 12th, 102⅕° F. During the following night the colt lacerated the skin of the chest to a small extent, and immediately thereafter the temperature began, or continued to rise till it reached 103½° F., at 8 P.M., May 13th. The temperature then began to fall, till it stood at 101¼° F., May 16th, 3 P.M. During this time the intermaxillary glands became enlarged and sensitive, the mucous membrane of the nostrils and eyes injected, and from the nostrils there was a discharge of ropy mucus. Thinking that the injury received on the 12th might have interfered with the natural action of the virus by causing a local inflammation and a general rise of temperature, and wishing, if possible, to intensify the effect of the first inoculation, I injected into the jugular vein some pharyngeal mucus from two well-marked cases of scarlatina. The result was an increased redness of the mucous membranes of the nose and mouth, and a mild sore throat, which disappeared with the fading of the redness of the mucous membranes. The symptoms above given almost entirely disappeared by May 24th. There was no subsequent œdema of the extremities or sheath, nor was there any desquamation of the cuticle.

On June 28, 1883, I enveloped the head of a perfectly healthy colt in a bag containing a chemise which had been worn by a scarlet-fever patient. This I allowed to remain adjusted about seventy-two hours. On July 2d I injected into the left jugular vein, and into a vein of the leg, some human scarlatinal blood. Within forty-eight hours the temperature began to rise, the colt became less active, showing a tendency to remain quiet. On the sixth day (July 8th) she began to cough and swallowed with difficulty. The visible mucous membranes were quite red, and at certain points had somewhat the appearance of the mucous membrane of the pharynx in man when affected with scarlet fever. The intermaxillary glands were enlarged and sensitive, and, when the throat was pressed upon, the colt evinced uneasiness. There was a discharge of tenacious mucus from the nostrils. The pharynx was unnaturally red. On July 9th I introduced some epidermal scales, obtained from a scarlet-fever patient, under the skin of the abdomen, but so far as I could determine they produced no effect. In this case there was a desquamation of the skin at a few points where I had not previously seen an eruption.

In both colts there followed the inoculations sore throat, redness of the mucous membranes of the nostrils,

[1] Report on Milk Scarlatina to the Local Government Board, by Dr. E. Klein, London, England, 1886.

mouth, and pharynx, elevation of temperature above the normal, and in one, desquamation of the cuticle. It seems reasonable, therefore, to believe that a specific disease was produced in both instances, and that the specific disease was scarlatina. Since that time I have inoculated rabbits, dogs, guinea-pigs, and cattle with human scarlatinal matter, and have obtained some very gratifying results, especially in cattle. In May, 1883, I inoculated a calf with human scarlatinal virus by injecting into the general circulation some blood taken from a well-marked case (a young man with a typical eruption on neck, chest, abdomen, and limbs), and by subcutaneous introduction of the blood into the abdomen. After the lapse of a few hours the skin at and near the point of inoculation (abdomen) became uniformly reddened. The elevation of temperature was very slight. The redness and sensitiveness of the skin increased till May 24th, when I discovered pus at the centre of the area of redness. The temperature at that time was 102⅕° F. The visible mucous membranes were not affected. Recovery complete by June 1st.

Knowing that cows recently calved were supposed to be especially susceptible to scarlatinal contagium, I procured one that had aborted about one week prior to the time of purchase. I inoculated this cow in the udder with some pharyngeal mucus taken from a patient sick with scarlet fever. The day following the inoculation the temperature rose to 102° F. Pulse, 48. On the third day the temperature was 102⅗° F. Pulse, 56. The temperature then began to descend till it reached 101¼° F. on the eighth day. During this time a cough developed, and it was noticed that the animal did not swallow with the same readiness as usual. At the point of inoculation had developed a superficial vesicle, which very soon became filled with purulent contents. Still deeper in the tissues a small abscess formed, which, after discharging its contents, remained open, discharging a small amount of pus. The skin around the seat of the vesicle and abscess was quite intensely reddened. The temperature gradually declined, till finally, on the nineteenth day, it fell to 100¼° F. There was a desquamation of the cuticle near the abscess where the skin had been reddened.

The next cow I inoculated was in the third or fourth month of gestation. The inoculation was made in the udder, and with pharyngeal mucus from a typical case of human scarlatina. Twenty-four hours after the inoculation the temperature began to rise, although slowly. On the second day the thermometer showed a temperature of 101½° F., and it did not vary from this point till the seventh day, when it fell to 100° F. During this time the udder became reddened, swollen, and tender, and finally suppurated at the point of inoculation. After the pus, which was small in quantity, was allowed to escape, the cavity of the abscess continued for a few days to discharge pus and then gradually healed. There was no sore throat, nor alteration of the mucous membranes. The reddened integument of the udder around the abscess desquamated. A subsequent inoculation of this cow with human scarlatinal virus produced no effect.

I next inoculated a calf with pharyngeal mucus and epidermal scales derived from scarlatinal patients. The inoculation was made in the abdominal region. At the point of the inoculation there very soon appeared a vesicle about as large as a lima bean, which was at first quite clear, but later became filled with sero-purulent matter, and then became yellow in appearance. Coincidentally with the development of the vesicle there was an elevation of temperature, and the appearance of an intense redness of the skin for some distance from the point of inoculation. There was no sore throat. As I wished the contents of the vesicle as a virus with which to inoculate some children, I punctured it, collecting the fluid in a small bottle. After being punctured the vesicle became converted into an ulcer, which gradually healed. The skin near this vesicle desquamated after the redness disappeared. I am led to believe, as a result of what I have seen while experimenting thus with cattle, that it is possible to infect them with human scarlatinal contagium.

To answer the second question, I may say that, so far as my experience serves me, the lesion produced in the lower animals by inoculation with human scarlatinal virus is a mild one. I am aware, however, that it *might* be otherwise.

In a recent letter Dr. E. Klein, of London, England, whose reputation and skill as an investigator place him very high in our esteem and confidence, tells me that cows inoculated with scarlatinal micrococci of human source become affected in *precisely* the same manner as the Hendon cows had been. The disease he refers to has the following characteristics, viz.: Upon the teats and udder vesicles or bullæ appear, from five to seven days after the commencement of the disease. In number they vary from two to four on a teat, and range in size from a pea to a horse-bean, and contain at first a clear fluid. The first vesicle frequently appears between the two foreteats, close to the abdominal vein. These vesicles usually become broken in milking, leaving raw sores, sometimes red, in other cases pale in color, with raised, ulcerated-looking edges. Shortly after the vesicle becomes ruptured a brown scab forms upon the sore. A thin, watery fluid exudes from under the scab. The skin about the eyeballs is puffy, and is said to present a minute red eruption or rash. There is also an eruption on the hind-quarters. This eruption in its later stages consists of patches of eczematous-looking crusts, which, when picked off, leave a raw, moist sore. The hair comes away with the scab. There is no pitting of the skin. There is sometimes a discharge of yellow matter from the nostrils and eyes. The fever is moderate. Sore throat is said to occur in severe cases. The bowels are loose in very acute cases. There is a dry, husky, irritative cough, with bronchial râles and quickened breathing in some cases. In December, 1885, it was reported that a sudden and extensive outbreak of scarlet fever had occurred in South Marylebone, and that it appeared to be associated with the distribution of milk from a particular retailer. It was afterward discovered that the milk was obtained from cows affected with the disease just described. There was in all about one hundred cases of scarlet fever caused by drinking the infected milk. If, then, it be true that the Hendon cows furnished a contagium which caused the development of genuine scarlatina in about one hundred persons, it must be true that the cows had scarlatina; and again, if the inoculation of cattle with human scarlatinal virus produces a disease identical with the Hendon cow disease, it follows that scarlet fever can be generated at will in susceptible animals.

I have found that results I obtained in several instances are greatly strengthened by the recent experimental investigations of Dr. Klein as to the nature of the Hendon cow disease, and its connection with the outbreak of scarlet fever at South Marylebone and in a certain district in London. The vesicles upon the udder of the cow and the abdomen of the calf already alluded to, as well as the general course of the disease, as occasioned by inoculation with human scarlatinal virus, correspond with the description of the disease as seen in England.

The answer to the third and most important question may perhaps be suggested in what follows:

In the early part of the year 1883 I inoculated twelve persons with virus obtained from horses supposed to have scarlatina. Since that time not one of that number, so far as I can learn, has had scarlet fever. These twelve persons were also inoculated with human scarlatinal blood after they had been inoculated with equine virus. During the summer of the same year I inoculated thirteen children, all of whom had been, and were at the time of inoculation, exposed to the influence of air contaminated by the breath and exhalations of scarlatinal

patients. Five of this number escaped, the remaining eight developed the disease (scarlatina) very soon after inoculation, in one instance within five hours. Four of the eight cases had no angina, but simply the eruption, with slight disturbance of the stomach. They were not confined to bed one hour. None of the cases were severe. During the last year I have inoculated two children with the contents of a vesicle produced in the abdomen of a calf by inoculation with virus derived from a patient who had scarlet fever. The notes of the first case are furnished by Dr. Stubbert, of Bloomfield, N. J., who watched the patient from day to day after the inoculation. "On April 25th the child was inoculated in the left arm with scarlatinal matter taken from a calf. On the 27th an erythematous blush appeared about the scarification. By the 28th the blush had disappeared, but a scab had formed, and around its puffed-up border there was a red areola. On April 30th the child had quite a high fever. On May 1st there appeared on the upper part of the chest a rash similar to a scarlatinal rash. On May 2d the scab came off. The rash which began upon the chest spread to the arms. On May 3d the rash was less bright, and on the right shoulder there was evidence of a slight exfoliation of the skin. In three or four days after this the child was restored to perfect health." The second child was inoculated in the presence of Dr. Stubbert, who kindly permitted me to test the virus not only in this, but in the previous instance. The only result I obtained in this second case was a slight erythematous blush, which, after existing two or three days, gradually disappeared. There was no systemic disturbance. With scarlatinal virus modified by transmission to the cow, I inoculated two other children, producing in them a distinct local lesion. These children have not since developed scarlet fever, although the disease has existed in their immediate neighborhood, and they have been more or less exposed to its influence. While the subject-matter of this paper thus presented to you does not furnish a positive answer to the question, "Can we prevent the development of scarlet fever by the use of virus obtained in one of two ways, as indicated above," it does offer some truthful statements which suggest an answer, and which, I trust, will incite the profession to aid me in the further prosecution of this very interesting and important line of investigation.

Dr. Squibb on Veratrum Viride.—Dr. Squibb, in his *Ephemeris*, says that veratrum viride is more used by country practitioners than by those living in the cities, and thinks this indicates its value, as country practitioners would not continue to use it unless they saw that it produced good results ; and he does not hesitate to set their experience against the theoretical objections of certain authors. He considers it a potent and fairly manageable arterial sedative—better than aconite, in that it reduces the force and rapidity of the heart's action more powerfully and more promptly. He advises using the fluid extract, and administering two minims every three hours, in a little water, and increasing to three minims at the third dose, if no effect is perceptible at that time. This is the treatment for ordinary cases. When a rapid effect is desired, from four to six minims may be given every hour or two until the pulse-rate falls to fifty or sixty beats per minute, when the dose must be lessened and the intervals lengthened, so as to keep the pulse just as it is wished. Owing to the uncertainty of its absorption from the stomach, either the fluid extract or the tincture of veratrum viride may be given hypodermically. In grave cases, from eight to ten minims of the fluid extract, or double this dose of the tincture, may be given every fifteen minutes at first, and then every half-hour until the pulse-rate falls to sixty beats per minute ; after which the smallest dose which will keep it there must be used.

ON THE EFFECT OF HIGH ATMOSPHERIC PRESSURE ON THE EAR.

By SAMUEL SEXTON, M.D.,

NEW YORK

The effect of subjecting the ears to high atmospheric pressure differs, when gradually accomplished, from the sudden concussion of explosives, as by the blast of great guns or boxing the ear. The injuries under discussion mostly arise from going into submarine caissons, though submarine divers and travellers rapidly transported to high altitudes often experience unpleasant aural symptoms from this cause. The writer has had frequent opportunity for studying the effect of undue atmospheric pressure on the ear since the construction of the Hudson River Tunnel was commenced, some seven or eight years ago, a number of the employés having come to his aural clinic at the New York Eye and Ear Infirmary on account of the injury done to their ears. It is well known that the atmosphere in which we live has a pretty uniform pressure upon the body of sixteen pounds to the square inch. Now, any decided variation from such tension is liable to give rise to discomfort, and this is just what takes place in submarine caissons, where the pressure is sometimes four or five times greater. Persons about to be subjected to the greatly increased aerial pressure of a caisson are prepared for it gradually by means of a so-called lock, or air-tight chamber, which they enter and occupy until enough compressed air is gradually forced in to enable them to pass on into the working-chamber, where pressure is maintained as in the lock, namely, twenty to forty pounds, or more, to the square inch. The practical information obtained by the writer on this subject from one who had worked in the Hudson River Tunnel for two years and eight months is of interest. His informant, an Irishman, had worked about one-half of the period above mentioned under a pressure of about twenty-six pounds to the square inch, but often under much greater pressure. At the Jersey City terminus, where he was employed, more pressure was required in tunnelling than at the New York end. The atmosphere was always humid, and the workmen were obliged to stand, while freely perspiring, in more or less water, which everywhere was oozing in. He stated that his ears were never affected, nor were his son's, though the latter commenced to work in the caisson four years ago, at the age of fifteen years, and remains there up to the present time. He and his son are both of them healthy and sober. They have been well while working in the tunnel, neither of them ever having had the "bends." He relates that he could whistle under a pressure of twenty-four pounds—a difficult feat, it would seem, since possible to but few even under a pressure of twenty-two pounds.

It may be premised here that were healthy and sober men, free from pre-existing aural trouble, only employed, there would be much less suffering from ear, or, indeed, other disease among caisson-laborers. But, unfortunately, many improper subjects are permitted to enter into this branch of labor, only to soon be discharged with impaired health, and often irremediable ear disease. The importance of this subject, the writer believes, will justify the introduction here of several illustrative cases from among others which came under his observation :

One individual, aged thirty, states that on several occasions after descending the shaft and going into the lock he had attempted to remain while the condensed air was forced in, but each time the distress in his ears had prevented him, until finally he forced himself to go to work in the caisson while still enduring much distress. The effect of the great pressure proved most disastrous, for he was afterward laid up for a long time with purulent inflammation of both ears.

Another person, whose case was similar to the fore-

going, states that the distress on submitting to the increased pressure in the lock was so great that he was obliged to scream out from the pain in his ears, demanding repeatedly to be liberated, but the man in charge jeered him and he was forced to go to work. In consequence of the injury occurring to the ears he had been prevented from performing any labor for a long time.

Case I.—Lawrence C——, aged twenty-five, a bricklayer, came to the New York Eye and Ear Infirmary, March 4, 1880. Patient began to work in the air-chamber of the Hudson River Tunnel three days ago. Works eight hours daily. From the start there was, on first coming out of the compressed air, a sensation of "cracking air," or rapid concussions like "bubbles of air exploding" in the ears, but mostly in the right one. While at work he is very deaf, and has tinnitus and vertigo, symptoms which have become worse daily. Examination showed the anterior superior quadrant of the right drumhead to be highly hyperæmic. The left external auditory canal was found to contain a large plug of inspissated wax, the impaction of which from the atmospheric pressure gave rise to the vertigo and tinnitus. His teeth are bad, and he is subject to head catarrh.

Case II.—Patrick C——, thirty one years of age, came to the New York Eye and Ear Infirmary, April 28, 1882, complaining of earache on the left side. Three weeks ago he had begun to work in the caisson of the Hudson River Tunnel, and, on account of the exposure, soon contracted a severe head cold, followed in about four days by acute purulent inflammation of the left ear. It began with severe pain in the ear, which lasted for three days, when a discharge set in, which continues. There is intermittent pain in the right ear. The division of workmen to which he belonged labored for eight hours and then rested for sixteen hours. He has frontal headache, and pain in swallowing.

Examination of ears: Left canal filled with pus. Tenderness over left mastoid process, extending down to its apex. The right drumhead is hyperæmic, and has a dusky look

Hearing: Loud voice only in the left ear; ordinary voice in the right ear.

The patient's throat gives evidence of long-standing inflammation, the mucous membrane being thickened and vascular. The tonsils are enlarged and the teeth are very defective.

Case III.—Richard F——, thirty-eight years of age, came to the infirmary, October 30, 1882. Never had any aural disease before working in the caisson of the Hudson River Tunnel, when his ears began to be "blocked up" in passing through the lock, and yesterday morning, when arising from bed, the left ear was painful and felt "blocked." The entire head soon ached, the pains extending down the back. In a short time pain and pressure were experienced in the right ear. On reporting at the works their physician gave him cotton saturated with some fluid to use in his ears, but the pains continued to get worse. Patient worked for four hours, and then rested for nine hours, while employed.

Examination shows the left drumhead to be very hyperæmic, the posterior superior quadrant bulging, more highly congested in one spot, which seems on the point of giving way. The right drumhead is very hyperæmic at upper border and down the malleus plexus. He has decided nasal catarrh, and the mucous membrane of the throat is very vascular and thickened. Hears loud voice only in either ear. Is autophonous in the right ear.

Case IV.—John D——, aged twenty-three, came to the New York Eye and Ear Infirmary, January 29, 1883. States that after working in Hudson River Tunnel for six months his right ear began to trouble him and he had to stop working; it has been discharging for three months. The left ear began to discharge also about a month ago —two months after leaving the tunnel-work.

The discharge in right ear began with otalgia; the left ear has not pained. The tinnitus is very distressing, but intermits. On beginning work the right ear got "blocked" on going into the "lock," and felt "dumb" for a month afterward. In fact, both of his ears often got "blocked," but by blowing his nose, or holding it over steam, the sensation of being stopped up in his ears passed off. He worked in water much of the time, and was much exposed. Confesses to syphilis and intemperance. Examination shows that a perforation exists in anterior superior quadrant of left ear. Canal of right ear narrowed to a slit-like passage, so that drumhead cannot be seen; both canals contain purulent matter. He has very decided nasal catarrh.

Case V.—Michael McC——, aged twenty-six, came to the infirmary, April 12, 1887. Was never deaf before being employed on the Harlem River bridge, connecting Fordam Heights and Washington Heights. He entered the caisson under Harlem River a month ago, and remained at work one "shift" of eight hours only. The pressure was considerable, but the exact amount was not known. He states that soon after going into the lock, with two other laborers, air began to be forced in. He began to feel very uncomfortable; thought his head would "blow off;" his eyes seemed to "pop out," and his ears "cracked." The "boss" told him to hold the nose, close his mouth, and not to breathe. He tried to follow these directions for a couple of minutes, and on taking his hand from the nose it bled. He then shouted to be let out, but the men in the lock said he would soon get used to it, that the first time was the most severe. But the distress continued, and while thus holding the nose and shouting out for relief some thirteen minutes, he was let into the caisson under the river, where he worked for eight hours, though very dizzy and weak in the back. On coming out of the caisson he was very deaf—felt as though he could not speak. He speaks very loud, for fear others will not hear. These symptoms remain, and he has "cracking" in ears on swallowing. Has had pains for two days about the outer canthus of right eye.

Hearing: Loud voice only in right ear at twenty feet; left ear low voice, if plain.

The drumheads are dry, lustreless-looking, and blackened greatly with dust, the atmosphere of the caisson being full of gunpowder smoke. The short process, and the handles of the malleus on both sides look bleached, and they stand out in strong relief from the blackened membranes. The dermic layer of the right drumhead is blistered off in places, especially behind the short process. There are new blebs on anterior segment, and on the flaccid membrane posteriorly.

Patient had long been a hard drinker, and for a week before working in the caisson had had a severe head cold. Ever since the injury he has been "spreeing," and the head catarrh has not abated. The teeth are pretty bad, and he has been subject to nasal catarrh for a long time.

The cause of aural trouble among caissonists is evident from a study of the foregoing cases, when the disturbances produced by high air-pressure on the organ of hearing are considered: Thus, the usual intra-tympanal air-supply having been cut off by closure of the guttural mouth of the Eustachian tube (as from head colds due to exposure, or naso-pharangeal catarrh, or, perhaps, from condensation of pharyngeal air), it is found that the effect of great aerial pressure upon the outer surface of the drumhead is to force it inward. This causes undue tension of the transmitting mechanism, as well as congestion or inflammation of the drum. As the air of the drum decreases by absorption, or escapes into the Eustachian tube in consequence of unusual outward pressure, retraction of the drumhead, of course, gives rise to pain, deafness, tinnitus, vertigo, and other distressing symptoms in the ears and head. Where there is a collection of wax in the external auditory canal it is extremely liable to become softened in such a humid

atmosphere, especially if perspiration be free, and when loosened in this manner the plug becomes, as in one of the above cases, impacted against the drumhead, causing great discomfort. Through carelessness in charging the lock with condensed air, and the neglect of its inmates during the process to maintain tympanal air-renewal (by making frequent efforts to inflate the drum when the nose is held closed, by blowing air from the lungs up into the head while the mouth is closed), much aural trouble is likely to be experienced by anyone exposed, though having sound ears, for during the loss of equilibrium the strain upon the parts gives rise to more or less hyperæmia. Rupture of the drumhead is said to be possible under these circumstances, but such a result must be exceptional unless condensation is very sudden.

On going out from the lock into air of ordinary tension compressed air may remain confined in the drum, and on expansion the drumhead is liable to be forced outwardly. Such being the fact, it behooves persons, in passing out of a caisson-lock where high pressure is maintained, to exercise care as on going in. But where great tension —from forty to sixty pounds—is required, as in tunnel-work, it seems probable that unpleasant effects on the ear can scarcely be avoided, and the greater number who have pre-existing aural trouble will be liable to soon become more or less incapacitated. Men seeking employment in this work, as in any, would often conceal their aural or other physical defects, as well as fail to report any disease incident to the exposure of their unhealthful occupation, and unless a competent medical examination be made of every man before being employed, and at frequent intervals afterward, great injustice may be done to the laborer himself; and, moreover, deaf persons are incompetent in any capacity where their own and others' safety may depend on hearing what is said to them in emergencies. Defective persons, such as have been reported above, are manifestly unfit to be employed in work under highly compressed air.

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Clinical Department.

DEATH FROM HYDRONEPHROSIS OF A PARTURIENT WOMAN.

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M. M——, a primipara, thirty years of age, was admitted to the Maternity at 4.40 A.M., August 21, 1887. She appeared in fairly good condition, and walked without assistance. She was then having pains every five minutes, and stated that they began at 2 A.M. The cervix was found to be obliterated, the os dilated 3 ctm., the head low down, fixed, and apparently large and incompressible. The urine, of which the woman passed 240 c.ctm. after entrance, showed albumen present to the extent of two and a half per cent.; specific gravity 1.008; no casts. She gave no history which would lead to the suspicion of renal disease; there was no œdema of the ankles or face.

The external measurements of the pelvis were slightly below the normal, being as follows: External conjugate, 18 ctm.; between anterior superior spines, 24.5 ctm.; greatest distance between the crests of the ilia, 27 ctm.

The head advanced slowly, and with each contraction of the uterus a mass of hemorrhoids was protruded from the anus, equal in size to a large orange, and simulating extensive prolapsus of the rectum. At 7 A.M. the os was dilated, membranes ruptured, the pains were hard and frequent, and the patient was apparently in good condition, with the exception of the hemorrhoids, which gave her great pain. At 8.45 her pulse became suddenly weak and rapid; a stimulant was administered and repeated from time to time without effect, her pulse remaining at 126. At nine o'clock a little mucus in the trachea troubled her during each pain, which in a few moments became more marked; she began to suffer from dyspnœa, and coarse and fine râles could be heard throughout the chest. At each contraction of the uterus the dyspnœa was so extreme that the patient became cyanosed and gasped for breath.

At this juncture forceps were applied, of course without the administration of ether; but as a great amount of force was found necessary, and with each traction of the forceps the pulse became more feeble and running, the œdema greatly increased, and death seemed imminent, their use was for the time being suspended. A hypodermic injection of morph. sulph. (.075) and atrop. sulph. (.0005) was given, which alleviated the symptoms for a short time. After this the patient grew steadily weaker, the respirations were more hurried and shallow, the finger-ends and lips became livid, and a large amount of frothy mucus and blood was expectorated. Death took place at 10.25 A.M. Forceps were immediately applied and a dead child, weighing nine pounds, was delivered. The fetal heart had not been heard for an hour and a half previous to the mother's death, and she stated when she came in that she had felt no movements for three days. Slight twitchings of the hands at the last were the only convulsive movements.

A post-mortem examination showed the upper two-thirds of the left kidney to be represented by a sac the size of a peach, the ureter connected with this being 15 ctm. long, dilated to the size of a broomstick, and containing a cloudy fluid. The lower third of this kidney contained a small amount of green substance, in which the distinction between the cortex and pyramids could be made out. The pelvis was much enlarged, and there was a separate ureter extended from this to the bladder, dilated through most of its course, and constricted 3 ctm. above the bladder. The right kidney was one-third larger than the left, and was dark in color, the capsule being detached with ease. On section the usual relation of cortex and pyramids was found, the surfaces presenting a uniform dark-red appearance; the distinctions between the tubular regions were lost. The pelvis was dilated; and the ureter also, as far as the brim of the pelvis, was dilated to the size of the little finger and distended with fluid, but below the brim it was of normal size. The floor of the bladder was somewhat thickened, and there was a diverticulum the size of an English walnut in the neighborhood of the trigonum. There was 180 c.ctm. of urine in the bladder. The urethra was of normal size throughout. The uterus and ovaries were in a normal condition. The pleural surfaces were adherent in circumscribed spots on both sides. Both lungs were œdematous, with density somewhat increased.

Examination of the brain showed an excess of blood in the pia; the gray matter of the cortex, of the hemispheres, and of the cerebellum was of a slightly purplish hue; puncta crenata were rather large.

A CASE OF POISONING BY CAMPHOR, WITH REMARKS.

By A. BROTHERS, M.D.,

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On October 1, 1887, I was called to see a man, twenty-six years old, who, I was told, had swallowed camphorated oil by mistake. Desiring to have a movement from his bowels he had sent a little girl for five cents' worth of castor-oil, and the druggist, misunderstanding what she wanted, gave her, instead, camphorated oil, taking the precaution of putting on the glass the proper printed label. At noon the patient, not noticing the label, poured some whiskey into the glass to disguise the taste of the supposed castor-oil, and with one gulp swallowed the entire contents. He did not discover his mistake for several hours. In the course of an hour he felt uncomfortable. He soon began to have an intense

headache with aching in the limbs. He suffered chills, nausea, and general weakness. There was a strong odor of camphor perceptible in his breath. The headache steadily increased in severity and almost drove him crazy. At four o'clock he passed a small quantity of urine which smelt of camphor. Shortly after five he took a walk for about an hour. On returning he sat down to supper, and while partaking of a hearty meal he suddenly grew deathly pale and passed off in a fit. The convulsion was general, but without frothing at the mouth or biting of the tongue. He soon passed into an unconscious state, from which he was gradually emerging on my arrival, about seven o'clock. I found him sitting in a chair in a half-dazed condition. He answered questions intelligently, but did not like to be bothered. The pulse was full, strong, and eighty per minute. The face was somewhat flushed. He complained of no pain in the mouth, throat, or stomach. There were no erotic desires. His breath smelt of camphor. The pupils seemed to be normal. I ordered him a dose of calomel (twenty grains) and bromide of potassium (thirty grains) every four hours. After the first dose of medicine he vomited his undigested supper, strongly impregnated with camphor. He spent a very restless night, but next morning was well enough to leave the house. The urine now began to be passed freely, and convalescence was established. After consulting the druggist I estimate that the amount of camphor taken in this case was about one hundred and fifty grains. Considering that most of this quantity must have been absorbed during the eight hours that it remained in the stomach, this case deserves to be ranked among the more interesting ones of this variety of poisoning.

In a fairly extensive search through the literature of the subject, I only met with thirty published cases of camphor-poisoning. The smallest quantity said to have produced toxic symptoms in the adult is seven drops of "Homœopathic Solution of Camphor" (one ounce of camphor to one and a quarter ounce of spirit), representing six or seven grains of camphor. This dose was followed, in a young lady, by extreme drowsiness and weakness of the pulse.[1] Albutt gave an Alpine guide twenty drops of this solution for a diarrhœa, but the man became so sick that he was unable to proceed in the ascent.[2] Similar cases, in which alarming symptoms have followed after comparatively small quantities of camphor, are reported by Johnson,[3] Ryan,[4] Hall,[5] and Klingelhoeffer.[6]

On the other hand, very large doses of camphor have been taken, giving rise to alarming symptoms for a certain length of time, but ultimately terminating in recovery. To this class belongs my case, in which probably one hundred and fifty grains were taken in fluid form, and remained in the system for eight hours without killing the patient. The largest single dose of camphor taken without fatal effect is two hundred grains.[7] A woman, aged forty, took this quantity of camphor in alcoholic solution, and developed convulsions followed by coma. On the following day she was convalescent. Another lady, aged twenty-five, swallowed an ounce of camphorated oil, and passed into a condition of wild delirium alternating with unconsciousness. Improvement set in four hours later.[8] Cases of this nature have been reported by Cowen,[9] Pollak,[10] Eickhorn,[11] Aran,[12] East,[13] Lederer,[14] Appleby,[15] Johnson,[16] and several others.[17]

[1] Cited by Johnson, Br. Med. Journ., February, 1875, p. 171.
[2] Br. Med. Journ., December 6, 1873.
[3] Trans. of the Clin. Soc. of London, 1874, p. 28.
[4] Austral. Med. Journ., October 15, 1885. [5] The Clinic, March 8, 1873.
[6] Berl. Klin. Wochenschr., September, 1873, p. 414.
[7] Edinb. Med. Journ., May, 1873, p. 1004.
[8] Lancet, January 17, 1880. [9] Ibid., 1882, p. 378.
[10] Wien. Med. Presse, 1874, p. 258.
[11] Lond. Med. Gaz., March, 1833, p. 772.
[12] Lond. Med. Gaz., September, 1851, p. 552.
[13] Br. Med. Jour., March 20, 1886. [14] Wien. Med. Presse, 1874, p. 131.
[15] Lancet, July 8, 1876.
[16] Trans. of the Clin. Soc. of London, 1874, p. 28.
[17] Phil. Med. Times, 1879; Med. Times and Gaz., 1858: Med. Age, 1883: Nat. Dispensatory, 1884: Taylor: On Poisons.

There are five fatal cases of poisoning by camphor on record. Two cases are cited by Taylor ("A Treatise on Poisons") in which two infants, respectively fifteen and eighteen months of age, died within twenty-four hours. The third case occurred in a boy, two years of age, who developed convulsions after swallowing about fifteen grains of camphor, and died in four hours.[1] In the fourth case, a child of two years and eight months of age passed into convulsions after taking about a half-drachm of camphor, and died eighteen hours later.[2] The fifth case was that of a woman who took one hundred and eighty-four grains to bring on an abortion. This she succeeded in doing, after suffering the usual symptoms of camphor-poisoning. It is doubtful whether she died as a result of the abortion or of the camphor.[3]

In toxic doses camphor gives rise to a great variety of symptoms, but by far the most frequent and characteristic are those involving the nervous system. Convulsions rank among the most prominent of these. They may be severe or mild, general or local. They may come on very early or very late after taking the poison. There may be a single convulsion terminating in recovery or death, or the attacks may be repeated during many hours. The convulsions are most frequently followed by a condition of unconsciousness, from which, however, the patients can usually be roused. In some cases this amounts to a mere state of drowsiness. It may be entirely absent even after the largest quantities have been taken. In most of the cases headache is one of the earliest symptoms. It may be of different types and of different grades of severity. With it there usually exist dizziness, noises in the ears, and dimness of vision. The cerebral faculties become excited at times, so that the patients are restless, or hilarious, or even wildly delirious. This excitement is usually followed by profound sleep or unconsciousness. Among the nervous symptoms occurring less frequently may be mentioned pain in the back of the neck, followed by rigidity, pain along the entire spine, abnormal sensations (numbness, crawling, and tingling), partial paralysis of an extremity, and absence of cutaneous reflexes. The pupils are most often dilated.

Digestive disturbances occur with frequency. These embrace loss of appetite, nausea, eructations, and vomiting of matter impregnated with camphor. Flatulence, pain in the epigastrium, and cold sensations in the tongue are among the more unusual symptoms.

On the heart, the action of camphor in toxic doses seems to vary. In some cases the pulse ranges between 48 and 100, being full and strong; in others it is rapid, feeble, and irregular.

In nearly all of the cases the odor of camphor is easily perceptible in the breath. In some cases the breathing is imperceptible, in others it is labored and stertorous.

The surface temperature may be subnormal or elevated. The internal temperature is usually normal, but may reach as high as 105° F. The secretion of urine is usually diminished during the first twelve hours, and, when passed, may smell strongly of camphor. Erotic desires are usually absent. Prostration is always more or less marked. The face may be pale or flushed. The skin may be moist or dry.

I have thus briefly reviewed the different symptoms which may arise from camphor-poisoning. These symptoms show no direct relation to the quantity of poison taken, for some of the most alarming cases have followed the taking of comparatively small quantities. The most diagnostic signs are the occurrence of convulsions followed by semi-unconsciousness, and the odor of camphor in the breath. The prognosis varies with the age of the patient, being worse in infants and old people than in robust adults and older children. In four to eight hours after taking the poison most of those who recover are

[1] The Med. Record, January 29, 1887.
[2] Br. Med. Journ., April 2, 1887.
[3] H. C. Wood: Therap Mat. Med. and Toxicology.

out of danger, and after twenty-four hours the majority of the cases are perfectly recovered. The proper treatment consists in removing as much of the poison as possible by emetics. The convulsions must be controlled by bromide of potassium or opium. Other symptoms must be treated as they arise.

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MAGNESIUM SULPHATE IN POISONING WITH CARBOLIC ACID.

By GEORGE W. NEWTON, M.D.,

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"Mrs. M——, aged thirty-eight, was confined Wednesday, August 31, 1887. The following Sunday her husband gave her a tablespoonful of ninety-five per cent. carbolic acid, intending to give castor-oil, which had been ordered the day previous. She took it at one swallow, wishing to avoid the taste of the oil; instantly she knew there was a mistake. The husband ran to my office, which was three blocks away. I wrote a prescription for sulphate of magnesia, and went to the house as quickly as possible. Probably twenty minutes had elapsed from the time she took the acid until I saw her. Then she was totally unconscious, pulse extremely irregular, first rapid and bounding, then slow and feeble; the body bathed in a cold, clammy perspiration, hands and feet cold. There was constant jactitation. Unconsciousness came on in less than three minutes after the acid was taken.

"As soon as the mistake was discovered the monthly nurse gave her two or three tablespoonfuls of lard, and before I arrived they had given her nearly one ounce of sulphate of magnesia. Her condition seemed so hopeless that medicine was administered more to satisfy the family than with the expectation of it doing good. She swallowed with difficulty, the attempt causing spasm of the muscles of deglutition. A hypodermic injection of whiskey steadied the heart, and in three-quarters of an hour from the time I arrived consciousness began to return; then we gave the sulphate very freely, nearly three ounces being used, and in addition I gave her the whites of three eggs. In another hour her condition had improved so much that I left her for an hour; during that time she vomited freely. Ice was then applied to her throat, and she was allowed to swallow small pieces to quench her insatiable thirst. Consciousness did not fully return until two o'clock in the afternoon. Pulse at 2 P.M., 90, but regular and not very weak. From this time until her recovery there were no untoward symptoms.

"Tuesday morning her temperature reached 100° Fahr.; it never went higher. For nearly one week she complained of soreness in her throat and experienced considerable pain in swallowing. Only one day did she complain of pain over her stomach. Ice was kept upon the throat continually for five days, and small doses of opium were given to allay the pain in the throat. Bismuth, lime-water, and small bits of ice were given for the gastritis, also flaxseed tea. Nourishment was given entirely by enema for three days, then she was allowed small quantities of partially peptonized milk. At the end of seven days the enemata were stopped. At the end of four weeks her recovery was complete. I feel convinced the sulphate of magnesia saved her life. Although she took nearly three ounces her bowels moved only once. The urine remained normal in color. A curious fact about the case is that there was not more soreness complained of in the region of the stomach."

The doctor is a generous man,
But people cheat him when they can;
They have their health restored on trust,
And pay him something when they must,
And swear no bill is bigger than
The doctor's.—*National Druggist.*

Progress of Medical Science.

The Innervation of the Bladder.—From a study of this subject Dr. Born has reached the following conclusions: 1. Neither by direct nor indirect faradization and galvanization can we cause contractions of the bladder. 2. The existence of a vesico-spinal centre in the lumbar cord is not proved. It is unnecessary in man, since the internal sphincter vesicæ suffices. That name may therefore be given to the detrusor centre in the lumbar cord. 3. All acute spinal lesions cause retention. Those at the level of the lumbar cord by direct paralysis of the bladder, others by lowering the tone, during which the bladder becomes so distended by urine that it loses its contractile power. 4. The assumption of reflex controlling fibres, which in micturition control the normal reflex of the sphincter urethræ (and lesion of which causes the so-called spastic retention of urine), is unfounded.—*Deutsche Zeitschrift für Chirurgie.*

The Employment of Saccharin.—This substance is now prominently before the profession, and the following memoranda, taken from the *British Medical Journal*, October 15, 1887, contain information that it may be well to remember: "Saccharin forms a white crystalline powder, which fuses at a temperature of 392° F., when it undergoes partial decomposition, giving off a characteristic odor. It is but slightly soluble in cold water, somewhat more so in warm water, its solubility being, however, greatly increased by the presence of alkalies or their carbonates. Alcohol also furnishes a good solvent for saccharin, particularly eighty per cent. solutions, and it is likewise freely soluble in warm glycerine. Its most characteristic property is certainly its sweetening power, possessing nearly three hundred times that of cane-sugar, for while a solution of cane-sugar loses its sweetness when diluted to 1 in 250, a sweet taste is still perceptible in a watery solution of saccharin containing 1 in 70,000. As sugar is a carbo-hydrate, its solutions are liable to undergo fermentation; but as saccharin is an aromatic derivative, it is not liable to undergo this decomposition, and hence it may be freely employed without the fear of destructive fermentation occurring. But, besides this, as saccharin possesses considerable antiseptic powers, its use in medicine may often be attended with advantage—as, for example, in cases of alkaline fermentation of urine, upon which it has been shown to exert a strongly retarding influence. Stutzer, Aducco, and Mosso, from their experiments with this body, agree in the belief that it is innocent, so far as the organism is concerned; and Stutzer's experiments further show that its presence has no retarding influence on the digestion of either proteids or hydrocarbons. However administered, saccharin soon finds its way into the urine unaltered, this fluid not being altered thereby. And, while producing no injurious effect on the system, it is found to agree both with invalids and healthy individuals, and no anxiety as to its effect upon the health need be felt, even when taken for lengthened periods. As much as thirty to eighty grains have been administered daily without producing any injurious effect, even upon the appetite. Saccharin may therefore be said to be neither a food nor a poison; but from its peculiar properties it may often be employed therapeutically with advantage. Thus it may with benefit wholly or partially replace sugar in the diet where the latter is contraindicated, as in diabetes, general obesity, torpid liver, marked gouty diathesis, chronic glandular diseases of children, and in certain senile affections in which various cystic and genito-urinary disorders occur. From half a grain to a grain and a half of saccharin will sweeten a cup of tea or coffee. Small saccharin tablets, indeed, have been prepared for this purpose, and these are now being supplied, it is said, to the German army; for in a very small bottle of scarcely appreciable weight a soldier can carry

enough saccharin for a week's supply. There is a wide field for the application of saccharin to the production of sweetmeats and preserves, and in disguising the taste of bitter and nauseous preparations, as well as in preserving the properties of others. But it must always be carefully borne in mind that saccharin is to be regarded as a condiment, and not as a food like sugar, and can therefore replace sugar only in exceptional cases."

Stricture of Urethra in a newly Born Child.—Dr. Macan, of Dublin, showed before the Academy of Medicine of Ireland the parts removed from a child which was born at full term but died soon after birth. There was congenital stricture of the urethra at the external orifice, great dilatation and hypertrophy of the bladder, and cystic degeneration of the kidneys. Dr. Macan pointed out that the condition of the bladder and kidneys was due to the stricture of the urethra, and remarked that "the fœtus must have spent a good deal of its time in making water in order to produce such hypertrophy (of the bladder) as was seen in the specimen." The child had other malformations besides the contracted urethral orifice, viz., spina bifida and imperforate anus.—*Dublin Journal of Medical Science.*

The Utility of Nux Vomica.—A French physician claims to have employed nux vomica successfully in the nervous movements of pregnancy, gastralgia, dyspepsia, hypochondriasis, nervous palpitations of the heart, nervous and periodic cough, asthma, and, finally, in albuminuria. He thinks this remedy acts either on the pneumogastric, or on the great sympathetic, or on the spinal cord. He records the case of a lady affected with a severe cough, recurring every evening and lasting throughout the night, who was cured in two days by the use of nux vomica. Another patient was affected every evening with violent cough accompanied by catarrhal expectoration, and was also cured in two days by the alcoholic extract of nux vomica. Cough may also be allayed by this means, whether it be caused by bronchitis, by pneumonia, by pulmonary phthisis, or by emphysema. It proves a useful remedy also in cases of cardiac pulsations, and in irregular or too frequent action of the heart.—*Journal de Médecine.*

Insolubility of Antipyrin.—Dr. Carl Proegler writes that he was astonished to read in the report of the proceedings of the Neurological Society that antipyrin is insoluble, for he has always given it with dilute nitromuriatic acid, and found it perfectly soluble. He has learned by experience that the drug is especially valuable in headaches of malarial origin. In these cases he gives it in five grain doses every hour, until three or four doses have been taken.

The Contagium of Scarlet Fever.—Some interesting researches have lately been conducted in Edinburgh, by Dr. Edington, the object being to discover the "germ" of scarlet fever. Dr. Edington found a particular bacillus in the blood early in the disease, and in the desquamating epithelium at a later date. This organism was found capable of giving rise in animals to a disease resembling scarlet fever.—*Glasgow Medical Journal.*

An Approaching Scarcity of Physicians in France.—It is said that the number of physicians in France is steadily decreasing, while the population of the country is on the increase. In 1883, 662 diplomas were granted by the medical schools of France; in 1884 there were 590; in 1885 the number was 575; and in 1886 there were only 546. In the Parisian schools alone, during the same period, the number of diplomas granted has declined from 465 to 336. The deficiency is felt chiefly in the country districts, the large centres of population being still well supplied.

The Dread of Colors.—R. Hilbert (*Centralbl. f. prakt. Augenheilk.*) holds that cases of chromophobia, though they have been rarely recorded as such, are not very uncommon, and that they deserve attention as examples of perversion of the color-sense. In the cases to which he refers, pathological changes in the visual organs are not discoverable, and the morbid sensation does not occur as a subjective phenomenon independent of objective colors; in the persons affected an objective color produces an excessive and disagreeable effect. The first recorded case is by Woinow; the subject of it was a color-blind person specially affected by red. Hasner published three cases, presenting dread of white, dread of red, and dread of blue respectively. Schröter followed with two cases: dread of blue in a patient with atrophy of the optic nerves, and dread of red in an otherwise healthy man. Mayerhausen described two more cases of dread of red, in nervous and highly excitable persons. To these eight cases Hilbert now adds another. A student, twenty-six years of age, came to consult him on account of a chronic follicular conjunctivitis. A sheet of carmine red paper happened to lie upon the table. The patient started when he saw this, closed his eyes, and begged that it might be removed. He stated that from his earliest childhood the sight of red objects, clothes, and such like, had distressed and excited him. Other colors, shining surfaces, and bright light caused him no inconvenience. The patient was a small, weakly man, of restless and excitable temperament, and somewhat hypochondriacal. He had a slight myopia, with normal acuteness of vision; the media and fundus were healthy in both eyes. In the cases hitherto recorded, including Hilbert's, red was the color dreaded in six cases, blue in two, and white in one; whether other colors ever have a similar effect, there is no evidence to show. In all the cases but two the eyes themselves appeared to be healthy, but in every case there was a certain over-excitability and nervousness of temperament, and this, no doubt, underlies the special liability to excessive impression in the visual centres. The author regards the symptom as a central one, and not as a sign of disturbance in the retina.—*Dublin Journal of Medical Sciences.*

Illegitimate Practice in Germany.—Before the year 1868 the Prussian law prohibited irregular practice by unqualified men. In that year, however, the law was repealed under the feeling that it was impossible to put down such practice, and that there was a sort of unfairness in having a law of such a nature that a wholesale breach of it was inevitable. Since then efforts have been repeatedly made by the profession for a return to the former condition, to prohibition, but even in the profession itself a wide difference of opinion prevails as to the advisability of such a step. For the purpose of arriving at some kind of concerted action a joint meeting of members of the Berlin Medical Society and the Central Committee of the eight Medical District Unions was called for the 8th inst. Two speakers were selected, one on each side, to discuss the subject. Professor Mendel, as the advocate of those who were opposed to a renewal of the law, opened the discussion in a lengthened address. The champion of the opposing party was Dr. Becker, President of the Central Committee of the Berlin Medical Unions. It is scarcely necessary to follow the discussion; suffice it to say that at the close the following resolution was proposed and put to the vote: "That the renewal of the prohibition of irregular medical practice, by the introduction of a decision to that effect in the German Strafgesetzbuch, is necessary in the interests of the common weal." The resolution was passed by 168 votes against 164, not a very brilliant triumph for the coercionists, or, as Professor Virchow, who is opposed to a renewal of the law, put it, "Das ist nur ein Pyrrhus Sieg!" It is scarcely likely that any action will be taken by the Government when even professional opinion is so evenly divided on the subject.—*Medical Press.*

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THE PATHOLOGY OF OLD AGE.

A WORK of unusual interest in many respects is one recently published by Dr. Émile Demange, of Paris, upon the pathological anatomy and clinical history of old age. Dr. Demange has had unusual opportunities for studying senility in its various phases in the Hospital for the Aged, at Nancy. His pathological observations include more than five hundred autopsies.

Like most popular French scientists, Dr. Demange delights in reducing things to a formula. In the present case the dominating idea of the book is that the changes of senility are due to disease of the blood-vessels, and that the arteries make us old. In his five hundred cases there was always vascular disease, at least in the smaller vessels. Its characters were a proliferation of the endothelium, thickening of the middle muscular coat, and proliferation of the external coat—in fine, a "fibrous endo-peri-arteritis," tending to narrow and close the vessel's lumen.

The sclerosis thus produced tends to radiate from the blood-vessels, and causes wasting of the parenchyma. Such is the view of Demange.

Charcot, on the other hand, attributes the wasting to insufficient nutrition, through partial closure of the vessels. In the larger vessels atheroma takes place through the obliteration of vasa vasorum by arteritis. In the heart there is first an endo-peri-arteritis of the coronary arteries, consequent sclerosis of the cardiac muscle, atheroma of the endocardium and valves, and finally hypertrophy and dilatation, due to the peripheral obliteration. This compensatory hypertrophy of the senile heart has been described by Charcot and others. The signs of this senile hypertrophy are not always especially characteristic; indeed, in old people the heart is one of the best of the organs. Owing to the atrophied and emphysematous lungs, and to the more rigid thorax, the blood of the aged is poorly oxidized, and has more of a venous character than in earlier life; it coagulates more easily; the corpuscles and the hæmoglobin diminish, while cholesterin and urea increase. The blood is more toxic in quality therefore.

The central temperature of the aged, contrary to general belief, is not much different from that of early life. The digestive organs are affected in varying degrees with atrophic change. The mucous membrane of the stomach and intestines is white, thin, and glossy, and its arteries atheromatous. The liver is small and sclerotic, while the kidney can hardly be distinguished by the naked eye from the cirrhotic or gouty kidney.

Similar atrophic and fibrous changes affect the system throughout. They are all due primarily, according to Demange, to the vascular disease. This lessens the nutrition, the cells atrophy, sclerosis follows, or, still more often, the sclerosis radiates from the vessels and encroaches on the parenchyma, compressing the cells and causing their atrophy.

To the question, What causes the arterial disease? Demange answers that it is the irritant effect of an excess of products of disassimilation circulating in the blood, a vice of metabolism. But as this excess of irritants comes from the tissue-cells, we find that senility, after all, is due to that loss of balance between assimilation and disassimilation which is part of the great biological law of life and growth. We must grow old; it is registered in the protoplasm of the cell from the moment that life was imparted to it.

CHRONIC RELAPSING FEVER.

IN a paper read before the Medical Society of Göttingen, July 7, 1887, Professor Ebstein reported the history of a rather remarkable case, which was believed to be almost unique in medical annals. The patient was a mechanic, nineteen years of age, of rather delicate constitution, but giving no history of any hereditary taint. In the early summer of 1886 the man began to suffer from periodical attacks of headache, lassitude, anorexia, and abdominal pain. No temperature-record was taken until the month of September, when it was found that fever coexisted with the other periodical symptoms. The temperature during the paroxysms rose to 104° F., and sometimes even to 106° F. During the apyretic periods the temperature was often subnormal, falling sometimes as low as 96° F. There was no abrupt rise or fall, but the temperature passed gradually from the maximum to the minimum, and back again, in an even curve. Nine of the paroxysms had occurred between the middle of November, 1886, and the date of the report. The spleen was always enlarged during the attacks, and it was also tender on pressure. The only alarming symptom was weakness of the heart, which was so extreme as at times to seriously threaten the life of the patient. The pulse was rapid, frequently reaching 136 to 140 beats in the minute. The blood was examined from time to time, but no microorganisms were ever found. No cause for the disease could be discovered. The patient lived in good hygienic surroundings, and removal to another neighborhood failed to break up the recurrent paroxysms.

A case very similar to this was reported, a few years ago, by Dr. Pel, of Amsterdam. The patient, a man twenty-five years of age, had four relapses, and died in the fourth from heart-failure. The autopsy revealed a marked hyperplasia of the spleen and of the retro-peritoneal, mesenteric, and bronchial glands.

Ebstein's case is peculiar, as the course of the fever corresponds to that of no other known disease. The possibility of a malarial causation would seem to be excluded by the fact that a persistent use of quinine and arsenic exerted no influence upon the temperature-curve. In true relapsing fever, as many as five relapses have

been observed. But that this is not a case of unusually prolonged relapsing fever is evident from the fact that examination of the blood failed to reveal the presence of Obermeier's spirilla, and the gradual defervescence also serves to distinguish it from true recurrent fever. The disease has not, we believe, except in these two instances, been hitherto described. Ebstein has therefore a right, we suppose, to give it a name, but it is a pity that he has not chosen more happily. The term of chronic relapsing fever is evidently faulty, for, excepting the recurrent paroxysms, the disease appears to differ widely from the acute affection known under that name.

THE THERMOTAXIC HEAT-CENTRES.

European writers seem averse to acknowledging the fact that some of the best experimental work in connection with the subject of fever has been done in this country by Wood, Ott, and their pupils and assistants. In particular, the credit of localizing the heat-centres in the nervous system is due to Dr. Ott, though Sachs and Aronsohn independently made similar discoveries later. Girard and Baginsky have also made original observations and experiments regarding this subject, confirming the view that there are heat-centres in the brain and cord. The facts regarding the cerebral heat-centres are summarized in a paper by Drs. Ott and Carter in the *Therapeutic Gazette* for September, 1887.

The brain-cortex (of the rabbit) contains, according to the authors referred to, no heat-centres, their irritation or destruction causing only temporary variations in bodily temperature. In the deeper structures of the brain are four localities the irritation of which causes a rise of temperature, which continues for several days, and is not due to vaso-motor or inflammatory changes These centres may also depress temperature under certain kinds of stimulation. It is believed, therefore, that they act both as exciting and inhibitory centres according to the form of stimulus they receive, and the general name of thermotaxic or heat-regulating centres may be given them.

The location of these centres is as follows: (1) In front of and beneath the corpus striatum. Puncture here causes a quick rise and slow decline of temperature. (2) The parts on the inner side of the nodus cursorius. Irritation here causes a gradual rise of temperature. (3) The parts about the anterior inner end of the optic thalamus. Punctures in this region give a very high fever, the temperature rising frequently to 109° F. The thalamic heat-centre is apparently the most sensitive of all. (4) The parts between the optic thalamus and the corpus striatum near the median line, or near what is called Schiff's crying centre. Punctures here are followed in male rabbits by a peculiar cry, and in both sexes by a rapid rise of temperature, which slowly descends. The temperature-changes last from two to four days.

MORPHINOMANIA AND MENSTRUATION.

Opium is a remedy of the greatest value in many affections of the female generative organs, and is perhaps employed as often as any other single drug in these disorders. This is, however, almost as often a curse as it is a blessing, and there is many a woman whose joy over her relief from uterine disease has been turned into bitterness at the discovery that she has become a slave to morphine. However, there are certain forms of incurable uterine disease in which opium may be given with an unsparing hand, and in which naught but good can result from its free administration.

In a paper read before the Medical Society of Paris, April 23, 1887, Dr. Lutaud referred to the peculiar property which he had observed in morphine, when taken in large doses, of arresting the performance of the menstrual function. He cited a number of cases which had come under his observation, in which this function was in abeyance. The patients were addicted to the use of morphine in large doses, and applied to him for the cure of amenorrhœa. In some he was unable to cure the morphine addiction, and in these the menses did not return. In others the habit was broken up, and the menstrual function was restored. Some of the latter afterward resumed the use of morphine, and then the menses again ceased.

An analogous action of the drug, in arresting uterine hemorrhage, was observed in disease, especially in cancer. In a number of cases of this nature he found the constant use of large doses of morphine to be of the greatest utility. This property of the drug would seem to fit it to fulfil a special indication in those cases of incurable uterine disease which are aggravated by profuse menstruation. The author, indeed, goes so far as to advise the production of a true morphine addiction in cases of cancer or incurable uterine fibroids, although he deplores the reckless use of the drug in other less intractable affections of the womb. This would hardly be a safe rule to follow in all cases indiscriminately; yet if morphine can ever be given without fear for indefinite periods, it is precisely in these irremediable and hopeless cases of carcinoma of the uterus.

TRUE AND FALSE RICKETS.

In a recent notice on the use of phosphorus in the treatment of rachitis, in these columns, we referred to the difference of opinion among competent observers as to the value of this therapeutic method. While the weight of testimony seems to be decidedly in favor of the efficacy of phosphorus, there are yet many who have given the drug a faithful trial only to condemn it as utterly worthless. This discrepancy cannot be due wholly to the difference in the modes of exhibition of the remedy, as some have claimed, for in many cases the mode of preparation and the dose given have been identical, yet the results have been far from uniform.

In *Il Raccoglitore Medico* for October 30, 1887, Dr. Eugenio Casali, in an article advocating the employment of phosphorus, offers another explanation of the indifferent results obtained by some observers. There are, he says, two forms of rickets—a true and a false, or, rather, there is often a delay or an arrest of ossification which may simulate very closely actual rachitis. This arrest of ossification occurs in children who have been debilitated by improper food, or by some exhausting disease, such as chronic intestinal catarrh. The most important diagnostic signs of true rickets, as distinguished from simple arrest of ossification, are tenderness on pressure over the enlarged epiphyses and the coexistence of laryngismus stridulus. In false rickets there is, furthermore, a history of some antecedent disease, usually

chronic diarrhœa, which has seriously interfered with the nutritive processes. In true rickets Dr. Casali asserts that phosphorus acts as a veritable specific, bringing about a cure in a very short time; but in the simple arrest of ossification he has never seen it accomplish any good. The results obtained by the use of phosphorus go far, he thinks, to support Kassowitz's theory, that rickets is a disease depending on the presence of a specific micro-organism, for the amount of the drug necessary to effect a cure was wholly insufficient to supply the supposed lack of phosphorus in the osseous tissues. Furthermore, there was a very great increase in the quantity of phosphates in the urine during the time that the remedy was administered, showing that little, if any, of the drug was stored up in the system.

RENAL STONE AND ITS DIAGNOSIS.

Since the operation of nephrectomy was first established by Simon, in 1869, there have been, according to Gross, two hundred and thirty-three cases reported, with a mortality of 44.63 per cent. The records of the later work of surgeons in this line no doubt give better results than are indicated by a consideration of all cases, including those operated upon when the technique was less perfectly understood.

An operation apparently much more brilliant in results than nephrectomy is that of nephro-lithotomy, first performed by Mr. Henry Morris in 1880, for removal of a renal calculus. This has now been done over twenty times, with a mortality of only eight or ten per cent.

It seems, therefore, as if, by the help of modern renal surgery, kidney-stone could now be treated with satisfactory results. In a recent number of the *Practitioner*, Mr. Jordan Lloyd, of Birmingham, calls attention to some views of his own regarding this matter. One trouble, he thinks, in the surgical treatment of renal lithiasis, is that the diagnosis is quite as often made incorrectly as otherwise. In twenty-five instances kidneys have been "explored" for supposed renal calculus without any stone being found. The operators in three cases have not been deterred by the trivial fact of a false diagnosis, but have taken out the kidney just the same. The kidney, like the ovary, has to pay its tribute to the mad frenzy of the modern record-making surgeon.

Mr. Lloyd thinks that fewer mistakes will be made, first, after the knowledge of clinical symptoms is more complete, and second, when present misconceptions of the anatomy of the renal pelvis are corrected.

As to the latter point, he claims to have demonstrated, by casts taken from human kidneys, that the pelvis is an utterly different arrangement to what the text-books would lead us to believe; and that, instead of its being a "funnel-shaped membranous sac," chiefly located in the organ's interior, it really consists of a cluster of branching tubes; so that the procedure of exploring the kidney's interior, by means of a finger introduced into the pelvis through an opening in the kidney-substance, is practicable only in dilated kidneys, and is absolutely impossible when we are examining the interior of the viscus in anything approaching a normal condition. Mr. Lloyd has not yet found a healthy human kidney into the primary pelvic tubes of which he could introduce his index-finger. The precise anatomical arrangement of the ureter and pelvis is stated to be as follows: "The ureter as it approaches the kidney enlarges from its normal calibre—about that of a No. 10 English catheter—until it measures from one-third to half an inch in diameter, and immediately on entering the hilum it breaks up into two, or sometimes three, primary tubular branches, varying in diameter from a No. 10 to a No. 20 English catheter, and measuring from a half to one and a half inch in length. These in turn give off secondary tubes, smaller in size—some less than a line in width—which end in cup-shaped calyces. Sometimes tertiary branches, still smaller in calibre, shoot off from these secondary tubes to end in calyces. With such a conception of the structure of the kidney's interior, many of the occasional difficulties with regard to symptoms, prognosis, and treatment of renal calculus are made more easy to understand."

Mr. Lloyd contributes a method of reducing the number of "missed calculi." It consists essentially in cutting down on the kidney by a lumbar incision. A long tenotome is then thrust through the kidney into the lowest calyx. Through this opening is passed a child's bladder-sound, and the pelvis thoroughly explored.

The leading symptoms of renal stone, as given by the author in question, are as follows:

"Pain of a dull, heavy, dragging character, constantly located in one loin, sometimes shooting down the course of the ureter and along the spermatic cord to the testis, and always increased by exertion, is fairly diagnostic of stone; but, unfortunately for our art, the symptoms of disease are rarely true to type, their manifestations are capricious, and their inconsistencies are manifold.

"Pain may be present in both loins, and it then becomes very perplexing; or it may be referred to other and distant parts, so that the lumbar trouble may be altogether uncomplained of.

"It may be brought on by an injury. Much importance is attached to percussion of the region over the kidneys. The patient should stand upright, and the blow should be a sharp one. When a calculus is present the patient will complain of a stabbing pain, caused by the blow."

THE NEW YORK CANCER HOSPITAL.

The New York Cancer Hospital, which was formally opened this week for the reception of patients, is the only one of its kind in this country, and bids fair, with the means to the end of treating the most dreaded of all diseases, to mark an era in the history of public institutions in this city. Desirably situated, handsomely built, and thoroughly equipped as it is, it gives a reasonable promise of great usefulness. With the objects, not only of affording relief for a large class of sufferers, but of stimulating research and perfecting skill, it certainly lays claim to the heartiest good wishes of every lover of humanity, and the best encouragement to every scientific student of our noble art. It is not fair to assume that because cancer is now, as a rule, incurable, that we may not yet find some remedy as efficacious for its successful treatment, as is bark for intermittents and mercury for syphilis. At least we should be tireless in our endeavors to make such a realization possible. The Cancer Hospital, dedicated to such high purposes, modestly and

earnestly appeals to the profession of this country for aid and encouragement.

The situation of the new hospital, on Eighth Avenue on the block between 105th and 106th Streets, is as pleasant and in every way desirable as any that could be chosen, facing Central Park and commanding a fine view of the northern part of the city; and the building itself would much more readily be taken for an art museum than for a hospital. The architect, C. C. Haight, deserves much credit for designing a beautiful as well as a thoroughly useful structure. The present edifice is to accommodate women only, and an addition for the use of men will be made at the southwest corner.

Besides these, there are private rooms for such patients as have means to pay for them, and also for such as, from the nature of their cases, need to be separated from the others, whether thay have means or not. In fact, though a small sum for board will be charged to all who can pay, patients will be received quite as readily who can pay less than the regular rate, or even nothing at all. The wards and private rooms will accommodate seventy-seven patients in all.

The building is one hundred and eighty feet long on the Eighth Avenue side, eighty feet deep on 106th Street, and four stories in height above the basement. The exterior is of hammered brownstone and red brick. A novel feature is the three huge towers which stand at three of the corners. In these towers are situated the wards for the patients, the object being to obtain as perfect ventilation and as much light as possible.

The interior is almost severe in its simplicity, though very cheerful from the flood of sunlight that pours in through the many windows.

The main floor contains the office of the superintendent, reception-rooms, offices of the medical staff, and a chapel. The walls of this floor are of red and white enamelled brick, and the floor of tiles. The chapel is on the Eighth Avenue front, and opens on a balcony with glass roof, which will be devoted to the use of convalescents.

The main staircase is of bronze, with stone steps. The second and third floors are alike in their arrangements, and contain the wards and private rooms. There are four public wards—two in each tower. Each ward accommodates eleven patients. The remainder of the second and third floors is taken up with private rooms containing one and two patients.

On the top floor are the operating theatre, rooms of the nurses, and the culinary department of the hospital. Connected with the operating theatre is a small room where the anæsthetics are administered.

The laundry, servants' quarters, and autopsy-room are in a separate building.

The building is the gift of John Jacob Astor, and he and Mrs. Elizabeth Hamilton Cullum are distinguished as the founders of the hospital, a title obtained by the gift of $50,000 or more at one time. Mrs. Robert L. Stuart and Mrs. Charles Rogers are patrons by subscription, by the gift of $10,000 or more. Givers of endowed beds in perpetuity, by the gift of $5,000, are John E. Parsons, Joseph W. Drexel, Morris K. Jesup, Mrs. Charles Rogers, William Astor, Mrs. C. P. Huntington, Mrs. John Jacob Astor, and Mrs. Cullum.

The Board of Managers of the new hospital is as follows: President, John E. Parsons; treasurer, Joseph W. Drexel; secretary, Dr. A. Brayton Ball; Mrs. Matthew Clarkson, Mrs. Paul Dahlgren, Mrs. Phœbe Lord Day, Mrs. Howard Townsend, Mrs. William Butler Duncan, George P. Andrews, J. C. Drayton, Dr. J. F. Alexander, Dr. C. Cleveland, Dr. J. B. Hunter, Dr. F. P. Kinnicutt, and Dr. W. T. Bull.

The Medical Staff comprises the following gentlemen:

Consulting Physicians and Surgeons: Drs. Fordyce Barker, Thomas M. Markoe, John T. Metcalfe, T. Gaillard Thomas, T. Addis Emmett, W. H. Draper, George F. Shrady.

Attending Physicians and Surgeons: Drs. James B. Hunter, A. Brayton Ball, Clement Cleveland, Francis P. Kinnicutt, William T. Bull.

Assistant Physicians and Surgeons: Drs. B. Farquhar Curtis, J. S. Hawley, H. C. Coe, W. G. Thompson, Charles Ford, *Superintendent.*

The opening exercises took place on the afternoon of Tuesday, and were attended by a large audience of leading ladies and gentlemen, who afterward inspected the wards and outhouses. The President of the Board, Mr. John E. Parsons, in an opening address, explained the construction and purposes of the hospital, and was followed by Dr. Fordyce Barker, the senior consulting physician, who, in an eloquent and interesting résumé of the nature and ravages of cancer, dwelt hopefully upon the future results of treatment which such an institution may afford. Dr. William H. Draper, also as a member of the medical staff, in his usual lucid and classic style, dwelt upon the noble purposes of the hospital, the liberality of the donors, and the earnest hopes of the staff. The Rev. Dr. John Hall also made an address, in which he eulogized the purposes of the hospital. The opinion of the large number of visitors was unanimous in regard to the institution, as being the best constructed and most perfectly equipped one of its kind to be found anywhere.

Applications for the admission of patients can be made to Mr. Ford, the superintendent of the hospital, or to any member of the medical staff.

THE CONTAGIOUSNESS OF CANCER.

THE question of the contagious or infectious nature of cancer is continually recurring. The *Lancet* has recently started a discussion bearing upon it by a citation of three cases in which epithelioma of the penis in the husband has been followed by cancer of the cervix in the wife. Mr. Clement Lucas, referring to these cases, reports a curious instance of three different forms of cancer occurring in three individuals living together in the same house. He says: "In 1881, and again in 1883, I operated on a gentleman suffering from rodent ulcer of the eyelid and forehead. He is still living, but with a return of the growth. In 1884 I operated on his wife for scirrhus of the breast; and during the past week a partner, who has always lived in the same house with them, has come under my care with epithelioma of the tongue. I would not suggest that there is of necessity anything more than accidental association between these cases.

but the coincidence is the more interesting in that there is no blood relationship between them. Before one has learned to attribute the ravages of cancer to the introduction of some external virus, one must have regard to the more apparent contributaries to its outbreak; and if asked as to these, I should give, in order, age, syphilis, melancholia, gout."

Quite apropos of this subject is a communication made by Professor Von Bergmann, at a recent meeting (November 2d) of the Berlin Medical Society, "Upon the Infectious Nature of Cancer." He reminds his hearers of the fact that many pathologists have thought that cancer belonged to the class of infectious disorders. Virchow has said that cancer of the stomach, in particular, bears the impress of an infection, and Klebs has called attention to the presence of gastric cancer in persons who had first suffered from cancer of the tongue, gums, or jaws. Kraske and Israel have cited similar illustrations. Cases of contact-carcinoma are, however, rare, and Von Bergmann presented a striking illustration of it before the Society in question. The patient suffered first from a carcinomatous nodule in the middle of the upper lip; after this had begun to ulcerate, a cancer appeared at a corresponding point in the lower lip. At the same meeting Dr. Hahn described a most interesting, though somewhat audacious, experiment which he had made upon a patient suffering from widespread deposits of cancerous nodules. Three of these he removed and transplanted. Cancer developed at the points at which they were placed.

Facts thus continually accumulate, leading to the belief that cancer is a specific infection, and that we may some day find its specific cause, be it microbe or ptomaine.

BACILLI IN HUDSON RIVER ICE.

THE *Sun* devotes a double-leaded editorial and a column of its valuable space to calling attention to the presence of bacilli in Hudson River ice. The investigations of Dr. Prudden, as published in THE MEDICAL RECORD, are quoted. There seems little doubt that the melted ice from the Hudson, chiefly used in this city, contains an unusual proportion of living bacilli. But while a few of these may at some time do harm, it does not seem that they have as yet established a very bad record. The great ice-drinking season in this city is in June, July, and August, but the typhoid-fever season does not begin until later, and is then very often imported from the country. The excess of diarrhœa in summer can hardly be attributed to the ice-water, for it occurs among infants and the poorer classes, who do not indulge much in the luxury of iced drinks. On the whole, therefore, the Hudson River ice-bacilli cannot be charged with having as yet done any great harm.

A UNIVERSAL LANGUAGE FOR SCIENCE.

WHATEVER may have been the causes which have led, almost in our own day, to the abandonment of Latin as the language of science, it cannot be denied that very great inconvenience is occasioned by the want of some medium of communication which may be used by men of all nationalities. As it is now, a knowledge of English, French, and German, while perhaps not absolutely essential, is yet of extreme importance to any physician who wishes to keep himself thoroughly up in his science. This requires the study of two languages besides the mother tongue, and one whose vernacular is none of these three must ground himself in three foreign idioms before he is thoroughly equipped for his life-work. The adoption of any one of these three modern tongues as the sole language of science is, of course, not to be thought of. A Frenchman would rather bury the fruits of his scientific labors fathoms deep than give them to the world in a Teutonic dress, and the German would be equally loath to clothe his ideas in Gallic habiliments. Neither of them could ever be induced to abandon his mother tongue for English, and the reluctance of the English speaker to adopt a foreign idiom, even were he able to do so, would doubtless prove to be equally invincible.

Latin is the one tongue the adoption of which is not rendered impossible by national jealousies, but, alas! who knows Latin now? How many of our readers can, with their hands on their hearts, affirm that they can write, without abbreviations and without grammatical errors, a simple Latin prescription? We would gladly believe that there are many, but we fear they are few in number. We need not discuss the causes for this lamentable ignorance of Latin in our day, the chief of which is the execrable methods of teaching in vogue. It is sufficient to state the patent fact that Latin is not only dead, but buried, as far as medical literature is concerned.

The need of a universal language is felt not only in the scientific, but, and perhaps even more urgently, in the commercial world. This want has impelled many thinkers to the search after some common medium of communication, and numerous are the attempts which have been made, from Leibnitz down to Stephen Pearl Andrews, to construct a simple language which might serve this purpose. All of these essays have, however, failed signally, and their authors have never succeeded in gaining any disciples, one only excepted.

There is one language, not yet ten years old, which seems to contain within itself the essentials of a universal tongue. Its grammar is extremely simple, there are but few rules, not a single exception, and each word has a definite meaning and can never be wrongly interpreted. This language, which is the invention of Father Schleyer, a Catholic priest in Constance, is called Volapük, meaning world-language. The first grammar of Volapük was published in 1879, and it is estimated that there are already more than two hundred thousand students of the language, and societies formed to promote its study exist to the number of over one hundred in the different countries of Europe. Volapük grammars can be obtained in twenty different languages, dictionaries in nearly as many, and there are upward of a dozen periodicals published in the strange tongue in the larger European cities. Furthermore, there are a number of business-houses, in Spain and France more particularly, that employ Volapük correspondents, and one store in Paris displays a sign in the window to the effect that Volapük is spoken there.

The astonishing progress that this language has made

cannot but excite wonder, and it may well give occasion also to a little reflection. The students of Volapük are not at play. Many of them are practical business-men, who have no time for trifles, and who would not undertake even the little study required to learn this tongue, unless they believed that it would prove to be of real utility to them. They have found it to meet their wants, and they encourage their clerks and others to learn it. The language is very easily acquired. Its grammar can be learned in a week, and the odd moments of a single month suffice for the acquisition of a vocabulary of good working comprehensiveness. If it is adapted to the varied requirements of a commercial language, it ought to serve equally as a medium for the expression of scientific thought. And so in fact it would, were it generally adopted by writers. It would not surprise us to find some Volapük enthusiast in France or Germany starting a medical periodical in this idiom at any time; and if every medical reader of the language were to subscribe, its circulation would be no mean one. If Volapük continues to gain students in the future as it has in the past, we may confidently expect a discussion at the Berlin Congress, in 1890, concerning the advisability of its adoption as a general medical and scientific language.

THE CONDITION OF THE CROWN PRINCE.

Judging from the press reports concerning the present condition of the Crown Prince, it would appear that there is a marked improvement in many of the local symptoms of his disease. This, however, does not imply that there has been any error in diagnosis, or that the original disease is not still present. The acute lesions, which have now happily in a great measure disappeared, were due to secondary perichondritis. Although Professor Virchow is non-committal as to the significance of the microscopical character of the growth recently submitted to him, it is quite plain to such as can read between the lines, and can appreciate the clinical points in the case, that the malignancy of the trouble hardly admits of a question.

All apparently different opinions regarding this point can be reasonably reconciled. The fact that the microscope has not demonstrated malignancy is merely negative testimony, and, in face of the constant tendency of the disease to recur, does not deserve to be taken into account.

Whatever may be the difference of opinion in regard to the expediency of a radical operation, there is every reason to believe that certain emergencies associated with the progress of the disease, such as œdema glottidis, or other inflammatory effusions, may render tracheotomy necessary. The tendency to perichondritis is an element of the disease which also favors accidental complications of grave character.

A New Section in the Academy.—A Section of the Academy of Medicine, to be devoted to the discussion of Diseases of Children, was organized on Tuesday evening, the 29th ult. Dr. J. Lewis Smith was elected chairman and Dr. J. Henry Fruitnight secretary of the Section for the year 1888. The meetings of the Section will be held on the fourth Wednesday of the month.

News of the Week.

Dr. Middleton Goldsmith, of Rutland, Vt., who died on November 26th, was a man of unusual intellectual force and of very wide learning. His relations with the medical scientific work of this city are well known. He was founder of the Pathological Society, and of the Middleton Goldsmith Course of Lectures. Dr. Goldsmith was born at Port Tobacco, Md., in 1818; was educated at Hanover College, Ind., and graduated from the College of Physicians and Surgeons at New York in 1840; held the chair of surgery at Castleton Medical College in 1844, and after residing in Castleton some ten years he located in Rutland for about two years, when he became dean of the Kentucky School in Medicine at Louisville. During the war he served as one of the brigade surgeons, at one time having charge of all the military hospitals in Kentucky; growing out of his experience in this work came a book on "Hospital Gangrene, Erysipelas, and Pyæmia." After the war he returned to Rutland, where he had been employed mainly as a specialist in surgery; at divers times he had held important positions in the State, in the line of his profession, and was regarded as an able physician and surgeon. A few days prior to his death Dr. Goldsmith gave his valuable library to the Academy of Medicine at New York.

Dr. John D. McGill has been chosen to fill the vacancy in the staff of St. Francis Hospital, in Jersey City, caused by the death of Dr. Theodore R. Varick. The choice has led to a disruption among the physicians, and Dr. B. A. Watson, one of the staff, has resigned.

A Provident Medical Association, under the title of the Mutual Medical Aid Association, has been organized in this city. An entrance fee of fifty cents, and a weekly premium of ten cents, are charged.

A case of leprosy is reported as having been recently discovered in Savannah, Ga. The patient's home was in South Carolina.

A Bill for Improving the Condition of the Medical Service of the Navy is likely to be presented to Congress soon. It will provide for better pay for the officers, and in other ways increase the inducements to enter the service. It is at present an impossibility to fill existing vacancies in the corps. There are thirteen places to be filled.

Old Primiparæ.—The *Centralblatt für Gynäkologie* has recently reviewed a thesis by Dr. A. Eckhardt on the subject of elderly primiparæ. This thesis is based upon five hundred and forty-three first labors in women over thirty years of age, observed in Schroeder's wards. Cases thus relatively old formed but two and a half per cent. of all the labors in the same clinic. They depended upon one or two conditions—lateness of the first coitus, or disease in the woman or her consort. The idea, so prevalent, that the soft parts are very rigid in old primiparæ was authenticated by Dr. Eckhardt's researches, and this condition accounted for the greater frequency, in the same class of women, of lacerations and fistulæ. Disorders associated with pregnancy were found to be more marked and frequent in old primiparæ than in the total of first pregnancies. Placenta prævia

and prolapse of the cord were "possibly" more frequent. The statistics proved that contracted pelvis, breech presentations, face presentations, and twin births were also more often seen in old than in younger primiparæ; it is not noted how the greater frequency of contracted pelvis could be explained. Retained placenta appeared more common; atony of the uterus was decidedly often observed in these cases. In primiparæ between thirty and forty years of age the excess of male births was greater than in others, while in primiparæ over forty, on the other hand, there was excess of female births. Relatively, cases of advanced ossification of the fetal cranium were rare. The editor of the article in the *Centralblatt* declared that Dr. Eckhardt had exercised great care in guarding against sources of fallacy in his statistics.—*British Medical Journal.*

Red Hawthorn in Uterine Hemorrhage.—The root of the Cratægus officinalis, or red hawthorn (Russian, *Krasny boïaryshnik*), has been from time immemorial urged by the Russian peasantry as an excellent remedy for uterine hemorrhage of all kinds. With the view of testing its value, Dr. E. M. Jdanko, of Pïatsgorsk, recently gave ("Proceedings of the Russian Balneological Society of Pïatsgorsk," August 29, 1887, p. 35) a very strong decoction of the root to a lady, aged fifty-two, who was suffering from frequent profuse floodings caused by uterine fibro-myoma, for which most of the usual hæmostatics had been tried in vain. The use of hawthorn completely arrested the hemorrhage. Dr. Jdanko therefore suggests that a fair trial should be given to this popular remedy.

Chloride of Ethylene has been shown to possess the curious property of producing corneal opacity (in dogs). The animals were made to inhale the vapors for one and a half hour. In the course of a few days the opacity developed, as the result probably of changes in intra-ocular pressure.

Antipyrin is not only a patented medicine, but there is some reason to believe that adulterated specimens are on the market. Complaints as to its falsification were recently presented to the Therapeutical Society of Paris.

Professor Virchow has made an address before the Berlin Medical Society, in which he explains and defends his statements with regard to the Crown Prince's condition. The pieces which he examined were, as he at the time stated, too small and superficial to enable a positive diagnosis to be made, and he expressed a guarded opinion at the time. He still thinks that they represent a warty growth, and states that the recently observed cancerous growths did not develop from the point from which the specimens examined were removed. The professor does not say whether he still thinks that the Prince has or has not had pachydermia verrucosa.

Blanks for Official Registration of Births, Deaths, and Marriages.—The Health Department of the City of New York has resolved "that on and after January 1, 1888, no certificates of births, deaths, or marriages will be accepted and filed in this office unless they are made out upon the new blanks, which have been prepared with special reference to binding, and have a margin reserved for that purpose." These blanks can be procured in Room 38, 301 Mott Street, or will be sent to any address on application.

Dr. Morris H. Henry.—His Imperial Majesty the Sultan of Turkey has conferred on Dr. Morris H. Henry, of New York, the decoration of Commander of the Order of the Medjidieh of Turkey, for "distinguished services in the cause of medical science."

Transferring a University.—The University of Douai has been removed to Lille, much to the disgust of the Douaisians. The first university at Douai was established in 1560.

Typhoid Fever is so prevalent in Albany, N. Y., that the mayor has issued a proclamation urging its citizens to boil all river-water before using it.—*Sanitary News.*

A Congress of Russian Physicians will meet at St. Petersburg in April, 1888.

A Practical Course in Medical Dietetics has been opened at the University Medical College in Philadelphia.

Medical Mayors.—The mayoralty seems to be an object of ambition to English doctors. The *Lancet* announces the election recently of eleven medical men to this position.

Postmen are said to be a very healthy class, except as to their eyes. Nearly all suffer some impairment of vision, to their being obliged to read in the glare of the sun. Postmen not infrequently suffer from sciatica.

The Contagiousness of Leprosy.—This question, which is constantly being raised in connection with some new series of investigations, or the appearance of the disease in some new locality, has been under discussion again lately. M. Besmer, of Paris, read a very exhaustive article on the subject before the Paris Académie de Médecine. He cites a number of cases in which contagion occurred, and urges the importance of the segregation of lepers. The London *Times*, in an editorial upon the matter, states "that during the last fifteen years the total number of lepers in England has not exceeded fifty or sixty, and that in no instance has the disease spread. A recent report of the College of Physicians supports the views of the writer in the *Times*. This report, which is dated July 15, 1887, states that 'the committee are of opinion that if there be any elements of contagion in leprosy, they are not more to be dreaded than are those in the case of syphilis, which is not commonly considered to justify segregation on the part of those affected, and that they believe that leprosy is not contagious in the conventional sense of the term, but if at all, is only so in low degree and under exceptional circumstances.'" This, we believe, represents the general opinion of the profession. Still, as long as there is a possibility of the disease being conveyed to others, and as long as segregation is neither impracticable nor inhuman, it is, perhaps, the safest plan to adopt it.

Dentistry for the Poor.—There is no better field for humanitarian work than in providing some means whereby the poor can have their teeth properly treated at small or no expense. At present most of the dentistry in this city which is done gratis is in the line of tooth-pulling.

Reports of Societies.

NEW YORK ACADEMY OF MEDICINE,

Stated Meeting, December 1, 1887.

A. Jacobi, M. D., President, in the Chair.

The President acknowledged the receipt, through the kindness and influence of Dr. John C. Peters, of the library of the late Middleton Goldsmith, M.D., of Rutland, Vt., consisting of nearly six thousand volumes.

The President announced the following as

THE COMMITTEE ON CONFERENCE WITH THE BOARD OF HEALTH:

Drs. C. R. Agnew, R. H. Derby, Stephen Smith, E. G. Janeway, and, elected by the resolution providing for the committee, A. Jacobi.

The President appointed the following

MEMORIALISTS

of the late T. R. Varick, M.D., Dr. J. Leonard Corning; Alonzo Clark, M.D., LL.D., Dr. Francis Delafield; Middleton Goldsmith, M.D., Dr. John C. Peters.

Professor James Law, F.R.C.V.S., of Cornell University, was invited to the platform, and introduced to the Academy.

Several reports of Sections were then read.

The Academy then proceeded to the

NOMINATION OF OFFICERS.

Vice-Presidents—Andrew H. Smith and E. L. Keyes; *Trustees*—D. B. St. John Roosa and G. M. Smith; *Treasurer of Trustees*—F. A. Castle; *Committee on Admissions*—R. C. M. Page, E. L. Partridge, J. S. Warren, O. B. Douglas, and A. J. C. Skene; *Committee on Library*—short term—D. B. Delavan and H. Griswold; long term—T. M. Cheesman, Jr., Daniel Lewis, G. H. Fox, P. A. Morrow, W. Mendelson, M. Allen Starr.

Dr. J. W. Stickler, of Orange, N. J., then read a paper [see p. 725] on

THE PROPHYLACTIC RELATION OF THE FOOT-AND-MOUTH DISEASE TO HUMAN SCARLATINA.

In the discussion, Dr. Andrew H. Smith said it seemed that Dr. Stickler had made out an excellent case for the probability of protection being afforded by inoculation. He inquired whether or not the foot-and-mouth disease occurred sufficiently often in this country to be made available for the purposes indicated.

Dr. Stickler replied that it could be reproduced with very great readiness. The disease that occurred upon the Hendon farm, England, did not occur with such frequency.

Dr. Smith thought it worthy of consideration that the same result might occur as with small-pox, when animals were inoculated with that disease—namely, that the human subject when inoculated with the virus from those animals had small-pox.

Dr. L. McLean, Government Veterinary Surgeon, said that the foot-and-mouth disease never occurred as an epidemic but as an epizootic in Scotland, where he had been familiar with it for many years.

In the *bovine* species, also, one attack did not give immunity from the disease; but in the *ovine* species it did.

He did not believe that the foot-and-mouth disease had been found in the West in this country, as the author of the paper had stated. Besides, the temperature, 101° to 102° F., mentioned by Dr. Stickler as febrile, was the normal temperature of the bovine tribe. Cattle that were stall-fed, particularly, always had that temperature. So it must not be concluded that an abnormal condition was present simply because the thermometer showed a temperature of 102° F. To repeat, the *epizootic aphthæ* did not confer immunity from a second attack in the bovine species; but he had never seen a sheep with a second attack, and he had had extensive opportunity to study the disease.

Dr. J. E. Stubbert, of Bloomfield, N. J., gave the details of the clinical history of one of the cases referred to by Dr. Stickler in his paper, which showed that it was scarlet fever.

Professor Law was quite sceptical concerning the prophylactic influence of the foot-and-mouth disease, of which he had seen a great deal in Europe, against scarlet fever. Epizootic foot-and-mouth disease had at times attacked nearly all the cattle and the people, and, considering the fact that the disease was so frequently prevalent, there should be less scarlet fever in Great Britain than in America, where the foot-and-mouth disease was comparatively unknown. But, so far as he knew, scarlet fever prevailed and was rather fatal in Great Britain,

NINETY THOUSAND DYING OF THE DISEASE IN FIVE YEARS,

which did not speak very loudly for prophylaxis.

Again, the fact that the foot-and-mouth disease conferred so short-lived protection in cattle seemed to argue against the theory that it could protect the human species against scarlet fever. Whole herds of cattle had been attacked the second time within six months after the first attack, showing that it was not merely isolated cases in which the second attack occurred.

It was, perhaps, the most contagious malady known, yet the poisonous element did not extend very far into the atmosphere. So if there was no direct contact, the probability was that it would not be conveyed from one to another, and in that he thought the disease differed from scarlet fever.

His personal experience, also, tended in the direction of scepticism. For he had been exposed again and again to the foot-and-mouth disease and had never contracted it, while the very first time he was exposed to scarlet fever he took the disease. It would seem, therefore, that he was susceptible to the one and insusceptible to the other. He was the only member of a family of five which was exposed in that way that took the scarlet fever, which would seem to militate against the idea that one disease acts as a protective against the other.

As to experimentation with the foot-and-mouth disease, he believed that

IT SHOULD BE DONE ON THE OTHER SIDE OF THE ATLANTIC.

There were fifteen hundred million dollars' worth of cattle in the United States, and there would be a terrible hue and cry should experimentation with the foot-and-mouth disease be carried on here.

With regard to the prophylaxis of scarlet fever proper, supposing that it could be done, might it not be the means of spreading that disease? He feared that Pasteur, great and good as had been his work, had contributed to the spread of anthrax by sending broadcast attenuated virus.

FOR THE ATTENUATED VIRUS COULD BE RENDERED POTENT

and dangerous, and, therefore, a word of caution with regard to the cultivation of the virus of the foot-and-mouth disease might be proper.

Dr. John C. Peters had always regarded the foot-and-mouth disease as a contagious eczema. He had from the first been interested in Dr. Stickler's experiments, and felt sure that they would be continued, and that ultimately he would be rewarded with undoubted success. Dr. Peters exhibited a tube that showed the growing germ, together with copies of the *British Medical Journal* containing illustrations and articles by two Edinburgh experimenters, Drs. Jamieson and Edington.

Dr. J. Lewis Smith said that since the time of Jenner the hope has been awakened that some of the other fatal infectious diseases, and especially scarlet fever, might be prevented, as small-pox has been, by the inoculation of a milder and modified disease derived from the lower animals. As regards scarlet fever, two propositions of great interest and importance have arisen. First, is there a disease in the bovine race which is true scarlet fever, or which communicates genuine scarlet fever to man? And secondly, if there be such a disease, does it produce a mild and modified form of the disease in man?

Many instances had been recorded, in the last five or six years, in which epidemics of scarlet fever had arisen from the use of milk infected with the scarlatinous germ after the milking, and furnished from healthy cows; but in the St. Marylebone and Hendon epidemic, occurring two years ago and described in the *British Medical Journal*, May 29, 1886, the outbreak of scarlet fever appeared to be traced clearly to diseased cows. The point he wished to call attention to was this: The sickness of the cows was mild, not impairing their appetite, nor diminishing their milk; but the disease which the use of the infected milk produced had been described as an "intense outbreak of scarlet fever." Instead of a mild disease being propagated from the cow, for which we were looking and hoping, the reverse occurred. A mild form of disease in the cow produced a severe one in man, so that we might, if we inoculated with the bovine scarlatinous virus, produce a severe instead of mild scarlet fever.

Dr. R. A. McLean, Government Veterinary Surgeon, could not admit that it had been proved that scarlet fever had been contracted from cattle. Most veterinarians denied its occurrence. Unless there was direct inoculation of the animal from the human subject the occurrence of scarlet fever in animals must be exceedingly rare.

Typhoid fever did not occur in animals, and yet, through the agency of milk, that disease had been communicated, but it had been found that the water with which the cans had been washed was polluted. Milk-cans and other utensils, it had been known, had been washed and dried in rooms where children were ill with scarlet fever and diphtheria, and it seemed very probable that the poison was spread through such carelessness and lack of proper precautions.

That the author of the paper could produce scarlet fever in animals he would grant, but that scarlet fever could be produced in the human subject by inoculation with the virus of the foot-and-mouth disease he did not believe was possible to prove. For veterinarians believed that the foot-and-mouth disease was due to a specific germ, as specific as that of small-pox, and he did not believe that more than two cases of it had occurred in this country. One was the case referred to by the author of the paper, which occurred in Maine two years ago, and the other was a year prior in the neighborhood of Poughkeepsie.

The particular point which he wished to make was that the Academy should have it made known to it that the veterinary profession,

BOTH IN EUROPE AND IN AMERICA,

did not believe that the disease which occurred upon the Hendon farm was scarlet fever in cattle.

Dr. John C. Peters said that all the best authorities in veterinary medicine, as Williams and others, admitted the occurrence of scarlet fever in cattle and horses.

Professor Law said Dr. Peters' statement should be qualified in this way. Williams and others wrote of scarlet fever in cattle and horses, because the name, unfortunately, had been given to the disease, but they recognized it as

A NON-CONTAGIOUS AFFECTION,

and not identical with that occurring in man. There was no evidence that it was communicable from horse to horse, much less from animals to man.

Dr. Peters remarked that Percival regarded the disease as scarlet fever.

Professor Law said that Percival was one of the oldest writers on veterinary medicine, but the profession latterly did not recognize it as a contagious disease.

Dr. Stickler, in closing the discussion, said that he was very much obliged to the veterinarians and others for coming to hear and to discuss his paper. With reference to the foot-and-mouth disease occurring in the West, he had been told that it occurred in that part of the country.

With regard to temperature, spoken of by Dr. McLean, that of the cow in question was 100° F. before, and 102° F. after, the inoculation, and he therefore regarded it as a febrile movement.

As to the spread of the disease he could conceive that it might be true, but it did not seem to him to be objectionable if a mild form of scarlet fever could be produced; it would be beneficial rather than detrimental, because scarlet fever, as it commonly occurred, was a much dreaded disease.

Concerning the occurrence of scarlet fever in cows, he regarded the fact that cattle inoculated with scarlet fever had a disease which was exactly like that which the cattle had upon the Hendon farm, as an argument in favor of the view that it was scarlet fever which those cows had.

The Academy then adjourned.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, November 28, 1887.

Laurence Johnson, M.D., President, in the Chair.

The President called the meeting to order, after the adjournment of the adjourned annual meeting, and made a few introductory remarks in lieu of the inaugural address on assuming the duties of his second term in office.

He also announced the deaths of Drs. Woolsey Johnson, James Knight, and William M. Chamberlain, after which he appointed the following

COMMITTEES FOR THE ENSUING YEAR:

Committee on Hygiene—Dr. C. E. Billington, chairman; Drs. W. A. Ewing, L. Emmett Holt, J. E. Winters, and George T. Elliot.

Committee on Ethics—Dr. W. H. Katzenbach, chairman; Drs. E. A. Maxwell, Robert Campbell, C. E. Bruce, and Charles Milne.

Prize Essays—Dr. Joseph D. Bryant, chairman; Drs. A. B. Judson, and F. A. Castle.

Auditing Committee—Dr. P. A. Morrow, chairman; Dr. H. G. Piffard.

Dr. Daniel Lewis then read a paper in which he gave the detailed history of a case of

MALIGNANT TUMOR IN AN UMBILICAL HERNIAL SAC, WITH REMARKS ON THE ETIOLOGY OF CANCER.

It was the only recorded case, so far as he had been able to ascertain, in which malignant disease had developed in an old hernial sac; and its appearance therein was regarded as new evidence in favor of the view that perfectly non-malignant diseases might prove to be the exciting cause of cancer. His definition of cancer included any neoplasm that exhibited resistance to all known medicinal agents for cure, which showed a proneness to invade other organs and tissues of the body, possessed a liability to recur after removal, was painful, and had a tendency to destroy life. Any tumor possessing these clinical features, not necessarily all of them, was malignant.

He entered his protest against the practice of trying the effect of mild caustics, for they nearly always stimulated the progress of the disease.

Dr. Webster referred to a number of cases in which malignant or cancerous growths had been present in the eye, or its appendages, secondary to the irritation of benign affections or traumatism. For example, there was one case of epithelioma of the lachrymal sac and duct following dacrocystitis.

Dr. A. F. Currier thought that the clinical diagnosis might be sufficient in many cases, but that it would not give a scientific classification or diagnosis, which must be based upon the pathological histology of the new growths. He agreed with Dr. Lewis as to the origin of cancerous disease, and believed it to be due to irritation, either primary or secondary.

EPITHELIOMA IN MOST CASES

began in local irritation, and when treated in that stage it was amenable and could be cured. He cited cases of uterine cancer which showed the good effect of the local use of *alveloz*.

The President mentioned a case which forcibly illustrated the production of malignant disease by direct irritation.

Dr. Carpenter asked Dr. Lewis if he regarded all tumors that did not exhibit the clinical features mentioned as non-malignant.

Dr. Lewis replied that he did.

Dr. Carpenter referred to the cancerous tumors occasionally found accidentally in the stomach and omentum, which had never given rise to any symptoms.

Dr. Lewis regarded those cases as sufficiently exceptional not to invalidate the general clinical diagnosis he had indicated.

It was not the object of his paper to make a classification, but to point out the clinical features which warranted the diagnosis of malignant disease without the aid of the microscope.

Dr. Robert T. Morris read a paper entitled

A FEW PRACTICAL REMARKS ABOUT BUNIONS,

with special reference to hallux valgus. He advocated dissecting out the sac, in some cases excision of the head of the bone, and the use of what he termed a compartment-shoe; that is, a shoe with a loop on the inside, fastened to the welt, into which the toe could be put and held in position.

Dr. Carpenter spoke of the relief, in cases of the smaller bunions, to be obtained by bathing the foot once or twice a week and rubbing off the superficial epithelium completely with the fingers. The tendency to the formation of a corn upon the bunion might in that way be prevented. Of course, pressure from boots or shoes must be avoided, as it was very likely to be, because of the exquisite tenderness of some of these formations, which were very good indicators of the approach of a storm.

The President spoke of the influence of barometric pressure on these painful joints, and also affections rheumatic or gouty in character.

Dr. A. M. Phelps favored excision of the sac, and also the head of the metatarsal bone.

Dr. Corning exhibited plates illustrating sections of an immense corn which he had had opportunity to work up while in Europe.

The Society then adjourned.

Copper and Consumption.—Professor Luton, of Rheims, in a long article, concludes that a cure of tuberculosis can always be effected by means of the phosphate of copper, which, however, must be in the nascent state and soluble in an alkaline body. He thinks he has found a specific in the following formula: Neutral acetate of copper, gr. .15; crystallized phosphate of sodium, gr. .75; glycerine and powered licorice, each, a sufficient quantity. This for one pill.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, October 26, 1887.

T. Mitchell Prudden, M.D., President, in the Chair.

Dr. G. C. Freeborn, from the Committee on Microscopy, reported on

THE INCRUSTED INTUBATION-TUBE

presented at the last meeting by Dr. H. J. Boldt.

"The incrustation proves, on micro-chemical examination, to be calcium carbonate mixed with a large percentage of organic matter. The polish of the gold-plating is perfect except in the immediate vicinity of the deposit. Around the spots of incrustation, for a small fraction of an inch, it is roughened, and appears as if it had been acted upon by some corrosive agent. In no place uncovered by the incrustation was the plating wanting, though in a few spots it appeared, on examination with a magnifying-glass, as if it had been scraped with a rough instrument."

[At the meeting held on November 9, 1887, Dr. Freeborn made the following supplementary report:]

"On removing the deposit of lime salt, by means of hydric chloride, the gold-plating underneath was found, upon examination with the microscope, to be perfect, and the appearance of corrosion, described above, was probably due to a thin deposit of lime salt.

"Experiments were also made with solutions of mercuric chloride, varying in strength from 1–2,000 to 1½ per cent. These solutions were applied to the gold-plating of the tube, and allowed to remain in contact with it from ten to thirty minutes. The tube was then washed in distilled water, and upon microscopical examination no erosion or change in the character of the gold-plating could be detected."

Dr. Freeborn further reported on the specimen of

"MULTIPLE ULCERS" OF THE BLADDER,

presented by Dr. Northrup, that, on microscopical examination, they were found to be *diverticula* of the bladder.

Dr. W. P. Northrup made the following supplementary report on the specimen presented by him on September 14, 1887:

"The numerous small, round, punched-out excavations, having a deep-red base and wall, had been found, on microscopic examination, to be not ulcers, but diverticula. The discoloration was post-mortem. On section, the mucous membrane of the bladder was found to wind around the sharp edge of the excavation, follow the wall of the undermining cavity and traverse the base and opposite wall, and become again continuous with the mucous membrane of the bladder.

"The following was the best explanation they had been able to find of this condition: Whatever obstructs the flow of urine, such as stricture or enlarged prostate, tends to hypertrophy of the bladder-wall. 'The muscular coat is thickened uniformly, or assumes a trabeculated appearance.'[1] As to the diverticula, 'they are produced by a protrusion of the mucous membrane between hypertrophied bundles of muscle-fibres.'

"Pressure has forced the mucous membrane out between these hypertrophied bands, forming pouches or herniæ of mucous membrane.

"As to the *hæmaturia*, the only explanation they could offer was that of diapedesis. 'Without recognizable changes in the walls of the vessels, all the elements of the blood might become extravasated by passing without rupture through the walls of the vessels,'[2] under certain conditions. There was no post-mortem evidence of any rupture of vessels nor ulceration, now that the diverticula were explained."

Dr. W. M. Carpenter remarked that it was a recog-

[1] Delafield and Prudden: Handbook of Pathological Anatomy and Histology.
[2] Ibid.

nized principle in surgery *not* to empty the bladder wholly at once in cases of retention of urine of several hours' duration, because of the liability to the occurrence of hemorrhage by diapedesis.

Dr. W. P. Northrup presented, in behalf of a candidate, a specimen of

CARIES OF THE SPINE.

Dr. A. P. Dudley presented a specimen of

MATERIAL REMOVED FROM THE CAVITY OF THE UTERUS,

with the following history: The woman was sixty-five years of age, and the mother of four children. All her labors were normal. She passed the menopause thirteen years ago without accident. About three years ago she lost her husband suddenly, and she did not recover from the shock for a long time. About two years ago she began to have uterine hemorrhage, which had continued more or less constant—slight flow for a few days, and recurring after a short interval—until last July, when it became profuse. She brought with her the diagnosis of uterine fibroid, but Dr. Dudley was unable to obtain any evidence of that affection. The uterine cavity was only three inches deep; the os and cervix showed no lesion. There was no evidence of peri-uterine disease. There had been no odor to the blood at any time. There had been but little pain, except pain in the back. There had been no loss of flesh, and there was no cachexia.

Dr. Dudley dilated the uterus rapidly and removed the mass presented, which

COVERED THE ENTIRE INTERNAL SURFACE OF THE ORGAN.

Dr. H. C. Coe had examined a portion microscopically, and reported that it had the appearance of fungosities; it might be a myxomatous polypus that had undergone degeneration, and it was possible that it might be an adenomatous growth; but he was unable to find any evidence of malignant disease. The woman had had one hemorrhage since the operation, which was performed a week ago, but it ceased at once on washing the uterus out with hot carbolized water, and the washing brought away a small piece of material such as was removed at the operation. Dr. Dudley had not encountered a similar case, and had had grave apprehensions concerning its possible malignant character.

Dr. Dudley also presented a specimen of

HÆMATOMA OF THE OVARY,

removed one week ago from a patient twenty-two years of age, who had been under his care for one year, during which time he adopted a great variety of general internal treatment, with local internal and external applications; but the woman was not relieved a particle of the constant pain in her left side, which increased in severity with each return of her monthly sickness.

An exploratory incision was made, the left ovary easily lifted and removed, and on opening it there was found a hæmatoma that occupied nearly the entire organ, which was not of frequent occurrence. The patient was convalescing, and, thus far, had not suffered from the pain of which she formerly complained.

Dr. W. M. Carpenter mentioned a case which was almost identical with the one first reported by Dr. Dudley. A woman who had passed the menopause ten or twelve years was profoundly shocked by the death of her husband, and began about two months thereafter to have slight uterine hemorrhage, which continued more or less constantly for more than a year, with one profuse flow, and attended only by backache. The discharge was odorless, and there was neither loss of flesh nor cachexia. Dr. James B. Hunter took charge of the case; found no evidence of disease of the cervix or peri-uterine tissues, nor any evidence of uterine fibroid. He dilated the uterus, and removed a mass of material which, from the description, was like that described by Dr. Dudley. Since the operation there had been no hemorrhage, and the patient, thus far, had remained well.

Dr. Mary Dixon Jones mentioned a case of recurrent uterine hemorrhage, occurring after the menopause, in which she effected a cure by dilating and curetting the uterus.

TUBERCULAR MENINGITIS—AN OLD CASEOUS NODULE IN THE BRAIN.

Dr. L. Emmett Holt presented a specimen with the following history. The specimen was referred to the Committee on Microscopy.

It was taken from the body of a female child, aged four, who died at the New York Infant Asylum after ten days' illness. The parents were healthy, but the mother's family was tubercular. The child was plump and healthy in appearance up to the beginning of the last illness. The onset was gradual, being characterized by listlessness, anorexia, drowsiness, and constipation, but no vomiting or headache.

The symptoms were typical after the first three days. There was abdominal retraction, well-marked *tâche cérébrale*, loss of knee-jerk, slow, irregular pulse, Cheyne-Stokes respiration, opisthotonos, dilatation of the pupils, and semi-stupor, which merged into true coma. For the first four or five days there was almost complete left hemiplegia, with greatly diminished sensibility upon the same side; this did not disappear, but the opposite side gradually became affected to the same degree.

There were no convulsions, hydrocephalic cry, or vomiting. The temperature was from 100° to 101.8° F., until two days before death, when it ran up rapidly to 104° F. Death took place quietly.

Autopsy, two hours after death. Body well nourished.

Head: The brain was intensely engorged, the convolutions flattened. There were no tubercles or signs of inflammation except at the base, especially abundant over the frontal lobes, in the interpeduncular space, and along the great longitudinal and Sylvian fissures; here they matted the tissues together quite firmly. Inflammatory products about equally distributed over the two sides. In the left Sylvian fissure, just internal to its bifurcation, was a caseous nodule, the size of an ordinary grape, which seemed to be meningeal in its origin and connections. The ventricles were dilated, each containing about an ounce of clear serum; ependyma congested, no tubercles seen. Spinal cord not examined.

Thorax: The lungs were healthy; no tubercles. The bronchial glands were cheesy, and as large as beans. The heart-auricles were distended with black clots; no endocarditis; no tubercles in pericardium.

Abdomen: A very few tubercles were scattered over the surface of the liver and spleen; none were found elsewhere, though careful search was made. The intestines were normal, except some recent congestion in the colon. The mesenteric glands were not cheesy.

The other organs were normal, except the kidneys, which showed some cloudy swelling. No disturbance of speech was observed during life.

Dr. W. H. Porter presented a specimen of

STRANGULATED BUBONOCELE

with a peculiar history. The man from whose body it was removed was a waiter, between thirty and forty years of age, in whom developed suddenly the active symptoms of strangulated hernia. When a physician was called he found a large and painful tumor in the right inguinal region, and also a large tumefaction of the scrotum. The man was suffering with intense pain, had vomited stercoraceous matter, and was constipated. The physician applied taxis and caused the rapid disappearance of the scrotal tumor. But the symptoms of strangulated hernia continued, and he made repeated attempts by taxis to reduce the tumor in the inguinal region, but failed. The patient became partially moribund, and in that condition

was transferred to the hospital, where he died soon after admission.

At the autopsy the knuckle of intestine presented was found in the inguinal canal. About one pint of bloody serum was found in the peritoneal cavity, and it was also found that the tunica vaginalis had been ruptured. It was believed that through the rupture in the tunica vaginalis the fluid of

THE ACUTE HYDROCELE

had been forced upward into the peritoneal cavity by the taxis. The peritoneum covering the strangulated portion of intestine remained bright and glistening, and there was no evidence of peritonitis.

DR. IRA VAN GIESON presented a specimen of

MULTIPLE DIVERTICULUM OF THE BLADDER, ONE OF WHICH CONTAINED A NUMBER OF SMALL URINARY CALCULI.

The bladder was removed from the body of a patient who died in Charity Hospital. Its inner surface was perforated by five apertures, ranging from 3 to 8 mm. in diameter, leading into irregular-shaped cavities in the wall of the bladder. Back of the urethral orifice, in the posterior wall of the bladder near the median line, was an ellipsoidal diverticulum, 1 by ¾ ctm. in diameter, distended by white calculi, over 110 in number, about the size of shot. The calculi caused a slight bulging forward of the mucosa, and the orifice by which the diverticulum communicated with the interior of the bladder was so small that it escaped observation. The right kidney was small, measuring 3 by 1½ ctm. in diameter, and reticulated, but seemed normal. The left kidney contained a calculus in the pelvis, about the size of a pea.

There were no symptoms referable to the bladder. The point of interest was the presence of these little pockets, which favored the formation and retention of small calculi in the mucous membrane of the organ.

THE PRESIDENT remarked that the specimen was especially interesting in connection with the one presented by Dr. Northrup. In one case there was hemorrhage by diapedesis, and in the other an accumulation of small vesical calculi in these diverticula in the mucous membrane.

The Society then went into executive session.

THE LATE THOMAS J. I. FORD.—At a special meeting of the Medical Board of St. Vincent's Hospital, held on Monday, November 21, 1887, the following resolutions were adopted as a mark of respect to the memory of Dr. Thomas J. I. Ford, late Visiting Physician to the Hospital:

Resolved, That the members of this Board, while bowing to the will of an inscrutable Providence, cannot but express their profound sympathy and regret at the sad demise of their late associate, Dr. Thomas J. I. Ford, who, by his faithful devotion to the interests of the Hospital and his unremitting attention to patients under his care, had won the respect and esteem of his associates.

Resolved, That the Board extends to the family of the deceased its earnest sympathy for them in their bereavement, and assures them that its members share in the deep sense of personal loss which Dr. Ford's death has occasioned.

Resolved, That a copy of these resolutions be published in THE MEDICAL RECORD, and sent to Mrs. Ford.

M. K. HOGAN, M.D.,
Chairman.
CONSTANTINE J. MACGUIRE, M.D.,
Secretary.

VOLKMANN'S ANTISEPTIC LIQUID.—Thymol, 1 part; alcohol, 10 parts; glycerine, 20 parts; water, 100 parts.

MIGRAINE OINTMENT.—℞. Mentholi, part j.; ol. olivari, part ss.; lanolini, parts viijss. F. unguentum. Sig.: Lanolin migraine ointment.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

SIR JAMES PAGET ON CANCER—HERNIA IN MONKEYS—QUIET IRITIS—THE PRESYSTOLIC BRUIT—THE PARKES MUSEUM OF HYGIENE.

LONDON, November 19, 1887.

THE Morton Lecture on Cancer at the College of Surgeons is one recently established, and Sir James Paget was selected to deliver the first lecture. He commenced it by saying that we might safely believe that Mr. Morton, in generously founding the lectureship, entertained the hope that it might lead to some distinct practical utility, perhaps to the discovery of a method of prevention or cure of cancer. We might hope to find a remedy in the constant careful study of the likeness of cancerous diseases to others for which we already had means of useful treatment. We might be the more hopeful, because the nearest likenesses of cancer and cancerous diseases were to two other groups of diseases concerning which there had been, in recent times, very useful additions to our knowledge. In one direction we had their likeness to the simple or innocent tumors, in the surgical removal of which the risk to life had been diminished; and in the other direction their much more intimate likeness to some of the specific and micro-parasitic diseases, a group in which progress had been made toward both preventive and remedial treatment. Cancerous diseases agreed with the simple or innocent tumors in that they were all structures growing with some degree of likeness to the natural structures of the body, especially of the part in which they were placed, but growing as if with a self-possessed power of maintaining and increasing themselves. This purposeless, selfish method of growth was characteristic of both innocent and cancerous tumors. The lecturer defended the term "malignant," for the qualities which it indicated were far more distinctive and more surely diagnostic of this group of diseases than the minute structure and chemical composition of the diseased parts or even their method of growing. In this was an example of what we must hold in the study of all diseases, for pathology was a part of biology and not derived chiefly from the study of anatomy and chemistry. It was by the biological characters of cancerous diseases more than by the histological and chemical characters that their affinities to the innocent tumors on the one side, and to the specific diseases on the other, might be judged. Every year's study made it more probable that each specific disease was due to the influence of a distinct morbid substance on some part or parts at which the characteristic signs of the disease could be manifested. Two conditions must coincide in each; the one general or diffused in a morbid material in the blood; the other local, in some part with which this material produces disease.

Sir James Paget said he believed that micro-parasites or substances produced by them would some day be found in essential relation with cancers and cancerous diseases. The specific diseases known to depend on morbid materials in the blood were very numerous. They might be vaguely arranged in groups, and the group by which the conformity of cancers and cancerous diseases might be tested was one which included, as its chief members, syphilis, tuberculosis, glanders, leprosy, and actinomycosis, each of which was known to have a distinct micro-parasite. After pointing out the most important general agreements of these diseases the lecturer observed that, as we know that in tuberculosis, syphilis, leprosy, and the rest, there is for each a specific morbid material in the blood, so we should believe that there is at least one in cancer and cancerous diseases. The fact of its not having been found was not sufficient to prove that it did not exist. After drawing some admira-

ble illustrations from vegetable pathology, the lecturer proceeded to consider at some length the manner in which cancers began. We spoke of parts "becoming cancerous," he said, and the term had been taken by some as implying that the beginning of a cancer was altogether local, and that the textures of a part might, as it were, of themselves, or through some common irritation or degeneracy, or in the course of syphilis or other diseases, change themselves and become cancerous. But in many persons these irritations and degeneracies were quite ineffective, and the facts observed were quite consistent with the much more probable belief that these degenerative changes only made the parts less able to maintain themselves, and less able to resist the invasion of any morbid material in the blood brought in contact with them. Some striking illustrations of selection of site were drawn from other specific diseases. Thus, tetanus, said the lecturer, was due to a bacillus, and this, or some material produced by it, was carried in the blood to every part, but seemed harmless to all till it reached the spinal marrow. In the sequelæ of fevers the morbid poison present in the blood affected only certain parts. In concluding, Sir James Paget urged the importance of discovering the specific morbid material of cancer and of dealing with it generically as others have been dealt with.

At the last meeting of the Pathological Society Mr. Bland Sutton exhibited two specimens of congenital inguinal hernia in monkeys. He remarked that if a patent funicular process predisposed to hernia it should be very frequent in monkeys. Mr. Jonathan Hutchinson, Jr., observed that though he had had the opportunity of examining many monkeys, he had never met with an inguinal hernia, though he had often demonstrated the patent funicular process. The observation militated against the theory that a long mesentery was the determining cause of inguinal hernia in man, for in monkeys the mesentery was always long, yet hernia was extremely rare, as Mr. Sutton had stated.

At the Ophthalmological Society's meeting Dr. Seymour Sharkey read a paper on a case of cortical and subcortical disease of the occipito-angular region producing hemianopia. Mr. Nettleship read one on the value of iridectomy in relapsing iritis, and among the remaining communications was one by Mr. J. Hutchinson, Jr., in which several cases of iritis were described in which the attack, sometimes leading to extensive adhesions to the lens, and involving much deterioration of sight, was from the first unaccompanied by the typical features of inflammation. It was, he said, not sufficiently known that iritis in certain cases did not reveal its presence by the characteristic frontal pain, and was practically unattended by congestion or photophobia.

Considerable discussion has lately taken place on the subject of the presystolic bruit. Owing mainly to the labors of Gairdner, Broadbent, Bristowe, and others, this is now pretty generally recognized as indicative of a constriction of the mitral orifice. The exact manner of its production has, however, been disputed. Dr. Dickinson has lately revived the notion that it is really a regurgitant murmur, but, although supported by Dr. John Harley and Dr. Charlewood Turner, the statements he has put forward have not been received with much favor, and the older view of its being really a murmur caused by the onward flow of blood through the stenosed orifice bids fair still to hold its ground.

There is some ground for apprehension that the Parkes Museum of Hygiene may have to be closed for want of funds. It was founded some years ago as a memorial of the late Professor Parkes, and is the only institution in this country of its kind. It is, therefore, sincerely to be hoped that funds may be forthcoming to continue its existence. Efforts are being made to obtain them.

Berlin Physicians.—The proportion of physicians in Berlin, to the population, is about one to one thousand.

OUR PARIS LETTER.

(From our Special Correspondent.)

CURIOSITIES IN HYPNOTISM AND AUTO-SUGGESTION—ANTIPYRINE IN UTERINE COLIC.

Paris, November 25, 1887.

The phenomena of hypnotism or mesmerism are creating a great sensation in this country, both among the profession and the general public, and so long as they are practised as a source of amusement for the latter nothing can be said against them; but, as they threaten to enter the domain of medicine, it is time that serious notice should be taken in order to ascertain the real value of these phenomena, particularly as regards their application as therapeutic agents. The latest phenomenon of hypnotism that has been brought before the profession is that known by the term "suggestion," one exemplification of which is the action of medicines at a distance, that is to say, one has only to apply or hold up at a distance from the patient, or from any part of his or her body, a medicinal substance, accompanied, of course, by a hint of its physiological action, and the desired effect is produced. It will be remembered that Dr. Luys, an *agrégé* of the faculty of medicine of Paris, and Physician to the Salpétrière Asylum, recently read a report before the Academy of Medicine, of certain experiments he had performed on some female patients, with different medicines in sealed tubes, which he applied as above described, and obtained the results anticipated. The Academy, however, not willing to lend itself to such medical jugglery, ordered a commission to investigate the matter before forming an opinion as to its merits. The result is not yet known, but it may be observed that these extraordinary phenomena have been obtained on hysterical patients who have been hypnotized or put into a state of somnambulism.

Meanwhile, Dr. Constantin Paul had invited Dr. Bourru, of Rochefort, who had acquired a certain notoriety in this direction, to repeat the experiments announced by him, in his hospital ward. At a recent meeting of the Société de Thérapeutique, Dr. Constantin Paul stated that he had placed at Dr. Borru's disposal a most sensitive subject, upon whom he was allowed to act without any extraneous influence. With a bottle of alcohol uncorked, staggering was produced; but this effect was not considered satisfactory, and Dr. Paul observed that the proceeding was not correct, as the emanations from the uncorked bottle containing the alcohol would suggest to the subject under observation the nature of the contents of the bottle, as in such a patient (a young woman), who was evidently hysterical, the sensitive faculty would amount to hyperæsthesia, and the perception of odors is certainly more acute. In another instance a bottle, supposed to contain cherry-laurel water, and held at the back of the head, produced effects usually caused by this drug; but it was discovered that, by inadvertence, intentional or otherwise, the pharmacien in attendance had put in water only. Five or six other experiments gave results of the same value. Dr. Bucquoy was equally incredulous, and said that he was afraid that the commission appointed by the Academy would throw but little light on the subject in question. He could, however, affirm that those of his colleagues and the internes who attended the séance given by Dr. Luys at the Charity Hospital, left the place with the conviction that Dr. Luys had been imposed upon.

In reference to the same subject, which was discussed at the Medico-Psychological Society, Dr. Jules Voisin attributed the results to suggestion, auto-suggestion, and the vivacity of the memory in hypnotic sleep. Upon applying an empty phial to the neck of one of his subjects, and leading her to suppose it contained alcohol, she immediately showed signs of intoxication. He then pretended to employ other phials, but always reserving the empty one to apply it to the patient, he announced the different effects of strychnine, cherry-laurel water, valerian, pilocarpine, and of the sulphate of soda, and

the phenomena announced were produced. Two months later the experiments were repeated, and putting the patient to sleep, Dr. Voisin remarked, in an audible tone, that she would be able to distinguish the drugs the one from the other. As before, he pretended to change the phial, and presented an empty one each time. The characteristic effects of the drugs were again produced, and that *in the same order*. Drs. Bourru and Burot, who patronize hypnotism, do not accept the explanation given by Dr. Voisin and others as to the mechanism concerning the results obtained, but ascribe it to "a special energy in the superior organisms, which is put into action by exterior influences" (whatever that may mean); and in order to justify their refusal of the explanation given by other experimenters, they declare that the experiments by the latter were not performed under the same conditions—that is to say, that while the application of the medicines at a distance was practised by them in subjects in a state of lethargy or somnambulism, the subjects of MM. Bourru and Burot were in a wakeful condition.

Whatever may be the value of their explanations, Dr. Voisin affirms that from his own observations he finds that medicines hermetically closed in a vessel act by suggestion and auto-suggestion, and that the memory is acute in hypnotic sleep. Thanks to this state of the memory, one can explain facts which till now have been inexplicable. Moreover, he adds that the cases which have come under his notice equally demonstrate that by hypnotic suggestion one succeeds in suppressing attacks of hystero-epilepsy and vomiting. A young woman who had had these attacks daily, and went through this form of treatment, remained six months without presenting any of the symptoms of the above morbid conditions, and left the hospital apparently cured.

A short time ago Dr. Chouppe read a paper before the Société de Biologie on the good results he obtained with antipyrine to combat uterine colic. At the meeting of last week the author read a paper on the efficacy of this drug in a case that lately came under his notice of extremely painful contractions of the uterus, provoked by the action of the ergot of rye, which was administered to combat hemorrhages caused by a uterine myoma. Antipyrine administered by an enema, in a dose of two grammes, relieved the pain in twenty minutes. In subsequent attacks antipyrine, given a quarter of an hour before the ergot, prevented the occurrence of the pains, without in any way diminishing the intensity of the uterine contractions. This latter point is of the utmost importance, as it demonstrates the superiority of antipyrine over the preparations of opium in similar cases, whether in obstetrics or gynecology.

CHLORATE OF POTASSIUM AND TINCTURE OF IRON IN SORE THROAT.

To the Editor of The Medical Record.

Sir: I trust that you will not let pass, as a final condemnation, the recent editorial notice concerning the value of the old-fashioned mixture of "chlorate of potash" and "tincture of iron" as a remedial gargle in sore throats, whether diphtheritic, putrid, or simple, without first considering its value from two standpoints.

First, *clinically*, I would venture to state that ninety-five per cent. of all physicians will attest its well-earned reputation in their practice; and

Second, *chemically* (and it is here that I wish to call the attention of your readers to its value), it is not generally understood that the resulting mixture consists of a solution of chlorine (Cl_2), euchlorine (Cl_2O_4), potassium chloride (KCl), and ferric chloride (Fe_2Cl_6). On the value of free chlorine it is unnecessary to dwell. Euchlorine (Cl_2O_4) most readily splits up into (Cl_2+ $(O_2)_2$) chlorine and nascent oxygen, which also are most effective disinfectants and antiseptics. The chemistry of the reaction, once understood, is simply that of hydrochloric acid upon the chlorate, the oxygen of the chlorate "burning up" the hydrogen of the hydrochloric acid after the following reaction:

$$2\ KClO_3+(HCl)_4=(KCl)_2+Cl_2+Cl_2O_4+H_2O-$$

"Tincture of iron" always contains free HCl, and when HCl comes in contact with $KClO_3$, the above reaction takes place, *quickly* if concentrated, *slowly* if weak solutions are employed. In practice, such liberation (*i.e.*, a more efficient mixture) is best accomplished by ordering the tincture to be added to the dry chlorate and then diluted to the strength required. In fact, the patient does not receive the chlorate, but the chloride of kalium, the former being decomposed to form *the best practical* antiseptics and disinfectants known; while, unlike the horde of others (bichloride, carbolic or salicylic acid, eucalyptol, etc.), it possesses no poisonous qualities.

L. L. McArthur, M.D.

Chicago, Ill.

New Instruments.

A NEW INSTRUMENT FOR THE REMOVAL OF THE PHARYNGEAL TONSIL.[1]

By H. Gradle, M.D.,

Chicago, Ill.

Some months ago I spoke to the Society at length about the importance of hypertrophy of the pharyngeal tonsil—the so-called adenoid vegetations at the roof of the pharynx.

I then dwelt on the danger both to the ear and to the upper air-passages produced by this trouble. By following some of my cases for a longer period of time, it has seemed likely to me that, in some exceptional instances, even more serious disturbances to the health result from enlargement of the pharyngeal tonsil. I know now of at least five children operated on by me for this

trouble during the last year and a half, all of whom had been puny up to the time of the operation without being really sick. Since the operation these children have gained in flesh, vigor, and appetite, in such a manner that I am inclined to make the former pharyngeal disease responsible for their feeble health.

I have pointed out to the Society at a previous meeting that the operation of removing the pharyngeal tonsil, while neither dangerous nor difficult, nor very painful, was anything but elegant. For with the various forms of curettes which I had hitherto used, the vegetations were apt to slip from the grasp of the instrument, thereby necessitating a number of attempts, and sometimes a number of sittings, before the pharyngeal space was cleared. I have since obtained more experience in the galvano caustic treatment of the enlargement, and would rank this method far inferior to that by cutting instruments on account of the greater soreness produced by the burning, as well as the possibility of suppuration of the middle ear.

The instrument which I show you to-night I have found the most satisfactory of any method yet employed. It consists of a stout pair of scissor-blades, with prolonged handles bent out of the way, while the cutting ends of the blades turn up, so as to be placed behind and above the soft palate. These ends are fenestrated triangles, with the base up, thirteen millimetres wide, and twenty millimetres high. They apply themselves to the lateral walls of the pharynx when opened, while the cutting blades at their upper border snip off all prominences

[1] Demonstrated before the Chicago Medical Society, July 18, 1887.

from the roof of the pharynx when they come together. The couple of springs on the outside of the fenestrated ends serve as guards to catch any detached pieces, and prevent their falling into the larynx. With reasonable care I have found it impossible to wound any part of the naso-pharyngeal cavity with this instrument. The operation can be quickly done, and with a little tolerance on the part of the patient it can be completed in one sitting. The instrument has been neatly put up for me by Messrs. Sharp & Smith, of Chicago.

Army News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from November 27 to December 3, 1887.

So much of S. O. 235, A. G. O., October 8, 1887, as relieves Lieutenant-Colonel CHARLES T. ALEXANDER, Surgeon, from duty at St. Louis, Mo., and directs him to report for duty at Fort Meade, Dak., is amended so as to take effect January 1, 1888. S. O. 274, A. G. O., November 25, 1887.

BIRMINGHAM, H. P., Captain and Assistant Surgeon. The leave of absence granted by order No. 52, Fort Myer, Va., November 24th, is extended twenty-three days. S. O. 255, Division of the Atlantic, November 28, 1887.

Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending December 3, 1887:

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	15	2
Scarlet fever	129	12
Cerebro-spinal meningitis	0	0
Measles	42	6
Diphtheria	198	58
Small-pox	1	1
Yellow fever	0	0
Cholera	0	0

MELANCHOLIA AFTER URETHROTOMY.—Dr. Edgar Kurz reports, in *Memorabilien* of August 5, 1887, two cases in which internal urethrotomy was followed by temporary melancholia. The operation was performed without accident, and resulted in a cure of the stricture in each instance. The melancholia was noticed shortly after the operation, but disappeared completely within a few weeks. The author states that a colleague related to him a similar case that he had observed in his own practice.

CHLORIDE OF ZINC IN HYDROCELE.—Dr. Lerond recommends, very highly, injections of a ten per cent. solution of chloride of zinc, with or without previous evacuation of the fluid, for the cure of hydrocele ("Thèse de Paris," 1887). The operation is a very simple one, devoid of danger, and usually effects a speedy cure, seldom being followed by a relapse.

A CHINESE REMEDY FOR CROUP.—Collect from old walls seven nests of large-sized spiders, two of which, at least, should contain live spiders. Make them into a paste with thirty grains of alum previously dissolved. Then, after it is well mixed, reduce the paste to ashes and apply it hot to the throat. This will effect an instantaneous cure of the malady, no matter how severe it may be.

DEATH OF AN AGED PHYSICIAN.—Dr. Neklewitsch, of Loske, in Poland, has lately died at the age of one hundred and nine years, having, a quarter of an hour before his death, seen and prescribed for a patient. Sixteen years ago he had a paralytic stroke affecting both his feet, so that he has since that time been obliged to confine his professional advice to the consulting-room.—*The Lancet.*

NO PHYSICIAN WANTED.—Kotelnich, in Russia, is a thrifty town, or else a very healthful one. The town council has recently voted to dispense with the services of its city physician, thinking that a Feldsherr and a midwife are sufficient for the needs of its poor.

REFLEX CONVULSIONS FROM HERNIA.—Dr. Gonzalez Alvarez reports, in the *Archivos de Medicina y Cirugía de los Niños*, an interesting case of convulsions occurring in a child eleven months of age. A diagnosis had been made of meningitis, but as no other symptoms of this disease were present, the author was inclined to regard the spasms as reflex in nature. The child was stripped, and it was then seen that he was suffering from strangulated inguinal hernia. After considerable difficulty the hernia was reduced by taxis, and a truss was applied. The convulsions ceased at once, and there was no return.

STATISTICS OF TRACHEOTOMY.—At the recent meeting of the Italian Surgical Society, in Genoa, Dr. Cabelli presented some statistics of tracheotomy which he had collected. In the first series of 132 cases there were 50 deaths and 82 recoveries. In a second series of 18 cases there were 5 deaths and 13 recoveries. In the first series, therefore, the recoveries numbered 62.2 per cent., and in the second 72.3 per cent.

WAFERS FOR ADMINISTRATION OF BAD-TASTING FLUIDS.—Mix bad-tasting fluids, such as turpentine, balsam copaiba, ichthyol, etc., with sugar, coffee-powder, or flour, and then inclose and administer in wafers.

CASTOR-OIL is easily given in foaming beer. It seldom causes vomiting when given in that way. Glycerine, combined with castor-oil, according to Soper, increases the purgative power of the oil. Wood's formula is: Ol. ricini, glycerini, āā ℥j.; ol. menth. piperit., gtts. ij.

RECTAL INJECTIONS IN CYSTITIS AND ENLARGED PROSTATE.—Dr. Vercoe calls attention to the value of rectal injections of hot water in cases of enlarged prostate and cystitis. He irrigates the prostate and base of the bladder with hot water, applied directly to the parts through a large, double-eyed catheter passed per anum.—*The Medical Age.*

LEPROSY INCREASING.—According to Bésnier, leprosy is spreading rapidly. Since the extension of the French colonial possessions, soldiers, sailors, traders, and missionaries have fallen victims to it in large numbers. Bésnier therefore exhorts physicians in all countries to study the fell disease, in order to find means of counteracting its ravages, for it has active focuses of infection in every part of the globe.

THE TREATMENT OF FLATULENT DYSPEPSIA.—Dr. Huchard warmly recommends: ℞. Salicylate of bismuth, parts ij.; calcined magnesia, parts ij.; powdered willow-charcoal, parts iij.; oil of anise, part j. Of this powder a small teaspoonful may be taken an hour or a half-hour before a meal. When gastralgia is present he recommends the following: ℞. Syrup of peppermint, parts ccl.; hydrochloric acid, part j.; hydrochlorate of cocaine, parts j.-x.; of which a small glass may be taken after a meal.—*Revue Générale de Thérapeutique.*

MAN CONSUMES, in his threescore years and ten, eighty tons of liquid and solid food. This calculation is based on an average consumption of one hundred ounces a day.

The Medical Record

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Original Articles.

A METHOD OF TREATMENT OF FIBROID TUMORS OF THE UTERUS BY STRONG CURRENTS OF ELECTRICITY BASED UPON EXACT DOSAGE.[1]

A MODIFICATION OF APOSTOLI'S METHOD.

BY FRANKLIN H. MARTIN, M.D.,

MEMBER CHICAGO GYNECOLOGICAL SOCIETY, PROFESSOR OF GYNECOLOGY IN CHICAGO POLYCLINIC.

By analysis of the several recognized methods of treatment of fibroid tumors of the uterus by electricity, I have been led to attribute the effects of the galvanic current to four principal actions :

1. Local effects of the poles.
2. Atrophic effects of the current.
3. Electrolytic action of the current.
4. Antineuralgic effect of the current.

Local effects of the poles.—In considering the Apostoli method we have dwelt at length upon this point. We have seen that the effect of a metal electrode upon the mucous membrane of the uterus, with a concentrated current passing through it and through the tissues in contact with it, is to produce a kind of cauterization ; that this effect is similar to that produced by an alkali if the pole is negative, and to that of an acid if the pole is positive. We find an explanation for this in the following fact : If into a solution of chloride of sodium or any other electrolyte we plunge the two electrodes of a galvanic apparatus, it will be found that there is a strong tendency for the acid radicals of the electrolyte, as it is broken up by the passing current of electricity, to gather around and attack the positive pole, and an equally strong tendency for the alkaline radicals to become liberated at the negative pole. It is just this effect that we get at the negative pole, or at the positive pole of our battery, when in the form of a metal electrode it is brought in contact with the mucous membrane of the womb.

In order to produce electrolytic action enough in the region of a positive inter-uterine metal electrode to obtain the characteristic hardening and coagulation of the tissues in contact, by liberation of acid radicals sufficient to check hemorrhage, a certain concentration of current is imperative. In other words, a given density rather than amount of current is required.

Atrophic effects of the current.—Atrophic effect is the name I will take the liberty of giving to a peculiar influence that is often noticed after the use of electricity on fibroid growths, which I am unable to account for in any other way than as an effect upon the trophic nerves upon which these tumors must depend for their nutrition. There are examples of rapid total disappearance of fibroids of considerable size after one or two applications of strong currents ; and examples of others that have continued to gradually atrophy for months after one application, but which have not entirely disappeared. This peculiar effect cannot be attributed to electrolysis, because electrolysis ceases to effect a diminution in size as soon as the *ions* set free by the process are absorbed ; which would not be likely to require more time than a very few hours. The local effect of the poles cannot account for the fact, because it has been observed where the poles had never come in contact with any part of the growth. It is well known, however, that peculiar irritations of motor or other nerve-trunks or their branches, which are supposed to contain inherently or in close association trophic influence, will oftentimes cause progressive or rapid atrophy of the tissues under their control. I believe that electricity, powerfully concentrated as it is in this treatment, in passing through these tissues has oftentimes some such destructive effect on these trophic nerves, or nerves which carry a trophic influence, and thereby cut off the powers of nutrition in the tissues.

Electrolytic action of the current.—Electrolysis is the well-known power of resolving compound bodies into their constituent elements by passing through them a current of electricity. . Electrolysis only occurs in that part of the body which is in a fluid state. While the galvanic current passing through a soft, living tissue has not an uninterrupted fluid medium, it has practically a fluid medium divided into innumerable little compartments, each one separated from the other by a thin wall of solid. During the passage of the current each of these particles of solids acts as a positive electrode on the fluid between it and the next solid particle in front, and as a negative electrode upon the fluid between it and the solid particle behind it. Each molecule of fluid in a conducting solid, therefore, in the line of galvanic current, may become electrolysized. It is found, also, in passing a galvanic current through a portion of the soft tissues of the body, that there is considerable tendency to cataphoric action. That occurs by a direct transferrence of the fluid particles through the little-permeable walls of solid in the direction of the negative pole of the battery. Thus we find the effect of electrolysis on a portion of the soft fresh tissue to be : (1) A separation of combined elements (more or less) into their constituent elements, and a rearrangement of the same. (2) A general movement of the elements in solution toward the negative pole of the battery.

Now, by a little ingenuity, can we not readily explain how absorption is promoted by the process of electrolysis when applied to living normal tissue? A moderate galvanic current is passed through a part, and the most susceptible molecules in the course of the current become broken into their original elements : (1) These elements immediately make a similar or different combination with neighboring elements of opposite electrical tendencies, making thereby new compounds which act as foreign particles; as foreign bodies they are promptly removed by the nearest absorbent. (2) Other elements, as they become free from their original molecules, make combinations with elements which are already leaving the tissues through some of their innumerable minute vascular or absorbent canals. (3) Many, in the form of gas, pour into the atmosphere beneath and surrounding the electrodes. (4) Others attack the electrodes and are disposed of in the form of deposit on their surfaces. (5) The current by its cataphoric action, that is, by its direct transferrence of fluid particles in the direction of the negative pole, produces an engorgement of the tissues at the negative side of the part acted upon. The absorbents in that portion of the tissue will promptly make an effort to establish an equilibrium, and by a direct action of endosmosis they are filled and the excess is carried away in their current.

This is what I believe takes place in the substance of a fibroid tumor when a more or less concentrated cur-

[1] Abstract of a paper read before the Section of Gynecology at the Ninth International Medical Congress.

rent of electricity is forced through it. At the active pole we are certain that electrolysis takes place, because an active bubbling of gas through the secretions surrounding the electrode is often observed. The foot of the rapid diminution in the size of the tumor in all its parts during the progress of active treatment, and its ordinary increase in many cases when treatment is suspended, forces one to attribute a portion of the beneficial effect to the absorption rendered possible by electrolysis.

The antineuralgic effect of the current.—There is no symptom of fibroid tumors of the uterus that yields more readily to electricity than the severe pain that so often accompanies them. While in an experience of over three years with these distressing maladies I have never seen a case in which the severe neuralgias have not succumbed early, I must confess I have not been able to discover any rational explanation for the fact.

Exact dosage.—In the treatment of fibroid tumors that I am about to describe I have, by the adoption of peculiar electrodes and by the control of certain principles that I have already hinted at, been able to lay down a more exact system of dosage than has heretofore been in vogue, in which all the effects of electricity above enumerated can be obtained without the necessity of causing the slightest pain to the most sensitive patient.

Experimenting, I have found that a current of 25 milliampères, traversing a positive platinum electrode of one square centimètre surface pressed firmly against the mucous membrane of an hypertrophied cervix, the circuit being completed by a large abdominal electrode, will produce a dry condensed condition of tissues beneath the surface of the plate in five minutes.

This surface can be penetrated with a lance to the depth of a millimètre and a half without producing the slightest tendency to hemorrhage, and the tissues are

Fig. 1.

denser than normal, still some distance farther below the surface. Granting that the condition obtained in this experiment is what is sought in cases of hemorrhagic fibroids throughout the whole surface of the mucous membrane of the uterus, in order to prevent subsequent hemorrhages, we can recognize a basis in the experiment from which we can construct a table of exact dosage, so far as the treatment of the hemorrhagic element is concerned. For by carrying our experiment still further it is found that a current of 50 milliampères is required, or just double the strength of the current required in the former experiment, to produce in the same time the same effect when the surface-area is just double, or two square centimètres. If, therefore, for example, we have a uterine canal that is 10 centimètres in depth, and the electrode fitting the canal has a surface of one square centimètre to each centimètre in length, we would have ten square centimètres of active surface in contact with the tissues; this, therefore, figured upon the same basis, would call for a current of 250 milliampères for five minutes in order to get the characteristic effects necessary to check hemorrhage from the whole surface. Or, the uterine canal that would require an Apostoli electrode 20 centimètres in length, and this depth is not infrequently met with, would require a current, if the electrode was 4 mm. in diameter, and if equal conduction took place from its entire surface, of over 600-milliampère strength. This strength of current would not be tolerated in a large number of cases, and if it were, there is no means of being certain that the sound comes in accurate contact with the mucous membrane in its entire extent. There is some doubt, too, that a surface so large, even if it were in accurate contact, would conduct equally from its entire area; the consequences, therefore, in this case would be excessive cauterization and subsequent suppuration of portions of the mucous membrane, and little effect, if any, on other portions. It is this uncertainty of result and painfulness of application that I have succeeded in doing away with. This is accomplished by adopting a means by which the whole mucous membrane of a hemorrhagic uterus can be successfully treated in a number of *séances* by attacking successively different portions of it until the whole area has been covered.

To accomplish this I have had constructed peculiar internal electrodes (Fig. 1). I have confined myself so far to two sizes—one with an active surface of two square centimètres, the other of four square centimètres; the first to be worked with a current of 50 milliampères, the

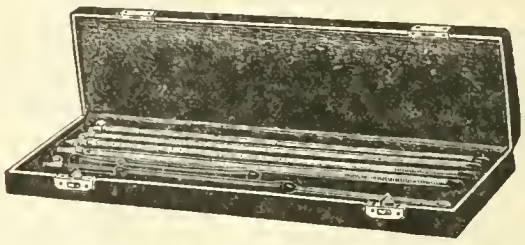

Fig. 2.

second with a current of 100 milliampères. The metal that constitutes the active surface of these electrodes is platinum wire in spiral (Fig. 5, *b*) wound over soft copper, wire of the required diameter. This portion of the electrode is connected with the handle of the electrode where it receives its attachment to the battery by means of an extension of the flexible copper wire or core incased in a soft rubber insulator. This insulated portion with its insulator is of the same diameter as the platinum part of the sound, and is therefore small enough to enter the uterine canal. Upon the distal end of the platinum portion is a screw-attachment, upon which a small, hard rubber tip, about two millimètres in length, is attached. This tip is bulbous, and from its shape and material will follow the canal readily. One may at once see that these electrodes can be made of any required diameter to suit the exigencies of the particular case in hand, this depending, of course, upon the size and permeability of the uterine canal. I have confined myself thus far in my work to two diameters. They are of 3 and 5 millimètres, and are called respectively No. 3 and No. 5. Other sizes can be ordered of the instrument-makers on the same basis of nomenclature—the diameter required stated

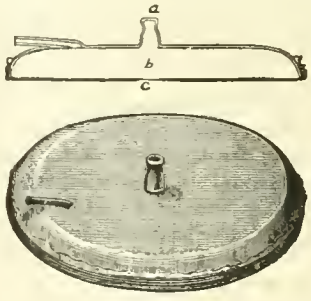

Fig. 3.

in millimètres. Of each of these two diameters, as I have stated, I have had constructed two electrodes—one of 4 sq. ctm. metal surface, the other of 2 sq. ctm. metal surface. Of course the length these active surfaces occupy on the different electrodes depends upon the diameter of the particular electrode. If it is 3 millimètres in diameter the 4 sq. ctm. will occupy about 45 mm. in length of the instrument; if it is 5 mm. diameter the same surface, 4 sq. ctm., will occupy but about 26 mm. in length of the instrument. In ordering, then, an electrode from the instrument-maker, the diameter of the instrument and the strength of current to be used with it should be stated. Thus if an electrode is required of 3 millimètres in diameter, and the current to be used with it is 100 milliampères, simply order a $\frac{3}{100}$ electrode; if a 100 milliampère current is too high, order a $\frac{3}{50}$, which will indicate an electrode 3 mm. in diameter with a surface which will require, to check hemorrhage, a 50-

mialliampère current. Each set of electrodes has a rubber shield or muff (Fig. 5, *a*) that slides loosely upon the extra-uterine portion of the instrument when inserted, which acts the double purpose of an insulator for the vaginal portion and as an indicator of the depth the electrode occupies the uterine canal, the proximal or external portion of the staff of the instruments being graduated into centimètres for this purpose.

The instrument-makers have kindly arranged a compact case of these electrodes (Fig. 2). It contains all the electrodes ordinarily demanded for this work—two of 3-millimètre diameter and two of 5-millimètre diameter; one of each for a 50-milliampère current, and one of each demanding a 100-milliampère current.

The surface-electrode (Fig. 3) is also one of my own device, and has been successfully used by a number of operators. Over the concavity of a concave disk (*a*) of soft metal of appropriate dimensions is loosely stretched an animal membrane (*c*) which is fastened to its circumference securely enough to render the interspace watertight. Between the concavity of the disk and the membrane is left a space (*b*) one and one-half inch in thickness, which is filled with warm water or warm solution of salt. The electrode is filled through a stopper on the surface of the metal; the connections are also made from this surface.

This electrode is applied to the surface of the body so that its membrane-surface is in contact with the skin, and was devised with an eye to cleanliness, to take the place of the potter's-clay electrode used for the same purpose by Dr. Apostoli. It adapts itself accurately to all irregularities, covers a large surface (400 to 800 square centimètres), and causes a diffusion of the current so perfectly that a very powerful current can be employed with it without producing the slightest pain.

Means of generating a current.—The current of electricity used for these operations should be one of high electro-motive force and small ampère strength. It should be very uniform and without interruption. Any means of generating electricity that will be practicable, and at the same time answer the above requirements, will be suitable for the purpose. I have employed for most of my work a battery composed of ordinary crowfoot gravity-cells, sufficient in number to obtain an electro-motive force of 150 volts. The Leclanché battery is practicable for this work, and is the one employed by Dr. Apostoli; it is one of the best. Batteries of the best, however, I think will soon be replaced by the dynamo.

As long as electricity in medicine and surgery was confined to faradization and galvanization with small currents, batteries were the most economical means of obtaining the desired effects; but now, with our growing knowledge of the importance of the galvano-cautery and the possibilities of the electrolytic current of high electro-motive force, we are forced to acknowledge the impracticability of the batteries and the necessity of obtaining a more economical and durable means of accomplishing the same end.

In the commercial world this same problem was met with, confronted, and at last solved by the perfection of the dynamo. I would not hesitate to predict as brilliant strides for medical and surgical electricity from the adoption of the dynamo as was noticed in the commercial world with the adoption of the same means.

The machine (Fig. 4) which I have the pleasure to bring to the notice of the profession here, and which I have had constructed to take the place of all batteries, is a dynamo that will generate electricity sufficient for all purposes that are at present demanded by medicine or surgery. If the field of medical and surgical electricity in further development requires more energy, it can find a means to that end by simply enlarging this apparatus in proportion to its demands.

The capabilities of the machine can be brought out by one-third actual horse-power force.

The machine differs from the ordinary dynamo for electric-light purposes in (1) being constructed so as to be capable of generating two distinct currents; (2) each of the currents can be increased in gradual gradation from zero to its full power without altering the speed of the machine; (3) both varieties of current can be utilized at the same time in different work, or at the will of the operator either one can be used; (4) the machine possesses an automatic safety-device by which the current is not allowed to reach a strength that can do harm to the patient or the machine itself.

The two currents generated by the machine are identical with those generated by a cautery battery of large

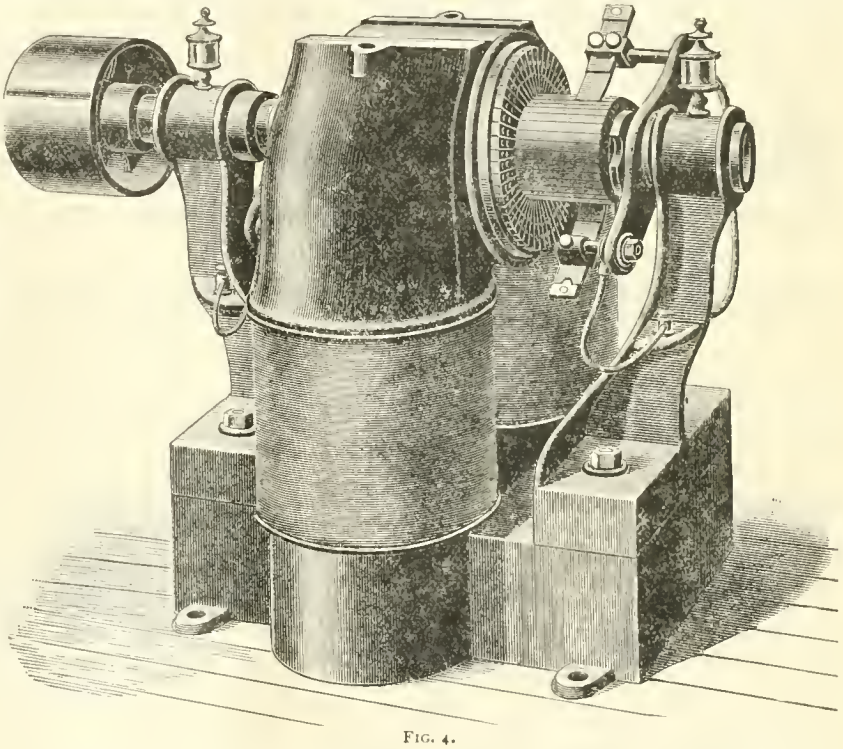

Fig. 4.

cells and large surface, and with that generated by a large number of small cells arranged in series, and are designated respectively the cautery current and the electrolytic current. The maximum strength of the cautery current is 40 ampères, with a possible electro motive force of 2 volts. The maximum strength of the electrolytic current is 1 ampère, with an electro-motive force of 200 volts. Thus this little machine will generate a cautery current that is steady, uniform, and enduring, that will accomplish the work of our largest cautery batteries made for office purposes. It will, at the same time it is accomplishing its maximum cautery work (or alone), generate a totally different current that will furnish energy sufficient to run at least one of Edison's sixteen-candle incandescent lights, or that will accomplish any work that can be accomplished by a battery of 150 Leclanché cells. This latter current also possesses the following advantage over cell-battery currents. In case of the cells the current must be turned on one volt at a time, whereas with this machine it can be evenly increased or diminished in less gradations than the hundredth of a volt, thereby not exciting the patient in the least while giving the full benefit of a perfectly smooth and uniform galvanic current of any required intensity.

These results are obtained without the use of a rheostat or resistance. It is also especially adapted for operating the induction coil for faradic currents, giving a very delicate adjustment of the current in the primary.

The medical dynamo was devised for me by Elmer A. Sperry, of Chicago, a practical electrician of large experience, and was manufactured by the McIntosh Galvanic and Faradic Co., of Chicago. It is a beautiful little machine, and can be operated by gas-engine, electric-motor, or any other convenient power.

Variations of operation.—In describing in detail this method of operating I wish to recognize two varieties:

1. *Positive intra uterine galvanism.*
2. *Negative intra-uterine galvanism.*

The variety positive intra-uterine galvanism corresponds to Apostoli's galvano-caustique positive, the second to his galvano-caustique negative. I take the liberty of making this change of nomenclature because I do not believe that a true caustic effect is what we should seek to obtain. With the negative pole we get free escape of liquid and hydrogen gas from the surface beneath the electrode, from powerful electrolytic action, and a condition is produced that will stimulate rapid absorption, but it should not be carried to the extent of local destruction. With the positive pole we get active coagulation of the albuminous particles of the tumor by action of the acid radicals produced by rapid electrolysis. The concentration of the current, however, should not be so great as to cause actual destruction of the tissues.

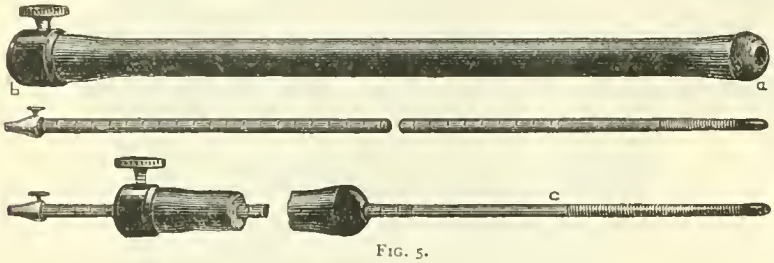

Fig. 5.

Modus operandi: Positive intra-uterine galvanism.—The first variety of operation, positive intra-uterine galvanism, is indicated in that large majority of fibroid tumors that presents a history of excessive hemorrhage. This condition is present in a large variety of cases. It matters not if it be the small submucous, the larger interstitial, the large subperitoneal, or even the large base-pedunculated tumor, the indications for treatment are the same, if there is a flow of blood from the mucous membrane of the uterus. The uterus may also vary in depth from seven to twenty centimètres without changing the indication for treatment, or lessening the chances of success.

The operator proceeds, after the patient has been instructed to assume a convenient position, to discover the whereabouts of the cervix and endeavor to ascertain, by means of a uterine sound, the depth and direction of the canal. This is the most difficult part of the operation, oftentimes, because of the extreme distortion of the canal. I have been obliged in a number of cases to postpone treatment from day to day for a number of days, because of being unable properly to adjust the electrode in the uterine canal. I have yet, however, to find a case in which, after more or less persistence, I have not been rewarded finally by being able to traverse the canal with the flexible electrodes that I have described; after once accomplishing an entrance, and learning the peculiarities of the canal, the future introduction of the electrode becomes an easy matter. At the first treatment the electrode of proper diameter should be selected, and inserted to the bottom of the uterus and connected with the positive pole of the battery. Upon the surface of the body, attached to the negative pole, should be placed the passive membranous electrode (Fig. 3), in a position that will cause the electricity to traverse the largest mass of the fibroid. After the connections have been well examined, in order to insure their security, and the insulating muff (Fig. 5, *a*) has been slid up to the cervix and fastened, the current from the generator is turned on very gradually until a current of 50 milliampères has been reached, if the active surface is 2 sq. ctm., and 100 milliampères if the active surface of the electrode is 4 sq. ctm. The current is then allowed to pass for five minutes, when it is gradually reduced, until it is entirely turned off. The electrodes are then carefully removed, and the application is finished. This first operation produces a coagulation of two or four centimètres, according to whether the active surface of the electrode occupied two or four centimètres of the distal end of the uterine canal. When the internal electrode is withdrawn, the depth of the uterine canal is noted or indicated by the position of the muff, and this fact, together with the diameter of the electrode, is carefully noted in the records of the case for that day. At the next application, which can usually be as soon as the next day, before introducing the same electrode the intra-uterine portion of the instrument should be shortened, by setting the rubber muff or gauge just the number of millimètres nearer the distal end that the active surface of the electrode measures millimètres in length. Upon introducing the electrode into the uterine canal now, as shortened by the position of the muff, the active portion of the instrument will reach exactly to the point that was acted upon at the previous application. It can readily be seen that in this second operation another portion of the canal has been treated. This same procedure is continued every day, with a change of the gauge every time, until the whole canal has received the action of the metal portion of the electrode. This line of treatment (the galvano-positive, should be thoroughly carried out the four or five days immediately preceding the regular time for menstruation to appear. If the patient exhibits an indifference to the effect of a 50-milliampère current, the work can be done in half the time, and just as well, by substituting the electrode of 4 sq. ctm. in surface with the 100-milliampère current.

As I have intimated, the positive intra-uterine galvanism should be employed the week preceding the regular menstrual flow. If, as in a large number of these cases, the hemorrhage has lost its regular periodicity or the hemorrhage is continuous, the judgment of the operator should guide him in selecting a time when the hemorrhage is not present, or when there is the minimum amount. If, however, the hemorrhage is continuous, the treatment must be given during the flow.

Negative intra-uterine galvanism.—The second operation, the negative intra-uterine galvanism, can usually be performed with the 100-milliampère current, unless the patient is particularly susceptible to the effects of electricity. In this operation the intra-uterine electrode is carefully introduced to the bottom of the canal, as in the first operation, but is connected with the negative pole of the battery instead of the positive. The surface-electrode is properly arranged, and, after all connections are rendered secure, a current of 100 milliampères is gradually turned on and allowed to work for five minutes. Of course, if the surface-effects of a 100-milliampère current is at all disagreeable, the electrode requiring the 50-milliampère current should be substituted and the 50-milliampère current employed. The same procedure should be adopted in regard to changing the position of the active surface of the electrode, in order to accomplish the characteristic action on all portions of the canal.

The effect of this operation is to produce rapid reduction in the size of the growth, and it should be employed in the early days of the month following a menstrual period, and should always be followed later in the month by the positive intra-uterine galvanism in order to prevent the ex-

cessive hemorrhages that would otherwise occur at the following menstruation. This latter operation can readily be tolerated every second day, and very frequently every day.

In the two simple procedures here presented, we have a safe, painless, accurate, and rational method of treating fibroid tumors of the uterus by Apostoli's method. By this method all the beneficial effects of electricity can be obtained, without in the least exposing our patients to any of the possible evils that we are able to discern in other methods. It has been shown that the maximum current advised, 100 milliampères, by proper condensation will do exactly the same work locally, and with more certainty, than currents of much higher intensity that are employed without taking into accurate account the extent of the active surface of the electrode. The atrophic effect of the current is more liable to be obtained when there is a systematic condensation of the current at successive applications to the whole internal surface of the uterus, and therefore through all portions of the tumor at different times, than when a much stronger current is employed indifferently diffused through all portions. For the same reason the electrolytic effect of the current becomes more certain and effectual when the current is concentrated than when it is indifferently diffused. The antineuralgic effect of the current is obtained almost invariably with this method, although this particular procedure offers no advantages in this respect over any other.

In recommending this gradual process of treating these difficulties, I do not do so because of any great advantage that I expect to obtain from lessening the strength on account of the pain, but because of the more accurate application and the more definite results that are obtained with a smaller surface of concentration. I have had a large experience with Apostoli's method, and have employed much stronger currents than he has advised, without producing excessive pain, but I found it was not always possible, even when the greatest precautions were taken, to avoid uneven work.

In conclusion, the principal advantages of this method can be summarized under six headings:

1. It is entirely free from danger.
2. It is absolutely painless.
3. It invariably checks excessive hemorrhages.
4. It rapidly reduces the size of the tumors.
5. It stops neuralgic pains.
6. It is a system of treatment of fibroid tumors by electricity, based upon principles which make exact dosage possible.

163 State Street.

Luminous Micro-organisms.—Dr. Tilanus, who has been working in Professor Forster's laboratory in Amsterdam, on culture-preparations of luminous micro-organisms, has published an account of his researches. He prepared a flat culture from luminous mucus, obtained from the exterior of fish, with fish-broth peptone jelly, to which two per cent. of common salt had been added as a medium. This became speckled with numerous cultures, some of the jelly, but not the greater part, becoming liquefied. In the dark this flat culture emitted a distinct light, and appeared as if strewn with stars; from this a stripe-culture was prepared, and, after successive preparations had been made, Dr. Tilanus believed he had obtained a pure culture of the phosphorescent organisms. They stained well with methyl violet or methylene blue. With a power of 1,000 diameters they appeared of an ovoid form, with numerous clear, colorless points. A low temperature was found to be most suitable for these cultures. Besides fish-broth, potatoes sprinkled with salt were found to serve as a medium, but blood-serum gave very unsatisfactory results.—*British Medical Journal.*

HYPERTROPHY OF THE TONSIL OF THE TONGUE, WITH HISTORY OF CASES.[1]

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The affection which forms the subject of my paper does not receive the attention it well deserves. It is often an unrecognized source of a variety of complaints, which are only successfully relieved by treatment of the glandular hypertrophy in question. Although numerous researches have revealed the true pathological character and the microscopic constituents of the diseased tissue, very few writers have given a description of its clinical features, and the majority of publications confine themselves to an enumeration of one or the other prominent symptom of the individual case. As I had occasion to treat a number of cases during this year, I beg to submit the result of my observations to the meeting.

The tonsil of the tongue consists of a group of follicular glands, similar to those of the faucial and pharyngeal tonsil, and forms the connecting-link of the great lymphatic ring of the pharynx. Commencing at the pharyngeal tonsil, this ring extends to the orifice of the Eustachian tube, then turning downward along the posterior surface of the soft palate to the faucial tonsil, it reaches the base of the tongue, and returns in the same order. The ring has an almost vertical position, and is characterized by an accumulation of follicular glands in several places. The glands are found in two different forms; in some localities they appear in aggregated, in others in disseminated form. When they are aggregated they represent a circumscribed mass, which is commonly called a tonsil. Other attributes of a tonsil are a dense, diffuse infiltration of the connective tissue with lymph-cells, and the prevalence of follicular, or, as Cohen better calls them, saccular glands. While these three conditions exist in the faucial and pharyngeal tonsil, the tonsil of the Eustachian tube and of the tongue have not the circumscribed form, and contain the follicular glands in the disseminated state. But cases are not rare in which the accumulation of these glands assumes a formidable, well-defined shape, and the Eustachian tonsil has been known as such for some time. The name, tonsil of the tongue, has, as I think, been used with perfect propriety by some writers for a similar condition at the base of this organ. Without further entering into the histology of these formations, it is well to remember that they are not glands in the common sense. They have no excretory duct nor outlet, are closed bodies, and by their function belong to the lymphatic system. They are of the size of a lentil, are loosely embedded in the submucous tissue, and their hilus is covered by a thin mucous membrane. Their sac contains a varying number of follicles, closely resembling those of Peyer's glands of the intestines.

According to the researches of Swain, who has given so far the best description of our subject, the existence of these glands at the base of the tongue is a normal condition. They are located between the papillæ circumvallatæ and the epiglottis, often encroaching on both, and they generally appear at the period of puberty. In the hypertrophic state their growth is uniform, and all the parts of the gland take part in it. The whole gland is enlarged twice its size, and more; the follicles themselves become considerably larger. This hyperplasia resembles closely the condition observed in chronic hypertrophy of the faucial tonsil, and is another instance of similarity of these two organs.

I am unable to give a satisfactory explanation of the causes productive of this disease. My patients, as well as those of others, had attained the age of puberty, the majority of them being between twenty and forty years of age. Aside from the knowledge of an ailment which

[1] Read before the Section on Laryngology and Rhinology of the New York Academy of Medicine, November 22, 1887.

made them seek medical aid, they were unaware of the condition existing in their throat, and greatly surprised when informed of the nature of the trouble. In my opinion the same agencies are most likely at work which bring on hypertrophy of the faucial tonsil, with the difference of their appearance at a later age of the patient.

The symptoms we observe in patients are manifold, but mainly due to the mechanical irritation brought on by the hypertrophic glands. Some of these symptoms have already been described, and we are indebted to two members of our Section for having pointed out two of the most important ones. Dr. Rice has given a very graphic illustration how a severe spasmodic cough can be completely relieved by proper reduction of these glands, and Dr. H. Curtis related his experience of their influence on the singing voice. Dr. Curtis was, as far as I know, the first to have drawn attention to these growths from a clinical stand-point. But besides these two symptoms we notice an array of others, and we shall now investigate them more fully. We hear the patients complain—1, of the sensation of a foreign body or of pressure in their throat; 2, of interference with their speaking or singing; 3, of pain when there is subacute inflammation of the glands; 4, of radiating pain; 5, of cough; 6, of asthmatic attacks.

The first symptom I found to be the most constant one. The existence of a mass of hypertrophic tissue at the base of the tongue creates the feeling of the presence of a foreign body, and the patient endeavors to remove it by swallowing. This is the cause of the so-called empty-swallowing, which is often incessantly repeated with but temporary relief. This sensation is experienced less during eating, and generally only when no food is taken. It is next to impossible to enumerate all the foreign substances which the patients believe to be present. All imaginable things, from a leaden ball to a hair, are given as the source of the evil. In this connection it will not be amiss to state that quite a number of cases of globus hystericus can be satisfactorily explained by the hypertrophy of these glands, and cured by their destruction. The sensation of pressure in the throat is in the same manner due to the enlarged glands, and aggravated when there is actual contact between the epiglottis and the tongue. Nervous patients become more and more irritated by the foreign body and the pressure they feel in their throat, and very often experience great suffering.

The interference with speech and song is probably the most interesting symptom of our disease. In some cases the patients only tire out very soon when using their voice, in others the voice is entirely lost. There are instances known where the voice is good one day, bad the next, and where it breaks suddenly during singing. Professionals also say that they are no longer able to find the right key, or that the voice has lost a great deal of clearness and metal.

The only complaint of other patients is that they have pain while talking, without being hoarse. I refer now only to patients who have no concomitant disease, as, for instance, catarrhal laryngitis, granular pharyngitis, or to such whose ailment continued unabated after hypertrophic faucial tonsils, or granulations of the pharynx, or the like had been effectively treated. If the hypertrophy of the glands is so great as to overlap the free border of the epiglottis, the explanation of their influence on the voice is easy. In this case the free movement of the epiglottis is seriously interfered with, and the constant exertion necessary to produce a sound creates a feeling of fatigue. If there is no impingement of the epiglottis and simple contact with the tongue, we have to remember that the position of the tongue and larynx change with each articulation. When the follicular glands are swollen the epiglottis is exposed to friction with each movement, its nerves become irritated, and this irritation is transmitted to the muscles and nerves of the larynx. In some cases the fatigue of voice can be traced to deficient innervation.

Although the enlarged condition of the follicular glands is decidedly a chronic process, subacute inflammation does sometimes occur. Patients who formerly complained only of discomfort in swallowing, or of pressure in their throat, suffer actual pain when an inflammatory exudation of fibrinous material into the follicles takes place. In a lady under observation, who only had the sensation of a foreign body in her throat, the glands were moderately enlarged without touching the epiglottis. After most of them had been reduced by the galvano-cautery she appeared one day suffering severe pain in her throat, which she considered due to a cold. On inspection numerous white spots, of the size of a pin's head, could be seen, covering the entire base of the tongue, and resembling closely the aspect we are wont to see in follicular tonsillitis. It took very persistent scraping with the sharp spoon, and repeated insertions of a fine galvano cautery point into the diseased follicles to make the inflammatory symptoms disappear.

Radiating pains toward other parts of the body I noticed only in one patient. She complained of shooting pains toward each side of the throat, extending upward to the ears. Destruction of the hypertrophic glands gave prompt and complete relief. Cases are described in which patients felt pain between the shoulder-blades, in the larynx, trachea, also in the stomach.

Quite a number of patients suffer from cough, which is observed in two different forms. It is either a violent, spasmodic, almost incessant, or a hacking cough, appearing at shorter or longer intervals. The spasmodic form, as a rule, occurs when the hypertrophic glands encroach upon the epiglottis, and is less frequent than the hacking cough. The latter often gives rise to great anxiety on the part of the patient and his relatives, as they fear it to be a symptom of developing phthisis of the lungs. In the cases under my observation this form of cough was present when there was merely contact between the glands and the epiglottis, and it is most probably due to the friction of the tongue and epiglottis against each other during their movements.

Finally, the last symptom to be mentioned are asthmatic attacks. Although I have not seen any case myself, Heyman and Seifert describe attacks of dyspnœa, resembling asthma, in patients with enlarged follicular glands. So far the observations are very few in number, but it will be advisable, in the future, to examine closely the base of the tongue before we consider a case of asthma as one of purely nervous origin.

To illustrate more fully the symptoms alluded to, and their great variety, I append the histories of a few patients:

Case I.—Mrs. R——, married, aged twenty-nine, professional singer. She had been performing in concerts and opera on the Continent and in this country. Her voice had never failed her, and although subjecting it sometimes to an unusual strain, she never felt any discomfort afterward. About one year ago she began to feel easily fatigued when singing any length of time, and when continuing she could only do so by great exertion. Of late she noticed, on several occasions, that in making such an exertion she would lose control over her voice, and it broke completely. She also complained of a slight sensation of pressure in her throat. The patient was otherwise perfectly healthy, but very downcast on account of the fear of never regaining her full vocal power.

At the examination the whole upper air-tract was found to be normal, except a few patches of granular tissue in the pharynx, and moderately enlarged follicular glands, which, however, did not interfere with the movements of the epiglottis. Not fully appreciating the importance of this condition at the time, I was greatly surprised when, after destruction of the granulations, but slight improvement was obtained. Permanent benefit only resulted from a methodic, and, in this case, especially persistent,

treatment of the follicular hypertrophy. The means adopted in this and other instances I shall summarize when speaking of the treatment.

Case II.—Mrs. G——, married, aged thirty-seven, complained of a dryness and burning in her throat for the past four weeks, obliging her to drink very often. She also has the sensation of a string lying on the back of her tongue, which she in vain tries to get rid of by frequent attempts at deglutition. When she takes food this feeling is less, but after she has swallowed a mouthful some particles of food seem to remain on the tongue, and the fruitless efforts at swallowing commence again. During the last week she was also greatly annoyed by pain in both ears, which, although of short duration and coming at long intervals, was nevertheless very acute and painful.

A minute inspection revealed nothing but the presence of a circumscribed mass of follicular glands right in the middle of the base of the tongue, slightly covering the edge of the epiglottis. Three applications with different agents gave complete relief.

Case III.—W——, male, aged twenty-seven, amateur singer; suffers since ten years from what he calls "catarrh;" which, however, did not materially affect his singing power. About two months before presenting himself for treatment he found that his voice became less clear; it varied very much; was better one day, worse the next, but never as good as before. It was a much greater effort for him to sing, and he tired out when he continued, and had actual pain in the throat when he persisted. At the same time he had a feeling as if a hard substance was present in his throat which necessitated frequent swallowing.

The patient had a considerable hypertrophy of the anterior portion of both middle turbinated bodies. They were snared off and relieved his catarrh. The follicular glands covered the base of the tongue rather uniformly, and it required treatment extending over two months to reduce them to their normal condition, and thereby to restore his voice to its former quality.

Case IV.—The last case I have selected from my notebook appears to me most interesting, and instructive at the same time. Miss J——, aged twenty-eight, was brought to my office by her mother, in a state of great anxiety, because the young lady was believed to be a victim of pulmonary phthisis. The patient had not lost much flesh, but she looked pale, anæmic, and was very weak, not having had one good night's rest for several weeks on account of her harassing cough. She had been under treatment before, and her chest had been pronounced "weak." Six years previously she had been treated for some aural disease, and later for a throat trouble, the exact nature of which I could not ascertain. On being questioned she said that for quite a long time she felt as though she must frequently swallow in order to overcome a raw, scratching feeling in her throat.

Most careful and repeated examination of her chest gave no evidence of pulmonary disease. Very slight granulations were present in her pharynx, but their destruction did not in the least relieve her cough. The follicular glands were, in her case, hypertrophied to such an extent as I have never seen since. There was a thick denseness of hypertrophic tissue extending over the whole base of the tongue, and covering the free border of the epiglottis completely. This mass was divided by longitudinal furrows, the deepest of which, centrally located, divided the whole tissue in two symmetrical halves. I began the treatment by snaring off each half with my platinum-iridium cautery-snare, and reduced the remaining tissue by repeated insertions of the cautery-knife. Improvement began immediately after the two parts I beg to show you here had been snared off, and, although the treatment extended over six weeks, no other means were employed, and a perfect cure was effected.

From the foregoing you will see, gentlemen, that the disease in question presents a great variety of symptoms. I purposely refrained from enumerating in detail all the different complaints patients have to make. I only endeavored to give the chief features we observe, without becoming tiresome. One point more, I think, is well worth dwelling upon. Although there are quite a number of people with enlarged glands who have no abnormal sensation, and therefore are not objects for treatment, we certainly have to look upon the hypertrophy of the tonsil of the tongue as another source of ailment of the upper air-tract which merits our undivided attention. It is not necessary to state, in an assembly like the one before me, that recent experience has taught us not to rest contented until we have found an anatomical basis for any neurotic symptoms the patient may suffer from. It is our endeavor to localize disease, and as long as we do not find the true cause our line of treatment is more or less without proper foundation. The symptoms enumerated above are not pathognostic of our disease, and without local examination a positive diagnosis cannot be made. If, therefore, in a given case, after a thorough examination of the usual localities, we find no definite cause for a certain train of symptoms, our attention should be directed to the base of the tongue before we assume a simple neurosis. The inspection of this organ requires no special manipulation, but it is easily seen in its full size when examining the larynx. As a rule, we are so accustomed to look at once into the larynx, and for the possible changes of its structure, that it will only need this suggestion to make the examination complete. When we are in doubt as to the locality giving rise to the abnormal sensations, we can avail ourselves of the action of cocaine, which arrests the reflex irritability, and thereby facilitates the diagnosis.

The prognosis is favorable, as well in regard to the disease itself as to the concomitant symptoms. Still I have found it difficult to pass judgment beforehand as to the time necessary for a cure, and in the beginning was more than once disappointed by giving a hasty opinion. They are not always the large hypertrophies which require most time for treatment; sometimes the reduction of a smaller but broader hypertrophic mass taxes the endurance of the patient and the resources of the physician a great deal more.

The line of treatment to be pursued is well marked out, and consists in reduction or destruction of the redundant tissue. Simple pressure with a cotton-carrier, applications of chromic acid, or of Vienna paste, have been recommended. My experience is limited to four remedial agents: Lugol's solution of different strength, nitrate of silver fused to a probe, the galvano-cautery, and, finally, the snare.

Lugol's solution is applied with the common laryngeal applicator, bent at a more obtuse angle and then introduced between the base of the tongue and the epiglottis. Although praised very highly by others, it has not proven so effective in my hands, and I now use it only in light cases or when patients object to the cautery. As one of its advantages I found in quite a number of cases that the patient feels at least temporary relief from his abnormal sensation immediately after the application. Lunar caustic is best adapted for cases in which the hypertrophic tissue is of a soft character and not so dense and compact as we usually find it. My best results I have obtained by means of the galvano-cautery, with which I make repeated scarifications into the follicular glands, and which acts here in a similar manner as when used for hypertrophy of the faucial tonsil. When there is contact between the epiglottis and tongue, care has to be taken not to injure the former, and the electrode has to be embedded firmly and deeply into the diseased tissue in order to avoid the epiglottis. The reaction is sometimes rather severe, lasting for several days, and ice-pellets and cocaine-spray may be employed to ease the patient. When the hypertrophic mass is lobular in shape, or so large as to enable its engagement in a snare, I consider it advisable

always to snare it off. With the proper use of cocaine the elastic cautery-snare of iridium and platinum answers the purpose as well as the cold snare, is not more painful, and, creating a larger slough, is more thorough in its action.

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A CASE OF RIGHT LATERAL, OR HOMONYMOUS HEMIANOPSIA, WITH NEGATIVE HISTORY.

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H. A. H——, married, Norwegian, carpenter, aged fifty-seven, somewhat anæmic-looking; first noticed a "blurring" of vision of the right eye—and only toward the right half of the visual field—some time between the latter part of January and the beginning of March last. This imperfect vision has qualitatively increased until complete blindness to the right has resulted, and he seeks advice solely on account of the increased difficulty in following his occupation.

His past history—carefully analyzed through a fellow-countryman and senior medical student—is negative as to consumption and syphilis, and he declares he "was never sick a day in his life.

About two years ago, when on a drinking-bout, he was struck by an associate with a whiskey-bottle on the left side of the head, at a point about one inch above and behind the external canthus. A slight wound, with little hemorrhage, resulted, but no discomfort followed until six months later, when, on exposure to inclement weather, he had some "cramp-like" pain in the left eyeball and in the anterior superficial region of the left side of the head. This pain recurs on exposure during cold, damp weather, and is probably rheumatic in character.

Never at any time has he had any headache, vertigo, nausea, tinnitus, or fits. He states that, though able to follow directions, his memory is not as good as formerly.

Present condition.—The right half of the visual field, and limited vertically, is absent in both eyes; in other directions the fields are normal. The fixation-point is central and, as is usual, is in the normal field. There is no paralysis of the external ocular muscles. The acuity of vision of the right eye is $\frac{20}{LX}$, and no glass improves it. That of the left eye is $\frac{20}{XL}$, and + 1.00 D., cylindric axis 90°, raises the vision to $\frac{20}{XXX}$. He reads No. VI. Snellen at 16″, without glasses; and with + 4.00 D., he reads No. I. S. at 8″ to 11″.

The color-sense is apparently normal, as is usually the case.

Both pupils are myotic—the direct reflex is observable, and the consentaneous, though present, is just perceptible. Owing to the myosis, the reflexes are necessarily limited.

Homatropine was used to dilate the pupils to render possible an intraocular examination, and no disease of either fundus was apparent; some astigmatism was evident—most marked in the left eye.

There is no ataxia, and the patellar tendon-reflex is normal. He follows his occupation, but reads with difficulty, because of the blind area being immediately to the right of the fixation-point, so that he cannot anticipate the context as in healthy vision.

The condition present is therefore a right lateral, or homonymous hemianopsia, dependent upon disease of the left optic tract; thalamus, or adjacent portions of the internal capsule; or of the left occipital cortical visual centre.

Etiology of the symptom known as hemiopia, hemiopsia, or hemianopsia: Transient hemianopsia is frequently observed in hemicrania, and is functional in character and dependent upon angio-neurotic origin.

Sudden permanent hemianopsia is due to cerebral hemorrhage or embolus. Hemianopsia of gradual onset is due to disease of the optic commissure or tract, one of the anterior corpora quadrigemina, the posterior tubercle of the optic thalamus, posterior limb of the internal capsule, or lesion of the occipital lobe, or due to tumors, syphilitic or tubercular disease of the base of the brain, or exostosis of the base of the skull.

A nasal or median hemianopsia is due to disease of both optic nerves (Leber). A superior or inferior hemianopsia is very rare and, if permanent, depends upon compression—above or below—of the optic tracts at the base of the skull, or symmetrical primary disease of the nerves. Lateral or homonymous hemianopsia is the form most frequently observed, and affects the lateral halves of both visual fields—either the external half of one field together with the internal half of the other, or it involves the temporal halves of both fields.

Where the temporal half of the fields is affected the disease is located in the crossed fasciculi at the optic commissure. If the right or left halves of the visual fields are missing, the lesion is situated back of the commissure in the opposite tractus or its posterior relations.

The pathology of our case is implied in the latter condition, viz., disease of the left optic tract, left anterior corpus quadrigeminum, posterior tubercle of the left optic thalamus or adjacent posterior extremity of the capsula interna, or of the left cortical visual centre apparently located in the occipital portion of the cerebrum.

On account of its gradual and indefinite onset cerebral hemorrhage and embolus can be ruled out; because of its permanency, some organic lesion is present.

Syphilis or large solitary tubercle may affect the optic tract or adjacent tissues, but, owing to the history, we may fairly presume these diseases are not present. Exostosis basis cranii may be present; or tumors of the pituitary gland, membranes, or brain-tissue may be the cause; or, again, the history of trauma given may have resulted in sclerosis (rarely single), softening, or abscess involving the cerebral centres named.

The differential diagnosis, without intracranial and focal symptoms, as in our case, is wellnigh impossible. Where tumor is the cause, unless of small size and very limited extent, some or all of the following cerebral symptoms are usually present: Headache, vertigo, vomiting, convulsions, dementia, etc., associated with choked disk, and possibly paralysis of other cranial nerves, especially the third, fourth, and sixth, hemiplegia being also frequently present. All the foregoing are absent in our case, and unless the tumor is small and benign we doubt its presence. With disease of the corpora quadrigemina third-nerve paralysis, with immobile pupil and nystagmus, is frequently observed. Again, disease of these centres is infrequent, and when present is usually only a part of the cerebral affection.

Destruction of the posterior tubercle of the thalamus produces complete hemianopsia of the opposite side (Strümpell). If the posterior limb of the internal capsule were the seat of lesion, we should have present, through involvement of the pyramidal tract, a more or less complete hemiplegia of the opposite side of the body. Moreover, the sensory path also lies here, and governs not only cutaneous sensation but also the organs of special

sense; therefore its destruction would result in hemianæsthesia of the opposite side of the body, together with impairment of smell, taste, and hearing, besides hemianopsia—in short, complete cerebral hemianæsthesia (Strümpell).

There is no hemianæsthesia present in our patient.

Traumatic abscess of the brain is usually due to extension of the suppurative inflammation from an open scalp-wound, easily understood where fracture is present, yet the latter is not essential; neither is an open wound a necessary concomitant, as experience has shown. Again, suppurative meningitis may be associated with abscess as a primary condition, or as a sequel to the latter by extension to the cortex. Moreover, we can have a metastatic meningeal inflammation, the mode of conduction from a distant part probably being through the blood and lymph-channels. The metastatic inflammation usually affects the convexity, the underlying brain being almost always involved, and important pressure-symptoms result.

Further, the onset of these prevalent meningeal inflammations may be insidious, but almost always the temperature is decidedly elevated though paroxysmal, and the case usually runs its course in one or two weeks, terminating fatally.

In these suppurating cerebral diseases, therefore, the pyrexia, with vertigo, headache, vomiting, etc., and preceded by ear, lung, or heart disease, or traumatism, we might look for an explanation of our case; yet, with the exception of slight trauma, these conditions are absent rom the history.

There is, however, one form of cerebral abscess—the so-called idiopathic—whose etiology is undefined and the invasion of which is uncertain. These latter, however, usually occur during periods of epidemic cerebro-spinal disease.

Brain-softening might best explain our pathology, and due to thrombosis dependent upon primary arterio-sclerosis or syphilitic endarteritis, yet the latter is denied by the history. The tissues, having lost their arterial blood-supply, degenerate into a softened mass, and, as a result, their physiology disappears. According to Strümpell, hemianopsia in diseases of the occipital lobe is well established, and, considering the age of our patient, together with the impaired cerebration complained of, and in the absence of symptoms, we are inclined to the belief that a localized brain-softening dependent upon a chronic primary arterio-sclerosis will best explain the phenomena of our own case.

The prognosis, save in syphilitic disease, is invariably unfavorable.

16 Laflin Street.

Dietary of Bright's Disease.—Dr. Fothergill gives the following. Breakfast: Oatmeal- or hominy-porridge, hominy-fritters, followed by a little fish with plenty of butter to it, or a slice of fat bacon or pork. Fat, fish, and farinaceous matters. Hominy and fat pork for the less affluent. Lunch or supper: Mashed potatoes well buttered. Other vegetables well buttered. A milk pudding made without an egg. Biscuits of various kinds, and butter, with a nip of rich cheese. Dinner: Soup containing plenty of vegetable matter, broken biscuit, or sago or vermicelli. Cream, in lieu of so much strong stock, should lurk in the soup-tureen, especially in white soup. This should be followed by fish in some form; a course of vegetables, as stewed celery, chopped carrots, a boiled onion, leeks, nicely prepared potatoes, as "browned potatoes" *à la* Marion Harland, asparagus, or "scalloped tomatoes," and corn or "boiled corn." Then should follow apple-bread pudding, Maud's pudding, bread-and-raisin pudding, and, if the digestion can be trusted, roly-poly pudding, sweet pudding, and fruit pies. Stewed fruit with creeled rice, rice milk or other milk pudding is good, or, better still, cream. Then comes the biscuit or crackers and butter. Dessert, with its many fruits, should never be omitted.

Clinical Department.

A VESICAL CALCULUS WITH AN UNUSUAL NUCLEUS.

By LEWIS W. ROSE, M.D.,

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John B——, aged fifty-eight, was admitted to hospital suffering from urethral stricture and chronic cystitis. The stricture was cured by the introduction of sounds, and the urethra dilated so that a No. 19 English is readily passed. A stone having been detected, on November 9th a drachm of four per cent. solution of cocaine was injected deep into the urethra, and a Bigelow lithotrite passed into the bladder, by Dr. McNett. He seized a mass about one inch in diameter, and crushed. Much difficulty was experienced in withdrawing the instrument. After half an hour of careful and patient manipulation a leather shoestring, ten inches in length, was extracted, with but little discomfort to the patient. The string was massed between the blades of the lithotrite, and incrusted with phosphatic deposit. The patient denies any knowledge of how the string came into the bladder. He always enjoyed having sounds passed, and several times experienced sexual excitement during their introduction. At present he is progressing favorably.

A SIGN OF LIVE BIRTH IN CERTAIN CASES OF SUSPECTED CHILD-MURDER.

By F. W. HIGGINS, M.D.,

Cortland, N. Y.

It is well known that one of the most difficult questions which the medical jurist is called upon to decide is that of live birth where foul play is suspected. The hydrostatic test is about the only one which is at all conclusive. By this test, properly performed, one may quite positively affirm whether respiration has or has not taken place. But while killing the child in utero is criminal, and killing it after birth is murder, by a strange freak there is no punishment if the child be killed before it has been completely born, even after respiration has been fully performed. Nor does there seem to be any test given, by any authority, by which one may determine whether the birth were complete when death was inflicted. If I am not mistaken there are occasionally cases like the following, in which there is an additional important sign that may be detected: On May 21, 1887, I assisted Coroner George D. Bradford in an examination of an infant which collateral evidence showed was strangled at birth. The choking caused death, not so much by suffocation as by compression of the jugulars and hemorrhage at the base of the brain, and also by the condition found in the heart. The cord was cut off close to the body. Both cavities of the heart were found filled with dark, *frothy* blood. The conclusion arrived at was that compression had lessened the pulmonary circulation just as it was being established. The heart, still beating and unsupplied with blood, had *sucked* in air through the divided umbilical vein. Evidently this could have happened only after the body had come into the world and the cord, the last bond to the mother, had been severed.

A CASE OF ACONITE-POISONING—RECOVERY.

Dr S. Barnett, of New York, sends us the following:

"On November 13, 1887, at 5 P.M., I was called in haste to see E. L——, female, aged fifteen. Half an hour prior to my arrival the patient had by accident taken about half an ounce of tincture of aconite root. She was then lying on her back, conscious, with pale hands; the feet and legs were cold, the eyes were open, and the

pupils widely dilated; the radial pulse was imperceptible, and respiration was slowed. The girl was anxious and restless; she had some pricking in the lips and throat, and there was also emesis, which became quite copious later—not necessitating the administration of apomorphine, the action of which, moreover, I feared on account of the weak heart. The patient had for three years been suffering from interstitial nephritis.

"*Treatment.*—Hypodermatic injections of brandy, brandy internally, artificial heat to legs and feet, internal administration of about a quart of cold black coffee, head lowered, and feet raised. Under this treatment, in a quarter of an hour the patient began to rally; the pulse became perceptible, but was still thready, small, compressible, and intermittent.

"Paræsthesiæ were now developed. There were pricking in, and contraction of, the fingers and arm, of the toes and leg, of the left side. These caused the girl to cry out bitterly. Fingers were strongly flexed upon the palm, toes flexed, and leg was strongly bent on thigh. Vigorous massage, with the aid of brandy, over these parts, in the direction of sensory nerve-filaments, and of return circulation, quickly dissipated them. They persisted somewhat longer in the fingers than elsewhere. Later the patient had some pricking or "jumping" in her left side, which quickly disappeared.

"At 5.45 P.M. the condition of the pulse was anything but reassuring; it was extremely weak and intermittent. I resorted to several more injections of brandy and ether, and to the internal administration of brandy, and artificial heat to the feet and legs was kept up. Pulse would remain fairly good for from fifteen to twenty minutes, and then would perceptibly weaken. Still the patient was now materially improving. At six o'clock the girl was slightly delirious, having hallucinations of various kinds—she saw a man with big eyes, etc., and talked of persons deceased; would cry bitterly, and then laugh and pertly toss her head; would at other times gnash her teeth and struggle furiously, requiring two persons to keep her still, and at times it was necessary to prevent her from mutilating her features. She had several attacks which strongly simulated hysteria. She had no convulsion, nor was she ever unconscious. Stimulation still necessary. Fifteen minutes later, after many remedies and devices had been resorted to, the heart began to react strongly and steadily; the face became flushed, the extremities became warm, and the pupils began to contract. The patient was still somewhat delirious and very thirsty.

"At 7 P.M. the respirations were normal; surface-temperature normal; the surface was moist with perspiration, the pupils were contracting, the pulse was 88, and the patient was resting quietly."

FRAGILITY OF THE UMBILICAL CORD.

Dr. Julian La Pierre, of Norwich, Conn., reports the following case: "A few weeks since, in the absence of the family physician, I was called to attend a case of confinement. The presentation was an O. P., and of course the labor was of necessity slow and tedious. Before the termination of the case the physician returned, and very kindly came to my relief. As the pelvis was roomy, the child but medium-sized, and the mother strong, it was not deemed necessary to give any instrumental assistance. Soon after the doctor's arrival the head escaped from the vulva, and as it did so it became apparent that the cord was wound two or three times about the child's neck. Dr. —— at once proceeded to reduce the dislocation, and as he lifted one of the folds over the occiput the cord parted; he then quickly delivered the body, when it was discovered that the cord had separated by a diagonal fracture about one inch in length, and located between two and three inches from the umbilical extremity. The accident in no way proved detrimental to child or mother. I am confident that no undue force was used in removing the coil, and the cord and placenta were to all appearances normal, yet I regret that it did not occur to either the doctor or myself to examine more particularly and test experimentally the strength of the remaining fragment of cord. I have often noted in my own mind the remarkable uniformity exhibited in the brute creation by the parting of the cord near the umbilical extremity. The latter fact, coupled with the above experience, leads me to believe 'that the umbilical cord is frangible,' and furthermore, to entertain the query whether or not there is stay of development, fatty degeneration, or physiological absorption of the fœtal end of the cord during the last weeks of life *in utero*. We can hardly suppose our first mothers to have been provided with shears."

RUPTURE OF THE UMBILICAL CORD.

Dr. G. W. Squires, of East Avon, N. Y., writes: "I was hastily summoned to visit a woman, and upon arriving at the bedside was told by the husband that the child had been born the night before, but that the placenta had not come away. He stated that when making slight traction on the cord it broke, but that there had been scarcely any hemorrhage. The woman stated that she had had quite severe after-pains, which soon quieted down and she slept well all night. The uterus had expelled the placenta into the vagina, where it had remained until morning. It was easily and quickly dislodged. The cord had separated near the placenta. It was very white and of a fragile consistency, requiring but slight force to break it."

EPISTAXIS AND THE LIVER.

Dr. Harris Fisher, of Eastman, Ga., referring to a recent editorial notice concerning the causal relationship between nosebleed and hepatic troubles, reports a case from his practice. The patient was in the fourth week of typhoid fever, and was suffering from repeated attacks of epistaxis. Ergotine, gallic acid, hot water, cold water, ice, tannic acid, subsulphate of iron, veratrum, and morphine, and, finally, plugging of the posterior nares, had all been tried, with but slight and temporary benefit. The writer then determined to try the effects of a blister over the hepatic region, but on arriving at the bedside found that the hemorrhage had ceased. On inquiry he learned that Dr. Harrison had been called by the family to meet him, but as Dr. Fisher failed to arrive at the usual time, had ordered a mixture of oil of turpentine and lard to be applied to the abdomen, along with hot poultices. This prescription had been energetically carried out, with the result of producing a very decided degree of counter-irritation. In three hours the hemorrhage from the nose had ceased, and did not return.

FRACTURE OF THE COCCYX AND PASSAGE OF THE SEGMENT PER ANUM.

Dr. W. J. Jolly, of Waldo, Fla., reports the following case: "I was called to see Mrs. M——, November 1, 1887, primiparæ, aged twenty-one, who was in labor. Nothing unusual occurred until the head pressed against the coccyx, which did not yield. I applied the forceps, and delivered the woman without any trouble or laceration of perineum. Immediately after delivery she suffered intense pain in the region of the coccyx, for which I gave an opiate. On examination I found some displacement of the coccyx, which I corrected, supposing the bone to be fractured. The opiate soon relieved the pain, and the patient did not suffer any more until the ninth day, except that there was some tenderness in this region. She had some slight pain on that day; on the tenth she passed a bone per anum and sent it to me, stating that she thought she had passed a joint of her backbone. Upon examination I found it to be the lower segment of the coccyx. The woman has had no trouble since."

Progress of Medical Science.

Pott's Fracture.—In a paper on this subject Mr. Robert Jones states that, since the original description given by Pott, a hundred years ago, no great advance has been made either in the anatomy or treatment of the fracture associated with his name. The clinical signs of this lesion are, briefly, a depression over the side of injury, eversion of the foot, a prominent inner malleolus, and a swelling round the ankle-joint. The fracture takes place usually about two inches above the malleolus, the deltoid ligament being often ruptured, and the astragalus separated from the tibia. Dislocation of the foot outward, it is held, is not an essential and absolutely diagnostic symptom, as a slight outward displacement may occur on separation of the tibia from the fibula, without fracture of this latter bone, and outward displacement of the astragalus. Reference is made to two cases in which the fibula was certainly intact, although there was marked simulation of Pott's fracture. The precise spot of fracture, which varies in different cases to the extent of three or four inches, is often obscured by rigidity, due to swelling. The patient, guided by pain, is often able to place his finger on the exact point. On pressure upon the upper third of the fibula the patient is generally able to refer pain to the seat of fracture. As a rule, the surgeon can only guess at the direction of the fracture. Prominence of the inner malleolus, though always present, is not essentially diagnostic. It occurs in certain fractures of the lower end of the tibia, and in sprains of the ankle where laceration of the deltoid ligament has taken place, a tense swelling is often found sufficiently deceptive to lead to a possible error in diagnosis. It is very often difficult to make out crepitus in cases of this fracture. Eversion of the foot usually fails to cause this symptom. It is more likely to be produced by inversion, but the movement best calculated to elicit it consists in combined flexion and inversion. In twenty-nine out of seventy cases the lesion was complicated by fracture of the inner malleolus. The deformity in cases of Pott's fracture occurs and is intensified, Mr. Jones holds, through the continuation of the force which was employed upon the fracture. A foot is fractured by inversion, and then the deformity is generally inversion. Patients do not usually realize the extent of the injury, and continue to walk until a trivial becomes a marked deformity. Fracture due to direct force is less prone to luxation. In the treatment of Pott's fracture the reduction of deformity is accomplished the more readily in proportion to the absence of delay. The earliest chance should be seized of replacing the astragaloid luxation. The attempt at reduction should be long continued. If the reduction be completely effected there is no subsequent tendency to recurrence of the deformity, and, therefore, no necessity to employ splints devised to counteract special displacement. Lest, however, a little deformity remain, it is well to apply a couple of side-splints and a posterior splint, the side-splints being furnished with pads suitably arranged to minimize deformity. When the splints (which in Mr. Jones' practice are made of malleable sheet-iron) have been adjusted, the knee should be flexed and the leg be made to rest on its outer surface; the foot be maintained at a right angle to the leg. The injured limb should be kept in splints for fully five weeks. In conclusion, Mr. Jones offers a few suggestions regarding the treatment of cases in which, long after active treatment of Pott's fracture, the patients complain of pain, deformity, or inability to walk.—*The London Medical Record.*

Perineal Hernia.—The following conclusions are given by Dr. Ebner on the origin and nature of perineal hernia. Perineal hernia is of congenital origin. It cannot be produced by injury. The space between the bladder and rectum, in the female between the rectum and uterus, is deeper and more marked in embryonic than in later life. Persistence of this space establishes a tendency to the formation of perineal hernia. The depth of this space varies in different embryos of the same age. The contents of the hernia at first descend in the middle line, but as they become more superficial they deviate to the right or left side of the perineum. Perineal hernia usually makes its way between two clefts existing between the levator ani and ischio-coccygeus muscles, or between the latter muscle and the coccygeus of Henle. These clefts may be demonstrated on the human cadaver. All ruptures that appear at the lower aperture of the pelvis are to be regarded as varieties of the same kind of hernia. A classification of perineal ruptures, according to their position with regard to the transverse muscle, is impracticable. The perineal hernia of the dog consists in a protrusion without any sac of the rectum through a wide cleft in the levator ani. A similar protrusion may occur in man, and be acquired as a result of habitual constipation.—*Deutsche Zeitschrift für Chirurgie.*

Disease of the Hair-bulbs and Blepharitis.—Dr. Roeder, in 1861, while studying skin diseases under Hebra, recognized the identity of blepharitis and sycosis, and has adopted the same treatment—epilation—for both affections with good results (*The London Medical Record*). From the examination of a large number of cases he has come to the conclusion that the cause of the blepharitis is the inoculation of the hair-follicle with purulent secretion from the conjunctival or lachrymal sac. In the early stage of stenosis of the lachrymal duct, before there is any blennorrhœa of the sac, one often sees tears accumulate in the lower cul-de-sac. As long as there is no pus, the cilia remain healthy; but, as soon as there is the slightest admixture of pus, blepharitis makes its appearance on the under and corresponding part of the upper lid. The writer considers this so constant that he would diagnose the presence of lachrymal obstruction and blennorrhœa of the sac. The writer explains the action of the pus thus: As long as the fluid in the cul-de-sac which bathes the openings of the hair-follicles consists simply of tears, the sebaceous secretion from the glands of the hair-follicles prevents it from entering the latter, but the admixture of alkaline pus allows a fatty emulsion to form, which readily enters the follicles. The hair then swells up by imbibition of moisture, thus closing the orifice of the follicle, and causing distention of the latter. If the pus escape through the surface it appears as little crusts between the lashes, often accompanied by little, warty prominences. In slight cases the follicle again embraces the hair, the glands resume their function and prevent the further entrance of tears, and the normal condition is restored. But it is a necessary condition that the purulent secretion from the conjunctival or lachrymal sac should first cease. Usually recovery does not take place so readily. The hair is at first retained in the follicle by the swelling it has undergone. The whole process may be repeated thirty times or more. Infection of the hair-follicle, throwing off of the old, and growth of the new hair. But in course of time cicatricial contraction of the whole follicle takes place, so that the young hairs, meeting with an obstacle to their exit, become curved. If the obliteration of the follicle reaches a still higher stage, the dead hair may be retained and acts as a foreign body. The writer believes that a cure can only take place when all the affected lashes have been shed or removed; but, if the new hairs are not also to become affected, it is absolutely essential that the conjunctival or lachrymal affection should be cured; as long as this is not the case, the new hairs must be removed as they appear. The writer uses a four per cent. solution of boracic acid as a lotion. The erysipelatous swelling of the lid, which is so frequent an accompaniment of this affection, also disappears under this treatment, which the writer has found usually efficacious in sycosis of other parts.

Salicylic Acid in Food and Drink.—The effect of this acid upon health has been thoroughly investigated in France, and its use in foods and drinks has been prohibited in that country since 1881. Professor Bartley, of the Long Island College Hospital, has recently examined this question with great care. In the use of salicylic acid in the treatment of rheumatism, clinical observation shows that it cannot be continued for a long period of time without impairing digestion, and in its elimination it passes out undecomposed through the kidneys. It has been recognized that under these circumstances it not only irritates but inflames these organs. In preserved food we have to do with smaller quantities of the acid, as a rule; though that this is not always the case is shown by Professor Bartley's figures. He says: "The quantity of salicylic acid usually employed in wines is from six to eight grains per gallon, and in beer from twelve to fifteen grains per gallon; or, in the case of beer, from one to one and a half grain to the glass. As many men habitually drink twenty-five glasses during the day, they take from twenty-five to thirty-seven grains of the acid per day. The medicinal dose is usually stated to be from ten to twenty grains." He also calls attention to the fact that nursing mothers are frequently recommended to drink ale, porter, or beer, with the idea that it stimulates the mammary gland, and mentions the additional fact that temporary renal disease is frequent during the first weeks of lactation. In conclusion, Professor Bartley says: "I should state that another serious objection to the use of salicylic acid is the fact that many samples found in the market contain more or less carbolic acid. It is now almost entirely manufactured from this very poisonous substance, and, unless great care is exercised, an appreciable amount of it is left in the finished product. Indeed, some writers think that some of the fatal accidents recorded from the use of salicylic acid have been due to the presence in it of carbolic acid. If the use of this acid is to be countenanced, impure articles will be used, and greater damage may be done than could come from the pure article. From a careful consideration of the whole subject, I am compelled to regard the use of salicylic acid in foods and drinks, and especially in lager beer, as at least open to serious objections. If it be harmless to healthy adults, the evidence of its deleterious action upon the aged and certain other classes of the community is too strong to be disregarded by sanitary authorities, and should prohibit its use for this purpose."—*Science.*

Antagonism among Bacteria.—Dr. Garré has been examining the mutual relations of micro-organisms, and has found that in cultivation there is a sharp antagonism among some, probably through their excretions. For instance, some aërobes, which spread only on the surface of gelatine, in a short time so alter the nutritive substratum that certain other micro-organisms cannot exist in it. Various observations made in the cultivation of cholera and typhoid bacilli, and experiments on the multiplication of pathogenic bacteria in water have shown that there is probably antagonism between the pathogenic species and ordinary harmless saprophytes. To elucidate this, Garré adduced the following facts: A non-liquefying cultivation was planted on the surface of meat-peptone gelatine. After complete development, it was removed with the usual sterilized platinum wire. Other micro-organisms were then planted on the remaining sterilized medium. A comparison of the retarded growth with another cultivation gave the degree of antagonism between the two species. With liquefying species the nourishing substratum was filtered through potter's earth, and gelatine added afterward. In this way the mutual relations of a number of pathogenic and non-pathogenic species were tested. One species proved to be pre-eminently antagonistic—viz., the *bacillus fluorescens putridus* (Flügge). It excretes specific substances, the oxidation-products of which tinge the gelatine with a greenish color, and hinder the development of the one set of species, while it has no effect whatever on the other set. If such cultivations were removed from the gelatine in the manner described on the third or fourth day, and the staphylococcus pyogenes aureus inoculated on this medium, no development took place, nor did the typhoid bacillus, the pneumonia bacillus, and others develop. The Asiatic cholera bacillus and the bacillus mycoides developed but slowly, but the bacillus anthracis had a luxuriant growth. It appears, therefore, that the bacillus fluorescens putridus is a pronounced enemy of the pneumonia and typhoid bacilli, and by its implantation the nutritive substratum is protected against them. The reverse, however, does not hold good. There are also so-called symbiotic bacteria that flourish side by side, and some even, which Garré terms metabiotic bacteria, whose existence depends on the presence of others. He asserts that these facts are not confined to experiments in test-tubes. He points to the strife between saprophytes and cholera bacilli in ichor and canal water. The cholera bacilli always succumb. Similar conditions may occur in the intestine, and may in some cases lead to the erroneous supposition of natural indisposition to cholera. The torpid development of periostitis of the jaw, when the staphylococcus must come into conflict with other species, is explained by Garré on the supposition of such antagonism. He presents the following points as regards immunity: Immunity from a certain disease may be caused not only by micro-organisms of like species (vaccination), but perhaps by entirely different microbes. Antagonism quickly produced in the living body may favorably affect infectious diseases already existing.—*Deutsche Medicinische Wochenschrift.*

Spontaneous Displacement of the Lachrymal Gland.—Dr. Lyon reports a curious case of spontaneous displacement of the lachrymal gland. A man, aged sixty-three, applied for advice, as he was suffering from ptosis and a tumor situated in the right upper eyelid, which by its weight caused the ptosis. The skin over the tumor, though slightly congested, was not œdematous, and was freely movable. The patient stated that four months previously he noticed a swelling about the size of a bean in the upper eyelid, giving no pain, but causing inconvenience from the ptosis it caused. It was also noticed that the right eye was more watery than the left, and that the swelling was larger in the morning, becoming rather smaller during the day. The tumor was perfectly painless, even on pressure; the neighboring lymphatic glands were not enlarged, and the patient seemed in perfect health. Under these circumstances the diagnosis was made of displaced and chronically enlarged lachrymal gland. An incision was made over the tumor in the long axis of the upper lid, and the gland, which was lying immediately under the skin, was turned out. The accessory portion of the gland was found in its usual position, and was left undisturbed. The ptosis soon improved, and the patient made a good recovery.—*The Edinburgh Medical Journal.*

Solutions for Washing Out the Bladder.—Ultzmann, of Vienna, uses the following with good results: For an irritable bladder lukewarm water with a little tincture of opium; or solution of cocaine, $\frac{1}{4}$ per cent.; or resorcin, $\frac{1}{2}$ per cent.; or carbolic acid, $\frac{1}{6}$ per cent. When urine decomposes in the bladder, solutions of potassium permanganate, $\frac{1}{10}$ per cent., or three drops of amyl nitrite to a pint of water. For phosphaturia, $\frac{1}{10}$ per cent. salicylic acid.—*Centralblatt fur Chirurgie.*

Pernicious Anæmia, so called, may serve as another cause of gall-stones, according to Georgi and Professor Ewald.

St. George's Hospital, London, has received a bequest of $500,000.

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TYPHOID FEVER AS A CAUSE OF CARDIAC AND ARTERIAL DISEASE.

WHILE it is recognized that any of the essential fevers may cause an endocarditis or arteritis, typhoid fever has generally been thought to have but little influence in this direction, especially as compared with rheumatism, measles, and scarlet fever. Three years ago Dr. Barié (*Rev. de Médecine*, January and February, 1884) claimed that typhoid fever frequently caused inflammation of the arteries. In such cases gangrene results in one form of the inflammation, which is an obliterating arteritis, while in the other form, in which there is an acute parietal arteritis, recovery always occurs.

Further studies of the relations of typhoid fever to the vascular apparatus have been lately made by Landouzy and Siredey (*Revue de Médecine*, September and November, 1887), and these gentlemen claim to have established some very important facts with regard to the matter in question.

This fever, they say, may lead to acute cardiac changes, which produce the collapse or syncope sometimes seen in the later or convalescent stages of the disease. But, furthermore, typhoid fever often leads to the slow and insidious development of chronic endocardiac and arterial disease. The authors to whom we have referred assert that after acute rheumatic fever, typhoid fever, of all infectious maladies, is the one which oftenest leads to the development of angio-cardiac disease.

The poison of typhoid fever sets up a tendency to a progressive obliterating endarteritis. This, as years go by, affects the nutrition of the heart, arterial walls, and viscera, and there finally appear, some months, or oftener some years, after the fever, hypertrophy of the heart, aortic dilatation, tense arteries, visceral scleroses, etc., with various functional disorders, such as palpitations, angina, and abnormal *bruits*. The man who has typhoid at twenty will thus understand why he comes to have cardiac disease at twenty-five, or a nephritis at thirty, or a hepatitis at thirty-five. And the prevention of typhoid fever will, according to our authors, greatly lessen the number of sufferers from angio-cardiac disorders.

The views we have just described are unfolded by MM. Landouzy and Siredey at great length and detail. Fifteen observations are recorded, in some of which the development of the pathological process was carefully watched for a course of years. It will require much further work, however, to convince pathologists of the truth of the position taken. Typhoid fever is a disease of the younger periods of life, the angiopathies and scleroses belong to a much later stage, and the attempt to establish causal relations between the two is most difficult.

THE TEACHING OF MEDICAL ETHICS IN MEDICAL COLLEGES.

WE have had occasion at various periods to deplore the complete absence of ethical instruction in medical colleges. By ethical instruction we mean, not especially the rules of right conduct as regards the ordinary relations of life, the need of honesty, purity, generosity, and the other major virtues; but the young graduate needs to know more than he ordinarily does concerning technical ethics, the established courtesies, and, in general, the minor morals and manners of professional life. Few of these points can be learned in any written code; and, indeed, no fixed code could ever tell, with the force and impressiveness such as a teacher might give, the details to which we refer. Much of professional success, and all of professional good-will, depend upon the exhibition of proper tact, forbearance, good taste, and good sense toward patients and colleagues. And many young men early get in trouble with their seniors because they are not aware of the imperative necessity of exercising these qualities.

Some of the things in which mistakes are ignorantly made are in connection with consultations, and the etiquette connected with these; or regarding the treatment of patients previously under the care of other physicians. Some useful injunctions might be given as to the evil practice of talking against a brother practitioner's methods of treatment, the malicious exploiting of his failures, and in general the use of uncharitable inuendoes. It is sadly true that in many of the smaller towns the medical men live in unpleasant, even bitter, antagonism with each other, with the result of throwing discredit on the profession and impairing the usefulness and progress of our art. Doctors need to be inoculated with a great deal more of the gospel of charity toward each other, and a few lectures for promoting this would be very useful. But besides this, there are many other details, which seem somewhat trivial but which could be wisely discussed; such, for example, as the limits of legitimate advertising, the printing of cards, and the character which good taste should prescribe for the signs. The exigencies of modern pharmaceutical enterprise call also for some words of counsel regarding proprietary and patent medicines, and fancy "foods" of all kinds. Many physicians ignorantly use the former articles, at least when they might much better stick to the Pharmacopœia.

We have shown that there is a large field for didactic instruction outside the ordinary course of lectures, and we trust that our medical colleges will inaugurate a movement in the direction we have suggested.

A NEW METHOD OF EMPLOYING IODINE FOR ANTISEPTIC PURPOSES.

IT cannot escape the attention of the observant that antisepsis in surgery has come to stay. But what may be termed "antiseptic medicine" has not hitherto re

ceived a corresponding amount of attention from the medical world. That the ultimate aim of medicine is prevention will be conceded by most physicians, and there is, no doubt, a growing confidence in the value of antiseptics as prophylactics, and even as curative agents. Drs. Casson and Brownen (*The Medical Press*) emphasize the fact, familiar to many of us, that in the treatment of infectious diseases the remedies employed for the protection of attendants, or for the prevention of the spread of infection, may produce satisfactory changes in the condition of the patients themselves.

It has occurred to these observers that iodine, slowly evaporated, might prove a useful adjunct to other means of treatment in dealing with this class of affections. They cite the circumstance that, according to Koch, the only *effective* disinfectants, besides chlorine, bromine, and iodine, are corrosive sublimate, osmic acid, and potassic permanganate. They necessarily exclude the mercurial sublimate from consideration. "Valuable, perhaps the most valuable, as it is among antiseptics for local surgical application, its highly poisonous character forbids its employment as a general medicinal disinfectant." Osmic acid and bromine are too expensive for general use, and the offensive odor of the latter would also militate against its employment. Chlorine has the same objections from the disagreeable pungency of its vapor. The potassic permanganate is also comparatively valueless unless employed in considerable strength. Iodine, however, presents none of these disadvantages. It has long been recognized by all authorities as a true germicide disinfectant.

But they point out that its employment as a general disinfectant has been greatly lessened, owing to the difficulties experienced in its regular and gradual vaporization. Combined, however, with salicylic acid, they find that "it can be readily and permanently incorporated with fats, paraffins, or wax, and when candles made from these hydrocarbons thus treated are ignited, iodine and phenol are evolved in a gaseous vaporized form. The phenol is produced by the decomposition of the salicylic acid, and its amount varies according to the temperature or rate of the combustion. Its presence may be verified by passing the vapors of the combustion through dilute nitric acid, and thus producing trinitrophenol or picric acid. But where the combustion is rapid and complete the phenol is entirely destroyed, as all other *organic* materials, such as eucalyptus, which has been suggested for somewhat similar treatment, must necessarily be. It is not so, however, with regard to the iodine. Being *inorganic*, it is wholly volatilized and thrown out as vapor into the surrounding atmosphere, but it is in no sense destroyed. Its presence in the gaseous products of the combustion may be demonstrated by passing them through a solution of starch, or along a tube moistened with starch mucilage. In either case the iodide of starch is speedily produced, and may be recognized by the usual tests. A very faint odor of iodine may be detected when these candles have been burnt in quantity in a close atmosphere; but this is never unpleasant, or in the least degree irritable to breathe; indeed, in several cases of asthma, spasmodic cough, and 'hay catarrh,' the patients have experienced great relief from the iodine vapor thus liberated. As a deodorizer its action is most marked; the smell of tobacco smoke is quickly and entirely destroyed by the combustion of these candles in the smoking-room. The air of stuffy rooms and smelling closets may be rapidly purified by the same means. The odor of sulphuretted hydrogen and of ammoniacal air from a close stable have been very speedily and completely discharged by contact with the same vapor."

It is, of course, too soon to say positively that this method will prove of value when tested on a large scale, but it is suggestive enough to deserve a trial, and this will doubtless be given it by those who are in a position to observe numerous cases of infectious maladies.

News of the Week.

A Prize for Essay on Anthropology.—The President of the New York Academy of Anthropology announces the following prize for original essays on any subject within the domain of Anthropology: For the best essay—Fifty Dollars. The prize to be awarded by a commission, to be named by the President of the Society, which will be hereafter announced. Competition will be limited to active, honorary, and corresponding members of the Society at the time the award is made. It is intended to make this prize open to all students of Anthropology throughout the world, as all competitors may apply for membership in the Society, which now has active members in most of the American States, in Canada, and in many foreign countries. The papers must be sent to the President of the Academy, Edward C. Mann, M.D., 128 Park Place, Brooklyn, N. Y., on or before April 1, 1888. The name of the author of any paper will not be communicated to the Committee awarding the prize. All persons desiring to compete for this prize will please forward their names and address to the President of the New York Academy of Anthropology. In case the essay is written in a foreign tongue, it should be accompanied by a translation into the English language. Every essay must have a motto, and in a sealed envelope must be written the name and P. O. address of the author, with the motto of the essay also. It is hoped that all our members, whether active, honorary, or corresponding, will take an interest in this effort to stimulate scientific inquiry and research in questions relating to Anthropology. Scientific societies are invited to lay this announcement before their members, and the co-operation of the legal, medical, and public press is respectfully solicited in bringing the subject to public attention.

Thirty-five New Dispensaries for New York.—An effort is on foot to organize a new system of dispensaries throughout the city on the provident basis. We have already referred to the opening of one establishment. But it is proposed to start thirty-four others. We trust the managers of this enterprise will investigate the subject of the medical charities of this city carefully before undertaking their proposed scheme. The so-called provident-dispensary system has not gained unqualified approval in England; and in this city it has been used as a shield for quackery.

Toronto is to have a new hospital costing $150,000.

Typhoid Fever recently developed at the Norristown Insane Asylum. Like certain other medicinal measures, it killed some, but it also cured several patients who had suffered for some time from insanity. Erysipelas has been known to do the same thing.

Our Sympathies are instantly touched by the title of *The Medical Waif*, a new monthly journal, published at Lafayette, Ind., and devoted to Diseases of Children, Women, the Rectum, and Anus. Exactly why women and children should be thus nosologically associated with the rectum and anus we hardly know, since these parts of the anatomy belong equally to man. But *The Waif* appears to be a journal of good typography and positive convictions, and it will doubtless explain itself in time.

A New Crematory has just been completed at Detroit, Mich.

St. Francis' Hospital, New York.—Dr. George M. Edebohls has been appointed gynecologist in place of Dr. G. S. Winston, resigned.

Dr. B. A. Watson has resigned his position as Visiting Surgeon to St. Francis' Hospital, Jersey City. We are requested to state that no further changes have been made by the board since the appointment of Dr. McGill.

The Effects of High Atmospheric Pressure.—Dr. Samuel Sexton writes: "Will you kindly afford space in the columns of The Medical Record for the correction of a mistake at the beginning of my article on 'The Effect of High Atmospheric Pressure on the Ear,' in your last issue? It says: 'Travellers rapidly transported to high altitudes often experience unpleasant symptoms from this cause' (high pressure). The writer had intended to cite this as an example of one of the effects of the opposite condition—rarefaction—where distention within the drum of the ear may take place in consequence of rarefaction without, causing distress until the equilibrium is again established."

The Number of Medical Women in New York City is said to be about one hundred and seventy.

The Next Middleton Goldsmith Lectures of the New York Pathological Society will be delivered by Dr. Da Costa, of Philadelphia.

Gonorrhœa and Sterility.—Dr. William Goodell says: "Personally I cannot recall a case in which a woman bore a child after suffering with gonorrhœa. Strumpets rarely become pregnant, for most of them have had this affection."

Carbolic Acid in Epithelioma.—Professor Bartholow used for a long time a five per cent. solution of carbolic acid in a case of *epithelioma*, injected hypodermatically two or three times a week; not curing, but preventing further growth after two surgical operations had failed to remove the trouble.

The Sänger Cæsarean Operation has now (*Medical News*) been performed fifty times, chiefly by continental surgeons, with the result of saving forty women and forty-eight children. With this record the operation is to be regarded as a most brilliant one, and the *News* asserts that when promptly conducted it is safer than craniotomy, where the true conjugate of the pelvis is reduced to two and a half inches.

The Homœopathic College of this City has purchased a plot of ground on the Eastern Boulevard, near Sixty-fourth Street, where it will erect a college and hospital.

The Army Medical Museum has been moved from the old Ford's Theatre to a fire-proof building near the Smithsonian Institution.

Mr. Clay and Chian Turpentine.—Mr. Clay recorded last year the case of a gentleman whom two of the most experienced surgeons in London had pronounced to be the subject of advanced epithelioma of the tongue. Under the Chian-turpentine treatment he was cured. And last month *The Lancet* published a further short paper, containing no less than four cases in which the diagnosis of cancer was made by other surgeons, in one case confirmed by microscopic examination of a growth removed. All of these cases were first improved, and then cured, by Mr. Clay's treatment.

The Cancer Bacillus alleged to have been discovered by Dr. Scheuerlen, of Berlin, does not seem, on further investigation, to be a genuine specific bacillus. Dr. Scheuerlen's conclusions are as follows: (1) There exists always in cancerous tumors a bacillus which can be isolated; (2) the spores of this bacillus are met with in all microscopical preparations of cancerous tissues; (3) inoculations upon animals with pure cultures of this bacillus always give rise to the formation of cancerous tumors; (4) there is, consequently, a causal relation between this bacillus and cancer. The bacillus in question is from 1.5 to 2.5μ long and 0.5μ wide. The spores are all of the same size, 1.5μ by 0.8μ, of ovoid shape, slightly green, and shining. The bacilli move like the weight of a pendulum round a centre.

It is said (*Peoria Medical Monthly*) that the late Professor Moses Gunn left a fortune of $50,000 as the result of a long, laborious, and successful professional career.

The New York Eye and Ear Infirmary is trying to get a new building, and already, we learn, $60,000 have been subscribed.

Lanolin is said to remove wrinkles when rubbed systematically upon the skin.

Seasonal Changes in Body-weight.—In the annual report of the health of the Japanese Navy is the record of weight measurements of the sailors, taken monthly for three successive years. The average weight is about one hundred and twenty-two pounds, and there is a fall in weight during the autumn and an increase in the spring, when the maximum is reached.

Bequests to Medical Charities.—By the will of Mrs. V. B. Humphrey, of Norfolk, Conn., the Bellevue Hospital Training-School gets $6,000; Brooklyn City Hospital, $6,000; Connecticut Training School for Nurses, $6,000; and Long Island College Hospital, $10,000.

The Virginia Medical Registration Law.—It is proposed to amend this law so that it will require candidates to appear for examination before the board in session, instead of before three individual examiners as now allowed.

Reports of Societies.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN PRACTICE OF MEDICINE.

Stated Meeting, November 15, 1887.

C. L. Dana, M.D., Chairman.

Dr. J. Blake White reported a case of

ICTERUS NEONATORUM,

which he saw with Dr. Henry Moffatt, of Yonkers. Up to the sixth day of life the baby nursed, and nothing unusual was noticed except that the icterus increased. On the seventh day it had a slight convulsion. The icterus increased and convulsions continued until the twelfth day, when the child died.

The autopsy revealed large liver, normal appearance of the hepatic ducts, constriction of the cystic duct, and the common duct was impervious throughout its entire length. The left lung was collapsed entirely; the right was fully expanded.

Dr. White then gave a *résumé* of the reported cases of malformations of the liver, ducts, and gall-bladder.

Dr. H. N. Heineman then read a paper with the title,

WHAT CONSTITUTES A CARDIAC MURMUR?

the object of which was to provoke discussion on the question, What constitutes a cardiac murmur, and what does it signify? that would lead to a narrowing of the data upon which organic disease of the heart should be diagnosticated. A murmur was defined as an adventitious or abnormal sound developed in the heart or blood-vessels. The changes in the heart's normal sounds were those of exaggerated intensity, diminished intensity, and duplication. These changes accompanied not only the normal sounds, but pathological conditions of the heart, and almost imperceptibly one might be assumed for the other.

The author of the paper enumerated the conditions in which reduplication of the first and of the second sounds occurred. With regard to hæmic murmurs he believed, contrary to Hayden, that they were heard at the apex as well as at the base. Then followed a description of the dynamic and the pseudo-murmurs, exo- and endocardial.

Dr. A. L. Loomis said that Dr. Heineman had given a very careful review of the history of the cardiac murmurs, and he had waited patiently for some definite conclusions to which the author of the paper would arrive. It seemed to him that the more one studied cardiac murmurs, the less reliance would be placed upon them as positive indications of any cardiac disease which prejudiced life seriously. He had felt, for a considerable time, that the murmurs spoken of as friction endocardial were not due to friction, but that all cardiac murmurs were vibrating sounds produced within the blood-current. If that explanation was correct, there were many such sounds heard in and about the heart which had but little, if any, pathological significance. He had long been convinced that

THE PRESENCE OF A CARDIAC MURMUR,

in itself, could never be accepted as a positive sign of cardiac disease; for, oftentimes, the most serious lesions at the valvular orifices were not accompanied by cardiac murmurs, and frequently murmurs ceased while the lesions which produced them at one time still existed. The simple fact of the presence of a cardiac murmur told but little, unless the other cardiac conditions were take into account, and the effect which they produced upon the general circulation, or, as Dr. Heineman had said, the clinical history of the case was considered.

Most of the murmurs produced outside of the heart, he had concluded, were cardiac respiratory murmurs. All the true hæmic murmurs were heard

AS OFTEN AT THE APEX AS AT THE BASE,

and the old statement that the anæmic murmur was produced only at the aortic orifice he regarded as faulty.

The great question to be determined was the condition of the cardiac wall, which regulated the amount of cardiac force.

In anæmia the cardiac force was in many cases diminished to such an extent that practically the ventricular walls allowed regurgitation at the mitral orifice. Such murmurs were no more nor less than anæmic, even though they had the characteristics which were signs of mitral regurgitation. Therefore in deciding whether a murmur was due to changes in the blood, it must be decided concerning the power of the heart. With regard to

ORGANIC LESIONS OF THE HEART,

when there was stenois and also changes which permitted regurgitation, the significance of those murmurs was not determined by their point of maximum intensity, or area of diffusion, or by any quality they possessed, but entirely by the amount of cardiac dilatation which might be present, the cardiac hypertrophy that might accompany them, or the absence of hypertrophy and the excess of dilatation. When dilatation had reached the point of producing marked disturbance of the general circulation, the mitral and aortic murmurs might disappear.

Dr. A. H. Smith thought that any one who had watched heart affections for many years, and had had opportunity to observe the results of autopsies would reach the conclusions:

First, that very many decided murmurs had very little anatomical basis; and

Second, that the great variety of changes which might take place would necessarily produce a great variety of sounds; and that it would be almost as impossible to determine what would be the sound corresponding to each lesion as it would be to find two faces exactly alike.

He thought the tendency had been to exaggerate the importance of cardiac murmurs, *per se*. He related an illustrative case, in which there was a loud murmur present when the patient was a young person, yet there was apparent recovery, and life had been already prolonged many years, with the person still in the enjoyment of a fair degree of health. The lesson taught was that

LESS SIGNIFICANCE

was attached to cardiac murmurs than was the custom formerly. The general condition of the patient and the evidence of imperfect circulation were the important aids in forming a prognosis.

An intercurrent disease, such as pneumonia, might render the cardiac disease more prominent, and decide a case unfavorably.

He believed that the presystolic murmur was produced in the interval between the *beginning* of the systole and the *production* of the first sound, and therefore that those murmurs which

END ABRUPTLY WITH THE FIRST SOUND

were systolic and not diastolic.

He had heard the hæmic murmurs more over the body of the ventricle than over either orifice.

Dr. S. S. Burt said that while he so completely accepted what Dr. Loomis had said as to render it nearly unnecessary for him to speak, yet he believed that some cardiac murmurs were so often associated with definite lesions that they were of great assistance in making a diagnosis. Certainly murmurs existed without cardiac disease, and grave cardiac disease might be present and no murmur produced; but the diagnosis should be made upon the history and symptoms, together with the condition of the cardiac muscles. If the murmur was due to vibra-

tion in the blood-current, and the loudness of the murmur depended upon the strength of the cardiac contraction, a loud murmur might indicate a strong heart. He had been accustomed to regard

A DIASTOLIC WHIFF

heard at the middle of the sternum as indicative of serious aortic disease.

There were many cases of anæmia without cardiac murmur. When a murmur was present in such cases it was usually heard at the base, although now and then it was heard at the apex.

Dr. Francis Delafield said that Dr. Heineman's paper had brought out in bold relief the different opinions with regard to cardiac murmurs, and certainly they were things that had suffered somewhat at the hands of their friends. There had been too many descriptions and too many explanations of cardiac murmurs; explanations pushed into attention without any very weighty considerations.

Surely it would be very satisfactory if all could have the same

IDEA AS TO WHAT A CARDIAC MURMUR IS.

It seemed to him that some common understanding should be reached, and the way to arrive at that understanding was not by increasing, but by limiting the number of cardiac murmurs, and being more and more strict as to what shall be called heart-murmurs, independent of lesions. There were three points which were altogether different.

1. It must be determined whether the sound heard could be properly called a murmur independent of heart disease.

2. It must be determined whether or not the person had anatomical disease of the heart.

3. It must be determined what was likely to occur, provided he had anatomical disease of the heart; for it was very well known that anatomical disease of the heart was perfectly well borne, although it was not a good thing to have. While it was too much to hope for that we were likely to give the same interpretation to what was heard, it did seem to him that we might agree, as to what we did hear, as to what should be called a heart-murmur.

Although he could not lay down any data, his own feeling was that the way to solve the problem was to be as strict as possible, and not call any sound a murmur unless it was

A NEW SOUND ADDED TO THE NORMAL SOUNDS.

Dr. Kinnicutt's experience coincided with that of Dr. Loomis with regard to the site of the murmurs of anæmia. He believed they were heard almost as frequently at the apex as over the pulmonary area, the latter being by far the most frequent situation of *basic* hæmic murmurs.

He was convinced that any differential diagnosis between a functional and an organic mitral regurgitant murmur, based upon the dictum laid down in most text-books, that the latter alone was conducted to the axilla and the angle of the scapula, must often be incorrect. The conduction of a mitral regurgitant murmur depended largely upon its intensity. A loud murmur, either functional or organic, would probably be so transmitted; a weak murmur, on the contrary, rarely would be heard in these situations. A loud mitral systolic murmur frequently coexisted with little or no disease of the mitral valve, a weak murmur with the gravest lesion. Dr. Kinnicutt thought that the theoretical considerations in support of the pathology of the præ-systolic mitral murmur, as recently restated by Dr. Dickinson, very convincing.

He asked Dr. Delafield if he had any way of distinguishing between a mitral functional and a mitral organic murmur.

Dr. Delafield knew of no way of distinguishing by the murmur, but was guided altogether by other considerations.

Dr. Jacobi remarked that the credit of the observations of Rosenbach, referred to by Dr. Heineman, should be given to Potin, who, three years ago, fully described these murmurs due to interruption of inspiration. He thought that diagnosis of chronic heart-disease should not be made unless there were changes in the size of the organ, for there were organic sounds which disappeared, and it was well known that children with adventitious cardiac sounds might get rid of their systolic murmur. Such children might reach adult life and do very well. An illustrative case was cited; that of a man, now thirty years of age, who was sometimes inconvenienced by his heart, but was in very good general condition, at this remote period, from his rheumatic endocarditis of childhood.

Dr. Loomis said that one remark made by Dr. Jacobi had brought to mind the observation that children might have valvular lesions accompanied by a murmur, and the murmur grow less and less distinct as adult life was reached, and those subjects would suffer only slightly, if at all, from cardiac symptoms, until the degenerative period of life was reached. But as soon as that period was arrived at, the more serious symptoms developed and their life-record was limited to about that period. He had noticed that fact in quite a number of instances, and it was

A POINT WHICH HE HAD NOT HEARD MENTIONED.

Dr. W. M. Carpenter remarked that a physician who had had a large experience in the practice of medicine in Louisiana had said to him that the prognosis in the cases referred to by Dr. Jacobi and Dr. Loomis, occurring in children, was entirely different from that which he heard while in New York—namely, that these persons succumbed early in life to the cardiac disease. Whether or not climatic conditions influenced the course of the disease he was not prepared to say.

Dr. J. C. Peters had no doubt that many children were frightened to death by physicians. He had become convinced that one who had been as long in the practice of medicine as he had, must unlearn a great many things which were learned in previous years.

Dr. R. C. M. Page was satisfied that almost any heart-murmur might be heard at nearly any point over the chest. Certainly the areas of conduction as laid down in the books were to be taken with some exceptions.

Dr. N. E. Brill spoke of the presence of murmur in chorea without change in the endocardium, and thought such cases could be readily explained by lack of proper nervous supply, the same as excessive muscular exercise, as in college students who induged excessively in athletic sports not infrequently produced functional disturbance of the heart.

Dr. Jacobi thought that Dr. Brill's suggestion was quite correct. In a number of cases of chorea there might be heard a cardiac murmur for half a day, when it would disappear, to return, and, finally, disappear entirely. He had always attributed the murmur in such cases to the fact that the heart got fatigued and contracted irregularly.

Dr. A. H. Smith had frequently been led to ask himself the question whether all cases of heart disease

WHICH OCCUR IN ADVANCED LIFE

were not really revivals of an old condition.

Dr. Loomis referred to the case of a prominent physician who came into his office not long ago and said that he was unable to go upstairs as he had been accustomed to do. On listening to his chest a cardiac murmur was heard, the heart was also dilated, and there was feeble cardiac impulse. The patient said that he had a murmur when young which followed rheumatism, but that he had not experienced any inconvenience with his heart until rather recently.

The Chairman said that one important practical question to be decided was whether these children should be allowed to engage in athletic sports, such as the common sports of school-life and boyhood. So far as his experience went, indulgence in them was beneficial, when regulated by the character of the lesion and the general condition of the patient.

Dr. Kinnicutt said that graduated physical exercise largely entered into the present method of treatment of organic disease of the heart in Germany, and the best results were claimed for it. He personally believed that carefully regulated athletic sports were not contraindicated in many cases.

Dr. Delafield regarded the point made by Dr. Loomis concerning the presence of cardiac murmur in children, and the development of serious symptoms when the degenerative period in life was reached, as well taken and one that was true, yet he

DOUBTED IF THAT WERE THE ENTIRE TRUTH.

It seemed to him that the question took a rather wider range than that. It was unquestionably true that children who had had endocarditis did very well for many years, and when they got old cardiac disease developed. On the other hand, it was equally true that a great many developed endocarditis when adults, and went on many years, until they reached the same period in life and then they began to suffer.

The same was true of pulmonary emphysema, and also of the atrophic form of chronic Bright's disease. Patients suffering from either of those affections might go on in fairly good health until they reached the same period in life, and then have serious trouble.

Did not all this mean that persons who suffer from this particular form of chronic inflammation might, if the inflammation had developed slowly enough, experience no trouble until they reached this hazardous period in life, when the same lesion would cause a great deal of trouble? He was rather disposed to place these children's cases not by themselves, but regard them as another part of the same general rule.

Dr. A. H. Smith thought that so long as the muscular exercise could be graded it might answer to allow children with cardiac disease to participate in school sports, but he would be unwilling to allow a boy with cardiac insufficiency to take part in rowing matches, etc., where he would be obliged to go through with his duty at all hazards.

The Chairman referred to five men who did well as the result of engaging in the ordinary sports of college, but not rowing matches or violent games.

Dr. Kinnicutt said that by athletic sports he meant the usual outdoor sports of children and youths. He certainly would forbid a patient suffering from organic disease of the heart to engage in the athletic *contests* of the present day.

Dr. Heinemam said that the particular point which he wished to reach was an agreement as to what shall constitute a cardiac murmur. He thought it would be agreed to that only such sounds should be considered as cardiac murmurs as were *adventitious*, and not changed heart-sounds. He then spoke of thrill—the diagnostic value of which he regarded as questionable. He also referred to the case of a longshoreman, sixty-nine years of age, who carried a murmur fifty-two years without special inconvenience. In the light of such cases the significance of cardiac murmurs must still remain an open question. An important point to be decided was, when shall we say that a given sound is not an accentuation, but a cardiac murmur, and when not a murmur, but an accentuation? He thought it probable that in solving the problem it would become necessary to invoke the aid of the sphygmograph and other instruments of precision.

The Section then adjourned.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, November 9, 1887.

T. Mitchell Prudden, M.D., President, in the Chair.

Dr. J. S. Thacher, from the Committee on Microscopy, reported that the ovarian tumor presented by Dr. A. P. Dudley, September 28, 1887, showed a stroma of connective tissue quite rich in cells in places, with many alveoli, in some of which could be seen a lining of cylindrical epithelium. The tissue therefore resembled that of a

MULTILOCULAR OVARIAN CYST.

Dr. Hodenpyl presented, in behalf of a candidate, a specimen of *aneurism of the descending portion of the arch of the aorta.*

Dr. J. S. Thacher presented, in behalf of a candidate, specimens of blood which showed the *plasmoideum malariæ.*

Dr. Lewis Hall Savre presented, in behalf of a candidate, a specimen of *abdominal tumor*, which was referred to the Committee on Microscopy.

Dr. Mary Dixon Jones presented a microscopic section which showed the lesions of

CHRONIC CERVICITIS,

and she raised the question whether the changes affecting the smooth muscle-fibres and the presence of connective tissue might not be causative factors in cervical lacerations.

Dr. Jones also presented four specimens of

TUBES AND OVARIES,

with the history of suffering by the patients and benefit by the operation. In one case there were extensive adhesions; in one, no adhesions; in one the patient ceased menstruating at the age of twenty-five; in three cases the women had not borne children, and in the other two children.

Dr. Jones raised the question of the length of the abdominal incision which was best to be adopted.

Dr. Wackerhagen presented the amputated limb in a case of

SENILE GANGRENE, INVOLVING THE POSTERIOR REGION OF THE LEFT ANKLE-JOINT,

occurring in the person of Mr. R——, a native of the United States, seventy-eight years of age, and by occupation a farmer. His health had always been good until last April, when he noticed a small, dark-colored spot upon the lower and posterior part of the left ankle. The discoloration gradually spread to both sides of the tendo Achillis, and upward for about three inches above the posterior tuberosity of the os calcis, where the line of demarcation formed, leaving a slough which involved the posterior portion of the calcaneum, the tendo Achillis, and adjoining soft parts. His general health was good. This was his condition when he first saw him, with Dr. J. E. Gregory, on October 13th.

Tonics and nourishing diet, with moderate stimulation, were prescribed. On the day following, the gangrenous slough was cut away with scissors, and the surface thoroughly washed with sublimate solution—1 to 2,000—and dressed with iodoform gauze. These dressings were changed daily. On Tuesday, October 18th, a healthy granulating surface having appeared, the sublimate irrigations were discontinued, and a two per cent. solution of carbolic acid was substituted. On Thursday, October 20th, the granulation appeared of a dusky hue, and as the foot was becoming quite painful it was determined to accede to his wishes, he being anxious to have the affected limb removed.

Amputation was performed on Saturday, October 22d, at the lower third of the thigh, by the circular method.

The femoral vein was pouched, and its walls were so fragile that the slight effort in separating it from adjoining structures caused it to tear. Calcareous deposits were found in the walls of the femoral artery at and above the place where it was divided, and it was found necessary to follow it up for a distance of nearly two and one-half inches before a suitable place was reached for the application of the ligature. All vessels were ligated before the removal of Esmarch's bandage; but as there was some oozing from the cut ends of the muscles it was found necessary to apply hot water to the stump, after the method of Dr. Varick. This stopped all bleeding in a few minutes, when the drainage-tubes were placed and the short skin-flaps were united with silk-worm gut. Sublimate irrigation was used very sparingly, boro-salicylic solution being substituted for it during the operation. The edges of the sutured wound were slightly sprinkled with iodoform. Having applied the rubber protective, the stump was dressed with five per cent. iodoform gauze, and covered with sublimate gauze; over this was placed carbolized cotton, and over all a large, fine-wool cushion.

The patient came out of the anæsthesia in good condition, without indication of shock or prostration. He was in a cheerful state of mind, and continued to improve until Thursday, October 27th, when the pulse increased in frequency (90), and the temperature, which had been normal, increased to 100⅖° F.; the temperature, however, decreased on the following morning to 99½° F., but the pulse increased to 100. The tongue became furred, and there was some disposition to diarrhœa. This was readily checked with bismuth.

On Friday, October 28th, the temperature again rose to 100⅗° F., and the pulse to 110. On the following morning the dressings were changed for the first time, and we were gratified to note that the wound had almost completely united, and the stump was in every respect in excellent condition. The patient was also generally improved, and so expressed himself. About eight o'clock the same evening the nurse telephoned to Dr. Gregory, who found Mr. R—— rapidly failing. There were involuntary discharges from rectum and bladder. He died at nine o'clock, with symptoms of heart-failure. Post-mortem examination was not permitted.

The specimen showed

CALCIFICATION OF ALL THE ARTERIES, ANTERIOR AND POSTERIOR, TIBIAL, PERONEAL, AND POPLITEAL.

Dr. Ira Van Gieson presented specimens of

MULTIPLE CAVERNOUS ANGIOMATA OF THE LIVER,

removed from the body of a middle-aged woman. In the liver there were about thirty tumors, varying in size from 3 mm. to 1½ ctm. in diameter. The tumors were of a deep-red color, sharply outlined from the adjacent liver-tissue, and were composed of anastomosing trabeculæ and laminæ inclosing irregular-shaped larger and smaller spaces filled with blood. The surface of the liver was retracted over the superficially situated masses. Some of the tumors were surrounded and intermingled with dense white areas consisting of connective tissue moderately well supplied with small capillaries.

Dr. Van Gieson also presented a specimen of

NEUROMA OF THE SCIATIC NERVE AFTER AMPUTATION OF THE THIGH.

The nodule measured one-half by one-fourth of an inch.

The best illustration and description which he had seen of these tumors was by Krauser and Friedländer, who had described the changes in the peripheral nerves, and in the spinal cord, studied particularly in a case of amputation of the arm, where the nonules were found to be composed almost exclusively of nerve-fibres.

The theory advanced was, that after the nerve was divided in amputation the motor fibres perhaps seek to join the peripheral segment of the nerve which has been removed, and in their wandering, as it were, push against the resisting tissues and form nodules on the proximal end of the nerve.

The President remarked that one point of interest in Dr. Van Gieson's specimen of angioma was the large number of little tumors.

Dr. Ferguson had not seen more than four or five of these growths in a single liver. The largest he had seen was about two and a quarter inches in diameter.

Dr. Carpenter had not found more than three or four; and

Dr. W. H. Porter had not seen more than four or five, and they had been small in every case except one, where the whole liver was involved.

The President referred to a case in which the growth projected from the liver to about the size of the pregnant uterus, and was removed by operation, but with what result was not stated in the report.

Dr. Frank Ferguson presented a

MICROSCOPIC SECTION OF THE STOMACH, SHOWING A RUPTURED ARTERY WITH SUBMUCOSA AND ITS ACCOMPANYING VEIN.

It was from the body of a woman, twenty two years of age, who died of septic parotiditis, developing in the state of exhaustion due to loss of blood, which showed itself by profuse hæmatemesis and the characteristic evacuations from the bowels. The first hemorrhage occurred three months after an attack of black measles, from which the patient apparently recovered completely.

The case had been reported by Dr. Abbe, in the *New York Medical Journal*, October 29, 1887.

The autopsy was made by Dr. Ferguson, and showed, in addition to marked anæmia of all the organs, a stomach which was normal in size and location; the cardiac and pyloric orifices were normal in size and perfectly free. The mucous membrane was smooth and very pale in color. In the posterior wall, 6 ctm. from the œsophageal orifice, and just to the right of a line drawn parallel to the œsophagus, was an apparent loss of the mucous surface, circular in shape and 6 mm. in diameter. In its centre was a hard, nipple-shaped elevation, and beside this elevation, extending transversely across the implicated area, was a vessel with thin walls partially filled with blood. There was no elevation of the edges of the area, and by the unaided eye it could not be identified as an ulcer. Microscopic examination of the area showed a total loss of the mucous membrane to the extent of the measurements given above. At the base of this ulcer were seen an artery and vein of considerable size.

THE WALLS OF THE VEIN WERE EVERYWHERE INTACT.

The hard, nipple-like elevation, already described, was the ruptured wall of an artery. Sections carried along through the entire ulcer showed a rupture of the artery involving one-half of its wall; the other half showed no evidence of disease. A mass of fibrin and blood clung to the ruptured wall, and for a short distance on either side of the rupture the wall was split up and contained fibrin and blood. There was a zone of small round cells surrounding the ulcer, and at the bottom the capillaries were filled with blood and the round cells of inflammation infiltrated the connective tissue. Sections made in other parts of the stomach revealed no lesion of its coats or vessels.

Dr. Ferguson also presented specimens which illustrated

CHRONIC DIFFUSE NEPHRITIS—CARDIAC HYPERTROPHY—LESIONS OF THE CEREBRAL VESSELS—CEREBRAL HEMORRHAGE.

They were removed from the body of a man, fifty-five years of age, a native of Ireland, and by occupation a shoemaker, who was admitted to the New York Hospital, with hernia, on October 31, 1887.

On November 2d he became stupid, breathed stertorous at times, his right pupil was a little larger than the left, and there was impaired sensibility of the right side, but no paralysis. His pulse was slow, strong, and full, of very high tension, and his peripheral arteries were atheromatous and tortuous. He had a well-marked *arcus senilis*. He had neither convulsions nor elevation of temperature. He had paralysis of motion and sensation on the right side. His respiration became Cheyne-Stokes in character. His urine was amber-colored, acid, 1.012, and contained fifty per cent. of albumen to the column, with hyaline, granular, and epithelial casts. His coma gradually deepened, his temperature rose to 103° F., on the afternoon of the 6th. His respiration became more shallow, his pulse more feeble, and he died on the 7th, at 3 A.M.

The autopsy revealed a hemorrhage as large as an ordinary hen's egg, destroying the ganglia at the base of the left cerebral hemisphere. There was no rupture of the floor of the left ventricle. There were numerous smaller extravasations in the neighborhood of the large hemorrhage. The convolutions were distinctly flattened.

THE VESSELS AT THE BASE WERE DILATED AND MODERATELY ATHEROMATOUS.

The smaller vessels and capillaries in the neighborhood of the hemorrhages showed extensive fatty degeneration of their walls, and in many places the perivascular spaces were filled with large granular cells. In places these granular bodies were also seen within the wall of the vessels.

The walls of the smaller arteries were split up, in places, into layers by small round and spindle-shaped cells, rendering the diameter of some of the vessels six to eight times their natural size. While in many places aneurismal dilatation of the smaller arteries was found, there were no distinct miliary aneurisms noticed. These arteries were shown under the microscope, both stained and unstained.

The kidneys were slightly larger than normal. Their capsules were not adherent. Their surfaces were smooth, their cortices were swollen, and their markings were indistinct. The cortex of each organ contained a very great deal of fat.

The renal arteries were dilated and tortuous. Under the microscope their walls were seen greatly thickened. The tubes of the cortex and pyramids were dilated and contained fat. There was much increase in the fibrous tissue.

The heart was greatly hypertrophied. All its valves seemed competent. The muscular tissue was fatty and anæmic. The coronary arteries were dilated and tortuous, but not atheromatous. Under the microscope there was seen increase in the interstitial fat, and the muscle-cells were swollen, granular, and fatty.

FRACTURE OF THE CERVICAL VERTEBRÆ—HEMORRHAGE IN THE SUBSTANCE OF THE SPINAL CORD.

DR. W. H. PORTER presented specimens taken from the body of a man, twenty-eight years of age, who accidentally fell down one flight of stairs and broke off the posterior arches of the third, fourth, fifth, and sixth cervical vertebræ, and at the same time fractured, anteroposteriorly, the bodies of two of these vertebræ.

When the ambulance surgeon reached the spot he found the patient partially paralyzed. He took hold of his head and raised it upward. While doing so he felt the bones crepitate, and the paresis was so much improved that during the next twenty-four hours there was comparatively little loss of sensation and motion. On the second day the paresis returned, gradually increased, and the patient died from paralysis of the diaphragm.

At the autopsy there was found only a slight amount of hemorrhage in the soft parts about the vertebral column, no hemorrhage between the dura mater and the bone, and none

BETWEEN THE PIA MATER AND THE CORD.

But into the substance of the cord there was hemorrhage, in the space covered by two or three vertebræ, which caused the death of the patient.

One interesting point in the case was the fact that there was little or no hemorrhage outside of the substance of the spinal cord. There were apparently multiple hemorrhages entirely within the substance of the cord.

INTRALOBULAR CIRRHOSIS OF THE LIVER—CHRONIC SPLENITIS.

Dr. Porter also presented specimens with the following history: They were taken from the body of a woman, forty years of age, without the history of syphilis or alcoholism. When admitted to the hospital she had marked dyspnœa, and her abdomen was full of fluid. She was tapped at once, and three gallons of fluid were removed. Stimulants and diaphoretics were administered, the general œdema disappeared entirely, and the condition of the patient improved.

Physical examination then revealed double aortic and mitral lesions. The ascites only returned, and the patient died on account of the extensive accumulation of fluid in the abdominal cavity.

The autopsy revealed aortic and mitral insufficiency. There were five gallons of fluid in the abdomen. The spleen was very much enlarged, and its capsule was dense and very much thickened. It weighed twenty-two ounces. The liver was very markedly atrophied. It weighed twenty-nine ounces. Microscopic examination showed intralobular cirrhosis, with pigmentation of the hepatic cells. The central veins were not involved. The kidneys showed the lesions of chronic diffuse nephritis.

SEPTIC PERITONITIS AND ENDOCARDITIS.

DR. J. LEWIS SMITH presented specimens from a newborn infant, with the following history:

Lizzie C——, a primipara, was confined on September 21, 1887. Her labor was normal, lasting five hours, and there was nothing unusual in her case before and after her confinement. The baby, a female, was normally developed, weighing eight pounds and one ounce. She had natural evacuations, took the breast readily, and seemed entirely well until the afternoon of September 28th, when she became restless and refused the breast; rectal temperature 101.4° F.; respiration accelerated markedly, and accompanied by an expiratory moan. On September 29th, A.M., temperature 103.4° F.; was very restless; respiration as before; took milk from a spoon; evening temperature 103.6° F. On September 30th, temperature 104° F.; vomiting, restless; respiration 56, and accompanied by an *expiratory moan* when she was moved; pulse counted with difficulty, but not less than 200; slight twitching of extremities on left side. There was no cough, and a careful examination of the chest by percussion and auscultation gave a negative result. It had been maintained by some writers that the *expiratory moan* indicated the presence of some pulmonary disease, as pneumonia or pleurisy, but neither were present in this case. The abdomen was prominent, or distended, soft, not hard, and it gave a dull percussion-sound over every part. Dr. Smith was uncertain, from the feebleness of the child, whether pressure upon it gave pain. The diagnosis of peritonitis, probably of septic origin, was made. On September 30th, evening temperature 104.4° F.; the patient was sinking. Death occurred at 11.15 P.M.

Autopsy, by Dr. E. C. Wendt: Body moderately emaciated; slight rigor mortis. About three ounces of seropurulent fluid, containing abundant flakes of fibrin, escaped from the abdominal cavity. All the abdominal organs were covered by a thick layer of fibrin; liver and spleen

completely covered by it, and intestines loosely matted together by it. Left lobe of liver much enlarged, touching the spleen and left kidney; appearance of a section of the liver normal. Umbilical vein pervious; it contained clots of blood and dirty-looking pus, but the umbilicus was of normal appearance and cicatrized. The brain and its meninges seemed normal, unless a little congested. The posterior cusp of the aortic valve was thickened and rigid, and attached to it was a fibrinous mass. The appearance indicated

A LOCALIZED ENDOCARDITIS

at and around the valve; otherwise the thoracic organs seemed normal.

A microscopic examination of the organs was made by Dr. Frank Grauer, of Carnegie Laboratory, who found no evidence of inflammation in the umbilical vein, but thinks, from the history and appearance, that it contained septic matter from which the peritonitis and endocarditis originated of which the infant died. The liver was not only swollen, but under the microscope the peculiar cloudy appearance characteristic of parenchymatous inflammation was observed. The kidneys were normal, the straight tubules containing, as is common in the new-born, beautiful urate-of-sodium crystals. The cardiac muscular fibres were distinctly granular in places. Dr. Grauer's description of the state of the aortic valve was as follows: "There was slight endocarditis, situated at one of the segments of the aortic valve, to which was attached a small thrombus."

SEPTICÆMIA OF THE NEW-BORN

is one of the most severe and fatal maladies of early life. It appears to originate, ordinarily, from decomposing thrombi in the umbilical vein, in which multitudes of micrococci are developed. These organisms, with fragments of thrombi undergoing decomposition, pass along the umbilical vein to its branches which enter the liver, and to the ductus venosus, and finally entering the ascending vena cava, produce a general systemic infection. Disintegrating particles of the fibrinous clots, loaded with micrococci intercepted in the organs, cause embolisms and septic inflammations. Septic inflammations, whether occurring in the interior of organs or upon one of the surfaces as in this case, in which a general peritonitis was developed, are intractable and usually fatal.

Treatment.—It is obviously very important that strict cleanliness be observed in the treatment of the umbilicus of the new-born, since it is supposed that the entrance of microbes through the umbilicus into the umbilical vein causes the putrefactive changes which produce the septicæmia. Care should be taken that the water and sponges employed in bathing the child be free from impurities, that no dirt or foul substance lodge in the umbilicus, and that the abdominal bandage be entirely clean. It might be well to dust the umbilicus with some antiseptic powder, as a mixture of bismuth and iodoform, as a preventive measure.

Dr H. J. Boldt referred to the report of a similar case in one of the German journals, in which the writer described it as one of septic peritonitis due to suppuration of the umbilical vein.

The President remarked that in a very considerable number of cases of acute ulcerative endocarditis, microorganisms were present, particularly the staphylococcus aureus and albus, which readily caused phlebitis as well as peritonitis. He thought there was a possible, perhaps probable, relation between the inflammation of the umbilical vein, in Dr. Smith's case, and the peritonitis and endocarditis, and that the external appearance of the umbilicus did not preclude the existence and progress of phlebitis.

The President presented specimens of

CIRRHOSIS OF THE LIVER, WITH ATROPHY AND CHRONIC INDURATIVE SPLENITIS,

which were interesting in connection with Dr. Porter's specimens. The history of the case was meagre, and for what there was of it he was indebted to Dr. Hubbard, House Physician, First Medical Division in Bellevue Hospital. The patient was an unknown man, thirty-seven years of age, and a native of Germany. On October 18, 1887, he was transferred from the Insane Pavilion to the Hospital. His mental condition prevented the obtaining of any reliable history from him, and he had no friends.

On admission there were moist râles over both lungs. The upper line of hepatic dulness began at the lower border of the third rib in the mammary line. There was marked ascites, and there was some œdema of the feet and legs. After the removal of two hundred ounces of clear serous fluid from the abdominal cavity the area of hepatic dulness seemed to be about normal, while that of the spleen was markedly increased. Seventeen days afterward he was tapped again, and three hundred and thirty-six ounces of cloudy serum were withdrawn. After that his strength failed rapidly, and his temperature, which had been normal, rose, two days before death, to 101½° F., and he died cyanosed on November 8th.

Autopsy.—The peritoneal cavity contained about two litres of turbid reddish serum. The diaphragm on both sides was at the level of the third rib. Heart and lungs normal. Liver was small; its right lobe so much diminished in size as to about equal the left, so that the whole organ was ovoidal in shape. It weighed 1,530 grammes, and measured 25 ctm. in length, 12 ctm. in width at the widest part, and 7 ctm. in thickness. The surface was coarsely nodular, and from its lower surface projected several polypoid and globular masses of liver-tissue which had been constricted and forced out by the new formation of connective tissue. The cut surface showed larger and smaller masses of yellowish liver-parenchyma surrounded by bands of new-formed fibrous connective tissue. The spleen was large, dark, and firm, and its cut surface traversed by slender bands of new-formed connective tissue. The capsule was irregularly thickened. The organ weighed 1,300 grammes, and measured 25 ctm. in length, 12 ctm. in width, and 7 ctm. in thickness. The kidneys and other abdominal viscera were apparently normal.

He presented these specimens, showing not uncommon lesions, because the lesions were both typical and excessive, and because the changes in the liver and spleen had brought these two organs, naturally so dissimilar, to very nearly the same size.

The Society then went into executive session.

Anecdote of Dr. Golding Bird.—Dr. Routh tells the following: "I well remember a conversation I had with the late Dr. Golding Bird a few weeks before his death. He was then in the zenith of his popularity, and recognized by all as one of the ablest of our London physicians. I called upon him one morning with a relative to consult him. Several other medical men preceded me. His rooms were full, and I had to wait three hours ere I could obtain admission to his study and consult him about the case. I congratulated him on his success in practice. 'Yes,' he said to me, 'you are right; but I wish, nevertheless, to make your remark a text for a little parting advice. You see me at a little over forty in full practice, my rooms are full, and I am making my several thousands per annum (I think he said seven), and if I die to-morrow I do not leave as many hundreds to my family. All this I have done by sheer perseverance, unceasing hard work, and no holiday. But I am to-day a wreck. I have fatal disease of the heart, the result of anxiety and hard work. I know I cannot live many months, and my parting advice to you is this: Never mind at what loss, take your six weeks' holidays. It may delay your success, but it will insure its development. Otherwise you will find yourself at my age a prosperous practitioner, but a dying old man.' Six months after this conversation he had put off this earthly tabernacle."

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE BROWN LECTURES ON RABIES—THE GENERAL MEDICAL COUNCIL—REMOVAL OF TUBERCULAR MOVABLE KIDNEY—MEDICAL SOCIETY OF LONDON—THE GERMAN CROWN PRINCE—SIR WILLIAM GULL.

LONDON, November 29, 1887.

YESTERDAY afternoon, at the University of London, Professor Horsley commenced his course of "Brown Lectures" for the present year. His audience was rather scanty, only numbering some sixteen souls, but the lectures will in due time be published in the press and thus reach a larger circle. His subject for the present year is "Rabies, or Hydrophobia," and yesterday afternoon he announced his intention of making the lectures somewhat more popular than heretofore. Commencing with the history of the disease, he traced it back to Hippocrates and Celsus, to both of whom, he said, the disease was known. In this country it had been shown (by Dr. Fleming) that it was known in Anglo-Saxon times.

As to its distribution, it was more common in London and towns than in country places, and by means of maps, colored to show the localities where the most cases had occurred, it was shown to be most active in the Midland districts of England. In both Scotland and Wales it was almost unknown. The frequency of the disorder had largely increased of late years.

Professor Horsley attributed the partial limitation of rabies to the Midland counties to the fact that they were separated from the surrounding districts by wide rivers and mountainous regions. On some of the borders, also, there were extensive sheep-walks, and the shepherds were very prone to kill any stray dog which came in their way, for fear of its injuring any of the lambs or ewes. Proceeding next to consider the nature of the poison, it was pointed out that the long period of incubation—seldom less than six weeks—negatived the idea of a simple chemical poison. The view now accepted was that it was a parasitic micro-organism, though it had not yet been found possible to isolate it. A Swiss observer had asserted that he had been able, by a peculiar process of staining, to determine the presence of micrococci in the spinal cord, but his observations had been found to be fallacious, and the so-called micrococci to consist of granules of hæmatoxylin. Mr. Dowdeswell had since been more successful than the Swiss observer, and had been able to prove the presence of micrococci in the spinal lesions, but had been unable to cultivate them. The poison acted with special force on the brain and nervous centres. The salivary glands were also specially attacked. The saliva, milk, and urine from a rabid animal had all been proved to contain the poison. Pasteur's method of experimental inoculation was that at present followed. This consisted in placing some of the diseased tissue in a sterilized broth or other medium, and then injecting a little of the latter on to the surface of the brain of an animal. Where antiseptic precautions had not been used, many of the animals thus experimented on had perished from septicæmia, death often occurring within two days. This explained early failures, and also the extraordinary statements of some foreign observers, that a decoction of brain-tissue from any healthy animal would, if placed on the surface of the brain of an animal, cause rabies. Saliva, being a septic fluid to begin with, was not satisfactory to employ for such experiments, but both milk and urine from a rabid animal had been (with proper precautions) injected on to the surface of the brain of animals and rabies had followed.

During the past week the General Medical Council has met again, and has held rather a drastic session. Two medical men have been removed from the Register; the one for misdemeanor, having been sentenced to two years at hard labor for a libel, the other for "infamous conduct in a professional respect" in connection with a divorce case. The question of unqualified assistants came up again, and one medical man was brought up before the Council for having (by means of an unqualified assistant) conducted a practice eighteen miles away from his house. He was let off with a censure, on promising to discontinue the practice. The case of the author of a book called "The Wife's Handbook" was also considered. In the book are advocated Malthusian views, and advertisements are inserted of various appliances for preventing conception. It had been suggested that the book was indecent and immoral, and that its publication was "infamous conduct in a professional respect." The case of an advertising dentist will also occupy the Council during their present session. This gentleman had his dental diploma taken away from him by the Edinburgh College of Surgeons, on the ground that he continued to advertise in defiance of their rules. The General Medical Council thereupon promptly removed his name from the Dental Register. Mr. Partridge, however, contended that as he had been in practice before the Dental Act was passed, he was, in accordance with the provisions of that act, entitled to be on the Dental Register without having any dental diploma. A court of law has confirmed the view taken by Mr. Partridge, and the Medical Council will now have the mortification of being compelled to replace his name on the Dental Register.

At the last meeting of the Medical and Chirurgical Society, Mr. Warrington Haward related a case in which he had made an abdominal incision and removed a movable kidney which had undergone scrofulous suppuration. The patient unfortunately died in forty-four hours, but the post-mortem examination showed that the other kidney was healthy (though greatly congested), and that there was a complete absence of disease in the rest of the body. Dr. Ord observed that he would be very slow to advise removal of the kidney, unless he were sure the other kidney was sound. He suggested that this could be ascertained by determining the percentage of urea in the urine from the ureter of the (presumably) sound kidney. Mr. Haward remarked that it was difficult to decide as to the condition of the other kidney, even by an examination of the urine, and palpation would not decide the point.

At last week's meeting of the Medical Society of London, the chief feature was the reading of an elaborate paper, by Dr. David Ferrier, F.R.S., describing the symptoms and post-mortem appearances of several cases of hemi-anæsthesia. Mr. Knowsley Thornton also read a paper describing two cases in which he had successfully performed cholecystotomy for gall-stones impacted, in the one case in the common duct, in the other in the common and cystic ducts.

The case of the German crown prince continues to excite the most lively interest and sympathy, both in professional and lay circles. In the former little doubt is expressed that the new growth is cancer, and that a fatal termination is to be looked forward to at no very distant date. In the discussions which have taken place on operations for malignant disease of the larynx, I am surprised that more stress has not been laid on Dr. Foulis' case. In 1877 this gentleman (now deceased) removed the larynx for sarcoma, and the operation was completely successful, though his patient died a year later from phthisis. I saw Dr. Foulis' patient in 1877 after the operation, and he was able to speak in a monotone by the aid of an artificial larynx which had been made for him.

Sir William Gull has returned to London, and is much better.

THE PLACE OF MEETING OF THE TENTH INTERNATIONAL CONGRESS.

To the Editor of The Medical Record.

Sir: As the American member of the committee of the Ninth International Congress which was appointed to select the place of meeting for the Tenth Congress, to be held in 1890, I may be permitted to supplement your editorial notice, in your issue of the 19th ult., of the declarations by the editor of the *Journal de Médecine de Paris*, under date of September 25th, that "through the influence of Professor A. Martin, Berlin was selected as the place of meeting for the next Congress," and that "the American physicians have bent under the Prussian yoke," with the following:

1. The United States were represented on that committee, as was each nationality having membership in the Congress, by a single member.

2. The representative of France, appointed on that committee, Dr. Landolt, did not attend its session.

3. Senator Semmola, of Italy, was elected chairman of the committee, and he took occasion, in returning thanks, to prefer Berlin as the place of next meeting of the Congress.

4. I followed with a statement that as the first Congress had been convened in France (Paris, 1867), the second in Italy (Florence, 1869), the third in Austria (Vienna, 1873), the fourth in Belgium (Brussels, 1875), the fifth in Switzerland (Geneva, 1877), the sixth in Holland (Amsterdam, 1879), the seventh in Great Britain (London, 1881), the eighth in Denmark (Copenhagen, 1884), and the ninth in the United States (Washington, 1887), there remained Germany and Russia as having an *à priori* claim to the selection; and that as preference had been given to Washington over Berlin at the Eighth Congress at Copenhagen, where the place of meeting of the ninth was determined, it seemed eminently proper that Berlin should now be chosen, and that the American representative should second the nomination made by the representative from Italy, which I then did.

5. Professor Reyher, the representative of Russia upon the committee, thereupon rose and admitted the justice of the preference given to Berlin, and in doing so said that he wished to put on record that by this acquiescence he established a claim to have the Eleventh Congress meet at St. Petersburg, in 1893.

6. Professor Martin, the member of the committee from Germany, upon this rose to express the gratification himself and colleagues would experience if Berlin were made the place of meeting of the Tenth Congress.

7. The representative from Switzerland, Dr. Cordés, thereupon proposed that the Tenth Congress should be convened at Paris, advancing as a chief reason that the intended centennial celebration at that city, in 1889, would make time and place especially appropriate for such an international reunion.

8. Several members of the committee replied that as a triennial period had been practically established, the meeting of the Congress in 1890 could not be coincident with the celebration of 1889, and that, consequently, this argument for holding a second Congress in France, to the exclusion of Germany and Russia, where none had yet been held, had manifestly no foundation.

9. The voting was by inscription, and when the secretary of the committee, the representative from Roumania (Dr. Monolescu), read the list, it was found that every member had voted for Berlin, excepting only the representative of Switzerland, whose vote was recorded for Paris.

10. The result was reported to the General Session of the Congress on the following day, by the chairman of the committee, and was unanimously approved, without objection or protest. Consequently, in the face of this ratification by the twenty-three or more nationalities represented in the Congress, it is difficult to understand how the editor of the *Journal de Médecine de Paris* can assert that "the next meeting will not be an International Congress, but merely a German reunion."

As for personal solicitation, I have further to state that Rome was the only city in whose interest I was strongly approached; but as the Italian representative himself proposed Berlin, for the twofold reason, that a Congress had already been held in Italy, and that Berlin had been so strongly advocated at Copenhagen and set aside for Washington, I felt it my duty to acquiesce in his view, and in doing so I certainly do not feel that I "have bent under the Prussian yoke," nor do I believe that MM. Le Fort, Récamier, Landolt, Apostoli, or any other of the eminent members of the Congress from France, nor Dr. Cordés, of Geneva, who so earnestly advocated the selection of Paris, have ever countenanced any such declaration.

Very respectfully, your obedient servant,

Albert L. Gihon,
Medical Director, United States Navy.

Mare Island, Cal., November 24, 1887.

THE RECOGNITION AND TREATMENT OF INSUFFICIENCY OF THE OCULAR MUSCLES.

To the Editor of The Medical Record.

Sir: In looking over, recently, your report of the proceedings of the International Congress at Washington, I find in your issue of September 10th, p. 343, the following statement:

"Dr. George F. Stevens, of New York, read a paper on 'Some Important Problems Respecting Insufficiency of the Ocular Muscles.' He said that anomalies of the ocular muscles were of as frequent occurrence as those of refraction and accommodation, while the literature of the subject was very scanty, and what existed would lead one to infer that only one of the muscles was liable to insufficiency—the internus—while the deviations in other directions had been ignored or barely mentioned.

"The object of the paper was stated to be to suggest certain problems, rather than to explain apparent contradictions. For instance, a case showed, with a prism over one eye, insufficiency of the externi of 8° at twenty feet, and at one foot insufficiency of the interni of 10°. There was an adducting power of 50°. Now, there could not be an insufficiency of both interni and externi at the same time. Another case, with the prism eliminated from the question, had diplopia, homonymous, of 4° at twenty feet, and, crossed, of 5° at two feet. Here seems to be a contradiction of results and a problem to explain."

In justice to my illustrious predecessors whose works have already become classical, and in justice to my *confrères* who are, and have been for so many years, carrying out the principles inculcated and practised by them, I should like to say that it has not appeared to me that the literature was very scanty, nor that what existed would lead one to infer that only one of the muscles was liable to insufficiency. Moreover, to my certain knowledge, all the oculists of this city and of the country, who have any pretensions to a moderate degree of proficiency, have, for the past twenty years, made examinations and prescribed prisms for insufficiency of all the recti muscles, including also the oblique muscles, and have likewise, when the proper occasion has arisen, operated upon, not only the internal, but also the superior, exterior, and inferior recti. It is true, however, that they have not applied these operations to the cure of advancing glaucoma, diplopia from tumors in the orbit, progressive spinal disease, and epilepsy.

As to the statement that "there could not be insufficiency of both the interni and externi at the same time," the first comprehensive text-book which one is apt to take up says: "There has been a great deal said of the insufficiency of the internal straight muscles (see Strabis-

mus divergens), but insufficiency of the external straight muscles of the eyes has also been observed in connection with asthenopic troubles (Knapp, Loring), and even a simultaneous insufficiency of the internal and external straight muscles (Kugel)." [1] Noyes, in "Diseases of the Eye," also says: "For instance, we may have insufficiency of the externi for distance, and of the interni for the near" (p. 94, also see p. 91).

As a matter of fact, insufficiency of both the external and internal recti at the same time, though rare in normal eyes, is not uncommon in the higher degrees of myopia, and in excessive degrees, where binocular single vision runs through the range of relative accommodation, it is the rule. It depends on a physiological fact, so old that it seems in this case to be forgotten, that the equilibrium of the recti muscles, taken as a whole, is not a condition of parallelism of the axes, but of a moderate degree of convergence.

As to these subjects being "important problems to be explained," they are already well understood by the ordinary student of ophthalmology.

Yours respectfully,

EDWARD LORING, M.D.

128 MADISON AVENUE.

[1] Stellwagon: On the Eye, American edition, 1873, p. 706.

ANTIFEBRIN AND ANTIPYRIN AS HYPNOTICS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Several months ago I began the use of antifebrin and antipyrin as hypnotics, pure and simple. Though these drugs have been recommended for various morbid conditions, especially for headaches and for the relief of pain in general, they have not, so far as I have been able to discover, been tried in simple insomnia. In one of your late issues, to be sure, there is a communication headed "Antipyrin in Insomnia," but a perusal of the article shows that certain morbid conditions existed in the cases mentioned, and that sleep was obtained by the *modification* of some of these conditions by the remedies employed. Upon the day that this communication was published, I made known my experiments to Dr. Andrew H. Smith, and asked him to test the subject himself; neither of us had received that issue of THE RECORD at that time. I was induced to try these drugs for the purpose named by noticing that antipyrin caused a tendency to sleep when given for the relief of headache. My first experiments were made in the case of a highly neurotic lady, who had suffered a severe shock in the loss by suicide of her favorite son. She had been unable to sleep for many months unless under the influence of large and increasing doses of bromide of potassium, and the sleep that was in this way obtained was short and restless. She was ordered fifteen-grain doses of antipyrin, and under the influence of these the nurse at once reported longer and more refreshing sleep. Still, although these results were relatively very encouraging, they were not altogether satisfactory, and I began the use of ten-, and afterward fifteen-grain doses of antifebrin administered in capsules. Under the influence of these she slept for five and six hours at a time, a comfort that she had not known for years. There were no after-effects. She has been using the capsules now for about three months, although in her case there seems also to have been a curative influence exerted, for at present she is often able to sleep the night through without resort to the medicine.

Since the success that attended my early efforts with this patient, I have tried these drugs in numerous other cases. I much prefer the action of the antifebrin, which I employ in fifteen-grain doses. In some instances its hypnotic influence seems to be delayed, as in that of paraldehyde, and in such cases I have found it advantageous to have the antifebrin administered two hours before bedtime. I have never seen any bad effects from it when given in this dose and under these conditions. Fifteen-grain doses in fever would, of course, be dangerous, while they are absolutely harmless in the absence of that morbid condition. As there are idiosyncrasies, no doubt, it is best to begin with five-grain doses and creep up to the amount required to produce the desired result.

I have delayed the publication of my paper on this subject because I desired to have numerous cases to report on; but I have decided that it is best to call the attention of my medical brethren to the benefits to be derived from the use of the drug in the manner indicated, and to ask them to add their experiences to my own herein detailed. Very respectfully,

G. DALTON HAY, M.D.

324 EAST FIFTIETH STREET, December 5, 1887.

HOW MR. LAWSON TAIT WORKS.

TO THE EDITOR OF THE MEDICAL RECORD.

TWO ABDOMINAL SECTIONS.

BIRMINGHAM, October 1.

SIR: I send you a report of the following interesting cases, which are historical, and illustrate the character of the work that Mr. Tait is doing.

On September 21st Mr. Lawson Tait was summoned to Italy to operate on the wife of a distinguished American physician, a resident of Rome.

He asked me if I would be "prepared to accompany him in an hour?" After a rapid journey through the most beautiful portion of Switzerland, including the St. Gothard Pass, we arrived at Lugano, a small Italian town nestling among the mountains at the southern extremity of Lake Lugano, a small lake forming part of the boundary line between Switzerland and Italy, and exceeding in beauty the famous Lake Como.

The patient, a most estimable lady, thirty-five years of age, distinguished for her beauty and culture, had been a sufferer for many years. Her history is given in the following extracts from letters, written by her husband, to Mr. Tait:

LETTER I.

HOTEL DU PARC, LUGANO, August 3, 1887.

MR. TAIT: In the early part of last January she was seized with severe hystero-epileptic convulsions, which continued almost daily for six weeks, when they ceased. She remained very weak, and it was not until June that I was able to move as far as here. For one month she seemed to gain, and was able to move round a little, and preparations were made to come on. The day before she was to start she was again taken down worse than ever, the convulsions lasting from three to four hours and followed by wild delirium, and for days no sleep. This continued for eight days; then she began to improve, and I was hopeful of being able to get her on by easy stages; but, alas! ten days since she was worse than ever; the mania that followed was of a suicidal character.

I am satisfied nothing will be of service short of removal of the uterine appendages, as those on the right side have been diseased for the last eleven years. At that time she had an abortion, followed by salpingitis, which confined her to her bed for three months. Since then she has had eight abortions at about the second month.

During this attack there has been great tumefaction over the right ovary and tube, with fever and uterine pain. Four days since, a considerable quantity of fetid, greenish-yellow pus escaped from the uterus, in my opinion from the tube; since then she has been much relieved, and there is less tumefaction. I cannot operate on my own wife, and I prefer that you should do the operation; hence I write to ask you when I had better bring her, and whether you prefer to have her stay at your hospital, or where?

P.S.—Two years since she had a similar attack, which lasted four months.

LETTER II.

I am satisfied that my poor wife would not have the strength to travel to London, even by easy stages, and that it will be necessary for you to come here. At the request of the family I have consented to a consultation with Professor Porro, for Tuesday, who undoubtedly will confirm my diagnosis, and even if he does not, my opinion will be the same, and I shall insist on the case being placed in your hands. If he does, my hands will be strengthened, and they will have no chance to charge me with having an operation performed unnecessarily. God knows if there ever was a case calling for interference this is one. I will write or telegraph you immediately after seeing Porro, and will have him write his diagnosis and advice over his own signature.

LETTER III.

August 17, 1883.

Porro commenced his operation yesterday at eleven, and finished by abandoning the operation at a quarter past twelve. He made an incision three and one quarter inches long; he says both ovaries and tubes were so firmly adherent that it was impossible to separate them from the mass of organized tissue in which they were embedded, the slighter adhesions he broke up, and then crushed the base of the ovaries with strong forceps, with the hope, he says, of partly destroying their function. He wished me to feel the attachments, but I declined, as I preferred to leave all responsibility with him. She suffers dreadfully. I give her as much morphia subcutaneously as I dare, but there seems no possibility of controlling it entirely. There is continued nausea and vomiting. Pulse very weak and compressible, 80; temperature, 99°.

REPLY TO NO. III.

7 Crescent, Birmingham, August 20, 1887.

Dear Dr. ——: I am greatly distressed by the information conveyed in your letter of this morning, the more so as it is exactly what I feared would take place. The opprobrium of this particular kind of work will in future be the incompleted operations. My experience, now extending over a long series of years, satisfies me that there is no case in which adhesions of the uterine appendages are such that it is impossible to remove them by skilled and experienced fingers. I grow more and more satisfied that nobody ought to meddle with these cases except those who have, or are likely to have, an extended experience with them. It is a great pity that Professor Porro left the operation unfinished. If your wife survives it, let her rest for two or three weeks, and either let me go over to Lugano and operate, or bring her here. I will undertake that the operation shall be finished.

Yours very truly,

Lawson Tait.

LETTER IV.

August 30, 1887.

The principal pain now is from the cystitis, which is very distressing. I am having the bladder washed out with solution of boric acid, and giving her lithia water. I shall run over to London the first week in September, and shall come down to Birmingham to confer with you, when I can give you more particulars than by note.

I notice in the *Gynecological Journal* for August your report of the case first operated on by Dr. Jos. Williams, and afterward successfully by yourself, and showed it to my wife for her encouragement.

Mr. Tait examined the patient and expressed himself as much relieved, as the operation would be less serious than he had anticipated, and to me he expressed the opinion that he would have the offending organs "out in less than three minutes." The operation was appointed for the following day at eleven A.M. Dr. Porro was telegraphed the time of the operation, and requested to be present. A reply was received stating that he was out of town, and that the notice would be forwarded to him.

On the morning of September 24th, after the administration of an anæsthetic by the local attending physician, Mr. Tait performed the following operation:

The abdominal cavity was opened through the lower third of the old cicatrix, two fingers passed within, and with marvellous dexterity the appendages were separated from their adhesions at the bottom of Douglas' cul-de-sac, brought up within the abdominal wound and tied off. The appendages of the right side were treated in the same way, a small drainage-tube inserted, and the abdominal wound closed with silk-sutures, the whole operation being completed inside of five minutes. The husband, who stood at Mr. Tait's left, expressed himself as amazed and delighted beyond measure.

The patient made an easy recovery, the temperature remained almost normal, and at the time of our departure, three days after the operation, the friends stated that she was in better health and spirits than she had been for years.

The specimens showed no signs of the crushing to which they had previously been subjected, but presented much the same appearance as hundreds of other specimens which Mr. Tait had removed. The fimbriated extremities of the tubes were agglutinated to the ovaries, and both covered with bands of newly formed fibrous tissue, showing the characteristics of an old salpingitis attended with repeated attacks of pelvic peritonitis.

The remainder of the day we spent fishing on the lake, within easy call, should any necessity require. The following two days were occupied in an excursion over Lakes Lugano and Como, as far as Milan, and included a visit to Dr. Porro, and other prominent points of interest in Milan.

The Ospitale Maggiore, at Milan, is a large, rectangular structure of brick, with nine open courts in the centre. It is antiquated in appearance, as most of the building was constructed in the fifteenth century. Here Dr. Porro has at his disposal several hundred beds, mostly devoted to obstetrical cases. On our arrival Dr. Porro had already made his visit to the wards, but he kindly showed us around, pointing out many striking and interesting cases. Dr. Porro stated that he performed a great many abdominal sections during the course of the year, but I am unable to give you any information as regards the number or the results.

The odor of iodoform and carbolic acid pervaded all the wards, and it was stated that thorough antiseptic precautions were observed in all classes of cases.

Judging from the showing of some of the temperature charts, all of the cases do not pursue a perfectly aseptic course.

The news rapidly spread through Lugano that "Il primo professore di tutto il mundo" was in the country, and Mr. Tait was requested to operate upon a case of multiple myoma of the uterus. The patient had been a great sufferer for several years, and was much reduced by continual uterine hemorrhages.

She had consulted a distinguished surgeon of the country, who had refused to operate, and had expressed the opinion that if an operation were attempted the patient would die on the table.

The patient resided in an old stone villa of the thirteenth century, situated in the suburbs of the town. All the floors were of stone, and the room selected for the operation had but one window, not more than two feet by three in size.

After the patient was ætherized Mr. Tait made an incision five inches in length; this was afterward somewhat enlarged. Inserting his corkscrew, he rapidly delivered through the abdominal opening the tumor, consisting of three nodular masses, each the size of a child's head, together with a cystic ovary, the seat of a hæmatoma. The base of the tumor was encircled with a temporary clamp and enucleated from its pedicle.

A Koeberle's serre-nœud was applied and the pedicle

fixed in the lower angle of the abdominal wound, which was closed with silk sutures. The stump was treated with perchloride of iron, and a dressing applied. At the close of the operation, which was completed in fifteen minutes, the patient's pulse was full and strong, and beating at the rate of 80 per minute. The patient, although unfavorably situated for such a serious operation, made a very happy recovery. Two hours after the above operation we left Lugano for Birmingham, arriving here just one week from the day of our departure.

I cannot close this hasty sketch without expressing my belief that Mr. Tait is one of the jolliest travelling companions in all England; his information is universal, and what he says is always interesting.

C. N. Dixon Jones, M.D.,
of Brooklyn, N. Y.

WHO USED SUBMUCOUS INJECTIONS FIRST?

To the Editor of The Medical Record.

Sir: I notice in The Medical Record, of October 22, 1887, an article by Dr. W. F. Chappell, of New York, on "Submucous Injections in Chronic Throat and Nasal Disease."

Now, while the author does not seem to claim priority for this procedure, yet he makes no mention of the literature of the subject. I wrote a paper on "Hypodermic Medication in Catarrh" for my thesis for fellowship in the American Laryngological Association, in the spring of 1882. This paper was published in the "Archives of Laryngology," vol. iv., No. 1, January, 1883, and reprinted.

So far as I could judge from the description, the syringe and needles must be almost identical with my own, and the procedure was about the same, although I used ergot instead of carbolic acid.

Yours sincerely,
Thomas Amory de Blois, M.D.

5 Park Square, Boston, October 28, 1887.

Army News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from December 6 to December 10, 1887.

Sternberg, G. M., Major and Surgeon. Assigned to duty as Attending Surgeon and Examiner of Recruits at Baltimore, Md. S. O. 285, A. G. O., December 8, 1887.

Cleary, P. J. A., Major and Surgeon. Assigned to duty at Fort Wingate, N. M. S. O. 285, A. G. O., December 8, 1887.

Anderson, C. L. G., First Lieutenant and Assistant Surgeon. Assigned to duty at Fort McDowell, Ariz. S. O. 285, A. G. O., December 8, 1887.

Taylor, A. W., Captain and Assistant Surgeon. Assigned to duty at Fort Robinson, Neb. S. O. 285, A. G. O., December 8, 1887.

Appel, A. H., Captain and Assistant Surgeon. Assigned to duty at camp at Highwood, Ill., relieving Assistant Surgeon H. O. Perley. S. O. 285, A. G. O., December 8, 1887.

Perley, H. O., Captain and Assistant Surgeon. Will rejoin his proper station (Fort Wayne, Mich.). S. O. 285, A. G. O., December 8, 1887.

Hoff, John Van R., Captain and Assistant Surgeon. Granted leave of absence for one month, to take effect on or about the 12th proximo. S. O. 128, Department of the Missouri, November 30, 1887.

Munday, Benjamin, Captain and Assistant Surgeon. Granted leave of absence for one month, to take effect about December 15, 1887. S. O. 280, A. G. O., December 2, 1887.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending December 10, 1887:

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	12	8
Scarlet fever	115	22
Cerebro-spinal meningitis	3	3
Measles	46	0
Diphtheria	187	48
Small-pox	0	0
Yellow fever	0	0
Cholera	0	0

The Journal of the Dead Failures.—Mr. Edward Garraway, in the *Edinburgh Medical Journal*, announces his intention of establishing a new medical journal. He says: "The title of my venture would be 'The Dead Failure, Limited.' Ignoring the maxim that 'Dead men tell no tales,' my book would be made up of nothing but dead men's tales. 'The journals of the day teem with the triumphs of medicine and the exploits of surgery. Everybody records his successes and narrates his victories, till at length one begins to wonder how it comes about that anybody ever dies. People, nevertheless, do die, apparently from sheer perversity, or, as our transatlantic brethren might more pertinently put it, from 'pure cussedness.' Certainly, if we believe, it is no more the fault of the medicine men of the present generation than it was in the days of the celebrated Dr. I. Lettsom, who, you may remember, in allusion to his unhappy patients, is said to have written:

'I physics, bleeds, and sweats 'em;
If after that they chance to die,
It's not my fault—I. Lettsom.'

Now 'The Dead Failure, Limited,' is intended to search out 'the reason why.' It will have nothing to do with cures and recoveries. Defeats and disappointments, whether brought about by negligences and ignorances, sins of omission or commission, errors in judgment, or deficiency in tact—no matter from what cause—unsuccessful cases will alone be admitted."

Professor Albrecht, of Vienna, advances the theory that the defects found in the lower extremities of man, such as bow-legs, knock-knee, etc., are the punishment entailed upon him for assuming the erect posture, thus departing from the original scheme of nature which intended him to go upon all-fours. He also looks upon the scrotum as no more than a normal inguinal hernia, and the descent of the testicle into them as a dislocation of an organ from its natural position, owing to the assumption of an unnatural posture.

Dressing for Broken Finger.—At a recent meeting of the Philadelphia County Medical Society, Dr. A. C. W. Beecher reported a case of simple fracture of the distal phalanx of the index-finger, which he treated by applying a narrow bandage from the end of the finger to the second phalangeal joint, making two layers. This he coated thickly with collodion, which, drying and hardening quickly, made a neat, smooth, and stiff waterproof casing, which was worn, with but one change, until the fracture was cured.—*Medical Reporter.*

Ninety Tape-worms and One Girl.—In the *Correspondenzblatt für Schweizer Aerzte*, ~~August 15, 1887~~, p. ~~485~~, Dr. Roux, Surgeon of the Cantonal Hospital in Lausanne, describes a singular case in which the patient, a girl aged twenty-one and a half, discharged (after two six-gramme doses of extract of male fern) at least ninety bothriocephali lati. The worms passed out in a bundle, the

patient assisting the delivery by tearing the package with both her hands, and at the same time uttering shrieks like a woman in labor. The agonizing delivery lasted ten minutes. The mass of parasites filled up half of a chamber utensil. The disentangling and counting took exactly four hours and a half of the author's time. As an individual only such a worm was considered which had a head, and at its other end measured not less than 3 or 4 millimetres in breadth, or which had an absolutely thread like (though headless) anterior end, and measured not less than one metre in length. Numerous very long ribbons, which did not answer those conditions, were left out of the reckoning; neither were any of the ribbons which had been discharged several times by the girl for a couple of weeks previously taken into account. There could be no doubt, therefore, that the number of worms, given as ninety, in reality far surpassed that figure. The length of individual bothriocephali varied between 250 and 60 centimetres, a large number measuring only between 100 and 60. Except some slight nervous phenomena (such as occasional headaches, vivid dreams, *semi-somnambulism*), the patient did not present any morbid symptoms. She was a robust and ruddy, and even cheerful and active, country girl, with excellent appetite and digestion, and with ninety-five or ninety-seven per cent. of hæmoglobin in her blood (as Gowers-Sahli's hæmoglobinometer showed). The case seems to give a support to Dr. Zschokke's theory, according to which the prevalence of bothriocephalus latus among the population residing around Lake Leman should be attributed to the eating of infected fish, mainly that of perch (*perchette*). At least the girl, who had come to the locality from Argovia about the Easter of 1884, during a period of several months' duration, in 1886, was dining on perch (and bothriocephali) once a week, or even still more often, the patient residing at the time at Bonvard, near the lake mentioned.—*Brit. Med. Journ.*

Normal Delivery as Practised in Vienna.—The successive steps at delivery of a child in Vienna are said to be as follows: Cleanse the rectum. Support the perineum. Do not allow the fingers to touch any part of the vagina if it is possible to avoid it. After birth, put the child on its right side to give its heart the best chance. Do not tie the cord until it stops pulsating. Give the child a full bath. The joints of the child, particularly, are rubbed with oil or lard. A small injection is thrown into the rectum to see if the parts are normal. A solution of nitrate of silver is dropped into the eyes. The child is then dressed.

The Late Professor von Langenbeck began his day's work with a class in operative surgery, which was held from 6 A.M. to 8 A.M. The remainder of the morning was devoted to consultations and operations in private. He was due at his clinic at 2 P.M., but arrived half an hour before that time for the purpose of receiving in his private room the visits of private friends, military surgeons, medical men with special introductions, and arranging with his assistants (at this time Drs. Busch, Trendelenburg, and Bose) the order in which the various cases sent to him should be brought forward in the clinic. At two o'clock precisely he entered the theatre, wearing a specially made, tightly fitting coat of black material (scrupulously cleaned for each day); here he examined students most carefully, demonstrated the cases, and performed any necessary operation. We know of no other hospital in Europe where richer pathological and operative material was at the disposal of anyone single surgeon than that over which the late von Langenbeck then presided. He was fluent of speech, possessed of sympathetic voice, great charm and impressiveness of manner, with a most intimate knowledge of every detail of his subject, and produced an effect upon his hearers which no pen can adequately describe. As an operator he was in the very first rank, original, bold without recklessness, and of great anatomical knowledge. Of endless zeal and untiring industry, Langenbeck combined in himself all the elements which go to make a good surgeon and teacher, and there are few men who have left a deeper impress on the surgery of their time, not merely by reason of his own individual work, but indirectly through those who were his pupils, and are now so worthily occupying leading positions in the universities throughout Germany. An aristocrat in appearance, manner, and feeling, modest in demeanor, the trusted friend and councillor of his sovereign, revered and esteemed by all classes of society, the friend of all and enemy of none, his country will long mourn a loss which will also be felt throughout the empire of surgery.—*The Lancet.*

The Southern Surgical and Gynecological Association.—A meeting for the permanent organization of the Southern Surgical and Gynecological Association was held in Birmingham, Ala., on October 12th, in response to many urgent requests of physicians in the South that the Alabama Association would extend its membership so as to include all the Southern States. Membership was extended to the members of the Alabama Surgical and Gynecological Association, and to those who had responded favorably to the Secretary. The Association includes all the Southern States, and its meetings will be held on the second Tuesday of September of each year at such places as may be selected by the Association. Dr. W. D. Haggard, of Nashville, Tenn., was elected President; Drs. R. D. Webb and J. W. Sears, of Birmingham, Ala., Vice-Presidents; Dr. W. E. B. Davis, of Birmingham, Ala., Secretary; and Dr. H. P. Cochrane, of Birmingham, Ala., Treasurer.

Sources of Syphilis in the Female.—Professor Fournier, the French syphilographer, has compiled some statistics relating to the sources of syphilis in the woman. During twenty-seven years he has made notes, in his private practice, of 887 cases, of which 842 were of sexual, and 45 of non-sexual, origin. In the second group, which constitutes a series of cases deserving, according to him, the qualification of "unmerited syphilis" ("the syphilis of innocents"), there were 7 cases in which the disease was inherited; 4 in which the disease was accidentally contracted in infancy; 8 cases of infection transmitted to wet-nurses by infants hereditarily tainted; 5 cases of midwives who had contracted syphilis in their fingers or hands in the practice of their profession; 12 cases of "domestic contagion," derived from nursing infants belonging to nurses or servant-girls that were syphilitic (these twelve cases were all observed in married women or young girls); 2 cases of syphilis transmitted by vaccine; 2 cases of syphilis communicated by catheterization of the Eustachian tube; 1 case consecutive to rape; and 4 of unknown derivation, but certainly not of venereal origin. Of the 842 cases in which the disease was clearly of sexual origin, 366 were women of known dissolute habits—"women of the town;" 220 were married women; and 256 were persons whose social condition remained unknown. Passing by the first group, that of the abandoned women, 65 of whom (17.7 per cent.) were play-girls (*filles du théâtre*), and analyzing the 220 cases of syphilis in married women, it appeared that of these there were 164 "that had been honestly and conjugally infected with syphilis;" that is, these women had contracted the disease from their husbands, and without any fault of their own. Of the 220 married women, 56 were doubtful cases; these latter had contracted syphilis from "lovers," for their husbands, when examined, were found exempt from syphilis; a few of them had been syphilitic before their marriage.—*Boston Medical and Surgical Journal.*

The Influence of Mustard and Pepper on Digestion and Metabolism.—Dr. P. Burjinsky gives the following as the results of an experimental inquiry into the effects of mustard and pepper: 1. When given with meals in small quantities, in the daily amount varying from 8 to 18 grammes of the condiment prepared of 50

grammes of the mustard-flour and 80 grammes of warm water—that is, when taken exactly as in daily life—mustard does not show any influence on the assimilation of nitrogen of mixed diet (consisting of butcher's meat, milk, white and rye bread, potatoes and beef-tea, and tea). 2. Pepper, in the daily quantity from 0.7 to 1.0 gramme, lowers the assimilation, the decrease varying from 0.4 to 2.3 per cent. 3. Mustard, in the daily amount of 4 to 10 grammes, lowers the assimilation of fats, the fall amounting to 2.2 per cent. 4. Neither mustard nor pepper shows any influence on the systemic metabolism. 5. Mustard somewhat improves appetite, while pepper diminishes it. 6. Mustard has no influence on the daily quantity of urine, though Dr. Lauder Brunton, in his classical "Text-book of Pharmacology," 1885, p. 379, regards the condiment as a diuretic. 7. But pepper, as a rule, increases the secretion of urine, the daily surplus varying from 3 to 14.8 per cent. The urine at the same time acquires a strongly pronounced characteristic odor. Probably both the diuresis and odor should be attributed to the presence of an essential oil isomeric with turpentine (Flückiger). 8. Both mustard and pepper very frequently give rise to gastro-intestinal disturbances—colics, diarrhœa with eight to ten stools a day—in persons unaccustomed to the use of the condiments in question.

Cyanide of Zinc is said to produce valuable results in cardiac cases, more particularly in cardiac neuroses, in which it is stated to act quickly and certainly. Pain in the region of the heart, palpitation, and want of rhythm are quickly relieved, and in some cases cured. It is given in doses of one-tenth to one-eighth of a grain three times a day.

Diseases which Reduce the Alkalinity of the Blood.—From a painstaking inquiry touching this subject, Professor v. Jaksch has arrived at the following conclusions: 1. Fever reduces, in greater or less degree, the alkalinity of the blood. 2. A lessened alkalinity is always observed in uræmia. 3. Hepatic affections involving the parenchyma of the liver lessen the alkalinity of the blood. 4. Leukæmia, pernicious anæmia, and chlorosis diminish the alkalinity of the blood. 5. The same thing occurs in poisoning with carbon dioxide.—*Zeitschrift für Klinische Medicin.*

To Stimulate Medical Research.—Beyond question the ultimate object of all medical investigation is to enable us to combat disease. The agencies used for this purpose and the methods of employing them are treated of under the title of Materia Medica and Therapeutics. To this branch of medicine all other branches are tributary; through it they all reach their object, without it they all fall short of a practical result. It is therefore the one branch which cannot be neglected if medicine is to be anything more than barren theory. It was this conviction which led to the formation of a Section on Materia Medica and Therapeutics in the Academy of Medicine. The object of this circular is to call the attention of the profession to this Section and to invite their hearty co-operation in its work. It is believed that much can be accomplished by methods somewhat different from those usual in medical societies. While the reading and discussion of papers is most useful, the addition of collective observations on the effects of remedies or methods of treatment will, it is thought, advance still more our knowledge of therapeutical resources. It is proposed to appoint committees to take up different remedies, find out all that is known about them, subject them to repeated practical tests, and report upon them to the Section, these reports then being made the subjects of discussion. These reports will be published, so that each worker will have full credit for what he does. Periodical reports on the progress of therapeutics will also be made. This work opens a field especially to the younger and more ambitious members of the profession, who are urged to come forward and take an active part. A man's best work is usually the product of the enthusiasm of early professional life, which is too often lost while waiting for older men to take the lead. Fellows of the Academy desiring to join the Section are invited to send their names to the Secretary. *Co-operation is also solicited from those not Fellows.*—Andrew H. Smith, M.D., Chairman.

The Late Dr. Theodore Romeyn Varick.—At a largely attended meeting (the largest ever held in the county) of the profession of Hudson County, held in Jersey City, N. J., on Saturday morning, November 26, 1887, the following preamble and resolutions, presented by the committee, consisting of Drs. Gordon, Kopetchny, and Morris, were unanimously adopted:

The hand of death having removed from among us our esteemed associate Theodore Romeyn Varick, whose long and distinguished service, as physician and surgeon, render it eminently proper that we should place upon record our appreciation of his merits; therefore, be it

Resolved, That in his close identification with a specific aim (the advancement of the art of surgery), his devotion to the profession, his self-reliance and unswerving principle, striving for the right as best he understood it, he has nobly fulfilled his mission, and in his death the profession has lost one of its ablest exponents, the people a great friend, and the State an estimable citizen.

Resolved, That we tender to his afflicted family our earnest sympathy in this their hour of trial.

Resolved, That we attend the funeral services, from his late home, in a body, and that a copy of these resolutions, signed by the President and attested by the Secretary, be transmitted to the family of deceased, and published in the city papers, and The Medical Record and *New York Medical Journal.*

A. A. Lutkins, M.D., *President.*
Wm. Perry Watson, *Secretary.*

The following are the resolutions of the Medical Board of St. Francis' Hospital regarding the death of the late Dr. T. R. Varick:

The Sisters in charge and the Medical Staff of St. Francis' Hospital, Jersey City, deploring the sudden and unexpected death of their late distinguished associate Dr. Theodore Romeyn Varick, unite in giving public expression to their great sorrow, and desire to place on record their appreciation of the exalted character, superior abilities, and valuable services to the science of medicine of their late friend and colleague.

Resolved, That words are inadequate to express our sense of bereavement in the loss of one who pre-eminently excelled in all the attributes of a great and true physician—his erudition of mind, clear and logical; his many and valuable contributions to medical science, particularly in the branch of surgery, original, concise, and practical; his noble devotion to his profession, and the tireless industry exemplified in the daily practice of his art; his purity, simplicity, and sterling honesty of character—open and frank himself, he hated sham and deceit; his courtesy and ethical conduct toward his professional brethren. Endowed with all the virtues that add lustre to the character of a Christian gentleman, he was loved, revered, and admired by his friends. That the great heart, actuated by the highest aims and noblest impulses for the betterment of suffering humanity, and so full of love and generosity for his friends, is stilled in death, is a grief to us that time is powerless to assuage.

Resolved, That we tender to the family of the deceased our deep sympathy in this great affliction that has come upon them. Words, indeed, we know, are idle to comfort anguish of heart such as theirs, and we can but sorrow with them.

Resolved, That a copy of these resolutions be sent to the family of the deceased, and be published in the Jersey City daily papers, The Medical Record, and the *New York Medical Journal.*

The Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 32, No. 26. NEW YORK, DECEMBER 24, 1887 Whole No. 894

Original Articles.

INTRAPERITONEAL RUPTURE OF THE URINARY BLADDER—LAPAROTOMY, WITH UNSUCCESSFUL RESULT.

By E. L. KEYES, M.D.,

NEW YORK.

I RECORD the following case of unsuccessful laparotomy for intraperitoneal rupture of the bladder for its statistical interest in connection with the brilliant new departure in the treatment of this grave condition, instituted by Sir William MacCormac, whose success in two consecutive instances was given to the world through the *London Lancet*, December 11, 1886.

My further intent is to indorse the method on account of the facility of its execution and its manifest appropriateness.

P. K——, twenty-two years of age, the driver of an ash-cart, while in a state of extreme intoxication, was run over by his own cart at 5.20 P M., December 1, 1887, and immediately brought to Bellevue Hospital, where he was examined at 6 P.M. by Dr. T. McCann, house-surgeon in charge of the third surgical division.

The patient was violently drunk and unable to give any account of himself or his injuries. He had a large scalp-wound which nearly separated his ear, and a lacerated wound of the scrotum, but bore no evidences of other injury, and complained of nothing except the restraint in which he found himself.

Temperature, 99° F.; pulse full and bounding; no complaint of pain upon manipulating the abdomen. His wounds were attended to and no suspicion of injury to the bladder was at first entertained. He urinated at 1 A.M., December 2d, the quantity and color of the fluid not being noted.

At 8 A.M., no urine being passed, the abdomen was percussed by Dr. McCann, and found to be slightly tympanitic and without any line of bladder-dulness. Pain was complained of in the region of the liver. The temperature was still 99°. The legs were slightly drawn. The patient vomited a greenish fluid. A catheter was passed, and drew off half an ounce of bloody urine.

At 9.20 A.M. Dr. Dennis saw the patient, passed a catheter, and obtained nothing. He then injected ℥ viij. of Thiersch's solution and drew off ℥ xvj. (Weir's method), exactly double the amount injected. The fluid was moderately bloody. Dr. Bryant also saw the patient, as did Dr. S. Alexander; all concurred in suspecting intraperitoneal rupture of the bladder. Morphine was continued, and the question of operation discussed. At 1 P.M. temperature had fallen to 97½°. Dr. Dennis ordered a large injection of Thiersch's solution. Forty ounces were thrown in. The bladder did not bulge above the pubis, and only ℥ xx. could be drawn off. Vomiting became continuous and collapse imminent. I did not hear of the case until 4 P.M., but immediately decided to operate as the only chance, regretting that I had not received news of the matter earlier. Dr. Dennis kindly consented to join me in the operation, and the patient was etherized immediately after 4 P.M., twenty-two and a half hours after the receipt of the injury. One of MacCormac's operations was performed twenty four, the other twenty-seven hours after the receipt of the injury. Dr. Stephen Smith and Dr. S. Alexander, with Dr. McCann and the house staff, also assisted at the operation.

The tense abdomen was promptly opened in the median line. When the peritoneum was incised there issued a gush of bloody fluid. The intestines were found to be somewhat congested and freely coated with patches of coagulated lymph. The rent in the bladder was brought at once into view. It commenced centrally above, just in front of the peritoneal reflection, and extended a full inch and a half, as a clean cut, directly backward in the median line, involving the peritoneum and all the coats of the bladder as sharply as if the cut had been made with a knife.

Nine silk sutures were placed after the Lambert method, not puncturing the mucous coat of the bladder. The facility with which these sutures were introduced by the aid of a curved Reverdin needle was surprising. The topmost and lowest sutures were placed well away from the corresponding angles of the wound, and when all had been tied the incision was a continuous line of inverted peritoneum, as clean and straight as possible. The bladder was now twice distended with warm Thiersch's solution, and the sutured wound proved to be perfectly water-tight.

No injury of the liver or intestines could be detected. The peritoneal cavity was freely irrigated, a large glass drainage-tube introduced into the bottom of the recto-vesical cul-de-sac, and the abdominal incision closed with silk, drained, and antiseptically dressed. A catheter was tied in the bladder through the urethra. About an hour and a quarter, all told, was consumed in the operation. Hemorrhage was trifling.

The patient was put to bed with hot bottles, and every effort made to rally and sustain him. At 6.30 P.M. the temperature reached 102⅘°; pulse, 134. Both kept on increasing steadily, the vomiting continued unabated, and the patient was wildly violent through the night, spending his time in cursing his nurses. Small quantities of slightly tinged serum were removed by suction from the glass drainage-tube from time to time, and eight ounces of clear urine passed by the catheter before death, which occurred with a temperature of 107°—pulse, 162—at 11.40 A.M., December 3d, about eighteen hours after the operation.

Autopsy.—The abdomen only was examined after death. The peritoneal cavity contained perhaps an ounce of serum tinged with blood. The sutured wound in the bladder was found exactly as it had been left. There had been little or no attempt at repair, if exudation of lymph is to be considered the sign of the reparative process. The bladder was injected through the urethra and bore distention well; only when it rose up and became very tense a small, sudden spirt of a fine stream of water appeared about centrally between the sutures. This was produced by the tension within the bladder, a tension impossible during life with the catheter tied in. No leakage of urine had occurred, and the suturing had evidently been effective. There were no other intra-abdominal lesions. The brain was not examined.

Remarks are unnecessary. I desire only to repeat that the operation is very easy to perform with the aid of the Reverdin needle, and that the sutures placed by its aid were effective in closing the bladder water-tight and preventing leakage.

The patient was a drunkard of the lowest order. He never rallied from his drunkenness, and doubtless would

have failed as promptly had he been operated on earlier in the day. In Holmes'[1] successful operation only six hours intervened between the injury and the use of the knife, yet in both of MacCormac's cases more than twenty-four hours had elapsed. In Mr. Walsham's[2] successful case about twelve hours had elapsed.

Instances like that of Henry Morris,[3] in which an autopsy of a case of intraperitoneal vesical rupture showed the lesion to have been the giving way of an old cicatrix —that cicatrix having followed an intraperitoneal vesical rupture, treated successfully by tying in the bladder a gum-elastic catheter, at the Middlesex Hospital in 1879— and the other recent case recorded by Drs. Benham and Greig Smith,[4] in the *Glasgow Medical Journal*, where an imbecile pushed an umbrella whalebone up his urethra into his bladder, and, dying two years later of Bright's disease, the whalebone was found partly within the bladder encrusted with phosphates, partly in the peritoneal cavity, are plainly exceptions, and intra-peritoneal bladder wounds must still be considered mortal. For the patient whose history is narrated above the choice was between inaction and laparotomy, and I consider the operative attempt to have been justifiable, although unsuccessful.

1 Park Avenue, December 14, 1887.

FRACTURE AND DISLOCATION OF THE SPINE.[5]

By ISAAC W. CHISHOLM, M.D.,

New Concord, O.

Fortunately, fractures and dislocations of the spine are accidents of rare occurrence, for in a large majority of cases they prove fatal. Owing to the limited motion of the vertebræ, through their being so firmly bound by strong ligaments and powerful muscles, it is natural to infer that a dislocation of these bones would be of rare occurrence, and it has even been wholly denied by some surgeons, yet from recorded cases it has been clearly proved that these accidents may and do occur—the causes producing both dislocation and fracture being so closely allied that they may be said to be identical; in fact, they may all be summed up in two words—extreme violence.

The following are the generally accepted symptoms of dislocation and fracture of the different parts of the vertebral column :

If fracture or dislocation occur above the origin of the phrenic nerve, so that pressure is made upon the spinal cord, there is a disturbance of respiration, and death usually closes the scene.

In fracture of the dorsal vertebræ, unless very high up, the upper extremities will be free from paralysis; in either case the bowels will be stricken with torpor, being unable to expel their contents, and the patient's distress will be greatly increased by the accumulation of phosphatic matter in the urine, causing chronic inflammation of the bladder.

Fracture and dislocation of the lumbar vertebræ cause, in the lower extremities generally, a cessation of volition and sensibility, varying, no doubt, with the direction in which the vertebræ may be thrown, whether forward or backward; and authors generally state that the fæces pass involuntarily, although I think I am justified in saying, from the following case, that the very opposite (extreme torpor) may happen—yet it may be an exceptional case, for in surgery we sometimes have to be governed by exceptions, or anomalous cases.

In the aggregate, I think we are safe in stating that if fracture or dislocation of the vertebral column occur above the origin of the phrenic nerve, thus causing pressure upon the spinal cord, immediate death will result; whereas, if the injury be inflicted in the lower portion of the dorsal, or along the line of the lumbar vertebræ, it will cause paralysis of the lower extremities, accompanied by incontinence and constipation, as well as involuntary discharges from the bowels.

The prognosis of both fracture and dislocation of any part of the spinal column should be looked upon with grave apprehension. "Few persons," says the distinguished American surgeon, Professor Gross, "ever recover."

As to the treatment of that class of injuries now under consideration, nothing would be more difficult, perhaps, than to lay down a methodical procedure; so difficult would it be, that he who should attempt it would in all probability arrive at the conclusion that it was one of the grandest failures he ever made.

In no case, perhaps, can nature assert her superiority over those of us who may be called in to play the part of physician, surgeon, or both, than in the treatment of injuries of the spine. In my opinion, Professor Gross never spoke a greater truth than when he said, "Time and a masterly inactivity will accomplish more than all the interference of the best surgeons, except that when the symptoms are well marked, and there is danger of the patient perishing, an attempt, however desperate, would be perfectly justifiable and proper; for," he says, "if we succeed, we obtain a victory; if we fail, we cannot but hasten an occurrence otherwise inevitable."

The greatest danger to be encountered, no doubt, in the majority of cases, is the too frequent annoyances of the meddlesome surgeon, even to the oft-repeated taking of the temperature, feeling of the pulse, counting the respiration, waking the patient for the administration of either food or medicine, repeated inquiries as to their condition, all of which tend to harass the sufferers and add to their already over-excited nervous system. I was called to attend the following case, and made a report of it to the Cincinnati *Lancet and Clinic*, one year after the accident, September 27, 1879.

Charles G. G——, aged ten, residence New Concord, O., attended a soldiers' reunion in the city of Zanesville, O., September 19, 1878, and while seated under the speakers' stand the structure gave way, the timbers striking him in such a manner as to throw his head violently forward and downward between his legs. When extricated, his eyeballs were protruding from their sockets, and his face congested to a purplish hue, presenting altogether a ghastly appearance.

On being taken to the house of a friend, Drs. Oatley and Culbertson were called, and, in consultation with other distinguished surgeons of Zanesville, they found, upon examination, a dislocation and fracture of the third lumbar vertebra, it being thrown backward. Erichsen says he knows of no case where the lumbar vertebræ have been dislocated unless attended with fracture; and in accordance with such high authority I think we are justified in stating that it was so in this case, although a positive diagnosis was impossible. Some, however, take the position, I believe, that the force required to produce dislocation of this character is so great that it would be impossible for a dislocation to occur without also being attended with fracture, and in this case the fracture occurred, we think, in the body of the vertebra, as shown in the cut.

On October 2d he was brought to his home (New Concord, O.), two weeks after receiving the injury, and placed in my charge, Dr. Oatley accompanying him, and informing me of the great difficulty of obtaining a passage from the bowels. We concluded to try croton oil suspended in castor oil, and injections of soapsuds and turpentine, but these had little effect. After frequent administration of the oils I abandoned the course, as it sickened him, causing violent vomiting, which was attended, however, with some beneficial results, as the act of vomiting caused small portions of fecal matter to be

[1] Lancet, July 23, 1887.
[2] Noted by Holmes, and editorially, Lancet, March 12, 1887.
[3] Cited in Medical News, March 19, 1887.
[4] Cited in Medical Press, May 4, 1887.
[5] Read before the Zanesville Academy of Medicine, and published by request.

thrown down into the rectum, whence I could remove them with my finger. I concluded to use injections and my finger, getting away all I could in this manner, and abandoning all physic.

About every ten days he would be attacked with nausea and vomiting, the pulse would become greatly accelerated, and the temperature would rise to 105° F. I concluded to try the experiment of feeding him entirely on "slops" or fluids, but this not having the desired effect I gave orders to administer *no food whatever* at those periods, and applied mustard and hops to the bowels, as they became at those times extremely tender and *sensitive* to the touch. As there was retention and incontinence of urine I gave him for a while fluid extract of buchu, citrate of potash, and sweet spirits of nitre to assist the function of the kidneys, hoping also to effect a reduction of the temperature. To my great satisfaction the irritability of the stomach, together with all the other untoward symptoms, were cut short, the tongue commenced to become clean, and he began to have a moderate desire for food. I noticed that previous to one of these attacks the tongue would become coated, his desire for food would begin to lessen, and there would be an increase of albumen and urea in the urine. I would immediately order no food to be given, and apply the mustard and hops to the bowels (abandoning all medicines that I had been administering for the purpose of assisting the function of the kidneys and reduction of the temperature), relying solely and wholly upon the total abstinence from food of any kind, and allowing him to drink all the water he desired, which seemed to accomplish the purpose which I intended, most admirably.

Some time in January following he was seized with violent spasmodic contractions of the limbs, so that they would be almost drawn to his chest, and at times the muscles of the face, arms, and neck, would be affected, causing him to be tossed about involuntarily. At one of those periods his breathing became involved, causing him to utter at times, "I can't get my breath;" but, fortunately, this was the only time in which respiration became implicated.

I applied a plaster-of-Paris jacket about three months after the injury, but was compelled to remove it on account of one of those "sick spells" coming on, necessitating the local application of the mustard and hops. For the nervous twitchings (herein mentioned) I gave the "bromides" singly and combined, and sometimes in addition with tincture of valerian, but obtained better results from the administration of tincture of valerian alone. He seemed to suffer greatly for the first two or three months, when he would moan in the most pitiful manner. For this I gave him McMunn's elixir of opium at regular intervals and with good effect.

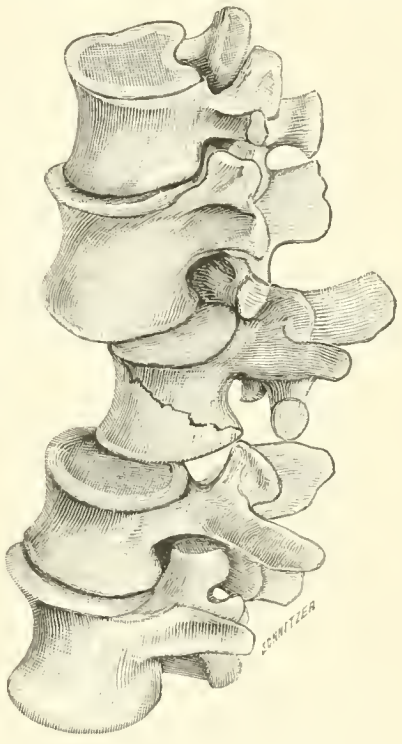
The whole time I had to use the catheter to draw off the urine, and also means to empty the rectum. This was continued for six months, when nature was so restored that all artificial means were abandoned.

As soon as the weather would permit, I placed him a chair, and with his head uncovered took him out of doors, and placed him in such a position that the sun shone directly on him, and I noticed, after a few days, the red tint returning to his pale and wan cheeks. When the weather became inclement, as it frequently is in the early spring, he had to remain in his room. The red hue vanished from his cheeks and he became as pale as ever; but on the return of fair weather I repeated the *sun-bath*, when the red tint or healthy tinge could again be seen returning.

His toes were contracted, and I had made for him a pair of shoes with very stiff soles, with lacing to the points of the toes. By main force I straightened his toes, and by lacing the shoes tightly upon them I was enabled to retain them in their proper position. I then commenced standing him against the wall, and by supporting him well under the arms he was enabled to take a few steps, until finally, after several weeks, he was enabled to walk across the room by supporting himself with the table and other articles of furniture in the room. From this on he improved rapidly, being enabled to go around, with the assistance of crutches, in a couple of months, and one year afterward was enabled to take part in the sports of his playmates (of course in a limited degree). He was entirely devoid of sensation over the hips and posterior portion of the limbs and feet, except over the internal malleolus and the internal cuneiform bone of the left foot.

When he received the injury there was some lateral dislocation of the verterbræ besides dislocation backward. Nature seemed to have made a reduction of the lateral dislocation, as there was no attempt made to reduce it, and the vertebræ now presents the appearance (as shown in the cut) of a dislocation backward only.

He is now (nine years after receiving the injury) is able to act in the capacity of "salesman" in his brother's con-



fectionery, and is enabled to go around without any artificial support whatever, except that, when he walks long distances, he resorts to the use of his crutches.

The urinary and bowel difficulties have passed away, and sensation is gradually returning to hips, limbs, and feet, and my opinion has always been that, as he grew, the vertebræ would expand or grow, and that when he arrived at adult life sensation would be completely restored; but time only will be able to verify this prediction. He has grown and developed as well as other boys, and I see no reason why my prognosis may not be verified.

October 31, 1887.

To Disguise the Taste of Quinine, Engel recommends a mixture of one part of chloride of ammonium and four parts of extract of licorice to each part of quinine. The ammonia and licorice are to be thoroughly mixed, and kept in powder, to be dissolved in water at the time of administration of the quinine.

Sea-Water and Scarlatina.—A surgeon in England is riding the hobby of sea-water to such an extent that he has actually applied to the authorities to have pipes laid from the sea-board to London, in order to give every child a sea-bath daily. By this means he proposes to stamp out the epidemic of scarlet fever in that city.

THERAPEUTIC MEMORANDA ON DIPHTHERIA, WITH SPECIAL REFERENCE TO THE VALUE OF LARGE DOSES OF OIL OF TURPENTINE.

By SIMON BARUCH, M.D.,

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To appear before a medical society with a paper on the treatment of diphtheria requires a certain degree of temerity. But yet I hope to demonstrate that I have not called upon you in vain to discuss this old, yet ever fresh, theme. A statement of therapeutical results, obtained from careful observations of a disease which so frequently is the subject of anxious deliberation, may enlist your interest and lead to a free discussion of its merits.

In the consideration of this subject we are met by the same conflicting views which are encountered in the treatment of all maladies, that baffle the best directed efforts at times. The skeptic stands arrayed against the expectant, the conservative against the sanguine, therapeutist. Collective clinical observations alone will, as you, Mr. Chairman, have ably set forth in your recent circular, decide these questions.

As I am uncompromisingly opposed to the plan of idly watching this fell destroyer, or meeting him with a half-hearted resistance, I desire to say a few words on this point.

Henoch, who has lent his great name to a pessimistic view of the value of treatment in diphtheria, said, in a paper before the Berlin Medical Society, in 1882: "I cannot omit the remark that, as reasonable as it may be to seek for remedies against this terrible disease, the perseverance in the search is something surprising. It seems to be believed that it will yet lead to the desired object. But if we reflect that in many other infectious diseases, as scarlatina, measles, typhus, etc., the search for a specific has long ago been abandoned, and that we stand more resigned in the presence of these diseases, the hope of finding a specific remedy against diphtheria must be decidedly weakened."

Whether we shall follow the advice of this learned physician, or not, must be determined by the results of his practice. These are woful indeed! In No. 46 of the *Berliner klin. Wochenschrift*, 1884, Henoch relates 319 cases of diphtheria, which he treated in his clinic, with 208 deaths. Of 111 cases under three years he lost 94! His treatment consisted of irrigation with, and subcutaneous use of, corrosive sublimate, and the administration of arsenic with iron, and papayotin locally for the bad cases. "All these," he says, "failed him."

Henoch misinterprets the present stand-point of therapeutics in infectious diseases. The modern physician does not stand resigned in the presence of these diseases. It is true that he no longer seeks for specifics to cure them; but he adopts such therapeutic measures as are rationally indicated to diminish the dangers of the disease and to ameliorate the sufferings of the patient. Although diphtheria stands in the category of infectious diseases, it is by no means analogous to scarlatina, measles, or typhus. These diseases are self-limited, they have a definite course over a definite period, while diphtheria is a disease of brief duration, destroying life rapidly, and acknowledging no definite rise and fall. We cannot, we must not, fold our hands and await the latter as we may do with impunity in some cases of scarlet and typhoid fever. We must be up and doing, alert and regardful of the indications pointed out to us by the most usual "mode of death." The mildest case of diphtheria may forebode the most serious type, and if there be any therapeutic method, any combination of remedies, by which its duration can be shortened or its type modified, we are obligated to adopt it, no matter what our preconceived views regarding the theory of its origin and course may be.

Clinical results must be our chief, our sole guide.

During the past twenty-five years I have passed through numerous epidemics of diphtheria, occurring in sections of this country widely apart—in the village, on the plantation, in the isolated farm-house, in a large city, among private individuals, in public institutions, among white and colored. Hence my observations have been made under varying climatic and social conditions. In my earlier experience I resorted to the iron and chlorate of potash mixture which is still so much in vogue, sustaining the vital powers by nutriment and stimulants. With these weapons I had coped with numerous cases of diphtheria with almost unvarying success, until I had come to believe that the terrific ravages attributed to this disease were almost incredible. How frequent is this overweening confidence in observations obtained in one's own narrow horizon! How our youthful enthusiasm is nursed and fanned into glowing warmth by a succession of favorable results, until, alas, the day of awakening comes and cruelly arouses us from our dream of security. That the progress of time will relentlessly bring such an awakening, most of us have realized but too keenly. Hence we should approach the discussion of all therapeutic questions with a proper sense of their difficulties, and with a recognition of possible fallacies in our observations.

The day came when, flushed with many victories, I found myself in the presence of a case of diphtheria that baffled me. The system was completely overwhelmed, the cervical and submaxillary glands enormously swollen, throat scarce visible owing to infiltration of palate and uvula, nose blocked; patient died in twenty-four hours. I was too late, thought I, to marshal my forces. Very soon, however, I was undeceived. Other cases occurred, all in an isolated country district, many miles from town and from each other. Perhaps failure was here attributable to insufficient nursing. But I was deprived of this last refuge also when the treatment failed in cases which had been carefully nursed, and which were under my constant supervision. As the years passed experience sobered the judgment, and I began to seek anxiously for new and more effective weapons. The old iron and potash mixture given hourly still continued to bring a large meed of success in mild cases. New remedies sprang up and were vaunted with more or less persistency and clinical demonstration. These were weighed in the balance of reasoning and experience, until, by a process of selection, I have reached a mode of treatment which I desire to submit to your consideration, because it has enabled me to cope successfully with many desperate cases. It is needless to say, however, that I shall continue to strive for improvement.

Before proceeding to analyze the reason for "the faith that is in me," I may refer to my attitude regarding local treatment. I recognize that the local deposit of diphtheria may be either the precursor or the sign-manual of systemic infection. I am more strongly inclined to the latter view, because the weight of clinical evidence is in its favor.

In a disease of so insidious and dangerous a character it is criminal to split hairs. We are in the presence of a formidable enemy, whom we should attack not only in his outworks but in his citadel also, without awaiting the actual onslaught from the latter. It is a well-recognized fact that the diphtheritic deposit rests upon necrotic tissue, and that it is more prone to attack tissue that has been enfeebled by local insult, traumatic or otherwise. We know, for instance, that wounded surfaces, blisters, and the mucous membranes are more prone to its attack than the healthy unbroken skin. On the other hand, we know, too, from post-mortem examinations by Guttmann and others, that when the disease attacks the larynx secondarily, it almost invariably does so by spreading downward from the pharynx. Is it not, therefore, the part of prudence and wisdom, even though we recognize the importance of neutralizing the infectious character of the deposit, to apply all remedies by means which

may not produce a traumatism in its vicinity? Surely this is the dictate of common-sense. And yet there are many who still insist upon cauterizing and swabbing the throat of a struggling child, pointing with satisfaction to the removal of the deposit, while they disregard the sodden bleeding surface left behind as a nidus for a fresh and more extensive deposit; and what is more to be deprecated, they create an admirable surface for systemic absorption. I make it a rule never to apply remedies locally to the throat in patients who are not under absolute control. To be effective these applications should be either strongly caustic, or, if mildly solvent and antiparasitic, they should be very frequently renewed. They would thus involve great fatigue and exhaustion to the patient, which in this disease are to be greatly deprecated.

Disinfection of the throat is best accomplished by the frequent internal administration of tonic, astringent, and antiparasitic remedies; not by the brush, probang, nor atomizer. Neither water nor food should be permitted for ten minutes after the medicine has been swallowed, thus allowing it to bathe the diseased surfaces. When the patient is tractable and willing to aid the attendant, I advise the hourly application of a fifteen per cent. solution of tripsin. In one case a ten per cent. papayotin solution proved equal to tripsin, but much more expensive. In nasal diphtheria the tripsin solution is invariably prescribed, to be applied hourly with the medicine-dropper or soft brush, because this can be accomplished without damaging the mucous membrane even in an intractable child. It softens and pulpifies the false membrane and facilitates its removal by injections of salt water, or 1 to 10,000 bichloride, which in this dangerous form I order applied at frequent intervals. It will appear, therefore, that while I abstain from local treatment in most cases of faucial diphtheria, I apply it vigorously, but gently, by the brush and soft rubber-tipped syringe in all cases of nasal diphtheria. When the air-passages are involved I also resort to local treatment by inhalation of the vapor from boiling lime water impregnated with oil of turpentine—one ounce of the latter to one quart of the former, used continuously. Properly applied these inhalations have aided me in saving several of my patients from tracheotomy. Great care should be taken not to deprive the patient of an ample supply of pure air while the inhaling apparatus is in operation. It is a common practice, which was formerly also pursued by myself, to surround the patient by all possible safeguards against the escape of the medicated vapor. A tent is usually constructed around the couch, excluding to a great extent the air, and compelling the patient to inhale the vapor continuously in its fullest concentration. That this is an irrational practice I became convinced several years ago. A patient suffering from laryngeal stenosis requires a plentiful supply of oxygen. Hence it is of vital importance to enforce at least as free access of fresh air to the chamber in laryngeal as in the other forms of diphtheria. It is only necessary to direct the vapor by means of a tube to the immediate vicinity of the patient's mouth. This application requires constant and unremitting care. In this, as in every other detail in the treatment of diphtheria, vigilance is the price of success; the physician must himself devote time to instructing the nurse again and again. The nurse should be warned against admitting cold-air currents to reach the patient. As the latter is usually more or less somnolent in laryngeal diphtheria, it is not difficult to execute the necessary steps.

The general management of the patient and his surroundings requires no distinct reference in this paper, as it is universally admitted that cleanliness of body, quietude of mind, and gentleness in nursing are among the chief elements of successful treatment. One point, however, I may mention. In severe cases, especially if protracted, a change of rooms produces a marked effect. A fresh room, which has been thoroughly ventilated for twenty-four hours; a fresh bed, supplied with clean, well-aired linen, mattresses, and blankets, and new surroundings, will effect a marvellous change in some protracted cases of diphtheria.

The administration of easily digested broth, milk, and stimulants must be left to the indications of each case. Care should be taken, however, to limit the quantity of food in proportion to the digestive powers of the patient. There exists in this disease, as in typhoid fever, a tendency to overfeeding. It would be an act of supererogation, however, to dwell upon this subject before this enlightened audience.

Internal medication.—Every case of diphtheria, not presenting diarrhœal symptoms, receives a full dose of calomel, from four to eight grains, according to age. This is followed in six hours, if necessary, by a saline laxative in the mild tonsillar cases, while in the more severe types the action of the calomel is aided by ℥ j. to ℥ ss. of oil of turpentine. The latter usually produces several pultaceous stools. The gastro-intestinal tract is now prepared for the reception of food and the necessary medication; the temperature is usually reduced, and the patient's comfort enhanced. Hitherto these were the chief objects of the calomel treatment. We have now, however, another reason for its value, in the fact that calomel in purgative doses has been successfully used to abort other infectious diseases, as has been demonstrated by Ebstein and others. Clinical demonstration being the chief aim of this paper, I would adduce the testimony of Dr. Coester, in the *Berliner klin. Wochenschrift*, 1886, p. 55. The author himself took with good effect 1.0 gr. in three doses, and administered it in sixty-nine cases with eminent success in ameliorating the course of the disease. He had previously reported 298 cases, with 10 deaths, in various types of the disease, occurring during twelve years' practice; but in his last series of 69 cases he lost only one, a case of laryngeal diphtheria, without faucial deposit, which survived eighteen days after tracheotomy.

Tr. ferri muriatis is another remedy which I prescribe in all cases of diphtheria, not, however, in the small doses which I formerly used in combination with chlorate of potassium, but in doses from eight to twenty-five drops every hour, as we administer it so successfully in erysipelas. Only sufficient glycerine and water are added to somewhat soften its astringent taste; the more concentrated the better the local effect. It is administered two hours after the calomel, and continued hourly or bihourly night and day. I would lay stress only upon one point, unimportant as it may seem; *food or stimulants may precede the iron, but should never follow it immediately.* Then a local effect is obtained, which is readily recognized in the shrivelling of the deposit and the reduction of the circumjacent lividity.

The next remedy to which I would refer is *bichloride of mercury*, which is prescribed in all severe cases, especially when the uvula, nose, or larynx are involved. I will not weary you by entering upon a defence of this valuable agent, for many of you are doubtless familiar with it. I would refer, however, to the fact that I propose to present to you clinical evidence, not only to demonstrate its therapeutic value, but also the tolerance of large doses continued for many days without depreciating the system. I must say here, moreover, that there is no microscopic evidence to show that bichloride of mercury is injurious to the blood; while, on the other hand, we have the testimony of Keys that it increases the red blood-corpuscles. Nothnagel and Rossbach say: "It is not possible to consider the mercury as the direct cause of the wasting and anæmia. When the local disturbances are prevented by proper measures (such as purifying the mouth, cleansing teeth, and proper selection of preparation and form of administering) the treatment may be continued for a long time without any disturbance of nutrition. This testimony, which is corroborated by other modern investigators, should dispel the apprehensions still entertained by many regarding the spoliative influence of mercury upon

the system. In this connection a recent clinical report of J. Stumpf, in the *Muenchener Med. Wochensch.* (1887, p. 219), may be of interest. Having, during the early part of an epidemic, lost 22 out of 29 cases, Stumpf changed his treatment to inhalations of solutions of bichloride of mercury as the sole treatment, with the result of only 2 deaths in 31 cases. He administered with a hand ball-atomizer four grammes of the following solution: Hydrarg. bichloride, 0.2; aquæ destill., 170; and aqua menth., 30.0; using it every hour five times, then every two hours five times, then every three hours. The patients were children from nine months to twelve years, mostly from three to six years. There was one death from acute laryngeal diphtheria, without faucial deposit, and the other died in three weeks from diphtheritic neuritis. The temperature was invariably reduced, and a line of demarcation soon appeared around the deposit which began thus to exfoliate; the appetite returned. Every case was salivated, but this complication ceased three or four days after discontinuing the bichloride, under a three per cent. chloride of potassium mouth-wash. Roborant diet was given in all cases. This record would fortify the position I take, that bichloride of mercury does not depreciate the system in diphtheria.

The chief point to which I would direct your attention is my method of administration, which offers the advantage of the local effect upon the diseased surface of a 1 to 2,000 solution of bichloride without irritating the stomach. I order a teaspoonful of a solution of one grain to four ounces of water to be given every two hours. But this is always preceded five minutes by four to six ounces of milk or other nutriment. Thus the antiseptic solution is made to bathe the entire throat, and when it reaches the stomach it finds a diluent to neutralize its irritant effect. Neither water nor food is permitted for fifteen minutes. The nurse is cautioned against vomiting or diarrhœa, which indicates the immediate discontinuance of the mercury.

It will appear, then, from what I have said, that I lay great stress upon the proper administration and dosing of both the tincture of iron and bichloride of mercury. The nurse receives a written order of rotation as a lesson. The intervals are half hourly or hourly, as indicated by the nature of the attack, except when the patient does not readily fall asleep after being aroused for treatment. In this event an occasional longer interval of rest is permitted.

Rotation is as follows: First, stimulant, followed by tr. ferri; second, milk, followed by bichloride solution; third, other food, preceded by cleansing of mouth, applications of tripsin, or nasal injections, when indicated; fourth, begin as first.

Ice is applied externally to reduce glandular swelling.

I now desire to enlist your attention to a remedy which has but recently been added to the therapeutic armament against diphtheria. The remedies referred to above, viz., calomel, tincture of iron, and bichloride of mercury, have enjoyed the confidence of a large proportion of medical men since diphtheria became a recognized disease. Only the method of administering these remedies —a method which has slowly won my confidence—I have deemed worthy of presenting to your consideration. In oil of turpentine we have a more recent remedy, which, during the brief time of its clinical history, has been so thoroughly tested in private as well as in hospital practice that I must urge upon you its claim as a valuable agent in modifying and shortening the disease. If I enter somewhat at length into a discussion of the merits of oil of turpentine as a remedy in diphtheria, my reason lies in the fact that it is comparatively unknown as an internal remedy in this country, although its application in this disease originated here. In conversation with many colleagues, some of whom are specialists in paedriatics, I have not found one who has ventured to use it. They had read allusions to it in our journals, but all expressed appehensions lest the large doses required would produce untoward effects upon the genito-urinary organs. I may say that I shared these apprehensions in my earlier experience, but I was impelled to its use by the favorable reports in the German medical journals. In my first case I administered it per rectum with olive oil.

That the effect of large doses of oil of turpentine is not even unpleasant, my own experience in the thirty-nine cases of which I have notes, fortified as it is by the authors whom I shall quote, will, I trust, satisfy you.

In only one case have I observed temporary hæmaturia, in none strangury. This would seem the more remarkable, since experience teaches that the ordinary medicinal dose—ten to fifteen drops—does produce strangury. Last winter I ordered for a boy, eight years of age, suffering with typhoid fever, eight drops of ol. terebinth. every three hours. In two days the urine became scant and bloody. The classical report in George B. Wood's "Materia Medica" of a similar result on the crew of a ship laden with turpentine is perhaps familiar to you. That air charged with dry turpentine vapor will produce strangury and bloody urine is well brought out in the case (reported in the *Centralblatt für klin. Medizin*, No. 46) of a cooper who was repairing empty turpentine barrels in a close room.

A quotation from the "United States Dispensatory" may serve to allay apprehension with regard to the danger of large doses of oil of turpentine. "Swallowed in moderate quantities, it produces a sense of warmth in the stomach; accelerates the circulation. In small doses frequently repeated it stimulates the kidneys, augmenting the secretion of urine, and often producing, especially if long continued, painful irritation of the urinary passages, amounting sometimes to violent strangury. In large doses it occasions slight vertigo, a sense of fulness in the head, sometimes amounting to intoxication, attended frequently with nausea, and succeeded generally, though not always, by speedy and brisk catharsis."

To illustrate the tolerance of large doses of turpentine Bosse cites the experiments of Naunyn, made in 1868, to ascertain the conversion-products of turpentine in the human body. Naunyn and two other gentlemen took each one hundred grammes, about ℥ iij. of ol. terebinth. in emulsion with yolk of egg, in the course of four hours, with no unpleasant effect except slight headache. One of my nurses administered (by misconception of my orders) to a boy, ten years of age, one ounce of oil of turpentine, without unpleasant effect. I trust that these facts will dispel the fallacious ideas generally entertained regarding the danger of large doses of oil of turpentine.

Before presenting to you clinical evidence in behalf of this remedy, I desire to say that there is a strong scientific basis for its application in a zymotic disease like diphtheria. It has been shown by Koch that thymol and oleum terebinthinæ, being ozone-carriers, rank high as parasiticides. Indeed, so dilute a solution as 1 to 75,000 of ol. terebinth. will retard the development of anthrax spores. Grawitz and De Bary (*Virchow's Archiv*, No. 108, p. 88) say: "We undertook methodical investigations which demonstrated that oleum terebinthinæ is a germ-destroying agent of first rank, in many respects to be preferred to sublimate and carbolic acid. Turpentine can be as little rendered impure by pus cocci as the stronger solutions of sublimate and carbolic acid." As turpentine is eliminated by nearly all the secretions, it may be taken for granted that it circulates in the blood. Accepting the proportion of blood to the weight of the body as one to eight, we would have in a child of twelve years of age about ten pounds of blood. By administering one-half ounce oleum terebinthinæ we produce a solution of 1 to 320. Granting that gradual elimination will diminish this proportion, we may still claim that we obtain a sufficiently strong solution circulating in the blood to, at least, actively retard the development of disease germs. There is no other antiseptic by which a result approaching that from oleum terebinthinæ can be obtained.

Huebner says ("Schmidt's Jahrb.," 1884, 201): "The diphtheritic poison lies in the blood and intestines. From the latter parasites are constantly sent into the blood. This source should be destroyed. Hence, by disinfecting the intestinal canal by a large dose of ol. terebinth. in the early stage, we accomplish an important purpose."

The value of ol. terebinth. in inflammatory affections of the mucous membranes has been repeatedly attested by competent observers. A recent contribution to our knowledge of this subject is by M. J. Rossbach, who is well known as a cautious and skeptical investigator of the action of medicinal agents. He says: "Turpentine is the chief remedy in the diseases of the respiratory mucous tract. In watery solutions it increases secretion and diminishes engorgement by contracting the blood-vessels." The high esteem in which it was held by the older writers in puerperal fever, and by George B. Wood, and also by Graves (who administered it in drachm doses twice daily), in typhoid fever, attests its empirical value in low forms of disease. Clinical evidence, however, is the touchstone of its value in diphtheria, and this I propose to lay before you, to substantiate the view that in this harmless agent we have a new weapon with which to combat one of the most relentless foes of the human race.

I administer ol. terebinth. in doses of one drachm to half an ounce to children from six to fourteen years of age, once a day, oftener in cases demanding it. It may be given pure, followed by milk, or mixed with milk, or in emulsion. Vomiting occurs sometimes after the first dose, but it is usually retained afterward. On two occasions my hospital nurse, alarmed by the rapid spread of the deposit, administered an ounce to children of twelve and fourteen years of age, with good effect. In about fifty per cent. of the cases it produces a laxative effect; it always stimulates the secretions of kidneys and skin; the odor is quickly detected in these as well as in the fæces.

The originator of the turpentine treatment of diphtheria is Bosse (*Berl. klin. Wochensch.*, No. 43, 1880), who stumbled upon it by accident. (I may say here in parentheses that the value of large doses of merc. bichlor. in diphtheria was discovered, according to Dr. Armor, by a similar accident.) A boy, aged ten, who presented such well-marked symptoms of laryngeal stenosis that a fatal termination was imminent, was given by mistake twelve grammes of ol. terebinth., followed immediately, upon discovery of the error, by one-fourth litre of milk. The child, however, was not disturbed in the least; he grew quiet, and the cyanosis and sawing respiration disappeared. On the following morning the voice was still hoarse, but no longer toneless, the tenacious deposit was loosened—a marvellous change had ensued. Bosse, though skeptical and giving good reasons for being guarded in the statement, became convinced of its value after treating twenty-three cases, in children from two to twelve years of age, of severe diphtheria, without a death, while out of sixty-three cases treated previously by other measures, chiefly with chloride of potassium, four had died. He administered eight grammes to children of two to seven years of age, and twelve grammes to older children, pure, followed by milk, once a day. Deposit disappeared usually on the third day. In a second paper (*Ib.*, No. 10, 1881) Bosse details twenty cases, four of which were his wife and children. In these also the effect of shortening the most unpromising cases was remarkable. There were two deaths in three and twelve hours, respectively. In the literature of this subject I have encountered but one unfavorable report. Guttmann stated, in the discussion of Henoch's paper referred to above, that he had seen astonishing results from turpentine in one-drachm to two-drachm doses, but that later experience had disappointed him. I think his maximum dose was too small, and he erred in expecting a specific effect in all cases. On the other hand, we have abundant testimony from hospital and private records in favor of this remedy.

The *Deutsche Med. Zeitschrift*, 1883, p. 157, contains a paper read by Dr. Satlow before the Leipzig Medical Society. Satlow reports forty-three cases of the severest type of diphtheria, in which he followed Bosse's turpentine treatment with striking results, the mortality being three per cent. Three of his cases were laryngeal, which could not otherwise have escaped tracheotomy. A large proportion presented albuminuria, quite a number suffered from hæmaturia, which disappeared soon after omitting turpentine. Comparing the results obtained from the latter with his previous unhappy experience in this disease, Satlow confesses himself a convert to Bosse's method, when applied in the early stage. Satlow adds one gramme of ether to fifteen grammes of turpentine to prevent vomiting.

In the *Journal für Kinderkrankheiten*, 1885, Dr. Siegel, Chief of the Olga Hospital in Stuttgart, reports 83 cases of diphtheria, many of which were of the most serious type, being sent in by physicians when *in extremis*. Of 47 cases treated by turpentine, 14.8 per cent. died; of 16 cases treated by salicylic acid, 43 per cent. died; of 24 cases treated by sublimate (inhalations and brushing), 25 per cent. died.

In four cases sent to the hospital for laryngeal stenosis, tracheotomy was rendered unnecessary. In one case, when the former attendant appeared to witness the operation, he was surprised to find the symptoms so far ameliorated by a large dose of turpentine that the operation was not made. All the cases are cited in detail in Dr. Siegel's report.

Dr. Lunin's "Report from the Oldenburg Hospital for Children in St. Petersburg" (*Centralblatt für klin. Medizin*, 1885, p. 311) contains the following data regarding his treatment of diphtheria. Six different methods had been pursued in this institution:

1. Local, by 0.1 per cent. sol. bichlor. mercury, brushing the entire posterior wall of pharynx hourly.

2. Liq. ferri sesquichlor. internally, daily quantum 1 to 8 grammes in hourly doses, mouth and throat being cleansed by a three per cent. solution of boric acid.

3. Chinolin, 5 parts to 50, solution in alcohol brushed over membranes.

4. Resorcin pencilling, ten per cent. solution every two hours, and washing with one per cent. solution every hour.

5. Bromine, 1 to 200 solution for gums, and inhalations every hour of 0.2 to 0.4 per cent. solution for five minutes.

6. Turpentine, according to Bosse, either twice daily—one teaspoonful or ten drops hourly—three per cent. solution of boracic acid locally. As an average, the patients used 20 to 30 grammes turpentine, some 120 grammes. There was no strangury; it was omitted when vomiting or diarrhœa occurred. In all cases wine and musk were freely used. All the cases are reported in detail.

The statistics are as follows:

Fibrinous form.		Phlegmonous form.	
	Percentage of deaths.		Percentage of deaths.
Sublimate	30.2	Sublimate	45.6
Iron	31.6	Iron	56.3
Chinolin	32.6	Chinolin	53.0
Resorcin	20.6	Resorcin	65.0
Bromine	46.7	Bromine	69.7
Turpentine	8.3	Turpentine	43.4

The laryngeal cases are not included. That the average of the cases treated in this hospital is very severe is demonstrated by the total mortality, 55.8 per cent. in 410 cases. I cannot adduce my own statistics at this point because turpentine enters only as an important element into it. But reference to my clinical notes will show the indisputable value of this remedy in my hands. I trust that these data will encourage others to add ol. terebinth. to their list of remedies, and I would especially urge its administration early in the disease.

One more point, and I have done. It may be remarked that I have entirely discarded a remedy which has been, and is now, much in vogue. As mentioned above, *chlorate of potassium*, in combination with tincture of iron, had served me well until I encountered the more severe type of diphtheria. The quantity of both these remedies, as they are usually administered, is too small to make any very decided impression in these forms. A. Jacobi wrote long ago that the object in administering chlorate of potassium in genuine diphtheria is to remove the accompanying catarrhal condition, and he regards it as most efficacious only when the deposit is limited to the tonsils.

In the classical treatise on Materia Medica of Nothnagel and Rossbach, chlorate of potassium is referred to as "the most useful and best remedy that we possess for stomatitis mercurialis; but that the remedy is entirely useless in diphtheria, when given in ordinary doses, hardly admits of any doubt." As my own experience confirms this judgment, and as large doses of chlorate of potassium have been shown by Marchand, Hammake, Jacobi, and many others, to produce serious and even fatal renal disturbances, I feel constrained to discard this agent altogether in diphtheria.

I have now outlined the treatment of diphtheria as it has evolved itself in my experience by the light of modern therapeutics. The chief points emphasized by my clinical histories are:

1st. The necessity for local applications in the nasal and laryngeal form, and the inutility of these in most cases of the faucial variety.

2d. The administration of large doses of tincture of iron to saturate the system, instead of the small doses formerly resorted to.

3d. The value of full doses of bichloride of mercury in the more severe types, especially in the laryngeal.

4th. The value of large doses of oil of turpentine once a day in all severe types.

5th. The inutility of chlorate of potassium.

6th. The advantage of administering our remedies in such form and rotation as to obtain their local antiseptic effect in connection with their general effect.

The entire number of cases treated by the method above indicated was thirty-nine—thirty being in hospital, nine in private practice. Mild and doubtful cases are rigidly excluded from this record.

Among these thirty-nine cases there were two deaths, both in hospital practice; one occurred in sixty hours, and the other in fifteen days. In the first fatal case swallowing was so difficult that medication was not properly executed; in the second case the deposit disappeared so rapidly in three days that turpentine and bichloride were discontinued. Gastric irritability appeared several days later, when iron also was suspended. Patient died from neuritis.

It may be of interest to read a few brief histories illustrating the type of the disease I have observed, and the method and effect of treatment. I trust, Mr. Chairman, that these records may lead to the collective investigation alluded to in your recent circular.

Desiring to present the subject in perfect fairness before you, I will first cite the statistics of the consultation cases in which I suggested the treatment here referred to.

1. On December 8, 1883, was called by the late Dr. William Frothingham to see J——, a child, aged three, who had been sick three days; had been treated by iron and chlorate of potassium, also one dose of subsulphate of mercury as an emetic, when laryngeal stenosis commenced. Advised ol. terebinth.; one drachm was administered per os and two per rectum, neither of which was entirely retained. I performed tracheotomy, which had become imperative, but without avail. Patient died on following day.

2. Miss H——, aged eight. Saw her with Dr. L. Waldstein, the attending physician, at 9 A.M. of December 10, 1885. She had been ill two weeks. Stenosis was not pronounced, voice lost, deposit disappearing from throat. Advised ʒ j. ol. terebinth., which was retained. At 4 P. M. Dr. Waldstein regarded tracheotomy necessary. Patient died immediately afterward.

3. F——, boy, aged nine, living at Stamford, Conn.; seen with Dr. Hungerford on November 16, 1887. Had hoarse cough several days, but no deposit. Croup ensued, whereupon Dr. Hungerford, anticipating diphtheria, which was at that time prevailing in Stamford, administered tincture of iron in ten-drop doses, and one dose of ʒ ij. ol. terebinth. Next day symptoms aggravated; stenosis pronounced but paroxysmal. Bichlorate of mercury, $\frac{1}{32}$ grain, every two hours added, and ʒ ij. turpentine again administered in emulsion, and inhalation of turpentine vapor. Later in the evening Dr. Hungerford made a tracheotomy, with great relief. On following day I saw the boy again, and found deposit on uvula and pharynx. Iron, bichloride, and turpentine continued. Patient was comfortable.

November 18th.—Saw patient again, with Dr. Hungerford. *Deposit had disappeared from throat.* Great dyspnœa having occurred during the previous night, Dr. Hungerford had removed the tube, and with an aspirator and catheter removed a quantity of dried crusts and some membrane, affording great relief. Same treatment was repeated in my presence, because dyspnœa had recurred. Only crusts were removed. Patient immediately fell asleep. But dyspnœa again returned at night, which could not be relieved by aspiration. In this case the faucial deposit had disappeared as soon as the system was brought under the influence of the combined treatment. Dr. Hungerford attributes the death to blocking of bronchiæ by dried crusts.

Clinical histories.—Josephine K——, aged seventeen, admitted to hospital of New York Juvenile Asylum, June 8, 1887, at 12 M. Temperature, 100°; pulse, 120, feeble; bowels and kidneys acting; deposit on pharynx as far as visible; tonsils, palate, and anterior pillars enormously swollen, and presenting appearance of bacon rind. Extremely offensive odor from mouth; cervical glands so swollen that the chin is even with the chest. Sleeps constantly; entire body cyanotic; respiration is not embarrassed. Treatment: Calomel, eight grains, followed in four hours by ʒ iij. ol. terebinth.; bichloride of mercury, $\frac{1}{32}$ grain; of tincture of iron, twenty drops. Stimulants and nutriment in half-hourly rotation. Swallowed with great difficulty.

June 9th, 4 A.M.—Temperature, 103°; pulse, 130, flickering; somnolent; cyanosis deepening.

June 10th, 9 A.M.—Temperature, 104°; pulse, 140. Continued to fail until 10 P.M., when she expired. She retained first dose of turpentine, and very little of other medicines, etc.

Viola R——, aged three. First seen March 3, 1885. Temperature, 103°; deposit abundant on both tonsils. Calomel, four grains; tincture of iron and chlorate potassa mixture every half hour, alternating with milk; tripsin solution locally by brush every hour.

March 6th.—Deposit unchanged, a new spot on uvula. Enema of ʒ ij. ol. terebinth., with ℥ j. starch paste added.

March 9th.—Deposit flaking off.

March 20th.—Iron, chlorate of potassium, and tripsin having been continued deposits gradually disappeared.

March 23.—Dismissed.

Louise P——, aged eleven, March 21, 1886. Pharynx, velum, tonsils, and nose affected. Calomel, followed by tincture of iron in ten-drop doses, alternating half-hourly with $\frac{1}{32}$ grain bichloride of mercury. Nose treated by papayotin solution, ten per cent., in glycerine, and syringing with 1 to 10,000 bichloride solution. Food and stimulants, *p. r. n.* Three doses of ʒ j. turpentine, pure, were administered in three successive days without effect on disease; one dose vomited. Was seen several times by Dr. A. Jacobi. She made a very tedious recovery in one month.

Howard P——, aged three, brother of preceding pa-

tient; March 22, 1886. Pultaceous deposit on left tonsil; ℥ j. turpentine, pure, followed by milk, retained. Tincture of iron, six drops hourly.

March 23d.—Deposit disappeared.

March 24th.—Deposit on right tonsil appeared. Turpentine is now vomited; hence discontinued.

March 26th.—No improvement; bichloride of mercury, $\frac{1}{40}$ grain, added hourly.

March 29th.—Deposit disappeared, patient improving.

March 30th.—Voice husky, stridulous cough. Dr. Jacobi saw patient. Calomel, four grains, and constant inhalation of turpentine added. Remained all night, prepared for tracheotomy.

March 31st.—Improved.

April 14th.—Dismissed, with paralysis of velum.

Conrad L——, aged nine, admitted to hospital February 9, 1887; deposit on both tonsils. Calomel, five grains, followed by Rochelle salts. Tinct. ferri and chlorate potass mixture.

February 12th.—Deposit on velum. Tinct. ferri, ten drops, alternating with bichloride mercury, $\frac{1}{32}$ grain, every half-hour.

February 14th.—Complete aphonia; stridulous cough; marked pallor; some dyspnœa; no cyanosis. Inhalations of turpentine and lime-water vapor without intermission. Treatment continued, stimulants and nourishment as required (and given in all cases reported) until February 20th, when patient became cheerful and began to notice his surroundings; voice returned on February 25th. Dismissed, March 10th.

Jennie L——, aged thirteen, admitted March 15th, with large deposits on both tonsils; rapid pulse; marked asthenia. Calomel, six grains, followed by ℥ ij. ol. terebinth. in six hours; tincture of iron and bichloride alternating hourly; ℥ ij. turpentine once a day. Dismissed, March 20th.

Hattie F——, aged seven, admitted April 17th. Deposit on velum and right tonsil. Calomel, four grains, followed by Rochelle salts; tinct. ferri, twelve drops, and bichloride mercury, $\frac{1}{32}$ grain, hourly; daily dose of ℥ j. turpentine until April 23d. Dismissed, May 1st.

Maggie P——, aged six, admitted May 28th. Deposit on uvula, pharynx, tonsil, and in nose simultaneously. Calomel, four grains, followed by ℥ j. turpentine. The latter was continued once daily, and tinct. ferri and bichloride mercury hourly. Nose syringed three times daily with 1 to 8,000 bichloride solution, preceded two hours by fifteen per cent. tripsin solution. Dismissed, June 15th.

Charles A——, aged twelve, admitted May 19th. Deposit on tonsils, pharynx, velum. Calomel, six grains, followed by one dose of three teaspoonfuls of turpentine. The latter was continued once daily for one week; also hourly doses of tincture of iron, fifteen drops, and bichloride mercury, $\frac{1}{32}$ grain. Discharged, June 8th.

Allen F——, colored, aged twelve, admitted May 28th. Tonsils, pharynx, and palate affected. Calomel, four grains, followed by turpentine, ℥ iij.; tincture of iron, twelve drops; and $\frac{1}{32}$ grain bichloride, hourly; ℥ iij. turpentine once daily for five days.

Minnie P——, aged eleven, admitted June 3d. Temperature, 104°; pulse, 130, feeble; glands enormously swollen; deposit on tonsils, velum, and in nose. Ordered six grains of calomel, followed by turpentine, ℥ ij., bichloride and iron, hourly; turpentine ℥ ij. once daily; nasal injections of bichloride, 1 to 8,000. Discharged, June 18th.

John Van D——, colored, aged thirteen, was in hospital last winter for double pneumonia, from which he barely escaped. During this attack he suffered from suppression of urine for forty-eight hours, which was relieved by nitro-glycerine. Admitted June 17th, at 3.30 P.M. Temperature, 103.5°; pulse, 130. Diagnosis: Follicular tonsillitis, no pure diphtheritic deposit being visible. Temperature at 7 P.M., 105°. Calomel, eight grains, moved bowels. Chlorate of potassium and iron mixture hourly; milk and stimulants.

June 18th, 8 A.M.—Temperature, 104°. Noon: temperature, 105°; pulse, 135. No deposit; patient somnolent.

June 19th, A.M.—Temperature, 103°. Evening: temperature, 104°; pulse, 120, feeble. Large pultaceous deposit covering entire left tonsil and fading into pharynx; left cervical glands enlarged. Ordered tincture of iron, fifteen drops, and bichloride mercury, $\frac{1}{32}$ grain, alternating hourly. The deposit was rapidly spreading and patient's condition alarming. The nurse administered (by misconception of my orders) ℥ j. ol. terebinth., pure, followed by milk.

June 20th.—Continues somnolent. Morning temperature, 102°. Turpentine has moved bowels once. At 2 P.M. I found a new deposit on right tonsil; temperature, 101°. Ordered ℥ ss. turpentine; other treatment continued.

June 21st.—Took ℥ ss. turpentine at 6 A.M.; deposit on right tonsil shrivelling. Vomited last dose of turpentine. Still somnolent.

June 23d.—Deposit disappearing in flakes from right tonsil; temperature, 101°. Despite daily dose of ℥ ss. turpentine and hourly dose of tincture ferri and bichloride mercury, he required ℥ iij. Rochelle salts to move bowels. No deposit on left tonsil.

June 24th.—Temperature, 99°. Omit bichloride and turpentine. Discharged, June 28th.

Wm. R——, aged ten, admitted June 8th. Morning temperature, 102°; pulse, 130, weak; deposit thick on both tonsils; cervical glands swollen; entire aspect of case unpromising. Calomel, five grains; tincture of iron, twelve drops; bichloride of mercury, $\frac{1}{32}$ grain, every hour.

June 12th.—No change on tonsils; new deposit on palate; glands larger; somnolent; patient failing. Nurse gave him ℥ ij. turpentine, which moved bowels three times.

June 13th.—Temperature, 102.5°; pulse, 105, stronger; patient looks brighter; deposit on tonsils shrivelling.

June 14th.—Turpentine, ℥ ij. at 6 A.M.; moved bowels at 1 P.M.

June 15th.—Deposit disappearing.

June 16th.—℥ j. turpentine.

June 17th.—No deposit. Discontinue bichloride and turpentine. Continue iron. Dismissed, June 21st.

This was, like the last, a serious type. Turpentine was begun when deposit appeared on palate. Deposit on tonsils began to shrivel in twenty-four hours, and disappeared in four days.

Edward V——, aged thirteen, admitted June 16th. At 8 A.M., temperature, 105.5°; at noon, temperature, 104°; pulse, 130; appears to be a pure case of follicular amygdalitis of both tonsils. Ordered calomel, six grains, iron and chlorate of potassium mixture.

June 17th.—Temperature, 100°; pulse, 100. There is now a thick pultaceous deposit on left tonsil. Ordered turpentine, ℥ ss.; bichloride and iron hourly.

June 18th.—Nurse having noticed fresh deposit on uvula and general condition depreciating, administered ℥ j. turpentine; temperature, 102°.

June 19th.—*Deposit entirely disappeared.* Temperature continued above normal until June 23d, when patient was dismissed.

Frank F——, under care of Dr. F. H. Daniels, aged fourteen, admitted to the hospital June 16th. Deposit pultaceous on both tonsils. Ordered calomel, five grains, followed on following morning by ℥ ss. turpentine. Bowels moved in three hours.

June 18th.—No change. Ordered ℥ ss. turpentine; tr. iron and bichlo. merc. hourly.

June 20th.—Same treatment. In the afternoon, bowels not having moved in three days, patient received a teaspoonful of Rochelle salts. *The urine became bloody*, and remained so until the 24th, without strangury. Deposit cleared gradually. Dismissed, June 29th.

George M——, colored, aged eight, under care of Dr. Daniels. Admitted to hospital June 5, 1887. Temperature, 101°; pulse, 108. Deposit on portion of pharynx, uvula, and both tonsils thin. Ordered six grains calomel, followed by 3 j. turpentine in six hours, which moved bowels. Iron and bichlo. every hour.

June 10th.—Has taken 3 j. turpentine daily; also iron and bichlo. every hour. Deposit disappearing.

June 11th.—Continue iron alone; deposit less.

June 12th.—Nausea and vomiting; bowels constipated; enema.

June 13th.—Iron discontinued; food and stimulants in smaller quantities; pulse rapid; temperature, 100°; enema.

June 14th.—Vomits less; temperature normal; pulse rapid and feeble.

June 18th.—Patient vomits occasionally, but retains a fair amount of nutriment.

June 20th.—Taking food and stimulants freely. Small deposit on uvula. Died of heart failure.

Frederic W——, aged twelve; admitted June 10th. Temperature, 102°; pulse, 112. Deposit slight, on right tonsil. Ordered calomel, six grains, which moved bowels in six hours.

June 11th.—Temperature, 100°; pulse, 112. Tr ferri, ten drops, every two hours.

June 14th.—Fresh deposit on left tonsil and uvula, with surrounding livid area. Temperature, 102°. Case rapidly assuming grave aspect. Ordered ʒ ss. turpentine; also, hourly, bichloride and iron.

June 15th.—Temperature, 99°; pulse, 98. Deposit unchanged.

June 16th.—Temperature normal; deposit shrivelling; no lividity.

June 17th.—Deposit disappeared. Continue iron alone. Dismissed, June 24th.

Hermann D——, aged thirteen; admitted June 20th. Temperature, 100°; pulse, 120. Ulcer on right tonsil, diphtheritic deposit on left. Ordered calomel, six grains, followed by Rochelle salts. Tr. iron, ten drops, every hour.

June 21st.—Deposit spreads; general condition worse. Ordered ʒ ss. turpentine; moved bowels twice.

June 22d.—ʒ ss. turpentine; nauseated him.

June 24th.—ʒ ss. turpentine; vomited. Continue iron alone. Dismissed, June 25th.

Katie H——, aged fourteen; admitted August 16th. Temperature, 103°; pulse, 120. Large deposit on both tonsils. Ordered calomel, five grains, followed by salts. Tr. iron and bichloride hourly.

August 17th.—6 A.M.: Deposit appearing on palate, nurse became alarmed, and gave 3 vj. turpentine, which opened bowels once.

August 18th.—Temperature, 99°; deposit shrivelling. Ordered ʒ ss. turpentine.

August 19th.—Temperature normal; no deposit. Dismissed, August 26th.

Sadie S——, aged eight, daughter of gentleman occupying cottage at Long Branch, was seen on July 2, 1886. She had been under treatment by her city physician for follicular tonsillitis. She now presents large deposit on right tonsil; palate livid; temperature, 103°; cervical glands swollen on both sides. Calomel, four grains, tinct. ferri and chlorate potass every half hour.

July 3d.—No change. In the afternoon was suddenly called; found her hoarse, with stridulous cough; nostrils distended; sawing respiration; face pale and anxious. Ol. terebinth. 3 ij. in milk at once. Bichloride alternated with iron and potass mixture. Dr. Andrew H. Smith saw her four hours later with me; he discovered deposit in larynx. Treatment continued, with addition of turpentine and lime-water inhalations. Intubation instruments telegraphed for, and preparation made for tracheotomy. On following morning Dr. Froehlich, the family physician, arrived, bringing Dr. Frederick Lange with intubation instruments. But the patient was completely relieved of laryngeal stenosis, and deposit had almost disappeared, only whispering voice remained. Instruments were kindly left by Dr. Lange to meet possible return of stenosis.

July 5th.—Deposit entirely disappeared. Inhalations continued a week. Patient did not recover her voice until after convalescent two weeks.

These cases are representative of the remainder on my records, which it would be but reiteration to cite.

THE MECHANICAL TREATMENT OF SPINAL IRRITATION.[1]

By W. B. DE GARMO, M.D.,

NEW YORK.

Many authors have questioned the existence of any distinct disease worthy of the title of spinal irritation, and have attributed all symptoms usually so designated as due to hysteria, intercostal neuralgia, myalgia, or other causes.

It matters not whether you call these cases spinal irritation, spinal weakness, spinal tenderness, posterior spinal anæmia, hyperæmia, or, if you choose, hysteria; as a distinct and easy recognizable class they certainly exist, are frequently met with, are not much benefited by drugs, and they have a strong tendency to become bedridden.

The natural classification of this disease would bring it within the exclusive field of neurology, but this paper, while it does not pretend to discuss the subject in a scientific manner, does attempt to show, by the relation of a few cases treated, that more can be done for these patients by the orthopedist than can be accomplished by medication.

In the following cases it will be noticed that most of them have passed through about the same routine treatment, without relief, and it is equally noticeable that improvement under mechanical treatment has been almost universal.

The single case in which there was no benefit experienced should undoubtedly have been excluded from this list, but as its treatment was begun under the belief that it was a case of spinal irritation, the history and failure is given.

Case I.—Mr. T. G——, single, aged thirty years, of Scotch parentage and with a good family record, gives the following history:

He believes that his present condition is due to a fall in boyhood, but he enjoyed good health for four years after this, before the occurrence of any of his spinal troubles.

He then had what appears to have been an attack of inflammatory rheumatism, with two or three recurrences at later dates.

When twenty years of age he developed severe pains in the chest, abdomen, and back, which were attributed to rheumatism by his attending physician; some tenderness in the upper dorsal region was also noticed, and sharp attacks of pain were usually followed by partial loss of power.

Any over-exertion was followed by extreme backache and headache, with great prostration and nervous irritability.

In this condition the patient was confined to his bed most of the time for fully six years.

There was no change in the mental condition of this patient, as is evidenced by the fact that during this entire period he supported himself by writing stories and doing fine lace-work.

During these years he was treated for almost every disease in the catalogue, and among the numerous remedies tried were hot applications of spirits of turpentine,

[1] Read before the Orthopedic Section of the New York Academy of Medicine, November 18, 1887.

croton oil, issues kept in his back almost constantly for three years, fly-blisters, ergot, belladonna, iodide of potassium, iodide of iron, morphia, strychnia—all with little or no benefit.

When the case came under my observation, in December, 1878, the following condition was presented:

Patient in bed most of the time, and suffering very little pain when he kept quiet; tenderness upon pressure along the spine from the first to eighth dorsal vertebræ, the most sensitive spot being in the region of the fifth and sixth. Complete anchylosis of both hip-joints had occurred during his long confinement in bed; general muscular system in as good condition as could be expected under existing circumstances.

A spinal support, similar to that which I shall show later, was applied, and simple tonics prescribed.

The subsequent history can be briefly told. In one month he was about the house the most of every day, and within the first six months was enabled to take drives of some distance. Occasionally he would overdo, and suffer from a return of his head and back ache for a few hours.

After eighteen months' use of the appliance he was practically cured of his spinal trouble, and although he has, during the past seven years, led an active life and done a large amount of mental work, he has had no serious relapse. On several occasions, however, after overwork, he has found it advisable to return to the use of his spinal support for a brief period.

Case II.—Miss G——, aged twenty-five. This young woman, soon after an unfortunate love affair, developed backache, headache, and obscure abdominal symptoms, and soon after became bedridden, or at least spent the greater part of her time in bed.

I saw her first on June 22, 1880. She had been at that time over one year in bed, and had been put through quite a severe course of pessaries and other treatment for supposed uterine displacement or ovarian irritation.

She complained mostly of backache following attempts to sit or walk. Her hair had become quite gray for so young a person, but in other respects she had the appearance of good health. Menstruation was normal and bowels regular.

Examination of the spine revealed the fact that pressure upon the spinous processes of the ninth and tenth dorsal produced intense pain and nausea.

While there was at times considerable pain in the ovarian region, no unusual amount of sensitiveness could be discovered at this examination.

A spinal support was applied, and a rapid recovery resulted; within six weeks after the support was applied the young woman came from her home in Elizabeth to see me. The instrument was worn about one year, at the expiration of which time she was able to leave it off, and has had no return of her former trouble.

Case III.—Miss M. R——, twenty-two years of age, had been strong and healthy up to two years ago, when, without known cause, she began to have backache, which gradually increased in severity until she has of late spent most of her time in bed. She has also suffered from neuralgic pains in the chest and abdomen.

Riding in any conveyance, walking, or doing almost any form of work about the house, is quite sure to bring on an attack which prostrates her for several days, and is attended by some loss of power.

At this examination, January 15, 1881, I find her in bed, complaining of no pain when perfectly quiet, but very sensitive to any sudden movement, and to unusual noises.

Examination of the spine shows great sensitiveness in the upper dorsal region. Pressure upon the spinous processes of the vertebræ of this region produces sharp pain and faintness.

The spinal support was applied, and a gradual, but complete cure resulted.

The following are her own words regarding her improvement after she had worn the brace about two years.

"You ask if I have been benefited by the brace. I know that I have, and, had I not had it, I would now be unable to walk. I am now gaining my former health, can go about the house, and do all kinds of light housework. I am able to walk, and ride every day that weather permits."

At a later date this patient left the instrument off, and has enjoyed uninterrupted good health.

Case IV.—Miss C. H——, aged twenty-six; spinal irritation with partial loss of motion.

The duration of present illness is about ten years, beginning with a sharp attack of malaria and two severe chills daily. This malarial condition continued with more or less severity for about two years, reducing the patient's general health very much.

Lack of muscular power was then noticeable, with extreme tenderness along the spine and sides.

The head dropped forward from muscular weakness, and the prominence of the seventh cervical vertebra was mistaken for an abscess and deformity resulting from Pott's disease. The tumor was painted with iodine, poulticed, and at one time an operation upon it was seriously contemplated by the physicians then attending her.

Plaster-jackets and various appliances were used in treating the supposed carious condition of the vertebra. She found considerable relief in the use of any appliance which gave her support and kept the spine comparatively quiet, but from the expense involved in frequent changes of spinal jackets, and owing to the great weight of the mechanical support applied, she has abandoned all modes of treatment, and now relies upon a corset with side-supporting crutches devised by herself.

I do not think that a single remedy that was ever used for any form of spinal trouble has escaped trial by one or more of the eight or ten physicians who have attended this young woman.

Cups, leeches, actual-cautery blisters, iodine, electricity, externally.

Cod-liver oil, strychnia, phosphorus, ergot, belladonna, quinine, iron, zinc, and a long list of tonics, internally, all without improvement.

The gynecologist has also treated this case for some suspected version or flexion, hyperplasia, or erosion. Whether one or all were present, the fact remains that the patient was not relieved.

As now seen, February 24, 1884, the patient is a confirmed invalid, without a shadow of hope of ever again leading an active life. She has spent the greater part of her time in bed for the past seven years, and for two years has not walked. Has not been out of her room for eight months. Sits up only about one hour during the day, and the least excitement, the call of a person not seen every day, any unusual or unexpected occurrence, will be followed by the most intense head and back aches, which prostrate her for several days, and are followed by an aggravation of all of her symptoms.

The back is at all times quite sensitive to pressure and the seat of much pain, both in the sacro-lumbar and upper dorsal regions.

Sudden movement or jarring produces the most severe pain. Bowels torpid; menses and all other functions normal. There was partial loss of motion in the lower extremities.

In this case there were two distinct sets of symptoms, arising from the two points of irritation.

The tender point at the upper dorsal region gives rise to sharp attacks of pain in the chest and hypogastrium, which were variously diagnosed and treated as indigestion, heart-disease, and incipient tuberculosis, while the point at the sacro-lumbar junction gave rise to pelvic symptoms simulating uterine or ovarian disease.

An instrument similar to that which I shall show you

was applied, and while recovery has been slow in this case, when its extreme character is considered it is one of the most satisfactory cases that I have seen. Benefit was experienced almost from the first, and her history is one of steady recovery.

The following extract from her letter, received about two weeks since, briefly tells her present condition.

"You would like to hear how well I am getting, I know. I can walk all around the house and yard, have gone out calling on the neighbors, and can ride nine miles without feeling tired. I can do almost any kind of house-work, and really feel quite well again."

The incorrectness of the first diagnosis of Pott's disease is now beyond all question, as the head is held perfectly erect, the neck is freely flexible, and there is no unnatural prominence of the seventh cervical vertebra, results which would have been impossible had caries existed.

Case V.—Miss G——, aged twenty-two, seen October 10, 1885. About five years since the patient had a fall which shocked her very much, and soon after she developed obscure nervous symptoms, followed later by severe trouble with the head and spine, which seemed to be of an inflammatory character, and necessitated three weeks' confinement to bed; since that time she has never been entirely free from her present symptoms.

She has what she calls "spinal headaches," the pain beginning in the back and gradually extending up to the head. Inability to sit or stand any great length of time, and spends most of her time in bed. Is very sensitive to sounds of any sudden nature; the slamming of a door causing nausea and even vomiting. Slightly emaciated, appetite and digestion poor.

Pressure upon the sixth to eighth dorsal vertebræ causes pain and nausea. Patient also has some uterine trouble, the exact character of which I have not ascertained, for which she is under treatment.

The spinal support was applied, and considerable benefit has been derived from its use, but a complete cure has not as yet been obtained. I have not heard from this patient during the past year, and cannot report her present condition. My last entry, November 16, 1886, states that she is improving, and is to continue the use of the brace.

Case VI.—Mrs. E——, aged twenty-eight, has been five years married, and is the mother of three children.

About four years ago she began to develop unaccountable nervous symptoms, and a little later discovered great tenderness along the spine at the upper dorsal region; has head and back ache beginning in the back and extending to the head; has indigestion, and is unable to stand long; suffers from slight uterine derangement, which is recent, and believed to have its origin in child-bearing. The supposed cause of spinal trouble is overwork.

A spinal support was applied to this patient on October 20, 1885, which soon relieved the head and back symptoms, and improved her general condition.

This patient was not seen again until one year later, when she came to me complaining of a slight return of her old trouble.

Upon examination it was found that the appliance was very much out of repair, and failed to give the support that it had at first given, while it gave unnecessary discomfort.

The instrument was put in order, and improvement from that date was again quite marked. At last accounts she was much improved, and contemplated leaving off the support.

Case VII.—Miss A. P——, twenty-eight years of age, has been a confirmed invalid for eight years; has been treated for heart disease, gastric trouble, paralysis, uterine displacement, and irritable ovaries.

Materia medica seems to have been exhausted upon her, and still her decline has been progressive and unchecked.

In this case there is loss of power to quite an extent both in the upper and lower extremities; the speech is defective, slow, and hesitating; digestion poor; bowels obstinately constipated; is subject to headache, and some backache—the latter is not, however, a marked symptom; tenderness is slight and along almost whole length of spine; muscles of back are so weak that patient cannot sit erect without leaning against something.

Support applied, May 29, 1886. As originally applied, the patient could not wear the brace, and it became necessary to abandon the upright steel spring, using instead a broad piece of canvas around the back attached to the side-posts. This instrument has now been worn for nearly eighteen months and aids her in sitting up, but she is no better, and there appears to be no tendency toward recovery.

Case VIII.—Mr. D. M——, aged thirty-one. One year before this patient was seen he developed severe back and head aches, with very little loss of power, but an indisposition to take any active exercise, for fear of bringing on an attack of pain. Has spent the most of past year in bed, sitting up occasionally for a short time only. Extreme tenderness is found in the upper lumbar region upon pressure. Has had a plaster-of-Paris jacket applied, and derived some benefit from its use, but as it was applied by a novice it soon became unbearable, and was removed.

A support was applied on October 15, 1885. Improvement was decided from the first, and has been progressive to the present time, when patient considers himself well, and the instrument is worn only part of the time.

Of the eight cases reported, six have been practically cured, one has been benefited and was, at last report, still improving. In one case mechanical support seems to have had no curative effect, but enabled the patient to sit up with increased comfort.

Six of the cases were females, two males. In six the disease originated between the twentieth and twenty-fifth years, one at nineteen, and one at thirty years of age.

The assigned causes were: Two from falls followed by shock; one from malaria; one from grief; one from overwork; and three from unknown causes. As regards the region of the spine affected, in four it was in the upper dorsal; one of these had an additional point in the lower lumbar region, in another it was confined to this locality; in two the lower dorsal was affected, and in one there was general tenderness along the whole spine.

In the one case where no benefit has been derived from the use of the appliance, I am now convinced that I was in error as regards the diagnosis. I do not believe that it properly belongs to the cases now under consideration, but that there exists more serious disease of the cord.

The appliance used on these cases is shown in Figure 1.

It consists of a pelvic spring arching over the crest of the ilium, which forms its base of support; when locked in front this spring maintains its position and cannot slip lower.

From the top of the arch of this spring a steel side-post runs to each axilla, and there supports a crutch-piece or shoulder-bow which passes across the back.

In the back, running from the pelvic spring to the shoulder-bow, is a flexible steel spring which carries the spinal saddles or supports.

Any number of saddles may be added that is deemed advisable, and in one case it was found desirable to have one support above the shoulder-bow.

This instrument has only one fastening, that being in the front of the pelvic spring, and the chest and abdomen are left entirely free from any compression. In this we have what is practically a splint for the spine; it is somewhat flexible, but gives sufficient support without restraining the ordinary use of the muscles. It belongs, as most of the members know, to the old system of Banning supports.

After all active symptoms of spinal irritation have subsided, I put on, in place of the instrument already described, a much lighter one, shown in Figure 2.

As there shown, it has only one saddle, but more can be added if indicated. The instrument has a light pelvic band and shoulder-bow, and no side-posts.

It is the same that I frequently advise for the correction of so-called round shoulders.

In the cases related, three wore their supports at night during their early treatment, believing that they rested better with them on; the others wore supports during the day only.

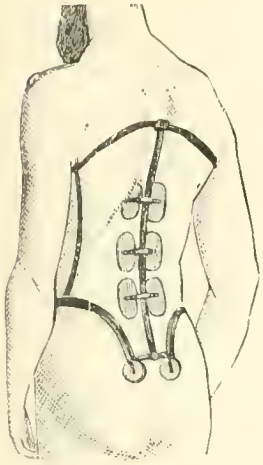

Fig. 1.

Fig. 2.

Where extreme sensitiveness existed, there has been apprehension on the part of the patients that they could not tolerate the pressure of the instrument in its immediate vicinity. It has been found, however, that, almost universally, the continuous and firm pressure given by the steel spring was, after the first day or two, a source of comfort rather than discomfort, and the disappearance of this tenderness has been one of the first signs of improvement; I have never seen a case where the pressure could not be tolerated after one or two trials.

Systematic and progressively increased exercise has been urged in every case; they have been asked to do just a little more each day than done on the previous. In fact, it has been the object to carry them to the full limit of their endurance, but not one particle beyond. Regarding this, extreme caution has been found necessary.

As regards medication, these cases have had, aside from meeting incidental symptoms, the hypophosphites of iron, lime, soda, quinia, and various tonics. Electricity has been tried, but the results were not satisfactory.

I am well aware of the fact that nearly all neurologists disapprove of the mechanical treatment of spinal irritation, but, so far as my inquiries have gone, I am led to believe that such disapproval is based upon routine practice, and not upon actual experience.

My own experience, and the experience of some of my orthopedic friends, leads to quite different conclusions, and this fact prompts me to bring the subject before this section of the Academy for discussion.

Brouardel on Typhoid Fever.—In an address delivered before the Hygienic Congress at Vienna, M. Brouardel, of Paris, described typhoid fever as more dangerous to man than cholera. He attributed its production to water-pollution in at least eighty per cent. of all cases. Attention to a pure water-supply is an all-important consideration in respect to its prevention. He believed it still an open question how far the origin of the disease was in decomposing organic matter, or whether there existed a specific typhoid germ.

Clinical Department.

A CASE OF REYNAUD'S DISEASE

By J. L. TRACY, M.D.,

TOLEDO, O

Ten years ago a young woman, aged eighteen, came to me and asked treatment for what I diagnosed at the time to be rheumatoid arthritis. The left shoulder-joint was firmly anchylosed, and the muscles of the shoulder were so much atrophied as to make a difference of one and a half inch in the measurements of the lateral halves of the body.

The singular feature of the case at that time was that the disease had advanced to the stage in which I found it without having prevented her from attending to the usual work of the house. She had never suffered pain, and did not know that the shoulder-joint was immovable. The atrophied muscles allowed the scapula increased mobility, which compensated the shoulder-joint anchylosis.

She had just finished learning the dressmaking trade, and the difference in measurement of the sides of the body that was revealed to her when being measured for her dress was what alarmed her, and caused her to seek treatment. The functions of the body were being performed in a healthy manner. She had several brothers and sisters; her parents were living, and all were healthy.

I had not seen the woman for a long time, when, six months ago, she came to me for treatment for her sore fingers and a sore toe. Her general appearance did not differ materially from her appearance when I last saw her. Anchylosis and atrophy were the same. Menstruation scanty, though regular. Bowels constipated; had headache a good deal of the time; was troubled frequently with sleepiness for several weeks at a time. She is of a bright, cheerful disposition; had the color of health in her face. She had not married. The nails were gone from middle finger and thumb of the left hand, and from the index, middle, and third fingers of the right hand, and also from the third toe of the left foot. From some of the fingers the skin was also gone; the denuded, ulcerating surface upon the first finger extended into the palm of the hand. The extremity of another finger was covered with a thin, shiny skin, bluish-purple in color, and the nail could be seen forming. Upon another finger a minute pustule showed itself, looking just as the skin does when the surgeon's needle is about to pass through it from within outward. From one of these pustules, she told me, the trouble always begins. The pustule would rupture, and a very small drop of sero-pus could be squeezed out, after which the pus would burrow beneath the skin at the edge of the pustular wall, and gradually loosen the skin from its attachment. The rapidity with which this ulceration advanced varied somewhat; but usually the nail and skin from one-half of the finger would be gone within two weeks. Sometimes the trouble would seem to spend its force when only one-third of the finger had been denuded, while at other times it would involve the entire finger. The nail was almost always destroyed. New skin would begin to form at the starting-point of the pustule very soon after it had ruptured, so that by the time the ulceration had ceased spreading, and sometimes before that time, the same shiny skin would be formed upon that part of the finger which was first affected. The fingers were never very painful, neither were they very tender, even when sorest. The history of the present trouble is that about seven years ago the patient pricked the index-finger of the left hand with her needle, and, instead of recovering as like injuries had done many times before, a chronic inflammation of the finger followed, with, in the course of a few, weeks a loss

of integument and nail, and the finger became a raw, bleeding surface, and so remained for nearly a year. The nail upon this finger has ceased to form, the matrix having been destroyed several years ago by the repeated ulcerations. The other fingers have become sore since this finger was injured; the last one became sore about six months before I saw her. The initial sore, in each case, seemed to follow some slight injury, and the course that the trouble followed was always the same as that above described, with the exception that sometimes the nail would be lost, and the sore would heal again within a few weeks, instead of lasting for a year, as did the first. There is no regularity as to the time when the fingers become sore, after having been once healed; neither does the outbreak follow as the result of some injury. The pustule shows under the nail sometimes, and upon different parts of the finger at other times. The fingers may all be sore at once; and, again, two or three may be well at the same time. None of the fingers has remained well for a longer time than three months. Only one toe has ever been sore, and that has the same history as the fingers. During the time that she was under my care, I thought that I could notice that the fingers were worse immediately after each menstrual period. I tried, in my treatment, to correct the amenorrhœa, and with some success. The headache seemed to me to be caused by some disorder of the stomach; and under treatment this distressing symptom, or complication, became less frequent. She also enjoyed an interval of three months of freedom from insomnia, and gained several pounds in weight. The insomnia again returned, however, and was as troublesome as before. The treatment consisted in tonics and galvanism. Sometimes for a few weeks the condition of the fingers would seem to indicate recovery, but the results of the six months of my treatment were, upon the whole, indifferent.

PERSISTENT VOMITING AFTER LABOR ARRESTED BY TINCTURE OF IODINE.

By W. T. DODGE, M.D.,

MARLETTE, MICH.

As a supplement to the article by Dr. Eliot in The Medical Record of September 24, 1887, I desire to report the following case:

Mrs. M——, primipara, small, closely built, was taken in labor the evening of November 6, 1887. I found the head presenting in the L. O. P. position. Labor progressed slowly, the occiput finally rotating into the hollow of the sacrum.

I administered an anæsthetic, applied the forceps, and after much difficulty succeeded in delivering the child—a girl, weighing twelve and one-half pounds. The child was asphyxiated, but artificial respiration restored it in ten minutes. The pregnancy had been normal, excepting a tendency to vomiting throughout its entire duration. The patient was much exhausted at the completion of the labor, but the uterus contracted well. Antiseptic precautions were at once adopted. The labor was followed by atony of the bladder, and I very improperly yielded to her solicitation for chloroform-anæsthesia during catheterization. She was in a most weak and nervous condition, and the suggestion of catheterization without chloroform produced so much excitement, followed by partial collapse, that I yielded to her request; the more readily, as she appeared to bear the anæsthetic very nicely. During the first two days she retained a small quantity of light food, but on the third day her stomach rejected everything. I then refused to give more chloroform, and administered all the usual remedies for allaying vomiting, without avail. During the next two days lactopeptine, dilute hydrocyanic acid, carbolic acid, sublimate nitrate of bismuth, lime-water, etc., were each given a faithful trial. Then all attempts at nourishment by the stomach were discontinued, and nutritive enemata were given every two hours, combined with hypodermic injections of brandy. Notwithstanding this, the nausea and vomiting continued until the evening of the the fifth day, when the patient was in a critical condition. Her pulse was 130; temperature, 101° F.; symptoms of impending collapse were apparent. The uterus was firmly contracted, abdomen free from tenderness, and the lochia normal; so I could not diagnose septicæmia. At this juncture I recollected having recently seen an article in The Medical Record on vomiting during labor. I looked over the files, and found the article by Dr. Eliot, previously alluded to, recommending tincture of iodine. I repaired to the bedside of my patient; found her retching and vomiting, and completely discouraged. I gave her five drops of the tincture of iodine in a tablespoonful of sweetened water. Two hours later I visited her again, when she looked up with a better expression than she had shown since her labor, and exclaimed, "I am hungry." I directed the nurse to give her some milk and lime-water, which she retained. During the night she twice experienced slight nausea, which was immediately relieved by tincture of iodine. She has not vomited, in fact, since the administration of the first dose, and is now making a rapid recovery.

AN UNDESCRIBED ARTERIAL MURMUR.

Dr. Samuel A. Fisk, of Denver, Col., referring to the article on this subject by Dr. Seelye, says that he has been studying this murmur for two years past: "As I find it, it is heard, as the doctor says, more usually on the left side. It is loudest in the infra-clavicular space, at a point just below the junction of the middle and outer third of the clavicle. It is most pronounced on deep inspiration, is independent of any heart-sound, and is found in full-blooded, healthy people, when there is no evidence of anæmia. I find it occasionally on the right side of the chest, but rarely, as compared with the left. It is synchronous with the carotid pulse, and while it is most pronounced on a deep inspiration I have frequently heard it during ordinary inspiration. I cannot agree with the doctor, however, in his assertion that 'it is probably of more frequent occurrence in those with inelastic chest-walls, and with more or less condensation or lack of expansive power in the upper part of the lungs.' One of the earliest cases in which I observed it was a strong woman, with an unusual expansive power of the chest, whose lungs and heart were perfectly sound. In her case the murmur was very pronounced, and especially accentuated on deep inspiration. Moreover, the persons in whom I have made most of my observations, and in whom I have most generally found this murmur, have been employés of the Union Pacific Railway—stout, able-bodied men, of large chest-capacity. Still further, in examining a large number of phthisical patients who come to Colorado on account of some consolidation of the left apex, in whom there is a limited chest-capacity, and a consolidation to transmit sounds easily, in no one of them all do I recall having heard this murmur. There is one possible exception. Some two years ago I saw a young man who had extensive consolidation of the left upper lobe. In him there was a murmur, coming a trifle later than the second heart-sound, to be heard over the upper portion of the left side anteriorly, with its maximum intensity about over the second rib in the mammary line. But in this case the *bruit* was decided and clear between the scapulæ; whereas I have never heard the murmur described by Dr. Seelye transmitted to the back. The murmur, in the case cited, led us to strongly suspect an aneurism; but it disappeared as the lung cleared up, and vanished with a recovery from the lung difficulty. I have been greatly interested in this murmur, and in Dr. Seelye's explanation of its causa-

tion. I have thought myself that it might be due to a compression of the artery between a fully expanded lung and the chest-wall. But if that be so, it should be heard as distinctly and as frequently on the right as on the left side, which it is not. May it not be caused by the friction of the blood upon itself, or upon the arteries, produced by an intensified blood-current striking the V where the left carotid and left subclavian arise from the aorta, causing, as it were, an eddying of the blood? Whatever the causation, the murmur is of interest, and has been correctly and vividly portrayed by Dr. Seelye."

Progress of Medical Science.

What are the Chief Factors which Determine the Differences in the Form of the Male and Female Pelves?—In a paper having this title, read recently before the London Obstetrical Society (*The Lancet*, October 15, 1887), Dr. Arburthnot Lane criticised the supposition that many, if not all, of the differences which exist in the form of the male and female pelves are due to the force exerted by the femora and sacrum upon the innominate bones. He considered that the conditions of the thorax and pelvis are exactly analogous in the two sexes, and described in detail the manner in which the female thorax differs as a whole and in its constituent parts from the male thorax. He thought that the factor which determines the altered form of the female thorax from the male thorax (which he regarded as the original type) is the additional function performed by the former—namely, that of accommodating the fœtus during the later months of pregnancy. In the case of the pelvis, that of the female performs one function in addition to those performed by the male pelvis. That additional function is the support and transmission of the fœtus, and he regarded this as the sole factor which determines the variations in form in the two sexes. He thought that there was a fallacy in arguing from the manner in which certain forces produce changes in the pelves of diseased female subjects during the lifetime of a single individual, that the same forces acting upon a healthy female subject determine this peculiarity in the form of the pelvis, and that, should these forces be absent, the characteristic peculiarities do not result. He attempted to prove this point by applying the same argument to the analogous condition of the female thorax. He discussed the two most common variations in the form of the male pelvis and their probable cause, and showed that these variations do not occur in the female subject. The pressure exerted by the fœtus, represented as a developmental factor, is the cause, he considered, which prevents the occurrence of such variations in the female subject. He then alluded to pressure-changes due to carrying loads upon or in front of the trunk, and from premises gathered from these several points came to the conclusion that the sole determining factor of the variations in the form of the male and female pelves is, as in the case of the thorax, the force or pressure exerted by the fœtus. In the discussion which followed the reading of this paper, Dr. Herman agreed with Mr. Lane in holding that the form of the pelvis was due to inheritance—*i.e.*, to influences acting on many generations of ancestors—more than to forces acting during the life of an individual. But he thought the way in which the shape of the pelvis was modified in transmission through many generations was mainly this—that women with well-shaped pelves were able to bear large, strong children, likely to survive and to inherit and transmit that type of pelvis; while women with small pelves produce either stillborn children, or small, weak children, not so likely to survive, and so a stock with small pelves tended to become few.

Gouty Diabetes.—Writing on this subject to *The Lancet*, Dr. Grenville says that persons affected with this malady are generally of large frame, with little stability or power, full-sized but flabby muscles, and a tendency to the accumulation of fat. They are great—or intermittingly great—eaters, and energetic or impulsive, but weak and easily exhausted. The skin is pale, and they suffer from coldness of the extremities. They sleep badly at night, and worry in their wakefulness; while by day they are drowsy, and when falling asleep breathe heavily, or, if not roused, sink into a state verging on coma, with puffing, sighing, or labored respiration. They are commonly subject to attacks of vertigo, in which surrounding objects seem to race from left to right; and not seldom they have weak hearts with rhythmically irregular pulses, and perhaps a short mitral systolic murmur, which is not constant, but more likely to be heard when the heart is acting languidly than when it has been recently stimulated by exercise. The characteristic phenomena are: (1) Very great variability in the quantity, color, and density of the urine passed in twenty-four hours, and the want of relation between the bulk of the fluid consumed and that excreted; (2) sugar is present when the urine is small in quantity rather than when it is abundant; (3) the acidity is abnormally low in proportion to the percentage of urea; (4) there is generally much uric acid (Haycraft's test) when the sugar is absent, and less than the average proportion of health when sugar is present; (5) albumen is often found soon after a meal, either with the sugar or during a free elimination of uric acid, and when there is no albumen the phosphates are generally in excess; (6) the liver is enlarged *vertically*, and the bowels are constipated, with occasional attacks of diarrhœa, the stools being pale when scanty, and bilious when profuse. Hemorrhoids are usually present and troublesome in these cases, and when they do not bleed they often attain great size. Not infrequently there is also a prostatic gleet. In the management of cases of this class many difficulties have to be encountered, and they are far from easy to overcome. Meanwhile one thing is certain, namely, that, dieted as it is the fashion to diet patients suffering either from gout or diabetes, and treated on conventional principles either at home or at the continental spas, the subjects of gouty diabetes do not do well. They may be for the moment relieved, but they quickly relapse, and, on the whole, go from bad to worse steadily. It is with a view to plead for a more generous regimen and tonic treatment that Dr. Grenville writes. Wisely, but liberally fed, with meat in such quantities as the stomach will take, *ordinary* bread and vegetables—in short, a full mixed diet—dry champagne, which contains a minimum of alcohol and a large proportion of ether, and well-matured port wine, in appropriate and measured quantities (the effect being carefully watched), they do well. The albumen and sugar disappear; the quantity of urine excreted becomes normal and relatively regular. The pulse gains strength and rhythm, and the condition throughout improves, under some modification of the following treatment: Ferri lactatis, gr. 10; acidi lactici, ℥. 15; quiniæ puræ, gr. 1; extracti convallariæ fluidi (*e floribus*), ℥. 10; aquæ ad oz. ½; every sixth hour, or in bad cases every fourth, or even third, hour. Should there be constipation, add five or ten minims of the fluid extract of cascara sagrada (U. S.); or diarrhœa, or excessive diaphoresis, ten minims of tincturæ cotonis.

Micro-organisms in Inherited Syphilis.—Doutrelpont says that early last year Kassowitz and Hochsinger reported the detection in the organs of five cases of hereditary syphilis of streptococci, which were contained within capillaries or their vicinity. These cocci differed from others in that they were not associated with suppuration. The authors refrained, however, from stating their precise significance. Kolisko, who had made numerous preparations from syphilitic infants dying within a day or two after birth, had failed to find streptococci, except in one case of furunculosis, and this he attributed to infection by the streptococci pyogenes. Again, Chotzen, in Neisser's clinic at Breslau, had discovered strepto-

cocci occasionally in the bones, skin, liver, and intestinal mucosa of subjects of hereditary syphilis. But he looked upon their occurrence as accidental, although there is no doubt these particular microbes are different from those of erysipelas and suppuration. Chotzen suggests that the cases in which they occur are instances of mixed infection, and that a streptococcus-septicæmia may be the cause of death in many cases of hereditary syphilis. The ulcerated surfaces of the mucous membranes might be the entrance of the streptococci. Doutrelpont says that in pursuing his researches upon bacilli in syphilis he met with streptococci in papules removed from an infant that died fourteen days after birth. No lesion of bones or internal organs was found in this case. The histological examination of the affected skin showed the horny layer of the epidermis over the papules to be raised up, and between this and the rete mucosum were masses of streptococci and staphylococci, especially abundant in the hair-follicles and ducts of the sebaceous glands. The cutaneous papillæ were infiltrated with small cells, especially around the vessels, and streptococci were met with here also. The blood-vessels were for the most part free from cocci, but in a few which contained blood streptococci were seen between the corpuscles. On the other hand, the lymphatic channels were blocked with the micro-organisms, some of which were even detected in the subcutaneous tissue around the sweat-glands and between muscular fibres. By using special double-staining methods, the author was enabled to display in the same specimens the bacilli which have been described as characteristic of syphilis, although they occurred but sparsely. He believes that the streptococci have no relation to the syphilitic process, for he has never met with them in all his previous and numerous examinations of syphilitic products. He inclines to Chotzen's view, that their presence is due to a septic infection, which the cutaneous and mucous lesions of syphilis render possible.—*Centralblatt für Bakteriologie.*

Ptomaïnes as Causes of Error in Toxicological Research.—At a meeting of the Académie de Médecine M. Brouardel read a communication by Ogier and Minorici on ptomaïnes as causes of error in toxicological research, of which the following is a *résumé* (*The London Medical Record*): 1. The liver and kidneys furnish residues that have in general the same reactions. 2. The most abundant residuum is furnished by amylic alcohol (alkaline solution), and by benzine and chloroform (acid solution). Petroleum (hydride of hexyl) takes nothing, or next to nothing, away from alkaline solutions. 3. In one case only (a fœtus of seven to eight months, presenting no signs of putrefaction) the residuum showed no alkaloid reaction. In all the others more or less of basic substances were obtained, precipitated by general reagents; by far the most sensitive of these reagents being iodide of potassium iodized. The residues are considerable from viscera in which putrefaction has hardly commenced (bodies of two to four days in summer); more abundant from viscera in active putrefaction (bodies of eight to twenty days); beyond a certain limit of putrefaction (bodies exhumed after two years or more) the quantity of ptomaïnes ostensibly diminishes. 4. The tabular results of these experiments show the amount of confidence that may be reposed in different colored reactions in the search for vegetable toxic bases, and the influence of ptomaïnes on the reaction. For example, perchloride of iron has never given any coloration; it is therefore a good reagent for morphine. Alcoholic potash, after oxidation by nitric acid, never gave a violet reaction comparable to that of atropine. Nitric acid alone often gives yellow or orange coloration much less intense than that obtained with brucine, but capable of being confounded with the tint that would be given by a trace of morphine. The use of reagents containing a large excess of sulphuric acid (molybdate, vanadate, selenite, etc.) is rendered very uncertain by the presence of ptomaïnes; for mixed tints are obtained, reddish or inclining to violet, and very often identical with those given by sulphuric acid alone. With bichromate of potash and sulphuric acid, on one occasion only, a violet tint was obtained similar to that given by a trace of strychnine; with alcoholized sulphuric acid and perchloride of iron certain residues gave greenish tints, capable of being confounded with those of digitaline under similar circumstances. Without giving undue importance to these causes of error, it is necessary to take them into consideration. The tints due to the presence of ptomaïnes are never as decided and as evident as similar tints produced by vegetable bases. Besides, one colored reaction does not suffice for a decided conclusion; it is necessary to consider the *ensemble* of the chemical and physiological facts, so that, in fact, the chances of error are very slight.

Hæmatology in the New Born.—Hofmeier had found that the size of the red blood-corpuscles was very variable; that their form was more spherical than in adults; that they showed no tendency to run into rouleaux; that the white corpuscles are often in greater proportion than usual; that the white corpuscles tend to accumulate in rouleaux, and that they are viscid, deliquescent, and easily destroyed. Silbermann confirms Hofmeier, and also shows in addition that the blood of the new-born contains *shadows*, which are certain delicate pale rings forming the stroma of red blood-disks, the coloring matter having been removed. These bodies, first discovered by Ponfick, are found to be more abundant the more disturbed is the child's general condition during the first few days of life. Hæmoglobinæmia induced by this general disturbance does not always lead to hæmoglobinuria; but if it occurs, then, according to Schmidt and his disciples, the circulating blood will contain a relatively large quantity of fibrin ferment, red and white corpuscles having contributed to this result. Silbermann concludes, from experiments on frogs, dogs, and puppies giving results in the blood identical with those deviations met with during the first few days of life in the blood, urine, and liver of infants, that there is a free destruction of red corpuscles, resulting in the liberation of free hæmoglobin. Venous stasis and hyperæmia were found, and attributed to this consequent increase in the fibrin ferment, resulting from excessive destruction of the red and white blood-corpuscles. So it seems that the condition of the blood in the newly-born predisposes to disease, and, in the presence of such conditions as asphyxia, omphalitis, syphilis, gastric and intestinal catarrh, and erysipelas, is likely to be of grave importance. It is supposed that the liver would convert the extruded hæmoglobin into bilirubin, and this is perhaps one of the natural functions of the liver, which, for aught we know to the contrary, may also aid in the destruction of the red blood-disks as well as in the manufacture of bile. It is possible that this destruction and manufacture are one and the same process. The conclusions of Silbermann are: The blood of the newly-born shows evidences of imperfect stability in the variation in size of the corpuscles, in the presence of *shadows*, and in being rich in fibrin ferment. These results may be due to liberation of the hæmoglobin, and they may predispose to disease, since all morbid processes involving great destruction of albumen in the circulation are probably very dangerous to life.—*Archives of Pædiatrics.*

The Consumption of Beer in France.—The quantity of beer consumed in France varies remarkably in the different cities. Thus in Nantes only 4 litres a year for each inhabitant are drunk; in Paris, 12 litres; in Havre, 22; in Nancy, 48; in Amiens, 100; in Saint-Quentin, 234; and in Lille, 301. But France is still far behind its hated rival, Germany, in this respect. In Munich, the amount of beer consumed reaches the very respectable figure of 400 litres a year for every man, woman, and child in the city.

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AN INTESTINAL ANTISEPTIC.

CAREFUL bacteriological studies have shown that none of the drugs ordinarily used internally as antiseptics have much, if any, potency, so far as the fermentative changes in the intestine are concerned. Calomel, bismuth, salicylic acid, naphthalin, carbolic acid, all diminish the number of micro-organisms in the fæces but slightly, perhaps one-fourth or one-third at the most. Given in large enough doses to be really effective germicides, they are all dangerous to life.

To secure a real intestinal antiseptic we must find a drug but very slightly soluble, nor readily decomposable, non-irritating, of powerful disinfectant property, and, comparatively innocuous to life, even when it does reach the circulating fluids of the body. Rossbach thought that in naphthalin such a substance had been found, but in this, later experience shows that he was mistaken.

In a recent communication to the Académie des Sciences, M. Bouchard claims to have found a substance which does fill all these requirements, viz., naphthol. Naphthol is not a new drug. It has been used by dermatologists for six or seven years, and by surgeons for a somewhat shorter time. The preparation usually employed is the beta-naphthol, and this is what Bouchard uses. It is obtained from tar, and is a substance soluble in alcohol, but not in pure water.

Bouchard first made a series of experiments to determine its germicidal power. With regard to pyogenic micro-organisms, he found that a solution of 0.40 per 1,000, or 0.04 per cent., was sufficient to prevent their development. This, he states, is one-sixteenth the strength of mercuric biniodide, and five times the strength of carbolic acid.

But though less powerful than mercury as an antiseptic, it has the advantage of being comparatively harmless to the human body. As the result of tests made, Bouchard states that the toxic dose of naphthol for a man weighing one hundred and thirty pounds is 250 grammes, or about half a pound. On the other hand, a daily dosage of 2.50 grammes, or less than forty grains, is sufficient to produce intestinal antisepsis. Toxic, not lethal, effects have only been produced when the naphthol was ingested in doses of about twenty-six grammes. The phenomena are those of albuminuria, spasmodic muscular contractions, salivation, and coma. Hæmoglobinuria has not been observed.

Bouchard gives the following interesting tabular statement of the comparative antiseptic power, toxicity, and dosage of several different substances:

	Antiseptic dose.	Toxic dose.	Daily toxic dose.
Iodoform	1.27 per 1,000.	0.50 gramme.	0.05 gramme.
Iodol	2.75 " "	2.17 grammes.	1.24 "
Naphthalin	1.51 " "	3.40 "	1.60 "
Beta naphthol.. ...	0.40 " "	3.80 "	1.10 "

NAPHTHALIN AND CALOMEL IN TYPHOID FEVER.

THERE has been a large amount of clinical evidence tending to show that calomel and naphthalin are efficient drugs in typhoid fever, lessening its severity and even at times aborting it. Dr. Fürbringer (*Deutsche Med. Wochen.*, 1887, Nos. 11 to 13) has been investigating this question both clinically and from a bacteriological standpoint, with results somewhat disappointing to hopeful therapeutists. Naphthalin was first tried in one hundred consecutive cases of typhoid fever. It was given in doses of 3 to 5 grammes daily, according to the Rossbach-Götze formula. Mild baths were also employed, but no other special remedies. Dr. Fürbringer concludes that the drug had no influence in shortening or aborting the disease, or in preventing complications or relapse. Still more positive were his bacteriological studies. He found that the fæces of patients not taking naphthalin contained 112,000 micro-organisms per milligramme, while during the use of naphthalin the number was only reduced to 90,000. Furthermore, the naphthalin did not kill the typhoid bacilli, and these could be cultivated from the stools without any difficulty.

Calomel given in good doses at the beginning of the disease had a striking action upon the temperature, lowering it for some time. Fürbringer seems to think that this result does not occur in other fevers, and infers that it is in a measure a specific action. There is, however, plenty of evidence to show that calomel does act similarly in other febrile diseases, such, for example, as pneumonia. In the calomel stool the number of micro-organisms is about three-fourths that in the ordinary stools, or 81,000 per milligramme.

The typhoid bacilli are not killed, and such action as calomel possesses cannot be due, therefore, to any anti-parasitic process. Fürbringer thinks that the drug does possess a certain amount of specific action, but that, practically, the calomel treatment of typhoid fever does not materially influence the course or mortality of the disease.

ON THE PATHOLOGY OF TRISMUS AND TETANUS NEONATORUM.

THE cause of tetanus in the new-born has long been a subject of dispute. The disease has been ascribed to pressure from inward displacement of the occipital or parietal bones, to phlebitis of the umbilical vein, to uræmia, rheumatic influences, and to umbilical injuries. The fact that in severing the umbilical cord a traumatic lesion is produced, has led many to insist on this being the point of origin of the disease; yet cases of inflammation of the umbilical vein and of unhealthy umbilical granulations have been observed without tetanus fol-

lowing. The tendency of modern pathological investigations is to show that tetanus is a specific infectious disease due to some micro-organism. The experiments of Rosenbach, Nicolayer, and Carle and Rattone give weight to this view, although it is not yet placed on an established basis.

It would be natural to infer that the tetanus and trismus of the new-born had a similar pathogeny to that occurring in adults. In the *Berlin. Klinischer Wochensch.*, No. 30, 1887, Dr. Beumer announced that he had been able to communicate tetanus to mice and guinea-pigs by inoculating them with tissue taken from the umbilicus of an infant who had died from the disease in question. Beumer's conclusion was that tetanus or trismus neonatorum is not a reflex neurosis of unknown origin, but, like traumautic tetanus, is an infectious disease. Dr. E. Peiper, of Greifswalde, in a communication to the *Centralblatt für Medicin* of October 15th, corroborates completely the experiments of Beumer. In an infant suffering from typical trismus, parts of the navel were carefully removed with sterilized instruments, and with the usual technical precautions. Inoculations were made in six mice. Three of the animals began to suffer typical symptoms of tetanus in twenty-four hours, and died in two days. The three other animals developed the disease less perfectly, but eventually died of it. Guinea-pigs were then inoculated with bits of tissue from the neighborhood of the wound in the dead mice. Five days later these animals developed tetanus. The evidence thus furnished appears to show that tetanus neonatorum is an infectious disorder, of microbic origin, and identical with ordinary traumatic tetanus. Inoculation of the umbilical wound with the specific virus is the direct cause.

It is most likely that this view will turn out to be the correct one for most cases. Tetanic and trismic symptoms in infants may, however, no doubt be sometimes produced by pressure or reflex irritation. Marion Sim's view regarding pressure as a cause has always rested on incomplete evidence. But one may admit that displacement of cranial bones is sometimes a factor, and in practice the skull should always be carefully examined. At the same time the rational treatment for trismus and tetanus neonatorum is the preventive one, and this in the light of recent discoveries seems to consist in an antiseptic treatment of the umbilical cord and the navel.

THE CONDITION OF THE CROWN PRINCE.

(Cablegram from Sir Morell Mackenzie to THE MEDICAL RECORD.)

SIR MORELL MACKENZIE, in a cablegram to THE MEDICAL RECORD, takes a hopeful view of the present condition of the Crown Prince of Germany. "A new growth of small size has appeared on the left ventricular band, and gives the appearance of a false excrescence. The October growth, which gave rise to so many distressing symptoms, is now much smaller, and the ulceration on its surface has cicatrized. There has been no recurrence of the original growth which was removed from the posterior portion of the left vocal chord last summer. The infiltrated glandular swellings have disappeared."

The disease is evidently, for the present, in a quiescent condition. The new growth, which is above the site of the original one, is doubtless of the same character as others which have preceded it. As far as can be judged from the facts before us, the disease is destined, barring accidental complications, to progress slowly. A specially hopeful sign in that direction is the non-recurrence of the first tumor removed. From all appearances the progress of the disease is arrested from that point, and gives encouragement for persistence in the present line of treatment.

As we have supposed, the October growth, although really an extension of the disease, gave rise to local symptoms which were out of all proportion to its special malignancy. The associated conditions of inflammatory infiltration of the glands of the throat and subsequent suppuration of the parts in the neighborhood were due to accidental and transitory complications. Hence we now learn that after the discharge of pus the swellings have disappeared, and the growth itself has apparently diminished in size. The disease still has a clinical history of malignancy, although, by the present judiciously conservative treatment of Sir Morell Mackenzie, it is destined to be kept in abeyance for a very considerable period.

News of the Week.

DR. V. P. GIBNEY, Professor of Orthopedic Surgery in the New York Polyclinic, has been made Surgeon-in-chief of the Hospital for the Ruptured and Crippled.

THE SLOANE MATERNITY HOSPITAL AND THE VANDERBILT CLINIC.—The exercises on the occasion of the opening of the Sloane Maternity Hospital and of the Vanderbilt Clinic will take place in the lower lecture-room of the College Building, 437 West Fifty-ninth Street, on Thursday, December 29, 1887, at 3 P.M. The address will be delivered by Professor T. Gaillard Thomas, M.D. The profession are invited to be present. Seats will be reserved for ladies.

BRAIN SURGERY.—We learn that in the case of cerebral tumor which was removed lately by Dr. Weir, at the New York Hospital, the patient has recovered sufficiently to go to his home in Bridgeport, Conn. The tumor had been correctly located by Dr. Seguin in the white substance below the arm and face centres, and was found in this locality, one inch below the surface. Full particulars will appear later in our columns. Since this operation was performed Dr. Keen, of Philadelphia, has removed a fibroma, weighing over three ounces, from the brain. Dr. Abbe, of this city, last week, by a similar operation, evacuated a cerebral cystic tumor.

ANOTHER DISCOVERER of the cancer-bacillus is announced in the person of Dr. Schill, of Dresden. He described his bacillus at a recent meeting of the Berlin Society for Internal Medicine. It resembles that of Scheuerlen. The former gentleman's experiments are described as follows by a correspondent of the *British Medical Journal*. Dr. Schill made experiments with about forty specimens of cancer of the breast; from every specimen he inoculated twenty culture-tubes. Of these eight hundred inoculations, four hundred had been fruitful. He obtained the cancer-juice aseptically, and

cultivated from it a micro-organism which proved to be a spore forming bacillus. Cultivations were made upon exudation taken by puncture from a case of pleurisy with effusion, put in the sterilizer for five days, and coagulated on the sixth day; cultivations made upon blood-serum, agar-agar, peptone, gelatine, or potato were equally successful. The growth was very luxuriant, taking place in the following manner: The bacilli were first found in the growth; then in from twelve to twenty-four hours spores made their appearance, and covered the entire surface. In microscopical preparations of the cancer-juice itself the same spores were found, often in much smaller number than the bacillus, while it has never yet been seen in sections. The microbe forms upon the surface of the culture materials a thin film, which is either transparent or of a yellowish brown. The bacillus can be stained by all the methods in use (very easily by Gram's method); the spores are stained with difficulty, and only by Professor Ehrlich's process for staining the tubercle bacillus. Both the bacillus and its spores have spontaneous movements. The spores are to be found mostly outside the cells, rarely single, generally in clusters, as though the cells were sprinkled with them. Experiments were made on six female dogs; the cultivations were injected into the mammary gland, but no conclusive results have been obtained. A soft swelling, not distinctly circumscribed, formed at first, and then diminished; it became compact and circumscribed, showing under the microscope a decidedly epithelial character, much related to cancroid. This bacillus Scheuerlen believes to be certainly the cause of cancer. In the discussion upon Scheuerlen's report, Professor A. Fränckel, one of the first bacteriologists of Germany, objected to the method by which these experiments had been conducted, saying that secondary infections might easily have taken place, such as frequently occur. Neither did the quick growth of the bacillus answer to the slow growth of cancer, as hitherto found in all clinical experience.

Progress of Cremation.—Europe has twenty-two crematories, situated in London, Paris, Rome, Brussels, Gotha, Dresden, Florence, Copenhagen, Milan, and other cities. Ten of these have been erected within the past year. There have been 600 incinerations in Germany and 800 in Italy. In the United States there are twenty-one cremation societies and seven crematories; the latter are located at Fresh Pond, L. I.; Washington, Pa.; Lancaster, Buffalo, Pittsburg, Cincinnati, and Los Angeles. Crematories are in course of erection in Philadelphia, Baltimore, St. Louis, Detroit, San Francisco, and Davenport. At the Fresh Pond crematory there have been about one hundred and forty-seven applications for incineration in two years.

"Chancre Medicine" is the name given by the Indians of Arizona to iodoform. These sufferers from excess of civilization call for the drug as regularly as for rations and blankets.

In Bright's Disease without Albuminuria there is a lessened excretion of urea and other toxic elements. A good way to determine this lessened toxicity is to note the result of the injection of a certain quantity in the veins of some animal, as the hare. With normal urine, it is necessary to inject fifty grammes for every kilogramme of the animal's weight in order to kill the animal. Thus if the animal be a hare weighing two kilogrammes, the quantity necessary to produce death will be one hundred grammes of urine. In the pathological state, however, where from atrophy of the glomerules, or other cause, impeding or suppressing their function, the waste matters are much less than in the normal state, it takes a much larger quantity of urine, when injected into the veins of the animal, to kill it; one hundred grammes, and even more, per kilogramme, will fail to have a decided toxic action. Sometimes such urine seems to be almost as harmless as water.

Buffalo, N. Y., is a large city with some two hundred regular physicians. But these exponents of a presumedly learned profession refuse to support a medical library whose annual expenditures are only one hundred and fifty dollars a year. The Buffalo Medical Library Association is about to collapse, after five years' existence, from want of sufficient funds. Yet Buffalo has two medical colleges, two medical journals, and asks to be regarded as something of a medical centre.

Refusing to Treat Wealthy Patients in a Charity Hospital.—According to the *Medical Standard*, Dr. Norman Bridge, of Chicago, has been attacked with great venom by the Chicago *Tribune* because of his refusing to treat wealthy patients in the County Hospital. Dr. Bridge's action is thought by our contemporary to redound greatly to his credit, and so it does if the facts given by the *Standard* are correct.

Criminal Assault on Chloroformed Women.—The Texas Supreme Court has recently decided that criminal assault committed while the female is under the influence of chloroform does not constitute rape. This is in opposition to many English and most American decisions, although the same view, says the *Medical Standard*, is held by some English judges. Medical opinion will, we believe, not uphold the justice of this view. It is an established fact that persons while asleep can sometimes be chloroformed, and in such cases criminal assault could be committed with impunity.

The Annual Report of the Marine Hospital Service for 1886–87, shows that 45,317 patients were treated during the year. The expenses of the service were $461,336.17. The report contains a number of records of cases, medical and surgical.

An Historical Correction.—According to Mr. L. H. Petit it was a Frenchman named Méry who first discovered and described the bulbo-urethral glands. This he did in 1684; Cowper described them in 1699. They should be called, therefore, the glands of Méry, not the glands of Cowper.

Buckwheat Rash.—Dr. Wm. B. Atkinson writes to the *Philadelphia Medical Times* that this is the time for eating buckwheat cakes, and desires to learn whether the prevalent opinion that eating this article of food tends to produce a rash, more especially in young children, is correct. We trust that Dr. Atkinson will be successful in his modest attempt at collective investigation. For our part, we believe that the consumption of buckwheat cakes by young children is rash, whether such dietetic indulgence produces it or not.

One of the Smaller Hospitals of this city, the Presbyterian, has withdrawn from the Hospital Saturday and Sunday Association. Judging from comments in the daily press, this action adds to the unsavory reputation of the hospital as a small sectarian institution.

Signing Death-certificates.—The San Francisco Board of Supervisors have issued an order which excites surprise and comment; simply because it is a patently needed measure, that should have been taken long ago. This order requires that permits for burials shall only be granted upon presentation of a death-certificate signed by a legally qualified physician.

Physicians in Congress.—Among the 325 members of the House of Representatives there are 6 physicians, 2 druggists, 3 clergymen, and 216 lawyers. One hundred and seventy-eight are college-bred men. Twenty-seven are foreign born.

Trauma as an Antipyretic.—Dr. Tuke relates the history of a man who was cured of acute rheumatism by a railroad collision, and of a lady who was cured of the measles by hearing that her husband was well. The *Indiana Medical Journal* says that recently, while in the second week of typhoid fever, a patient in the Indianapolis City Hospital jumped from a third-story window, falling a distance of forty feet. He suffered but little injury from the fall, but it seems to have knocked the fever "higher'n a kite." At any rate, the temperature rapidly subsided, did not return, and the patient made a speedy recovery.

Cocaine in Sea-sickness.—Dr. Hartz communicated to the Société de Biologie, at its meeting of October 29th last, some observations on the administration of cocaine in sea-sickness. He found that it was an excellent remedy, in doses (which should not be exceeded) of ten centigrammes, in a ten per cent. solution. He gives twenty drops pure, which gives instant relief. He has also had good results with subcutaneous injections of cocaine. The injection is scarcely felt, and is never followed by any unpleasant effects. It should be performed in preference in the abdominal wall.—*British Medical Journal.*

Guacol, obtained from creasote, is recommended by Sabli as a substitute for the latter drug, in doses of one-fourth to one-half a drop. Creasote, he says, is often impure, and guacol is the essential remedial agent in it.

A Congress for the Study of Tuberculosis in Men and Animals will be held at Paris, July 25 to 31, 1888. The Committee of Organization contain such men as Chauveau, Villemin, Cornil, Grancher, Lannelongue, and Verneuil. The subjects to be discussed are: 1. The dangers from using the meat and milk of tuberculous animals. 2. The susceptibility of the human race and of different animal species to tuberculosis. 3. Modes of introduction and propagation of virus in the economy. 4. The early diagnosis of tuberculosis in men and animals. The Secretary-General of the Congress is Dr. Petit.

A Course in the Microscopical Anatomy and Pathology of the Nervous System is to be opened at the New York Post-Graduate School, under the direction of Dr. C. L. Dana and Dr. William H. Porter.

The Following Curious Letter has been received by Sir Morell Mackenzie: "Morell, fy! thou curmudgeon, thou wilt be a doctor, thou art a mean bungler! Be by no means proud of the confidence of our good crown prince; it is now only pity with thee, thou dunce, thou blockhead, thou ass! Therefore, thou huddler, be on guard, when thou travellest through Germany again, thou knave!—One of the German Secret Union."

Rival London Laryngologists.—We are not, perhaps, quite so bad after all here in America, if one may judge from the following criticism of some of the laryngological lights of Europe. The *Medical Press* says: "There is evidence of a firm determination on the part of the rival laryngologists of London to make hay while the sun shines. In speech and in print, in the lay as well as in the medical journals, this industrious and indomitable fraternity (a divided family!) avail themselves of every opportunity of speculating on the etiology, course, and treatment of 'benign versus malignant neoplasm of the larynx.' It may be said, indeed, of the wart in the Crown Prince's throat that 'thereby hangs a tale,' and what a tale!—a tale of jealousy, heart-burning, and disappointment. So intense have these feelings become, that from London to Vienna the votaries of the science have, with one or two illustrious exceptions, thrown off the mask of common courtesy and professional etiquette, and have striven with each other to obtain the notoriety which is so dear to them." There are some very honorable exceptions, it should be remembered, to the class referred to by our contemporary.

The Local Application of Vaseline to the nasal cavities, which is a somewhat popular measure just now, receives this comment from the *Southwestern Medical Gazette*: "The only argument in its favor is one which is similar to that of an old negro who declared that he did love to stump his toe, because it felt so good when it quit hurting. So with the application of vaseline to a catarrhal nasal membrane—it feels good after it has been put into the nose."

The Solubility of Saccharin.—Some disappointment seems to have been experienced in various quarters as to the sweetening qualities of saccharin. This is probably due to its insolubility, under ordinary circumstances, in water and watery solutions, to overcome which it must be mixed with a small quantity of a suitable alkali, such as bicarbonate of sodium. For practical purposes, it is probably best to obtain saccharin, duly mixed with the soda, in the form of tablets, which are convenient for dosage and readily soluble. Half a grain in this form will generally be found sufficient to sweeten an ordinary breakfast-cup of fluid.

The Doctor as a Substitute for Prisons.—Prince Krapotkine recently delivered a lecture in Paris on "The Moral Influence of Prisons." He argued that prisons were of no use as safeguards to society; that criminals were persons who were suffering from some disease of the brain, heart, or stomach. The only way to deal with such classes was to put them under medical care in order to cure their physical disease. Krapotkine's views contain a germ of truth. A considerable proportion of criminals have congenital brain-defects, and many more have bodily deformities, phthisis, syphilis, and other diseases.

Reports of Societies.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, December 15, 1887.

A. Jacobi, M.D., President, in the Chair.

BEQUESTS TO THE ACADEMY.

Dr. James Knight bequeathed to the Academy a bass-relief of Valentine Mott, and an oil painting of Benjamin Rush, which were presented, and their receipt acknowledged by the President.

The President appointed, as tellers for the annual meeting, Drs. Reginald H. Sayre, E. F. Brush, and E. V. Agramonte.

After the reports of some of the Sections had been read, Dr. T. H. Burchard read a paper on

THE MODERN OPERATION IN STRANGULATED HERNIA,

in which he pointed out the gratifying contrast between it and the old method of treatment. He urged a more general recognition by the profession of the value of time in the early stages of strangulation, and continued the earnest protest against the habit of procrastination, which he believed had done much to sustain the operation.

Modern herniotomy implied the abandonment of certain medical practices, such as had been adopted to produce relaxation of the parts, as it had come to be recognized that spasm, as a cause in strangulated hernia, never exists. Modern herniotomy also restricted taxis to limits which were rational and safe; it also implied early resort to the cutting operation. If taxis did not succeed under anæsthesia within about an hour, preceded by the local application of ice, he resorted to operation, under antiseptic precautions. He had not had occasion to cut earlier than six hours after the strangulation began. The operation implied the free and impartial judgment of the operator as to what should be done with the sac. His plan of treatment was outlined as follows: Allay pain; apply ice-poultices if there was evidence of inflammation, or the tumor was tender; make no attempt at reduction; give a stimulating enema, and then, within a few hours, put the patient under full anæsthesia with chloroform; elevate the lower extremities; apply taxis half an hour or so, and, if not successful, operate. No operation for strangulated hernia could be said to be properly performed without closure of the hernial canal. The method of treating the adhesions and disposing of the sac were then considered, and a flat-grooved director and hernia-knife were exhibited.

Dr. R. F. Weir read a paper on the question,

HOW SHOULD THE SAC BE TREATED IN HERNIOTOMY?

and divided his subject into three parts.

First, Had the rate of mortality been increased by removal of the sac?

Second, How was this additional operation to be done? and,

Third, How reliable was the procedure for effecting a cure?

From statistics including a total of 285 cases treated radically there was a mortality of 15.8 per cent., showing a reduction of nearly twenty-five per cent., due largely to the radical operation. Antiseptics, *per se*, had not materially diminished the rate of mortality.

The mode of procedure he had already described in The Medical Record for March, 1887, which consisted essentially in liberating the hernial contents, properly treating the intestine, etc., then stripping up the sac to the level of the peritoneal cavity and ligating and cutting it off, or adopting either Czerny's or Macewen's method. Whatever method might be adopted, all surgeons were agreed on closing in some way the mouth of the hernial sac. He preferred to use heavy catgut for sutures. His experience led him more and more to the use of a simple bandage for support after the operation. As to the permanent results, they had been favorable in his group of 55 cases; 38 were cured completely for periods ranging from six months (total time under observation) to nine years. Macewen had published similar statistics, and in another group of 138 cases relapses occurred in only 68. In conclusion, the speaker said that while it was a marked improvement in the treatment of hernia, it could not be considered yet as a perfect operation.

Dr. W. B. De Garmo read a brief paper on

IRREDUCIBLE AND INCARCERATED HERNIA.

What he had to say did not relate to strangulated hernia, nor to those cases in which the protruding mass was in an inflammatory condition.

The abandonment of such cases he regarded as entirely unjustifiable, and to sustain that view ten illustrative cases were reported—eight males and two females. The results were seven reductions, two failures, and one was abandoned on account of the diabetic condition of the patient.

His method of converting an irreducible into a reducible hernia was to see that the mass was freely movable in the sac, and then reduce it more by compression than by taxis, by manipulation of the neck of the sac, but without making any pressure backward.

Work the contents free from its connections from the bottom of the sac upward, and gradually carry it up over the external abdominal ring. Nothing but the most gentle manipulation should be practised. If reduction cannot be effected he adjusts a pad, which presses upon the neck of the omental contents and produces atrophy, as a rule, from strong truss-pressure. Besides, the patient wears a strong suspensory support.

Dr. A. G. Gerster made some remarks on

STRANGULATED HERNIA IN CHILDREN,

which occurs only very rarely. He directed attention to that part of the treatment which differed from that generally employed in adults. After attempts at reduction had proved useless, the cutting operation must be performed, and, the operation having been completed, how should the wound be treated? In most of the cases the neck of the sac is not very wide. The first indication to be fulfilled was to add the radical operation to the liberation of the gut. The second question has been stated already, namely, How should the external wound be treated? It had been advocated by Dr. Weir and others that better protection against relapse would be afforded should it be allowed to close by granulation. He did not share in that opinion, however, in adults, but in children he would advocate

OPEN TREATMENT OF THE WOUND,

packing it with iodoform gauze, and treating it as any other open wound would be treated. Dr. Gerster then reported three illustrative cases, in one of which an error in diagnosis was made at first, it being regarded as a case of hydrocele; it was a case of strangulated hernia without symptoms, but the usual symptoms of strangulation followed within twelve hours.

Dr. Dixon Jones said that the open operation, or operation by dissection, for the radical cure of hernia, is now established on so firm a foundation that little need be said in its justification. Judging from his limited experience, which comprises six cases, he thought he was justified in saying that to the practical surgeon, and especially one who was thoroughly imbued with the principles which underlie the antiseptic treatment, the operation was eminently a safe one.

It has been so thoroughly discussed that he wished merely to emphasize certain points referred to by the previous speaker. At the last meeting of the British

Medical Association, the subject of the radical cure of hernia was discussed by no less than ten or twelve surgeons, and he thinks almost as many different operations were advocated. It seemed to him that if the surgeon was perfectly familiar with two or three of them, he would be prepared to meet any difficulty that might arise. The first was that of Macewen, which had been described already; the second was one that he recommended at the last meeting of the Medical Society of the State of New York. It differed from Macewen's only in the manner of treating the sac, which was disposed of as follows: An incision was made in the direction of the inguinal ring until the sac was reached; which was then cleaned and separated, and excised flush with the peritoneum, the edges of which were united with a continuous catgut suture.

He had had the opportunity of witnessing many operations for the radical cure of hernia, and was convinced that Macewen's method was not well understood by a number of surgeons. Mr. Mitchell Banks and several German surgeons had informed him that they did not understand what Macewen meant by his *operation*. It should be remembered that it was not the internal wall of the external hernial opening that was approximated to Poupart's ligament, but the conjoined tendon. He had a model, which was a reproduction of one shown him by Dr. Macewen, and clearly illustrated how the inguinal canal was closed in a valve-like manner. He felt greatly pleased that one of the speakers had practised the method which he had suggested. Dr. Jones also presented Reverdin's needle which he recommended for the purpose of introducing the shoemaker's suture of H. O. Marcy.

Dr. V. P. Gibney entered a mild protest against Dr. Burchard's disapproval of taxis, as he believed that very much could be accomplished by that manipulation, properly performed.

As to strangulated hernia in children, he did not recall a single case in which he had not been able to effect reduction under chloroform; and if the hernia could be reduced it could be cured by a truss, which would relieve us from any operative procedure whatever in children.

Dr. Wylie spoke of ventral hernia after laparotomy, which could be prevented by reuniting the edges of the strong fascia, which was really the tendon of the transversalis muscle. He also mentioned the liability of the scar, after the use of a drainage-tube, to yield, and thus allow a hernia to form.

Dr. Weir had had two cases of fatal strangulated hernia in children. He had also had two other cases in which, by the introduction of the finger into the rectum, he was able to sweep the entire inguinal region, and by the conjoined manipulation succeeded easily in reducing the strangulation.

It was worthy of note that

HERNIA VERY RARELY FOLLOWED OPERATION FOR PERITYPHLITIS.

Dr. Fruitnight asked Dr. Gerster if the symptoms of strangulation usually present in adults were absent in children.

Dr. Gerster answered that the usual symptoms present in adults were also seen in children, though in one of his cases they were absent early; but the general aspect of all the cases was such that serious interruption of circulation had to be assumed.

Dr. De Garmo had seen a large number of cases in children in which the hernia was incarcerated temporarily. He had not met with strangulated hernia in infants. He had never attempted taxis upon the temporarily incarcerated hernia, and those cases did not give rise to symptoms.

Dr. Gerster thought that if the gut was healthy, herniotomy was not dangerous; but in cases where necrosis had taken place, the treatment of the incarcerated or strangulated portion by the older methods, or by the use of a probe, such as had been presented by Dr. Burchard, was a very dangerous procedure. A much safer method would be, where there was strong suspicion that the gut was diseased, not to liberate it from within outward, but to

CUT FROM WITHOUT INWARD, UNTIL FINALLY THE STRANGULATED PART WAS EXPOSED,

without having been previously touched. To practise the open incision direct from without inward, and practically make the operation a laparotomy, was much safer than the old method of invagination with the finger, or the introduction of a director and conducting the dissection in that manner. Hemorrhage, also, would be avoided.

Dr. Burchard said that such instruments could be used with only the most extreme delicacy. He had not had any occasion to regret their employment, and there were certain cases in which he had found it impossible to get the finger in, or to draw the gut away from the sac, so that the dissection could be carried on. In those cases he would prefer to use such a director rather than make an open incision. He had approached the intestine in three cases as Dr. Gerster had indicated, and it was the preferable method, although it required an extensive dissection.

Dr. Gerster said that in nineteen out of twenty cases he had encountered adhesions in or near the neck of the sac, especially about the anterior wall; and he had found adhesions between the omentum and the testicle in one case, but he had not found them at the bottom of the sac.

Dr. De Garmo thought it impossible to tell exactly where the adhesions were, unless they could be felt to yield under manipulation. He was not able to state positively that there were adhesions in more than one of his cases in the vicinity of the testicle.

The President spoke of Bernay's method of dividing Poupart's ligament, and asked if anyone present had had any experience with it. He thought that probably only a few cases could be operated upon in that manner, and that it looked as though we must wait for more experience on that point.

The Academy then adjourned.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, November 23, 1887.

T. Mitchell Prudden, M.D., President, in the Chair.

Dr. W. P. Northrup, in behalf of candidates, presented a specimen of *laryngeal diphtheria*, and also one of *ulcerative colitis*.

The President presented, in behalf of a candidate, a specimen of *aneurism of the arch of the aorta*.

Dr. Hodenpyl presented a specimen of

CYSTIC ADENOMA OF THE OVARY,

removed post-mortem from the body of a woman, sixty-eight years of age, who died two days after admission to the hospital. The abdomen was greatly distended, and contained a small quantity of bloody serum. The small intestines were adherent to the tumor, and greatly distended with fluid fæces. Attached to the uterus was a small fibroma. The left ovary was cystic. In place of the right ovary was the large tumor presented, which contained several quarts of dark, offensive fluid that contained pus-cells, detritus, and crystals of cholesterine. The liver was also presented, which was considerably deformed, probably from pressure of the tumor and the distended intestine.

Dr. Mary Dixon Jones presented a

UTERINE FIBROMA,

removed by operation from a patient thirty-five years of age, and the mother of one child about twenty years

of age. Her greatest suffering had been during the last six or seven years, and for three days and nights each month she had suffered from severe pelvic pains, with profuse hemorrhage, the flow continuing, in varying quantity, about fifteen days, and leaving her prostrated for the remainder of the month. During the last two or three years she had had profuse menorrhagia.

Dr. Jones saw the patient first in August last. She entered the hospital in October, and under rest, good nourishment, and careful nursing her general condition improved. At the end of three weeks an examination was made, when it was found that the tumor had diminished in size considerably. Bearing in mind that Emmet and others had reported cases in which large uterine fibromata had decreased in size, this plan of treatment was continued. The patient, however, began to get worse—the tumor pressed upon the rectum, etc.—and hysterectomy was performed on November 15th, through an incision five inches in length. The tumor began at the internal os, and was quite low in the pelvis. There were some adhesions upon the left side, and two or three par-ovarian cysts. Before the pedicle could be reached, the tumor was enucleated. A temporary clamp was applied, and afterward Koeberlé's serre-nœud was used. A drainage-tube was employed. The woman made a good recovery and was very comfortable, except that the short pedicle seemed to pull upon the abdominal walls.

Dr. Jones suggested a modification of the operation, by first liberating the vaginal wall, then opening the abdominal wall and removing the entire organ; then closing the abdominal wound entirely and leaving the vaginal opening, as the most natural mode of effecting drainage. She queried whether or not such a tumor could have been benefited by electrolysis. She thought that intra-uterine galvanic cauterization might be more dangerous than the operation.

Dr. H. J. Boldt thought it well to try electricity in these cases, as it would frequently relieve symptoms, although the most successful treatment was doubtless by operation.

Dr. Ira Van Gieson demonstrated microscopic sections of the cortex of the brain and cerebellum which illustrated

GOLGI'S SILVER PROCESS OF STAINING GANGLION-CELLS.

The technique of Golgi's methods (*American Journal of Mental Diseases*, May, 1887) is as follows:

1. *The silver process.*—Small pieces (one to two cubic centimetres) are placed in a two per cent. solution of potassium bichromate (or Müller's fluid), which is increased in concentration at each renewal of the fluid up to five per cent. There is no definite length of time for the hardening process. In summer, portions of the brain are hardened fifteen to fifty days; in winter, five to sixteen weeks. The hardening may be hastened by replacing a part of the Müller's fluid by Erlicki's fluid in increasing proportions, or by conducting the after-hardening in a mixture of eight parts of a two and one-half per cent. solution of bichromate and two parts of a one per cent. solution of osmic acid.

The hardened portions are placed, for twenty-four to thirty hours, in a large volume of a solution of nitrate of silver, which varies in strength according to the duration of the hardening—the more protracted the hardening the stronger the solution—up to one per cent. The silver solution must be changed at intervals until the chromate of silver precipitate no longer forms. The sections are washed in alcohol and cleared first in creasote, and then in turpentine. During the hardening it is advisable to test portions occasionally with the silver solution, for the method is somewhat uncertain in its results.

2. *The sublimate process.*—The same results may be obtained if the hardened pieces are immersed for several weeks in a one-half per cent. solution of bichloride of mercury. This method has the advantage of staining very large masses *in toto*.

These methods stain the ganglion and neuroglia cells, with their intricate network of processes, a deep black color and leave the basement substance nearly colorless.

Remarks.—In interpreting the results of Golgi's methods there is a possible source of error, viz., the tendency of some metallic precipitations not to be strictly confined to the cell protoplasm. The frequency with which certain metallic precipitations occur in spaces and in fluids around the cell protoplasm, in other tissues than the brain, requires great caution in deciding whether some of the delicate black lines connected with the ganglion-cells really indicate the presence of processes.

ACUTE IDIOPATHIC NEPHRITIS IN AN INFANT.

Dr. J. Lewis Smith presented specimens with the following history. They were removed from the body of an infant, aged thirteen months, an inmate of the New York Foundling Asylum. The baby was wet-nursed until November 1, 1887. In July it had a febrile movement that continued three or four days, without known cause; at one time the temperature reached 105° F. In August it had pertussis, which ran the usual course. On November 1st the child was apparently perfectly healthy. It was then "farmed out," and was away one week, when it was returned, nearly in collapse, having vomited almost all the nutriment given to it. The stools were infrequent, and were not unhealthy in consistence. There was no evidence of primary cerebral or meningeal disease. The urine was scanty, heavily loaded with albumen, and contained granular casts. Death occurred on November 21st, of probable uræmic poisoning. From November 9th to the 21st the child's temperature fluctuated been 100° F. and 105° F. Dr. W. P. Northrup, curator, made the autopsy, and found that there was moderate pulmonary inflammation, no gastro-enteritis, and no evidence of cerebral disease. The ascending colon near the ileo-cæcal valve was markedly hyperæmic. The kidneys showed the lesions of acute nephritis.

Dr. Smith said that one point of interest in the case was the occurrence of what seemed to be *idiopathic nephritis*, which had been regarded as a rare disease in early life.

The only disease of which there was any history in the case was

PERTUSSIS,

and nephritis could not be regarded as a sequel of that affection. He was inclined to the opinion that idiopathic nephritis in young children was not so frequent as might be supposed from the published cases, and that in a certain proportion of those cases there had been an overlooked mild attack of diphtheria or scarlet fever to which the kidney disease was due. It had been taught that the occurrence of nephritis as a sequel of measles was rare. He had never seen a case in private practice, and thought that if it occurred it must be very mild.

Dr. J. C. Peters had encountered numerous cases of nephritis secondary to scarlet fever, which had been overlooked, and in one patient who was eighty years of age.

Dr. W. P. Northrup had met with one case of

ACUTE DIFFUSE NEPHRITIS,

in a child *five months of age*, that had been under such observation as made it certain that it had never had any other disease.

Dr. Peters referred to the high rate of mortality from measles last year and this, according to the records of the Health Department.

Dr. Satterthwaite had supposed it to be generally accepted that nephritis was secondary rather than primary, and he had always held that scarlet fever, measles, and diphtheria were the regular precursors of Bright's disease. He had believed that acute parenchymatous nephritis in children was always secondary.

Dr. W. H. Porter said that many patients died with the ordinary clinical symptoms of uræmia, but without either casts or albumen in the urine prior to death. In such cases the kidneys were large, the epithelia were

swollen and granular, and unquestionably the organs were unable to eliminate the effete material which they were called upon to remove.

Dr. T. E. Satterthwaite presented two microscopic slides from a specimen of

LARYNGEAL CARCINOMA,

with the history of the case and remarks on the *value of the microscope in diagnosis.*

"I think it is an opportune moment to bring before this Society a topic that is now very properly agitating medical minds, viz., the value of microscopic examinations in cases of malignant diseases. And I do so more particularly at the present time, because of a recent discussion at a society meeting in which I took part, and where an effort was made to contrast clinical diagnosis with microscopic, and to the discredit of the latter.

"But now the unfortunate issue of a certain case across the water, belying as it does the printed reports of an eminent pathologist, may with reason set the current back against those who have been working for years past to erect microscopic diagnosis into

A DEPARTMENT OF SCIENTIFIC MEDICINE.

"I therefore take the opportunity of exhibiting two slides, and give the history of a case which furnishes an interesting lesson, from which can be derived valuable corollaries. The history is condensed from the records of the Presbyterian Hospital.

"D. O'L——, aged sixty-three, Ireland, married, entered the hospital February 22, 1886. He had enjoyed remarkably good health until nine months previously, when he swallowed a small fish-bone, which he described as 'thread-like.' Immediately afterward he began to suffer pain in the windpipe, and spit up 'blood and matter.' After two days' suffering the pain abated, so that the bone was suffered to remain undisturbed. Two weeks later pain recurred in the same spot, and after an interval of two months he began to lose his voice. At this time he consulted several specialists, and the solid nitrate of silver in stick form was several times applied to the throat. After about seven months he had some dysphagia, and since that time took no solid food, spoke but little, and gradually lost flesh and strength. About the eighth month he had a severe hemorrhage, losing about a cupful of blood in a few minutes.

"On admission he was found to be suffering a good deal of pain. There was also marked stridor and dyspnœa. Breathing best when lying down. Does not speak above a whisper.

"Laryngoscopic examination showed a swelling of both arytenoids, especially of the left, and of the right ary-epiglottidean fold.

THE TUMOR WAS GRAYISH ON THE SURFACE, WITH SCATTERED SMALL RED SPOTS.

"No paralysis of the cords. Larynx tender on pressure. Further examination showed that the liver was not enlarged. No sternal or tibial tenderness. No nodes. Cervical glands somewhat enlarged. A consultation was held between the hospital surgeons, prominent specialists being also present. Opinions were divided, one-half holding that the affection was inflammatory, due to the lodgment of a foreign body; the other half, comprising the hospital surgeons in attendance, making a diagnosis of

LARYNGEAL EPITHELIOMA.

"On the day following tracheotomy was performed. The laryngeal cavity was made plainly visible, and the new growth was seen to involve, not only both sides of the larynx, but also to extend downward in the wall of the trachea as far as the rings were cut.

"Portions of the growth were then removed for microscopic examination, and the tracheotomy tube was inserted. The operation gave relief, but the patient died three months later, probably of exhaustion from the extension of the disease.

"At post-mortem examination the right lung was found strongly adherent to the chest-walls; the left lung was slightly adherent at base and apex. The heart, lungs, larynx, tongue, and œsophagus were removed *en masse.* The œsophagus was free from disease, except at a point where it was in close relation with the laryngeal disease, where its coats were slightly infiltrated. The inferior half of the laryngeal cavity was occupied by papillary and nodular growths, which had completely or nearly occluded its lumen. The lower part of the growth was in an ulcerated and sloughing condition, and portions of the cricoid and thyroid cartilages had been destroyed by the disease. The walls of the trachea were infiltrated half-way from the larynx to the bifurcation. The cervical glands of the left side were found enlarged. The lungs appeared to be free from secondary deposits. The heart, spleen, kidneys, and liver showed no implications.

"This case is interesting to me at the present time for an especial reason, viz., because the papillary and nodular growths were several times examined in my laboratory, by myself and assistants, and

NOTHING CANCEROUS WAS FOUND;

and yet the post-mortem examination revealed in the enlarged and infiltrated cervical glands the characteristic cell-formations exhibited under the microscope.

"With this case in view, it may be well to emphasize the fact that one cannot be too cautious in the delivery of an opinion in such cases, especially where the papillary or villous growth is the only part that is submitted for examination. And I presume that this opinion is held generally in New York.

"Indeed, I think it is generally admitted that one should never give an opinion in such instances unless the evidences are unmistakably in favor of this or that growth. It often happens that one instantly stumbles upon such microscopic proof that the diagnosis is made at once, and yet one may not be so fortunate, and for very good reasons: (1) At the inception of the disease the pathognomonic evidences are absent, or are so slight that they may be overlooked. (2) There is always a focus of the disease in which these characters are seen after, to the exclusion of more distant parts. (3) In a growth that is growing rapidly and ulcerating, the characteristic tissue may be constantly sloughing off.

"But I would not wish it understood that the statements tend to depreciate the value of the microscope. It has its field, in which it is of paramount value, but it is a limited field; and it should not be relied upon in every instance to the exclusion of clinical signs—and yet it is in this class of cases that the microscope often gives the most brilliant results. But when it fails it is usually because the pathologist is not furnished with a sufficient amount of tissue on which to base his opinion.

"In this connection I would venture to state that, in my humble opinion, the real error in the diagnosis of carcinoma among ordinary competent microscopists is very small. On page 329, vol. iii. of our Transactions, I put it that one per cent. is the figure. A single mistake only occurred in a hundred cases reported by myself, working conjointly with Dr. W. H. Porter. In that instance the specimen sent for examination had been changed by decomposition."

The President remarked, with reference to the case which all had in mind, that those who had made adverse criticisms on Virchow had overlooked entirely the fact that a benign growth may be followed by a malignant one.

Dr. Satterthwaite raised the question,

IS NOT THE MICROSCOPE COMPETENT TO MAKE A DIAGNOSIS WITH REGARD TO THE VARIETIES OF CARCINOMA?

The question was answered in the affirmative by the President and by all those present who had had practical experience in the use of the instrument.

The Society then went into executive session.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE GENERAL MEDICAL COUNCIL—REMOVAL OF OFFENDERS FROM THE REGISTER—A SELF-DENYING ORDINANCE—THE BROWN LECTURES ON HYDROPHOBIA—SYMPTOMS AND MORBID ANATOMY OF THE DISEASE—DISCUSSION ON THE TREATMENT OF EXTRA-UTERINE PREGNANCY.

London, December 6, 1887.

The General Medical Council have concluded their session. I find that I was in error in stating the case of Mr. Partridge, the advertising dentist. This gentleman (who was a dental licentiate of Dublin, not of Edinburgh) won the day, it is true, as regards his contention that in his case a dental diploma was not essential to his remaining on the register. The Council, however, have still power to remove him for "infamous conduct," and they have done so on that ground. Mr. H. A. Allbutt (who must not be confounded with Dr. Clifford Allbutt) has met with a similar fate for publishing a Malthusian work which, in the opinion of the Council, is both indecent and immoral. The last day of the session was occupied in discussing the finances. These, it appears, are not satisfactory, or likely to be. Some members of the Council have, *mirabile dictu*, proposed to solve the difficulty by reducing their own fees. This is almost too good to be true.

In the second Brown Lecture the symptoms of rabies in man and other animals were described. Different animals exhibited different manifestations of the disease, and it had hence been supposed that the poison might be of a different nature in different animals. Mr. Horsley, however, thought that the difference was simply due to the animal in which the virus was acting, and that this was always one and the same. Two stages of the disease had been noted. The first was one of excitation; the second, one of paralysis. The latter was marked by the dropping of the jaw and weakness of the hind legs. The animal stood with legs apart as if to steady himself. Finally he lay down totally paralyzed. In rabbits the stage of excitation was but slightly marked; the symptoms being almost entirely those of paralysis. Photographs of different animals were shown upon the screen illustrating these various conditions. In man the stage of paralysis had been overlooked until the last few years. It was, however, clearly marked if the patient lived long enough. An interesting case was mentioned by the lecturer. A patient in India suffering from rabies had had the spasms in the throat subdued by constant applications of cocaine. He lived nine days, and finally died with symptoms closely resembling those of acute ascending paralysis (Landry's paralysis). From this and other cases some observers had concluded that this disease was simply masked rabies.

In dogs the bark was a characteristic feature of rabies. It had been described as resembling a groan. In any case, it ended in a falsetto note. As laryngitis was very rare in dogs the modification of the bark was a very important sign.

The mode in which the poison entered the system was then discussed. As the period of incubation was so long, it could not be by the blood-vessels. It was probably not by the lymphatics. It had been held by some that the poison entered the system through the nerves. Experiments had shown that when the poison had been introduced into the fore limbs of an animal, that end of the spinal cord had first been affected by the poison. In pregnant animals dying from rabies the nervous system of the fœtus had been (by means of Pasteur's method) shown to contain the poison.

In the third lecture the morbid anatomy of the disease was considered. No changes had been found in animals killed during the period of incubation, and it was an important practical point that the bite of an animal which had been inoculated with the poison would not convey the disease previous to the manifestations of symptoms in the animal inflicting the bite.

Passing on to the consideration of the morbid changes found in animals dying from rabies, Mr. Horsley remarked that no changes had been found in the serous membranes. Nor had any changes been met in the vascular system.

Hemorrhages into the stomach were often found. Congestion of the nervous system was pretty constant, and the so-called "miliary abscesses" were frequently seen. It had been stated that, in dogs, foreign bodies in the stomach were often seen, but the lecturer showed that this was not a sign of rabies only, for dogs suffering from other diseases had morbid appetites and would eat strange substances which came in their way.

A special meeting of the Obstetrical Society was recently held to discuss the treatment of extra-uterine pregnancy during the latter months. Dr. Herman read a paper on delivery by the vagina, which might, he thought, be effected in some cases with advantage. It was contraindicated early in pregnancy, or soon after rupture had taken place when interference was called for to arrest hemorrhage, abdominal section then being preferable. At, or soon after full term, before suppuration had taken place, there might be conditions which indicated delivery by the vagina as preferable to abdominal section. These were: (*a*) When the fœtus was presenting with the head, breech, or feet, so that it could be extracted without altering its position. (*b*) When it was certain, from the thinness of the structures separating the presenting part from the vaginal canal, that the placenta was not implanted on that part of the sac, and it was not certain that the placenta was not implanted on the anterior abdominal wall. If turning were required, abdominal section should be performed. No attempt should be made to remove the placenta. The after-treatment should consist in frequent washing out of the sac. After suppuration had taken place, the spontaneous opening of the sac into the vagina was one of its more favorable terminations. Dr. Champneys read a paper on primary laparatomy (the child being alive), and Dr. John Williams related a case in which abdominal section was performed at the thirty-fifth week. Mr. Knowsley Thornton remarked that the question of primary laparotomy hinged on perfect diagnosis, and, knowing how often there was something wrong with the child in these cases, he would disregard it and simply consider the mother. The President (Dr. John Williams) observed that the risks of laparotomy during the life of the fœtus were those of septicæmia and hemorrhage. Antiseptics had greatly lessened the former. Mr. Lawson Tait alluded to the danger of hemorrhage which he considered was not much, with modern methods of controlling it. As to the growth of the placenta after death of the fœtus, he used to disbelieve it, but was now convinced that it occurred in a great number of cases. That being so, what was the use of destroying the fœtus by electricity as the placenta continued to grow?

THE RECOGNITION AND TREATMENT OF INSUFFICIENCIES OF THE OCULAR MUSCLES.

To the Editor of The Medical Record.

Sir: In your issue of the 17th appears a communication from Edward Loring, M.D., in which he criticises the report of my paper on "Problems respecting Insufficiencies of the Ocular Muscles," read before the International Medical Congress. Had the writer taken the trouble to wait for the publication of the paper itself rather than satisfy himself with the report, necessarily brief, which appeared in your summary of the proceedings of the Congress, he might have found reason to suspect that there are still

important problems worthy of solution respecting the so-called "insufficiencies" of the ocular muscles.

My critic cites the case in which, with an adducting power of 50°, there existed "insufficiency" of the externi 8° for twenty feet, and of the interni 10° at one foot; also the instance in which diplopia, homonymous at twenty feet, and crossed at two feet, existed. His communication would lead his readers to suppose that these apparently opposite conditions are consistent with the theory of actual insufficiency of the externi for distance and of the interni for near.

Now, it would not require the aid of the highest mathematical calculations to demonstrate that such conditions as are found in these two cases are entirely inconsistent with the theory mentioned. I venture the statement that neither the critic's "illustrious predecessors" nor any of his "*confrères*" have given a satisfactory explanation of this class of phenomena, which is very frequently encountered. It is true that in the paper reported in THE MEDICAL RECORD I have ventured to suggest the direction in which it appears probable that we must search for the exact answer to some of the perplexing questions which arise in cases of this class, but it is safe to assert that they are still far from being fully answered.

While strongly impressed with the necessity of an acquaintance with, and due respect for, the principles "inculcated and practised" by our "illustrious predecessors," I can conceive of no reason for an unquestioning acceptance of all their views and methods as being final and complete.

Regarding my statement that in the literature of ophthalmology "insufficiencies" of other muscles than the interni have been largely if not practically ignored, and for which this critic takes me to task, one has only to open to the brief chapter on Muscular Asthenopia in any of the text-books on the eye, in most common use, to assure himself of the entire correctness of my statement. Taking up twelve recent comprehensive text-books on the Diseases of the Eye by well-known authors, German, French, English, and American, including those cited by your correspondent, I find an average of three pages devoted to the subject of muscular asthenopia; and in only two of these works, which, by the way, are the two quoted by him, is there a recognition of any insufficiency but of the interni in the causation of the complaint. Even in one of the two works quoted by your correspondent, the existence of a single other insufficiency is barely recognized. Landolt, in his excellent work on Examination of the Eyes, devotes five pages to muscular asthenopia, but alludes to no insufficiency but that of interni. It is also a significant fact in this connection, that the principal periodical in this country devoted to ophthalmology has, during the sixteen years of its publication, contained no article on muscular insufficiencies until within the past year. It is true that text-books are but the summary of the literature, yet they fairly reflect the drift of current discussions. Had your correspondent read the paper which he criticises in advance, he would have seen that the physiological fact of the relation of the axes was not forgotten, but fully recognized. If the problems suggested in the paper are understood by the "ordinary student of ophthalmology," I have the most positive reasons for believing that they are not so clear to many whose accomplishments entitle them to high rank as students in this branch of science. It is perhaps true in this department of research, as in others, that the "ordinary student" is wiser in his own conceit than the investigator who is sufficiently informed on the subject to understand its difficulties. The truth is that no one not oppressed with a superconsciousness of his own accomplishments can for a moment suppose that there are no further problems in the subject of the relations of the ocular muscles, a subject of great if not of equal interest with that of refraction, and surrounded with many intrinsic difficulties, yet which has received, compared to the subject of refraction, but meagre attention.

That a much greater interest is being awakened respecting this subject is a gratifying fact. As one of many evidences of increased attention to these muscular conditions, I may mention that in one of the most important of the eye hospitals in this city more operations for tenotomy of the ocular muscles, in cases of insufficiencies, have been performed during the past year than during its whole previous history of many years. This is a sufficient answer to my critic's statement that all oculists of this city have for twenty years operated for all cases of insufficiency as occasion has arisen.

The *argumentum ad hominem* which appears to form the central idea around which the letter of your correspondent revolves is quite unworthy of comment.

GEORGE T. STEVENS, M.D.

33 WEST THIRTY-THIRD STREET.

THE NEW YORK LICENSING AND REGISTRATION ACT.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In a late issue of your valuable journal appeared a reprint of the act regulating the licensing and registration of physicians and surgeons, passed by the late Legislature.

While doubtless satisfactory to the profession, its intent is not quite clearly expressed, and an amendment is needed by prefixing the word "but" to the fourth section.

The learned counsel who drew up the bill in question has written me, in effect, that Section 4 was intended to apply, in short, to the cases referred to therein; but, unfortunately, Section 3 remains unmodified, and lately I was refused registration in a neighboring county, although I sent my New York County certificate to the county clerk, who insists upon my appearing in person, displaying my diploma for his personal inspection, and presumably paying him an additional fee, as provided by law.

The Secretary of State writes me that he thinks I am right, but doesn't like to give an official decision upon a statute which may have to be determined by the courts.

What am I to do? The county clerk is obstinate, and so am I. Can not we have the act amended in Albany, by the insertion of some such little word as suggested? It may save some poor doctor from getting into trouble, or some county clerk.

MEDICUS ERRATICUS.

MERCURIAL HYSTERIA.—Dr. Letulle has collected the reports of a number of cases of hysterical symptoms occurring in patients who had been taking mercury for a considerable length of time. The affections were similar to those sometimes seen associated with lead poisoning. The author believes that lead and mercury, as well as alcohol, favor the outbreak of hysterical symptoms in those who are predisposed to this neurosis.—*Revista de Medicina y Farmacia*, November 18, 1887.

IMPROVED BLAND'S PILLS.—Dr. W. Coe McKeeby, of Port Jervis, N. Y., writes: "Having heard many complaints from physicians of the large size of Bland's ferruginous pills, made by different pharmacists, I suggest the following formula, which will always give the same-sized pill (small), viz.:

℞. Ferri sulph. cryst.,
Potassii carb. .....āā 3j.
Sacch. albæ..... ℈j.
Acaciæ pulv..... grs. xv.
M. Ft. pil. no. xl., sec. artem.

Mix the iron and potassium in a mortar until the chemical change takes place. Then add the sugar and acaciæ, and mix until a mass is formed. Then roll into the number of pills required, and coat with a solution of tolu in sulphuric ether."

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from December 11 *to December* 17, 1887.

BANISTER, W. B., First Lieutenant and Assistant Surgeon. Ordered to proceed at once from Fort Lowell, Ariz., to Fort Wingate, N. M., and report to the commanding officer for duty. S. O. 128, Department of Arizona, December 1, 1887.

HARRIS, H. S. T., First Lieutenant and Assistant Surgeon. Ordered from Fort McIntosh to Camp Pena, Colorado, Tex.

CLENDENIN, PAUL, First Lieutenant and Assistant Surgeon. Ordered from Camp Pena, Colorado, Tex., to Fort McIntosh, Tex. S. O. 143, Department of Texas, December 12, 1887.

CABELL, J. M., First Lieutenant and Assistant Surgeon. Ordered for duty at Fort Niobrara, Neb. S. O. 286, A. G. O., December 9, 1887.

Official List of Changes in the Medical Corps of the United States Navy for the week ending December 17, 1887.

HUDSON, A., Medical Inspector. Ordered to the Trenton.

BATES, N. L., Medical Inspector. Detached from the Trenton, and placed on waiting orders.

Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending December 17, 1887:

	Cases.	Deaths
Typhus fever	0	0
Typhoid fever	16	3
Scarlet fever	126	23
Cerebro-spinal meningitis	5	3
Measles	29	6
Diphtheria	196	49
Small-pox	1	0
Yellow fever	0	0
Cholera	0	0

POISONING BY SELTERS WATER.—Over thirty cases of poisoning were reported recently in Rendsburg, and the occurrence, of course, occasioned great excitement in that quiet German city. Inquiry showed that only those were poisoned who drank freely of Selters water, and an examination of this water revealed the fact that it contained a very appreciable amount of arsenic. The water was a manufactured product, and had been imported from another city.

AN EMBRYOLOGICAL PRIZE.—The Academia dei Lincei, of Rome, offers a prize of one thousand francs for the best essay on embryology, which is open to universal competition. The essay must be written in Italian or Latin, and is to be presented on or before December 31, 1888.

AN INTELLIGENT VERDICT.—A coroner's jury in England, so reports a French exchange, sitting upon the body of an executed criminal, brought in a verdict of death from fatty degeneration of the heart, accelerated by strangulation.

PHYSICIAN TO THE EMPRESS OF RUSSIA.—Dr. Botkin, the physician to the Czarina of Russia, is said to have obtained his appointment by the exhibition of a little independence. He was called one day, so the story goes, to the Winter Palace, to prescribe for her imperial majesty, who was suffering from a cold. But the empress refused to disrobe sufficiently to allow him to auscult her chest, whereupon Dr. Botkin took his departure, saying that he didn't care to have anything to do with patients of that kind. The Czar was so pleased with this manifestation of spirit on the part of the physician that, instead of sending him to Siberia, he recalled him and appointed him special physician to the empress on a yearly salars of 100,000 rubles.

A LEGACY of the value of eight thousand dollars has been left to the Académie des Sciences by Mme. Foehr, who died recently in Paris. The interest on this sum is to constitute a prize to be awarded annually for the best essay on some subject connected with the healing art.

A PLEASANT VACATION.—M. Trélat, a French medical professor, has been sent on a mission to Constantinople and Athens, to visit and report on the scientific, medical, and charitable institutions in those two cities.

ANALGESIC EFFECTS OF HOT-WATER INJECTIONS.—M. Tripier, of Lyons, reports a speedy relief in cases of lead colic by rectal injections of water at a temperature of 113° to 118° F. Equally good results were obtained in the fulgurating pains and rectal and vesical tenesmus accompanying locomotor ataxia. In dysentery, also, these injections have been found to be of the greatest benefit.

TRICHINOSIS IN HAMBURG.—A number of persons in Hamburg have been attacked with trichinosis after eating ham. The authorities have seized large quantities of infected pork.

EXTEMPORANEOUS EMULSION OF CASTOR-OIL.—M. Léger states that the casein of milk possesses the property of emulsifying oils. The casein is prepared by adding to it a little bicarbonate of soda and powdered sugar. He proposes the following formula for a palatable extemporaneous emulsion of castor-oil: Castor-oil, 15 parts, cherry-laurel water, 5 parts; distilled water, 100 parts; prepared casein, q. s. This emulsion is said to have an agreeable taste, and to be well borne by the weakest stomach.

AXILLARY ADENOPATHY AND PULMONARY TUBERCULOSIS.—Dr. Grancher states that he has frequently found the axillary glands involved in cases of tuberculosis of the lungs. He says that the existence of enlarged glands in the axilla should always direct attention to the possibility of pulmonary disease, and when this is found to be present the removal of the affected glands will serve no good purpose.

CEPHALALGIA AND PHARYNGITIS.—Dr. P. Vergely, writing in the *Journal de Médecine de Bordeaux*, Nos. 6 and 9, 1887, states that he has found pain in the neck and posterior portion of the head very frequently associated with affections of the pharynx. This pain is often exceedingly rebellious to direct treatment, but yields readily to remedies applied to the relief of the pharyngeal affection.

THE CONVERSION OF BENIGN GROWTHS OF THE LARYNX INTO MALIGNANT.—At the recent Congress of the German Naturalists and Physicians Professor Schnitzler read a paper upon the subject of the "Malignant Degeneration of Benign Growths in the Larynx." He first described a case of epithelial carcinoma with secondary growths in the lymphatic glands and pleura, in a patient who some months previously had been operated on for papillomata, the recurrence of which had been treated by cauterization. The patient subsequently came under Professor Schnitzler's care with symptoms of perichondri-

tis, but the carcinomatous nature of the disease was recognized, and the supervention of pleurisy some weeks later was considered to be due to a diffusion of the malignant disease. This diagnosis was confirmed after death, when, besides the laryngeal and pleural carcinoma, there were found necrosis of the thyroid cartilage and gangrene of the right lung. Professor Schnitzler remarked upon the rarity with which benign tumors take on malignant characters, he having seen such conversion only three times among hundreds of cases of laryngeal papillomata. He left undetermined the question whether the operations and frequent cauterization induced the malignant disease, and said that endo-laryngeal operations upon papillomata should be discountenanced on this ground. He also spoke of the difficulty in the differential diagnosis between benign and malignant growths, as well as between laryngeal syphilis and carcinoma. Dr. Morelli related the case of a man whose larynx was so blocked by papillomatous growths as to necessitate tracheotomy prior to a thyrotomy, with complete ablation of the new growth and galvano-cauterization of the laryngeal wound. The patient left, apparently cured, but wearing the tube. After the lapse of a year he returned with evident carcinomatous degeneration of the papilloma, which filled the larynx to the level of the tube, which was partially displaced and blocked by it. This was the only case of the kind that Dr. Morelli could recall within a period of nearly ten years. Dr. Seifert referred to a case published by Böhmer, where papillomata (histologically examined) had been treated by Professor Gerhardt and himself for a year, but which passed into carcinoma, for which extirpation of the larynx was practised; but the patient did not long survive the operation.

Evil Communications Corrupt Good Manners.—Dr. Charles L. Lang, of this city, writes: "A few weeks ago, to economize space, I put a small roll of rubber adhesive plaster into the same tin cylinder with a roll of emplastrum cantharides. The other day I applied a strip of the adhesive plaster to a carbuncle on the nape of the neck, and when I removed it the next day, considerable of the cuticle came with it. I afterward applied another strip to an enlarged and painful inguinal gland, but the patient complained at the end of a few hours that the plaster smarted, so I took it off, revealing a raw or blistered surface the size of the plaster. This clearly shows the effect, upon even adhesive plaster, of keeping bad company."

To Relieve the Pain of an Aching Tooth.—Dr. Popoff (*Russkaya Meditsina*) recommends a solution of potassium permanganate, one part to five hundred. A little of this solution should be held in the mouth, in contact with the aching tooth, for a few minutes, the application being repeated every half-hour.

Is this a Specimen of French Gallantry?—According to the *Medicinische Wochenschrift*, of St. Petersburg, the appearance of a female medical student, who presented herself for examination, was the occasion of a disgraceful performance on the part of the male students of the École de Médecine of Paris. They made such a noise with cat-calls and whistles that it was impossible to proceed, and the lady's examination was postponed to another day.

An Inebriate Asylum, the first of the kind in Russia, has recently been established in one of the cities of that empire. It has accommodations, as yet, for only five inmates. If the tales of travellers in that country are to be credited, this asylum will most truly "fill a long-felt want."

A Reminiscence of Sir Fielding Ould.—The honors, few and insignificant though they were, granted to medical men on the occasion of the jubilee of Queen Victoria, recall to a correspondent the knighthood conferred upon Fielding Ould, the successor of Dr. Mosse, the founder of the Rotunda Hospitals, in Dublin. Mr. Ould was an obstetrician of great celebrity, and it was he who delivered the Countess of Mornington of the future Duke of Wellington. On the occasion of his receiving the knighthood the London *Lancet* had the following:

> "Sir Fielding Ould is made a knight,
> He should have been a lord by right;
> For then each lady's prayer would be,
> 'O lord, good lord, deliver me.'"

A Possible Cause of Left-handedness.—Dr. Feltz relates the following in *L'Art Médical*, of October 2, 1887: In a family composed of five persons, the father and mother were right-handed, as was also the eldest son, who was always cared for in his infancy by a nurse. The second child had been nursed by the mother, and was left-handed. The third child, also nursed by his mother, was, at the age of one year, evidently left-handed, never grasping any object with his right hand. Dr. Feltz noticed that the mother carried the child on her left arm, and she said, in reply to his questioning, that it had always been her custom to carry her children on this arm. The writer advised her to hold the infant on her right arm. She did so, the baby soon began to use his right hand in seizing objects, and is now, at the age of ten years, normal as regards the preference of the right over the left hand. When the nurse carries the child on her left arm, Dr. Feltz remarks, the left arm of the infant is the one which is free, and which consequently he learns to use to the neglect of the right.

Medical Cowards.—Some of the physicians of Sicily have shown themselves to be made of pretty poor stuff. Not only the mayors and other officials, but also many of the doctors in several of the small towns in the provinces of Catane and Syracuse, Sicily, ran away upon the approach of cholera. The *Official Gazette* of August 13th published the names of those physicians and pharmacists who had deserted their posts through fear of cholera, and the total number of names amounted to fifty. Possibly, however, the insane fury with which the Italian peasants pursue the physicians, in times of cholera, had as much to do with the flight of the latter as did the fear of the disease. It is one thing for a physician to fight disease, of however deadly a nature it may be, and another to stand up against a howling mob of panic-stricken lunatics, who are bent on taking his life.

Longevity in Italy.—According to the last Italian census, the number of persons over seventy-five years of age in that country was 381,229, of which 195,997 were men and 185,232 women. The proportion of individuals over seventy-five years of age to the entire population was 13 per 1,000. In Liguria the proportion was 19 per 1,000, while in Latium it was but 9.

Restricting the Number of Medical Students in Russia.—According to a recent decree, the number of medical students in the University of Moscow will hereafter be limited to two hundred and fifty. Of this number the proportion of Jews shall not exceed three per cent. In addition to this, the fees of medical students have been increased by twenty-five rubles a quarter. As the greater number of students in the medical department are from the poorer classes, this increase will have the effect of still further restricting their numbers. These measures are not taken because there are too many physicians in the country, for the contrary is the fact, but because the medical students are among the most active in the nihilist propaganda.

The Chinese Treatment of Hydrophobia.—In China, so it is stated, when a person who has been bitten by a mad dog begins to show signs of rabies, he is strung up by the hands and feet, and left in this comfortable position until recovery or death ensues. No better results are reported from this than from Pasteur's method of treatment.

The Medical Record

A Weekly Journal of Medicine and Surgery

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Original Articles.

SOME UNUSUAL MUSCULAR ANOMALIES.[1]

BY FRANK BAKER, M.D.,

PROFESSOR OF ANATOMY, MEDICAL DEPARTMENT OF GEORGETOWN UNIVERSITY, WASHINGTON, D. C.

I HAVE to present to the Society to-night an account of a series of muscular variations found in a single subject, some of which, taken singly, might be deemed of interest, and in combination are certainly most rare and instructive.

The individual in whom these variations were found was a Caucasian, probably of Irish birth, and about seventy years of age. As far as can be ascertained there was nothing unusual in his manual aptitude, although he was noted for being somewhat "handy."

On laying bare the muscles of the chest it was seen that on one side there was a marked interval between the sternal and the clavicular portions of the pectoralis major. The separation was quite as distinct as that between the pectoralis and the deltoid, and resembled the condition found in the gorilla and the orang, which have two distinct muscles between which passes a prolongation of the air-sac.

Besides this variation, of comparatively slight importance, another rarer one was found on turning back the muscle, viz., a separate sheet of muscular fibres arising by three digitations from the cartilages of the fourth, fifth, and sixth ribs, and passing outward to a tendon which united with that of the great pectoral at some distance from its insertion into the humerus. This sheet was entirely distinct from the pectoralis minor, which was normal. It affected only the sternal portion of the pectoralis major, the clavicular portion being undivided. This is, as far as I am aware, the third case of the kind that has ever been recorded; the others being reported by Macalister[2] and Tiedemann.[3] It appears to be the ordinary condition of the pectoralis major in the sloth, the pig, and the sheep.

Another series of variations was found in the biceps brachii of each side. Both muscles showed supernumerary heads, the arrangement of which was very instructive, as it throws light upon the origin and affinities of the muscle. The adult biceps is ordinarily, as its name implies, a muscle of two distinct origins, the coracoid, or short head, arising by a tendon common to it and the coraco-brachialis from the coracoid process of the scapula; the glenoid, or long head, from above the glenoid fossa of the humerus by a tendon which penetrates the capsular ligament of the shoulder, passes through the cavity of the joint surrounded by synovial membrane, reaches a groove in the upper portion of the humerus, and then, becoming muscular, joins about the middle of the arm with muscular fibres derived from the other head. The combined muscle then tapers to a tendon, which is inserted upon the tuberosity at the upper portion of the radius at its internal aspect.

A third head to the biceps is found about once in every ten subjects, arising usually from the inner side of the humerus, in close connection with the insertion of the deltoid, sometimes from the fascia covering the brachialis anticus, or from the intermuscular septum. This may have various relations with the great vasculo-nervous bundle which passes down the inner side of the arm, passing usually under it, sometimes over it, rarely having two portions between which the vessels and nerves pass. In the present instance this humeral head is well developed. It arises from the under part of the muscular belly, and is extended over the vasculo-nervous bundle, to be inserted on the inner side of the humerus just below the middle, its upper fibres being immediately below those of the deltoid. Some of the fibres probably passed to the fascial septum on the inner side of the arm, and thus guarded against compression of the vessels.

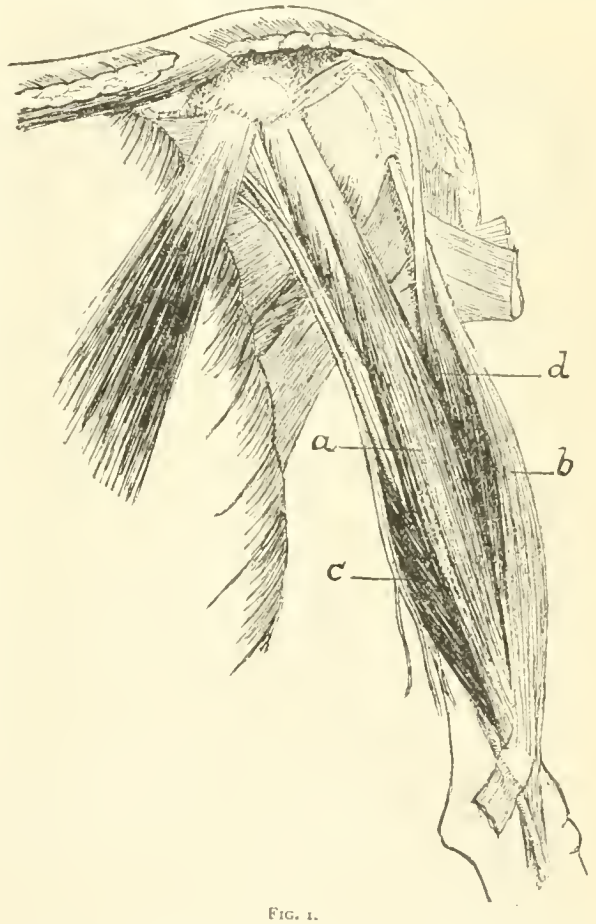

FIG. 1.

This arrangement of the biceps is apparently a case of atavism. It is found in some climbing animals where strength rather than speed is required, such as the three-toed sloth, frequently in the orang, and in bats. It is also found in the rhinoceros. Its physiological function would seem to be to add power to the muscle, on the general principle that many short fibres obliquely directed upon a tendon increase the power while effecting but slight relative displacement of the points of attachment; while long fibres, longitudinally directed, give considerable displacement, with a corresponding loss of power.

In addition to this humeral head of the biceps there were, in the present subject, two instances of a very rare variety, namely, a capsular head. On the right side the coracoid and glenoid heads were unusually separated,

[1] Read before the Biological Society of Washington.
[2] Trans. Royal Irish Acad., 1871.
[3] Journal complémentaire des Sciences médicales. 1830.

remaining ununited as far down as two inches above the elbow. About three-fourths the distance down the long head a flat, ribbon-like fasciculus came off, which was carried up separately and blended with the fascial expansion of the pectoralis major upon the outer lip of the bicipital groove, which expansion is continuous with the joint-capsule. There was no humeral head on this side.

Upon the left side the variation extended still farther, presenting the arrangement shown in Fig. 1.

Here, besides the coracoid, the glenoid, and the humeral heads, there is another passing up along the bicipital groove, but not inserted there; going, in fact, to the very outside and top of the capsule. This is given off from the coracoid head.

These last-mentioned variations are interesting as confirming the theory of Welcker with regard to the origin of the muscle. He finds that in the animal scale the biceps has three essentially different forms:

First, it lies outside the fibrous capsule of the shoulder-joint. Examples of this are found in the tapir, the horse, the mole, and other animals (Fig. 2, 1).

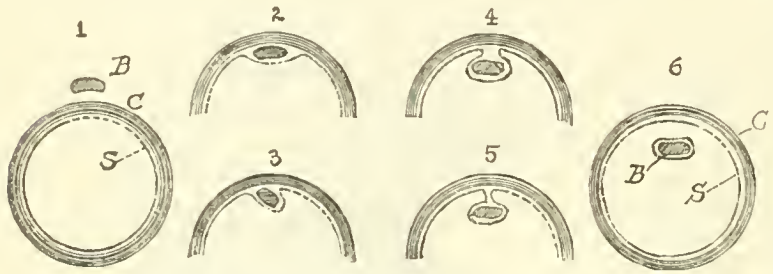

FIG. 2.—After Welcker. *B*, biceps tendon; *C*, capsule; *S*, synovial membrane.

Second, it touches the synovial membrane, and penetrates the joint to a varying depth. This appears to be a progressive formation from the previous one. A number of varying forms show this. Of these may be mentioned:

(*a*) The condition found only in embryonal states, when the tendon lies between the external capsule and the synovial membrane without embedding itself in the latter (Fig. 2, 2).

(*b*) The tendon commences to impinge upon the synovial membrane by a sideways insinuation. This is found in some bats (Dysopes tenuis—Fig. 2, 3).

(*c*) The tendon is well invaginated, but with no well-marked mesotenon (Nasua, Myrmecophaga—Fig. 2, 4).

(*d*) With a long mesotenon—(fœtal calf Fig. 2, 5).

(*e*) Tendon passes freely through joint-cavity sheathed with synovial membrane which has no mesotenon. This is the adult form in man and many mammals (Fig. 2, 6).

In examining fœtal joints this whole series is found represented. At an early stage the tendon is without the capsule; at about three months, as indicated by the drawing herewith (Fig. 3), the tendon is still attached by a duplicature of the synovial membrane constituting a mesotenon.

FIG. 3.—After Welcker. *B*, biceps tendon.

In still a third class of cases the tendon appears to lie on a recess of the joint-capsule, surrounded by a special synovial membrane of its own, which is probably to be considered as a bursa vaginalis, such as is formed about tendons elsewhere.

It will be observed that the peculiarity of the biceps which is noted here tends to confirm the notion that its tendon was originally outside the capsule and migrated to the interior of the joint. The supplementary heads here described are merely fascicles which have become detached in the migration. It is not clear how they can be of any practical benefit, unless it be to keep the capsule tense and lifted out of the way during the raising of the arm, an office usually assigned to the subscapularis.

The method of development of the biceps here indicated throws some light upon the development of tendons near joints in general. Welcker has shown that the ligamentum teres of the hip-joint is likewise subject to modification in an exactly similar manner, and Sutton[1] regards that structure as the tendon of a muscle (pectineus) which has lost its muscular elements and remains tendinous above. He also holds that the gleno-humeral ligament of the shoulder-joint is the vestige of a former condition of the subclavius, which he thinks is homologous with a muscle which, in birds, passes from the sternum to the humerus through the joint-capsule. This in man has lost its distal portion.

In some cases the biceps also has been found to have lost its glenoid insertion. In one case reported by Joessel[2] the capsule appeared to be normal and the missing head was not represented by any unusual arrangement of the fascia. The interchangeability of muscle, fascia, and ligament is too often lost sight of in considering muscular variations.

Perhaps we may also properly connect this variation of the biceps with the anomalous condition which existed in the pectoralis major. It is well known that the trunk, with its investing sheets of muscle, is formed before any limbs appear, and that these arise as lateral buds, upon which, as they push outward, the muscle-sheets of the trunk extend, first as a nearly simple and undivided layer, afterward becoming separated as distinct muscles. As the limb grows outward secondary layers of investment push out from beneath the upper ones.

The original primitive investing layer is represented by the trapezius and deltoid (originally a single muscle reaching from occiput and spine to humerus), pectoralis major, and latissimus dorsi. The primitive connection of these muscles is shown by the various anomalous conditions which they present. It is not at all infrequent to find the pectoralis major and the deltoid united into a single delto-pectoral muscle. Very often the only means of differentiation is afforded by the position of the cephalic vein, and even this fails sometimes. Cases of this kind are cited by Testut,[3] Perrin,[4] Otto,[5] Seiler,[6] Koster,[7] Ward,[8] and Flesch.[9] Muscular connections of various degrees occur between the latissimus dorsi and the pectoralis major, across the axillary space, in about twenty-five per cent. of cases.[10]

The secondary investment of the limb is formed by the biceps, coraco-brachialis, triceps, the muscles of the tuberosities, and the teres major. Anomalous connections between this set and the preceding are very numerous. It will be sufficient to cite a few. The pectoralis major may be continuous with the coracoid head of the biceps.[11] It may have a supernumerary insertion upon the brachial aponeurosis,[12] or even the inner condyle of the humerus.[13] The latissimus dorsi may blend with the teres major,[14] or send a prolongation to the coracoid process or to the capsule,[15] and even also to the inner condyle.[16]

The tendency to variation in the present case was evidently in the direction of increased specialization. The pectoralis major was more highly specialized by the differentiation of special sternal, costal, and clavicular

[1] Ligaments, their Nature and Morphology.
[2] Zeitschrift für Anat. u. Entwickelungsgesch., ii. 142.
[3] Anomalies musculaires chez l'Homme, p. 9.
[4] Journal of Anatomy and Physiology, 1871–72, v., 234.
[5] Path. Anat., 1830, p. 249.
[6] Observ. Anat., 1808, cited by Testut.
[7] Arch. Néerlandaises, 1864, p. 369.
[8] Proc. Royal Soc. Lond., xiv., 491.
[9] Beobacht. aus Praparsaal zu Würzburg, 1879.
[10] Langer: Zur Anatomie des Musculus latissimus dorsi; Oester. medecin. Wochenschrift, 1846, pp. 454, 486.
[11] Chudzinski: Revue d'Anthrop., ii., p. 25; Macalister.
[12] Gruber: Virch. Arch., 1876, p. 398.
[13] Testut: Op. cit., p. 17; Pozzi: Comptes-rendus de l'Association Française pour l'Avancement de la Science, 1874, iii., 581.
[14] Testut: Op. cit., p. 109; Macalister.
[15] Ward: Proc. Roy. Soc. Lond., xiv., 381. 388; xvi., 494.
[16] Testut: Op. cit., p. 118.

masses. The biceps appears to have continued the same tendency.

Besides the above-mentioned variations a number of others were found, generally in the direction of increased specialization. The dissection was not complete enough to allow a thorough discussion of them.

The levator anguli scapulæ was absent, and in its stead, on both sides, were found separate slips passing up from the angle of the scapula to the transverse processes of the axis and atlas.

The extensor carpi radialis longior on one side had a supplementary tendon, inserted with the extensor carpi radialis brevior into the base of the third metacarpal.

The flexor sublimis digitorum had a supplementary head from the shaft of the radius and the fascia covering the flexor longus pollicis.

The extensor indicis and minimi digiti were wanting.

Palmaris longus wanting.

I am indebted to the careful dissection and zeal of my pupils, Messrs. Frederick Sohon and E. W. Day, for the materials upon which the foregoing discussion is based.

The cuts have been loaned from a forthcoming volume of Wood's "Reference Handbook," by the kindness of the editor of that valuable work.

1315 Corcoran Street, Washington, D. C.

A QUESTION OF PRIORITY CONCERNING A NEW THEORY OF THE ETIOLOGY OF CONGENITAL CLUB-FOOT.

A DISCLAIMER AND A CORRECTION.

By ROBERT WILLIAM PARKER, M.R.C.S.,

SURGEON TO THE EAST LONDON HOSPITAL FOR CHILDREN.

In The Medical Record of October 15th there is an article with the above title, to which, only after considerable hesitation, I have decided to reply. This article contains one or two insinuations as to my honesty, which I very much regret to find in such a place, and which I think are altogether unworthy of Dr. Berg's position and profession.

The tone of the paper is one of injured *amour-propre*, and this seems to depend largely on an error which I accidentally made in dates, which I very much deplore, and for which I apologize. In criticising an article by Dr. Berg, published five and a half years ago, I accidentally said that it was published *two years ago;* I ought to have said *two years* previously to my own paper on the "Pathology and Etiology of Congenital Club-foot," communicated to the Pathological Society of London, in 1884.

As to the main question referred to in Dr. Berg's article, that of *priority* concerning a new theory of the Etiology of Congenital Club-foot, let me at once disclaim any and all desire for priority as regards Dr. Berg, or any other writer who supports the "non-rotation inward of the limb" theory as the cause of congenital equino-varus. I have never done any original work on embryology, and what mention I have made of rotation of the limbs in my writings is based on the work of others. In the "original article"[1] in the *Lancet*, which has so raised Dr. Berg's ire, I should never have mentioned the word priority, had not the reviewer in the *International Journal* done so. I merely wrote that 'both Dr. Berg and I have been anticipated, more or less, by so many previous writers that we can both afford to say nothing about priority.' I fail to see how this can be interpreted into a claim on my part for priority, except by a reader who desires to pervert the meaning, and even the words, of the writer. Moreover, Dr. Berg himself writes that the view he has put forward has been "feebly advanced by some authorities from time to time." On what, then, does his claim to priority rest?

But I would further strengthen this disclaimer as to priority by frankly avowing that I do not accept the theory of "non-rotation inward of the lower extremities" as the cause of congenital club-foot. The utmost that I can allow is, that it is 'one probable factor.' I have, however, no specimens or facts to support even this much. To a certain extent this non-rotation inward of the limbs occurs in many infants without talipes, and is purely mechanical. How Dr. Berg can write that Drs. Parker and Shattock account "for the occurrence of club-foot in exactly the same manner that I do," I cannot explain on any other supposition than that Dr. Berg has not carefully studied my writings on the subject. Dr. Berg is, evidently, more concerned with dates than with any other point; for the mistake I made in speaking of his paper in Seguin's *Archives*, as having been published 'two years ago,' is characterized as an "important misstatement." I have already explained how this misstatement arose: anyone reading the several articles carefully will probably have arrived at the same conclusion. I again apologize for the error, but I scorn the insinuation "that the error was a wilful one."

I am willing to admit that a little more "scholarly exactitude" would have saved me from the error; but I feel it hard to be reproached for the want of "scholarly exactitude" by Dr. Berg, who, for the want of this same exactitude, has himself fallen into errors about as important as those of which he convicts me. Besides completely misunderstanding my views on the causation of club-foot, he misspells the name of my friend and esteemed collaborateur, Mr. S. G. Shattock, and he overlooks the fact that the *American Journal of the Medical Sciences* of July, 1886, was, after all, "at that time the *International*." I gather also that the writings of other authors have not always been perused with that "scholarly exactitude" which Dr. Berg appears to admire so much in others. On page 237 of the article in Seguin's *Archives* he says: "After an extensive search in the latest literature of the subject I found no use made of the advanced embryological knowledge to establish the etiology of talipes equino-varus. But lately, in consulting Billroth upon some other subject, I happened to turn upon the chapter on the etiology of club-foot, and found that he strongly expresses his convictions in favor of this latter theory, as explained by recent embryological data, although he does not clearly define either the theory itself or the data on which it rests." Curiously enough, the only author to whom Billroth refers by name in this connection is Eschricht, the original propounder of the non-rotation theory in its application to malposition of the abdominal limb! Although, as Dr. Berg says, "the portion of the article [by Eschricht] which refers to club-foot is only about half a column in extent," Volkmann evidently thought very highly of it, and in the *Deutsche Klinik*, 1863, speaks of the article as the 'few classic lines.' Lücke, too, mentions Eschricht's work (*Ueber den angeborenen Klumpfuss*). Whether any other of the authors quoted by Dr. Berg, in Seguin's *Archives of Medicine*, refer to Eschricht and his teachings or not, I do not remember. I think I have quoted sufficient names to warrant the statement that a little more "scholarly exactitude" would have saved Dr. Berg from the error of overlooking Eschricht's work.

I have already said that Dr. Berg cannot have read my writings on club-foot with much attention, for he appears not to have understood that I advocate essentially a mechanical causation for the great majority of cases. In his article in Seguin's *Archives* he classes me among the mechanicals (if I may coin such an expression), and goes on to argue against the insufficiency of the mechanical theories. Further on, after propounding his non-rotation inward theory, he says, "that no extraordinary amount of intra-uterine pressure is necessary to produce

[1] Quotations from Dr. Berg's writings are inclosed in double inverted commas; quotations from my own writings in single inverted commas.

this deformity, its cause being not pressure, but, as we have seen, 'a non-rotation inward, or a retarded rotation inward of the lower extremities.'" After such a statement, to argue that he and I hold "exactly the same" views on the causation of equino-varus is quite inexplicable to me. I hold that pressure, direct or indirect, on the feet is the essential cause of club-foot. "Non-rotation inward" of the extremities, if and when it occurs, is probably brought about in the same manner, and is "one probable factor," as I said in my article in the *Lancet*. I refuse to believe that non-rotation can occur as a spontaneous act; it must have some appreciable cause. Were it spontaneous, and due to inherent deficiency of developmental power, the limb would show traces of such deficiency at birth and carry the imprint thereof throughout life.

Further, in many cases of severe equino-varus, the whole limb, like the foot itself, is *inverted* (that is, rotated inward) far beyond the normal. Such cases are appropriately described as crus varum. Apart, however, from these extreme cases, as Lücke points out and lays stress upon, the inward rotation of the limb is often very marked. I have often observed this and found it an inconvenient part of the deformity, as far as treatment is concerned. Indeed, in all but a few exceptional cases, provision must be made, when ordering instruments, to secure that the feet and the limbs generally be turned outward. In other words, club-footed children, even after the club-foot has been reduced, show for many years a tendency to walk with the toes turned in; and this is unquestionably due to a congenital hyper-inversion of the club-footed limb. That the limb is occasionally in a position of rotation outward, I am willing to admit. Dr. Berg will find, however, that such a condition exists in non-club-footed infants quite as often as in those who are deformed.

For many reasons, then, I must decline to accept Dr. Berg's theory, that non-rotation or a retarded rotation inward of the limbs is the cause of congenital equino-varus. In my recently published book on club-foot[1] I have fully described my views; those who care to study this little book will see for themselves how essentially my views differ from those of Dr. Berg, and how uncalled for his suspicion that I have tried to dispute priority with him. I hope the foregoing explanation will satisfy Dr. Berg, 1st, That I have no wish to contest or claim priority with him; 2d, that I am quite ready to believe that he applied the embryological facts without knowing how nearly his own views had been expressed in the "few classic lines" by Eschricht, years previously; 3d, that these views had received careful attention at the hands of various writers; 4th, that, personally, I do not regard the theory of non-rotation as adequate to explain even congenital equino-varus (to say nothing of other forms of congenital club-foot); 5th, that the probable reason why Eschricht's views have not been more widely current is because the majority of authorities, like myself, regard them as insufficient, as but "one probable factor" it may be, which has been swallowed up in the wider and more satisfactory theory included under the term "the mechanical causation of club-foot."

In conclusion, I trust that, in any subsequent contributions to orthopedic surgery, Dr. Berg will be able to criticise his co-workers without imputing such motives as are implied in the expression, "Mr. Parker subjects himself to the risk of suspicion that the error was a wilful one."

In the Excessive Vomiting of Pregnancy Credé recommends the administration, every five minutes, of teaspoonful-doses of nourishment, preferably iced milk, the patient lying absolutely quiet and taking it through a glass tube.—*Weekly Medical Review.*

[1] Congenital Club-foot: its Nature and Treatment. With Special Reference to the Subcutaneous Division of the Tarsal Ligaments, p. 105. Mr. Lewis.

THE TUBERCULAR SYPHILIDE.[1]

By JAMES NEVINS HYDE, M.D.,

CHICAGO, ILL.

Hyperplastic evolution of the papule, besides producing the aberrations from type already described, may also result in the formation of definitely circumscribed, deeply seated, single or multiple, pea- to small egg-sized, bright-reddish or livid, solid, cutaneous, or more commonly subcutaneous, lesions, known as tubercles. These are usually late secondary, or early or late tertiary syphilitic symptoms which, in consequence of difference of involution, are divided into two classes.

The *resolutive tubercular syphilide* is characterized by: Slow evolution without marked subjective symptoms, disappearance after absorption of the plastic infiltration commonly involving the entire thickness of the derma, and the production, without previous ulceration, of an indelible scar. The lesions begin as superficial, pin-head-sized, reddish and roundish gummatous nodules, which, as they attain the larger dimensions named above, become flatter, smoother, more lustrous, and more deeply tinted. They are largely facial or cervical in situation, but may also spread over the trunk and extremities. They are often free from scales, except when seated upon the palms or soles, in which situations they may be covered with thick corneous plates beyond whose borders can be recognized a violaceous halo. These lesions may be generally disseminated, or grouped in distinctly circumscribed patches, either circular in outline or exhibiting some modification of the latter (*e.g.*, the reniform, horse-shoe shaped figure, etc.). The former are the earlier, the latter the later, of occurrence.

When facial in situation, the tubercles may spread in a fan-shaped area over the forehead, or extend over the bridge of the nose to the cheeks, assuming, as Bumstead and Taylor have graphically shown, the butterfly shape. The thinned, atrophic centre and elevated rim of the patch may be then significant.

An exaggerated grade of confluence and proliferation of these tubercles results in the hypertrophic, leontiasic, or vegetative syphiloderm. In these instances the nose, the chin, the ear, or some other part presents an enormous increase in bulk, with definitely distinguished lobules separated by furrows, the picture presented strongly resembling the elephantiasic condition. Again, a voluminous verrucous growth may spring from some portion of the scalp, and even in the end encroach upon a large part of that region, the warty mass freely projecting comb-like masses from the surface, smeared often with a puriform and offensive secretion (Framboesia syphilitica, Papilloma syphilitica, etc.).

The *ulcerative tubercular* (*tuberculo-ulcerative*) *syphilide* is a somewhat later manifestation of the disease, or one which, developing as it does rarely within a few months after the evolution of the chancre, occurs in neglected, untreated, cachectic, or so-called "galloping," cases. Here also the lesions appear upon the face, trunk, and extremities, with the general characteristics already described, but more commonly in definite groups. Instead of undergoing, however, the atrophic changes observed in the resolutive form, a portion, rarely all, of the tubercles forming the patch, soften or become covered with a greenish or blackish crust from desiccation of the ichorous or sanguinolent liquid furnished by the breaking down of the gumma, beneath which an ulcer forms somewhat larger in size than the lesions from which it sprang. In this way the face may display over the chin, forehead, or cheeks, a dense tumefaction composed of a group of closely agglomerated, livid, pea-sized papules, ulcers, and crusts, or a distinctly outlined ring of such lesions disintegrating at the periphery and surrounding an atrophic cicatricial, or even ulcerated central area. Gangrene and phagedéna very rarely complicate these de-

[1] Extract from the article Syphilis, in Wood's Reference Handbook of the Medical Sciences, vol. vi.

structive processes. The ulcers which form are of typical syphilitic aspect, with pultaceous floor, steep, "clean-cut" edges, ichorous secretion, and serpiginous tendencies.

Mixed forms of commingled resolutive and ulcerative tubercles are not rare of occurrence. The following are common clinical pictures: A patient, five to ten years after infection, has the forehead, nose, and cheeks fully covered with numerous, firm, pea-sized, smooth, shining nodules, vivid and dull-red in hue, occupying an infiltrated integument of the same general color. Some of the tubercles are slightly crust-capped, others are irregularly excavated as if wasting at such points. Between them are distinctly defined, large pin-head to pea-sized atrophic, non-pigmented depressions resembling youngish scars. These are spread with some regularity between young and mature tubercles, even at the scalp-border and among the hairs, over the tip of the nose, and well over the cheeks. Uneven and verrucous patches may indeed occupy distant portions of the scalp, where hairs have fallen from an atrophic area. Sometimes they undergo colloid degeneration. Attention is particularly directed to this complexus of nodules, crusts, atrophic disks, minute ulcers, and scanty pustules when occurring in this region, as it is a feature very rarely seen in any other disease than syphilis.

Still other symptoms are well shown in the accompanying colored plate, which admirably reproduces a colored photograph from the collection of Dr. George Henry Fox, of New York. Numerous plaques are here visible distributed over the trunk and shoulders, having the exceedingly definite and circular outline, atrophic or cicatricial centre, proliferating or disintegrating border, and characteristic tint of patches of syphilitic tubercles. At one or another point may be recognized almost all of the several changes described above. The extreme facial disfigurement produced in exceptional cases by a recurring series of these metamorphoses is shown in the accompanying illustration, executed from a photograph of one of the author's patients, who had been suffering for many years from a tubercular syphiloderm of the face.[1]

In most of these cases, the changes wrought in the course of time after the employment of an appropriate therapy are marvellous. The violaceous tint disappears; the scars, if any have resulted, are transformed into thin, superficial, uncolored, or dead-whitish, inconspicuous blemishes; the natural fat of the panniculus adiposus is restored; and, even in middle life, after the fullest grade of evolution described above has been reached in the face of a woman, a fair degree of comeliness is restored.

Lupus vulgaris is distinguished from this condition by its onset at an earlier period of life, its far narrower limitations, its greater asymmetry, its profounder and more disfiguring scars, and its much more indolent career. The tubercles of lepra producing the characteristic leontiasic aspect of the face are far more chronic in evolution, more deeply pigmented and "varnished," less often ulcerated, crusted, and commingled with scars. The pearly, milium-like nodules of epithelioma are quite unlike the tinted tubercles of syphilis, are never so numerous; and the smooth-glazed, bright-red, and scantily secreting floor of the epitheliomatous (rodent) ulcer never suggests the foul excavations of syphilis. Psoriasis is always scaly, never ulcerative in type, never crusted nor pustular. The most difficult cases for differential diagnosis are those of hypertrophic acne of the nose, with gaping orifices of sebaceous ducts whence comedo-plugs may have been expressed, interspersed between dull-reddish acne-papules. Here the history of the case, the absence of scalp-lesions, the stricter limitation of the patch to the tip and alæ of the nose, the absence of a distinct ulcer, and the conspicuously smaller size of the scar-like depressions, usually furnish a clue to the distinction sought to be established.

240 Wabash Avenue.

[1] Illustration omitted, for lack of space.—Editor.

Clinical Department.

PAPILLOMA OF THE UVULA.

By WILLIAM FREEMAN FRENCH, A.M., M.D.,
NOROTON, CONN.

The following is the history of a case which recently occurred in my practice, and was of great interest to me, being the first of the kind I had ever seen.

T. M——, about thirty years of age, has been troubled at times, as long as he can remember, with a sore spot in his throat (although there was no pain in swallowing). This was accompanied with vomiting, whenever he passed directly from his meals to the open air, and took a long breath with his mouth open. There was also a sharp, hacking cough. The Crown Prince's case seemed to be in the patient's mind, although there was no feeling of a foreign body in the throat. On examination I found hanging from the tip of the uvula and descending to the right, a body over one inch in length, beginning with a thin pedicle and widening to the base, where it looked like a seed-wart, so called. It was about a quarter of an inch in diameter, circular in form, and flattened from before backward.

I made the diagnosis of papilloma, although to me the location was unusual. Having, after a few days, got the throat in such a condition that a free handling of the parts could be made without exciting vomiting, I took my patient to my friend Dr. Geib, of Stamford, and having thoroughly painted the uvula with a four per cent. solution of cocaine hydrochlorate, I depressed the tongue with my finger, while Dr. Geib easily snipped off the growth. The sore spot in the throat immediately vanished, and with it the irritable condition of the fauces, the vomiting, etc. The stump alone felt sore for twenty-four hours.

The location of the papilloma in this case is my only excuse for reporting it.

ANTIPYRINE IN ACUTE AND PAINFUL AFFECTIONS OF THE EYE.

By GEORGE STERLING RYERSON, M.D., C.M.,
LECTURER ON THE EYE, EAR, AND THROAT IN TRINITY MEDICAL SCHOOL, TORONTO, CANADA.

The want of some drug other than opium and its alkaloids, to control pain in acute inflammations of the eye, has long been felt. My experience with antipyrine leads me to hope that such an agent has been found. The number of cases in which I have employed it has, however, been so small that I hesitate to pronounce a definite opinion on the subject, and it is with a view of bringing the matter before the profession for a more extended trial that I have ventured to pen this note. It may be that the drug has been employed for this purpose before, but, so far as I am concerned, the discovery of the action of antipyrine in acute inflammation of the eye is original. The following are my cases:

Case I.—J. W——, fifty-eighty ears of age. August 31, 1887: Extraction of a cataract without iridectomy, acute plastic iritis. Severe pain in eye and head relieved by sedatives for a time only. As there was also some hyperexia, I bethought myself of antipyrine. I gave three doses of twenty grains each at intervals of three hours. The relief of pain was almost magical. I had no further difficulty in controlling pain, and the inflammation seemed also to decline. Six weeks later I did an iridectomy giving fair vision. No pain followed the operation.

Case II.—Mrs. K——, fifty years of age. November 17, 1887: Acute glaucoma; secondary to relapsing iritis and exclusion of the pupil. Severe pain not relieved by cocaine and eserine, and only partially by morphia. Forty grains of antipyrine in two doses, with an interval of three hours, completely relieved her.

The drug was repeated at intervals, according to the pain, for several days, when an iridectomy was performed. Patient was in very poor general health.

CASE III.—Mrs. B——, aged twenty-four. November 22, 1887: Acute iritis, one week's duration; numerous adhesions between the margin of pupil and the lens. She has had several attacks. There is no known cause. The pain, which was very severe at night, was relieved at once by twenty grains of antipyrine. The patient had been treated for twenty four hours previously with atropine without much relief to pain.

THE USES OF ANTIPYRIN OTHER THAN AS AN ANTIPYRETIC.

BY WILLIAM F. WRIGHT, M.D.,

NEW YORK.

AT the present time antipyrin is attracting considerable attention as of use in certain nervous derangements. That it has a much wider range of usefulness than is commonly supposed is evident to every practitioner who has made much use of the drug. In hemicrania, neuralgia of the trigeminum, sciatica, ovarian neuralgia, muscular rheumatism, hysterical affection, and in certain spasmodic affections, I have found it of the greatest benefit. In hemicrania, of whatever origin, I use it with far more success than I have ever had with any other drug. Given in fifteen-grain dose at the onset of an attack of migraine, it will cut short the attack, and a patient who has grown to expect from twelve to eighteen hours of agony before relief could be expected will, within an hour, be free from pain and, if reclining, will probably be sleeping quietly. Some patients carry with them constantly a powder of fifteen grains, to take upon the approach of an attack, and as yet I have not known it to fail in a single instance. In the cases frequently met with among professional men, business men, and worried, overworked mothers, where we have a cephalalgia associated with insomnia and much nervous irritability, antipyrin will be found of far more benefit than will any of the drugs commonly given. A dose of fifteen grains at bedtime will in most cases be quite sufficient, although I have sometimes found it necessary to repeat the dose in two hours. Combined with chloral, better results can be obtained than from chloral alone. In a certain number of cases of sciatica it has given great relief when taken in fifteen-grain doses three or four times daily. In antipyrin I have grown to feel that I have a weapon with which to face that hydra hysteria. The hysterical knee, hand, and convulsion will yield to antipyrin when moral suasion and all other forms of treatment have failed. About the cases of lumbago or muscular rheumatism in which I have tried antipyrin, there has been some doubt as to whether or no they were hysterical. The same can be said of the cases of ovarian neuralgia, although I have seen enough to convince me that in genuine cases it exerts some power for good.

In nystagmus, where there is neuralgia of the infra-orbital or supra-orbital nerves, it will be found of great benefit. The improvement is not so marked in cases not associated with pain. In blepharo-spasm, and the painful twitching of other sets of muscles, marked benefit is speedily derived from full doses of the drug. The spasmodic cough of children is relieved, if not cured, by small doses—from three to five grains in syrup of Tolu—repeated every two or three hours. In cases of pertussis I have not noticed much, if any, improvement from the use of antipyrin. The eruption which antipyrin sometimes causes I have seen but little of, and have seen no bad effects follow the cautious use of the drug. But in no case have I given more than fifteen grains at one dose, and this quantity I have not repeated within two hours.

57 WEST TENTH STREET.

SLOW AND RAPID HEART-BEATS.

DR. WILLIAM T. SMITH, of Hanover, N. H., referring to the case of slow heart-beat reported by Dr. Squire in THE MEDICAL RECORD for November 26th, writes: "One of my neighbors, a large, fine-looking man, eighty years of age, has a pulse which is ordinarily 28 to the minute. Ten years ago he had trouble with his heart for some months, the exact nature of which I do not know. Since that time he has had a pulse ranging between 24 and 32. The heart is hypertrophied and the arteries are hard. There is no sign of valvular lesion. I can detect no intermediate beat. He is in excellent health, with uncommon vigor for his age, and, except that he is short-breathed when he walks up-hill or makes other special exertion, shows no sign of failure of the circulatory apparatus.

"By way of contrast I will mention a woman who came under my care a few years ago, whose heart beat 225 times in a minute for two days. Of course no pulse could be counted, but, by laying my ear upon her chest, I could count the beats, which were distinct and regular. I expected speedy death, but the rate gradually diminished until one morning, about a week after the rapid action, I found it normal. The patient had a long-standing heart-trouble which we called functional, because we could recognize no organic lesion. She has since died, but an autopsy was not permitted."

GLYCOSURIA IN A YOUNG CHILD.

DR. J. F. BERG, of North Branch, N. J., reports the following case: "I was asked several weeks since to prescribe for nocturnal incontinence of urine in a boy three and a half years of age. I ordered a belladonna mixture andl eft some directions for diet, having scarcely seen the child. Last week the boy was fretful and complained of being tired. I then examined him carefully, and found a dry skin, fuzzed tongue, and a markedly distended abdomen. The child was reported to be hungry all the time, and he drank large quantities of water and milk. I ordered some calomel, thinking that it might possibly be a case of worms, and asked that the urine passed in the morning be saved for me. Examination of this urine showed a specific gravity of 1.040, and the sulphate of copper test revealed the presence of sugar. In a few days coma supervened and the little patient died. Emaciation proceeded at such a rapid rate that the child seemed literally to melt away. I wish to put the case on record as one of the few instances of diabetes mellitus at so early an age, and also that it may serve as a warning to others to make a correct diagnosis before treating such an apparently insignificant trouble as nocturnal incontinence of urine in children.

"I have failed to discover a satisfactory cause for the disease in this case. The affection dates back to the peach-season, at which time the patient ate of this fruit to his heart's content, eating, as children do, skins and all except the stone. Now it is a well-known old woman's remedy to give peach-parings, with the down or fuzz on, as a diuretic in dropsy, and I know that they act powerfully. Whether this was a factor in the causation of the disease I know not. I can only say that, if so, it is the first and only instance of the kind that has come under my observation after a residence of over twenty years in a peach-growing district. The boy was the youngest of six children, and all his brothers and sisters, as well as his parents and grandparents, are healthy."

CARE IN DIAGNOSIS.

DR. EDWARD S. BLAIR, of Sioux City, Ia., writes: "'Festina lente' is a motto which nowhere deserves more rigid observance than in the matter of diagnosis. Many a case has resulted seriously, and not a few fatally, because when the physician or surgeon was called he dismissed the patient as not deserving special care or attention. A case

of neglect of attention in diagnosis and consequent suffering illustrates the point at hand.

"A young lady, about twenty-one years of age, accidentally swallowed a pin. It lodged in a horizontal position in her throat, and, in her efforts to expel it, its position was changed so that it was held longitudinally, with the point downward. Every attempt now to expel the offending body was futile, and was attended with intense suffering. Each effort at swallowing or speaking was repaid by agonizing thrusts from the sharp-pointed intruder. All that domestic knowledge could suggest was done, but without relief. The patient sought out the best medical aid then, in a neighboring town. The man applied to was a surgeon of considerable local fame. He carelessly looked the patient over, told her there was no longer any pin there, and sent her home. She, however, knew too well the error of her adviser, and continued to feel the piercing thrusts of the pin.

"Nature now took the case in hand, but she is one of those slow, cautious operators, who strictly observes the motto quoted above—she hastens slowly. Nine long weeks, while the patient suffered almost unendurable pain, by a slow process of ulceration the little fold which held the point of the pin was made to let go its grasp, and suddenly, while the patient was stooping over, the pin dropped forward into her throat and was expelled. Old mother nature is a kind nurse and a safe operator, but a little timely assistance from the surgeon might have shortened much the period of suffering in this instance."

Progress of Medical Science.

Modern Diet and its Effects on Health.—Dr. Boyd says there are some points in connection with this subject which are not of merely professional interest, but of far wider significance, and may be regarded as of national importance also, as they embrace not only our every-day condition of health as individuals, but our very physical existence as a race (*British Medical Journal*). Foremost among these points is the question how many of our modern diseases depend upon our diet, and why dyspepsia and its concomitant troubles are so prevalent. In the consideration of this subject we might reasonably ask how much man's habits and occupation have contributed to the deterioration of his nervous and digestive powers. Where such a preponderance of albuminoids enters into our food as is at present the case, the additional use of alcohol with them becomes a necessity to aid in their digestion, more especially as from the impaired nervous energy of the present day the digestive organs require the stimulus they give to increase secretion. But is assimilation of a large quantity of albuminoids of benefit to our system at large? Having regard to the fact that the ptomaines of our food are mainly derived from albuminoids, most certainly it cannot be; and in this meat-eating country, where, from climatic influences, rheumatism and its congeners are endemic, a great liability to cardiac affections necessarily ensues. As most of the albuminoid waste passes through the kidneys, have we not a direct connection between our food and the prevalence of Bright's disease? The prevailing taste includes a large amount of animal food, and the present state of the laws allows too great facilities for all sections of society to poison themselves with this form of food. The State regulates the sale and the quality of the alcohol the public consumes, but exercises no control over the quality of the meat its people use. It is very doubtful if the opportunity to purchase meat cheaply and use it in abundance is an advantage, looking at the matter from a public health point of view. It may be said that it is not the abundant use of meat, but the manner of cooking it, that is injurious. Granted that this is so, has not the State a greater reason to attend to the wants of its people in this respect? Schools of cooking would seem, then, of paramount importance, to enable the poor to receive that instruction which is so essential to their moral and physical welfare.

Fecal Anæmia.—At a recent meeting of the London Medical Society (*The British Medical Journal*, November 19, 1887), Sir Andrew Clark read a paper on the production and treatment of anæmia and chlorosis in girls and young women from fourteen to twenty-four years of age. He had studied many years ago the results of retention of the excretions and the effects of their decomposition. He described the peculiar and characteristic symptoms of those forms of anæmia or chlorosis which occur in young women, which he ascribed in a large number of cases to the accumulation in the large intestines of fecal matter, its decomposition, and the subsequent absorption of the poisonous products so formed. He pointed out that the bowels might be open daily but imperfectly, so that even where constipation was said not to exist, fecal retention nevertheless might and did take place, with the evil results alluded to. The condition was one which was not confined to any particular class of society; it occurred in the underfed and the overfed, in the rich and the poor alike. He referred to the various theories which had been put forward with respect to the causation of anæmia by Virchow, Germain Sée, and others. Girls at puberty began to think more about their personal appearance; they ceased to take the same active exercise as before; they pinched in their waists and developed a self-consciousness in all their acts which led, *inter alia*, to their being very shy about going to the closet. He quoted the researches on the subject of the formation of alkaloids in the intestines, and urged that everything pointed to a toxic absorption. In collateral proof of his assertion he instanced the almost invariable success which attended the administration of aperient iron mixtures, which unloaded the bowels and restored things to their normal condition. He discussed the dietetic and medicinal treatment of such cases in detail, and pointed out that aperients were even more essential than ferruginous preparations. In patients who had been treated without success for months, a cure was rapidly effected if these principles were borne in mind. To maintain the cure, it was of course essential to prevent the recurrence of the condition of things which had given rise to it.

Pseudo-Hydramnios.—At a recent meeting of the British Gynecological Society (*The British Medical Journal*), Dr. J. St. Clair Boyd described a case in which the superabundance of fluid did not, as in ordinary cases of hydramnios, take origin in the membranes, but had its source in a hydrocephalic head from an aperture in which it flowed. The patient, aged forty-two, had had six children, and thought herself pregnant again, but her enormous size seemed inconsistent with that view. She was suffering from enormous abdominal distention, dyspnœa, and dropsical effusion of the lower extremities. On making a vaginal examination the os uteri was found dilated to the size of a crown-piece, and a bag of membranes protruding from it. On rupturing this thirty pints of fluid escaped. The child was subsequently delivered with the short forceps. The placenta was adherent and had to be removed. The uterus was then injected with a hot solution of hydrarg. perchlor., 1 in 2,000. No hemorrhage occurred. On the third day all trace of dropsical effusion had disappeared from the patient's lower extremities. The child, which was born at the seventh month, had an immense hydrocephalic head. The fluid apparently exuded below the occipital eminence, at which part the skin had become wrinkled, owing to its escape.

Trichinosis in Ducks.—Twenty persons in Inowraclaw, Posen, were recently attacked with symptoms of trichinosis, and an investigation showed that they were poisoned by eating the flesh of trichinous ducks.

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.

As will be seen by an item elsewhere, the work of organizing the coming Congress of American Physicians and Surgeons is progressing, and there is every promise that the meeting will be a most successful one. The idea which it is the object of the Congress to carry out is, that of bringing together those interested in special and general medical or surgical work, and of doing it in such a way that scientific work without medical politics shall be the result. To promote this end, each association preserves entirely its autonomy, and the President of the Congress is elected from each special society in turn. There are no delegates, and every member of a special association is a member of the Congress.

The plan of having such a Congress as this was suggested by Dr. Mastin, of Mobile, in May, 1886, only a year and a half ago; but its merits were so striking and obvious that it was almost immediately approved, and all of the national associations, so far as we can learn, except one, have heartily joined in it.

We feel sure that the physicians of the South, where the project was conceived, and those of the East and the West, both which sections promise to be well represented, will approve and encourage an attempt which is destined greatly to promote medical science in this country.

THE STATE BOARD OF HEALTH AND QUARANTINE.

DISCUSSIONS regarding quarantine at this port are so tinctured with political feeling that it is difficult to arrive at a fair estimate of the actual merits of the matter. On the one hand is the impregnable fact that no cholera has been brought into the country; while on the other are certain adverse reports of those more or less expert in sanitation, and the partisan onslaughts of the daily press.

The State Board of Health has taken upon itself the duty of examining and reporting to the Governor of New York upon the condition of the quarantine service at this port. This report is based chiefly upon the personal inspection of the secretary, Dr. Balch, and it contains really little more than a reiteration of the statements made by earlier inquirers. It is shown that the condition of things on Hoffman Island was decidedly bad, and that the medical attendance at Swinburne Island was insufficient. We can well remember that, some months ago, much of the blame for this was charged upon our Governor, who is a Democrat, and who vetoed the extra appropriation for improving the condition of quarantine. Now, however, the fault is laid upon the health officer of the port, who is a Republican.

The concluding paragraphs of the report show that the State Board feel very deeply on the subject. For, though it is stated at first that "the State Board of Health does not consider it within its province to pronounce upon the actions of the quarantine authorities," yet it is added immediately, "that the health of the State and the country was put in great jeopardy by the culpable unreadiness of the station admits of no question."

And it is stated also, that "it is the unanimous opinion of those posted on such matters that it would be difficult to imagine a worse state of affairs than now exists at the quarantine station. It is hard to realize, in this age of civilization, that the harbor of the city of New York should be so inadequately provided with facilities for the prevention and extinction of an epidemic."

The conclusion that we form from the facts given is that our quarantine management is by no means up to the mark, though its condition is hardly the crying disgrace which some represent it to be. The most lamentable thing about it is that it forms part of a political machine. It is the same old story which we hear in connection with our hospitals, asylums, boards of health, and quarantine. The hand of the political boss is on each one. In municipal politics everything tends to drive the doctor to "mugwumpery," by which we understand the advocacy of the management of affairs by the best men, not by the most influential partisans.

IS DIDACTIC LECTURING BEHIND THE TIMES?

THE communication from a "Medical Student," in another column, is deserving of more than a passing notice. It will doubtless receive this by its intrinsic force of putting the thing. In the main, and even more so, we quite agree with the sufferer. There is altogether too much didactic lecturing in our college courses. Lecturing is not necessarily teaching. There should be some proportion between the quantity of seed sown and the capacity of soil to take it up. Rhetorical stimulation may help somewhat, but the more frequently it is harrowed in, the sooner the responsiveness of retroactive appreciation wears out. Seven sermons daily would in the long run paralyze the staying energies of the most devout listener. But as each lecturer comes in turn freshly to his work, he goes on from day to day, throughout the course, realizing to the full how much better it is to give than to receive. As a result, the mind of his unfortunate listener becomes a compost collection of incongruous facts, with only here and there a tender blade of truth struggling to the surface of his understanding. It must be hot-bed culture, if anything; succulency rather than strength, weeds rather than fruit.

But we may be told that the abolition of the didactic lecture will alter the whole system of medical instruction. It will make no matter, however, for we are destined to come to it by and by. The clinical room is gradually growing larger by a force of its own, laboratories are winging themselves on the sides of the college buildings, because that is the only sensible way in which the latter

can spread; the wards of our hospitals are more and more frequented each year, and the practical must eventually survive the theoretical. The signs of the times are seen in the pretended prominence of clinical over didactic teaching, but the latter is destined to have a long agony of dissolution; the office of simple lecturer has been too much magnified to shrink too suddenly into insignificance. The most impregnable part of the didactic system, the one which has forced its recognition most emphatically upon the students, rests upon the ultimatum of an examination by the lecturers. How many lecturers would have full audiences if the case were otherwise, and there was an independent board of examiners?

PUTTING QUARANTINE UNDER NATIONAL CONTROL.

The College of Physicians of Philadelphia continues its praiseworthy agitation in favor of national control of quarantine. It has adopted a report addressed to the medical societies of the country and asking their cooperation in securing the proposed reform. The Committee of the College say that present methods are faulty and inadequate; that only four ports, including New York and not including Philadelphia, approximate being efficiently prepared to cope with threatened invasion by pestilence. The faults of administration, as shown in New York Harbor during the recent cholera-scare, are condemned, and the fact that local quarantine stations are dependent upon political conditions there existing for a large part of their efficiency is pointed out. The necessity of national control is urged for these reasons: It would secure uniformity o operation; the benefits of quarantine which inure to the welfare of the whole country would be under the control of the whole people, and not depend upon seaboard cities for maintenance. The report recommends legislation to organize suitable buildings and appliances at all ports under corps of trained officials of the Government, under the direction of a bureau of control at Washington attached to one of the departments of the Government. Consular reports and sanitary inspection at points of embarkation would be included in the scheme.

The attempt to remove quarantine from State and city to national control involves some very radical changes. The plan will receive lively opposition from politicians and States-rights Democrats. It cannot, in fact, be carried for a long time; meanwhile, however, some good may result from a thorough discussion and agitation of the matter

THE NEED OF AN ASYLUM FOR NARCOTIC HABITUÉS.

In a communication read before the American Association for the Cure of Inebriates on November 9, 1887, Dr. J. B. Mattison makes a forcible plea for the foundation of an institution for the reception and treatment of sufferers from the opium, chloral, or cocaine habit. He says, very justly, that general hospitals and insane asylums are not, as a rule, places where patients of this class are welcomed or where they can receive conveniently the proper treatment. There are many objections to be urged against their reception in inebriate asylums, and the expense of a stay in private institutions for the care of narcotic *habitués* is beyond the means of many of them. The writer suggests that an institution, endowed by private benefaction, be established, in which a certain number of free patients may be received, the running expenses being met by the income derived from the board and medical treatment of paying patients. Dr. Mattison's suggestion is a good one, and we hope it may be acted upon at no distant day.

News of the Week.

Dr. Samuel Ketch has been appointed visiting orthopedic surgeon to the institutions on Randall's Island.

At the Congress of American Physicians and Surgeons, to be held in Washington, September 17, 18, and 19, 1888, there will be meetings of the special associations morning and afternoon, and of the whole Congress in the evening. On September 17th there will be a discussion on intestinal obstruction in its medical and surgical aspects, and on Wednesday evening a discussion on cerebral localization; and on Thursday evening the address of the President will be delivered, followed by a reception in the Museum Building. There will be no entertainment provided in connection with the Congress.

Authors of Bacteriological Papers are requested to send their reprints to Dr. Max Toeplitz, of 67 East Fifty-ninth Street, New York City, for report in the *Centralblatt für Bacteriologie*.

Typhoid Fever in Pittsburg.—In the last three months there have been two thousand cases of typhoid fever in Pittsburg. A recent investigation by a Committee of the Board of Health shows that the water-supply is dangerously polluted by organic matter.

Increase of Heart Disease.—It is said that deaths from heart disease are six times more frequent proportionately in Boston now than thirty-five years ago.

The Late Dr. Alonzo Clark bequeathed the sum of $5,000 to Williams College.

The Hartford Hospital has received a bequest of $10,000 from the late Miss Esther Pratt.

Suit against the New York Hospital.—George W. Foulk sued the Society of the New York Hospital for $20,000 damages on account of the brutal treatment which he alleges he suffered when he was a patient in the Bloomingdale Insane Asylum last April. The case was tried in the Superior Court before Judge Dugro and a jury. After being out all night the jury came in yesterday morning, and were discharged because they were unable to agree.

Dr. Swithin Chandler, of Faulkland, Del., died on December 22d, aged fifty-seven. Dr. Chandler was for some years prominent in State politics.

Dr. G. Pomeroy, of Wayne County, N. Y., died on December 14th, aged seventy.

Adulterated Cocaine.—Recent analyses have shown that cocaine is being extensively adulterated with borax.

Dr. Arthur D. Bevan has been appointed Professor of Anatomy in Rush Medical College, and Dr. Charles T. Parkes Professor of Surgery, in place of the late Dr. Moses Gunn

National Guard Ambulance Corps.—An ambulance corps is to be established in the various regiments, batteries, and separate companies of the National Guard of New York.

Albert B. Strong, A.M., M.D., for twelve years Demonstrator of Anatomy in Rush Medical College, and Lecturer in Anatomy in the spring course, has severed all connection with the institution by resignation.

The Aniline Treatment of Phthisis.—Last spring Professor Kremianski described a new method of treating phthisis by aniline inhalations, etc. This method was very soon condemned. Professor Kremianski now publishes a long letter in which he complains bitterly that he has been misrepresented and misunderstood, and that the most influential medical journals in Russia have refused to admit papers by various observers which contained favorable reports of trials made of the treatment, while prominence has been persistently given to all unfavorable and unsuccessful cases. He also says that the bactericide treatment by no means consists merely of aniline inhalations, but that many other substances are employed, either in conjunction with aniline or without it. The detailed description of the treatment is set forth in a book by Professor Kremianski.

A New Subjective Test of Refraction.—Those who are concerned with testing refraction have occasionally felt the want of a test of ready application, which should distinguish defective vision caused by ametropia and that caused by an impairment of the light-sense. It is true that there are numerous excellent modes of estimating refraction, and some—such, for instance, as the shadow-test—are of easy application, but much time would often be saved if it could be ascertained at the outset that the impairment of vision is due to some other cause than the error of refraction. Moreover, few have sufficient confidence in their own accuracy to feel convinced that they have correctly measured a difficult astigmatism, when the correcting lenses give an unsatisfactory result. It seems to us that the test introduced by Dr. Wolffberg will, to a great extent, supply this want. It consists in instituting a comparison between the patient's power of distinguishing form, as tested by Snellen's distance-types, and his color-perception, as shown by the distance at which he can see a red and a green disk on a black ground. An error of refraction will have the greatest effect upon the form-perception, and a defect in the light-sense of the color-vision. From an examination of a large number of ametropes in whom correction gave normal vision, and of emmetropes rendered ametropic by spherical lenses, Dr. Wolffberg has constructed a table showing the distance at which the disks should be visible in each grade of impaired vision, when the impairment is solely due to an error of refraction; when the conditions correspond with the table, it may be concluded that correction of the ametropia by spherical lenses will give normal vision. Astigmatism causes a greater impairment of the form-perception without a corresponding effect on the color-perception, hence its presence is shown by the colored disks being visible at a greater distance than corresponds with the vision. A diminution in the distance at which the disks are visible shows, on the contrary, that the light-sense is impaired, and that normal vision will not be obtained by the correction of any error of refraction that may coexist. The details of the test will be found in the *Klin. Monatsbl. für Augenheilk.*, 1886, p. 359; and an important paper, showing the result of its application in a large number of cases, has just appeared in the November number of the same journal. Dr. Wolffberg thinks that the test would be equally applicable to a color-blind person, as he need not see the colors as such, but only the disk as an object. One color-blind individual was tested with an accurate result, but more evidence is required as to this.—*British Medical Journal.*

A Work of Gross Ignorance and Injustice has been done by the Philadelphia Board of Health in fining a physician $100 for not reporting to the Board two cases of leprosy under his charge. We should be glad to learn through what divine illumination the Board in question was able to say that leprosy is a contagious disease, when some of the best experts in the world are in doubt about it. Leprosy is certainly not actively nor dangerously contagious, and if we come to refinements, phthisis is a contagious disease also, and physicians may be fined whenever they fail to report chronic expectoration.

Apparent Illustrations of the Contagiousness of Cancer.—Dr. Richard Budd contributes to *The Lancet* the following: "1. Some years ago a gentleman who had spent many years in India came under my care for cancer of the lip, for which he refused to submit to any operation. When he was confined to his bed a favorite little terrier was scarcely ever out of his room, and, as is the habit of such little dogs, frequently licked his master's lips. This dog died, before his master, of cancer of the tongue. 2. A lady suffering from cancer of the uterus and vagina was nursed by a strong, healthy young woman of nineteen. She, in spite of my remonstrances, persisted in washing the rags which were saturated with the discharges from her mistress' wounds. Six months after the death of the lady this young woman was admitted into the North Devon Infirmary with a large mass of cancer in the axilla, and speedily died of the disease. 3. Since I have been in practice in this small town, five surgeons, all of whom had officiated at the North Devon Infirmary, have died of cancer. Such a mortality can hardly be conceived, except on the supposition that the disease was communicated, at least to some of them, during their manipulations on patients suffering from cancer. Dr. A. H. Clemon cites the case of a man who died from cancer of the penis, his wife having previously died of cancer of the womb."

A New Bandage for Hernia Operations.—M. Lucas-Championnière has invented a new kind of bandage for patients who have been operated on for hernia. It consists of a simple elastic band with a pad, which is placed above and not on the cicatrix.

The Childbirth Mortality in Great Britain was 4.94 in 1,000 births (1881 to 1885). In the Australian colonies it is over 6 per 1,000 births.

An Unorganized Profession.—Of the 992 registered physicians in the State of Louisiana, up to January 1, 1887, 773 are classed as regulars, and of this number only 176 are members of the Louisiana State Medical Society. Of the fifty-nine parishes of Louisiana, thirty-four (but a little more than one-half the entire number) have representatives in the State Medical Society.

A Fishy Story.—Dr. T. B. Greenley, of Hardin County, Ky., reports the case of a pregnant woman who was frightened by a fish being thrown down before her without warning. The child when born had ichthyosis. This is quite on a par with the vulgar idea that babies born under the sign of *Pisces* suffer from enuresis.

Alcohol as a Food.—Some esteemed contemporaries, with pre-glacial ideas regarding the present condition ot chemical knowledge, have asserted that alcohol is not a food. The views of competent and unbiassed persons on this point are quite settled, and the discussion of it is superfluous. The practical side, however, is shown in an interesting paragraph from an article by General Greely, in the *Forum*. He says: "The subject of alcohol was frequently and generally discussed during the winter at Cape Sabine, and all, without exception, concurred in the opinion that spirits should be taken after a day's labor was over, and not before or during exhausting work, nor while suffering from exposure that was to be continued. . . . Later, when the party had been slowly starving for many months, and when the supply of food was so diminished as to necessitate a greater reduction of rations, the pure alcohol on hand was issued as food, being diluted by about three times its weight of water. Each man received daily perhaps a quarter of an ounce of alcohol, the effect of which was most beneficial. The general impression, with which I most heartily agreed, was that the alcohol supplemented food, and had a decided alimentary value. There could be no question of its beneficial effects as a mental stimulus to every member of the party under our unfortunate condition at Sabine."

"Fecal Anæmia."—Sir Andrew Clark has a happy faculty of clapping an appropriate and suggestive name upon some well-recognized condition, and sending it out as some new parturient product in pathology. "Catheter fever" went the rounds, and finally has been accepted as a good medical expression for a veritable but venerable clinical fact. Now we learn that "fecal anæmia" is something to be recognized nosologically. Dr. Clark thinks that constipation is an important factor in producing anæmia or chlorosis in young women. The absorption of the fetid products of intestinal decomposition tend to impoverish the blood. While many plethoric people are constipated, and many anæmic people are not, it may well happen that in certain states fecal substances can be absorbed to an unusual degree, to the injury of the system. Quite independently of Sir Andrew Clark, M. Duclos, of Paris, has advanced a similar view as to the origin of chlorosis. He thinks that this disorder is a result of auto-infection, a true poisoning resulting from the retention and putrid decomposition of fecal matters in the intestine. He states that, as a rule, chlorosis is preceded by, and associated with, constipation, but this rule is not without exception. Sometimes the poisoning takes place rapidly; the putrid decomposition may be active, or the intestinal absorption may be more or less complete; and in harmony with these differences the varieties of chlorosis may be observed; even fever and endocarditis may arise as a result of such auto-infection.

Medical Women.—The *Weekly Medical Review* discourses conservatively regarding female physicians: "At present the truest, noblest life of woman is wife- and motherhood, and the stimulation of man, by her affection, to his best endeavors. When the process of evolution has so changed in its progression that man's *utriculus hominis* has developed into a childbearing uterus, and woman's *clitoris* into an organ of copulation, the time will then be ripe for an exchange of positions, but not before. 'Shoemaker, stick to your last!' And we might say: 'Woman, stick to your womanliness, the noblest quality you now possess, and the loss of which will never be compensated for as long as you are—women.'" From all which we infer that the *Review* is a secret enemy to human progress, as exemplified in colleges for educating medical women.

Obituary.

ALONZO B. PALMER, M.D.,

ANN ARBOR, MICH.

Another of the veteran leaders of the profession is gone in the person of Professor Palmer, Dean of the Medical Department of the University of Michigan, who died at Ann Arbor, Mich., on the 23d inst. He was born at Richfield, Otsego County, N. Y., October 4, 1815, and studied medicine in New York and Philadelphia. In 1852 he was chosen to the Chair of Anatomy in the Medical School of the Michigan University. Two years later he took the Chair of Materia Medica, and in 1860 he was appointed Professor of Pathology and the Practice of Medicine, which position he held continuously from that time to the present. He added to his duties others at the Berkshire Medical College, in Massachusetts, in 1864, and at Bowdoin College, Maine, in 1869. The position at the latter college he held at the time of his death.

Dr. Palmer was elected Vice-President of the American Medical Association in 1860. He was President of the United States Medical Society in 1872 and 1873, and was an honorary member of the New York and Maine Medical Societies. The University of Nashville gave him the degree of A.M. in 1855, and the Michigan University made him LL.D. Dr. Palmer was the author of an excellent treatise on the "Practice of Medicine." He was a man of strong convictions, and never knew fear in asserting them. He hated homœopathy as a pernicious and wicked system of charlatanry, fought it unsparingly, and would not exchange the commonest courtesies with its professional supporters. He hated intoxicating drink also, and by lectures and personal influence was ceaseless in his warfare against it. He was an able man, of large acquirements, and has contributed greatly to building up the Medical Department of the Michigan University. It is reported that Dr. H. F. Lyster, of Detroit, will probably be chosen his successor.

Reports of Societies.

THE PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, December 2, 1887.

GEORGE F. SHRADY, M.D., PRESIDENT, IN THE CHAIR.

THE OPERATION FOR DEAFNESS BY EXCISION OF THE DRUMHEAD.

DR. SAMUEL SEXTON remarked that, since presenting to the Society a case of radical cure of otorrhœa, he had operated on the ear a number of times for deafness alone. Five of his cases, where excision had been done, were present. It had long been known that persons having holes in their drumheads could still hear very well, and, indeed, in many cases better than after they healed up. A knowledge of this fact had induced Sir Astley Cooper and other surgeons of his day to endeavor to establish a permanent opening, in cases of deafness due to chronic catarrh of the middle ear, by an operation, and in the present day Kessel, Schwartze, and Lucae extended the operation to excision of the ossicles as well as the drumhead. But the results attained had never been, on the whole, encouraging.

The first case, one of sclerosis due to otitis media chronica, was operated on, November 11, 1886, for deafness in the left ear. She was twenty-seven years of age. The operation consisted in making a large opening in the posterior segment of the right drumhead and dividing the incudo-stapedial joint. To prevent reunion of the latter, the detached end of the long process of the incus was amputated. The parts healed up quickly, leaving a large opening in the drumhead through which the lower end of the long arm of the incus and the stapes could now plainly be seen. As regards the result of the operation, the patient could previously only hear shouting in right ear at twenty feet as noise; she can now hear ordinary voice beyond twenty feet.

The second case was similar to the above in respect to causation. The patient was seventeen years of age, and he had been deaf since infancy. The entire left drumhead and malleus were removed, and the incus was separated from the stapes. The parts were two months in healing, since there was a strong tendency to reproduction, and the newly developed tissues were removed, frequently as soon as formed. The result of the operation, as shown by the records, was as follows: Before excision he heard ordinary conversation—heard badly at one foot from either ear, but worst in the left; watch heard $\frac{0}{3}\frac{0}{3}$ in both. After the operation heard loud voice at twenty feet, and ordinary voice at five feet; watch, $\frac{4}{3}\frac{}{3}$. He relies entirely on the left ear now, the right ear having become gradually worse.

CASE III.—A female, eighteen years of age. Operation for the results of chronic purulent inflammation of the right middle ear, existing since childhood. She had had headaches, dizziness, and painful gatherings in the ear. The canal was occluded by a false membrane, situated about three-forty-ninths of an inch within, which was thinner in the centre, and had an opening in the lower portion the size of a pin's head. A slight purulent discharge existed. Hearing, plain ordinary voice at ten feet.

On July 7, 1887, the occluding membrane was excised, and the malleus and incus were removed. Hemorrhœa was slight. Operation lasted ten minutes.

On August 25th discharge had ceased entirely. Parts were dry, and a large and well-defined opening into the tympanum remained.

Up to the present time the general health has greatly improved. Headaches, vertigo, and pains in the ear have ceased. Patient weighed ninety-eight pounds before the operation; she now weighs one hundred and five pounds. The hearing has considerably improved. In the left ear, which is the seat of otitis media catarrhalis chronica, there is slight deafness.

CASE IV.—A female, with similar history and conditions as Case III., but came on account of deafness only. The left ear of this patient was operated on, August 4, 1887. After excision of the remains of the drumhead the malleus was extracted. Duration of operation, fifteen minutes.

This patient could not hear voice, unless almost shouted, at ten feet before the operation. She afterward heard ordinary conversation at twenty feet.

CASE V.—A domestic, thirty-two years of age. There had been a gradual loss of hearing power, on account of chronic catarrhal inflammation, for the past three years, especially in the right ear. Was obliged to give up several situations on account of this. Hearing in right ear: Ordinary voice at ten inches; loud voice at five feet; very loud voice at fifteen feet.

The drumhead and malleus of the right ear were removed on November 10, 1887. Slight local reaction. No pain, only a slight serous discharge, and a diminution of sense of taste on the right side of the tongue for a few days. Parts rapidly healed, leaving a free opening into the drum. Hearing after the operation in right ear: Ordinary voice at five feet; also at ten and twenty feet, but less accurately.

The excellent illumination under which these operations were done was furnished by a six-candle power electric light, the electro-motor power being supplied by the River & Rail Electric Company's storage battery. The delicate instruments employed were made by Mr. Ford. Ether was used in all of the cases.

The operation was without danger, and there was no pain experienced at any time. This point would scarcely deserve more than mere mention, had not such authorities as Dr. Lawrence Turnbull, of Philadelphia, and others taken pains to exclaim against operations of a like nature in purulent diseases of the ear. The German surgeons referred to before have all of them indicated the entire safety of excision, both in cases of chronic purulent and non-purulent inflammation of the middle ear.

Now that we may afford permanent passage for sound where obstruction, in cases of sclerosis of the drum, prevented its entrance, a wide field for the improvement of hearing, in certain cases otherwise irremediable, is opened up.

Dr. Sexton went on to say, from his own experience he believed that, were proper precautions observed and subsequent treatment conducted with care, the operation would be found as successful as any in the domain of surgery. The cases shown to the Society were, he believed, convincing as to this.

DR. EDWARD G. LORING made some remarks on

INFLAMMATION AS SHOWN IN THE RETINA, WITH SPECIAL REFERENCE TO DISEASE.

He first described the circulation and plasmic current in the normal eye. The first variation from the normal to which he directed attention was an *increase in the diameter of the veins*, usually uniform, but not always, and shown in all irritation or inflammations of the retina, but especially in syphilis and splenic retinitis. The increase in diameter was also accompanied, usually, by an increased length of the vessel, as shown by tortuosity. This venous dilatation was often present in the early stages of acute troubles of a general character, such as the acute stage of fever, when there was a tendency to marked congestion about the head, and when the action of the heart was full and excessive.

In some diseases of the chest—as pneumonia, pleurisy, emphysema, and asthma—the same condition of veins was present, as well as in certain forms of brain disease when the central pressure was increased, as in hydrocephalus, and in the very commencement of the disturbance of the eye dependent upon choked disk; often very use-

ful as a very early diagnostic mark in brain-disease, perhaps the first symptom noticed, and, at times, years before a general disturbance.

Enlarged veins were sometimes seen in weakened action of the heart, as if there was not force enough to drive the blood through the vessels—especially noticed in Bright's disease and many cases of profound anæmia.

Decrease in the diameter of the veins was very rare.

Dilatation of the arteries was also very rare, but when present was due to some general and remote trouble when the action was much increased.

Decrease in the diameter of the arteries occurred in the secondary stages of exhaustive diseases; marked in secondary contractions after Bright's disease, and retrogressive changes in choked disk; in debilitating diseases, as in anæmia and chlorosis.

Increase in the length of the vessels was sometimes enormous, and to what it was due was not known.

Dr. Loring then directed attention to

VARIATIONS IN THE COLOR OF THE BLOOD,

first in health and then in disease. As a rule, it was in troubles of the general system that the blood in both sets of vessels was affected. Thus all the retinal vessels were of a *darker* red in those conditions when the blood became thicker from an increase in its solid constituents, or from a removal of its fluid elements; for example, in those diseases which were accompanied by excessive discharges from the bowels, as cited by Graefe-Jäager, etc.

All the retinal vessels had a *lighter* color when the blood was deprived of its normal amount of solid constituents, or where there was a change in their conditions or proportions. Thus the blood was of a lighter color in both veins and arteries in anæmia, leucocythæmia, or whenever a condition of anæmia or hydræmia was produced.

The author of the paper then described the appearances of both sets of the retinal vessels in anæmia, sclerosis, hemorrhages, septic fever, and tubercle of the choroid.

Special mention was made of the fact that the non-detection of the tubercle-bacillus did not disprove the tubercular nature of the growths or diseased tissue in question; in two out of six cases that had been thoroughly examined the bacilli were present.

The remarks of the speaker were fully illustrated by diagrams.

Dr. Kinnicutt asked Dr. Loring in what percentage of cases of tubercular meningitis there was evidence of tubercles in the eye.

Dr. Loring said the proportion of cases in which they had been seen was very small, and he accounted for that on the ground that the ophthalmoscope was used so little in general medicine in this country.

Dr. Kinnicutt also asked if there was any other way than by the presence of tubercles discovered by ophthalmoscopic examination that tubercular meningitis could be diagnosticated by examination of the eye.

Dr. Loring thought not, unless by grave neuro-retinitis and choked disk in a child. He had seen Bright's retinitis that lasted one or two years before the suspicion was confirmed by the presence of albumen and casts in the urine. It was worthy of note that nearly all the changes in the eye in general diseases had been recognized within the last ten years.

Dr. Van Arsdale said that the arrest of circulation in the retinal vessels for two or three days, and followed by complete restoration, mentioned by Dr. Loring, found support in surgical analogy, because experimentation had demonstrated that with the use of antiseptics the fluid condition of the blood could be maintained for thirteen days without interference with the nutrition of the walls of the vessels, and then the circulation be restored completely.

Dr. Weir said that that point was borne out by the Esmarch method of treating aneurism, which produced coagulation of the blood within the vessel, that could be traced, frequently, up to the rubber band, and yet such a clot, remaining four days, had been washed away, the current re-established, and everything restored to the condition before treatment,

WITHOUT GIVING RISE TO ANY EMBOLISM WHATEVER.

Dr. J. West Roosevelt said that the cases mentioned by Dr. Loring, in which the circulation in the retina was observed to be arrested for a number of days with no bad results, that is, without the production of hemorrhages, were interesting in view of recent studies in regard to the formation of hemorrhagic infarcts. It had been proven that for the production of these lesions there must be an arrest of circulation in the terminal vessels, but that there must also be free capillary anastomosis between the vessels in which circulation is arrested and neighboring ones. The retinal vessels were terminal vessels, but as there was not such free anastomosis, arrest of the blood-current in them did not produce hemorrhage.

Dr. Weir exhibited Collins' improved

HÆMOSTATIC CLAMP,

the modification consisting in a change in the catch.

Dr. Weir also exhibited

A LITHOTRITE

submitted to Weiss by Dr. Keegen, a surgeon in India, designed especially for the performance of litholapaxy in children, and which that surgeon had used with great success. Dr. Weir did not wish to be understood as indorsing litholapaxy as a substitute for the common cutting operation for stone in the bladder in children, but he simply presented the delicately constructed instrument.

The Society then adjourned.

Ipecac in Minor Hemorrhages.—Dr. Holmes, in the *Mississippi Valley Medical Monthly*, warmly advocates the use of ipecac in all minor hemorrhages. He says that he was once asked to see a case of nose-bleeding in the person of a boy, seventeen years of age, then under the careful treatment of a competent physician. The boy was apparently healthy, but was exsanguined from the hemorrhage. He had taken ergot for eighteen hours. The doctor twice plugged the anterior and posterior nares, but, the accumulation of blood in the nose causing intense distress, the plugs were either removed or would be forced out. He then used a continuous douche of hot water for forty minutes, the water running out through the mouth, which offered only temporary encouragement and then proved ineffectual. The patient was faint and had now to maintain the recumbent posture. He was pulseless at the wrist and cold at the elbows and knees; nevertheless he got a suppository of pulv. ipecac., gr. xx., and had the ice-bag, which for some time had been applied over the head and face, placed over the epigastrium. Extreme nausea and efforts to vomit came on in about forty minutes, but at this time hemorrhage ceased. When the first paroxysms of retching were abating he took a bolus of ipecac., gr. v., without water. Thirty minutes after this dose he fell asleep, and though he was given three grains more every three hours he did not again complain of nausea or lose another drop of blood. About six weeks after, he came again with profuse epistaxis, and was at once given ten grains pulv. ipecac. and put to bed. He vomited from this dose, but was immediately given and continued to take three grains every three hours for thirteen hours. Hemorrhage ceased when emesis came on. Dr. Holmes has repeatedly used the drug in minor hemorrhage, and with far more gratifying results than from *any* thing else. In five cases of pulmonary hemorrhage he used it without failure. One of these was from a stab wound, two from lacerated injuries from broken ribs, and two from tubercular cavities.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE BROWN LECTURES—TARTAR EMETIC IN CARDIAC FAILURE FROM PULMONARY CONGESTION—CANCER CAUSED BY ARSENIC—MODERN MEDICINE AND ITS RESOURCES—A NEW HYDRO THERAPEUTIC ESTABLISHMENT—AN EXTRAORDINARY CHAIN OF COINCIDENCES.

London, December 10, 1887.

The Brown Lectures at the University of London concluded this week. The fourth lecture was devoted to the important question of the prevention of hydrophobia. Professor Horsley reviewed at some length the regulations now in force in this and other countries with reference to the keeping of dogs. He remarked that the recent epidemic of hydrophobia in London had been predicted by the veterinary surgeons attached to the Brown Institution, but they had been treated as alarmists. The police regulations then brought into force, viz., the destruction of all stray dogs and the compulsory use of the muzzle for all dogs not led or carried, had quickly reduced the number of cases, and at present there were but few rabid dogs coming under observation. He spoke with approval of the proposal that all dogs should wear a collar and be registered, and recommended that dogs imported into this country should be kept under observation by a veterinary surgeon for twelve months after landing. The fifth and concluding lecture was devoted to an exposition of the curative method inaugurated by M. Pasteur.

At the last meeting of the Medical Society of London Dr. Thorowgood read an important paper on the treatment of cardiac failure in cases of pulmonary congestion and obstruction. Cardiac failure, he said, was a great cause of death in many respiratory diseases. He rather deprecated the indiscriminate employment of stimulants. He did not agree with Niemeyer that they increased pulmonary œdema, but he thought they were often given too freely and too early in the disease, to the neglect of other remedies. In cases of catarrhal pneumonia respiratory insufficiency was the principal cause of death, and too much stimulant tended to gorge the right heart with blood, and so increased the respiratory distress. While admitting the value of alcohol as a cardiac stimulant, Dr. Thorowgood considered it important in such cases to begin with such a medicine as tartarated antimony with a saline. By this plan the capillaries were relaxed, secretion promoted, and the work of the heart lessened. The principle was the same as when we sought to aid a heart failing in an attack of angina by dilating the capillaries with nitrite of amyl. Tartarated antimony seemed to leave, as Stokes, of Dublin, once said, a specific action over the capillaries of the lung. In small doses it might be stimulant, while in excessive doses it might paralyze, and so cause that congestion of the lungs which had been observed in animals poisoned by the drug. As direct respiratory stimulants, belladonna, carbonate of ammonia, and strychnia were remedies of proved and undoubted value, and the latter prevented pulmonary œdema. He objected to venesection, on the ground that its effects were only temporary.

At the Pathological Society, on the following evening, Mr. Hutchinson made a communication in which he propounded the theory that arsenic may occasionally cause cancer. He narrated several cases in which, after large doses of arsenic had been taken continuously for some time, for the cure of psoriasis, epithelial cancer had developed. He also mentioned a case in which cutaneous troubles had followed the taking of large doses of arsenic for a cancerous growth in the neck. All of which tended to show that we do not yet know all that is to be known about either arsenic or cancer.

Mr. Hutchinson's novel views did not meet with much favor from the Society. Sir James Paget, however, seemed to think there was some evidence showing that arsenic has an influence in causing cancer. As to the other point raised by Mr. Hutchinson, Dr. Hadden remarked that skin eruptions caused by arsenic are not mentioned in text-books. That may be so as regards arsenic given in ordinary medicinal doses, but both eruptions and ulcerations are on record as having been caused by chronic poisoning by arsenite of copper, details of which are to be found in works on forensic medicine.

A marked feature of the medicine of the present day is what (borrowing a term from the Church) may be termed its "broad" tendencies. It is not now considered homœopathic to order very small doses of ordinary medicines, but it is, on the contrary, freely recognized that drop-doses of vinum ipecacuanhæ (for instance) may have a very different action to that of larger doses of the same medicament, and one which we may be glad to invoke. Electricity and massage have been pressed into the service of medicine, and employed on scientific principles. We have even not been above taking a hint from the disciples of Priessnitz, and hydropathic establishments (in their modern form) are now recognized institutions. Many of them have a resident physician, and in most the "cold-water craze" has faded considerably, and warm baths given as frequently as cold ones. Many such establishments also boast of the possession of a Turkish bath. It was my privilege a few days ago to "assist" at the opening of a new institution of this kind adjoining Aldershot Camp. In addition to the methods of treatment mentioned above, it possesses a Russian vapor-bath, and also a well-arranged series of pine-baths and inhalation-rooms for carrying out a course of special treatment, as at Reichenhall and other Continental resorts. Being the only institution of its kind as yet in the United Kingdom, the Farnborough Hydro-Therapeutic Establishment has, I think, a good future before it. I had the pleasure of being seated at dinner near that distinguished physician, Dr. Hare, and heard him narrate an anecdote which is too good to be lost. A gentleman staying at an hotel in Fleet Street was (on calling for his bill) asked for the number of his room. He replied "42," whereupon another gentleman in the room asserted that to be his number. A dispute arose, which the first one thought to settle by giving his name, "Morrison." To his astonishment the other gentleman announced that as his name also. Much surprised, being strangers, the first one thought to settle the matter by giving his Christian name also, and said: "Well, my name is Samuel Morrison." "And," said his namesake, "my name is Samuel Morrison." It was at last found that one of them had mistaken the number, and the accounts were settled without further trouble, and each went on his way. The story, however, did not end here. Each of them on leaving the hotel proceeded to the house of the late Sir Thomas Watson, to consult whom he had come up expressly from the country. The whole story was then made known to Sir Thomas Watson, and from him Dr. Hare had it direct.

WHY DIDACTIC LECTURES?

To the Editor of The Medical Record.

Sir: I am attending my third course of lectures at one of your best medical schools, and as examination-time approaches I am filled, not with the febrile qualms appropriate to the season (for, judging by those who have preceded me, I don't see how I can help getting my degree), but, as I look back on my past three years of study, a question arises which perhaps your sagacity may help me to solve.

What is the real use of the *orthodox didactic lecture*? I have attended all religiously and taken notes, arguing in this way: If the lectures are worth delivering they certainly are worth noting, while, if they are of no value,

why do the professors have the effrontery to inflict them on us?

As my medical horizon widens, I begin to find that ninety-five per cent. of the sapient lore that has dropped from the oracular lips of my teachers lies between the covers of a few easily obtained, moderately expensive, English and American books and periodicals. The remaining five per cent. consists of (*a*) material too recent to have been incorporated in text-books (but, alas! the flavor of newness is not any too prominent in the average didactic lectures); (*b*) original ideas and methods (which my preceptor as often tells me are wrong as right, worthless as useful, and often designates as cranky); (*c*) flights of studied rhetoric (which are wasted on ordinary people like me); and (*d*) jokes, of which most bear such indubitable marks of age that one can only infer that they antedate modern antisepsis. Is it fair to make me spend on the average five hours a day in an uncomfortable lecture-room, listening to the often monotonous reiteration of matters of written history, ninety-five per cent., in order to get five per cent. of new facts, original ideas, oratory (*sic*) and musty *bons mots*?

Am I wrong in concluding that didactic lectures are relics of the dark ages, of times prior to the printing press?

I know that the influence of tradition is very strong among doctors, but it does not prevent them from throwing aside remedies which their predecessors considered invaluable, provided they find them worthless or get better ones. Why should it prevent them from giving up methods of instruction which are irksome and adapted to an era of literature and science long past, and to an inferior class of students which, I trust, is fast becoming extinct?

Let me ask didactic lecturers two plain questions:

Do they continue the present plan because they consider it the best? Or are they actuated by the emoluments, pecuniary (direct or indirect) or honorary, of the position?

The first question I don't believe one in ten can answer in the affirmative. That one would say that he did consider didactic lectures, properly supplemented by laboratory and clinical work, the best method of teaching medicine—very well! Does he consider them now properly supplemented? If so, why is laboratory and clinical work so held in abeyance to, so crowded out and belittled by, didactic lectures? Ordinary people, like me, are very apt to value things by the amount of cash paid for them. What must be the relative value, then, we poor students put upon clinics, which cost us nothing, laboratory work which costs us next to nothing, and didactic wind, which is forced upon us at so many cents a litre? Why are clinical teachers paid nothing, and laboratory directors and assistants next to nothing, while the didactic cormorant soars above all with the "boodle?"

I am sure that few would answer the second question in the affirmative. They would say that the pecuniary return was insignificant, while the honor of the position was more or less empty.

Now, I know that the salaries of didactic lecturers are much cut down by the expense of maintaining the school in which they teach, and I think that their net income is generally overestimated; but in the face of these facts I assert my belief, that there is not a didactic medical lecturer in New York City who does not receive, directly or indirectly, what he is satisfied to call at least a meagre pecuniary equivalent for his time and brains. It is not humanity that actuates him, nor an overweening conceit that unless the student gets second-hand wisdom from him alone he will be a failure; it is not the love of lecturing nor faith in didactic methods; but it is because it adds to his bank-account (it may be hundreds, it may be thousands), and helps to keep the wolf from the door in one case, or to maintain an empty style or luxury in another.

Alas! thus are we students made to pay a big price to keep a poor practitioner from the almshouse, or to supply a successful one with an extra servant, a third horse, or a house on Murray Hill, in order to get, in a wasteful, antiquated, and unappetizing way, a license to enter a profession for the practice of which we find ourselves, on graduating, utterly unfitted.

The remedy for this condition of things, it seems to me, is simple enough, but as it affects so many pockets it will be some time before public opinion compels its enforcement. Take away the diploma-giving, licensing power of medical schools and vest it in our already appointed State Board of Medical Examiners, a body of signal ability and impartiality. Some medical schools would at once shut their doors (no public calamity), didactic lecturers would resign by the score, and those who did not would lecture to empty benches or give more for their money. They would soon find it expedient to lay out and supervise a proper course of reading for the students, supplemented by frequent examinations, where their newly collected data and original views could be intercalated, while their flowery rhetoric and jokes could be expended at the bedside of hysterical or comatose patients.

Under this *régime* the now neglected clinical teacher and pathologist would come to the front and gather followers by the score. They could even charge fees, and

A MEDICAL STUDENT.

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INTERNATIONAL LEGISLATION FOR THE PREVENTION OF EPIDEMICS.—At the Congress of Hygiene and Demography recently assembled in Vienna, Dr. Heirley Murphy, of London, made the following suggestions on the above subject: 1. The appointment of a sanitary authority at every port, whose duty it should be to keep itself informed as to the sanitary condition of the port, and the health of the passengers and crews of vessels arriving at or leaving the port. This information should be placed at the disposal of the consuls of the countries to which the vessels are bound. 2. Every country to have a central office, to which reports should be sent of the number of cases of specified epidemic disease occurring in every large town and port during each week, immediate notice being sent of cases of cholera. This information should also be placed at the disposal of the governments of other countries. 3. Precautions must be taken by the sanitary authorities and officers of vessels, as already indicated, to prevent the embarkation of persons or articles infected with cholera. 4. A station should be established on the Suez Canal for the purpose of obtaining information as to the health of passengers and crews of vessels bound for Europe, but not for their detention for more than the time necessary for procuring this information. 5. This information should be placed at the disposal of representatives of the different governments. 6. Every vessel arriving at a European port should be dealt with in accordance with the manner determined on by the government of that country.

Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending December 17, 1887:

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	16	6
Scarlet fever	124	17
Cerebro-spinal meningitis	5	5
Measles	67	3
Diphtheria	175	60
Small-pox	3	1
Yellow fever	0	0
Cholera	0	0

TO AVOID the "drying up" effects of opium, Dr. Auld gives it in combination with ether with good results, ether being one of the most powerful secretion stimulants known. He generally prescribes equal quantities of tincture of opium and spirit of ether, and though not claiming for this a specific effect, he finds it a most useful mixture.

there were but few rabid dogs coming under observation. He spoke with approval of the proposal that all dogs should wear a collar and be registered, and recommended that dogs imported into this country should be kept under observation by a veterinary surgeon for twelve months after landing. The fifth and concluding lecture was devoted to an exposition of the curative method inaugurated by M. Pasteur.

At the last meeting of the Medical Society of London Dr. Thorowgood read an important paper on the treatment of cardiac failure in cases of pulmonary congestion and obstruction. Cardiac failure, he said, was a great cause of death in many respiratory diseases. He rather deprecated the indiscriminate employment of stimulants. He did not agree with Niemeyer that they increased pulmonary œdema, but he thought they were often given too freely and too early in the disease, to the neglect of other remedies. In cases of catarrhal pneumonia

FOR IRRIGATING THE BLADDER.—Ulzmann, of Vienna, uses exclusively the ordinary piston-syringe, believing that it enjoys the advantage of cleaning the bladder more thoroughly than do the other forms. After emptying the bladder of urine, he withdraws the catheter until the head lies in the neck of the bladder, using the internal sphincter as a valve against the eye of the instrument. The muscle thus affords no impediment to the flowing *in* of the solution, but prevents its flowing *out*. After retaining this for a longer or shorter time the patient voids the same, at the same time getting the benefit of its action upon the urethral mucous membrane.—*Medical Press of Western New York.*

SELF-TREATMENT.—There are a great many persons with whom the treatment of their own illnesses is a familiar practice. In certain cases this is, perhaps, not unjustifiable—in those, namely, where a little knowledge of medicine is found to be useful rather than dangerous in dealing with lesser ailments, and where the means of cure are commonly safe in their action, even when they fail to effect a desired result. Care must always be taken, even in such cases, to guard against mistaken application. The position of medicinal poisons for internal use is altogether different. They have no allowable place in household therapeutics. We would caution even the members of our own profession against a too great readiness to betake themselves to such means of relief, since none can gauge his own condition and its needs so accurately as a careful and intelligent outside observer, who is able to correct subjective evidence by that of skilled examination. It is much to be regretted that these considerations are apt to be regarded as unworthy of notice. General, or even a somewhat intimate, knowledge of the action of poisons is not enough to justify their use in self-treatment by persons otherwise uninstructed in medicine. The use of opium in particular is becoming much too common in the hands of others besides practitioners, and it is probable that instances in which death has thus been actually incurred bear only a very moderate proportion to those in which it has been narrowly escaped.—*The Lancet.*

THE TEACHINGS OF CREDÉ are tending toward the entire letting alone of the genitals during labor and the days succeeding it. This distinguished obstetrician, unless some abnormality presents, does not make a vaginal examination at all. His diagnosis is entirely made by external palpation and manipulation. Unless there are positive indications therefor, he teaches that for eight or nine days after labor one should neither examine, wash out, nor do anything to the genitals.—*Weekly Medical Review.*

SORE NIPPLES.—Dr. Pinard employs the following treatment with great success in cracked nipples: As soon as the cracks appear, and even as soon as the nipples become sensitive at the moment of suckling, a compress, folded in four and steeped in a solution of boric acid, is applied. The solution is of three or four per cent. Over the compress should be placed a piece of oil-silk, so as to prevent evaporation. Over the oil-silk a layer of cotton-wadding should be placed, and the whole secured by a bandage.—*American Practitioner and News.*

DR. SQUIBB ADVOCATES BUCKTHORN AS A LAXATIVE.—"In properly adjusted doses—that is, doses not too large—it is perhaps the mildest and simplest of all aperient or laxative medicines, and the easiest to adjust to a desired effect. Its operation is slow, but fairly certain, and its action continues throughout the whole tract. Rhubarb and senna affect chiefly the upper part of the tract, and have to be given in almost purgative quantities to affect the whole tract. When a mild purgative or evacuant is wanted, rhubarb and senna are better; but when a mild aperient or laxative, for delicate organisms, is wanted, buckthorn is better. When a mild degree of constipation is to be corrected, without exciting reaction and without requiring continuous medication, the buckthorn is much better, and when used with skill it seems to leave little to be desired. The dosage of buckthorn is a most important element in its proper use, and the different impressibility of different individuals to its influence makes this dosage the chief difficulty in its appropriate use. Bearing in mind that it is a simple aperient, and one slow in operation, those who use it will easily guard against giving it in too large quantities, or expecting a too prompt response to its use. Where either a very decided or very prompt response is needed, other agents are better. The limit of its use in this direction seems to be a fluid drachm of the fluid extract at bedtime where a temporary costiveness—not constipation—is to be relieved during the forepart of the following day. When temporary costiveness has passed into habitual constipation, twenty minims in a little water, one, two, or three times a day, is a better dosage, with the expectation of a partial improvement on the second or third day, when the number of doses are to be diminished. With a numerous class of delicate and sensitive women such a treatment will be generally successful, the management being easily varied to suit the conditions. Adult men of inferior impressibility will, of course, require larger quantities, but the character and the appropriate uses of the agent will always limit the dose to about one or two fluid drachms, and make it better to repeat the doses than increase the quantity at one dose. The extract is given in pill or capsule, and four to five grains is generally an effective dose if given at bedtime for two or three days."—*Ephemeris.*

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